Asbestos Survey Report

445 East Springfield Road
St. Clair, Missouri

Project No. 16-6412

May 9, 2016

Presented to:

Scenic Regional Library
Union, Missouri

COCHRAN

Architecture • Civil Engineering • Land Surveying • Site Development • Geotechnical Engineering • Inspection & Materials Testing

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May 9, 2016

Mr. Steve Campbell, Director
Scenic Regional Library
304 Hawthorne Drive
Union, Missouri 63084

RE: Asbestos Survey Report
445 East Springfield Road
St. Clair, Missouri
Project No. 16-6412

Dear Mr. Campbell:

Cochran is pleased to submit the results of an asbestos survey performed on April 26, 2016 at the above referenced site in St. Clair, Missouri. We understand this survey was requested due to planned demolition of the existing structures.

INTRODUCTION

Cochran conducted an asbestos survey of the one story, residential home with a basement and one story slab-on-grade workshop/garage located at 445 East Springfield Road in St. Clair, Missouri. The survey was conducted on April 26, 2016 by a State of Missouri certified asbestos inspector. Interior building components were surveyed and homogeneous areas of suspect asbestos-containing materials (ACM) were visually identified and documented. Although reasonable effort was made to survey accessible suspect materials, additional suspect but un-sampled materials could be located in walls, in voids or in other concealed areas. Suspect ACM samples were collected in general accordance with the sampling protocols outlined in EPA regulation 40 CFR 763 (Asbestos Hazard Emergency Response Act, AHERA). Samples were delivered to an accredited laboratory for analysis by polarized light microscopy.

FIELD ACTIVITIES

The survey was conducted by Ms. Karen Albert, a State of Missouri certified asbestos inspector. A copy of Ms. Albert's certificate is attached as Appendix C. The survey was conducted in general accordance with the sample collection protocols established in EPA regulation 40 CFR 763, the Asbestos Hazard Emergency Response Act (AHERA).

The existing buildings were assessed to identify suspect ACMs, which were then grouped into three categories according to their intended use:

- **Surfacing Materials –** material that is sprayed on, troweled on, or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing materials on structural members, or other material on surfaces for acoustical, fireproofing, or other purposes.
- **Thermal System Insulation (TSI)** – material applied to pipes, fittings, boilers, breeching tanks, ducts, or other interior structural components to prevent heat loss or gain, water condensation, or for other purposes.
- **Miscellaneous Materials** – interior building materials on structural components, structural members, or fixtures, such as floor and ceiling tiles, but does not include surfacing materials or thermal system insulation.

VISUAL ASSESSMENT

Our survey activities began with visual observation of the interior areas of the buildings to identify homogeneous areas of suspect ACM. A homogeneous area consists of building materials that appear similar throughout in terms of color, texture and consideration given to date of application. Interior assessment was conducted throughout visually accessible areas of the buildings. Building materials identified as concrete, glass, wood, masonary, metal or rubber were not considered suspect ACM.

PHYSICAL ASSESSMENT

A physical assessment of each homogeneous area of suspect ACM was conducted to assess the friability and condition of the materials. A friable material is defined by the EPA as a material which can be crumbled, pulverized or reduced to powder by hand pressure when dry. Friability was assessed by physically touching suspect materials.

SAMPLE COLLECTION AND ANALYTICAL

Based on results of the visual observation, suspect ACMs were collected in general accordance with AHERA sampling protocols. Bulk samples were collected, placed in plastic bags, and labeled with unique identification number. Chain-of-custody forms were completed, signed, dated, and along with the bulk samples transported to Precision Analysis, Inc, of St. Louis Missouri for analysis by polarized light microscopy per EPA methodology EPA/600R-93/116

REGULATORY OVERVIEW

The asbestos NESHAP (40 CFR Part 61, Subpart M) regulates asbestos fiber emissions and asbestos waste disposal practices. It also requires the identification and classification of existing building materials prior to demolition or renovation activity. Under NESHAP, asbestos-containing building materials are classified as either friable, Category I non-friable or Category II non-friable ACM. Friable materials are those that, when dry, may be crumbled, pulverized or reduced to powder by hand pressure and contain more than 1% asbestos. Category I non-friable ACM includes packing's, gaskets, resilient floor coverings & associated mastics and asphalt roofing products containing more than 1% asbestos. Category II non-friable ACM are any materials other than Category I materials that contain more than 1% asbestos.

Friable ACM, Category I and Category II non-friable ACM which is in poor condition and has become friable or which will be subjected to drilling, sanding, grinding, cutting or abrading and which could be crushed or pulverized during anticipated renovation or demolition activities are considered regulated ACM (RACM).

FINDINGS

Laboratory analysis confirmed the presence of asbestos in the following materials:

Material	Location	Amount & Type of ACM	Friable (F) Non-Friable (NF)	Quantity	Condition
Insulation wrap around duct work (12a)	Workshop/garage	85-90% Chrysotile	NF	+/- 100 lineal feet	Fair
9x9 brown floor tile (13a)	Workshop/garage office area	5-10% Chrysotile	NF	+/- 225 sq ft	Fair

Photographs of ACM's are included in Appendix A.

FURTHER INVESTIGATIONS

It must be realized that hidden ACMs may be present which may not be exposed or defined without actual demolition. Any such previously concealed ACMs which are revealed only during the demolition process should be sampled for testing by a licensed inspector, and should be removed as necessary prior to resumption of work.

GENERAL

This asbestos survey was conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the sample locale. The results, findings, conclusions and recommendations expressed in this report are based on conditions observed during our survey of the building. The information contained in this report is relevant to the date on which this survey was performed and should not be relied upon to represent conditions at a later date. This report has been prepared on behalf of and exclusively for use by Scenic Regional Library for specific application to their project as discussed. This report is not a bidding document. Contractors or consultants reviewing this report must draw their own conclusions regarding further investigation or remediation deemed necessary. Cochran does not warrant the work of regulatory agencies, laboratories or other third parties supplying information which may have been used in the preparation of this report. No warranty, express or implied is made.

* *

The following are made part of and complete this report:

Appendix A Photographs

Appendix B Laboratory Analytical Report

Appendix C Asbestos Certification

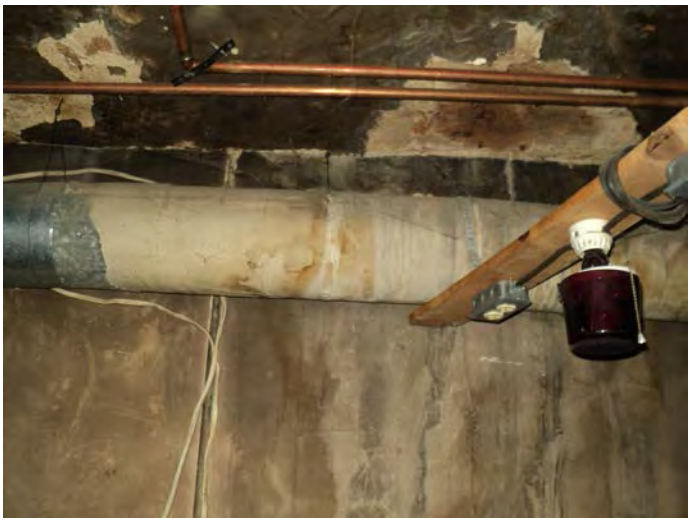
We appreciate the opportunity to provide this service to you. If you have any questions or require additional information, please contact the undersigned at 636-584-0540.

Sincerely,

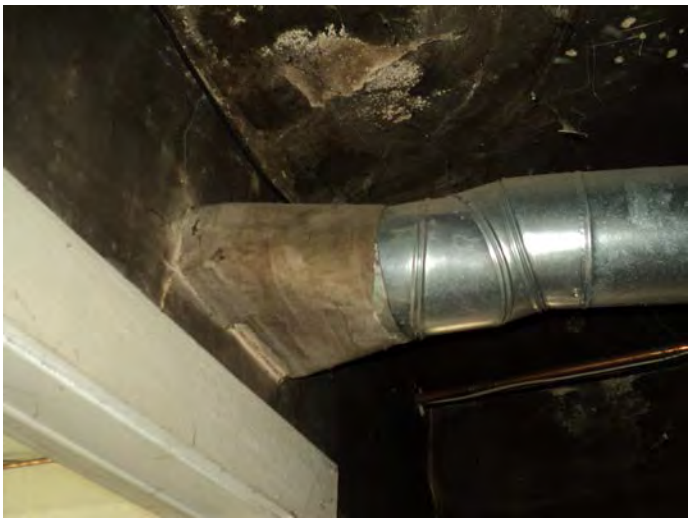
Karen L. Albert, P.E.
Director of Geotechnical and Environmental Services
Cochran

APPENDIX A

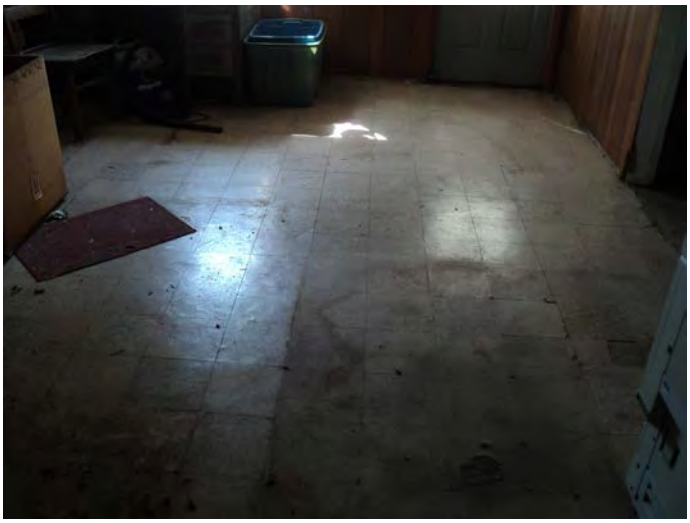
PHOTOGRAPHS



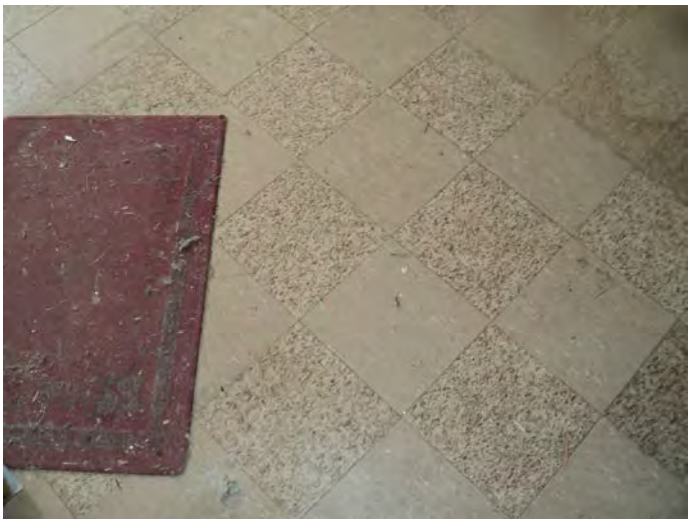
1. Insulation wrap around duct work in workshop/garage.



2. Insulation wrap around duct work in workshop/garage.



3. 9x9 floor tile in office area in workshop/garage.



4. 9x9 floor tile in office area in workshop/garage.

APPENDIX B

LABORATORY ANALYTICAL RESULTS

PRECISION ANALYSIS, INC.

BULK SAMPLE ANALYSIS

Client: Cochran

Date Received: 04-27-16

Job Name: 445 E. Springfield Ave

Date Reported: 04-29-16

Technique: Polarized Light Microscopy with Dispersion Staining
In accordance with EPA/600/R-93/116 Test Method

Lab No.	Sample No.	Asbestos Detected & Percentage *	Fibrous Material	Non-Fibrous Material
291701	1a	None Detected	Cellulose, Glass Wool	Binders, Paint, Mica
291702	1b	None Detected	Cellulose, Glass Wool	Binders, Paint, Mica
291703	1c	None Detected	Cellulose, Glass Wool	Binders, Paint, Mica
291704	1d	None Detected	Cellulose, Glass Wool	Binders, Paint, Mica
291705	1e	None Detected	Cellulose, Glass Wool	Binders, Paint, Mica
291706	2a	None Detected		Binders, Vinyl, Aggregate
		None Detected in Mastic		Binders
291707	2b	None Detected		Binders, Vinyl, Aggregate
		None Detected in Mastic		Binders
291708	2c	None Detected		Binders, Vinyl, Aggregate
		None Detected in Mastic		Binders

* The upper detection limit is 100 percent.
The lower detection limit is less than 1 percent.

22 ORVIETO COURT FLORISSANT, MISSOURI 63031 TEL./FAX (314) 838-5052

PRECISION ANALYSIS, INC.

BULK SAMPLE ANALYSIS

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Lab No.	Sample No.	Asbestos Detected & Percentage *	Fibrous Material	Non-Fibrous Material
291709	3a	None Detected		Binders, Paint, Vinyl
291710	3b	None Detected		Binders, Paint, Vinyl
291711	3c	None Detected		Binders, Paint, Vinyl
291712	4a	None Detected		Binders, Vinyl
291713	4b	None Detected		Binders, Vinyl
291714	4c	None Detected		Binders, Vinyl
291715	5a	None Detected		Binders, Vinyl
291716	5b	None Detected		Binders, Vinyl
291717	5c	None Detected		Binders, Vinyl
291718	6a	None Detected	Cellulose	Binders
291719	6b	None Detected	Cellulose	Binders
291720	6c	None Detected	Cellulose	Binders
291721	7a	None Detected		Binders, Paint, Vinyl

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Lab No.	Sample No.	Asbestos Detected & Percentage *	Fibrous Material	Non-Fibrous Material
291722	7b	None Detected		Binders, Paint, Vinyl
291723	7c	None Detected		Binders, Paint, Vinyl
291724	8a	None Detected		Binders, Polyfoam
291725	8b	None Detected		Binders, Polyfoam
291726	8c	None Detected		Binders, Polyfoam, Paint
291727	9a	None Detected	Glass Wool	Binders
291728	9b	None Detected	Glass Wool	Binders
291729	9c	None Detected	Cellulose, Glass Wool	Binders, Black Tar Binders
291730	10a	None Detected	Cellulose, Glass Wool	Black Tar Binders, Aggregate
291731	10b	None Detected	Cellulose, Glass Wool	Black Tar Binders, Aggregate
291732	10c	None Detected	Cellulose, Glass Wool	Black Tar Binders, Aggregate
291733	11a	None Detected	Cellulose	Binders, Paint, Mica

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Lab No.	Sample No.	Asbestos Detected & Percentage *	Fibrous Material	Non-Fibrous Material
291734	11b	None Detected	Cellulose	Binders, Paint, Mica
291735	11c	None Detected	Cellulose	Binders, Paint, Mica
291736	12a	85-90% Chrysotile	Antigorite	Binders
291737	13a	5-10% Chrysotile	Antigorite	Binders, Vinyl, Aggregate
		None Detected in Mastic		Binders
291738	14a	None Detected	Cellulose	Binders, Paint
291739	14b	None Detected	Cellulose	Binders, Paint
291740	14c	None Detected	Cellulose	Binders, Paint
291741	15a	None Detected	Glass Wool	Binders
291742	15b	None Detected	Glass Wool	Binders
291743	15c	None Detected	Glass Wool	Binders
291744	16a	None Detected	Horse Hair	Binders, Paint, Aggregate
291745	16b	None Detected	Horse Hair	Binders, Paint, Aggregate

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Technique: Polarized Light Microscopy with Dispersion Staining
In accordance with EPA/600/R-93/116 Test Method

Lab No.	Sample No.	Asbestos Detected & Percentage *	Fibrous Material	Non-Fibrous Material
291746	16c	None Detected	Horse Hair	Binders, Paint, Aggregate
291747	17a	None Detected		Binders, Paint
291748	17b	None Detected		Binders, Paint
291749	17c	None Detected		Binders, Paint
291750	18a	None Detected		Binders, Vinyl
291751	18b	None Detected		Binders, Vinyl
291752	18c	None Detected		Binders, Vinyl
291753	19a	None Detected		Binders, Vinyl
291754	19b	None Detected		Binders, Vinyl
291755	19c	None Detected		Binders, Vinyl
291756	20a	None Detected	Cellulose	Black Tar Binders, Aggregate
291757	20b	None Detected	Cellulose	Black Tar Binders, Aggregate
291758	20c	None Detected	Cellulose	Black Tar Binders, Aggregate
291759	21a	None Detected		Binders, Vinyl

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Date Reported: 04-29-16

Technique: Polarized Light Microscopy with Dispersion Staining
In accordance with EPA/600/R-93/116 Test Method

Lab No.	Sample No.	Asbestos Detected & Percentage *	Fibrous Material	Non-Fibrous Material
291760	21b	None Detected		Binders, Vinyl
291761	21c	None Detected		Binders, Vinyl

* The upper detection limit is 100 percent.
The lower detection limit is less than 1 percent.

Paul Spell
Laboratory Director

AIHA Bulk Asbestos Proficiency Analytical Testing Program ID # 101228
In Association with RTI Center for Measurements and Quality Assurance

PLM is not recommended for analysis of vinyl floor tile. Vinyl floor tile often contains milled asbestos with fiber lengths of 1 micrometer or less. Because these fibers are not detected by PLM, PLM analysis may yield a false negative result. We recommend qualitative analysis of vinyl floor tile by Transmission Electron Microscopy (TEM).

Precision Analysis assumes no responsibility for financial or health consequences for action or lack of action taken by our clients or their agents as a result of these analytical reports. Since Precision Analysis was not involved in the collection of these samples, we cannot attest to the proper collection of said samples and therefore are neither responsible nor liable for the accuracy, validity or completeness of the sample collection.

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subfloor under carpet in living room & bedroom

CHAIN OF CUSTODY

Page 1 of 4 page(s)

DATE: 4-26-16 TURN AROUND TIME: Rush _____ Normal X

CLIENT: Cochran JOB NAME: 445 E Springfield JOB NO.: 16-6412

PRECISION ANALYSIS, INC.
22 ORVIETO COURT
FLORISSANT, MO 63031
(314) 838-5052

PRECISION ANALYSIS

Sample ID	Analysis	Material Location	Approx. Quantity	Material Description	Condition
1A	PLM	wall+ceiling drywall ~~plaster~~ Closet		drywall	
1B	PLM	kitchen			
1C	PLM	bathroom			
1D	PLM	living room			
1E	PLM	bedroom			
2A	PLM	brown gray vinyl tile ~~tile~~ kitchen	22x20	brown vinyl tile	
2B	PLM	bathroom			
2C	PLM	living room			
3A	PLM	white window caulk (inside)		caulk	
3B	PLM				
3C	PLM				
4A	PLM	white ~~clear~~ caulk around bathroom (vanity)		caulk	
4B	PLM				
4C	PLM				
5A	PLM	brown caulk - bottom of tub		caulk	
5B	PLM				
5C	PLM				
6A	PLM	brown attic insulation		insulation	

house.

S.F. - Square Feet L.F. - Linear Feet

Relinquished By: Ken Cole Date: 4-26-16 Received By: Paul Spur

RECEIVED
APR 27 2016
Date: _____
BY: _____

CHAIN OF CUSTODY

Page 2 of 4 page(s)

DATE: 4-26-16 TURN AROUND TIME: Rush _____ Normal X

CLIENT: Cochran JOB NAME: 445 E. Springfield JOB NO.: 16-6412

PRECISION ANALYSIS, INC.
22 ORVIETO COURT
FLORISSANT, MO 63031
(314) 838-5052

PRECISION ANALYSIS

Sample ID	Analysis	Material Location	Approx. Quantity	Material Description	Condition
6B	PLM	attic insulation - brown		insulation	
6C	PLM	attic insulation - brown		↓	
7A	PLM	White caulk - basement window outside		caulk	
7B	PLM	↓ ↓ ↓		↓	
7C	PLM	↓ ↓ ↓		↓	
8A	PLM	foam insulation - basement around closed off window		insulation	
8B	PLM	↓ ↓		↓	
8C	PLM	↓ ↓		↓	
9A	PLM	pink/yellow fiberglass insulation basement		insulation	
9B	PLM	↓		↓	
9C	PLM	↓		↓	
10A	PLM	roof shingles		shingles	
10B	PLM	↓ ↓		↓	
10C	PLM	↓ ↓		↓	
11A	PLM	ceiling - L2 back rooms away from road + wall back rooms	25x35	drywall	
11B	PLM	↓ ↓ ↓		↓	
11C	PLM	↓ ↓ ↓		↓	
12A	PLM	insulation wrap around duct work in workshop		insulation wrap	

House

work Shop

S.F. - Square Feet L.F. - Linear Feet

Relinquished By: _____ Date: 4-26-16 Received By: _____ Date: APR 27 2016

RECEIVED

BY: _____

CHAIN OF CUSTODY

Page 3 of 4 page(s)

DATE: 4-26-16 TURN AROUND TIME: Rush _____ Normal X

CLIENT: Cochran. JOB NAME: 445 East Springfield JOB NO.: 16-6412

PRECISION ANALYSIS, INC.
22 ORVIETO COURT
FLORISSANT, MO 63031
(314) 838-5052

PRECISION ANALYSIS

work shop

Sample ID	Analysis	Material Location	Approx. Quantity	Material Description	Condition
12B	PLM	insulation wrap		insulation wrap	
12C.	PLM	↓		↓	
13A	PLM	9x9 brown/tan floortile	15x15	floor tile	
13B	PLM	↓ ↓		↓	
13C.	PLM	↓ ↓		↓	
14A	PLM	ceiling tile 9x9.	15x15	ceiling tile	
14B	PLM	↓ ↓		↓	
14C.	PLM	↓ ↓		↓	
15A	PLM	brown insulation above ceiling in office area	15x15	insulation	
15B	PLM	↓ ↓		↓	
15C.	PLM	↓ ↓		↓	
16A	PLM	plaster ceiling (1 room)	20x15	plaster	
16B	PLM	↓ ↓		↓	
16C.	PLM	↓ ↓		↓	
17A	PLM	caulk (white outside window		caulk	
17B	PLM	↓ ↓ ↓		↓	
17C.	PLM	↓ ↓ ↓		↓	
18A	PLM	white caulking exterior door outside		caulk	

S.F. - Square Feet L.F. - Linear Feet

Relinquished By: _____ Date: 4-26-16

Received By: _____ Date: APR 27 2016

RECEIVED

BY: _____

CHAIN OF CUSTODY

Page 4 of 4 page(s)

DATE: 4-26-16 TURN AROUND TIME: Rush _____ Normal X

CLIENT: Cochran JOB NAME: 445 East Springfield JOB NO.: 16-6412

PRECISION ANALYSIS, INC.
22 ORVIETO COURT
FLORISSANT, MO 63031
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PRECISION ANALYSIS

Sample ID	Analysis	Material Location	Approx. Quantity	Material Description	Condition
18B	PLM	white caulk exterior door	exterior	caulk	
18C	PLM	" " "		"	
19A	PLM	white caulk - exterior window		white caulk	
19B	PLM	" " facing library toward East		Springfield "	
19C	PLM	"		"	
20A	PLM	roofing shingles		shingles	
20B	PLM	"		"	
20C	PLM	"		"	
21A	PLM	white caulk. basement window	inside (house)	white caulk	
21B	PLM	" "		"	
21C.	PLM	" "		"	
	PLM				
	PLM				
	PLM				
	PLM				
	PLM				
	PLM				
	PLM				

workshop

house.

S.F. - Square Feet L.F. - Linear Feet

Relinquished By: _____ Date: 4-26-16

Received By: _____ Date: _____

RECEIVED
APR 27 2016
BY: _____

APPENDIX C

ASBESTOS CERTIFICATION

Expiration Date **10/19/2016**

Certificate Number: 7118100915MOIR13775

Training Date: **10/9/2015**

Missouri State Certificate for Asbestos Related Occupations

issued by Department of Natural Resources
P.O. Box 176
Jefferson City, MO 65102
Phone (573) 751-4817

Karen L. Albert

has successfully completed the requirements for certification as a INSPECTOR. This Missouri State Certification is subject to review and the director may deny, suspend or revoke the certification per RSMo chapter 643.230.

10/20/2015
Date

Lynn L Moore
Director of Air Pollution Control Program