



July 13, 2021

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 June 21 and June 22, 2021, Emily Ahlemeyer and Ashley Anstaett of Burns & McDonnell 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 scheme, 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 (μm) 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.

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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 ^(a) ($\mu\text{g}/\text{m}^3$) ^(b)	Highest Concentration ^(a) ($\mu\text{g}/\text{m}^3$) ^(b)	Permissible Exposure Limit (PEL) ($\mu\text{g}/\text{m}^3$) ^(b)
Arsenic	<0.21	<0.26	10
Barium	<0.21	<0.26	500
Cadmium	<0.042	<0.052	5
Chromium (Total)	<1.1	<1.3	500
Lead	<0.21	<0.26	50
Selenium	<1.1	<1.3	200
Silver	<0.21	<0.26	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 &



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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 General Services Administration 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)

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.

APPENDIX A – RESULTS SUMMARY BY LOCATION

Appendix A

Results Summary by Location

Sample Number	Location	Analyte	Result	Units	Recommended Limits ¹
105-A-01	Field blank	Arsenic	< 0.15	µg	--
		Barium	< 0.15	µg	--
		Cadmium	< 0.030	µg	--
		Chromium	< 0.75	µg	--
		Lead	< 0.15	µg	--
		Selenium	< 0.75	µg	--
		Silver	< 0.15	µg	--
105-A-02	1st floor, column H7, bench	Arsenic	< 0.22	µg/m ³	10
		Barium	< 0.22	µg/m ³	500
		Cadmium	< 0.044	µg/m ³	5
		Chromium	< 1.1	µg/m ³	500
		Lead	< 0.22	µg/m ³	50
		Selenium	< 1.1	µg/m ³	200
		Silver	< 0.22	µg/m ³	10
105-A-03	1st floor, break room, column B9	Arsenic	< 0.22	µg/m ³	10
		Barium	< 0.22	µg/m ³	500
		Cadmium	< 0.044	µg/m ³	5
		Chromium	< 1.1	µg/m ³	500
		Lead	< 0.22	µg/m ³	50
		Selenium	< 1.1	µg/m ³	200
		Silver	< 0.22	µg/m ³	10
105-A-04	1st floor, column E17, file cabinet	Arsenic	< 0.21	µg/m ³	10
		Barium	< 0.21	µg/m ³	500
		Cadmium	< 0.042	µg/m ³	5
		Chromium	< 1.1	µg/m ³	500
		Lead	< 0.21	µg/m ³	50
		Selenium	< 1.1	µg/m ³	200
		Silver	< 0.21	µg/m ³	10
105-A-05	1st floor, column J21, conference table	Arsenic	< 0.22	µg/m ³	10
		Barium	< 0.22	µg/m ³	500
		Cadmium	< 0.043	µg/m ³	5
		Chromium	< 1.1	µg/m ³	500
		Lead	< 0.22	µg/m ³	50
		Selenium	< 1.1	µg/m ³	200
		Silver	< 0.22	µg/m ³	10

Appendix A

Results Summary by Location

Sample Number	Location	Analyte	Result	Units	Recommended Limits ¹
105-A-06	1st floor, column C21, file cabinet	Arsenic	< 0.22	µg/m ³	10
		Barium	< 0.22	µg/m ³	500
		Cadmium	< 0.044	µg/m ³	5
		Chromium	< 1.1	µg/m ³	500
		Lead	< 0.22	µg/m ³	50
		Selenium	< 1.1	µg/m ³	200
		Silver	< 0.22	µg/m ³	10
105-A-07R	1st floor, column A29, janitor's closet	Arsenic	< 0.25	µg/m ³	10
		Barium	< 0.25	µg/m ³	500
		Cadmium	< 0.049	µg/m ³	5
		Chromium	< 1.3	µg/m ³	500
		Lead	< 0.25	µg/m ³	50
		Selenium	< 1.3	µg/m ³	200
		Silver	< 0.25	µg/m ³	10
105-A-08	1st floor, column G28, hallway box	Arsenic	< 0.23	µg/m ³	10
		Barium	< 0.23	µg/m ³	500
		Cadmium	< 0.045	µg/m ³	5
		Chromium	< 1.2	µg/m ³	500
		Lead	< 0.23	µg/m ³	50
		Selenium	< 1.2	µg/m ³	200
		Silver	< 0.23	µg/m ³	10
105-A-09	1st floor, column J41, window sill	Arsenic	< 0.21	µg/m ³	10
		Barium	< 0.21	µg/m ³	500
		Cadmium	< 0.042	µg/m ³	5
		Chromium	< 1.1	µg/m ³	500
		Lead	< 0.21	µg/m ³	50
		Selenium	< 1.1	µg/m ³	200
		Silver	< 0.21	µg/m ³	10
105-A-10	1st floor, south vestibule	Arsenic	< 0.23	µg/m ³	10
		Barium	< 0.23	µg/m ³	500
		Cadmium	< 0.045	µg/m ³	5
		Chromium	< 1.2	µg/m ³	500
		Lead	< 0.23	µg/m ³	50
		Selenium	< 1.2	µg/m ³	200
		Silver	< 0.23	µg/m ³	10

Appendix A

Results Summary by Location

Sample Number	Location	Analyte	Result	Units	Recommended Limits ¹
105-A-11	1st floor, column E51, table	Arsenic	< 0.24	µg/m ³	10
		Barium	< 0.24	µg/m ³	500
		Cadmium	< 0.047	µg/m ³	5
		Chromium	< 1.2	µg/m ³	500
		Lead	< 0.24	µg/m ³	50
		Selenium	< 1.2	µg/m ³	200
		Silver	< 0.24	µg/m ³	10
105-A-12	Field blank	Arsenic	< 0.15	µg	--
		Barium	< 0.15	µg	--
		Cadmium	< 0.030	µg	--
		Chromium	< 0.75	µg	--
		Lead	< 0.15	µg	--
		Selenium	< 0.75	µg	--
		Silver	< 0.15	µg	--
105-A-13	2nd floor, SW lobby, top of evacuation device	Arsenic	< 0.26	µg	10
		Barium	< 0.26	µg	500
		Cadmium	< 0.051	µg	5
		Chromium	< 1.3	µg	500
		Lead	< 0.26	µg	50
		Selenium	< 1.3	µg	200
		Silver	< 0.26	µg	10
105-A-14	2nd floor, room 330, conference room	Arsenic	< 0.26	µg/m ³	10
		Barium	< 0.26	µg/m ³	500
		Cadmium	< 0.051	µg/m ³	5
		Chromium	< 1.3	µg/m ³	500
		Lead	< 0.26	µg/m ³	50
		Selenium	< 1.3	µg/m ³	200
		Silver	< 0.26	µg/m ³	10
105-A-15	2nd floor, lab area, room 324	Arsenic	< 0.26	µg/m ³	10
		Barium	< 0.26	µg/m ³	500
		Cadmium	< 0.051	µg/m ³	5
		Chromium	< 1.3	µg/m ³	500
		Lead	< 0.26	µg/m ³	50
		Selenium	< 1.3	µg/m ³	200
		Silver	< 0.26	µg/m ³	10

Appendix A

Results Summary by Location

Sample Number	Location	Analyte	Result	Units	Recommended Limits ¹
105-A-16	2nd floor, lab area, room 319	Arsenic	< 0.26	µg/m ³	10
		Barium	< 0.26	µg/m ³	500
		Cadmium	< 0.051	µg/m ³	5
		Chromium	< 1.3	µg/m ³	500
		Lead	< 0.26	µg/m ³	50
		Selenium	< 1.3	µg/m ³	200
		Silver	< 0.26	µg/m ³	10
105-A-17	2nd floor, lab area by elevator, west side	Arsenic	< 0.26	µg/m ³	10
		Barium	< 0.26	µg/m ³	500
		Cadmium	< 0.052	µg/m ³	5
		Chromium	< 1.3	µg/m ³	500
		Lead	< 0.26	µg/m ³	50
		Selenium	< 1.3	µg/m ³	200
		Silver	< 0.26	µg/m ³	10
105-A-18	2nd floor, lab area, room 348	Arsenic	< 0.26	µg/m ³	10
		Barium	< 0.26	µg/m ³	500
		Cadmium	< 0.052	µg/m ³	5
		Chromium	< 1.3	µg/m ³	500
		Lead	< 0.26	µg/m ³	50
		Selenium	< 1.3	µg/m ³	200
		Silver	< 0.26	µg/m ³	10
105-A-19	2nd floor, lab area, room 360	Arsenic	< 0.24	µg/m ³	10
		Barium	< 0.24	µg/m ³	500
		Cadmium	< 0.048	µg/m ³	5
		Chromium	< 1.2	µg/m ³	500
		Lead	< 0.24	µg/m ³	50
		Selenium	< 1.2	µg/m ³	200
		Silver	< 0.24	µg/m ³	10
105-A-20	1st floor, FSIS office, column F53	Arsenic	< 0.26	µg/m ³	10
		Barium	< 0.26	µg/m ³	500
		Cadmium	< 0.052	µg/m ³	5
		Chromium	< 1.3	µg/m ³	500
		Lead	< 0.26	µg/m ³	50
		Selenium	< 1.3	µg/m ³	200
		Silver	< 0.26	µg/m ³	10

Appendix A

Results Summary by Location

Sample Number	Location	Analyte	Result	Units	Recommended Limits ¹
105-A-21	1st floor, storage warehouse, column E46	Arsenic	< 0.26	µg/m ³	10
		Barium	< 0.26	µg/m ³	500
		Cadmium	< 0.052	µg/m ³	5
		Chromium	< 1.3	µg/m ³	500
		Lead	< 0.26	µg/m ³	50
		Selenium	< 1.3	µg/m ³	200
		Silver	< 0.26	µg/m ³	10
105-A-22	1st floor, lab processing, column B48	Arsenic	< 0.25	µg/m ³	10
		Barium	< 0.25	µg/m ³	500
		Cadmium	< 0.050	µg/m ³	5
		Chromium	< 1.3	µg/m ³	500
		Lead	< 0.25	µg/m ³	50
		Selenium	< 1.3	µg/m ³	200
		Silver	< 0.25	µg/m ³	10
105-A-23	2nd floor, column F35, offices by servers	Arsenic	< 0.25	µg/m ³	10
		Barium	< 0.25	µg/m ³	500
		Cadmium	< 0.049	µg/m ³	5
		Chromium	< 1.3	µg/m ³	500
		Lead	< 0.25	µg/m ³	50
		Selenium	< 1.3	µg/m ³	200
		Silver	< 0.25	µg/m ³	10
105-A-24	2nd floor, Payoff/Research area	Arsenic	< 0.25	µg/m ³	10
		Barium	< 0.25	µg/m ³	500
		Cadmium	< 0.050	µg/m ³	5
		Chromium	< 1.3	µg/m ³	500
		Lead	< 0.25	µg/m ³	50
		Selenium	< 1.3	µg/m ³	200
		Silver	< 0.25	µg/m ³	10
105-A-25	2nd floor, offices, column B17	Arsenic	< 0.25	µg/m ³	10
		Barium	< 0.25	µg/m ³	500
		Cadmium	< 0.050	µg/m ³	5
		Chromium	< 1.3	µg/m ³	500
		Lead	< 0.25	µg/m ³	50
		Selenium	< 1.3	µg/m ³	200
		Silver	< 0.25	µg/m ³	10

Appendix A

Results Summary by Location

Sample Number	Location	Analyte	Result	Units	Recommended Limits ¹
105-A-26	2nd floor, break room , column B10	Arsenic	< 0.25	µg/m ³	10
		Barium	< 0.25	µg/m ³	500
		Cadmium	< 0.050	µg/m ³	5
		Chromium	< 1.3	µg/m ³	500
		Lead	< 0.25	µg/m ³	50
		Selenium	< 1.3	µg/m ³	200
		Silver	< 0.25	µg/m ³	10
105-A-27	Field blank	Arsenic	< 0.15	µg	--
		Barium	< 0.15	µg	--
		Cadmium	< 0.030	µg	--
		Chromium	< 0.75	µg	--
		Lead	< 0.15	µg	--
		Selenium	< 0.75	µg	--
		Silver	< 0.15	µg	--

Notes:

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

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: 21-06-04591
 Received Date: 06/29/2021
 Reported Date: 07/02/2021

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd.

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 ³)	Narrative ID
21-06-04591-001	105-A-01	07/01/2021	Arsenic (As)	--	<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	---	
21-06-04591-002	105-A-02	07/01/2021	Arsenic (As)	693	<0.15	<0.22	
			Barium (Ba)		<0.15	<0.22	
			Cadmium (Cd)		<0.030	<0.044	
			Chromium (Cr)		<0.75	<1.1	
			Lead (Pb)		<0.15	<0.22	
			Selenium (Se)		<0.75	<1.1	
			Silver (Ag)		<0.15	<0.22	
21-06-04591-003	105-A-03	07/01/2021	Arsenic (As)	690	<0.15	<0.22	
			Barium (Ba)		<0.15	<0.22	
			Cadmium (Cd)		<0.030	<0.044	

Environmental Hazards Services, L.L.C

Client Number: 26-3514

Report Number: 21-06-04591

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd.

Lab Sample Number	Client Sample Number	Analyzed Date	Analyte	Air Volume (L)	Total Metal (ug)	Concentration (ug/m ³)	Narrative ID
			Chromium (Cr)		<0.75	<1.1	
			Lead (Pb)		<0.15	<0.22	
			Selenium (Se)		<0.75	<1.1	
			Silver (Ag)		<0.15	<0.22	
21-06-04591-004	105-A-04	07/01/2021	Arsenic (As)	718	<0.15	<0.21	
			Barium (Ba)		<0.15	<0.21	
			Cadmium (Cd)		<0.030	<0.042	
			Chromium (Cr)		<0.75	<1.1	
			Lead (Pb)		<0.15	<0.21	
			Selenium (Se)		<0.75	<1.1	
			Silver (Ag)		<0.15	<0.21	
21-06-04591-005	105-A-05	07/01/2021	Arsenic (As)	704	<0.15	<0.22	
			Barium (Ba)		<0.15	<0.22	
			Cadmium (Cd)		<0.030	<0.043	
			Chromium (Cr)		<0.75	<1.1	
			Lead (Pb)		<0.15	<0.22	
			Selenium (Se)		<0.75	<1.1	
			Silver (Ag)		<0.15	<0.22	
21-06-04591-006	105-A-06	07/01/2021	Arsenic (As)	688	<0.15	<0.22	
			Barium (Ba)		<0.15	<0.22	
			Cadmium (Cd)		<0.030	<0.044	
			Chromium (Cr)		<0.75	<1.1	
			Lead (Pb)		<0.15	<0.22	
			Selenium (Se)		<0.75	<1.1	
			Silver (Ag)		<0.15	<0.22	

Environmental Hazards Services, L.L.C

Client Number: 26-3514

Report Number: 21-06-04591

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd.

Lab Sample Number	Client Sample Number	Analyzed Date	Analyte	Air Volume (L)	Total Metal (ug)	Concentration (ug/m ³)	Narrative ID
21-06-04591-007	105-A-07R	07/01/2021	Arsenic (As)	620	<0.15	<0.25	
			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	
21-06-04591-008	105-A-08	07/01/2021	Arsenic (As)	678	<0.15	<0.23	
			Barium (Ba)		<0.15	<0.23	
			Cadmium (Cd)		<0.030	<0.045	
			Chromium (Cr)		<0.75	<1.2	
			Lead (Pb)		<0.15	<0.23	
			Selenium (Se)		<0.75	<1.2	
			Silver (Ag)		<0.15	<0.23	
21-06-04591-009	105-A-09	07/01/2021	Arsenic (As)	729	<0.15	<0.21	
			Barium (Ba)		<0.15	<0.21	
			Cadmium (Cd)		<0.030	<0.042	
			Chromium (Cr)		<0.75	<1.1	
			Lead (Pb)		<0.15	<0.21	
			Selenium (Se)		<0.75	<1.1	
			Silver (Ag)		<0.15	<0.21	
21-06-04591-010	105-A-10	07/01/2021	Arsenic (As)	678	<0.15	<0.23	
			Barium (Ba)		<0.15	<0.23	
			Cadmium (Cd)		<0.030	<0.045	
			Chromium (Cr)		<0.75	<1.2	

Environmental Hazards Services, L.L.C

Client Number: 26-3514

Report Number: 21-06-04591

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd.

Lab Sample Number	Client Sample Number	Analyzed Date	Analyte	Air Volume (L)	Total Metal (ug)	Concentration (ug/m ³)	Narrative ID
			Lead (Pb)		<0.15	<0.23	
			Selenium (Se)		<0.75	<1.2	
			Silver (Ag)		<0.15	<0.23	
21-06-04591-011	105-A-11	07/01/2021	Arsenic (As)	646	<0.15	<0.24	
			Barium (Ba)		<0.15	<0.24	
			Cadmium (Cd)		<0.030	<0.047	
			Chromium (Cr)		<0.75	<1.2	
			Lead (Pb)		<0.15	<0.24	
			Selenium (Se)		<0.75	<1.2	
			Silver (Ag)		<0.15	<0.24	
21-06-04591-012	105-A-12	07/01/2021	Arsenic (As)	--	<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	---	
21-06-04591-013	105-A-13	07/01/2021	Arsenic (As)	593	<0.15	<0.26	
			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	
21-06-04591-014	105-A-14	07/01/2021	Arsenic (As)	590	<0.15	<0.26	

Environmental Hazards Services, L.L.C

Client Number: 26-3514

Report Number: 21-06-04591

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd.

Lab Sample Number	Client Sample Number	Analyzed Date	Analyte	Air Volume (L)	Total Metal (ug)	Concentration (ug/m ³)	Narrative ID
			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	
21-06-04591-015	105-A-15	07/01/2021	Arsenic (As)	599	<0.15	<0.26	
			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	
21-06-04591-016	105-A-16	07/01/2021	Arsenic (As)	599	<0.15	<0.26	
			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	
21-06-04591-017	105-A-17	07/01/2021	Arsenic (As)	585	<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	

Environmental Hazards Services, L.L.C

Client Number: 26-3514

Report Number: 21-06-04591

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd.

Lab Sample Number	Client Sample Number	Analyzed Date	Analyte	Air Volume (L)	Total Metal (ug)	Concentration (ug/m ³)	Narrative ID
			Selenium (Se)		<0.75	<1.3	
			Silver (Ag)		<0.15	<0.26	
21-06-04591-018	105-A-18	07/01/2021	Arsenic (As)	585	<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	
21-06-04591-019	105-A-19	07/01/2021	Arsenic (As)	635	<0.15	<0.24	
			Barium (Ba)		<0.15	<0.24	
			Cadmium (Cd)		<0.030	<0.048	
			Chromium (Cr)		<0.75	<1.2	
			Lead (Pb)		<0.15	<0.24	
			Selenium (Se)		<0.75	<1.2	
			Silver (Ag)		<0.15	<0.24	
21-06-04591-020	105-A-20	07/01/2021	Arsenic (As)	588	<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	
21-06-04591-021	105-A-21	07/01/2021	Arsenic (As)	588	<0.15	<0.26	
			Barium (Ba)		<0.15	<0.26	

Environmental Hazards Services, L.L.C

Client Number: 26-3514

Report Number: 21-06-04591

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd.

Lab Sample Number	Client Sample Number	Analyzed Date	Analyte	Air Volume (L)	Total Metal (ug)	Concentration (ug/m ³)	Narrative ID
			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	
21-06-04591-022	105-A-22	07/01/2021	Arsenic (As)	611	<0.15	<0.25	
			Barium (Ba)		<0.15	<0.25	
			Cadmium (Cd)		<0.030	<0.050	
			Chromium (Cr)		<0.75	<1.3	
			Lead (Pb)		<0.15	<0.25	
			Selenium (Se)		<0.75	<1.3	
			Silver (Ag)		<0.15	<0.25	
21-06-04591-023	105-A-23	07/01/2021	Arsenic (As)	618	<0.15	<0.25	
			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	
21-06-04591-024	105-A-24	07/01/2021	Arsenic (As)	608	<0.15	<0.25	
			Barium (Ba)		<0.15	<0.25	
			Cadmium (Cd)		<0.030	<0.050	
			Chromium (Cr)		<0.75	<1.3	
			Lead (Pb)		<0.15	<0.25	
			Selenium (Se)		<0.75	<1.3	

Environmental Hazards Services, L.L.C

Client Number: 26-3514

Report Number: 21-06-04591

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd.

Lab Sample Number	Client Sample Number	Analyzed Date	Analyte	Air Volume (L)	Total Metal (ug)	Concentration (ug/m ³)	Narrative ID
			Silver (Ag)		<0.15	<0.25	
21-06-04591-025	105-A-25	07/01/2021	Arsenic (As)	612	<0.15	<0.25	
			Barium (Ba)		<0.15	<0.25	
			Cadmium (Cd)		<0.030	<0.050	
			Chromium (Cr)		<0.75	<1.3	
			Lead (Pb)		<0.15	<0.25	
			Selenium (Se)		<0.75	<1.3	
			Silver (Ag)		<0.15	<0.25	
21-06-04591-026	105-A-26	07/01/2021	Arsenic (As)	604	<0.15	<0.25	
			Barium (Ba)		<0.15	<0.25	
			Cadmium (Cd)		<0.030	<0.050	
			Chromium (Cr)		<0.75	<1.3	
			Lead (Pb)		<0.15	<0.25	
			Selenium (Se)		<0.75	<1.3	
			Silver (Ag)		<0.15	<0.25	
21-06-04591-027	105-A-27	07/01/2021	Arsenic (As)	--	<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	---	

Environmental Hazards Services, L.L.C

Client Number: 26-3514

Report Number: 21-06-04591

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd.

Lab Sample Number	Client Sample Number	Analyzed Date	Analyte	Air Volume (L)	Total Metal (ug)	Concentration (ug/m ³)	Narrative ID
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Sample Narratives:

Method: NIOSH 7300M

Analyst: Kailee Guthrie

(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. EHS sample results do not reflect blank correction. This report shall not be reproduced except in full, without the written consent of the Environmental Hazards Service, L.L.C. California Certification #2319 NY ELAP #11714.

LEGEND ug = microgram ug/m³ = micrograms per cubic meter
 mL = milliliter L= Liters

Metals Chain of Custody Form

Company Name: Burns & McDonnell	Account #: 26-3514
Company Address: 9400 Ward Parkway	City/State/Zip: Kansas City, MO 64114
Phone: 314-302-4661	Email: eeahlemeyer@burnsmcd.com
Project Name / Testing Address: GFC / 4300 Goodfellow Blvd	
PO Number: 168765	Collected By: Emily Anlemeyer & Ashley Anstaett
Turn-Around Time: <input checked="" 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 <small>Circle The Unit of Measurement Used cm or in</small>	
			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	Flow Rate		Vol.
																Mins.	L/min.		Total Liters
1	105-A-01	6/21/21 100613							Ag, As, Cd, Cr, Ba, Pb, Se						NA	NA	NA	x	
2	105-A-02	1031													277		693	x	
3	105-A-03	1033													276		690	x	
4	105-A-04	1035													276		718	x	
5	105-A-05	1036													276		704	x	
6	105-A-06	1038													275		688	x	
7	105-A-07R	6/22/21 1046													243		620	x	
8	105-A-08	6/21/21 1045													271		678	x	
9	105-A-09	1047													270		729	x	
10	105-A-10	1049													271		678	x	
11	105-A-11	1050													269		646	x	
12	105-A-12	0613													NA	NA	NA	x	
13	105-A-13	6/22/21 0639													237		593	x	
14	105-A-14	0640													236		590	x	
15	105-A-15	0641													235		599	x	

Released By: Emily Anlemeyer	Date: 6/25/21	Time: 1600
Signature: (b) (6)		

LAB USE ONLY - BELOW THIS LINE

Received By: **TStone**

Signature: **(b) (6)**

Date: **6/29/21** Time: **12:45** AM PM

Portal Contact Added

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

21-06-04591

Due Date:
07/02/2021
(Friday)
EL MM-L

Metals Chain of Custody Form

Company Name	Account #
Company Address	City/State/Zip
Phone	Email
Project Name / Testing Address	
PO Number	Collected By
Turn-Around Time	

LAB NUMBER	Client Sample ID	Collection Date & Time	METALS						Other Metals	PARTICULATES					AIR			WIPES	
			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	Flow Rate	Vol.	AREA <small>Circle The Unit of Measurement Used</small>
																Mins.	L/min.	Total Liters	
1	105-A-16	6/22/21 0642							Ag, As, Ba, Cd, Cr, Pb, Se						235		599	x	
2	105-A-17														234		585	x	
3	105-A-18														234		585	x	
4	105-A-19														235		635	x	
5	105-A-20														235		588	x	
6	105-A-21														235		588	x	
7	105-A-22														235		611	x	
8	105-A-23														247		618	x	
9	105-A-24														243		608	x	
10	105-A-25														240		612	x	
11	105-A-26														237		604	x	
12	105-A-27														NA	NA	NA	x	
13																	x		
14																	x		
15																	x		

Released By: Emily Anlemeyer	Date: 6/25/21	Time: 1600
Signature: (b) (6)		

LAB USE ONLY - BELOW THIS LINE

Received By: T Stone

Signature: (b) (6)

Date: 6/29/21 Time: 12:45 AM PM

Portal Contact Added

7469 WHITEPINE RD, RICHMOND, VA 23237 (800)-347-4010

RESULTS VIA CLIENT PORTAL AVAILABLE @ www.leadlab.com

4591

EHS

Laboratories

Attach Laboratory Label Here