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
Metals in Settled Dust Sampling – Building 110
Project No. 121244

Dear Ms. Czarnecki:

Thank you for the opportunity to assist the General Services Administration (GSA) with the metals in settled dust sampling investigation of Building 110 located at the Goodfellow Federal Center (GFC) in St. Louis, Missouri. Burns & McDonnell understands that the purpose of the investigation was to provide additional sampling data of existing environmental conditions that are present at GFC that could adversely impact the health and safety of building occupants as well as workers at the facility. The following report summarizes the sample collection activities and the laboratory analytical results of samples submitted.

INTRODUCTION

Per historical use and previous characterization, Burns & McDonnell was contracted to perform settled dust sampling for the analysis of seven (7) of the Resource Conservation and Recovery Act (RCRA) target metals (arsenic, barium, cadmium, chromium, lead, selenium, and silver) from various surfaces within buildings. The purpose of this testing was to further characterize the presence and concentration of target metals in common tenant-occupied areas of the building.

The proposed sampling scheme, the number of samples, the sample distribution and general methodology was developed by GSA and Burns & McDonnell. Specific sample locations were determined by sampling personnel while on-site.

Settled dust wipe sampling at Bldg. 110 was conducted on December 9, 2020 by Emily Ahlemeyer of Burns & McDonnell and Eric Wenger of Burns & McDonnell.

METALS IN SETTLED DUST SAMPLING

Metals in settled dust sampling was conducted primarily within tenant-occupied areas. Dust wipe sampling was conducted in accordance with ASTM Standard E1728: *Standard Practice for Collection of Settled Dust Samples Using Wipe Sampling Methods for Subsequent Lead Determination* and ASTM Standard D6966: *Standard Practice for Collection of Settled Dust Samples Using Wipe Sampling Methods for Subsequent Determination of Metals*. ASTM Standards E1728 and D6966 are consistent with the methodology described in the Housing and

Urban Development Guidelines-Appendix 13.1 and 40 CFR 745.63. The Brookhaven National Laboratory's Surface Wipe Sampling Procedure (IH75190) was also used as a guideline.

Dust wipe sampling for the target metals was conducted on a variety of representative surfaces that have the potential of being disturbed by building occupants. In addition, basements, penthouses, and mechanical spaces were sampled. A representative surface area of approximately one square foot (1 SF) was measured and delineated with plastic templates. The dust wipe samples were collected using dedicated dust wipe cloths meeting ASTM E1792 Standard. Each dust wipe cloth was pre-moistened and individually wrapped. Each sample was collected by wiping in a back and forth "S" pattern over a measured sampling area using a clean, disposable glove. Then, the wipe was folded over itself and the area was wiped again in a direction perpendicular to the first wipe orientation. Then, the wipe folded over itself again and the area was wiped around the perimeter. The wipe sample was then placed into a labeled, clean container. Dust wipe samples were submitted to Environmental Hazards Services, LLC (EHS) in Richmond, Virginia for Inductively Coupled Plasma (ICP) analysis of metals analysis using Environmental Protection Agency (EPA) method SW846 3050B/6010D. EHS is accredited under the American Industrial Hygiene Association (AIHA) Laboratory Accreditation Program (LAP) identification number LAP-100420.

Whereas the Occupational Safety and Health Administration (OSHA) has not established regulatory limits for surface concentrations of metals, the OSHA Technical Manual Section II: Chapter 2 (III.A) describes a method for calculating "housekeeping" standards, as recommended acceptable surface limits. Brookhaven's IH75190 procedure uses the housekeeping standards to derive a lower, "clean area limit" for non-operational areas that can be accessed or contacted without special training or precautions. Burns & McDonnell calculated clean area limits for metals not included in the Brookhaven procedure, specifically barium, chromium (total), selenium and silver. Wipe results were compared to the Brookhaven procedure's clean area limits for each metal.

Results of the dust wipe samples collected from the building indicate that 18 of the 22 samples contained concentrations of target metals above laboratory reporting limits. The following table identifies the range of results for each of the seven metals that were analyzed. Samples with a "<" sign indicate that the results were below the lab's reportable limit.

Table 1. Summary of Dust Wipe Results

Analyte	Lowest Concentration[(a)] (µg/sq. ft) [(b)]	Highest Concentration[(a)] (µg/sq. ft) [(b)]	Clean Area Limit [(c)] µg/sq. ft [(b)]
Silver	<0.5	5.2	62
Arsenic	<1.0	26.0	62
Barium	<0.5	210.0	3,094
Cadmium	<0.1	6.3	31
Chromium (Total)	<1.0	110.0	3,094
Lead	<0.5	770.0	10 [(d)]
Selenium	<2.5	<2.5	1,236

(a) Samples with a "<" sign indicate that the results were below the laboratory's reporting limit.
(b) µg/sq. ft = micrograms per square foot of surface area.
(c) Clean Area Limit per Brookhaven IH75190=OSHA Housekeeping Limit [PEL (µg/m^3) x 10 m^3/100cm^2] / 15.
(d) Lead clean area limit: Brookhaven references EPA/HUD limit for floors, set at 10 µg/sq. ft. as of January 2020.

Six (6) samples exceeded the lead clean area limit. Samples 110-W-01, 110-W-02, 110-W-03, 110-W-07, 110-W-08, and 110-W-11 resulted in lead concentrations of 54, 460, 260, 21, 51, and 770 µg/sq. ft, respectively. The remaining target metal sample results were below housekeeping and clean area limits, as recommended and described by OSHA and the Brookhaven Procedure.

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)

Matt Shanahan, CHMM
Project Manager

Attachments:
Appendix A – Sample Summary Table
Appendix B – Laboratory Analysis 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 – SAMPLE SUMMARY TABLE

Appendix A
Sample Summary Table

Sample Number	Location	Area Description	Analyte	Result	Units	Clean Area Limit*
110-W-01	Basement, chiller room	Table surface	Silver	< 0.50	µg/ft^2	62
			Arsenic	4.6	µg/ft^2	62
			Barium	62	µg/ft^2	3,094
			Cadmium	1.6	µg/ft^2	31
			Chromium	15	µg/ft^2	3,094
			Lead	54 **	µg/ft^2	10
			Selenium	< 2.5	µg/ft^2	1,236
110-W-02	Basement, column F4	Floor	Silver	5.2	µg/ft^2	62
			Arsenic	5.0	µg/ft^2	62
			Barium	160	µg/ft^2	3,094
			Cadmium	5.1	µg/ft^2	31
			Chromium	31	µg/ft^2	3,094
			Lead	460 **	µg/ft^2	10
			Selenium	< 2.5	µg/ft^2	1,236
110-W-03	Basement, northwest stairwell	Landing on basement level	Silver	1.6	µg/ft^2	62
			Arsenic	1.6	µg/ft^2	62
			Barium	98	µg/ft^2	3,094
			Cadmium	1.7	µg/ft^2	31
			Chromium	18	µg/ft^2	3,094
			Lead	260 **	µg/ft^2	10
			Selenium	< 2.5	µg/ft^2	1,236

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Sample Summary Table

Sample Number	Location	Area Description	Analyte	Result	Units	Clean Area Limit*
110-W-04	1st floor, column E1	Windowsill	Silver	< 0.50	µg/ft^2	62
			Arsenic	< 1.0	µg/ft^2	62
			Barium	0.70	µg/ft^2	3,094
			Cadmium	< 0.10	µg/ft^2	31
			Chromium	< 1.0	µg/ft^2	3,094
			Lead	< 0.50	µg/ft^2	10
			Selenium	< 2.5	µg/ft^2	1,236
110-W-05	1st floor, column E2	Floor around cable cover	Silver	< 0.50	µg/ft^2	62
			Arsenic	< 1.0	µg/ft^2	62
			Barium	4.0	µg/ft^2	3,094
			Cadmium	0.15	µg/ft^2	31
			Chromium	1.3	µg/ft^2	3,094
			Lead	1.7	µg/ft^2	10
			Selenium	< 2.5	µg/ft^2	1,236
110-W-06	1st floor, column G3	Floor in janitor closet	Silver	< 0.50	µg/ft^2	62
			Arsenic	< 1.0	µg/ft^2	62
			Barium	7.4	µg/ft^2	3,094
			Cadmium	0.12	µg/ft^2	31
			Chromium	1.5	µg/ft^2	3,094
			Lead	9.6	µg/ft^2	10
			Selenium	< 2.5	µg/ft^2	1,236

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Sample Summary Table

Sample Number	Location	Area Description	Analyte	Result	Units	Clean Area Limit*
110-W-07	1st floor, column B4	Warehouse table	Silver	< 0.50	µg/ft^2	62
			Arsenic	< 1.0	µg/ft^2	62
			Barium	48	µg/ft^2	3,094
			Cadmium	0.56	µg/ft^2	31
			Chromium	4.5	µg/ft^2	3,094
			Lead	21 **	µg/ft^2	10
			Selenium	< 2.5	µg/ft^2	1,236
110-W-08	1st floor, column G8	Floor	Silver	2.6	µg/ft^2	62
			Arsenic	1.8	µg/ft^2	62
			Barium	130	µg/ft^2	3,094
			Cadmium	3.8	µg/ft^2	31
			Chromium	18	µg/ft^2	3,094
			Lead	51 **	µg/ft^2	10
			Selenium	< 2.5	µg/ft^2	1,236
110-W-09	1st floor, column F10	Break room floor	Silver	< 0.50	µg/ft^2	62
			Arsenic	< 1.0	µg/ft^2	62
			Barium	1.0	µg/ft^2	3,094
			Cadmium	< 0.10	µg/ft^2	31
			Chromium	< 1.0	µg/ft^2	3,094
			Lead	0.58	µg/ft^2	10
			Selenium	< 2.5	µg/ft^2	1,236

Appendix A
Sample Summary Table

Sample Number	Location	Area Description	Analyte	Result	Units	Clean Area Limit*
110-W-10	1st floor, column E16	Rolling cabinet top	Silver	< 0.50	µg/ft^2	62
			Arsenic	< 1.0	µg/ft^2	62
			Barium	< 0.50	µg/ft^2	3,094
			Cadmium	< 0.10	µg/ft^2	31
			Chromium	< 1.0	µg/ft^2	3,094
			Lead	< 0.50	µg/ft^2	10
			Selenium	< 2.5	µg/ft^2	1,236
110-W-11	ICE JV warehouse	Floor at base of northeast stairs	Silver	3.5	µg/ft^2	62
			Arsenic	26	µg/ft^2	62
			Barium	210	µg/ft^2	3,094
			Cadmium	6.3	µg/ft^2	31
			Chromium	110	µg/ft^2	3,094
			Lead	770 **	µg/ft^2	10
			Selenium	< 2.5	µg/ft^2	1,236
110-W-12	Goodwill break area	Table in warehouse	Silver	< 0.50	µg/ft^2	62
			Arsenic	< 1.0	µg/ft^2	62
			Barium	0.56	µg/ft^2	3,094
			Cadmium	< 0.10	µg/ft^2	31
			Chromium	< 1.0	µg/ft^2	3,094
			Lead	0.52	µg/ft^2	10
			Selenium	< 2.5	µg/ft^2	1,236

Appendix A
Sample Summary Table

Sample Number	Location	Area Description	Analyte	Result	Units	Clean Area Limit*
110-W-13	ICE JV office	Floor near reception desk	Silver	< 0.50	µg/ft^2	62
			Arsenic	< 1.0	µg/ft^2	62
			Barium	2.5	µg/ft^2	3,094
			Cadmium	< 0.10	µg/ft^2	31
			Chromium	< 1.0	µg/ft^2	3,094
			Lead	3.3	µg/ft^2	10
			Selenium	< 2.5	µg/ft^2	1,236
110-W-14	Northwest penthouse	Landing outside door	Silver	< 0.50	µg/ft^2	62
			Arsenic	< 1.0	µg/ft^2	62
			Barium	9.6	µg/ft^2	3,094
			Cadmium	0.11	µg/ft^2	31
			Chromium	1.1	µg/ft^2	3,094
			Lead	6.5	µg/ft^2	10
			Selenium	< 2.5	µg/ft^2	1,236
110-W-15	2nd floor, column F10	Top of break room cabinet	Silver	< 0.50	µg/ft^2	62
			Arsenic	< 1.0	µg/ft^2	62
			Barium	5.8	µg/ft^2	3,094
			Cadmium	< 0.10	µg/ft^2	31
			Chromium	1.8	µg/ft^2	3,094
			Lead	5.4	µg/ft^2	10
			Selenium	< 2.5	µg/ft^2	1,236

Appendix A
Sample Summary Table

Sample Number	Location	Area Description	Analyte	Result	Units	Clean Area Limit*
110-W-16	2nd floor, column G14	Floor under drinking fountain	Silver	< 0.50	µg/ft^2	62
			Arsenic	< 1.0	µg/ft^2	62
			Barium	3.8	µg/ft^2	3,094
			Cadmium	< 0.10	µg/ft^2	31
			Chromium	< 1.0	µg/ft^2	3,094
			Lead	< 0.50	µg/ft^2	10
			Selenium	< 2.5	µg/ft^2	1,236
110-W-17	2nd floor, column D16	Top of cubicle	Silver	< 0.50	µg/ft^2	62
			Arsenic	< 1.0	µg/ft^2	62
			Barium	1.8	µg/ft^2	3,094
			Cadmium	< 0.10	µg/ft^2	31
			Chromium	< 1.0	µg/ft^2	3,094
			Lead	< 0.50	µg/ft^2	10
			Selenium	< 2.5	µg/ft^2	1,236
110-W-18	2nd floor, column C12	Conference room table	Silver	< 0.50	µg/ft^2	62
			Arsenic	< 1.0	µg/ft^2	62
			Barium	< 0.50	µg/ft^2	3,094
			Cadmium	< 0.10	µg/ft^2	31
			Chromium	< 1.0	µg/ft^2	3,094
			Lead	< 0.50	µg/ft^2	10
			Selenium	< 2.5	µg/ft^2	1,236

Appendix A
Sample Summary Table

Sample Number	Location	Area Description	Analyte	Result	Units	Clean Area Limit*
110-W-19	2nd floor, NW judge office	Bookshelf along south wall	Silver	< 0.50	µg/ft^2	62
			Arsenic	< 1.0	µg/ft^2	62
			Barium	0.65	µg/ft^2	3,094
			Cadmium	< 0.10	µg/ft^2	31
			Chromium	< 1.0	µg/ft^2	3,094
			Lead	< 0.50	µg/ft^2	10
			Selenium	< 2.5	µg/ft^2	1,236
110-W-20	2nd floor, column K12	Top of cubicle	Silver	< 0.50	µg/ft^2	62
			Arsenic	< 1.0	µg/ft^2	62
			Barium	0.62	µg/ft^2	3,094
			Cadmium	< 0.10	µg/ft^2	31
			Chromium	< 1.0	µg/ft^2	3,094
			Lead	< 0.50	µg/ft^2	10
			Selenium	< 2.5	µg/ft^2	1,236
110-W-21	Field Blank	--	Silver	< 0.500	µg	--
			Arsenic	< 1.00	µg	--
			Barium	< 0.500	µg	--
			Cadmium	< 0.100	µg	--
			Chromium	< 1.00	µg	--
			Lead	< 0.500	µg	--
			Selenium	< 2.50	µg	--

Appendix A
Sample Summary Table

Sample Number	Location	Area Description	Analyte	Result	Units	Clean Area Limit*
110-W-22	Field Blank	--	Silver	< 0.500	µg	--
			Arsenic	< 1.00	µg	--
			Barium	< 0.500	µg	--
			Cadmium	< 0.100	µg	--
			Chromium	< 1.00	µg	--
			Lead	< 0.500	µg	--
			Selenium	< 2.50	µg	--

* Clean Area Limit per Brookhaven IH75190=OSHA Housekeeping Limit [PEL (µg/m^3) x 10 m^3/100cm^2] / 15. Lead clean area limit: Brookhaven references EPA/HUD limit for floors, set at 10 µg/sq. ft. as of January 2020.

** Indicates results at or above the Clean Area Limit

APPENDIX B – LABORATORY ANALYSIS REPORT

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

Wipe Metals Analysis Report

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

Report Number: 20-12-01749

Received Date: 12/14/2020
Analyzed Date: 12/17/2020
Reported Date: 12/17/2020

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd.; 110-W-01-22

Client Number:
26-3514

Laboratory Results

Fax Number:
816-822-3494

Lab Sample Number	Client Sample Number	Analyte:	Wipe Area (ft^2)	Total Metal (ug)	Concentration (ug/ft^2)	Narrative ID
20-12-01749-001	110-W-01	Arsenic (As)	1.00	4.65	4.6	L01
		Barium (Ba)	1.00	62.2	62	L01
		Cadmium (Cd)	1.00	1.64	1.6	L01
		Chromium (Cr)	1.00	14.6	15	L01
		Lead (Pb)	1.00	53.7	54	L01
		Selenium (Se)	1.00	<2.50	<2.5	L01
		Silver (Ag)	1.00	<0.500	<0.50	L01
20-12-01749-002	110-W-02	Arsenic (As)	1.00	4.96	5.0	L01
		Barium (Ba)	1.00	164	160	L01
		Cadmium (Cd)	1.00	5.12	5.1	L01
		Chromium (Cr)	1.00	30.7	31	L01

Client Number: 26-3514 **Report Number:** 20-12-01749

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd.; 110-W-01-22

Lab Sample Number	Client Sample Number	Analyte:	Wipe Area (ft^2)	Total Metal (ug)	Concentration (ug/ft^2)	Narrative ID
		Lead (Pb)	1.00	459	460	L01
		Selenium (Se)	1.00	<2.50	<2.5	L01
		Silver (Ag)	1.00	5.25	5.2	L01
20-12-01749-003	110-W-03	Arsenic (As)	1.00	1.65	1.6	L01
		Barium (Ba)	1.00	98.1	98	L01
		Cadmium (Cd)	1.00	1.74	1.7	L01
		Chromium (Cr)	1.00	17.6	18	L01
		Lead (Pb)	1.00	263	260	L01
		Selenium (Se)	1.00	<2.50	<2.5	L01
		Silver (Ag)	1.00	1.61	1.6	L01
20-12-01749-004	110-W-04	Arsenic (As)	1.00	<1.00	<1.0	L01
		Barium (Ba)	1.00	0.695	0.70	L01
		Cadmium (Cd)	1.00	<0.100	<0.10	L01
		Chromium (Cr)	1.00	<1.00	<1.0	L01
		Lead (Pb)	1.00	<0.500	<0.50	L01
		Selenium (Se)	1.00	<2.50	<2.5	L01
		Silver (Ag)	1.00	<0.500	<0.50	L01
20-12-01749-005	110-W-05	Arsenic (As)	1.00	<1.00	<1.0	L01
		Barium (Ba)	1.00	4.02	4.0	L01

Client Number: 26-3514 **Report Number:** 20-12-01749

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd.; 110-W-01-22

Lab Sample Number	Client Sample Number	Analyte:	Wipe Area (ft^2)	Total Metal (ug)	Concentration (ug/ft^2)	Narrative ID
		Cadmium (Cd)	1.00	0.150	0.15	L01
		Chromium (Cr)	1.00	1.31	1.3	L01
		Lead (Pb)	1.00	1.69	1.7	L01
		Selenium (Se)	1.00	<2.50	<2.5	L01
		Silver (Ag)	1.00	<0.500	<0.50	L01
20-12-01749-006	110-W-06	Arsenic (As)	1.00	<1.00	<1.0	L01
		Barium (Ba)	1.00	7.44	7.4	L01
		Cadmium (Cd)	1.00	0.120	0.12	L01
		Chromium (Cr)	1.00	1.52	1.5	L01
		Lead (Pb)	1.00	9.58	9.6	L01
		Selenium (Se)	1.00	<2.50	<2.5	L01
		Silver (Ag)	1.00	<0.500	<0.50	L01
20-12-01749-007	110-W-07	Arsenic (As)	1.00	<1.00	<1.0	L01
		Barium (Ba)	1.00	47.7	48	L01
		Cadmium (Cd)	1.00	0.565	0.56	L01
		Chromium (Cr)	1.00	4.48	4.5	L01
		Lead (Pb)	1.00	21.4	21	L01
		Selenium (Se)	1.00	<2.50	<2.5	L01
		Silver (Ag)	1.00	<0.500	<0.50	L01

Client Number: 26-3514 **Report Number:** 20-12-01749

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd.; 110-W-01-22

Lab Sample Number	Client Sample Number	Analyte:	Wipe Area (ft^2)	Total Metal (ug)	Concentration (ug/ft^2)	Narrative ID
20-12-01749-008	110-W-08	Arsenic (As)	1.00	1.77	1.8	L01
		Barium (Ba)	1.00	127	130	L01
		Cadmium (Cd)	1.00	3.84	3.8	L01
		Chromium (Cr)	1.00	18.2	18	L01
		Lead (Pb)	1.00	50.6	51	L01
		Selenium (Se)	1.00	<2.50	<2.5	L01
		Silver (Ag)	1.00	2.62	2.6	L01
20-12-01749-009	110-W-09	Arsenic (As)	1.00	<1.00	<1.0	L01
		Barium (Ba)	1.00	1.02	1.0	L01
		Cadmium (Cd)	1.00	<0.100	<0.10	L01
		Chromium (Cr)	1.00	<1.00	<1.0	L01
		Lead (Pb)	1.00	0.585	0.58	L01
		Selenium (Se)	1.00	<2.50	<2.5	L01
		Silver (Ag)	1.00	<0.500	<0.50	L01
20-12-01749-010	110-W-10	Arsenic (As)	1.00	<1.00	<1.0	L01
		Barium (Ba)	1.00	<0.500	<0.50	L01
		Cadmium (Cd)	1.00	<0.100	<0.10	L01
		Chromium (Cr)	1.00	<1.00	<1.0	L01
		Lead (Pb)	1.00	<0.500	<0.50	L01

Client Number: 26-3514 **Report Number:** 20-12-01749

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd.; 110-W-01-22

Lab Sample Number	Client Sample Number	Analyte:	Wipe Area (ft^2)	Total Metal (ug)	Concentration (ug/ft^2)	Narrative ID
		Selenium (Se)	1.00	<2.50	<2.5	L01
		Silver (Ag)	1.00	<0.500	<0.50	L01
20-12-01749-011	110-W-11	Arsenic (As)	1.00	26.1	26	L01
		Barium (Ba)	1.00	211	210	L01
		Cadmium (Cd)	1.00	6.34	6.3	L01
		Chromium (Cr)	1.00	107	110	L01
		Lead (Pb)	1.00	768	770	L01
		Selenium (Se)	1.00	<2.50	<2.5	L01
		Silver (Ag)	1.00	3.54	3.5	L01
20-12-01749-012	110-W-12	Arsenic (As)	1.00	<1.00	<1.0	L01
		Barium (Ba)	1.00	0.555	0.56	L01
		Cadmium (Cd)	1.00	<0.100	<0.10	L01
		Chromium (Cr)	1.00	<1.00	<1.0	L01
		Lead (Pb)	1.00	0.520	0.52	L01
		Selenium (Se)	1.00	<2.50	<2.5	L01
		Silver (Ag)	1.00	<0.500	<0.50	L01
20-12-01749-013	110-W-13	Arsenic (As)	1.00	<1.00	<1.0	L01
		Barium (Ba)	1.00	2.54	2.5	L01
		Cadmium (Cd)	1.00	<0.100	<0.10	L01

Client Number: 26-3514 **Report Number:** 20-12-01749

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd.; 110-W-01-22

Lab Sample Number	Client Sample Number	Analyte:	Wipe Area (ft^2)	Total Metal (ug)	Concentration (ug/ft^2)	Narrative ID
		Chromium (Cr)	1.00	<1.00	<1.0	L01
		Lead (Pb)	1.00	3.26	3.3	L01
		Selenium (Se)	1.00	<2.50	<2.5	L01
		Silver (Ag)	1.00	<0.500	<0.50	L01
20-12-01749-014	110-W-14	Arsenic (As)	1.00	<1.00	<1.0	L01
		Barium (Ba)	1.00	9.64	9.6	L01
		Cadmium (Cd)	1.00	0.110	0.11	L01
		Chromium (Cr)	1.00	1.06	1.1	L01
		Lead (Pb)	1.00	6.53	6.5	L01
		Selenium (Se)	1.00	<2.50	<2.5	L01
		Silver (Ag)	1.00	<0.500	<0.50	L01
20-12-01749-015	110-W-15	Arsenic (As)	1.00	<1.00	<1.0	L01
		Barium (Ba)	1.00	5.80	5.8	L01
		Cadmium (Cd)	1.00	<0.100	<0.10	L01
		Chromium (Cr)	1.00	1.78	1.8	L01
		Lead (Pb)	1.00	5.36	5.4	L01
		Selenium (Se)	1.00	<2.50	<2.5	L01
		Silver (Ag)	1.00	<0.500	<0.50	L01
20-12-01749-016	110-W-16	Arsenic (As)	1.00	<1.00	<1.0	L01

Client Number: 26-3514 **Report Number:** 20-12-01749

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd.; 110-W-01-22

Lab Sample Number	Client Sample Number	Analyte:	Wipe Area (ft^2)	Total Metal (ug)	Concentration (ug/ft^2)	Narrative ID
		Barium (Ba)	1.00	3.77	3.8	L01
		Cadmium (Cd)	1.00	<0.100	<0.10	L01
		Chromium (Cr)	1.00	<1.00	<1.0	L01
		Lead (Pb)	1.00	<0.500	<0.50	L01
		Selenium (Se)	1.00	<2.50	<2.5	L01
		Silver (Ag)	1.00	<0.500	<0.50	L01
20-12-01749-017	110-W-17	Arsenic (As)	1.00	<1.00	<1.0	L01
		Barium (Ba)	1.00	1.78	1.8	L01
		Cadmium (Cd)	1.00	<0.100	<0.10	L01
		Chromium (Cr)	1.00	<1.00	<1.0	L01
		Lead (Pb)	1.00	<0.500	<0.50	L01
		Selenium (Se)	1.00	<2.50	<2.5	L01
		Silver (Ag)	1.00	<0.500	<0.50	L01
20-12-01749-018	110-W-18	Arsenic (As)	1.00	<1.00	<1.0	L01
		Barium (Ba)	1.00	<0.500	<0.50	L01
		Cadmium (Cd)	1.00	<0.100	<0.10	L01
		Chromium (Cr)	1.00	<1.00	<1.0	L01
		Lead (Pb)	1.00	<0.500	<0.50	L01
		Selenium (Se)	1.00	<2.50	<2.5	L01

Client Number: 26-3514 **Report Number:** 20-12-01749

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd.; 110-W-01-22

Lab Sample Number	Client Sample Number	Analyte:	Wipe Area (ft^2)	Total Metal (ug)	Concentration (ug/ft^2)	Narrative ID
		Silver (Ag)	1.00	<0.500	<0.50	L01
20-12-01749-019	110-W-19	Arsenic (As)	1.00	<1.00	<1.0	L01
		Barium (Ba)	1.00	0.650	0.65	L01
		Cadmium (Cd)	1.00	<0.100	<0.10	L01
		Chromium (Cr)	1.00	<1.00	<1.0	L01
		Lead (Pb)	1.00	<0.500	<0.50	L01
		Selenium (Se)	1.00	<2.50	<2.5	L01
		Silver (Ag)	1.00	<0.500	<0.50	L01
20-12-01749-020	110-W-20	Arsenic (As)	1.00	<1.00	<1.0	L01
		Barium (Ba)	1.00	0.620	0.62	L01
		Cadmium (Cd)	1.00	<0.100	<0.10	L01
		Chromium (Cr)	1.00	<1.00	<1.0	L01
		Lead (Pb)	1.00	<0.500	<0.50	L01
		Selenium (Se)	1.00	<2.50	<2.5	L01
		Silver (Ag)	1.00	<0.500	<0.50	L01
20-12-01749-021	110-W-21	Arsenic (As)		<1.00	---	L01
		Barium (Ba)		<0.500	---	L01
		Cadmium (Cd)		<0.100	---	L01
		Chromium (Cr)		<1.00	---	L01

Client Number: 26-3514 **Report Number:** 20-12-01749

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd.; 110-W-01-22

Lab Sample Number	Client Sample Number	Analyte:	Wipe Area (ft^2)	Total Metal (ug)	Concentration (ug/ft^2)	Narrative ID
		Lead (Pb)		<0.500	---	L01
		Selenium (Se)		<2.50	---	L01
		Silver (Ag)		<0.500	---	L01
20-12-01749-022	110-W-22	Arsenic (As)		<1.00	---	L01
		Barium (Ba)		<0.500	---	L01
		Cadmium (Cd)		<0.100	---	L01
		Chromium (Cr)		<1.00	---	L01
		Lead (Pb)		<0.500	---	L01
		Selenium (Se)		<2.50	---	L01
		Silver (Ag)		<0.500	---	L01

Environmental Hazards Services, L.L.C

Client Number: 26-3514 **Report Number:** 20-12-01749

Project/Test Address: 168765; GFC; 4300 Goodfellow Blvd.; 110-W-01-22

Lab Sample Number	Client Sample Number	Analyte:	Wipe Area (ft^2)	Total Metal (ug)	Concentration (ug/ft^2)	Narrative ID

Sample Narratives:

L01: LCS/LCSD analysis for Se exceeded acceptance limits.

Analyst: Brittany Meyer

Method: Mercury (Hg): EPA SW846 7471B

All other metals: EPA SW846 3050B/6010D

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 50mL volume. The reporting limit for Cadmium is 0.10ug, Barium, Lead and Silver are 0.50ug, Arsenic and Chromium are 1.0ug, and Selenium is 2.5ug.

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/ft^2 = micrograms per square foot
	mL = milliliter	ft^2 = square foot

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	314-302-4601	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	110-W-01	12/9/2020 1101								Ag, As, Ba, Cd, Cr, Pb, Se									24 x 6
2	110-W-02	1106																	12 x 12
3	110-W-03	1110																	12 x 12
4	110-W-04	1118																	24 x 6
5	110-W-05	1120																	12 x 12
6	110-W-06	1125																	12 x 12
7	110-W-07	1127																	12 x 12
8	110-W-08	1135																	12 x 12
9	110-W-09	1138																	12 x 12
10	110-W-10	1141																	12 x 12
11	110-W-11	1507																	12 x 12
12	110-W-12	1511																	12 x 12
13	110-W-13	1515																	12 x 12
14	110-W-14	1521																	12 x 12
15	110-W-15	1527																	12 x 12

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: 11 : 41 ☒ AM ☐ PM

☐ Portal Contact Added

20-12-01749

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

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

RESULTS VIA CLIENT PORTAL AVAILABLE @ www.leadlab.com

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	110-W-16	12/9/2020 1531								Ag, As, Ba, Cd, Cr, Pb, Se									12 x 12
2	110-W-17	1534																	12 x 12
3	110-W-18	1539																	12 x 12
4	110-W-19	1544																	12 x 12
5	110-W-20	1548																	12 x 12
6	110-W-21	1035																	NA x NA
7	110-W-22	1036																	NA x NA
8																			x
9																			x
10																			x
11																			x
12																			x
13																			x
14																			x
15																			x

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

Signature: (b) (6)

LAB USE ONLY – BELOW THIS LINE

Received By: TStone

Signature: (b) (6)

Date: 12/14/20 Time: 11:41 [X] AM [ ] PM

[ ] Portal Contact Added

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

RESULTS VIA CLIENT PORTAL AVAILABLE @ www.leadlab.com

1749 EHS Laboratories™

Attach Laboratory Label Here

APPENDIX C – LICENSES

Missouri Department of Health and Senior Services

(b) (6)

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