July 5, 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 –Building 104 Air and Wipe Sampling Evaluation Addendum
Project No. 121244

Dear Ms. Czarnecki:

Thank you for the opportunity to provide the General Services Administration (GSA) with the above referenced environmental sampling activities. The following is our report.

INTRODUCTION
As requested, Burns & McDonnell conducted area air sampling and wipe sampling for the presence of seven (7) RCRA metals including arsenic, barium, cadmium, chromium, lead, selenium, and silver within the data center of the second floor of building 104 of the Goodfellow Federal Center located at 4300 Goodfellow Boulevard in St. Louis, Missouri. The purpose of the investigation was to provide ongoing sampling data to monitor conditions at the site. This report serves as an addendum to the *Goodfellow Federal Center – Building 104 Air and Wipe Sampling Evaluation*, dated February 16, 2021.

SAMPLING METHODOLOGY
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.

A representative surface area of approximately one square foot (1 SF) was measured and delineated. 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.

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.

All samples were submitted under chain-of-custody to Environmental Hazards Services, LLC (EHS) in Richmond, Virginia for independent analysis of 7 RCRA metals. Air samples were analyzed by Inductively Coupled Plasma (ICP) according to NIOSH method 7300. Wipe samples were analyzed according to Environmental Protection Agency (EPA) method SW846-3050B/6010D. EHS is accredited under the American Industrial Hygiene Association (AIHA) Industrial Hygiene Laboratory Accreditation Program (IHLAP) program, identification number LAP-100420.

SAMPLE SUMMARY AND RESULTS

Air and wipe sample(s) were collected on June 2, 2022, by Ashley Anstaett of Burns & McDonnell.

One (1) air sample were collected on June 2, 2022. The sample was collected on the 2nd floor data center, on a workstation at column D8. All analytes were below laboratory reporting limits. The complete air sampling laboratory reports from EHS are included as Appendix A.

One (1) wipe sample was collected on June 2, 2022. The sample location and results are listed below. The complete wipe sampling laboratory report from EHS is included in Appendix B.

- 2nd floor, data center, wood table between columns D8 and E8
    - Arsenic, cadmium, chromium, selenium, and silver were all below laboratory reporting limits
    - Barium was detected at 2.0 micrograms per square foot (µg/sq. ft), below the clean area limit of 3,094 µg/sq. ft
    - Lead was detected at 6.2 µg/sq. ft, below the clean area limit of 10 µg/sq. ft

Lead was detected in the field blank at 2.06 µg. The sample collected from the wood table remains below the lead clean area limit with a blank correction factor applied.

LIMITATIONS

The scope of this assessment was limited in nature. Burns & McDonnell collected samples from a representative number of surfaces in an effort to minimize cost while providing a general overview of site conditions. Sample locations do not encompass all surfaces at the site. Additionally, samples were only analyzed for a select number of potential contaminants. Burns & McDonnell is not responsible for potential contaminants not identified in this report.

Burns & McDonnell appreciates the opportunity to work for 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 – Air Sampling Laboratory Report
Appendix B – Wipe Sampling Laboratory Report

Information in Appendices A and B are 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 – AIR SAMPLING 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: 22-06-00823
Received Date: 06/06/2022
Reported Date: 06/13/2022

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/m³)	Narrative ID
22-06-00823-001	104-A-01	06/13/2022	Arsenic (As)	658	<0.030	<0.046	
			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	
22-06-00823-002	104-A-02	06/13/2022	Arsenic (As)	--	<0.030	---	
			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: 22-06-00823

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/m³)	Narrative ID

Sample Narratives:

Method: NIOSH 7300M

Analyst: Carlos Gonzalez

Reviewed By Authorized Signatory: (b) (6) [redacted]

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/m³ = micrograms per cubic meter
	mL = milliliter	L= Liters

Metals Chain of Custody Form

Company Name:	Burns & McDonnell	Account #:	28 3514
Company Address:	9400 Ward Parkway	City/State/Zip:	Kansas City, MO 64114
Phone:	314-302-4661	Email:	eapulcher@burnsmcd.com
Project Name / Testing Address:	GFC / 4300 Goodfellow Blvd		
PO Number:	168765	Collected By:	

Turn-Around Time: X 5 DAY ☐ 3 DAY ☐ 2 DAY ☐ 1 DAY ☐ SAME DAY OR WEEKEND - Must Call Ahead

#	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 (Unit)	Vol Total Liters	WIPES: AREA (enter the size of measurement used: cm or in)
	104-A-01																		
1	Wall	6/2/22 1155								Ag, As, Ba, Cd, Cr, Pb, Se						353	—	658	x
2	104-A-02	0707														—	—	—	x
3	104-W-01	0744																	12 x 12
4	104-W-02	0706																	NA x NA
5																			x
6																			x
7																			x
8																			x
9																			x
10																			x
11																			x
12																			x
13																			x
14																			x
15																			x

Released By: A. Anstreet Date: 6/3/2022 Time: 1030

Signature: (b) (6)

LAB USE ONLY – BELOW THIS LINE

Received By: A. Walker

Signature: (b) (6)

Date: 06/06/22 Time: 10:20 ☒ AM ☐ PM

☐ Portal Contact Added

22-06-00823

Due Date: 06/13/2022 (Monday)

EL MM-L

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

RESULTS VIA CLIENT PORTAL AVAILABLE @ www.leadlab.com

APPENDIX B – WIPE SAMPLING LABORATORY 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: 22-06-00828

Received Date: 06/06/2022
Analyzed Date: 06/08/2022
Reported Date: 06/13/2022

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

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
22-06-00828-001	104-W-01	Arsenic (As)	1.00	<2.50	<2.5	
		Barium (Ba)	1.00	2.04	2.0	
		Cadmium (Cd)	1.00	<0.100	<0.10	
		Chromium (Cr)	1.00	<1.00	<1.0	
		Lead (Pb)	1.00	6.24	6.2	
		Selenium (Se)	1.00	<2.50	<2.5	
		Silver (Ag)	1.00	<0.500	<0.50	
22-06-00828-002	104-W-02	Arsenic (As)		<2.50	---	
		Barium (Ba)		<0.500	---	
		Cadmium (Cd)		<0.100	---	
		Chromium (Cr)		<1.00	---	

Environmental Hazards Services, L.L.C

Client Number: 26-3514 Report Number: 22-06-00828

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

Lab Sample Number	Client Sample Number	Analyte:	Wipe Area (ft^2)	Total Metal (ug)	Concentration (ug/ft^2)	Narrative ID
		Lead (Pb)		2.06	---	
		Selenium (Se)		<2.50	---	
		Silver (Ag)		<0.500	---	

Sample Narratives:

Analyst: Anthony Dee

Method: Mercury (Hg): EPA SW846 7471B

All other metals: EPA SW846 3050B/6010D

Reviewed By Authorized Signatory: (b) (6) [redacted]

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

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	eapulcher@burnsmcd.com
Project Name / Testing Address	GFC / 4300 Goodfellow Blvd		
PO Number	168765	Collected By	

Turn-Around Time: X 5 DAY (3 DAY (2 DAY (1 DAY (SAME DAY OR WEEKEND - Must Call Ahead

	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 (Lmin.)	Vol Total Liters	WIPES: AREA Circle the Unit of Measurement Used (cm or in)
1	104-A-01																		
2	WAM	6/2/22 1155								Ag, As, Ba, Cd, Cr, Pb, Se						353	—	058	x
3	104-A-02	0907														—	—	—	x
4	104-W-01	0944																	12 x 12
5	104-W-02	0906																	NA x NA
6																			x
7																			x
8																			x
9																			x
10																			x
11																			x
12																			x
13																			x
14																			x
15																			x

Released By: A Aostreicher Date: 6/3/2022 Time: 1030

Signature: (b) (6)

LAB USE ONLY – BELOW THIS LINE

Received By: Alivia Kc

Signature: (b) (6)

Date: 06/06/22 Time: 11:20 ☒ AM ☐ PM

☐ Portal Contact Added

22-06-00828

Due Date: 06/13/2022 (Monday)

EL MM-L

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RESULTS VIA CLIENT PORTAL AVAILABLE @ www.leadlab.com