



18 August 2014

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

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Email: bpress@lakecountyfl.gov

**Subject: Report of Pre-Demolition NESHAP Asbestos Survey  
35237 Lake Josephine Drive  
Fruitland Park, Florida 34731  
Alternate Key # 1430020  
Parcel ID # 15-19-24-010000100900  
AMEC Project 6380-13-1104.15**

Dear Ms Press,

AMEC Environment & Infrastructure, Inc. (AMEC) has completed the Pre-Demolition NESHAP Asbestos Survey within the above referenced facility. The field survey was performed by Mr. Carver Gittens, AHERA Accredited Inspectors from AMEC, on 5 August 2014, in accordance with our Proposal 14PROP0010.6380.0363, dated 24 June 2014.

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 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.

Respectfully,  
**AMEC Environment & Infrastructure, Inc.**  
Asbestos Business License No. ZA-0000449

Carol L. Thoma, CIEC  
Project Manager

Russell E. Stauffer, P.E.  
FL Asbestos Consultant  
License No. EA0000016

Attachment: Appendix A – Laboratory Analysis

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AMEC E&I (local address)  
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## **1.0 PROJECT INFORMATION**

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

As conveyed by Ms. Press, there are plans to demolish the mobile in the near future. According to LCPA information, there is a single family mobile home, constructed in 1975, located at the subject address. The vacant single family home contains a total of 1,056 square feet of gross area consisting of a finished living area, with 2 full bathrooms.

The asbestos survey included bulk sampling of suspect interior and exterior building materials, including roofing products and if present, concrete slab. The objective of AMEC's survey was to identify accessible asbestos-containing materials which may be impacted by the planned demolition.

## **2.0 SURVEY PROCEDURES**

### **2.1 General**

The survey was performed by observing accessible exposed building materials and included bulk sampling of suspect interior and exterior building materials, prior to the planned demolition of the structure. We must emphasize that it is not possible to look within every location of a building. The visual survey documents only general locations of suspect materials but does not determine exact boundaries.

No attempt was made to disassemble equipment or demolish structural elements and finishes as this is beyond the scope of our authorized services. Visual observations were made at convenient locations (for example) for the presence of resilient floor coverings below existing floor finishes, etc. Due to these limitations, wall voids, building cavities and mechanical equipment, and other areas may contain unreported asbestos-containing materials.

## 2.2 Bulk Sampling

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. Point counts were **not** conducted as part of this survey.

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

1. Ceiling – Drywall & Joint Compound w/ Popcorn Texture Treatment
2. Wall – Drywall & Joint Compound
3. **Under Floor Felt Moisture Barrier**
4. Floor – Beige w/Blue Diamond Pattern Sheet Vinyl Floor w/ Beige Mastic
5. White Caulk (around sink)
6. Ceiling – Compressed Cellulose Ceiling Panels
7. Shower Enclosure – Fiberglass Gelcoat
8. Sink Undercoat – Black Mastic
9. Roof – Roof Layers
10. Floor Slab – Concrete
11. White Caulk Exterior
12. **Roof - Coating**

### 3.0 BULK SAMPLE RESULTS AND CONCLUSIONS

Based upon our visual observations, bulk sampling of 12 suspect materials (29 samples, 38 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	NESHAP Category
B-3A, B-3B, B-3C	Felt Under Floor Moisture Barrier	Underside Center, North, South Sections	2% Chrysotile	Fair/ Moderate	1,056 SF	Category I Non- Friable
B-12A, B-12B	Roof - Coating	Roof South, North	2% Chrysotile	Fair/ Moderate	1,056 SF	Category I Non- Friable

Prepared By: CT Checked By: 

The EPA NESHAP classifies the roof coating and under floor felt moisture barrier as Category I Non-Friable Material.

### 4.0 ASBESTOS RECOMMENDATIONS

#### 4.1 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.

#### 4.2.1 Specific Asbestos Recommendations

##### 4.2.2 Under Floor Felt Moisture Barrier and Roof Coating

The under floor felt moisture barrier and roof coating were found to contain two percent Chrysotile asbestos.

The EPA NESHAP classifies the under floor felt moisture barrier and roof coating 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 under floor felt moisture barrier and roof coating** as Class II asbestos work which requires specialized training, engineering controls, etc.

However, these Category I non-friable asbestos-containing materials **need not be removed** prior to demolition if Lake County 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 under floor felt moisture barrier and roof coating.

If these conditions are met, these Category I non-friable materials may be demolished in place, utilizing wet methods **provided they will not be exposed to cutting, sanding, grinding, abrading or otherwise rendered friable by the demolition activities**.

### **4.3 State Of Florida Asbestos Regulations**

Chapter 469 of the Florida Statutes generally requires that a state licensed asbestos abatement contractor perform the removal, repair, or encapsulation of the types of ACM and materials identified as containing asbestos in this report. Since the structures will be demolished, ten working day written notification is required prior to the start of demolition activities under the EPA NESHAP regulation (40 CFR 61, Subpart M) and Florida Department of Environmental Protection (FDEP) rules. Since the project is located in **Lake County**, the notification, using FDEP form 62-257.900(1), must be made to FDEP's Central District Office at 3319 Maguire Boulevard, Suite 232, Orlando, FL 32803-3767 (telephone 407-894-7555, Fax 407-897-2966).

### **4.4 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.

### **4.5 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.

## 5.0 LIMITATIONS

AMEC 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 Department of Public Works**. This report and the findings contained herein shall not, in whole or in part, be disseminated or conveyed to any other party without AMEC'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 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 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

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EMSL Order:	341406850
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ProjectID:	

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

Phone: (407) 522-7570  
 Fax:  
 Received: 08/07/14 8:30 AM  
 Analysis Date: 8/11/2014  
 Collected: 8/5/2014

Project: 6380-13-1104.15 35237 Lake Josephine Dr.

## 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-Drywall 341406850-0001	Ceiling - Drywall & Joint Compound w/Popcorn Texture Treatment	Brown/White Fibrous Homogeneous	30% Cellulose	50% Gypsum 20% Non-fibrous (other)	None Detected
No joint compound present.					
B-1A-Texture 341406850-0001A	Ceiling - Drywall & Joint Compound w/Popcorn Texture Treatment	White Non-Fibrous Heterogeneous		20% Ca Carbonate 80% Non-fibrous (other)	None Detected
Inseparable paint / coating layer included in analysis					
B-1B-Drywall 341406850-0002	Ceiling - Drywall & Joint Compound w/Popcorn Texture Treatment	White Fibrous Homogeneous	3% Cellulose	90% Gypsum 7% Non-fibrous (other)	None Detected
No joint compound present.					
B-1B-Texture 341406850-0002A	Ceiling - Drywall & Joint Compound w/Popcorn Texture Treatment	White Non-Fibrous Heterogeneous		25% Ca Carbonate 75% Non-fibrous (other)	None Detected
Inseparable paint / coating layer included in analysis					
B-1C-Drywall 341406850-0003	Ceiling - Drywall & Joint Compound w/Popcorn Texture Treatment	Brown/White Fibrous Homogeneous	15% Cellulose	70% Gypsum 15% Non-fibrous (other)	None Detected
No joint compound present.					
B-1C-Texture 341406850-0003A	Ceiling - Drywall & Joint Compound w/Popcorn Texture Treatment	White Non-Fibrous Heterogeneous		20% Ca Carbonate 80% Non-fibrous (other)	None Detected
Inseparable paint / coating layer included in analysis					
B-2A-Drywall 341406850-0004	East Wall - Drywall & Joint Compound	White Fibrous Homogeneous	2% Cellulose	90% Gypsum 8% 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 08/12/2014 08:16:47



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5125 Adanson Street, Suite 900, Orlando, FL 32804

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**75 E. Amelia Street Suite 200**  
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Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
B-2A-Joint Compound 341406850-0004A	East Wall - Drywall & Joint Compound	White Non-Fibrous Heterogeneous		30% Ca Carbonate 70% Non-fibrous (other)	None Detected
Inseparable paint / coating layer included in analysis					
B-2B-Drywall 341406850-0005	North Wall - Drywall & Joint Compound	Brown/White Fibrous Homogeneous	25% Cellulose	55% Gypsum 20% Non-fibrous (other)	None Detected
B-2B-Joint Compound 341406850-0005A	North Wall - Drywall & Joint Compound	White Non-Fibrous Heterogeneous		30% Ca Carbonate 70% Non-fibrous (other)	None Detected
Inseparable paint / coating layer included in analysis					
B-2C-Drywall 341406850-0006	West Wall - Drywall & Joint Compound	White Fibrous Homogeneous	5% Cellulose	90% Gypsum 5% Non-fibrous (other)	None Detected
B-2C-Joint Compound 341406850-0006A	West Wall - Drywall & Joint Compound	White Non-Fibrous Heterogeneous		30% Ca Carbonate 70% Non-fibrous (other)	None Detected
Inseparable paint / coating layer included in analysis					
B-3A 341406850-0007	Center Sect - Felt	Brown/Black Fibrous Heterogeneous	60% Cellulose	38% Non-fibrous (other)	2% Chrysotile
Inseparable mastic layer included in analysis.					
B-3B 341406850-0008	North Sect - Felt	Brown/Black Fibrous Heterogeneous	60% Cellulose	38% Non-fibrous (other)	2% Chrysotile
Inseparable mastic layer included in analysis.					
B-3C 341406850-0009	West Sect - Felt	Brown/Black Fibrous Heterogeneous	65% Cellulose	33% Non-fibrous (other)	2% Chrysotile
Inseparable mastic layer included in analysis.					

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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-4A-Flooring 341406850-0010	Floor - Beige w/Blue Diamond Pattern Sheet Vinyl Floor w/Beige Mastic	Gray/Beige Fibrous Heterogeneous	15% Cellulose 2% Glass	83% Non-fibrous (other)	None Detected
This is a composite result of both vinyl and backing layer					
B-4A-Mastic 341406850-0010A	Floor - Beige w/Blue Diamond Pattern Sheet Vinyl Floor w/Beige Mastic	Beige Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
B-4B 341406850-0011	Floor - Beige w/Blue Diamond Pattern Sheet Vinyl Floor w/Beige Mastic	Gray/Yellow Fibrous Heterogeneous	15% Cellulose 2% Glass	83% Non-fibrous (other)	None Detected
This is a composite result of both vinyl and backing layer Insufficient mastic					
B-5A 341406850-0012	Around Sink - White Caulk	White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
Inseparable paint / coating layer included in analysis					
B-5B 341406850-0013	Around Sink - White Caulk	White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
Inseparable paint / coating layer included in analysis					
B-6A 341406850-0014	Ceiling - Compressed Cellulose Ceiling Panels	Brown/White Fibrous Homogeneous	85% Cellulose	15% Non-fibrous (other)	None Detected
Inseparable paint / coating layer included in analysis					

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			% Fibrous	% Non-Fibrous	% Type
B-6B 341406850-0015	Ceiling - Compressed Cellulose Ceiling Panels	Brown/White Fibrous Homogeneous	85% Cellulose	15% Non-fibrous (other)	None Detected
Inseparable paint / coating layer included in analysis					
B-6C 341406850-0016	Ceiling - Compressed Cellulose Ceiling Panels	Brown/White Fibrous Homogeneous	85% Cellulose	15% Non-fibrous (other)	None Detected
Inseparable paint / coating layer included in analysis					
B-7A 341406850-0017	Shower Enclosure - Fiberglass Gelcoat	White/Green Fibrous Heterogeneous	25% Glass	75% Non-fibrous (other)	None Detected
Inseparable paint / coating layer included in analysis					
B-7B 341406850-0018	Shower Enclosure - Fiberglass Gelcoat	Green Fibrous Heterogeneous	30% Glass	70% Non-fibrous (other)	None Detected
B-7C 341406850-0019	Shower Enclosure - Fiberglass Gelcoat	White/Green Fibrous Heterogeneous	30% Glass	70% Non-fibrous (other)	None Detected
Inseparable paint / coating layer included in analysis					
B-8A 341406850-0020	Sink Undercoat - Black Mastic	Black/Beige Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
Result includes a small amount of inseparable attached material					
B-9A-Shingle 341406850-0021	Roof - Roof Layers	Various Fibrous Heterogeneous	10% Cellulose	90% Non-fibrous (other)	None Detected
B-9A-Roofing 341406850-0021A	Roof - Roof Layers	Black Fibrous Heterogeneous	15% Cellulose	85% Non-fibrous (other)	None Detected

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			% Fibrous	% Non-Fibrous	% Type
B-9B-Shingle 341406850-0022	Roof - Roof Layers	Various Fibrous Heterogeneous	10% Cellulose	90% Non-fibrous (other)	None Detected
B-9B-Roofing 341406850-0022A	Roof - Roof Layers	Black Fibrous Heterogeneous	15% Cellulose	85% Non-fibrous (other)	None Detected
B-10A 341406850-0023	Floor Slab - Concrete	White Non-Fibrous Heterogeneous		40% Quartz 10% Ca Carbonate 50% Non-fibrous (other)	None Detected
B-10B 341406850-0024	Floor Slab - Concrete	White Non-Fibrous Heterogeneous		40% Quartz 15% Ca Carbonate 45% Non-fibrous (other)	None Detected
B-10C 341406850-0025	Floor Slab - Concrete	Gray Non-Fibrous Heterogeneous		45% Quartz 15% Ca Carbonate 40% Non-fibrous (other)	None Detected
B-11A 341406850-0026	South Sect - Off White Caulk	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
B-11B 341406850-0027	North Sect - Off White Caulk	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
B-12A 341406850-0028	South Sect - Roof Coating	White/Silver Non-Fibrous Heterogeneous		98% Non-fibrous (other)	2% Chrysotile
B-12B 341406850-0029	North Sect - Roof Coating	White/Silver Fibrous Heterogeneous		98% Non-fibrous (other)	2% Chrysotile

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CustomerPO:	C012304680
ProjectID:	

<b>Attn: Ron Trapane</b> <b>AMEC E&amp;I, Inc.</b> <b>75 E. Amelia Street Suite 200</b> <b>Orlando, FL 32801</b>	Phone: (407) 522-7570 Fax: Received: 08/07/14 8:30 AM Analysis Date: 8/11/2014 Collected: 8/5/2014
Project: <b>6380-13-1104.15 35237 Lake Josephine Dr.</b>	

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::	8/7/2014	Sample Receipt Time:	8:30 AM
Analysis Completed Date:	8/11/2014	Analysis Completed Time:	10:09 AM

**Analyst(s):**




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Jonathan Teda PLM (14)




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Katelyn Wright PLM (24)

**Samples reviewed and approved by:**




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Jonathan Teda, Asbestos Lab Manager  
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%  
 Samples analyzed by EMSL Analytical, Inc. Orlando, FL NVLAP Lab Code 101151-0

Initial report from 08/12/2014 08:16:47