January 7, 2020

Ms. Diane Czarnecki
Industrial Hygienist
Facilities Management Division
GSA Public Buildings Service – Heartland Region
2300 Main Street
Kansas City, Missouri 64108

RE:  Goodfellow Federal Center - Metals in Air Investigation
     Building – #103E
     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 Resource Conservation and Recovery Act (RCRA) metals air sampling investigation of the above referenced buildings located at the Goodfellow Federal Center, in St. Louis, Missouri.  OCCU-TEC understands that the purpose of the investigation was to provide sampling data regarding pre-existing conditions noted in investigation reports previously prepared for the facility.  The following report summarizes the sample collection activities and the laboratory analytical results of the samples submitted.

On December 4th, 2019, Missouri licensed air sampling professionals from OCCU-TEC conducted air sampling for the presence of six (6) of the RCRA metals including Silver, Arsenic, Barium, Cadmium, Lead, and Selenium.  Sampling was conducted on Building #103E.

The proposed sampling scheme, the numbers of samples, sample distribution and general methodology was developed based on previous investigation methodology and in coordination with the GSA.  Sample locations were determined by OCCU-TEC field personnel while on-site.
Resource Conservation and Recovery Act Metals Air Sampling

Air sampling for RCRA metals was collected on 37-millimeter (mm) cassettes with 0.8 micrometer (µm) mixed cellulose ester (MCE) filters using powered air sampling pumps in accordance with National Institute for Occupational Safety and Health (NIOSH) sampling methods. Samples were collected in a method sufficient to collect a minimum sample volume of 300 liters. Air samples were submitted under chain-of-custody to Scientific Analytical Institute, Inc. (SAI) for independent analysis of RCRA metals in accordance with NIOSH Method 7300. SAI is accredited by the American Industrial Hygiene Association (AIHA) utilizing the Industrial Hygiene Proficiency Analytical Testing (IHPAT) program. SAI’s IHPAT Laboratory ID is 173190.

Results of the air sampling are summarized in the table below by identifying the range of results for Building #103E for each of the seven metals that were sampled. Samples with a “<” sign indicate that the results were below the laboratory’s method reporting limit.

<table>
<thead>
<tr>
<th>Analysis</th>
<th>Lowest Concentration (µg/m³)</th>
<th>Highest Concentration (µg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silver (Ag)</td>
<td>&lt;0.37</td>
<td>&lt;0.37</td>
</tr>
<tr>
<td>Arsenic (As)</td>
<td>&lt;0.71</td>
<td>&lt;0.71</td>
</tr>
<tr>
<td>Barium (Ba)</td>
<td>&lt;0.071</td>
<td>&lt;0.071</td>
</tr>
<tr>
<td>Cadmium (Cd)</td>
<td>&lt;0.071</td>
<td>&lt;0.071</td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td>&lt;0.37</td>
<td>&lt;0.37</td>
</tr>
<tr>
<td>Selenium (Se)</td>
<td>&lt;0.71</td>
<td>&lt;0.71</td>
</tr>
</tbody>
</table>

Results of the air samples collected indicate that the air samples collected from Building #103E contained concentrations of RCRA metals below the laboratory’s method reporting limit and the OSHA Permissible Exposure Limit (PEL). Sample location diagrams are attached in Appendix A. Sample locations and the corresponding results are summarized in the laboratory analytical results that are included in Appendix B. The air sampling professional’s Missouri Lead license is in included in Appendix C.

It should be noted that this air sampling investigation was only a screening of airborne RCRA metals and should not be interpreted or used to determine compliance or non-compliance with OSHA personnel monitoring regulations.
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
Project Manager

Jeff Smith
Senior Project Manager (QA/QC)

Appendices:

A: Sample Location Diagrams
B: Laboratory Analytical Results and Chain of Custody Documentation
C: Qualifications and Licenses
Appendix A
Sample Location Diagrams
Figure 1: Air Sample Location Maps—Bldg. 103E
Goodfellow Federal Center
4300 Goodfellow Boulevard
St. Louis, Missouri
Project Number: 919103
## Airborne Metals Concentration
by Inductively-Coupled Plasma Analysis (ICP)
NIOSH Method 7303

---

**Client:** OCCU-TEC Inc.  
**Attn:** Justin Arnold  
**Lab Order ID:** 71931164  
**Date Received:** 12/12/2019  
**Date Reported:** 12/19/2019  
**Project:** 919103

---

### Sample Results

<table>
<thead>
<tr>
<th>Sample ID</th>
<th>Description</th>
<th>Volume (L)</th>
<th>Element</th>
<th>Reporting Limit (µg)</th>
<th>Concentration (µg)</th>
<th>Concentration (µg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>122019-MetA-103E-01</td>
<td>Field Blank</td>
<td></td>
<td>Ag</td>
<td>0.13</td>
<td>&lt; 0.13</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>As</td>
<td>0.25</td>
<td>&lt; 0.25</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ba</td>
<td>0.025</td>
<td>&lt; 0.025</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cd</td>
<td>0.025</td>
<td>&lt; 0.025</td>
<td>--</td>
</tr>
<tr>
<td>71931164IPA_1</td>
<td></td>
<td></td>
<td>Pb</td>
<td>0.13</td>
<td>&lt; 0.13</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Se</td>
<td>0.25</td>
<td>&lt; 0.25</td>
<td>--</td>
</tr>
<tr>
<td>122019-MetA-103E-02</td>
<td>1st Floor Column</td>
<td>352.8</td>
<td>Ag</td>
<td>0.13</td>
<td>&lt; 0.13</td>
<td>&lt; 0.37</td>
</tr>
<tr>
<td></td>
<td>N27</td>
<td></td>
<td>As</td>
<td>0.25</td>
<td>&lt; 0.25</td>
<td>&lt; 0.71</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ba</td>
<td>0.025</td>
<td>&lt; 0.025</td>
<td>&lt; 0.071</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cd</td>
<td>0.025</td>
<td>&lt; 0.025</td>
<td>&lt; 0.071</td>
</tr>
<tr>
<td>71931164IPA_2</td>
<td></td>
<td></td>
<td>Pb</td>
<td>0.13</td>
<td>&lt; 0.13</td>
<td>&lt; 0.37</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Se</td>
<td>0.25</td>
<td>&lt; 0.25</td>
<td>&lt; 0.71</td>
</tr>
<tr>
<td>122019-MetA-103E-03</td>
<td>1st Floor Column</td>
<td>352.8</td>
<td>Ag</td>
<td>0.13</td>
<td>&lt; 0.13</td>
<td>&lt; 0.37</td>
</tr>
<tr>
<td></td>
<td>L28</td>
<td></td>
<td>As</td>
<td>0.25</td>
<td>&lt; 0.25</td>
<td>&lt; 0.71</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ba</td>
<td>0.025</td>
<td>&lt; 0.025</td>
<td>&lt; 0.071</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cd</td>
<td>0.025</td>
<td>&lt; 0.025</td>
<td>&lt; 0.071</td>
</tr>
<tr>
<td>71931164IPA_3</td>
<td></td>
<td></td>
<td>Pb</td>
<td>0.13</td>
<td>&lt; 0.13</td>
<td>&lt; 0.37</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Se</td>
<td>0.25</td>
<td>&lt; 0.25</td>
<td>&lt; 0.71</td>
</tr>
</tbody>
</table>

---

**Melissa Ferrell**  
**Analyst**

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

---

This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. This report may not be used by the client to claim product endorsement by AIHA or any other agency of the U.S. government. Scientific Analytical Institute participates in the AIHA IHPAT program. IHPAT Laboratory ID: 173190. Unless otherwise noted blank sample correction was not performed on analytical results. MDLs are available upon request. Reporting limits stated above.
## Airborne Metals Concentration
by Inductively-Coupled Plasma Analysis (ICP)

**NIOSH Method 7303**

**Client:** OCCU-TEC Inc.  
**Attn:** Justin Arnold  
**Lab Order ID:** 71931164  
**Date Received:** 12/12/2019  
**Date Reported:** 12/19/2019  
**Project:** 919103  
**Page:** 2 of 3

---

### Sample ID | Description | Volume (L) | Element | Reporting Limit (µg) | Concentration (µg) | Concentration (µg/m³)
--- | --- | --- | --- | --- | --- | ---
122019-MetaA-103E-04 | 2nd Floor Column P27 | 352.8 | Ag | 0.13 | < 0.13 | < 0.37
| | | | As | 0.25 | < 0.25 | < 0.71
| | | | Ba | 0.025 | < 0.025 | < 0.071
| | | | Cd | 0.025 | < 0.025 | < 0.071
| | | | Pb | 0.13 | < 0.13 | < 0.37
| | | | Se | 0.25 | < 0.25 | < 0.71
71931164IPA_4 | | | Ag | 0.13 | < 0.13 | < 0.37
| | | As | 0.25 | < 0.25 | < 0.71
| | | Ba | 0.025 | < 0.025 | < 0.071
| | | Cd | 0.025 | < 0.025 | < 0.071
| | | Pb | 0.13 | < 0.13 | < 0.37
| | | Se | 0.25 | < 0.25 | < 0.71
122019-MetaA-103E-05 | 1st Floor Column N28 | 352.8 | Ag | 0.13 | < 0.13 | < 0.37
| | | As | 0.25 | < 0.25 | < 0.71
| | | Ba | 0.025 | < 0.025 | < 0.071
| | | Cd | 0.025 | < 0.025 | < 0.071
| | | Pb | 0.13 | < 0.13 | < 0.37
| | | Se | 0.25 | < 0.25 | < 0.71
71931164IPA_5 | | | Ag | 0.13 | < 0.13 | < 0.37
| | | As | 0.25 | < 0.25 | < 0.71
| | | Ba | 0.025 | < 0.025 | < 0.071
| | | Cd | 0.025 | < 0.025 | < 0.071
| | | Pb | 0.13 | < 0.13 | < 0.37
| | | Se | 0.25 | < 0.25 | < 0.71
122019-MetaA-103E-06 | 1st Floor Culum P21 | 352.8 | Ag | 0.13 | < 0.13 | < 0.37
| | | As | 0.25 | < 0.25 | < 0.71
| | | Ba | 0.025 | < 0.025 | < 0.071
| | | Cd | 0.025 | < 0.025 | < 0.071
| | | Pb | 0.13 | < 0.13 | < 0.37
| | | Se | 0.25 | < 0.25 | < 0.71

---

**Melissa Ferrell**  
**Analyst**

**Lab Director**

*This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. This report may not be used by the client to claim product endorsement by AIHA or any other agency of the U.S. government. Scientific Analytical Institute participates in the AIHA IHPAT program. IHPAT Laboratory ID: 173190. Unless otherwise noted blank sample correction was not performed on analytical results. MDLs are available upon request. Reporting limits stated above.*
## Airborne Metals Concentration
### by Inductively-Coupled Plasma Analysis (ICP)
#### NIOSH Method 7303

<table>
<thead>
<tr>
<th>Sample ID</th>
<th>Description</th>
<th>Volume (L)</th>
<th>Element</th>
<th>Reporting Limit (µg)</th>
<th>Concentration (µg)</th>
<th>Concentration (µg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>122019-MetA-103E-07</td>
<td>2nd Floor Column P20</td>
<td>352.8</td>
<td>Ag</td>
<td>0.13</td>
<td>&lt; 0.13</td>
<td>&lt; 0.37</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>As</td>
<td>0.25</td>
<td>&lt; 0.25</td>
<td>&lt; 0.71</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ba</td>
<td>0.025</td>
<td>&lt; 0.025</td>
<td>&lt; 0.071</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cd</td>
<td>0.025</td>
<td>&lt; 0.025</td>
<td>&lt; 0.071</td>
</tr>
<tr>
<td>71931164IPA_7</td>
<td></td>
<td></td>
<td>Pb</td>
<td>0.13</td>
<td>&lt; 0.13</td>
<td>&lt; 0.37</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Se</td>
<td>0.25</td>
<td>&lt; 0.25</td>
<td>&lt; 0.71</td>
</tr>
</tbody>
</table>

---

This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. This report may not be used by the client to claim product endorsement by AIHA or any other agency of the U.S. government. Scientific Analytical Institute participates in the AIHA IHPAT program. IHPAT Laboratory ID: 173190. Unless otherwise noted blank sample correction was not performed on analytical results. MDLs are available upon request. Reporting limits stated above.

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

---

Melissa Ferrell  
Analyst

[Signature]

Lab Director
### Company Contact Information

**Company:** OCCU-TEC Inc.  
**Contact:** Justin Arnold  
**Address:** 2604 NE Industrial Drive, Suite 230  
**City:** North Kansas City, MO 64117  
**Phone:** 816-810-3276  
**Fax:** 816-994-3478  
**Email:** jarnold@occutech.com

### Billing/Invoice Information

**Company:** [Company Name]  
**Contact:** [Contact Name]  
**Address:** [Address]  
**Phone:** [Phone Number]  
**Fax:** [Fax Number]  
**Email:** [Email Address]

### Turn Around Times

<table>
<thead>
<tr>
<th>Type</th>
<th>Time</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAME</td>
<td>90 Min.</td>
<td></td>
</tr>
<tr>
<td>Company</td>
<td>3 Hours</td>
<td></td>
</tr>
<tr>
<td>Contact</td>
<td>6 Hours</td>
<td></td>
</tr>
<tr>
<td>Address</td>
<td>12 Hours</td>
<td></td>
</tr>
<tr>
<td></td>
<td>24 Hours</td>
<td></td>
</tr>
</tbody>
</table>

*TAT not available for certain tests*  

### PO Number

**Project Name/Number:** 919103

### Industrial Hygiene Test Types

- Silica as Alpha Quartz (XSA)*  
- Silica as Cristobalite (XSC)*  
- Silica as Tridymite (XST)*  
- Silica as Alpha Quartz, Cristobalite, Tridymite (XSA)*  
- Silica as Alphala Quartz, Cristobalite, Tridymite (XSA)*  
- Silica Bulk (XS/B)*  
- Bulk Phase ID/Whole Rock (XUK)  
- Total Dust NIOSH Method 0500 (GTD)  
- Respirable Dust NIOSH Method 0600 (GRD)  
- PCM NIOSH 7400-A Rules (PCM)  
- B Rules (PCB)  
- TWA (PTA)  
- TEM NIOSH 7402 (Asbestos) (TDI)  
- Hexavalent Chromium (OSHA ID-215)  
- Metals NIOSH 7300 (Specify Metals Under Comments)  
- Other

*Modified NIOSH 7500/OSHA ID 1-2

### 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>122019-MetA-103E-01</td>
<td>Field Blank</td>
<td></td>
<td>Ag, As, Ba, Cd, Pb, Se</td>
</tr>
<tr>
<td>122019-MetA-103E-02</td>
<td>1st Floor Column N27</td>
<td>352.8 L</td>
<td>Ag, As, Ba, Cd, Pb, Se</td>
</tr>
<tr>
<td>122019-MetA-103E-03</td>
<td>1st Floor Column L28</td>
<td>352.8 L</td>
<td>Ag, As, Ba, Cd, Pb, Se</td>
</tr>
<tr>
<td>122019-MetA-103E-04</td>
<td>2nd Floor Column P27</td>
<td>352.8 L</td>
<td>Ag, As, Ba, Cd, Pb, Se</td>
</tr>
<tr>
<td>122019-MetA-103E-05</td>
<td>2nd Floor Column N28</td>
<td>352.8 L</td>
<td>Ag, As, Ba, Cd, Pb, Se</td>
</tr>
<tr>
<td>122019-MetA-103E-06</td>
<td>1st Floor Column P21</td>
<td>352.8 L</td>
<td>Ag, As, Ba, Cd, Pb, Se</td>
</tr>
<tr>
<td>122019-MetA-103E-07</td>
<td>2nd Floor Column P20</td>
<td>352.8 L</td>
<td>Ag, As, Ba, Cd, Pb, Se</td>
</tr>
</tbody>
</table>

**Sample ID #122019-MetA-103E-01** has been rejected.

**Total # of Samples:** 7
Appendix C
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