October 10, 2018

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 #106 (Guard Shack)  
4300 Goodfellow Boulevard  
St. Louis, Missouri 63120  
OCCU-TEC Project No. 918004.002

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 #106 located at the Goodfellow Federal Center (GFC), in St. Louis, Missouri. 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 September 14, 2018, a team of OCCU-TEC personnel including a Missouri licensed lead risk assessor conducted settled dust sampling for the presence of seven of the Resource Conservation and Recovery Act (RCRA) target metals (lead, arsenic, barium, cadmium, total chromium, selenium, and silver) from various surfaces within mechanical rooms, basements, penthouses, stairwells leading to and from basements or penthouses, and the sub-floor below the raised flooring. The purpose of this testing was to further characterize the presence and concentration of target metals in areas of the buildings that have had little or no previous testing.
The proposed sampling scheme, the number of samples, the sample distribution and general 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 mechanical rooms, basements, penthouses, stairwells leading to and from basements or penthouses, and the sub-floor below raised flooring.

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 during routine janitorial work, and planned maintenance or renovation projects within the building. A representative surface area of approximately one square foot (1 SF) was measured and delineated with pre-fabricated, disposable templates. The dust wipe samples were collected using dedicated dust wipe cloths meeting ASTM standards. 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 of approximately 1 SF. 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 on caps. Dust wipe samples were submitted to Scientific Analytical Institute, Inc. (SAI) in Greensboro, North Carolina for Inductively Coupled Plasma (ICP) total analysis of metals analysis according to Environmental Protection Agency (EPA) method SW846 350B/7420.

Results of the dust wipe sample collected from the building indicate that the sample contained concentrations of target metals above laboratory detection limits. The following table identifies the range of results for each of the seven metals that were sampled. **Samples with a “<” sign indicate that the results were below the reportable limit.**
### Analysis of Metals in Settled Dust Sampling

<table>
<thead>
<tr>
<th>Analysis</th>
<th>Highest Concentration (µg/sq, ft.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silver</td>
<td>2.60</td>
</tr>
<tr>
<td>Arsenic</td>
<td>&lt;0.50</td>
</tr>
<tr>
<td>Barium</td>
<td>130.00</td>
</tr>
<tr>
<td>Cadmium</td>
<td>16.00</td>
</tr>
<tr>
<td>Total Chromium</td>
<td>26.00</td>
</tr>
<tr>
<td>Lead</td>
<td>260.00</td>
</tr>
<tr>
<td>Selenium</td>
<td>&lt;25.00</td>
</tr>
</tbody>
</table>

- Please note, these results may indicate higher than expected reporting limits due to interferences from other metals. Please refer to the laboratory reports for specific information.

The sample contained target metals above the regulatory or recommended levels. Based on the results of the sampling, all the subject building areas should be presumed to contain measurable levels of RCRA metals and proper precautions should be taken upon entry and exit of the subject areas to protect workers and limit the spread of dust to the outside environment.

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,

Jeff T. Smith  
Senior Project Manager

Jay Hurst  
Director of Operations (QA/QC)

Appendices:

A - Sample Summary Table  
B - Laboratory Analysis Reports  
C - Licenses
<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>
</tr>
</thead>
<tbody>
<tr>
<td>106-01</td>
<td>Mechanical / HVAC Closet</td>
<td>Floor - just inside door</td>
<td>Silver</td>
<td>2.60</td>
<td>µg/ft²</td>
<td>* 139/9.3</td>
</tr>
<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>
<td></td>
<td></td>
<td>Barium</td>
<td>130.00</td>
<td>µg/ft²</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cadmium</td>
<td>16.00</td>
<td>µg/ft²</td>
<td>** 31</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Chromium</td>
<td>26.00</td>
<td>µg/ft²</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Lead</td>
<td>260.00</td>
<td>µg/ft²</td>
<td>** 200/40</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Selenium</td>
<td>&lt; 25.00</td>
<td>µg/ft²</td>
<td></td>
</tr>
</tbody>
</table>

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

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

**Client:** Occu-Tec, Inc.  
**Address:** 100 NW Business Park Ln. Riverside, MO 64150

**Project:** 918004.002 Bldg 106

**Attn:** Justin Arnold  
**Lab Order ID:** 51824261

**Date Received:** 09/20/2018  
**Date Reported:** 10/03/2018

**Client:** Occu-Tec, Inc.  
**Address:** 100 NW Business Park Ln. Riverside, MO 64150

**Lab Order ID:** 51824261  
**Date Received:** 09/20/2018  
**Date Reported:** 10/03/2018

### Sample ID

<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>
</tr>
</thead>
<tbody>
<tr>
<td>106-01</td>
<td>Floor – Mechanical Room</td>
<td>1</td>
<td>Ag</td>
<td>0.50</td>
<td>2.6</td>
<td>2.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>As*</td>
<td>0.50</td>
<td>&lt; 0.50</td>
<td>&lt; 0.50</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ba</td>
<td>2.5</td>
<td>130</td>
<td>130</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cd</td>
<td>0.50</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cr</td>
<td>5.0</td>
<td>26</td>
<td>26</td>
</tr>
<tr>
<td>51824261IPW_1</td>
<td></td>
<td></td>
<td>Pb</td>
<td>2.5</td>
<td>260</td>
<td>260</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Se*</td>
<td>25</td>
<td>&lt; 25</td>
<td>&lt; 25</td>
</tr>
</tbody>
</table>

*As – elevated RL possibly due to high levels of Pd interference  
-Se – elevated RL possibly due to high levels of Al interference

---

**Melissa Ferrell**  
**Analyst**

**Lab Director**

---

*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 ELPAT program. ELPAT Laboratory ID: 173190.

---

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

---

1-F-005 EXP: 2/28/2020
### Company Contact Information

<table>
<thead>
<tr>
<th>Company</th>
<th>OCCU-TEC Inc.</th>
<th>Contact:</th>
<th>Justin Arnold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>100 NW Business Park Lane, Riverside, Mo 64150</td>
<td>Phone:</td>
<td>816-810-3276</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fax:</td>
<td>816-994-3478</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Email:</td>
<td><a href="mailto:jarnold@occutec.com">jarnold@occutec.com</a></td>
</tr>
</tbody>
</table>

### Billing/Invoice Information

<table>
<thead>
<tr>
<th>Turn Around Times*</th>
<th>90 Min.</th>
<th>48 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company:</td>
<td>3 Hours</td>
<td>72 Hours</td>
</tr>
<tr>
<td>Contact:</td>
<td>6 Hours</td>
<td>96 Hours</td>
</tr>
<tr>
<td>Address:</td>
<td>12 Hours</td>
<td>120 Hours</td>
</tr>
<tr>
<td></td>
<td>24 Hours</td>
<td>144+Hours</td>
</tr>
</tbody>
</table>

*TATs not available for certain test types

### Industrial Hygiene Test Types

- Silica as Alpha Quartz (XSZ)*
- Silica as Cristobalite (XSC)*
- Silica as Tridymite (XST)*
- Silica as Alpha Quartz, Cristobalite, Tridymite (XSA)*
- Silica Bulk (XSU)*
- Bulk Phase ID/Whole Rock (XUK)
- Total Dust NIOSH Method 0500 (CGTD)
- Respirable Dust NIOSH Method 0500 (GRD)
- PCM NIOSH 7400-A Rules (PCM)
- B Rules (PCB) TWA (PTA)
- TEM NIOSH 7402 (Asbestos) (TN)
- Hexavalent Chromium (OSHA ID-215)
- Metals (NIOSH 7300) (Specify Metals Under Comments)
- Other 6010 C

*Modified NIOSH 7500/OSHA ID 142*

### Sample ID #

<table>
<thead>
<tr>
<th>Sample ID #</th>
<th>Description/Location</th>
<th>Volume/Area</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>106 - 61</td>
<td>Floor - Mechanical Room</td>
<td>1 SF</td>
<td>Ag, As, Ba, Cd, Cr, Pb, Se</td>
</tr>
</tbody>
</table>

### Comments

- Accepted
- Rejected

### Relinquished by

- (b) (6)

### Date/Time

- 9/20 10:30a

### Total # of Samples

- [ ]

---

**Page 1 of 1**

---

A-F-018 EXP: 2/4/2021
Appendix C
Qualifications and Licenses
STATE OF MISSOURI
DEPARTMENT OF HEALTH AND SENIOR SERVICES

LEAD OCCUPATION LICENSE REGISTRATION

Issued to:

Jeffrey T. Smith

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: 3/16/2017
Expiration Date: 3/16/2019
License Number: 010316-200089640

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

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