March 31, 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 samples were collected on March 21, 2022 by Justin Arnold of OCCU-TEC.

One (1) air sample was collected at column D8, on the second floor of building 104 in the data center. All analytes were below laboratory reporting limits. The complete air sampling laboratory report from EHS is included as Appendix A.

One (1) wipe sample was collected on the 2nd floor, data center, at the work station/desk located at column D3. The complete wipe sampling laboratory report from EHS is included in Appendix B. Results are summarized below:

- Arsenic, cadmium, chromium, selenium, and silver were all below laboratory reporting limits
- Barium was detected at 1.1 micrograms per square foot (μg/sq. ft), below the clean area limit of 3,094 μg/sq. ft
- Lead was detected at 1.0 μg/sq. ft, below the clean area limit of 10 μg/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 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 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
# Air Metals Analysis Report

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

**Report Number:** 22-03-06011  
**Received Date:** 03/25/2022  
**Reported Date:** 03/29/2022

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

**Client Number:** 26-3514  
**Fax Number:** 816-822-3494

## Laboratory Results

<table>
<thead>
<tr>
<th>Lab Sample Number</th>
<th>Client Sample Number</th>
<th>Analyzed Date</th>
<th>Analyte</th>
<th>Air Volume (L)</th>
<th>Total Metal (ug)</th>
<th>Concentration (ug/m³)</th>
<th>Narrative ID</th>
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</thead>
<tbody>
<tr>
<td>22-03-06011-001| 104-A-01</td>
<td>03/28/2022</td>
<td>Arsenic (As)</td>
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<td>&lt;0.24</td>
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<tr>
<td></td>
<td></td>
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<tr>
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<td>Chromium (Cr)</td>
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<tr>
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<td></td>
<td>Lead (Pb)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Selenium (Se)</td>
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<td>&lt;0.75</td>
<td>&lt;1.2</td>
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<tr>
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<td></td>
<td>Silver (Ag)</td>
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<td>Barium (Ba)</td>
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<td>Cadmium (Cd)</td>
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<td>Chromium (Cr)</td>
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<td>---</td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Lead (Pb)</td>
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<td>&lt;0.15</td>
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<td></td>
<td>Selenium (Se)</td>
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<td>&lt;0.75</td>
<td>---</td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Silver (Ag)</td>
<td></td>
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Sample Narratives:

<table>
<thead>
<tr>
<th>Method</th>
<th>NIOSH 7300M</th>
<th>Analyst</th>
<th>Ailea Cabatbat</th>
</tr>
</thead>
</table>

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

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Page 2 of 2
### Environmental Hazards Services, LLC

#### Metals Chain of Custody Form

**Company Name:** Burns & McDonnell  
**Account #:** 26-3514  
**City/State/Zip:** Kansas City, MO 64114  
**Phone:** 314-302-4661  
**Email:** eapulcher@burnsmcd.com  
**Project Name / Testing Address:** GFC / 4300 Goodfellow Blvd

<table>
<thead>
<tr>
<th>PO Number</th>
<th>Collected By</th>
<th>Turn-Around Time</th>
<th>Collection Date &amp; Time</th>
<th>Client Sample ID</th>
<th>Metals</th>
<th>Particulates</th>
<th>Air</th>
<th>Wipes</th>
<th>Other Metals</th>
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</thead>
<tbody>
<tr>
<td>168765</td>
<td>Justin Arnold</td>
<td>☑ 5 Day</td>
<td>3-21-22 0952-1348</td>
<td>104-A-01</td>
<td>Ag, As, Ba, Cd, Cr, Pb, Sr</td>
<td>Total Nuisance Dust</td>
<td>Total Time</td>
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<td>Vol.</td>
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<tr>
<td>104-A-02</td>
<td>-</td>
<td>3-21-22 0950</td>
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<td>104-W-01</td>
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<td>3-21-22 1030</td>
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<td>12.12</td>
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**Released By:**  
**Date:** 3-24-22  
**Time:** 11:30  
**Signature:**

---

**Received By:**  
**Date:** 3/28/2022  
**Time:** 10:05  
**Signature:**

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**Due Date:** 03/28/2022  
**(Monday)**  
**EL:** MM-L  
**Phone:** 7469 WHITEPINE RD, RICHMOND, VA 23237 (800)-347-4010  
**Results Via Client Portal Available:** www.leadlab.com
APPENDIX B – WIPE SAMPLING LABORATORY REPORT
## Laboratory Results

<table>
<thead>
<tr>
<th>Lab Sample Number</th>
<th>Client Sample Number</th>
<th>Analyte: Wipe Area (ft²)</th>
<th>Total Metal (ug)</th>
<th>Concentration (ug/ft²)</th>
<th>Narrative ID</th>
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<td>104-W-01</td>
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<td></td>
<td>Barium (Ba)</td>
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<td>Cadmium (Cd)</td>
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<tr>
<td></td>
<td></td>
<td>Lead (Pb)</td>
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<td>1.0</td>
<td>L01</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Selenium (Se)</td>
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</tr>
<tr>
<td></td>
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<td>Silver (Ag)</td>
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<td>Arsenic (As)</td>
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<td></td>
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<td>Barium (Ba)</td>
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<tr>
<td></td>
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<td>Cadmium (Cd)</td>
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</tr>
<tr>
<td></td>
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<td>Chromium (Cr)</td>
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<td>L01</td>
</tr>
</tbody>
</table>

Rev 1.0  (Revised On: 03/29/2022): Added narrative to sample 2.
<table>
<thead>
<tr>
<th>Lab Sample Number</th>
<th>Client Sample Number</th>
<th>Analyte:</th>
<th>Wipe Area (ft²)</th>
<th>Total Metal (ug)</th>
<th>Concentration (ug/ft²)</th>
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<tbody>
<tr>
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<td>Lead (Pb)</td>
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<td>Selenium (Se)</td>
<td>&lt;2.50</td>
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<td>L01</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Silver (Ag)</td>
<td>&lt;0.500</td>
<td>---</td>
<td>---</td>
<td>L01</td>
</tr>
</tbody>
</table>

Sample Narratives:

L01: Method blank exceeded acceptance limits for Se.

Analyst: Ailea Cabatbat

Method: Mercury (Hg): EPA SW846 7471B

All other metals: EPA SW846 3050B/6010D

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 100mL volume.

The reporting limit for Mercury is 0.10ug, Aluminum, Iron and Zinc are 50ug, Antimony and Selenium are 5.0ug and 2.0ug for all other metals.

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Legend

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- ug/ft² = micrograms per square foot
- mL = milliliter
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**ENVIROMENTAL HAZARDS SERVICES, LLC**

**Metals Chain of Custody Form**

<table>
<thead>
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<th>Metals</th>
<th>Other Metals</th>
<th>Particulates</th>
<th>Air</th>
<th>Wipes</th>
</tr>
</thead>
<tbody>
<tr>
<td>104-A-01</td>
<td>3-21-22</td>
<td>PO TCLP, TCR, GC/MS, Toxic Metal Profile</td>
<td>Ag, As, Ba, Cd, Cr, Pb, Se</td>
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<td>2.40</td>
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<td>-</td>
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<td>0 x</td>
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</tr>
</tbody>
</table>

**Received By:**

**Signature:**

**Date:** 3-29-22

**Time:** 11:30

**LAB USE ONLY – BELOW THIS LINE**

**Due Date:**

**03/28/2022**

**(Monday)**

**EL**

**MM-L**

**RESULTS VIA CLIENT PORTAL AVAILABLE @ www.leadlab.com**