

June 21, 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.



Diane Czarnecki Facilities Management Division June 21, 2022 Page 2

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 May 6, 2022, and May 17, 2022, by Ashley Anstaett of Burns & McDonnell.

One (1) air sample were collected on May 6, 2022. The sample was collected on the 2nd floor data center in server room 2, on a desk at column D3. 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 May 6, 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, server room 2, desk at column D3
 - o Arsenic, cadmium, selenium, and silver were all below laboratory reporting limits
 - o Barium was detected at 8.0 micrograms per square foot ($\mu g/sq.$ ft), below the clean area limit of 3,094 $\mu g/sq.$ ft
 - o Chromium was detected at 1.6 μ g/sq. ft, below the clean area limit of 3,094 μ g/sq. ft
 - ο Lead was detected at 2.4 μg/sq. ft, below the clean area limit of 10 μg/sq. ft



Diane Czarnecki Facilities Management Division June 21, 2022 Page 3

One (1) air sample was collected on May 17, 2022, from the 2nd floor data center, on a brown table at column D2. 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 May 17, 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, top of brown table at column D2
 - o Arsenic, cadmium, selenium, and silver were all below laboratory reporting limits
 - O Barium was detected at 2.2 μg/sq. ft, below the clean area limit of 3,094 μg/sq. ft
 - o Chromium was detected at 1.0 μ g/sq. ft, below the clean area limit of 3,094 μ g/sq. ft
 - o Lead was detected at 1.4 μ g/sq. ft, below the clean area limit of 10 μ g/sq. ft

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,



Matt Shanahan, CHMM Project Manager

Attachments:

Appendix A – Air Sampling Laboratory Reports



Diane Czarnecki Facilities Management Division June 21, 2022 Page 4

Appendix B – Wipe Sampling Laboratory Reports

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.





Telephone: 800.347.4010

Report Number: 22-05-01835

Air Metals Analysis Report

Received Date: 05/10/2022 Reported Date: 05/18/2022

Client: Burns & McDonnell Engineering

9400 Ward Pkwy. Kansas City, MO 64114

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	Analyzed Date	Analyte	Air Volume (L)	Total Metal (ug)	Concentration (ug/m³)	Narrative ID
22-05-01835-001	104-A-01	05/18/2022	Arsenic (As)	569	<0.30	<0.53	
			Barium (Ba)		<0.15	<0.27	
			Cadmium (Cd)		<0.030	<0.053	
			Chromium (Cr)		<0.75	<1.4	
			Lead (Pb)		<0.15	<0.27	
			Selenium (Se)		<0.75	<1.4	
			Silver (Ag)		<0.15	<0.27	
22-05-01835-002	104-A-02	05/18/2022	Arsenic (As)		<0.30		
			Barium (Ba)		<0.15		
			Cadmium (Cd)		<0.030		
			Chromium (Cr)		<0.75		
			Lead (Pb)		<0.15		
			Selenium (Se)		<0.75		
			Silver (Ag)		<0.15		

Client Number: 26-3514 Report Number: 22-05-01835

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

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

Sample Narratives:

Method: NIOSH 7300M Analyst: Ailea Cabatbat

(b) (6)

Reviewed By Authorized Signatory:

Tasha Eaddy QA/QC Clerk

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

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

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

ENVIRONMENT OF THE ALANCES SERVICES, ELS.

Metals Chain of Custody Form [. { Account # 26-3514 Company Name Burns & McDonnell City/State/Zip | Kansas City, MO 64114 Company Adoress : 9400 Ward Parkway eapulcher@burnsmcd.com Phone: 314-302-4661 Project Name / Testing Address | GFC / 4300 Goodfellow Blvd Anstallt Collected By PO Number | 168765 Turn-Around Time SAME DAY OR WEEKEND - Must Call Ahead 1 DAY **X** 5 DAY 1 3 DAY 2 DAY WIPES PARTICULATES AIR **METALS** Flora Fotal Nuisance Dust Welding Fume Profile oxic Metal Profile Respirable Dust Collection Client AREA 11 TCLP Total Other Corty the Unit of Date & Time Pb TCLF Sample 1D CA 17 Metals Mina Liters Ag As Ba Gd Cr. Pb. Se 569 932 104-4-01 5/6/22 1232 104-4-02 12 ×12 104-6-01 NA × NA 104-M-10 х Date: 5/9/2022 Time: Released By: Anstalt Signature: LABIUSE ONLY - BELOW THIS LINE 22-05-01835 Received By: Signature: Due Date: Date: 5/10/22 Time: 11:46 FAM DPM 05/17/2022 (Tuesday) MM-L EL Portal Contact Added 2, 7469 WHITEPINE RD, RICHMOND, VA 23237 (800)-347-4010 PRESULTS VIA CLIENT PORTAL AVAILABLE @ www.leadlab.com



Telephone: 800.347.4010

Air Metals Analysis Report

Client: Burns & McDonnell Engineering

9400 Ward Pkwy.

Kansas City, MO 64114

Report Number: 22-05-03507

Received Date:

05/18/2022

Reported Date:

05/20/2022

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	Analyzed Date	Analyte	Air Volume (L)	Total Metal (ug)	Concentration (ug/m³)	Narrative ID
22-05-03507-001	104-A-01	05/20/2022	Arsenic (As)	743	<0.30	<0.41	
			Barium (Ba)		<0.15	<0.21	
			Cadmium (Cd)		<0.030	<0.041	
			Chromium (Cr)		<0.75	<1.1	
			Lead (Pb)		<0.15	<0.21	
			Selenium (Se)		<0.75	<1.1	
			Silver (Ag)		<0.15	<0.21	
22-05-03507-002	104-A-02	05/20/2022	Arsenic (As)		<0.30		
			Barium (Ba)		<0.15		
			Cadmium (Cd)		<0.030		
			Chromium (Cr)		<0.75		
			Lead (Pb)		<0.15		
			Selenium (Se)		<0.75		
			Silver (Ag)		<0.15		

Client Number: 26-3514 Report Number: 22-05-03507

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

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

Sample Narratives:

Method: NIOSH 7300M Analyst: Ailea Cabatbat

(b) (6)

Reviewed By Authorized Signatory:

Tasha Eaddy QA/QC Clerk

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

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

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

9400 Maro Parkway Turn-Around Time X 5 DAY 1 3 DAY 1 DAY 2 DAY SAME DAY OR WEEKEND - Must Call Ahead **METALS** Collection Client Sample ID Date & Time Other 288 - 743 104-A-01 5/17/22 NA NA NA 104-4-03 NA NA 104-W-01 0817 iourwroz. 22-05-03507 Due Date: Date: 5 / 18 / 22 Time: 10 : 49 05/25/2022 (Wednesday) Portal Contact Added MM-L 7469 WHITEPINE RD, RICHMOND, VA 23237 (800)-347-4010 🚅 RESULTS VIA CLIENT PORTAL AVAILABLE @ www.leadlab.com





Telephone: 800.347.4010

9400 Ward Pkwy. Kansas City, MO 64114

Wipe Metals **Analysis Report**

Report Number: 22-05-01838

Received Date: 05/10/2022 Analyzed Date: 05/11/2022 Reported Date: 05/11/2022

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

Burns & McDonnell Engineering

Client Number:

Client:

Fax Number: **Laboratory Results** 816-822-3494 26-3514

Lab Sample Number	Client Sample Number	Analyte:	Wipe Area (ft²)	Total Metal (ug)	Concentration (ug/ft²)	Narrative ID
22-05-01838-001	104-W-01	Arsenic (As)	1.00	<2.50	<2.5	
		Barium (Ba)	1.00	8.02	8.0	
		Cadmium (Cd)	1.00	<0.100	<0.10	
		Chromium (Cr)	1.00	1.58	1.6	
		Lead (Pb)	1.00	2.38	2.4	
		Selenium (Se)	1.00	<2.50	<2.5	
		Silver (Ag)	1.00	<0.500	<0.50	
22-05-01838-002	104-W-02	Arsenic (As)		<2.50		
		Barium (Ba)		<0.500		
		Cadmium (Cd)		<0.100		
		Chromium (Cr)		<1.00		

Client Number: 26-3514 Report Number: 22-05-01838

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

Lab Sample Number	Client Sample Number			Total Metal (ug)	Concentration (ug/ft²)	Narrative ID
		Lead (Pb)		<0.500		
		Selenium (Se)		<2.50		
		Silver (Ag)		<0.500		

Analyst: Ailea Cabatbat

Method: Mercury (Hg): EPA SW846 7471B

All other metals: EPA SW846 3050B/6010D

(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 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

EleviROHAmmand maiANDs SERVELD, Le.

		Î Burns & McDa	Me	ita	s (Qh	ali	10	of (Dustody Fo		n ouni	:	20	. 54	: 1 /		Í	(
		9400 Ward P		~		/		-				ouni ite/Z				as City	MO	6411	
		314-302-466		wa	у	—–					7312	Em	~ ·- - 			lcher@			
Pr		esting Address GI		/ 4 3	.00	God		 Ilov	v BI	 lvd		LIII	a J		ıμα	10110102	,Duiii		
	PO Number	· · · · · · · · · · · · · · · · · · ·						!		liected By A		1				H-			
Tur	n-Around Time	1			DAY		· -	2.0		1 DAY						·			_ II A b d
[A S DAY		· 3	DAY			2 D	ΑY	IDAY		5	41711	: UA	ΥU	K WEEK	÷ND∙	Must C	all Ahead
<u> </u> 					M	ETA	LS				PARTICULATES					AIR			WIPES
: AR ARMEDIA	Client Sample ID	Collection Date & Time	Pb TCLP	FCLP RCRA 8	RCRA 8 Total	Toxic Metal Profile	Welding Funne Profile	11 TCLP	17 Total	Other	fotal Nuisance Dust	Respirable Dust	ISP Gravimetric	TSP Pb	PM- 10	Total Time	Fłow Rate	Voi 	AREA Circle The Unit of Measurement Used
 - - -			l dq	TCLP	RCRA	Toxic Me	Welding Fe	TX 1;	5		Total Nuis	Respira	ris era	151	PM	Mins	L/m	Total Liters	cm or a
:	104-A-01	5/1/20 1232	<u> </u>					,		Ag. As Ba. Cd. Cr. Pb. Sa	! i					992	~	569	х
,	104-4-02	1 1400								1		. !				-		-	х
[[3	104-6-01	10800099							i		<u> </u> 						<u></u>		12 ×12
:	104-M-09	03530453		ļ ——	<u> </u>						!						<u>.</u>	! <u>:</u>	NA × NA
			<u> </u>		<u> </u>	<u> </u>					<u> </u>	. !							×
			<u> </u>	<u> </u>	<u> </u>	_		<u> </u>					<u> </u>					<u> </u>	×
<u> </u>		<u> </u>	<u> </u>		<u> </u>	<u> </u>				 	<u> </u>							<u> </u>	x
ś			ļ <u>-</u>	-						1	<u> </u>								×
÷	1	 	<u> </u>	<u> </u>	<u> </u>	<u> </u>			_		ļ							<u> </u>	×
:.		F	1	<u> </u>			_		_		!							<u> </u>	x
:-			_			<u> </u>				1	<u> </u>	<u> </u>	i !					<u> </u>	×
::				1	<u> </u>			<u> </u>	<u> </u>	1.			i i			} !	<u> </u>		X
1 22		1	ऻ			<u> </u>		<u> </u>			<u> </u>	1	<u> </u>	<u> </u>			<u> </u>	<u> </u>	x
\$2		 	<u> </u>				<u> </u>			1	<u> </u>		1	ļ		<u> </u>		<u> </u>	X
13		1			1			<u> </u>			1	!	İ		ļ			!	×
	Released By:	A. Ansta	لست	<u>e.t</u>	+					Date: 5	9	/2	01)	1	Time:	10	e30	·
L	Signature:	(b) (6)				-										•			
	Λ 6						LABL	12F O	NLY -	- BELOW THIS LINE									
Rece	eived By: 1 . 1 (b) (6)	Nalker	·-··												2 	22-05-0 	J183	88 	
\$ign	ature:_												Ш	i i i i i i i i i i i i i i i i i i i			MILIAN!		
Date	= 5/10	/ <u></u>	:		:	4	9		E	MA D MA						Due Da 05/17/2 (Turns	2022	?	
	Portal Contact															(Tueso EL	iay)	М	M-L
& ₽		INE RD, RICHMOND LIENT PORTAL AVA																	



Telephone: 800.347.4010

9400 Ward Pkwy. Kansas City, MO 64114

Wipe Metals **Analysis Report**

Report Number: 22-05-03510

> Received Date: 05/18/2022 Analyzed Date: 05/19/2022 Reported Date: 05/19/2022

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

Burns & McDonnell Engineering

Client Number:

Client:

Fax Number: **Laboratory Results** 816-822-3494 26-3514

Lab Sample Number	Client Sample Number	Analyte:	Wipe Area (ft²)	Total Metal (ug)	Concentration (ug/ft²)	Narrative ID
22-05-03510-001	104-W-01	Arsenic (As)		<2.50		
		Barium (Ba)		<0.500		
		Cadmium (Cd)		<0.100		
		Chromium (Cr)		<1.00		
		Lead (Pb)		3.42		
		Selenium (Se)		<2.50		
		Silver (Ag)		<0.500		
22-05-03510-002	104-W-02	Arsenic (As)	1.00	<2.50	<2.5	
		Barium (Ba)	1.00	2.24	2.2	
		Cadmium (Cd)	1.00	<0.100	<0.10	
		Chromium (Cr)	1.00	1.00	1.0	

Client Number: 26-3514 Report Number: 22-05-03510

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

Lab Sample Number	Client Sample Analyte: Number		Wipe Area (ft²)			Narrative ID
		Lead (Pb)	1.00	1.42	1.4	
		Selenium (Se)	1.00	<2.50	<2.5	
		Silver (Ag)	1.00	<0.500	<0.50	

Analyst: Ailea Cabatbat

Method: Mercury (Hg): EPA SW846 7471B

All other metals: EPA SW846 3050B/6010D

(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 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

o rom, lociesii 9400 Ward Parkway Phone 314-302-4661 Project Name / Téssing Address GFC / 4300 Goodfellow Blvd PO Number : 168765 Turn-Around Time ★ 5 DAY 1 3 DAY 1 DAY SAME DAY OR WEEKEND - Must Call Ahead 2 DAY **METALS** PARTICULATES 5.5% Meddang Farme Prolike oxii: Metal Profile Respirable Dust SP Gravinsetric Collection Client AREA PM 10 Date & Time Other Sample ID Metera 288:- 743 104-A-01 5/17/22 NA NA NA 101-A-02 NA . NA 0742 104-W-01 12 . 13 0817 104-W-02 Anstalt Date: 05 // Released By: Signature: 22-05-03510 Due Date: Date: <u>5 / 18 / 22</u> Time: 10 : 49 AM D PM 05/25/2022 (Wednesday) Portal Contact Added MM-L E٤ 7469 WHITEPINE RD, RICHMOND, VA 23237 (800)-347-4010 🗗 RESULTS VIA CLIENT PORTAL AVAILABLE @ www.leadlab.com

丑人 ぶる ごうしかん