



February 5, 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. 918004**

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 January 9, 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 ( $\mu\text{m}$ ) 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)	<0.68	0.73
Arsenic (As)	<0.68	<0.68
Barium (Ba)	<0.10	<0.10
Cadmium (Cd)	<0.068	<0.068
Total Chromium (Cr) *	1.10	1.90
Lead (Pb)	<0.35	<0.35
Selenium (Se)	<0.68	1.2

\* 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 Silver, total Chromium and Selenium. As previously noted, the elevated total chromium results were likely due to contaminated MCE filter media. Sample locations and the corresponding results are summarized in the laboratory analytical results that are included in Appendix A. The air sampling professional’s Missouri Lead license is included in Appendix B.

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)

Jeff T. Smith  
Senior Project Manager

(b) (6)

Kevin Heriford  
Project Manager (QA/QC)

Appendices:

- A: Laboratory Analytical Results and Chain of Custody Documentation
- B: Qualifications and Licenses

# **Appendix A**

## Laboratory Analytical Report and Chain of Custody Documentation





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

NIOSH Method 7300



<b>Client:</b>	Occu-Tec, Inc. 100 NW Business Park Ln. Riverside, MO 64150	<b>Attn:</b> Kevin Heriford	<b>Lab Order ID:</b> 71901039	
			<b>Date Received:</b> 01/15/2019	
<b>Project:</b> GFC-104E			<b>Date Reported:</b> 01/25/2019	
			<b>Page:</b> 1 of 3	

Sample ID	Description	Volume (L)	Element	Reporting Limit (µg)	Concentration (µg)	Concentration (µg/m <sup>3</sup> )
Lab Sample ID	Lab Notes					
104E-META-08	LL Conference Room	367.5	Ag	0.25	0.25	0.68
			As	0.25	< 0.25	< 0.68
			Ba	0.038	< 0.038	< 0.10
			Cd	0.025	< 0.025	< 0.068
			Cr	0.25	0.71	1.9
			Pb	0.13	< 0.13	< 0.35
71901039IPA_1			Se	0.25	< 0.25	< 0.68
104E-META18-02	LL Back Desk	367.5	Ag	0.25	< 0.25	< 0.68
			As	0.25	< 0.25	< 0.68
			Ba	0.038	< 0.038	< 0.10
			Cd	0.025	< 0.025	< 0.068
			Cr	0.25	0.70	1.9
			Pb	0.13	< 0.13	< 0.35
71901039IPA_2			Se	0.25	< 0.25	< 0.68
104E-META18-03	LL Break Room	367.5	Ag	0.25	0.27	0.73
			As	0.25	< 0.25	< 0.68
			Ba	0.038	< 0.038	< 0.10
			Cd	0.025	< 0.025	< 0.068
			Cr	0.25	0.55	1.5
			Pb	0.13	< 0.13	< 0.35
71901039IPA_3			Se	0.25	< 0.25	< 0.68

Melissa Ferrell (9)

(b) (6)

**Analyst**

**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 7300



**Client:** Occu-Tec, Inc.  
100 NW Business Park Ln.  
Riverside, MO 64150

**Project:** GFC-104E

**Attn:** Kevin Heriford

**Lab Order ID:** 71901039  
**Date Received:** 01/15/2019  
**Date Reported:** 01/25/2019  
**Page:** 2 of 3

Sample ID	Description	Volume (L)	Element	Reporting Limit (µg)	Concentration (µg)	Concentration (µg/m <sup>3</sup> )
Lab Sample ID	Lab Notes					
104E-META18-04	LL Back Hallway	367.5	Ag	0.25	< 0.25	< 0.68
			As	0.25	< 0.25	< 0.68
			Ba	0.038	< 0.038	< 0.10
			Cd	0.025	< 0.025	< 0.068
			Cr	0.25	0.66	1.8
			Pb	0.13	< 0.13	< 0.35
71901039IPA_4			Se	0.25	< 0.25	< 0.68
104E-META18-05	UL Elevator Lobby	367.5	Ag	0.25	< 0.25	< 0.68
			As	0.25	< 0.25	< 0.68
			Ba	0.038	< 0.038	< 0.10
			Cd	0.025	< 0.025	< 0.068
			Cr	0.25	0.41	1.1
			Pb	0.13	< 0.13	< 0.35
71901039IPA_5			Se	0.25	< 0.25	< 0.68
104E-META-18-06	Ul Canopy Cafe	367.5	Ag	0.25	< 0.25	< 0.68
			As	0.25	< 0.25	< 0.68
			Ba	0.038	< 0.038	< 0.10
			Cd	0.025	< 0.025	< 0.068
			Cr	0.25	0.50	1.4
			Pb	0.13	< 0.13	< 0.35
71901039IPA_6			Se	0.25	< 0.25	< 0.68

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

NIOSH Method 7300



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			<b>Page:</b> 3 of 3	

Sample ID	Description	Volume (L)	Element	Reporting Limit (µg)	Concentration (µg)	Concentration (µg/m <sup>3</sup> )
Lab Sample ID	Lab Notes					
104E-META18-07	UL Hallway Outside 850FI	367.5	Ag	0.25	< 0.25	< 0.68
			As	0.25	< 0.25	< 0.68
			Ba	0.038	< 0.038	< 0.10
			Cd	0.025	< 0.025	< 0.068
			Cr	0.25	0.48	1.3
			Pb	0.13	< 0.13	< 0.35
71901039IPA_7			Se	0.25	< 0.25	< 0.68
104E-META18-08	UL Desk M5181	367.5	Ag	0.25	< 0.25	< 0.68
			As	0.25	< 0.25	< 0.68
			Ba	0.038	< 0.038	< 0.10
			Cd	0.025	< 0.025	< 0.068
			Cr	0.25	0.44	1.2
			Pb	0.13	< 0.13	< 0.35
71901039IPA_8			Se	0.25	0.45	1.2
104E-META18-09	Blank	-	Ag	0.25	< 0.25	--
			As	0.25	< 0.25	--
			Ba	0.038	< 0.038	--
			Cd	0.025	< 0.025	--
			Cr	0.25	0.56	--
			Pb	0.13	< 0.13	--
71901039IPA_9			Se	0.25	< 0.25	--

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# **Appendix B**

## Qualifications and Licenses



**STATE OF MISSOURI  
DEPARTMENT OF HEALTH AND SENIOR SERVICES**

**LEAD OCCUPATION LICENSE REGISTRATION**

Issued to:

**Austin G. O'Byrne**

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: **12/10/2018**  
Expiration Date: **12/10/2020**  
License Number: **181210-300005671**



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

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