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June 11, 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 – #104E
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 17, 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 #104E.

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 #104E 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 ($\mu\text{g}/\text{m}^3$)	Highest Concentration ($\mu\text{g}/\text{m}^3$)
Silver (Ag)	<0.64	<0.64
Arsenic (As)	<0.64	<0.64
Barium (Ba)	<0.097	<0.097
Cadmium (Cd)	<0.068	0.097
Total Chromium (Cr) *	<0.64	0.89
Lead (Pb)	<0.33	0.54
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 #104E contained concentrations of RCRA metals below the laboratory’s method reporting limit and the OSHA Permissible Exposure Limit (PEL) with the exception of total Chromium and Lead. As previously noted, the elevated total chromium results were likely due to contaminated MCE filter media. Sample location diagrams are included 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 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
Environmental 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. 104E

Goodfellow Federal Center
4300 Goodfellow Boulevard
St. Louis, Missouri
Project Number: 919083

Appendix B

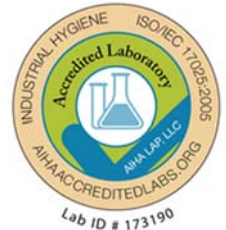
Laboratory Analytical Results and Chain of Custody Documentation





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

NIOSH Method 7303



Client: OCCU-TEC Inc. 2604 NE Industrial Drive, Suite 230 North Kansas City, MO 64117	Attn: Justin Arnold	Lab Order ID: 71913785 Date Received: 05/21/2019 Date Reported: 06/10/2019
Project: 919083.001 GFC		Page: 1 of 5

Sample ID	Description	Volume (L)	Element	Reporting Limit (µg)	Concentration (µg)	Concentration (µg/m³)
Lab Sample ID	Lab Notes					
104E-A-01	LL O51	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	0.27	0.69
71913785IPA_1			Pb	0.13	< 0.13	< 0.33
			Se	0.25	< 0.25	< 0.64
104E-A-02	LL L49	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
71913785IPA_2			Pb	0.13	< 0.13	< 0.33
			Se	0.25	< 0.25	< 0.64

Melissa Ferrell

Analyst

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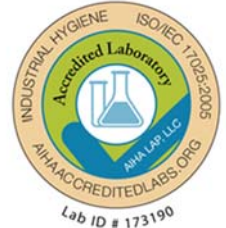
Lab Director

This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. This report may not be used by the client to claim product endorsement by AIHA or any other agency of the U.S. government. Scientific Analytical Institute participates in the AIHA IHPAT program. IHPAT Laboratory ID: 173190. Unless otherwise noted blank sample correction was not performed on analytical results. MDLs are available upon request. Reporting limits stated above.



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

NIOSH Method 7303



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Project: 919083.001 GFC		Page: 2 of 5

Sample ID	Description	Volume (L)	Element	Reporting Limit (µg)	Concentration (µg)	Concentration (µg/m³)
Lab Sample ID	Lab Notes					
104E -A-03	LL M47	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	0.026	0.066
			Cr	0.25	0.28	0.71
71913785IPA_3			Pb	0.13	0.21	0.54
			Se	0.25	< 0.25	< 0.64
104E -A-04	LL M44	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
71913785IPA_4			Pb	0.13	< 0.13	< 0.33
			Se	0.25	< 0.25	< 0.64

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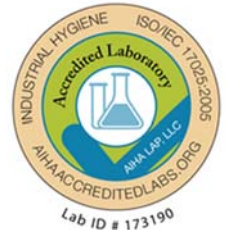
Lab Director

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

NIOSH Method 7303



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Project: 919083.001 GFC		Page: 3 of 5

Sample ID	Description	Volume (L)	Element	Reporting Limit (µg)	Concentration (µg)	Concentration (µg/m ³)
Lab Sample ID	Lab Notes					
104E -A-05	UL P43	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	0.026	0.066
			Cr	0.25	0.35	0.89
			Pb	0.13	< 0.13	< 0.33
71913785IPA_5			Se	0.25	< 0.25	< 0.64
104E -A-06	UL O45	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	0.026	0.066
			Cr	0.25	0.30	0.77
			Pb	0.13	< 0.13	< 0.33
71913785IPA_6			Se	0.25	< 0.25	< 0.64

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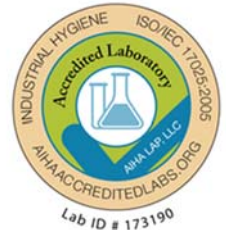
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Project: 919083.001 GFC		Date Received: 05/21/2019
		Date Reported: 06/10/2019
		Page: 4 of 5

Sample ID	Description	Volume (L)	Element	Reporting Limit (µg)	Concentration (µg)	Concentration (µg/m³)
Lab Sample ID	Lab Notes					
104E-A-07	UL L50	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	0.038	0.097
			Cr	0.25	0.29	0.74
			Pb	0.13	< 0.13	< 0.33
71913785IPA_7			Se	0.25	< 0.25	< 0.64
104E -A-08	UL M52	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	0.029	0.074
			Cr	0.25	0.28	0.71
			Pb	0.13	< 0.13	< 0.33
71913785IPA_8			Se	0.25	< 0.25	< 0.64

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			Page: 5 of 5

Sample ID	Description	Volume (L)	Element	Reporting Limit (µg)	Concentration (µg)	Concentration (µg/m ³)
Lab Sample ID	Lab Notes					
104E -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	0.29	--
71913785IPA_9			Pb	0.13	< 0.13	--
			Se	0.25	< 0.25	--

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

Lab Use Only
 Lab Order ID: 71913785
 Client Code: _____

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

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

* Modified NIOSH 7500/OSHA ID 142

Billing/Invoice Information	Turn Around Times [^]	
SAME <input checked="" type="checkbox"/>	90 Min. <input type="checkbox"/>	48 Hours <input type="checkbox"/>
Company:	3 Hours <input type="checkbox"/>	72 Hours <input type="checkbox"/>
Contact:	6 Hours <input type="checkbox"/>	96 Hours <input type="checkbox"/>
Address:	12 Hours <input type="checkbox"/>	120 Hours <input type="checkbox"/>
	24 Hours <input type="checkbox"/>	144 ⁺ Hours <input checked="" type="checkbox"/>
	[^] TATs not available for certain test types	
PO Number:		
Project Name/Number:	919083.001 GFC	

Sample ID #	Description/Location	Volume/Area	Comments
104E-A-01	LL 051	392 L	Ag, As, Ba, Cd, Cr, Pb, Se
104E-A-02	LL L49	392 L	Ag, As, Ba, Cd, Cr, Pb, Se
104E-A-03	LL M47	392 L	Ag, As, Ba, Cd, Cr, Pb, Se
104E-A-04	LL M44	392 L	Ag, As, Ba, Cd, Cr, Pb, Se
104E-A-05	UL P43	392 L	Ag, As, Ba, Cd, Cr, Pb, Se
104E-A-06	UL 045	392 L	Ag, As, Ba, Cd, Cr, Pb, Se
104E-A-07	UL LSD	392 L	Ag, As, Ba, Cd, Cr, Pb, Se
104E-A-08	UL MS2	392 L	Ag, As, Ba, Cd, Cr, Pb, Se
104E-A-09	FB	N/A	Ag, As, Ba, Cd, Cr, Pb, Se
			Ag, As, Ba, Cd, Cr, Pb, Se
			Ag, As, Ba, Cd, Cr, Pb, Se
			Ag, As, Ba, Cd, Cr, Pb, Se
			Ag, As, Ba, Cd, Cr, Pb, Se

Accepted
 Rejected

Total # of Samples _____

Relinquished by	Date/Time	Received by	Date/Time
(b) (6)	5/15/19 17:00	(b) (6)	5/20/19 10:30 A

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)



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