



March 2, 2016

Brenda L. Press
Contracting Officer 1
Lake County DPW, Road Ops Division
12901 County Landfill Road
Tavares, Florida 32778

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Subject: Report for Pre-Demolition NESHAP Asbestos Survey
803 West Miller Street
Fruitland Park, Florida 34731
Alternate Key # 1585163
Parcel ID # 04-19-24-000300003700
Amec Foster Wheeler Project 6380-15-1321.06

Dear Ms. Press,

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler) has completed the limited asbestos bulk sampling at the above-referenced facility. The field survey was performed by Mr. Angel Vizcarrondo, an AHERA Accredited Inspector from Amec Foster Wheeler, on February 18, 2016. The work was performed in accordance with our Proposal 16PROP0010.6380.0002, dated January 4, 2016. The attached report gives a brief background of the project, the procedures used in the field and in laboratory analysis. A summary of the laboratory analyses is included as an attachment.

Amec Foster Wheeler appreciates the opportunity to have been of assistance to you on this project and is looking forward to working with you as your consultant in the future. If you have any questions concerning this report or if we can be of further service, please contact us.

Amec Foster Wheeler Environment & Infrastructure, Inc.
Asbestos Business License No. ZA-0000449

Rachel Winsten, MS
Technical Professional - Civil

John M. Stump, PG
FL Asbestos Consultant
License No. AX0000042

Appendix A - Laboratory Reports

P:\6380 IEQ\PROJECTS\2015 - Projects\1321\06 - 803 West Miller Street\Report

1.0 PROJECT INFORMATION

Information concerning this project was obtained in an email dated December 31, 2015 from Ms. Brenda Press with Lake County Department of Public Works, Road Ops Division. Additional information was obtained from the Lake County Property Appraiser's (LCPA's) website.

According to information provided by Ms. Press, there are plans to demolish the subject building at 803 West Miller Street in Fruitland Park, Florida. According to LCPA information, there is a single family residential structure (Alternate Key # 1585163), which was constructed in 1925, located at the subject address. The residential building contains a total of 2,431 square feet (s.f.) of gross area, which includes 1,490 square feet of total living area. The gross area includes a finished living area (550 s.f.), open porch (25 s.f.), garage (400 s.f.), second finished living area (470 s.f.), screened porch (408 s.f.), and a carport (578 s.f.). The structure is scheduled for demolition.

The objective of Amec Foster Wheeler's limited survey was to identify accessible suspect asbestos-containing which may be impacted by the planned demolition.

2.0 SURVEY PROCEDURES

The limited survey was performed by observing accessible building materials. The limited field survey was performed by Mr. Angel Vizcarrondo, an AHERA Accredited Inspector from Amec Foster Wheeler, on February 18, 2016. Sampled materials included suspect building materials which might be impacted by the planned demolition activities. Interior and exterior materials were included in the scope.

3.0 LIMITED ASBESTOS BULK SAMPLING

3.1 General

The bulk sampling procedures utilized for the collection of suspect materials first required the establishment of a homogeneous sampling area. A homogeneous sampling area is defined as an area of the same type and applied during the same general time period. The individual sampling areas were then examined and representative samples of the suspect materials were obtained. Bulk samples collected during the survey were delivered to EMSL Analytical, Inc., of Orlando, Florida, an NVLAP accredited laboratory (No. 10115-0). The bulk samples were

analyzed by Polarized Light Microscopy (PLM) coupled with dispersion staining in accordance with EPA Method 600/R-93/116.

Polarized Light Microscopy (PLM) is an analytical method for asbestos identification which depends on the unique optical properties of mineral forms in the samples, and specifically identifies the various asbestos types. This is the referenced method of analysis by EPA for asbestos identification in bulk samples. Materials found to contain greater than one percent asbestos by PLM are Asbestos-Containing Materials (ACM) as defined by EPA, OSHA and the State of Florida.

The EPA National Standard for Hazardous Air Pollutants (NESHAP) Final Rule (40 CFR 61, Subpart M) for asbestos includes an option for verification of friable materials, by point counting, if it is initially determined by PLM analysis that asbestos is present in amounts less than 10 percent. No Point Counts were conducted as part of the limited exterior ACM surveys.

The following interior suspect materials (thought to possibly contain asbestos) were sampled during the survey. Materials containing asbestos are highlighted in bold.

1. Stucco (Exterior Walls and Carport Columns)
2. Red Brick and Mortar (Carport Columns, Chimney, Fireplace and Exterior Bottom Walls)
3. White Caulk (Exterior Windows with Wood Frames)
4. White Caulk (Exterior Doors with Wood Frames)
5. Roof Shingles (Roof and Door Canopies)
6. Black Felt Paper (Under Roof Shingles, B-5)
7. Window Glaze (Windows Throughout)
8. Mortar and Adhesive under Clay Red Roof Tile (North Roof Parapet Wall)
9. Concrete (Driveway and House Slab)
10. Beige and White Sheet Vinyl Flooring (SVF) with Backing Layer and Mastic (Kitchen Floor)
11. Pressed Material Wall Panel (Dining Room, Living Room, Staircase, Bedrooms, and Select Ceiling Areas)
12. Drywall, Joint Compound and Tape (Walls Throughout)
13. Drywall, Joint Compound and Tape with Surfacing Material (Ceilings Throughout)
14. White Duct Mastic and Insulation (Duct System)
15. 12"x12" Parquet Design Vinyl Floor Tile (VFT) with Adhesive (Both Half Bathrooms)
16. **12"x12" White Pebble Design VFT** with Bottom and Top Mastic (2nd Floor Only, Half Bathroom)

17. 6"x6" White Ceramic Tile, Grout and Adhesive over Drywall (2nd Floor Bathroom, East and West Wall)
18. Drywall, Joint Compound and Tape with Popcorn Texture Treatment (Kitchen and Office Ceilings)
19. **Grey Sink Undercoat** (Kitchen Sink)

4.0 BULK SAMPLE RESULTS

Based upon our visual observations, bulk sampling of 19 suspect materials (43 samples and 85 layers) and subsequent PLM microscopic analysis, the following materials were determined to contain asbestos:

Sample No.	Material Sampled	Sample Location	Percent/ Type Asbestos	Condition/ Potential for Damage	Estimated Quantity
B-16A/B	12"x12" White Pebble Design VFT with Bottom and Top Mastic	Half Bathroom on 2 nd Floor	Floor Tile – 3% Chrysotile Bottom Mastic – ND Top Mastic – ND	Good/Low	75 S.F.
B-19A	Grey Sink Undercoat	Kitchen Sink	3% Chrysotile	Good/Low	6 S.F.

ND=None Detected

Prepared By: RW Checked By: JMS

5.0 ASBESTOS RECOMMENDATIONS

5.1 General Recommendations

There are four recognized alternative courses of action to control asbestos-containing materials in buildings: (1) asbestos removal and disposal; (2) enclosure; (3) encapsulation; and, (4) special operations, maintenance and re-observation programs. The selection of a particular alternative should be based upon intended usage of the building, actual exposure rates and cost.

Regarding Item No. 1, the EPA has Federal regulations regarding asbestos. The National Emissions Standard for Hazardous Air Pollutants (NESHAP) Final Rule Revision (EPA 40 CFR Part 61) dated November 20, 1990 includes several requirements for building Owners and Contractors. The requirement that greatly affects abatement alternatives is the categorization of asbestos-containing materials (ACM). These are categorized as follows:

- **Friable** means any material that can be reduced to powder by hand pressure when dry.
- **Category I Non-Friable ACM** means packing, gaskets, resilient floor coverings and roofing products that contain more than one- percent asbestos.
- **Category II Non-Friable ACM** means any material, excluding Category I Non-Friable ACM that contains more than one- percent asbestos, and is not friable.
- **Regulated ACM (RACM)** includes all friable ACM; Category I Non-Friable ACM that will be or has been subject to sanding, grinding, cutting or abrading; Category I Non-Friable ACM that has become friable; and Category II Non-Friable ACM that has a high probability of becoming, or has become crumbled, pulverized, or reduced to a powder by forces expected to act on the material in the course of demolition or renovation operations.

5.2 Specific Asbestos Recommendations

5.2.1 12"x12" White Pebble Design VFT with Bottom and Top Mastic (2nd Floor, Half Bathroom)

Asbestos-containing VFT was identified in the subject facility, in the second floor half bathroom. The VFT was found to contain asbestos (**3% Chrysotile**), with two non-ACM mastic layers, according to PLM analysis. The VFT was identified under non-ACM 12"x12" Parquet Design VFT (sample B-15). The material were generally observed to be in good condition with a low potential for damage.

The asbestos-containing vinyl flooring was found to contain greater than **1% Chrysotile** asbestos. The EPA NESHAP classifies this material as Category I non-friable asbestos-containing material. The OSHA Construction Standard (29 CFR 1926.1101) classifies disturbance, removal, or demolition of structures with ACM vinyl flooring as Class II asbestos work which requires specialized training, engineering controls, etc.

However, this Category I non-friable asbestos-containing VFT and non-ACM mastics need not be removed prior to demolition if DPW uses a demolition contractor that is also qualified as an asbestos-abatement contractor; uses qualified asbestos workers; and does not cut, sand, grind or abrade the ACM vinyl floor tile.

If these conditions are met, this Category I non-friable material may be demolished in place, if DPW uses a demolition contractor that is also qualified as an asbestos-abatement contractor;

uses qualified asbestos workers; implements wet demolition methods; does not cut, sand, grind or abrade the ACM vinyl floor tile, and properly disposes of asbestos-containing building rubble.

5.2.2 **Grey Sink Undercoat (Kitchen Sink)**

Grey mastic sink undercoat was identified under kitchen sink in the subject facility, and was found to contain asbestos (**3% Chrysotile**) by PLM analysis. The material was noted in good condition with a low potential for damage. The EPA NESHAP classifies this material as a Category I non-friable asbestos-containing material.

Since sinks are fixtures and can be easily removed without causing a potential fiber release, we recommend that the kitchen sink be removed by a Florida Licensed Asbestos Contractor, and disposed of properly as asbestos-containing waste.

5.3 **State Of Florida Asbestos Regulations**

Since the subject structure will be demolished, a ten working day courtesy notification may be required prior to the start of activities under the EPA NESHAP regulation (40 CFR 61, Subpart M) and Florida Department of Environmental Protection (FDEP) rules. The subject project is located in **Lake County**, so courtesy notification should be made to the Florida Department of Environmental Protection (FDEP) Central District Office at 3319 Maguire Boulevard, Suite 232, Orlando, Florida 32803-3767, Phone (407) 894-7555, Fax (407) 897-2966, using FDEP form 62-0257.900(1) or at the FDEP's submit notice web link (www.fldeportal.com/go/submit-registration/).

5.4 **Interim Measures**

Regardless of the type of asbestos abatement action chosen, and the time frame involved, we strongly recommend that during the interim time period prior to abatement action, control measures be established for the employees and occupants working in the building to minimize their exposure to asbestos.

This program should include, at a minimum, proper safety precautions and cleaning methods by personnel when work must be performed in and around asbestos-containing materials. Also, periodic reassessment of the condition of the asbestos-containing materials should be undertaken and precautions and procedures should be in writing and be thoroughly documented.

5.5 Legal and Medical Considerations

Due to the health hazards and legal ramifications involved in asbestos exposure in public buildings, an interdisciplinary approach between the engineering, medical and legal communities should be involved when determining an asbestos control program. There is presently a tremendous amount of litigation in the courts concerning present and past asbestos exposure in public and private facilities, as well as in the workplace 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. As a minimum, building owners should notify building employees, occupants, vendors, and others as required in the OSHA Asbestos Standards (29 CFR 1910.1001 and 29 CFR 1926.1101), and for public facilities, the EPA Worker Protection Rule (40CFR 763, Subpart G). We recommend that you involve appropriate legal counsel in your asbestos control program to address these very important issues

6.0 LIMITATIONS

Amec Foster Wheeler has performed its services in accordance with generally accepted practices at the time of the field work. This report has been prepared on behalf of and exclusively for the use by **Lake County DPW**. This report and the findings contained herein shall not, in whole or in part, be disseminated or conveyed to any other party without Amec Foster Wheeler's prior written consent. The findings are relative to the date of our site visit and should not be relied upon for substantially later dates. All material quantities are estimated based on visual observation and should not be relied on for contractor bidding or regulatory notification purposes.

Please note that these test results relate only to those homogeneous materials tested. If conditions, or materials, other than those addressed in this report are encountered during the planned maintenance, renovation, or demolition activities, Amec Foster Wheeler should be contacted to assess the potential impact of these materials or conditions relative to the findings or recommendations included herein.

APPENDIX A
LABORATORY ANALYSIS



EMSL Analytical, Inc.

5125 Adanson Street, Suite 900, Orlando, FL 32804

Phone/Fax: (407) 599-5887 / (407) 599-9063

<http://www.EMSL.com>

orlandolab@emsl.com

EMSL Order:	341601903
CustomerID:	AMECH25
CustomerPO:	C012301321
ProjectID:	

Attn: **Ron Trapane**
AMEC Foster Wheeler E & I
75 E. Amelia Street Suite 200
Orlando, FL 32801

Phone: (407) 522-7570
 Fax:
 Received: 02/18/16 4:16 PM
 Analysis Date: 2/23/2016
 Collected: 2/18/2016

Project: 6380-15-1321

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
B-1A 341601903-0001	Ext. Wall West Side - Stucco	Gray/White Non-Fibrous Heterogeneous		50% Quartz 10% Ca Carbonate 40% Non-fibrous (other)	None Detected
Inseparable paint / coating layer included in analysis					
B-1B 341601903-0002	Carport Column South Of House - Stucco	Gray/White Non-Fibrous Heterogeneous		50% Quartz 10% Ca Carbonate 40% Non-fibrous (other)	None Detected
Inseparable paint / coating layer included in analysis					
B-1C 341601903-0003	Ext. Wall North East Side - Stucco	Gray/White Non-Fibrous Heterogeneous		50% Quartz 10% Ca Carbonate 40% Non-fibrous (other)	None Detected
Inseparable paint / coating layer included in analysis					
B-1D 341601903-0004	Ext. Wall East Side - Stucco	Various Non-Fibrous Heterogeneous		45% Quartz 10% Ca Carbonate 45% Non-fibrous (other)	None Detected
Inseparable paint / coating layer included in analysis					
B-E 341601903-0005	Ext Wall North Side By 2nd Level Bedrooms - Stucco	Gray Non-Fibrous Heterogeneous		55% Quartz 10% Ca Carbonate 35% Non-fibrous (other)	None Detected
B-2A-Brick 341601903-0006	Carport Brick Column - Red Brick/Mortar	Red Non-Fibrous Homogeneous		10% Quartz 90% Non-fibrous (other)	None Detected
B-2A-Mortar 341601903-0006A	Carport Brick Column - Red Brick/Mortar	Gray Non-Fibrous Heterogeneous		50% Quartz 10% Ca Carbonate 40% Non-fibrous (other)	None Detected

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 Samples analyzed by EMSL Analytical, Inc. Orlando, FL NVLAP Lab Code 101151-0

Initial report from 02/23/2016 17:48:04



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5125 Adanson Street, Suite 900, Orlando, FL 32804

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Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
B-2B-Brick 341601903-0007	Fire Place In Living Room - Red Brick/Mortar	Tan/Red Non-Fibrous Homogeneous		15% Quartz 85% Non-fibrous (other)	None Detected
B-2B-Mortar 341601903-0007A	Fire Place In Living Room - Red Brick/Mortar	Black Non-Fibrous Heterogeneous		40% Quartz 10% Ca Carbonate 50% Non-fibrous (other)	None Detected
B-3A 341601903-0008	Ext Window Wood Frame North Wall - White Caulk Window Ext. Frame	White/Rust Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
Inseparable paint / coating layer included in analysis					
B-3B 341601903-0009	Ext. Window Frame East Side - White Caulk Window Ext. Frame	White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
Inseparable paint / coating layer included in analysis					
B-4A 341601903-0010	Front Door Wood Frame, North Wall - White Caulk Door Ext Frame	Gray/White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
B-4B 341601903-0011	Front Door Wood Frame, North Wall - White Caulk Door Ext Frame	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
B-5A 341601903-0012	Roof - Roof Shingles - Brown	Gray/Black Fibrous Homogeneous	8% Glass	92% Non-fibrous (other)	None Detected
B-5B 341601903-0013	Roof - Roof Shingles - Brown	Various Fibrous Heterogeneous	8% Glass	92% Non-fibrous (other)	None Detected

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
B-6A 341601903-0014	Under B-5A Roof - Black Felt Paper	Black Fibrous Homogeneous	45% Cellulose	55% Non-fibrous (other)	None Detected
B-6B 341601903-0015	Under B5B - Roof - Black Felt Paper	Black Fibrous Homogeneous	45% Cellulose	55% Non-fibrous (other)	None Detected
B-7A 341601903-0016	West Side Window - Window Glaze	White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
B-7B 341601903-0017	Window North Wall - Window Glaze	White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
B-8A-Mortar 341601903-0018	North Roof - Mortar Under Clay Red Roof Tile	Gray Non-Fibrous Heterogeneous		50% Quartz 10% Ca Carbonate 40% Non-fibrous (other)	None Detected
B-8A-Tile 341601903-0018A	North Roof - Mortar Under Clay Red Roof Tile	Red Non-Fibrous Heterogeneous		25% Quartz 75% Non-fibrous (other)	None Detected
B-8A-Adhesive 341601903-0018B	North Roof - Mortar Under Clay Red Roof Tile	Clear Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
B-8B-Mortar 341601903-0019	North Roof - Mortar Under Clay Red Roof Tile	Gray Non-Fibrous Heterogeneous		50% Quartz 10% Ca Carbonate 40% Non-fibrous (other)	None Detected
B-8B-Tile 341601903-0019A	North Roof - Mortar Under Clay Red Roof Tile	Red Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (other)	None Detected

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Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
B-9A 341601903-0020	Driveway Slab - Concrete	Gray Non-Fibrous Heterogeneous		50% Quartz 10% Ca Carbonate 40% Non-fibrous (other)	None Detected
B-9B 341601903-0021	House Slab - Concrete	Gray Non-Fibrous Heterogeneous		50% Quartz 10% Ca Carbonate 40% Non-fibrous (other)	None Detected
B-10A-Flooring 341601903-0022	Kitchen Floor - SVF W/ Backing Beige & Concrete	Tan Fibrous Heterogeneous	15% Cellulose	85% Non-fibrous (other)	None Detected
This is a composite result of both vinyl and backing layer					
B-10A-Mastic 341601903-0022A	Kitchen Floor - SVF W/ Backing Beige & Concrete	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
B-10A-Paneling 341601903-0022B	Kitchen Floor - SVF W/ Backing Beige & Concrete	Brown Fibrous Homogeneous	100% Cellulose	0% Non-fibrous (other)	None Detected
B-10B 341601903-0023	Kitchen Floor - SVF W/ Backing Beige & Concrete	Yellow Non-Fibrous Heterogeneous	20% Cellulose <1% Glass	80% Non-fibrous (other)	None Detected
This is a composite result of both vinyl and backing layer					
B-11A 341601903-0024	Dining Room - Wall Panel - Pressed Material	Brown/White Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (other)	None Detected
Inseparable paint / coating layer included in analysis					
B-11B 341601903-0025	Living Room - Wall Panel - Pressed Material	Brown/White Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (other)	None Detected
Inseparable paint / coating layer included in analysis					

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Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
B-12A-Drywall 341601903-0026	Wall East Side Family Room - Drywall/JC	Brown/Gray Fibrous Homogeneous	15% Cellulose	70% Gypsum 15% Non-fibrous (other)	None Detected
B-12A-Joint Compound 341601903-0026A	Wall East Side Family Room - Drywall/JC	White Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (other)	None Detected
B-12A-Tape 341601903-0026B	Wall East Side Family Room - Drywall/JC	White Fibrous Homogeneous	98% Cellulose	2% Non-fibrous (other)	None Detected
B-12B-Drywall 341601903-0027	Wall West Side Kitchen - Drywall/JC	Brown/Gray Fibrous Homogeneous	10% Cellulose	70% Gypsum 20% Non-fibrous (other)	None Detected
B-12B-Joint Compound 341601903-0027A	Wall West Side Kitchen - Drywall/JC	White Non-Fibrous Heterogeneous		20% Ca Carbonate 80% Non-fibrous (other)	None Detected
Inseparable paint / coating layer included in analysis					
B-12C-Drywall 341601903-0028	Wall North Side - Office Room - Drywall/JC	Gray Non-Fibrous Homogeneous	3% Cellulose	85% Gypsum 12% Non-fibrous (other)	None Detected
B-12C-Joint Compound 341601903-0028A	Wall North Side - Office Room - Drywall/JC	White Non-Fibrous Heterogeneous		20% Ca Carbonate 80% Non-fibrous (other)	None Detected
Inseparable paint / coating layer included in analysis					
B-13A-Drywall 341601903-0029	Kitchen Ceiling - DW/JC And Surfacing Material	Brown/Gray Fibrous Homogeneous	20% Cellulose	70% Gypsum 10% Non-fibrous (other)	None Detected

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 Samples analyzed by EMSL Analytical, Inc. Orlando, FL NVLAP Lab Code 101151-0

Initial report from 02/23/2016 17:48:04



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EMSL Order:	341601903
CustomerID:	AMECH25
CustomerPO:	C012301321
ProjectID:	

Attn: **Ron Trapane**
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Orlando, FL 32801

Phone: (407) 522-7570
 Fax:
 Received: 02/18/16 4:16 PM
 Analysis Date: 2/23/2016
 Collected: 2/18/2016

Project: 6380-15-1321

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
B-13A-Joint Compound 341601903-0029A	Kitchen Ceiling - DW/JC And Surfacing Material	White Non-Fibrous Heterogeneous		25% Ca Carbonate 75% Non-fibrous (other)	None Detected
B-13A-Tape 341601903-0029B	Kitchen Ceiling - DW/JC And Surfacing Material	White Fibrous Homogeneous	98% Cellulose	2% Non-fibrous (other)	None Detected
B-13A-Texture 341601903-0029C	Kitchen Ceiling - DW/JC And Surfacing Material	White Non-Fibrous Heterogeneous		20% Ca Carbonate 80% Non-fibrous (other)	None Detected
B-13B-Drywall 341601903-0030	1/2 Bath 2nd Floor Ceiling - DW/JC And Surfacing Material	Brown/Gray Fibrous Homogeneous	55% Cellulose	40% Gypsum 5% Non-fibrous (other)	None Detected
B-13B-Joint Compound 341601903-0030A	1/2 Bath 2nd Floor Ceiling - DW/JC And Surfacing Material	White Non-Fibrous Homogeneous		25% Ca Carbonate 75% Non-fibrous (other)	None Detected
B-13B-Tape 341601903-0030B	1/2 Bath 2nd Floor Ceiling - DW/JC And Surfacing Material	White Fibrous Homogeneous	98% Cellulose	2% Non-fibrous (other)	None Detected
B-13B-Texture 341601903-0030C	1/2 Bath 2nd Floor Ceiling - DW/JC And Surfacing Material	White Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (other)	None Detected
B-13C-Drywall 341601903-0031	Master Bedroom Ceiling - DW/JC And Surfacing Material	Brown/Gray Fibrous Homogeneous	15% Cellulose <1% Glass	75% Gypsum 10% Non-fibrous (other)	None Detected

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Project: 6380-15-1321

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
B-13C-Joint Compound 341601903-0031A	Master Bedroom Ceiling - DW/JC And Surfacing Material	White		30% Ca Carbonate	None Detected
		Non-Fibrous		70% Non-fibrous (other)	
B-13C-Tape 341601903-0031B	Master Bedroom Ceiling - DW/JC And Surfacing Material	White	95% Cellulose	5% Non-fibrous (other)	None Detected
		Fibrous			
B-13C-Texture 341601903-0031C	Master Bedroom Ceiling - DW/JC And Surfacing Material	White		20% Ca Carbonate	None Detected
		Non-Fibrous		80% Non-fibrous (other)	
Inseparable paint / coating layer included in analysis					
B-14A-Mastic 341601903-0032	Duct Fiberglass Retain Air 1st Floor - White Duct Mastic	White	12% Glass	88% Non-fibrous (other)	None Detected
		Fibrous			
Inseparable wrap layer included in analysis					
B-14A-Insulation 341601903-0032A	Duct Fiberglass Retain Air 1st Floor - White Duct Mastic	Orange	98% Glass	2% Non-fibrous (other)	None Detected
		Fibrous			
B-14B-Mastic 341601903-0033	Attic Duct Fiberglass In Master Bed - White Duct Mastic	White/Silver	10% Glass	90% Non-fibrous (other)	None Detected
		Fibrous			
Inseparable wrap layer included in analysis					
B-14B-Insulation 341601903-0033A	Attic Duct Fiberglass In Master Bed - White Duct Mastic	Yellow	95% Glass	5% Non-fibrous (other)	None Detected
		Fibrous			

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Project: 6380-15-1321

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
B-15A-Floor Tile 341601903-0034	1st Floor 1/2 Bath Floor - 12" x 12" VFT W/ Adhesive Parque Design	Brown/Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
B-15A-Adhesive 341601903-0034A	1st Floor 1/2 Bath Floor - 12" x 12" VFT W/ Adhesive Parque Design	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
B-15B-Floor Tile 341601903-0035	2nd Floor 1/2 Bath Floor - 12" x 12" VFT W/ Adhesive Parque Design	Brown/Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
B-15B-Adhesive 341601903-0035A	2nd Floor 1/2 Bath Floor - 12" x 12" VFT W/ Adhesive Parque Design	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
B-16A-Floor Tile 341601903-0036	Under B-15A - 12" x 12" White Pebbles Design VFT W/ Adhesive	Tan/White Non-Fibrous Heterogeneous		97% Non-fibrous (other)	3% Chrysotile
Inseparable paint / coating layer included in analysis					
B-16A-Bottom Mastic 341601903-0036A	Under B-15A - 12" x 12" White Pebbles Design VFT W/ Adhesive	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
B-16A-Top Mastic 341601903-0036B	Under B-15A - 12" x 12" White Pebbles Design VFT W/ Adhesive	Clear Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
B-16B-Floor Tile 341601903-0037	Under B-15B - 12" x 12" White Pebbles Design VFT W/ Adhesive	Tan/White Non-Fibrous Homogeneous		97% Non-fibrous (other)	3% Chrysotile

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 Analysis Date: 2/23/2016
 Collected: 2/18/2016

Project: **6380-15-1321**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
B-16B-Mastic 341601903-0037A	Under B-15B - 12" x 12" White Pebbles Design VFT W/ Adhesive	Black/Yellow Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
B-17A-Ceramic Tile 341601903-0038	Bathroom 2nd Floor - West Wall - 6" x 6" White Ceramic Tile W/ Adhesive Over Drywall Panel	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
B-17A-Adhesive 341601903-0038A	Bathroom 2nd Floor - West Wall - 6" x 6" White Ceramic Tile W/ Adhesive Over Drywall Panel	Brown Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
B-17A-Grout 341601903-0038B	Bathroom 2nd Floor - West Wall - 6" x 6" White Ceramic Tile W/ Adhesive Over Drywall Panel	White Non-Fibrous Homogeneous		15% Quartz 10% Ca Carbonate 75% Non-fibrous (other)	None Detected
B-17A-Drywall 341601903-0038C	Bathroom 2nd Floor - West Wall - 6" x 6" White Ceramic Tile W/ Adhesive Over Drywall Panel	Brown/Gray Fibrous Homogeneous	30% Cellulose	50% Gypsum 20% Non-fibrous (other)	None Detected
B-17B-Ceramic Tile 341601903-0039	Bathroom 2nd Floor - East Wall - 6" x 6" White Ceramic Tile W/ Adhesive Over Drywall Panel	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected

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Project: 6380-15-1321

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
B-17B-Adhesive 341601903-0039A	Bathroom 2nd Floor - East Wall - 6" x 6" White Ceramic Tile W/ Adhesive Over Drywall Panel	Brown Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
B-17B-Grout 341601903-0039B	Bathroom 2nd Floor - East Wall - 6" x 6" White Ceramic Tile W/ Adhesive Over Drywall Panel	White Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (other)	None Detected
B-17B-Drywall 341601903-0039C	Bathroom 2nd Floor - East Wall - 6" x 6" White Ceramic Tile W/ Adhesive Over Drywall Panel	Brown/Gray Fibrous Homogeneous	30% Cellulose	60% Gypsum 10% Non-fibrous (other)	None Detected
B-18A-Drywall 341601903-0040	Kitchen Ceiling - West Side By Refrigerator - DW/JC With Popcorn Treatment	Brown/Gray Fibrous Homogeneous	15% Cellulose	70% Gypsum 15% Non-fibrous (other)	None Detected
B-18A-Joint Compound 341601903-0040A	Kitchen Ceiling - West Side By Refrigerator - DW/JC With Popcorn Treatment	White Non-Fibrous Homogeneous		25% Ca Carbonate 75% Non-fibrous (other)	None Detected
B-18A-Tape 341601903-0040B	Kitchen Ceiling - West Side By Refrigerator - DW/JC With Popcorn Treatment	White Fibrous Homogeneous	98% Cellulose	2% Non-fibrous (other)	None Detected

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
B-18A-Texture 341601903-0040C	Kitchen Ceiling - West Side By Refrigerator - DW/JC With Popcorn Treatment	White Non-Fibrous Heterogeneous		20% Ca Carbonate 80% Non-fibrous (other)	None Detected
Inseparable paint / coating layer included in analysis					
B-18B-Drywall 341601903-0041	Kitchen Ceiling - East Side By Refrigerator - DW/JC With Popcorn Treatment	Brown/Gray Fibrous Homogeneous	15% Cellulose	70% Gypsum 15% Non-fibrous (other)	None Detected
B-18B-Joint Compound 341601903-0041A	Kitchen Ceiling - East Side By Refrigerator - DW/JC With Popcorn Treatment	White Non-Fibrous Homogeneous		25% Ca Carbonate 75% Non-fibrous (other)	None Detected
B-18B-Tape 341601903-0041B	Kitchen Ceiling - East Side By Refrigerator - DW/JC With Popcorn Treatment	White Fibrous Homogeneous	98% Cellulose	2% Non-fibrous (other)	None Detected
B-18B-Texture 341601903-0041C	Kitchen Ceiling - East Side By Refrigerator - DW/JC With Popcorn Treatment	White Non-Fibrous Heterogeneous		20% Ca Carbonate 80% Non-fibrous (other)	None Detected
Inseparable paint / coating layer included in analysis					
B-18C-Drywall 341601903-0042	Office Ceiling - DW/JC With Popcorn Treatment	Brown/Gray Fibrous Homogeneous	10% Cellulose	80% Gypsum 10% Non-fibrous (other)	None Detected
B-18C-Joint Compound 341601903-0042A	Office Ceiling - DW/JC With Popcorn Treatment	White Non-Fibrous Homogeneous		25% Ca Carbonate 75% Non-fibrous (other)	None Detected

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Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
B-18C-Tape 341601903-0042B	Office Ceiling - DW/JC With Popcorn Treatment	White Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (other)	None Detected
B-18C-Texture 341601903-0042C	Office Ceiling - DW/JC With Popcorn Treatment	White Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (other)	None Detected
B-19A 341601903-0043	Kitchen Sink - Gray Sink Under Coating	White Non-Fibrous Homogeneous		97% Non-fibrous (other)	3% Chrysotile

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Project: 6380-15-1321	

The samples in this report were submitted to EMSL for analysis by Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Sample Receipt Date::	2/18/2016	Sample Receipt Time:	4:16 PM
Analysis Completed Date:	2/23/2016	Analysis Completed Time:	3:39 PM

Analyst(s):



Jonathan Teda PLM (34)



Manolo Hernandez PLM (51)

Samples reviewed and approved by:



Jonathan Teda, Asbestos Lab Manager
or other approved signatory

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