OCCU-TEC

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June 12, 2019

Ms. Diane Czarnecki
Industrial Hygienist
Facilities Management Division
GSA Public Buildings Service – Heartland Region
2300 Main Street
Kansas City, Missouri 64108

RE: Goodfellow Federal Center - Metals in Air Investigation
Building – #105E
4300 Goodfellow Boulevard
St. Louis, Missouri 63120
OCCU-TEC Project No. 919083

Dear Ms. Czarnecki:

Thank you for the opportunity to assist the General Services Administration (GSA) with the Resource Conservation and Recovery Act (RCRA) metals air sampling investigation of the above referenced buildings located at the Goodfellow Federal Center, in St. Louis, Missouri. OCCU-TEC understands that the purpose of the investigation was to provide sampling data regarding pre-existing conditions noted in investigation reports previously prepared for the facility. The following report summarizes the sample collection activities and the laboratory analytical results of the samples submitted.

On May 15, 2019, Missouri licensed air sampling professionals from OCCU-TEC conducted air sampling for the presence of seven of the RCRA metals including Silver, Arsenic, Barium, Cadmium, Chromium, Lead, and Selenium. Sampling was conducted on Building #105E.

The proposed sampling scheme, the numbers of samples, sample distribution and general methodology was developed based on previous investigation methodology and in coordination with the GSA. Sample locations were determined by OCCU-TEC field personnel while on-site.

Resource Conservation and Recovery Act Metals Air Sampling

Air sampling for RCRA metals was collected on 37-millimeter (mm) cassettes with 0.8 micrometer (µm) mixed cellulose ester (MCE) filters using powered air sampling pumps in accordance with National Institute for Occupational Safety and Health (NIOSH) sampling methods. Samples were collected in a method sufficient to collect a minimum sample volume of 300 liters. Air samples were submitted under chain-of-custody to Scientific Analytical Institute, Inc. (SAI), for independent analysis of RCRA metals in accordance with NIOSH Method 7300. SAI is accredited by the American Industrial Hygiene Association (AIHA) utilizing the Industrial Hygiene Proficiency Analytical Testing (IHPAT) program. SAI's IHPAT Laboratory ID is 173190.

Results of the air sampling are summarized in the table below by identifying the range of results for Building #105E for each of the seven metals that were sampled. **Samples with a "<" sign indicate that the results were below the laboratory's method reporting limit.**

Analysis	Lowest Concentration (µg/m³)	Highest Concentration (µg/m³)
Silver (Ag)	<0.64	<0.64
Arsenic (As)	<0.64	<0.64
Barium (Ba)	<0.097	<0.097
Cadmium (Cd)	<0.064	0.087
Total Chromium (Cr) *	<0.64	0.77
Lead (Pb)	<0.33	1.1
Selenium (Se)	<0.64	<0.64

* The laboratory reported trace amounts of total chromium above the laboratory detection limit on many samples, including field blanks. According to the lab, low levels of Chromium can be found as a contaminant in varying levels on MCE filters for different manufacturers and lots.

Results of the air samples collected indicate that the air samples collected from Building #105E contained concentrations of RCRA metals below the laboratory's method reporting limit and the OSHA Permissible Exposure Limit (PEL) with the exception of Cadmium, Total Chromium, and Lead. As previously noted, the elevated total chromium results were likely due to contaminated MCE filter media. Sample location diagrams are attached in Appendix A. Sample locations and the corresponding results are summarized in the laboratory analytical results that are included in Appendix B. The air sampling professional's Missouri Lead license is in included in Appendix C.

It should be noted that this air sampling investigation was only a screening of airborne RCRA metals and should not be interpreted or used to determine compliance or non-compliance with OSHA personnel monitoring regulations.

OCCU-TEC appreciates the opportunity to work with GSA on this project. If you have any questions concerning this report, or if we may be of any additional service, please feel free to contact us.

Sincerely,

(b) (6)

Justin Arnold, CIEC
Environmental Scientist

(b) (6)

Jeff Smith
Senior Project Manager (QA/QC)

Appendices:

A: Sample Location Diagrams
B: Laboratory Analytical Results and Chain of Custody Documentation
C: Qualifications and Licenses

Appendix A

Sample Location Diagrams

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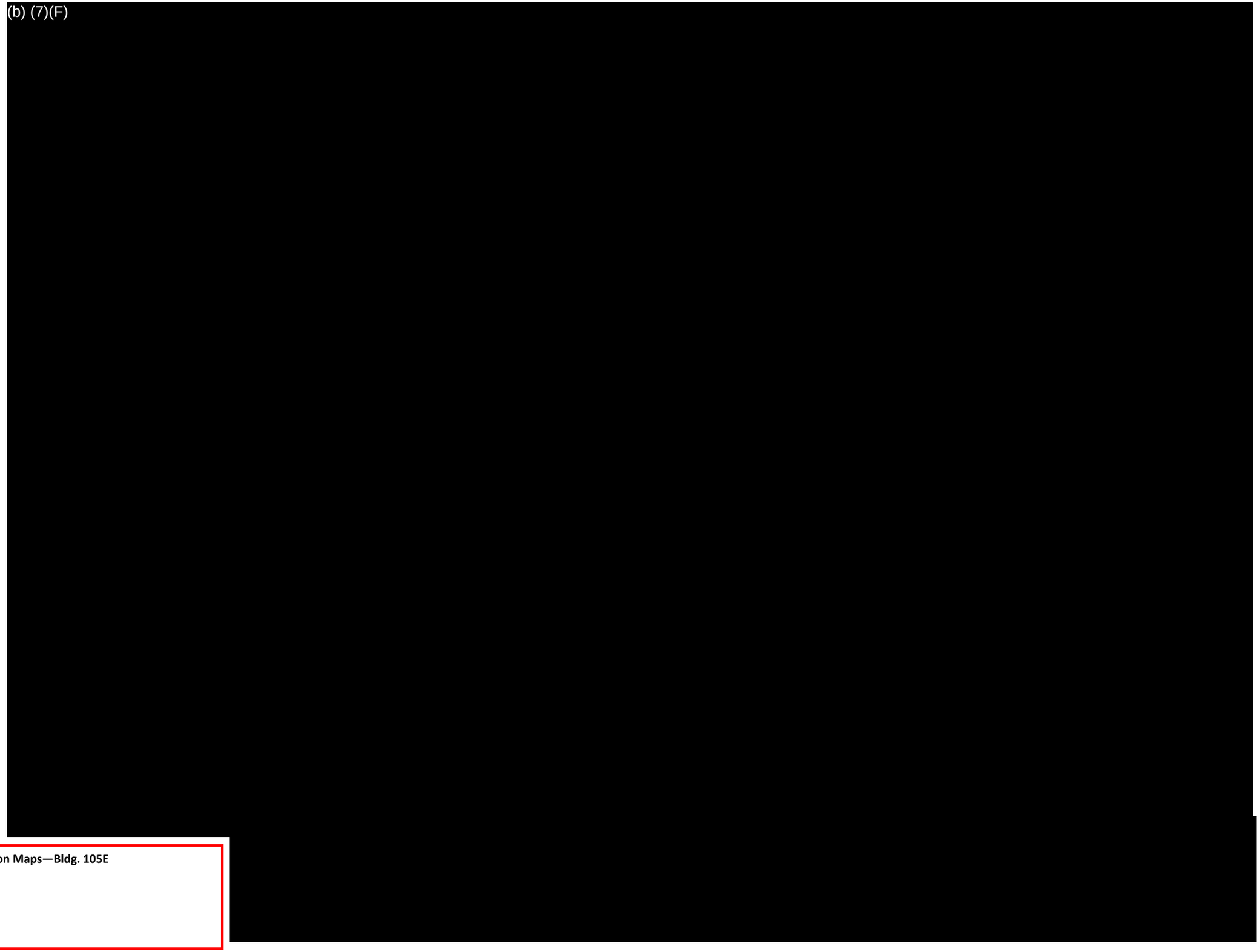

Figure 1: Air Sample Location Maps—Bldg. 105E
Goodfellow Federal Center
4300 Goodfellow Boulevard
St. Louis, Missouri
Project Number: 919083

Appendix B

Laboratory Analytical Results and Chain of Custody Documentation

Airborne Metals Concentration by Inductively-Coupled Plasma Analysis (ICP)

NIOSH Method 7303

Client:	**OCCU-TEC Inc.**	**Attn:**	**Justin Arnold**	**Lab Order ID:**	**71913786**
	2604 NE Industrial Drive, Suite 230			**Date Received:**	**05/21/2019**
	North Kansas City, MO 64117			**Date Reported:**	**06/10/2019**
Project:	**919083.001 GFC**			**Page:**	**1 of 5**

Sample ID *Lab Sample ID*	Description *Lab Notes*	Volume (L)	Element	Reporting Limit (µg)	Concentration (µg)	Concentration (µg/m^3)
105E-A-01	LL N43	392	Ag	0.25	< 0.25	< 0.64
			As	0.25	< 0.25	< 0.64
			Ba	0.038	< 0.038	< 0.097
			Cd	0.025	< 0.025	< 0.064
			Cr	0.25	< 0.25	< 0.64
71913786IPA_1			Pb	0.13	< 0.13	< 0.33
			Se	0.25	< 0.25	< 0.64
105E-A-02	LL L47	392	Ag	0.25	< 0.25	< 0.64
			As	0.25	< 0.25	< 0.64
			Ba	0.038	< 0.038	< 0.097
			Cd	0.025	< 0.025	< 0.064
			Cr	0.25	< 0.25	< 0.64
71913786IPA_2			Pb	0.13	0.13	0.33
			Se	0.25	< 0.25	< 0.64

Melissa Ferrell

Analyst

(b) (6) [redacted]

Lab Director

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Scientific Analytical Institute, Inc. 4604 Dundas Dr. Greensboro, NC 27407 (336) 292-3888

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Project:	**919083.001 GFC**			**Page:**	**2 of 5**

Sample ID *Lab Sample ID*	Description *Lab Notes*	Volume (L)	Element	Reporting Limit (µg)	Concentration (µg)	Concentration (µg/m^3)
105E-A-03	LL P47	392	Ag	0.25	< 0.25	< 0.64
			As	0.25	< 0.25	< 0.64
			Ba	0.038	< 0.038	< 0.097
			Cd	0.025	< 0.025	< 0.064
			Cr	0.25	0.26	0.66
71913786IPA_3			Pb	0.13	< 0.13	< 0.33
			Se	0.25	< 0.25	< 0.64
105E-A-04	LL M51	392	Ag	0.25	< 0.25	< 0.64
			As	0.25	< 0.25	< 0.64
			Ba	0.038	< 0.038	< 0.097
			Cd	0.025	< 0.025	< 0.064
			Cr	0.25	< 0.25	< 0.64
71913786IPA_4			Pb	0.13	0.36	0.92
			Se	0.25	< 0.25	< 0.64

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Project:	**919083.001 GFC**			**Page:**	**3 of 5**

Sample ID *Lab Sample ID*	Description *Lab Notes*	Volume (L)	Element	Reporting Limit (µg)	Concentration (µg)	Concentration (µg/m^3)
105E-A-05	UL L51	392	Ag	0.25	< 0.25	< 0.64
			As	0.25	< 0.25	< 0.64
			Ba	0.038	< 0.038	< 0.097
			Cd	0.025	0.034	0.087
			Cr	0.25	0.28	0.71
71913786IPA_5			Pb	0.13	0.45	1.1
			Se	0.25	< 0.25	< 0.64
105E-A-06	UL M50	392	Ag	0.25	< 0.25	< 0.64
			As	0.25	< 0.25	< 0.64
			Ba	0.038	< 0.038	< 0.097
			Cd	0.025	< 0.025	< 0.064
			Cr	0.25	0.30	0.77
71913786IPA_6			Pb	0.13	0.27	0.69
			Se	0.25	< 0.25	< 0.64

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	North Kansas City, MO 64117			**Date Reported:**	**06/10/2019**
Project:	**919083.001 GFC**			**Page:**	**4 of 5**

Sample ID *Lab Sample ID*	Description *Lab Notes*	Volume (L)	Element	Reporting Limit (µg)	Concentration (µg)	Concentration (µg/m^3)
105E-A-07	UL O47	392	Ag	0.25	< 0.25	< 0.64
			As	0.25	< 0.25	< 0.64
			Ba	0.038	< 0.038	< 0.097
			Cd	0.025	< 0.025	< 0.064
			Cr	0.25	< 0.25	< 0.64
71913786IPA_7			Pb	0.13	< 0.13	< 0.33
			Se	0.25	< 0.25	< 0.64
105E-A-08	UL M45	392	Ag	0.25	< 0.25	< 0.64
			As	0.25	< 0.25	< 0.64
			Ba	0.038	< 0.038	< 0.097
			Cd	0.025	0.025	0.064
			Cr	0.25	< 0.25	< 0.64
71913786IPA_8			Pb	0.13	< 0.13	< 0.33
			Se	0.25	< 0.25	< 0.64

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Project:	**919083.001 GFC**			**Page:**	**5 of 5**

Sample ID *Lab Sample ID*	Description *Lab Notes*	Volume (L)	Element	Reporting Limit (µg)	Concentration (µg)	Concentration (µg/m^3)
105E -A-09	FB	-	Ag	0.25	< 0.25	--
			As	0.25	< 0.25	--
			Ba	0.038	< 0.038	--
			Cd	0.025	< 0.025	--
			Cr	0.25	0.30	--
71913786IPA_9			Pb	0.13	< 0.13	--
			Se	0.25	< 0.25	--

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Analyst

(b) (6) [redacted]

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Phone: 336.292.3888 Fax: 336.292.3313
www.sailab.com lab@sailab.com

Lab Use Only
Lab Order ID: 19|2786
Client Code: _____

Company Contact Information	
Company: OCCU-TEC Inc.	Contact: Justin Arnold
Address: 2604 NE Industrial Drive, Suite 230	Phone ☐: 816-810-3276
North Kansas City, MO 64117	Fax ☐: 816-994-3478
	Email :jarnold@occutec.com

Billing/Invoice Information	Turn Around Times^	
SAME ■	90 Min. ☐	48 Hours ☐
Company:	3 Hours ☐	72 Hours ☐
Contact:	6 Hours ☐	96 Hours ☐
Address:	12 Hours ☐	120 Hours ☐
	24 Hours ☐	144+Hours ■
	^TATs not available for certain test types	
PO Number:		
Project Name/Number: 919083.001 GFC		

Industrial Hygiene Test Types	
Silica as Alpha Quartz (XSZ)* ☐ With Respirable Dust (XDZ) ☐	
Silica as Cristobalite (XSC)* ☐ With Respirable Dust (XDC) ☐	
Silica as Tridymite (XST)* ☐ With Respirable Dust (XDT) ☐	
Silica as Alpha Quartz, Cristobalite, Tridymite (XSA)* ☐ With Respirable Dust (XDA) ☐	
Silica Bulk (XSI)*	☐
Bulk Phase ID/Whole Rock (XUK)	☐
Total Dust NIOSH Method 0500 (GTD)	☐
Respirable Dust NIOSH Method 0600 (GRD)	☐
PCM NIOSH 7400-A Rules (PCM)	☐
B Rules (PCB) ☐ TWA (PTA) ☐	
TEM NIOSH 7402 (Asbestos) (TNI)	☐
Hexavalent Chromium (OSHA ID-215) (Note if from spray paint operations)	☐
Metals (NIOSH 7300) (Specify Metals Under Comments)	☐
Other 6010 C	☒
* *Modified NIOSH 7500/OSHA ID 142*	

Sample ID #	Description/Location	Volume/Area	Comments
105E-A-01	LL N43	392 L	Ag, As, Ba, Cd, Cr, Pb, Se
105E-A-02	LL L47	392 L	Ag, As, Ba, Cd, Cr, Pb, Se
105E-A-03	LL P47	392 L	Ag, As, Ba, Cd, Cr, Pb, Se
105E-A-04	LL M51	392 L	Ag, As, Ba, Cd, Cr, Pb, Se
105E-A-05	UL L51	392 L	Ag, As, Ba, Cd, Cr, Pb, Se
105E-A-06	UL M50	392 L	Ag, As, Ba, Cd, Cr, Pb, Se
105E-A-07	UL O47	392 L	Ag, As, Ba, Cd, Cr, Pb, Se
105E-A-08	UL M45	392 L	Ag, As, Ba, Cd, Cr, Pb, Se
105E-A-09	FB	N/A	Ag, As, Ba, Cd, Cr, Pb, Se
	Accepted	☒	Ag, As, Ba, Cd, Cr, Pb, Se
			Ag, As, Ba, Cd, Cr, Pb, Se
			Ag, As, Ba, Cd, Cr, Pb, Se
	Rejected	☐	Ag, As, Ba, Cd, Cr, Pb, Se

Total # of Samples _____

Relinquished by	Date/Time	Received by	Date/Time
(b) (6) [redacted]	5/15/19 17:00	(b) (6) [redacted]	5/21 1030A

Appendix C

Qualifications and Licenses

STATE OF MISSOURI
DEPARTMENT OF HEALTH AND SENIOR SERVICES

LEAD OCCUPATION LICENSE REGISTRATION

Issued to:

Justin E. Arnold

The person, firm or corporation whose name appears on this certificate has fulfilled the requirements for licensure as set forth in the Missouri Revised Statutes 701.300-701.338, as long as not suspended or revoked, and is hereby authorized to engage in the activity listed below.

Lead Risk Assessor
Category of License

Issuance Date:	**6/11/2018**
Expiration Date:	**6/11/2020**
License Number:	**120611-300003622**

(b) (6) [redacted]

Randall W. Williams, MD, FACOG
Director
Department of Health and Senior Services

Lead Licensing Program, PO Box 570, Jefferson City, MO 65102