January 20, 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 December 8, 2020, Emily Ahlemeyer of Burns & McDonnell and Eric Wenger 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.

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)] ($\mu g/m^3$) [(b)]	Highest Concentration[(a)] ($\mu g/m^3$) [(b)]	Permissible Exposure Limit (PEL) ($\mu g/m^3$) [(b)]
Arsenic	<0.22	<0.27	10
Barium	<0.22	1.90	500
Cadmium	<0.043	<0.053	5
Chromium (Total)	<1.1	<1.4	500
Lead	<0.22	0.63	50
Selenium	<1.1	<1.4	200
Silver	<0.22	<0.27	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) $\mu g/m^3$ = 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. The air sampling professional's Missouri Lead license is included in Appendix C.

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 &

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
- Appendix C – Licenses

Information in Appendices B and C 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	2nd floor, near southwest stairwell	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-02	2nd floor, lab 347	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-03	2nd floor, lab 358	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	0.36	µg/m^3	50
		Selenium	< 1.3	µg/m^3	200
		Silver	< 0.25	µg/m^3	10
105-A-04	2nd floor, lab 313	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-05	2nd floor, lab 350	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-06	2nd floor, lab 320 (gas storage)	Arsenic	< 0.25	µg/m^3	10
		Barium	1.9	µg/m^3	500
		Cadmium	< 0.050	µg/m^3	5
		Chromium	< 1.3	µg/m^3	500
		Lead	0.63	µg/m^3	50
		Selenium	< 1.3	µg/m^3	200
		Silver	< 0.25	µg/m^3	10
105-A-07	2nd floor, lab break room	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	2nd floor, lab 329	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-09	1st floor, lab processing	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-10	1st floor, warehouse, column F46	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-11	1st floor, column E49	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-12	1st floor, column E51	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-13	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-14	South basement	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-15	2nd floor, column E33	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-16	2nd floor, column D29	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
105-A-17	2nd floor, conference room, column F27	Arsenic	< 0.23	µg/m^3	10
		Barium	< 0.23	µg/m^3	500
		Cadmium	< 0.046	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-18	2nd floor, mechanical room, column G27	Arsenic	< 0.23	µg/m^3	10
		Barium	< 0.23	µg/m^3	500
		Cadmium	< 0.046	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-19	2nd floor, break room, column B17	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-20	Penthouse B	Arsenic	< 0.23	µg/m^3	10
		Barium	< 0.23	µg/m^3	500
		Cadmium	< 0.046	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-21	2nd floor, north restrooms, hallway	Arsenic	< 0.23	µg/m^3	10
		Barium	< 0.23	µg/m^3	500
		Cadmium	< 0.046	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-22	1st floor lobby, column J36	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-23	1st floor, janitor closet, column A29	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	1st floor, break room, column B20	Arsenic	< 0.27	µg/m^3	10
		Barium	< 0.27	µg/m^3	500
		Cadmium	< 0.053	µg/m^3	5
		Chromium	< 1.4	µg/m^3	500
		Lead	< 0.27	µg/m^3	50
		Selenium	< 1.4	µg/m^3	200
		Silver	< 0.27	µg/m^3	10
105-A-25	1st floor, column H22	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	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-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:

[1]Limits 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: 20-12-01837
Received Date: 12/14/2020
Reported Date: 12/17/2020

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd.; 105-A-01-27

Client Number: 26-3514

Laboratory Results

Fax Number: 816-822-3494

Lab Sample Number	Client Sample Number	Analyzed Date	Analyte	Air Volume (L)	Total Metal (ug)	Concentration (ug/m³)	Narrative ID
20-12-01837-001	105-A-01	12/15/2020	Arsenic (As)	623	<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	
20-12-01837-002	105-A-02	12/15/2020	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	
20-12-01837-003	105-A-03	12/15/2020	Arsenic (As)	612	<0.15	<0.25	
			Barium (Ba)		<0.15	<0.25	
			Cadmium (Cd)		<0.030	<0.050	

Client Number: 26-3514 Report Number: 20-12-01837

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd.; 105-A-01-27

Lab Sample Number	Client Sample Number	Analyzed Date	Analyte	Air Volume (L)	Total Metal (ug)	Concentration (ug/m³)	Narrative ID
			Chromium (Cr)		<0.75	<1.3	
			Lead (Pb)		0.22	0.36	
			Selenium (Se)		<0.75	<1.3	
			Silver (Ag)		<0.15	<0.25	
20-12-01837-004	105-A-04	12/15/2020	Arsenic (As)	614	<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	
20-12-01837-005	105-A-05	12/15/2020	Arsenic (As)	605	<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	
20-12-01837-006	105-A-06	12/15/2020	Arsenic (As)	606	<0.15	<0.25	
			Barium (Ba)		1.1	1.9	
			Cadmium (Cd)		<0.030	<0.050	
			Chromium (Cr)		<0.75	<1.3	
			Lead (Pb)		0.38	0.63	
			Selenium (Se)		<0.75	<1.3	
			Silver (Ag)		<0.15	<0.25	

Environmental Hazards Services, L.L.C

Client Number: 26-3514 Report Number: 20-12-01837

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd.; 105-A-01-27

Lab Sample Number	Client Sample Number	Analyzed Date	Analyte	Air Volume (L)	Total Metal (ug)	Concentration (ug/m³)	Narrative ID
20-12-01837-007	105-A-07	12/15/2020	Arsenic (As)	622	<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	
20-12-01837-008	105-A-08	12/15/2020	Arsenic (As)	591	<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	
20-12-01837-009	105-A-09	12/15/2020	Arsenic (As)	591	<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	
20-12-01837-010	105-A-10	12/15/2020	Arsenic (As)	594	<0.15	<0.26	
			Barium (Ba)		<0.15	<0.26	
			Cadmium (Cd)		<0.030	<0.051	
			Chromium (Cr)		<0.75	<1.3	

Client Number: 26-3514 Report Number: 20-12-01837

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd.; 105-A-01-27

Lab Sample Number	Client Sample Number	Analyzed Date	Analyte	Air Volume (L)	Total Metal (ug)	Concentration (ug/m³)	Narrative ID
			Lead (Pb)		<0.15	<0.26	
			Selenium (Se)		<0.75	<1.3	
			Silver (Ag)		<0.15	<0.26	
20-12-01837-011	105-A-11	12/15/2020	Arsenic (As)	582	<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	
20-12-01837-012	105-A-12	12/15/2020	Arsenic (As)	605	<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	
20-12-01837-013	105-A-13	12/15/2020	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	---	
20-12-01837-014	105-A-14	12/15/2020	Arsenic (As)	640	<0.15	<0.24	

Client Number: 26-3514 Report Number: 20-12-01837

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd.; 105-A-01-27

Lab Sample Number	Client Sample Number	Analyzed Date	Analyte	Air Volume (L)	Total Metal (ug)	Concentration (ug/m³)	Narrative ID
			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	
20-12-01837-015	105-A-15	12/15/2020	Arsenic (As)	681	<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	
20-12-01837-016	105-A-16	12/15/2020	Arsenic (As)	702	<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	
20-12-01837-017	105-A-17	12/15/2020	Arsenic (As)	655	<0.15	<0.23	
			Barium (Ba)		<0.15	<0.23	
			Cadmium (Cd)		<0.030	<0.046	
			Chromium (Cr)		<0.75	<1.2	
			Lead (Pb)		<0.15	<0.23	

Client Number: 26-3514 Report Number: 20-12-01837

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd.; 105-A-01-27

Lab Sample Number	Client Sample Number	Analyzed Date	Analyte	Air Volume (L)	Total Metal (ug)	Concentration (ug/m³)	Narrative ID
			Selenium (Se)		<0.75	<1.2	
			Silver (Ag)		<0.15	<0.23	
20-12-01837-018	105-A-18	12/15/2020	Arsenic (As)	659	<0.15	<0.23	
			Barium (Ba)		<0.15	<0.23	
			Cadmium (Cd)		<0.030	<0.046	
			Chromium (Cr)		<0.75	<1.2	
			Lead (Pb)		<0.15	<0.23	
			Selenium (Se)		<0.75	<1.2	
			Silver (Ag)		<0.15	<0.23	
20-12-01837-019	105-A-19	12/15/2020	Arsenic (As)	670	<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	
20-12-01837-020	105-A-20	12/15/2020	Arsenic (As)	661	<0.15	<0.23	
			Barium (Ba)		<0.15	<0.23	
			Cadmium (Cd)		<0.030	<0.046	
			Chromium (Cr)		<0.75	<1.2	
			Lead (Pb)		<0.15	<0.23	
			Selenium (Se)		<0.75	<1.2	
			Silver (Ag)		<0.15	<0.23	
20-12-01837-021	105-A-21	12/15/2020	Arsenic (As)	655	<0.15	<0.23	
			Barium (Ba)		<0.15	<0.23	

Client Number: 26-3514 Report Number: 20-12-01837

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd.; 105-A-01-27

Lab Sample Number	Client Sample Number	Analyzed Date	Analyte	Air Volume (L)	Total Metal (ug)	Concentration (ug/m³)	Narrative ID
			Cadmium (Cd)		<0.030	<0.046	
			Chromium (Cr)		<0.75	<1.2	
			Lead (Pb)		<0.15	<0.23	
			Selenium (Se)		<0.75	<1.2	
			Silver (Ag)		<0.15	<0.23	
20-12-01837-022	105-A-22	12/15/2020	Arsenic (As)	614	<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	
20-12-01837-023	105-A-23	12/15/2020	Arsenic (As)	617	<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	
20-12-01837-024	105-A-24	12/15/2020	Arsenic (As)	570	<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	

Client Number: 26-3514 Report Number: 20-12-01837

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd.; 105-A-01-27

Lab Sample Number	Client Sample Number	Analyzed Date	Analyte	Air Volume (L)	Total Metal (ug)	Concentration (ug/m³)	Narrative ID
			Silver (Ag)		<0.15	<0.27	
20-12-01837-025	105-A-25	12/15/2020	Arsenic (As)	610	<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	
20-12-01837-026	105-A-26	12/15/2020	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	---	
20-12-01837-027	105-A-27	12/15/2020	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: 20-12-01837

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd.; 105-A-01-27

Lab Sample Number	Client Sample Number	Analyzed Date	Analyte	Air Volume (L)	Total Metal (ug)	Concentration (ug/m³)	Narrative ID

Sample Narratives:

Method: NIOSH 7300M
Analyst: Brittany Meyer

Reviewed By Authorized Signatory: (b) (6)

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

ENVIRONMENTAL HAZARDS SERVICES, LLC

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	eaahlemeyer@burnsmcd.com
Project Name / Testing Address	GFC/4300 Goodfellow Blvd		
PO Number	168765	Collected By	Emily Ahlemeyer & Eric Wenger
Turn-Around Time	X 3 DAY ○ 2 DAY ○ 1 DAY ○ SAME DAY OR WEEKEND - Must Call Ahead		

LAB NUMBER	Client Sample ID	Collection Date & Time	METALS: Pb TCLP	TCLP RCRA 8	RCRA 8 Total	Toxic Metal Profile	Welding Fume Profile	TX 11 TCLP	CA 17 Total	Other Metals	PARTICULATES: Total Nuisance Dust	Respirable Dust	TSP Gravimetric	TSP Pb	PM-10	AIR: Total Time (Mins.)	Flow Rate (L/min.)	Vol. (Total Liters)	WIPES: AREA (Circle The Unit of Measurement Used: cm or in)
1	105-A-01	12/8/2020 0803								Ag, As, Ba, Cd, Cr, Pb, Se						257	2.43	623	x
2	105-A-02	0820														242	2.50	604	x
3	105-A-03	0822														242	2.53	612	x
4	105-A-04	0825														244	2.52	614	x
5	105-A-05	0824														242	2.50	605	x
6	105-A-06	0829														242	2.51	606	x
7	105-A-07	0831														242	2.57	622	x
8	105-A-08	0834														241	2.45	591	x
9	105-A-09	0838														238	2.49	591	x
10	105-A-10	0840														237	2.51	594	x
11	105-A-11	0843														236	2.47	582	x
12	105-A-12	0846														234	2.59	605	x
13	105-A-13	1108														NA	NA	NA	x
14	105-A-14	1300														264	2.43	640	x
15	105-A-15	1305														266	2.56	681	x

Released By: Emily Ahlemeyer Date: 12/11/2020 Time: 1600

Signature: (b) (6) [redacted]

LAB USE ONLY – BELOW THIS LINE

Received By: TStone

Signature: (b) (6) [redacted]

Date: 12/14/20 Time: 1:04 ☐ AM ☑ PM

☐ Portal Contact Added

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

RESULTS VIA CLIENT PORTAL AVAILABLE @ www.leadlab.com

20-12-01837

Due Date:
12/17/2020
(Thursday)
EL

ENVIRONMENTAL HAZARDS SERVICES, LLC

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	eaahlemeyer@burnsmcd.com
Project Name / Testing Address	GFC/4300 Goodfellow Blvd		
PO Number	168765	Collected By	Emily Ahlemeyer & Eric Wenger
Turn-Around Time	X 3 DAY ○ 2 DAY ○ 1 DAY ○ SAME DAY OR WEEKEND - Must Call Ahead		

LAB NUMBER	Client Sample ID	Collection Date & Time	METALS: Pb TCLP	TCLP RCRA 8	RCRA 8 Total	Toxic Metal Profile	Welding Fume Profile	TX 11 TCLP	CA 17 Total	Other Metals	PARTICULATES: Total Nuisance Dust	Respirable Dust	TSP Gravimetric	TSP Pb	PM-10	AIR: Total Time (Mins.)	Flow Rate (L/min.)	Vol. (Total Liters)	WIPES: AREA (Circle The Unit of Measurement Used: cm or in)
1	105-A-16	12/8/2020 1308								Ag, As, Ba, Cd, Cr, Pb, Se						264	2.66	702	x
2	105-A-17	1309														264	2.48	655	x
3	105-A-18	1311														265	2.49	659	x
4	105-A-19	1314														266	2.52	670	x
5	105-A-20	1318														263	2.52	661	x
6	105-A-21	1321														264	2.48	655	x
7	105-A-22	1348														247	2.49	614	x
8	105-A-23	1353														239	2.58	617	x
9	105-A-24	1402														236	2.42	570	x
10	105-A-25	1403														234	2.61	610	x
11	105-A-26	1805														NA	NA	NA	x
12	105-A-27	1805														NA	NA	NA	x
13																			x
14																			x
15																			x

Released By: Emily Ahlemeyer Date: 12/11/2020 Time: 1600

Signature: (b) (6) [redacted]

LAB USE ONLY – BELOW THIS LINE

Received By: TStone

Signature: (b) (6) [redacted]

Date: 12/14/20 Time: 1:05 ☐ AM ☑ PM

☐ Portal Contact Added

1837

EHS Laboratories™

Attach Laboratory Label Here

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

RESULTS VIA CLIENT PORTAL AVAILABLE @ www.leadlab.com

APPENDIX C – LICENSES

Missouri Department of Health and Senior Services

Lead Occupation License - ID Badge
License Number: 080311-300001861

Lead Risk Assessor

Eric
Wenger

Expiration Date: 03/11/2022

STATE OF MISSOURI
DEPARTMENT OF HEALTH AND SENIOR SERVICES

LEAD OCCUPATION LICENSE REGISTRATION

Issued to:

Eric N. Wenger

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:	**3/11/2020**
Expiration Date:	**3/11/2022**
License Number:	**080311-300001861**

(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