January 9, 2020

Diane Czarnecki  
Industrial Hygienist  
Facilities Management Division  
GSA Public Buildings Service - Heartland Region  
U.S. General Services Administration  
2300 Main Street, Kansas City, MO 64108

RE:    Goodfellow Federal Center  
Metals in Settled Dust Sampling – Building #105L  
4300 Goodfellow Boulevard  
St. Louis, Missouri 63120  
OCCU-TEC Project No. 919103

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 #105L located at the Goodfellow Federal Center (GFC) in St. Louis, Missouri. OCCU-TEC Inc. (OCCU-TEC) 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.

On December 6, 2019, a team of OCCU-TEC personnel including a Missouri licensed lead risk assessor conducted settled dust sampling for the presence of six (6) of the Resource Conservation and Recovery Act (RCRA) target metals (lead, arsenic, barium, cadmium, selenium, and silver) from various surfaces within tenant-occupied areas within the building. 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
genral methodology was developed by GSA and OCCU-TEC. Specific sample locations
were determined by OCCU-TEC personnel while on-site.

**Metals in Settled Dust Sampling**

Metals in settled dust sampling was conducted within only within tenant-occupied areas.

Dust wipe sampling was conducted in accordance with ASTM Standard E1728-16:
Standard Practice for Collection of Settled Dust Samples Using Wipe Sampling Methods
for Subsequent Lead Determination. ASTM Standard E1728-16 is consistent with the
methodology described in the Housing and Urban Development Guidelines and 40 CRF
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 with
pre-fabricated, disposable templates. The dust wipe was collected without using
pre-medicated dust wipe cloths meeting ASTM standards. Each of the cloths was
individually wrapped. Each sample was collected by wiping in a back and forth “S” pattern
over a measured sampling area. Then, the wipe was folded over itself and the area was
wiped again in a direction perpendicular to the first wipe orientation. The wipe samples
were then placed into labeled, clean laboratory-supplied plastic centrifuge tubes with screw
caps. Dust wipe samples were submitted to Scientific Analytical Institute, Inc. (SAI) in
Greensboro, North Carolina for Inductively Coupled Plasma (ICP) analysis of metals
analysis using Environmental Protection Agency (EPA) method SW846 350B/7420.

Results of the dust wipe samples collected from the building indicate that two (2) of the
four (4) samples contained concentrations of target metals above laboratory detection
limits. The following table identifies the range of results for each of the six metals that
were analyzed. **Samples with a “<” sign indicate that the results were below the
reportable limit.**
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<thead>
<tr>
<th>Analysis</th>
<th>Lowest Concentration (µg/sq. ft.)</th>
<th>Highest Concentration (µg/sq. ft.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silver</td>
<td>&lt;0.50</td>
<td>&lt;0.50</td>
</tr>
<tr>
<td>Arsenic</td>
<td>&lt;0.50</td>
<td>&lt;0.50</td>
</tr>
<tr>
<td>Barium</td>
<td>&lt;0.75</td>
<td>1.00</td>
</tr>
<tr>
<td>Cadmium</td>
<td>&lt;0.050</td>
<td>&lt;0.050</td>
</tr>
<tr>
<td>Lead</td>
<td>&lt;0.25</td>
<td>&lt;0.25</td>
</tr>
<tr>
<td>Selenium</td>
<td>&lt;1.30</td>
<td>&lt;1.30</td>
</tr>
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</table>

All of the samples collected contained target metals below the Brookhaven recommended levels.

OCCU-TEC appreciates the opportunity to work with GSA on this project. If you have any questions concerning this report, or if we may be of any additional service, please feel free to contact us.

Sincerely,

Justin Arnold, CIEC  
Environmental Scientist

Jeff Smith  
Senior Project Manager (QA/QC)

Appendices:

A - Sample Location Diagram  
B - Sample Summary Table  
C - Laboratory Analysis Reports  
D - Licenses
Appendix

A

Sample Location Diagram
Figure 1: Wipe Location Maps—Bldg. 105L
Goodfellow Federal Center
4300 Goodfellow Boulevard
St. Louis, Missouri
Project Number: 919103

EXEMPTION (b)(7)(F)
Appendix B
Sample Summary Table
<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Location</th>
<th>Area Description</th>
<th>Analyte</th>
<th>Result</th>
<th>Units</th>
<th>Recommended Limits</th>
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<td>µg</td>
<td>* 139/9.3</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Arsenic</td>
<td>&lt; 0.50</td>
<td>µg</td>
<td>** 62</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Barium</td>
<td>&lt; 0.75</td>
<td>µg</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Cadmium</td>
<td>&lt; 0.05</td>
<td>µg</td>
<td>** 31</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Lead</td>
<td>&lt; 0.25</td>
<td>µg</td>
<td>200/40</td>
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<td>Selenium</td>
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<td>Silver</td>
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<td>µg/ft²</td>
<td>* 139/9.3</td>
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<tr>
<td></td>
<td></td>
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<td>Arsenic</td>
<td>&lt; 0.50</td>
<td>µg/ft²</td>
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<td>** 31</td>
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<td>Lead</td>
<td>&lt; 0.25</td>
<td>µg/ft²</td>
<td>** 200/40</td>
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<td>Selenium</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Arsenic</td>
<td>&lt; 0.50</td>
<td>µg/ft²</td>
<td>** 62</td>
</tr>
<tr>
<td></td>
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<td>Barium</td>
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<td>µg/ft²</td>
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<td>Cadmium</td>
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<td>µg/ft²</td>
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<td>Lead</td>
<td>&lt; 0.25</td>
<td>µg/ft²</td>
<td>** 200/40</td>
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<tr>
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<td>Selenium</td>
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<td>122019-MetW-105L-04</td>
<td>Column D-9</td>
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<td>µg/ft²</td>
<td>* 139/9.3</td>
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<tr>
<td></td>
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<td></td>
<td>Arsenic</td>
<td>&lt; 0.50</td>
<td>µg/ft²</td>
<td>** 62</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Barium</td>
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<td>µg/ft²</td>
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<td>Cadmium</td>
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<td>Lead</td>
<td>&lt; 0.25</td>
<td>µg/ft²</td>
<td>** 200/40</td>
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<td>Selenium</td>
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<td>&lt; 0.50</td>
<td>µg/ft²</td>
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<tr>
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<td>Barium</td>
<td>&lt; 0.75</td>
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<td>Cadmium</td>
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<td>µg/ft²</td>
<td>** 31</td>
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<tr>
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<td>Lead</td>
<td>&lt; 0.25</td>
<td>µg/ft²</td>
<td>** 200/40</td>
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<td>Selenium</td>
<td>&lt; 1.30</td>
<td>µg/ft²</td>
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* Recommended Limits based on Table 3 (BNL Surface Wipe Criteria for Metals) of the Brookhaven Surface Wipe Sampling Procedure (IH75190), Rev 19: 3/4/14

** Recommended Limits based on Attachment 9.3 (Required & Recommended Surface Wipe Criteria) - Brookhaven Surface Wipe Sampling Procedure (IH75190), Rev 23: 6/23/17

Indicates results at or above REL
Appendix C

Laboratory Analytical Reports
## Dust Wipe Metals Concentration by Inductively-Coupled Plasma Analysis (ICP)

**NIOSH 7300/EPA SW-846 3050B**

### Client:
OCCU-TEC Inc.

2604 NE Industrial Drive, Suite 230
North Kansas City, MO 64117

**Attn:** Justin Arnold

**Lab Order ID:** 71931193

**Date Received:** 12/12/2019

**Date Reported:** 12/19/2019

**Project:** 919103

**Page:** 1 of 2

---

### Sample ID | Description | Area (ft²) | *Element | Reporting Limit (µg) | Concentration (µg) | Concentration (µg/ft²)
--- | --- | --- | --- | --- | --- | ---
122019-MetW-105L-01 | Field Blank | - | Ag | 0.50 | < 0.50 | --
 | | | As | 0.50 | < 0.50 | --
 | | | Ba | 0.75 | < 0.75 | --
 | | | Cd | 0.050 | < 0.050 | --
 | | | Pb | 0.25 | < 0.25 | --
 | | | Se | 1.3 | < 1.3 | --
71931193IPW_1 | | | Ag | 0.50 | < 0.50 | < 0.50
 | | | As | 0.50 | < 0.50 | < 0.50
 | | | Ba | 0.75 | 1.0 | 1.0
 | | | Cd | 0.050 | < 0.050 | < 0.050
 | | | Pb | 0.25 | < 0.25 | < 0.25
 | | | Se | 1.3 | < 1.3 | < 1.3
122019-MetW-105L-02 | Column C2 | 1 | Ag | 0.50 | < 0.50 | < 0.50
 | | | As | 0.50 | < 0.50 | < 0.50
 | | | Ba | 0.75 | 1.0 | 1.0
 | | | Cd | 0.050 | < 0.050 | < 0.050
 | | | Pb | 0.25 | < 0.25 | < 0.25
 | | | Se | 1.3 | < 1.3 | < 1.3
71931193IPW_2 | | | Ag | 0.50 | < 0.50 | < 0.50
 | | | As | 0.50 | < 0.50 | < 0.50
 | | | Ba | 0.75 | 0.78 | 0.78
 | | | Cd | 0.050 | < 0.050 | < 0.050
 | | | Pb | 0.25 | < 0.25 | < 0.25
 | | | Se | 1.3 | < 1.3 | < 1.3
122019-MetW-105L-03 | Column B7 | 1 | Ag | 0.50 | < 0.50 | < 0.50
 | | | As | 0.50 | < 0.50 | < 0.50
 | | | Ba | 0.75 | 0.78 | 0.78
 | | | Cd | 0.050 | < 0.050 | < 0.050
 | | | Pb | 0.25 | < 0.25 | < 0.25
 | | | Se | 1.3 | < 1.3 | < 1.3
71931193IPW_3 | | | Ag | 0.50 | < 0.50 | < 0.50
 | | | As | 0.50 | < 0.50 | < 0.50
 | | | Ba | 0.75 | < 0.75 | < 0.75
 | | | Cd | 0.050 | < 0.050 | < 0.050
 | | | Pb | 0.25 | < 0.25 | < 0.25
 | | | Se | 1.3 | < 1.3 | < 1.3
122019-MetW-105L-04 | Column D9 | 1 | Ag | 0.50 | < 0.50 | < 0.50
 | | | As | 0.50 | < 0.50 | < 0.50
 | | | Ba | 0.75 | < 0.75 | < 0.75
 | | | Cd | 0.050 | < 0.050 | < 0.050
 | | | Pb | 0.25 | < 0.25 | < 0.25
 | | | Se | 1.3 | < 1.3 | < 1.3
71931193IPW_4 | | | Ag | 0.50 | < 0.50 | < 0.50
 | | | As | 0.50 | < 0.50 | < 0.50
 | | | Ba | 0.75 | < 0.75 | < 0.75
 | | | Cd | 0.050 | < 0.050 | < 0.050
 | | | Pb | 0.25 | < 0.25 | < 0.25
 | | | Se | 1.3 | < 1.3 | < 1.3

---

*SAI is AIHA ELLAP accredited for Pb only for dust wipe metals.

Unless otherwise noted blank sample correction was not performed on analytical results. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. MDLs are available upon request. Time-weighted average (TWA) calculations are based on customer supplied data and valid only for samples included in the specified TWA group. Scientific Analytical Institute participates in the AIHA ELAP program. ELAP Laboratory ID: 173198.

---

**Melissa Ferrell**  
**Analyst**

**Lab Director**

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* (b) (6)
## Dust Wipe Metals Concentration by Inductively-Coupled Plasma Analysis (ICP)

NIOSH 7300/EPA SW-846 3050B

<table>
<thead>
<tr>
<th>Sample ID</th>
<th>Description</th>
<th>Area (ft²)</th>
<th>*Element</th>
<th>Reporting Limit (µg)</th>
<th>Concentration (µg)</th>
<th>Concentration (µg/ft²)</th>
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<td>Column B13</td>
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<td>Ag</td>
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<td>&lt; 0.50</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>As</td>
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<td>&lt; 0.50</td>
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<td></td>
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<tr>
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<td>Cd</td>
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<td>7193193IPW_5</td>
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<td>Se</td>
<td>1.3</td>
<td>&lt; 1.3</td>
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</tr>
</tbody>
</table>

* SAI is AIHA ELLAP accredited for Pb only for dust wipe metals.

Unless otherwise noted, blank sample correction was not performed on analytical results. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. MDLs are available upon request. Time-weighted average (TWA) calculations are based on customer-supplied data and valid only for samples included in the specified TWA group. Scientific Analytical Institute participates in the AIHA EL PAT program. EL PAT Laboratory ID: 173190.

Scientific Analytical Institute, Inc. 4604 Dundas Dr. Greensboro, NC 27407 (336) 292-3888

[Scientific Analytical Institute, Inc. Logo]
**Company Contact Information**

<table>
<thead>
<tr>
<th>Company</th>
<th>Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>OCCU-TEC Inc.</td>
<td>Justin Arnold</td>
</tr>
<tr>
<td>Address: 2604 NE Industrial Drive, Suite 230</td>
<td>Phone: 816-810-3276</td>
</tr>
<tr>
<td>North Kansas City, MO 64117</td>
<td>Fax: 816-994-3478</td>
</tr>
<tr>
<td>Email: <a href="mailto:jarnold@occute.com">jarnold@occute.com</a></td>
<td></td>
</tr>
</tbody>
</table>

**Billing/Invoice Information**

| PO Number: | Project Name/Number: 919103 |

**Turn Around Times**

- **SAME**: 90 Min. 48 Hours
- **Company**: 3 Hours 72 Hours
- **Contact**: 6 Hours 96 Hours
- **Address**: 12 Hours 120 Hours 144+ Hours

^TATs not available for certain test types

**Sample ID #**

<table>
<thead>
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<th>Description/Location</th>
<th>Volume/Area</th>
<th>Comments</th>
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</thead>
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<td>1st</td>
<td>Ag, As, Ba, Cd, Pb, Se</td>
</tr>
<tr>
<td>Total # of Samples</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Relinquished by**

(b) (6)  1/9/19 16:00

**Accepted** ✔

**Rejected** ☐
Appendix
D
Qualifications and Licenses
STATE OF MISSOURI
DEPARTMENT OF HEALTH AND SENIOR SERVICES

LEAD OCCUPATION LICENSE REGISTRATION

Issued to:

Austin G. O'Byrne

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: 12/10/2018
Expiration Date: 12/10/2020
License Number: 181210-300005671

Randall W. Williams, MD, FACOG
Director
Department of Health and Senior Services

Lead Licensing Program, PO Box 570, Jefferson City, MO 65102