January 22, 2023

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 – Resampling from December 2022 Event
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 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 the 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 designated surfaces throughout the complex that exceeded clean area limits during the December 2022 sampling event. The purpose of this testing was to assess the effectiveness of cleaning and further characterize the presence and concentration of target metals in common tenant-occupied areas of the building.

The proposed sampling plan, the number of samples, the sample distribution and general methodology were developed by GSA and Burns & McDonnell. Specific sample locations were determined during the December 2022 sampling event. Settled dust wipe sampling was conducted on January 11, 2023 by Justin Arnold of OCCU-TEC.

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. 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. 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. Wipe results were compared to the Brookhaven procedure's clean area limits for each metal.

One (1) wipe sample was collected on January 11, 2023. The sample location and results are listed below. The complete wipe sampling laboratory report from EHS is included in Appendix A.

- Building 104, 2nd floor, break room at column B19, counter next to sink
    - Arsenic, cadmium, chromium, selenium, and silver were all below laboratory reporting limits
    - Barium was detected at 0.64 µg/sq. ft, below the clean area limit of 3,094 µg/sq. ft
    - Lead was detected at 0.88 µg/sq. ft, below the clean area limit of 10 µg/sq. ft

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 – Laboratory Analytical Report

Information in Appendix A 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 – LABORATORY ANALYTICAL 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: 23-01-01812

Received Date: 01/13/2023
Analyzed Date: 01/17/2023
Reported Date: 01/18/2023

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
23-01-01812-001	104-W-03R	Arsenic (As)	1.00	<2.50	<2.5	L01
		Barium (Ba)	1.00	0.635	0.64	L01
		Cadmium (Cd)	1.00	<0.100	<0.10	L01
		Chromium (Cr)	1.00	<1.00	<1.0	L01
		Lead (Pb)	1.00	0.875	0.88	L01
		Selenium (Se)	1.00	<2.50	<2.5	L01
		Silver (Ag)	1.00	<0.500	<0.50	L01
23-01-01812-002	104-W-04	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:** 23-01-01812

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)		<0.500	---	
		Selenium (Se)		<2.50	---	
		Silver (Ag)		<0.500	---	

Sample Narratives:

L01: LCS and LCSD percent recoveries for Se were outside of acceptable control limits.

Analyst: Max Dichek

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

ENVIRONMENTAL HAZARDS SERVICES, LLC

Metals Chain of Custody Form

Pg 1 of 1

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	Justin Arnold

Turn-Around Time: (X) 5 DAY ( ) 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	104-W-03R	1-11-23 0845								Ag, As, Ba, Cd, Cr, Pb, Se									12 x 12
2	104-W-04	1-11-23 0915								↓									NA x NA
3																			x
4																			x
5																			x
6																			x
7																			x
8																			x
9																			x
10																			x
11																			x
12																			x
13																			x
14																			x
15																			x

Released By: (b) (6) Justin Arnold Date: 1-11-2023 Time: 15:30

Signature: (b) (6)

LAB USE ONLY – BELOW THIS LINE

Received By: A. Walker

Signature (b) (6)

Date: 01/13/23 Time: 11:04 (X) AM ( ) PM

23-01-01812

Due Date: 01/20/2023 (Friday)

EL MM-L

( ) Portal Contact Added

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

RESULTS VIA CLIENT PORTAL AVAILABLE @ www.leadlab.com