



January 9, 2022

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

Re: Goodfellow Federal Center – Bldg. 105 Air Sampling  
Project No. 121244

Dear Ms. Czarnecki:

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

#### **METHODOLOGY**

On December 7 and 8, 2022, Abiodun Akinola & Jeff Smith of Burns & McDonnell and OCCU-TEC conducted area air-sampling for the presence of seven (7) of the RCRA metals including arsenic, barium, cadmium, chromium, lead, selenium, and silver. Sampling was conducted in various locations throughout Building 105.

The sampling plan, number of samples, sample distribution, and general methodology was developed based on previous investigation methodology and in coordination with the GSA. Sample locations and samples collected from discretionary locations were determined by sampling personnel while on-site.

Air samples for RCRA metals were 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 the National Institute for Occupational Safety and Health (NIOSH) Method 7300. The sampling strategy included collecting a minimum sample volume of 500 liters based on the calibrated pump flow rate and sample duration. Air samples were submitted under chain-of-custody to Environmental Hazards Services, LLC (EHS) in Richmond, Virginia for independent analysis of 7 RCRA metals according to NIOSH method 7300. EHS is accredited under the American Industrial Hygiene Association (AIHA) Industrial Hygiene Laboratory Accreditation Program (IHLAP) program, identification number LAP-100420.

Diane Czarnecki  
 Facilities Management Division  
 January 9, 2022  
 Page 2

**RESULTS AND DISCUSSION**

Results of the air sampling are summarized in the table below by identifying the range of results for Building 105 for each of the seven (7) metals that were sampled. Results indicate that all 27 air samples collected from Building 105 and analyzed for RCRA metals were below their respective OSHA Permissible Exposure Limit (PEL), as based on a time-weighted-average.

**Table 1. Summary of Air Sampling Results**

Analyte	Lowest Concentration <sup>(a)</sup> ( $\mu\text{g}/\text{m}^3$ ) <sup>(b)</sup>	Highest Concentration <sup>(a)</sup> ( $\mu\text{g}/\text{m}^3$ ) <sup>(b)</sup>	Permissible Exposure Limit (PEL) ( $\mu\text{g}/\text{m}^3$ ) <sup>(b)</sup>
Arsenic	<0.25	<0.30	10
Barium	<0.25	<0.30	500
Cadmium	<0.049	<0.060	5
Chromium (Total)	<1.3	<1.5	500
Lead	<0.25	<0.30	1
Selenium	<1.3	<1.5	200
Silver	<0.25	<0.30	10

Notes:

- (a) Samples with a “<” sign indicate that the results were below the laboratory’s reporting limit, which varies based on sample air volume.
- (b)  $\mu\text{g}/\text{m}^3$  = micrograms per cubic meter of air.

GSA may choose to compare results with guidance limits from additional organizations for risk evaluation, including but not limited to the American Conference of Governmental Industrial Hygienists (ACGIH) and/or the World Health Organization (WHO).

A summary table of all sampling results by location is included in Appendix A. The complete laboratory report for the air sampling from EHS is attached in Appendix B.

**LIMITATIONS**

The scope of this assessment was limited as follows. Burns & McDonnell collected samples from a select number of locations in an effort to minimize cost while providing a general overview of the air quality at the site. Sample locations do not encompass every indoor space at the site. Additionally, based on previous sampling history, samples were only analyzed for a select number of potential contaminants likely to affect the air quality at the site. Burns &



Diane Czarnecki  
Facilities Management Division  
January 9, 2022  
Page 3

McDonnell is not responsible for potential contaminants not identified in this report. This report was prepared for the sole use of GSA.

Burns & McDonnell appreciates the opportunity to work with the GSA on this project. Please contact us if you have any questions regarding this report or if we may be of any additional service.

Sincerely,

(b) (6)

A large black rectangular redaction box covers the signature area. The text '(b) (6)' is written in red at the top left corner of the redaction.

Matt Shanahan, CHMM  
Project Manager

Attachments:

- Appendix A – Results Summary by Location
- Appendix B – Air Sample Laboratory Report

Information in Appendices A and B is not accessible for people using screen reader technology. If this information is required, it can be furnished upon request by contacting 816-223-6198 or [r6environmental@gsa.gov](mailto:r6environmental@gsa.gov).

**APPENDIX A – RESULTS SUMMARY BY LOCATION**

## Appendix A

### Results Summary by Location

Sample Number	Location	Analyte	Result	Units	Recommended Limits <sup>1</sup>
105-A-01	Field blank	Arsenic	< 0.15	µg	--
		Barium	< 0.15	µg	--
		Cadmium	< 0.030	µg	--
		Chromium	< 0.75	µg	--
		Lead <sup>2</sup>	< 0.15	µg	--
		Selenium	< 0.75	µg	--
		Silver	< 0.15	µg	--
105-A-02	1st floor, warehouse at column E52	Arsenic	< 0.27	µg/m <sup>3</sup>	10
		Barium	< 0.27	µg/m <sup>3</sup>	500
		Cadmium	< 0.054	µg/m <sup>3</sup>	5
		Chromium	< 1.4	µg/m <sup>3</sup>	500
		Lead <sup>2</sup>	< 0.27	µg/m <sup>3</sup>	1
		Selenium	< 1.4	µg/m <sup>3</sup>	200
		Silver	< 0.27	µg/m <sup>3</sup>	10
105-A-03	1st floor, western hallway, first windowsill, closest to the south entrance	Arsenic	< 0.27	µg/m <sup>3</sup>	10
		Barium	< 0.27	µg/m <sup>3</sup>	500
		Cadmium	< 0.054	µg/m <sup>3</sup>	5
		Chromium	< 1.4	µg/m <sup>3</sup>	500
		Lead <sup>2</sup>	< 0.27	µg/m <sup>3</sup>	1
		Selenium	< 1.4	µg/m <sup>3</sup>	200
		Silver	< 0.27	µg/m <sup>3</sup>	10
105-A-04	1st floor, hallway, windowsill at column J42	Arsenic	< 0.27	µg/m <sup>3</sup>	10
		Barium	< 0.27	µg/m <sup>3</sup>	500
		Cadmium	< 0.053	µg/m <sup>3</sup>	5
		Chromium	< 1.4	µg/m <sup>3</sup>	500
		Lead <sup>2</sup>	< 0.27	µg/m <sup>3</sup>	1
		Selenium	< 1.4	µg/m <sup>3</sup>	200
		Silver	< 0.27	µg/m <sup>3</sup>	10
105-A-05	1st floor, west lobby at column G36	Arsenic	< 0.27	µg/m <sup>3</sup>	10
		Barium	< 0.27	µg/m <sup>3</sup>	500
		Cadmium	< 0.053	µg/m <sup>3</sup>	5
		Chromium	< 1.4	µg/m <sup>3</sup>	500
		Lead <sup>2</sup>	< 0.27	µg/m <sup>3</sup>	1
		Selenium	< 1.4	µg/m <sup>3</sup>	200
		Silver	< 0.27	µg/m <sup>3</sup>	10

## Appendix A

### Results Summary by Location

Sample Number	Location	Analyte	Result	Units	Recommended Limits <sup>1</sup>
105-A-06	1st floor, office desk at column D35	Arsenic	< 0.27	µg/m <sup>3</sup>	10
		Barium	< 0.27	µg/m <sup>3</sup>	500
		Cadmium	< 0.054	µg/m <sup>3</sup>	5
		Chromium	< 1.4	µg/m <sup>3</sup>	500
		Lead <sup>2</sup>	< 0.27	µg/m <sup>3</sup>	1
		Selenium	< 1.4	µg/m <sup>3</sup>	200
		Silver	< 0.27	µg/m <sup>3</sup>	10
105-A-07	1st floor, top of cabinet at column D32	Arsenic	< 0.27	µg/m <sup>3</sup>	10
		Barium	< 0.27	µg/m <sup>3</sup>	500
		Cadmium	< 0.054	µg/m <sup>3</sup>	5
		Chromium	< 1.4	µg/m <sup>3</sup>	500
		Lead <sup>2</sup>	< 0.27	µg/m <sup>3</sup>	1
		Selenium	< 1.4	µg/m <sup>3</sup>	200
		Silver	< 0.27	µg/m <sup>3</sup>	10
105-A-08	1st floor, break room across from D33	Arsenic	< 0.27	µg/m <sup>3</sup>	10
		Barium	< 0.27	µg/m <sup>3</sup>	500
		Cadmium	< 0.053	µg/m <sup>3</sup>	5
		Chromium	< 1.4	µg/m <sup>3</sup>	500
		Lead <sup>2</sup>	< 0.27	µg/m <sup>3</sup>	1
		Selenium	< 1.4	µg/m <sup>3</sup>	200
		Silver	< 0.27	µg/m <sup>3</sup>	10
105-A-09	1st floor, hallway, top of wooden cabinet	Arsenic	< 0.26	µg/m <sup>3</sup>	10
		Barium	< 0.26	µg/m <sup>3</sup>	500
		Cadmium	< 0.052	µg/m <sup>3</sup>	5
		Chromium	< 1.3	µg/m <sup>3</sup>	500
		Lead <sup>2</sup>	< 0.26	µg/m <sup>3</sup>	1
		Selenium	< 1.3	µg/m <sup>3</sup>	200
		Silver	< 0.26	µg/m <sup>3</sup>	10
105-A-10	1st floor, lab processing, column B47	Arsenic	< 0.28	µg/m <sup>3</sup>	10
		Barium	< 0.28	µg/m <sup>3</sup>	500
		Cadmium	< 0.056	µg/m <sup>3</sup>	5
		Chromium	< 1.4	µg/m <sup>3</sup>	500
		Lead <sup>2</sup>	< 0.28	µg/m <sup>3</sup>	1
		Selenium	< 1.4	µg/m <sup>3</sup>	200
		Silver	< 0.28	µg/m <sup>3</sup>	10

## Appendix A

### Results Summary by Location

Sample Number	Location	Analyte	Result	Units	Recommended Limits <sup>1</sup>
105-A-11	1st floor, lab processing, wall next to extinguisher/eye wash	Arsenic	< 0.29	µg/m <sup>3</sup>	10
		Barium	< 0.29	µg/m <sup>3</sup>	500
		Cadmium	< 0.058	µg/m <sup>3</sup>	5
		Chromium	< 1.5	µg/m <sup>3</sup>	500
		Lead <sup>2</sup>	< 0.29	µg/m <sup>3</sup>	1
		Selenium	< 1.5	µg/m <sup>3</sup>	200
		Silver	< 0.29	µg/m <sup>3</sup>	10
105-A-12	Field blank	Arsenic	< 0.15	µg	--
		Barium	< 0.15	µg	--
		Cadmium	< 0.030	µg	--
		Chromium	< 0.75	µg	--
		Lead <sup>2</sup>	< 0.15	µg	--
		Selenium	< 0.75	µg	--
		Silver	< 0.15	µg	--
105-A-13	1st floor, table at column B49 across from elevator	Arsenic	< 0.30	µg	10
		Barium	< 0.30	µg	500
		Cadmium	< 0.059	µg	5
		Chromium	< 1.5	µg	500
		Lead <sup>2</sup>	< 0.30	µg	1
		Selenium	< 1.5	µg	200
		Silver	< 0.30	µg	10
105-A-14	1st floor, conference table across from column B50	Arsenic	< 0.30	µg/m <sup>3</sup>	10
		Barium	< 0.30	µg/m <sup>3</sup>	500
		Cadmium	< 0.060	µg/m <sup>3</sup>	5
		Chromium	< 1.5	µg/m <sup>3</sup>	500
		Lead <sup>2</sup>	< 0.30	µg/m <sup>3</sup>	1
		Selenium	< 1.5	µg/m <sup>3</sup>	200
		Silver	< 0.30	µg/m <sup>3</sup>	10
105-A-15	1st floor, warehouse loading dock, top of boxes at column B1	Arsenic	< 0.30	µg/m <sup>3</sup>	10
		Barium	< 0.30	µg/m <sup>3</sup>	500
		Cadmium	< 0.060	µg/m <sup>3</sup>	5
		Chromium	< 1.5	µg/m <sup>3</sup>	500
		Lead <sup>2</sup>	< 0.30	µg/m <sup>3</sup>	1
		Selenium	< 1.5	µg/m <sup>3</sup>	200
		Silver	< 0.30	µg/m <sup>3</sup>	10

## Appendix A

### Results Summary by Location

Sample Number	Location	Analyte	Result	Units	Recommended Limits <sup>1</sup>
105-A-16	1st floor, lab processing, metal table across from column E43	Arsenic	< 0.30	µg/m <sup>3</sup>	10
		Barium	< 0.30	µg/m <sup>3</sup>	500
		Cadmium	< 0.060	µg/m <sup>3</sup>	5
		Chromium	< 1.5	µg/m <sup>3</sup>	500
		Lead <sup>2</sup>	< 0.30	µg/m <sup>3</sup>	1
		Selenium	< 1.5	µg/m <sup>3</sup>	200
		Silver	< 0.30	µg/m <sup>3</sup>	10
105-A-17	1st floor, mail room, table at column H42	Arsenic	< 0.28	µg/m <sup>3</sup>	10
		Barium	< 0.28	µg/m <sup>3</sup>	500
		Cadmium	< 0.056	µg/m <sup>3</sup>	5
		Chromium	< 1.4	µg/m <sup>3</sup>	500
		Lead <sup>2</sup>	< 0.28	µg/m <sup>3</sup>	1
		Selenium	< 1.4	µg/m <sup>3</sup>	200
		Silver	< 0.28	µg/m <sup>3</sup>	10
105-A-18	1st floor, mail room, top of metal cabinet at column F40	Arsenic	< 0.28	µg/m <sup>3</sup>	10
		Barium	< 0.28	µg/m <sup>3</sup>	500
		Cadmium	< 0.055	µg/m <sup>3</sup>	5
		Chromium	< 1.4	µg/m <sup>3</sup>	500
		Lead <sup>2</sup>	< 0.28	µg/m <sup>3</sup>	1
		Selenium	< 1.4	µg/m <sup>3</sup>	200
		Silver	< 0.28	µg/m <sup>3</sup>	10
105-A-19	1st floor, mail room, brown table at column H40	Arsenic	< 0.28	µg/m <sup>3</sup>	10
		Barium	< 0.28	µg/m <sup>3</sup>	500
		Cadmium	< 0.056	µg/m <sup>3</sup>	5
		Chromium	< 1.4	µg/m <sup>3</sup>	500
		Lead <sup>2</sup>	< 0.28	µg/m <sup>3</sup>	1
		Selenium	< 1.4	µg/m <sup>3</sup>	200
		Silver	< 0.28	µg/m <sup>3</sup>	10
105-A-20	1st floor, mail room, table at column G38	Arsenic	< 0.27	µg/m <sup>3</sup>	10
		Barium	< 0.27	µg/m <sup>3</sup>	500
		Cadmium	< 0.054	µg/m <sup>3</sup>	5
		Chromium	< 1.4	µg/m <sup>3</sup>	500
		Lead <sup>2</sup>	< 0.27	µg/m <sup>3</sup>	1
		Selenium	< 1.4	µg/m <sup>3</sup>	200
		Silver	< 0.27	µg/m <sup>3</sup>	10



## Appendix A

### Results Summary by Location

Sample Number	Location	Analyte	Result	Units	Recommended Limits <sup>1</sup>
105-A-21	2nd floor, lab room 327, top of computer desk	Arsenic	< 0.28	µg/m <sup>3</sup>	10
		Barium	< 0.28	µg/m <sup>3</sup>	500
		Cadmium	< 0.055	µg/m <sup>3</sup>	5
		Chromium	< 1.4	µg/m <sup>3</sup>	500
		Lead <sup>2</sup>	< 0.28	µg/m <sup>3</sup>	1
		Selenium	< 1.4	µg/m <sup>3</sup>	200
		Silver	< 0.28	µg/m <sup>3</sup>	10
105-A-22	2nd floor, lab room 348A, top of counter	Arsenic	< 0.28	µg/m <sup>3</sup>	10
		Barium	< 0.28	µg/m <sup>3</sup>	500
		Cadmium	< 0.055	µg/m <sup>3</sup>	5
		Chromium	< 1.4	µg/m <sup>3</sup>	500
		Lead <sup>2</sup>	< 0.28	µg/m <sup>3</sup>	1
		Selenium	< 1.4	µg/m <sup>3</sup>	200
		Silver	< 0.28	µg/m <sup>3</sup>	10
105-A-23	2nd floor, lab room 322, north side	Arsenic	< 0.27	µg/m <sup>3</sup>	10
		Barium	< 0.27	µg/m <sup>3</sup>	500
		Cadmium	< 0.054	µg/m <sup>3</sup>	5
		Chromium	< 1.4	µg/m <sup>3</sup>	500
		Lead <sup>2</sup>	< 0.27	µg/m <sup>3</sup>	1
		Selenium	< 1.4	µg/m <sup>3</sup>	200
		Silver	< 0.27	µg/m <sup>3</sup>	10
105-A-24	2nd floor, lab room 320, top of box at column D4	Arsenic	< 0.28	µg/m <sup>3</sup>	10
		Barium	< 0.28	µg/m <sup>3</sup>	500
		Cadmium	< 0.056	µg/m <sup>3</sup>	5
		Chromium	< 1.4	µg/m <sup>3</sup>	500
		Lead <sup>2</sup>	< 0.28	µg/m <sup>3</sup>	1
		Selenium	< 1.4	µg/m <sup>3</sup>	200
		Silver	< 0.28	µg/m <sup>3</sup>	10
105-A-25	2nd floor, lab room 318, counter top by centrifuge	Arsenic	< 0.25	µg/m <sup>3</sup>	10
		Barium	< 0.25	µg/m <sup>3</sup>	500
		Cadmium	< 0.049	µg/m <sup>3</sup>	5
		Chromium	< 1.3	µg/m <sup>3</sup>	500
		Lead <sup>2</sup>	< 0.25	µg/m <sup>3</sup>	1
		Selenium	< 1.3	µg/m <sup>3</sup>	200
		Silver	< 0.25	µg/m <sup>3</sup>	10

## Appendix A

### Results Summary by Location

Sample Number	Location	Analyte	Result	Units	Recommended Limits <sup>1</sup>
105-A-26	2nd floor, lab room 315, next to fume hood	Arsenic	< 0.26	µg/m <sup>3</sup>	10
		Barium	< 0.26	µg/m <sup>3</sup>	500
		Cadmium	< 0.051	µg/m <sup>3</sup>	5
		Chromium	< 1.3	µg/m <sup>3</sup>	500
		Lead <sup>2</sup>	< 0.26	µg/m <sup>3</sup>	1
		Selenium	< 1.3	µg/m <sup>3</sup>	200
		Silver	< 0.26	µg/m <sup>3</sup>	10
105-A-27	Field blank	Arsenic	< 0.15	µg	--
		Barium	< 0.15	µg	--
		Cadmium	< 0.030	µg	--
		Chromium	< 0.75	µg	--
		Lead <sup>2</sup>	< 0.15	µg	--
		Selenium	< 0.75	µg	--
		Silver	< 0.15	µg	--

Notes:

<sup>1</sup>Limits equal to the Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PELs)

<sup>2</sup>Limits equal to the World Health organization (WHO) Ambient Air Limit

**APPENDIX B – AIR SAMPLE LABORATORY REPORT**



Environmental Hazards Services, L.L.C.  
 7469 Whitepine Rd  
 Richmond, VA 23237  
 Telephone: 800.347.4010

## Air Metals Analysis Report

Client: Burns & McDonnell Engineering  
 9400 Ward Pkwy.  
 Kansas City, MO 64114

Report Number: 22-12-01587  
 Received Date: 12/12/2022  
 Reported Date: 12/19/2022

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd; Bldg 105

Client Number:  
26-3514

Fax Number:  
816-822-3494

# Laboratory Results

Lab Sample Number	Client Sample Number	Analyzed Date	Analyte	Air Volume (L)	Total Metal (ug)	Concentration (ug/m <sup>3</sup> )	Narrative ID
22-12-01587-001	105-A-01	12/13/2022	Arsenic (As)	0	<0.15	---	
			Barium (Ba)		<0.15	---	
			Cadmium (Cd)		<0.030	---	
			Chromium (Cr)		<0.75	---	
			Lead (Pb)		<0.15	---	
			Selenium (Se)		<0.75	---	
			Silver (Ag)		<0.15	---	
22-12-01587-002	105-A-02	12/13/2022	Arsenic (As)	555.8	<0.15	<0.27	
			Barium (Ba)		<0.15	<0.27	
			Cadmium (Cd)		<0.030	<0.054	
			Chromium (Cr)		<0.75	<1.4	
			Lead (Pb)		<0.15	<0.27	
			Selenium (Se)		<0.75	<1.4	
			Silver (Ag)		<0.15	<0.27	
22-12-01587-003	105-A-03	12/13/2022	Arsenic (As)	561.7	<0.15	<0.27	
			Barium (Ba)		<0.15	<0.27	
			Cadmium (Cd)		<0.030	<0.054	

# Environmental Hazards Services, L.L.C

Client Number: 26-3514

Report Number: 22-12-01587

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd; Bldg 105

Lab Sample Number	Client Sample Number	Analyzed Date	Analyte	Air Volume (L)	Total Metal (ug)	Concentration (ug/m <sup>3</sup> )	Narrative ID
			Chromium (Cr)		<0.75	<1.4	
			Lead (Pb)		<0.15	<0.27	
			Selenium (Se)		<0.75	<1.4	
			Silver (Ag)		<0.15	<0.27	
22-12-01587-004	105-A-04	12/13/2022	Arsenic (As)	566.7	<0.15	<0.27	
			Barium (Ba)		<0.15	<0.27	
			Cadmium (Cd)		<0.030	<0.053	
			Chromium (Cr)		<0.75	<1.4	
			Lead (Pb)		<0.15	<0.27	
			Selenium (Se)		<0.75	<1.4	
			Silver (Ag)		<0.15	<0.27	
22-12-01587-005	105-A-05	12/13/2022	Arsenic (As)	569.3	<0.15	<0.27	
			Barium (Ba)		<0.15	<0.27	
			Cadmium (Cd)		<0.030	<0.053	
			Chromium (Cr)		<0.75	<1.4	
			Lead (Pb)		<0.15	<0.27	
			Selenium (Se)		<0.75	<1.4	
			Silver (Ag)		<0.15	<0.27	
22-12-01587-006	105-A-06	12/13/2022	Arsenic (As)	564.5	<0.15	<0.27	
			Barium (Ba)		<0.15	<0.27	
			Cadmium (Cd)		<0.030	<0.054	
			Chromium (Cr)		<0.75	<1.4	
			Lead (Pb)		<0.15	<0.27	
			Selenium (Se)		<0.75	<1.4	
			Silver (Ag)		<0.15	<0.27	

# Environmental Hazards Services, L.L.C

Client Number: 26-3514

Report Number: 22-12-01587

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd; Bldg 105

Lab Sample Number	Client Sample Number	Analyzed Date	Analyte	Air Volume (L)	Total Metal (ug)	Concentration (ug/m <sup>3</sup> )	Narrative ID
22-12-01587-007	105-A-07	12/13/2022	Arsenic (As)	563.6	<0.15	<0.27	
			Barium (Ba)		<0.15	<0.27	
			Cadmium (Cd)		<0.030	<0.054	
			Chromium (Cr)		<0.75	<1.4	
			Lead (Pb)		<0.15	<0.27	
			Selenium (Se)		<0.75	<1.4	
			Silver (Ag)		<0.15	<0.27	
22-12-01587-008	105-A-08	12/13/2022	Arsenic (As)	576.6	<0.15	<0.27	
			Barium (Ba)		<0.15	<0.27	
			Cadmium (Cd)		<0.030	<0.053	
			Chromium (Cr)		<0.75	<1.4	
			Lead (Pb)		<0.15	<0.27	
			Selenium (Se)		<0.75	<1.4	
			Silver (Ag)		<0.15	<0.27	
22-12-01587-009	105-A-09	12/13/2022	Arsenic (As)	584.2	<0.15	<0.26	
			Barium (Ba)		<0.15	<0.26	
			Cadmium (Cd)		<0.030	<0.052	
			Chromium (Cr)		<0.75	<1.3	
			Lead (Pb)		<0.15	<0.26	
			Selenium (Se)		<0.75	<1.3	
			Silver (Ag)		<0.15	<0.26	
22-12-01587-010	105-A-10	12/13/2022	Arsenic (As)	545	<0.15	<0.28	
			Barium (Ba)		<0.15	<0.28	
			Cadmium (Cd)		<0.030	<0.056	
			Chromium (Cr)		<0.75	<1.4	

# Environmental Hazards Services, L.L.C

Client Number: 26-3514

Report Number: 22-12-01587

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd; Bldg 105

Lab Sample Number	Client Sample Number	Analyzed Date	Analyte	Air Volume (L)	Total Metal (ug)	Concentration (ug/m <sup>3</sup> )	Narrative ID
			Lead (Pb)		<0.15	<0.28	
			Selenium (Se)		<0.75	<1.4	
			Silver (Ag)		<0.15	<0.28	
22-12-01587-011	105-A-11	12/13/2022	Arsenic (As)	523.3	<0.15	<0.29	
			Barium (Ba)		<0.15	<0.29	
			Cadmium (Cd)		<0.030	<0.058	
			Chromium (Cr)		<0.75	<1.5	
			Lead (Pb)		<0.15	<0.29	
			Selenium (Se)		<0.75	<1.5	
			Silver (Ag)		<0.15	<0.29	
22-12-01587-012	105-A-12	12/13/2022	Arsenic (As)	0	<0.15	---	
			Barium (Ba)		<0.15	---	
			Cadmium (Cd)		<0.030	---	
			Chromium (Cr)		<0.75	---	
			Lead (Pb)		<0.15	---	
			Selenium (Se)		<0.75	---	
			Silver (Ag)		<0.15	---	
22-12-01587-013	105-A-13	12/13/2022	Arsenic (As)	512	<0.15	<0.30	
			Barium (Ba)		<0.15	<0.30	
			Cadmium (Cd)		<0.030	<0.059	
			Chromium (Cr)		<0.75	<1.5	
			Lead (Pb)		<0.15	<0.30	
			Selenium (Se)		<0.75	<1.5	
			Silver (Ag)		<0.15	<0.30	
22-12-01587-014	105-A-14	12/13/2022	Arsenic (As)	500	<0.15	<0.30	

# Environmental Hazards Services, L.L.C

Client Number: 26-3514

Report Number: 22-12-01587

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd; Bldg 105

Lab Sample Number	Client Sample Number	Analyzed Date	Analyte	Air Volume (L)	Total Metal (ug)	Concentration (ug/m <sup>3</sup> )	Narrative ID
			Barium (Ba)		<0.15	<0.30	
			Cadmium (Cd)		<0.030	<0.060	
			Chromium (Cr)		<0.75	<1.5	
			Lead (Pb)		<0.15	<0.30	
			Selenium (Se)		<0.75	<1.5	
			Silver (Ag)		<0.15	<0.30	
22-12-01587-015	105-A-15	12/13/2022	Arsenic (As)	508	<0.15	<0.30	L01
			Barium (Ba)		<0.15	<0.30	
			Cadmium (Cd)		<0.030	<0.060	
			Chromium (Cr)		<0.75	<1.5	
			Lead (Pb)		<0.15	<0.30	
			Selenium (Se)		<0.75	<1.5	
			Silver (Ag)		<0.15	<0.30	
22-12-01587-016	105-A-16	12/13/2022	Arsenic (As)	501.8	<0.15	<0.30	L01
			Barium (Ba)		<0.15	<0.30	
			Cadmium (Cd)		<0.030	<0.060	
			Chromium (Cr)		<0.75	<1.5	
			Lead (Pb)		<0.15	<0.30	
			Selenium (Se)		<0.75	<1.5	
			Silver (Ag)		<0.15	<0.30	
22-12-01587-017	105-A-17	12/13/2022	Arsenic (As)	538.5	<0.15	<0.28	L01
			Barium (Ba)		<0.15	<0.28	
			Cadmium (Cd)		<0.030	<0.056	
			Chromium (Cr)		<0.75	<1.4	
			Lead (Pb)		<0.15	<0.28	



# Environmental Hazards Services, L.L.C

Client Number: 26-3514

Report Number: 22-12-01587

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd; Bldg 105

Lab Sample Number	Client Sample Number	Analyzed Date	Analyte	Air Volume (L)	Total Metal (ug)	Concentration (ug/m <sup>3</sup> )	Narrative ID
			Selenium (Se)		<0.75	<1.4	
			Silver (Ag)		<0.15	<0.28	
22-12-01587-018	105-A-18	12/13/2022	Arsenic (As)	550.5	<0.15	<0.28	L01
			Barium (Ba)		<0.15	<0.28	
			Cadmium (Cd)		<0.030	<0.055	
			Chromium (Cr)		<0.75	<1.4	
			Lead (Pb)		<0.15	<0.28	
			Selenium (Se)		<0.75	<1.4	
			Silver (Ag)		<0.15	<0.28	
22-12-01587-019	105-A-19	12/13/2022	Arsenic (As)	540	<0.15	<0.28	L01
			Barium (Ba)		<0.15	<0.28	
			Cadmium (Cd)		<0.030	<0.056	
			Chromium (Cr)		<0.75	<1.4	
			Lead (Pb)		<0.15	<0.28	
			Selenium (Se)		<0.75	<1.4	
			Silver (Ag)		<0.15	<0.28	
22-12-01587-020	105-A-20	12/13/2022	Arsenic (As)	563.2	<0.15	<0.27	L01
			Barium (Ba)		<0.15	<0.27	
			Cadmium (Cd)		<0.030	<0.054	
			Chromium (Cr)		<0.75	<1.4	
			Lead (Pb)		<0.15	<0.27	
			Selenium (Se)		<0.75	<1.4	
			Silver (Ag)		<0.15	<0.27	
22-12-01587-021	105-A-21	12/13/2022	Arsenic (As)	548.3	<0.15	<0.28	L01
			Barium (Ba)		<0.15	<0.28	

# Environmental Hazards Services, L.L.C

Client Number: 26-3514

Report Number: 22-12-01587

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd; Bldg 105

Lab Sample Number	Client Sample Number	Analyzed Date	Analyte	Air Volume (L)	Total Metal (ug)	Concentration (ug/m <sup>3</sup> )	Narrative ID
			Cadmium (Cd)		<0.030	<0.055	
			Chromium (Cr)		<0.75	<1.4	
			Lead (Pb)		<0.15	<0.28	
			Selenium (Se)		<0.75	<1.4	
			Silver (Ag)		<0.15	<0.28	
22-12-01587-022	105-A-22	12/13/2022	Arsenic (As)	549.3	<0.15	<0.28	L01
			Barium (Ba)		<0.15	<0.28	
			Cadmium (Cd)		<0.030	<0.055	
			Chromium (Cr)		<0.75	<1.4	
			Lead (Pb)		<0.15	<0.28	
			Selenium (Se)		<0.75	<1.4	
			Silver (Ag)		<0.15	<0.28	
22-12-01587-023	105-A-23	12/13/2022	Arsenic (As)	558.5	<0.15	<0.27	L01
			Barium (Ba)		<0.15	<0.27	
			Cadmium (Cd)		<0.030	<0.054	
			Chromium (Cr)		<0.75	<1.4	
			Lead (Pb)		<0.15	<0.27	
			Selenium (Se)		<0.75	<1.4	
			Silver (Ag)		<0.15	<0.27	
22-12-01587-024	105-A-24	12/13/2022	Arsenic (As)	540.6	<0.15	<0.28	L01
			Barium (Ba)		<0.15	<0.28	
			Cadmium (Cd)		<0.030	<0.056	
			Chromium (Cr)		<0.75	<1.4	
			Lead (Pb)		<0.15	<0.28	
			Selenium (Se)		<0.75	<1.4	

# Environmental Hazards Services, L.L.C

Client Number: 26-3514

Report Number: 22-12-01587

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd; Bldg 105

Lab Sample Number	Client Sample Number	Analyzed Date	Analyte	Air Volume (L)	Total Metal (ug)	Concentration (ug/m <sup>3</sup> )	Narrative ID
			Silver (Ag)		<0.15	<0.28	
22-12-01587-025	105-A-25	12/13/2022	Arsenic (As)	615.9	<0.15	<0.25	L01
			Barium (Ba)		<0.15	<0.25	
			Cadmium (Cd)		<0.030	<0.049	
			Chromium (Cr)		<0.75	<1.3	
			Lead (Pb)		<0.15	<0.25	
			Selenium (Se)		<0.75	<1.3	
			Silver (Ag)		<0.15	<0.25	
22-12-01587-026	105-A-26	12/13/2022	Arsenic (As)	588.8	<0.15	<0.26	L01
			Barium (Ba)		<0.15	<0.26	
			Cadmium (Cd)		<0.030	<0.051	
			Chromium (Cr)		<0.75	<1.3	
			Lead (Pb)		<0.15	<0.26	
			Selenium (Se)		<0.75	<1.3	
			Silver (Ag)		<0.15	<0.26	
22-12-01587-027	105-A-27	12/13/2022	Arsenic (As)	--	<0.15	---	L01
			Barium (Ba)		<0.15	---	
			Cadmium (Cd)		<0.030	---	
			Chromium (Cr)		<0.75	---	
			Lead (Pb)		<0.15	---	
			Selenium (Se)		<0.75	---	
			Silver (Ag)		<0.15	---	

# Environmental Hazards Services, L.L.C

Client Number: 26-3514

Report Number: 22-12-01587

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd; Bldg 105

Lab Sample Number	Client Sample Number	Analyzed Date	Analyte	Air Volume (L)	Total Metal (ug)	Concentration (ug/m <sup>3</sup> )	Narrative ID
-------------------	----------------------	---------------	---------	----------------	------------------	------------------------------------	--------------

Sample Narratives:

L01: LCS percent recovery for Cr was outside of acceptance control limits.

Method: NIOSH 7300M

Analyst: Max Dichek

(b) (6)

Reviewed By Authorized Signatory:

*Tasha Eaddy*  
QA/QC Clerk

Sample Results denoted with a "less than" (<) sign contains less than the reporting limit for each particular metal, based on a 15mL volume. The reporting limit is 0.03ug for Cadmium, 0.15ug for Arsenic, Barium, Lead and Silver, and 0.75ug for Chromium and Selenium.

The condition of the samples analyzed was acceptable upon receipt per laboratory protocol unless otherwise noted on this report. Results represent the analysis of samples submitted by the client. Unless otherwise noted, samples are reported without a dry weight correction. Sample location, description, area, volume, etc., was provided by the client. If the report does not contain the result for a field blank, it is due to the fact that the client did not include a field blank with their samples. These sample results do not reflect blank correction. This report shall not be reproduced except in full, without the written consent of Environmental Hazards Services, L.L.C. NY ELAP #11714.

LEGEND	ug = microgram	ug/m <sup>3</sup> = micrograms per cubic meter
	mL = milliliter	L= Liters

# ENVIRONMENTAL HAZARDS SERVICES, LLC

## Metals Chain of Custody Form

Pg 1 of 2

Company Name	Burns & McDonnell	Account #	26-3514
Company Address	9400 Ward Parkway	City/State/Zip	Kansas City, MO 64114
Phone	314-302-4661	Email	alanstaett@burnsmcd.com
Project Name / Testing Address		GFC / 4300 Goodfellow Blvd - Bldg 105	
PO Number	168765	Collected By	Abiodun Akintoye
Turn-Around Time	<input checked="" type="radio"/> 5 DAY <input type="radio"/> 3 DAY <input type="radio"/> 2 DAY <input type="radio"/> 1 DAY <input type="radio"/> SAME DAY OR WEEKEND - Must Call Ahead		

LAB NUMBER	Client Sample ID	Collection Date & Time	METALS							Other Metals	PARTICULATES					AIR			WIPES  AREA Circle The Unit of Measurement Used cm or in
			Pb TCLP	TCLP RCRA 8	RCRA 8 Total	Toxic Metal Profile	Welding Fume Profile	TX 11 TCLP	CA 17 Total		Total Nuisance Dust	Respirable Dust	TSP Gravimetric	TSP Pb	PM-10	Total Time Mins.	Flow Rate l/min.	Vol. Total Liters	
1	105-A-01	12-7-22 1204							Ag, As, Ba, Cd, Cr, Pb, Se										x
2	-A-02	1205 1204							↓						215	2.59	555.8		x
3	A-03	1215													222	2.53	561.7		x
4	A-04	1220													224	2.53	566.7		x
5	A-05	1224													225	2.53	569.3		x
6	A-06	1227													224	2.52	564.5		x
7	A-07	1230													225	2.51	563.6		x
8	A-08	1235													227	2.54	576.6		x
9	A-09	1240													230	2.54	584.2		x
10	A-10	1619													210	2.60	545		x
11	A-11	1620													206	2.55	523.3		x
12	A-12	1620																	x
13	A-13	1621													205	2.50	512		x
14	A-14	1622													200	2.50	500		x
15	A-15	1624													199	2.55	508		x

Released By: Ashley Anstaett	Date: 12/19/22	Time: 1300
Signature: (b) (6)		


LAB USE ONLY - BELOW THIS LINE

Received By: J. Johnson  
 Signature: (b) (6)  
 Date: 12/12/22 Time: 11:15  AM  PM

Portal Contact Added

7469 WHITEPINE RD, RICHMOND, VA 23237 (800)-347-4010  
 RESULTS VIA CLIENT PORTAL AVAILABLE @ [www.leadlab.com](http://www.leadlab.com)

22-12-01587



Due Date:  
12/19/2022  
(Monday)  
EL MM-L

# ENVIRONMENTAL HAZARDS SERVICES, LLC

## Metals Chain of Custody Form

Pg 2 of 2

Company Name	Burns & McDonnell	Account #	26-3514
Company Address	9400 Ward Parkway	City/State/Zip	Kansas City, MO 64114
Phone	314-302-4661	Email	alanstaett@burnsmcd.com
Project Name / Testing Address	GFC / 4300 Goodfellow Blvd - Bldg 105		
PO Number	168765	Collected By	A. Akinola
Turn-Around Time	<input checked="" type="checkbox"/> 5 DAY <input type="checkbox"/> 3 DAY <input type="checkbox"/> 2 DAY <input type="checkbox"/> 1 DAY <input type="checkbox"/> SAME DAY OR WEEKEND - Must Call Ahead		

LAB NUMBER	Client Sample ID	Collection Date & Time	METALS							Other Metals	PARTICULATES					AIR			WIPES  AREA Circle The Unit of Measurement Used cm or in
			Pb TCLP	TCLP RCRA 8	RCRA 8 Total	Toxic Metal Profile	Welding Fume Profile	TX 11 TCLP	CA17 Total		Total Nuisance Dust	Respirable Dust	TSP Gravimetric	TSP Pb	PM-10	Total Time	Flow Rate	Vol.	
																Mins.	L/min.	Total Liters	
1	105-A-16	12-7-22 1626							Ag, As, Ba, Cd, Cr, Pb, Se						196	2.56	501.8	x	
2	A-17	12-8-22 1030							↓						212	2.54	538.5	x	
3	A-18	1038													218	2.53	550.5	x	
4	A-19	1035													213	2.54	540	x	
5	A-20	1047													220	2.56	563.2	x	
6	A-21	1053													215	2.55	548.3	x	
7	A-22	1056													215	2.56	549.3	x	
8	A-23	1105													219	2.55	558.5	x	
9	A-24	1100													212	2.55	540.6	x	
10	A-25	1502													242	2.55	615.9	x	
11	A-26	1505													230	2.56	588.8	x	
12	A-27	1510													---			x	
13																		x	
14																	x		
15																	x		

Released By: A. Anstaett	Date: 12/9/22	Time: 1300
Signature: (b) (6)		

LAB USE ONLY - BELOW THIS LINE

Received By: J. Khan

Signature: (b) (6)

Date: 12/12/22 Time: 11:15  AM  PM

Portal Contact Added

7469 WHITEPINE RD, RICHMOND, VA 23237 (800)-347-4010  
 RESULTS VIA CLIENT PORTAL AVAILABLE @ [www.leadlab.com](http://www.leadlab.com)

1587

EHS Laboratories™

Attach Laboratory Label Here