

2604 NE Industrial Drive, Suite 230 North Kansas City, Missouri 64117 Telephone: 816.231.5580

Fax: 816.231.5641 www.occutec.com

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 – #103D 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 #103D.

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 #103D 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.

| Analysis | Lowest Concentration | Highest Concentration |
|---------------|-------------------------|--------------------------|
| | $(\mu g/m^3)$ | $(\mu g/m^3)$ |
| Silver (Ag) | <0.37 | <0.37 |
| Arsenic (As) | < 0.71 | < 0.71 |
| Barium (Ba) | < 0.071 | 0.210 |
| Cadmium (Cd) | < 0.071 | < 0.071 |
| Lead (Pb) | < 0.37 | < 0.37 |
| Selenium (Se) | < 0.71 | < 0.71 |

Results of the air samples collected indicate that the air samples collected from Building #103D contained concentrations of RCRA metals below the laboratory's method reporting limit and the OSHA Permissible Exposure Limit (PEL) with the exception of Barium in sample number 122019-MetA-103D-05. Sample location diagrams are attached is 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,

(b) (6)

Justin Arnold, CIEC Project Manager



(b) (6)

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 ASample Location Diagrams



EXEMPTION (b)(7)(F)



Appendix B

Laboratory Analytical Results and Chain of Custody Documentation



Airborne Metals Concentration by Inductively-Coupled Plasma Analysis (ICP)



NIOSH Method 7303

OCCU-TEC Inc. Lab Order ID: 71931181 **Client: Justin Arnold Date Received:** 12/12/2019

2604 NE Industrial Drive, Suite 230

North Kansas City, MO 64117 **Date Reported:** 12/19/2019 **Project:** 919103 Page: 1 of 3

| Sample ID Lab Sample ID | Description Lab Notes | Volume (L) | Element | Reporting Limit (μg) | Concentration (µg) | Concentration (µg/m³) |
|-------------------------------------|------------------------|---------------|---------|----------------------------|--------------------|-----------------------|
| | | | Ag | 0.13 | < 0.13 | |
| 122019-MetA- 103D-01 Field Blank | | As | 0.25 | < 0.25 | | |
| | | Ba | 0.025 | < 0.025 | | |
| | - | Cd | 0.025 | < 0.025 | | |
| 71021101104 1 | | | Pb | 0.13 | < 0.13 | |
| 71931181IPA_1 | | | Se | 0.25 | < 0.25 | |
| | | | Ag | 0.13 | < 0.13 | < 0.37 |
| 122019-MetA- | 1st Floor Column P39 | | As | 0.25 | < 0.25 | < 0.71 |
| 103D-02 | 103D-02 | 252.0 | Ba | 0.025 | < 0.025 | < 0.071 |
| | | 352.8 | Cd | 0.025 | < 0.025 | < 0.071 |
| 71021101104 2 | | · | Pb | 0.13 | < 0.13 | < 0.37 |
| 71931181IPA_2 | | Se | 0.25 | < 0.25 | < 0.71 | |
| | | | Ag | 0.13 | < 0.13 | < 0.37 |
| 122019-MetA- | 2nd Floor Column | 352.8 | As | 0.25 | < 0.25 | < 0.71 |
| 103D-03 | L39 | | Ba | 0.025 | < 0.025 | < 0.071 |
| | | | Cd | 0.025 | < 0.025 | < 0.071 |
| 71021191104 2 | | | Pb | 0.13 | < 0.13 | < 0.37 |
| /19311011FA_3 | 71931181IPA_3 | | Se | 0.25 | < 0.25 | < 0.71 |

(b) (6) Melissa Ferrell **Lab Director Analyst**

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

OCCU-TEC Inc. Lab Order ID: 71931181 **Client:** Attn: **Justin Arnold Date Received:** 12/12/2019

2604 NE Industrial Drive, Suite 230

North Kansas City, MO 64117 **Date Reported:** 12/19/2019 **Project:** 919103 Page: 2 of 3

| Sample ID Lab Sample ID | Description Lab Notes | Volume (L) | Element | Reporting Limit (µg) | Concentration (μg) | Concentration (μg/m³) |
|---|------------------------------|---------------|---------|----------------------------|--------------------|-----------------------|
| | | | Ag | 0.13 | < 0.13 | < 0.37 |
| 122019-MetA- 103D-04 1st Floor Column N36 | 352.8 | As | 0.25 | < 0.25 | < 0.71 | |
| | | Ba | 0.025 | < 0.025 | < 0.071 | |
| | | Cd | 0.025 | < 0.025 | < 0.071 | |
| 71021101104 4 | | | Pb | 0.13 | < 0.13 | < 0.37 |
| 71931181IPA_4 | | | Se | 0.25 | < 0.25 | < 0.71 |
| | | | Ag | 0.13 | < 0.13 | < 0.37 |
| 122019-MetA- 103D-05 | 352.8 | As | 0.25 | < 0.25 | < 0.71 | |
| | | Ba | 0.025 | 0.073 | 0.21 | |
| | | 352.8 | Cd | 0.025 | < 0.025 | < 0.071 |
| 71021191104 5 | 5 | | Pb | 0.13 | < 0.13 | < 0.37 |
| 71931181IPA_5 | | Se | 0.25 | < 0.25 | < 0.71 | |
| | | | Ag | 0.13 | < 0.13 | < 0.37 |
| 122019-MetA- | 1 st Floor Column | 352.8 | As | 0.25 | < 0.25 | < 0.71 |
| 103D-06 | N33 | | Ba | 0.025 | < 0.025 | < 0.071 |
| | | | Cd | 0.025 | < 0.025 | < 0.071 |
| 71021191104 6 | | | Pb | 0.13 | < 0.13 | < 0.37 |
| 71931181IPA_6 | | | Se | 0.25 | < 0.25 | < 0.71 |

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Airborne Metals Concentration by Inductively-Coupled Plasma Analysis (ICP)



NIOSH Method 7303

OCCU-TEC Inc. Lab Order ID: 71931181 **Client:** Attn: **Justin Arnold Date Received:** 12/12/2019

2604 NE Industrial Drive, Suite 230

North Kansas City, MO 64117 **Date Reported:** 12/19/2019 **Project:** 919103 Page: 3 of 3

| Sample ID | Description | Volume | Element | Reporting | Concentration | Concentration | |
|---|------------------------------|--------|---------------|--------------------|----------------------|---------------|--|
| Lab Sample ID | Lab Notes | (L) | Limit (µg) | Concentration (μg) | (μg/m ³) | | |
| | | | Ag | 0.13 | < 0.13 | < 0.37 | |
| 122019-MetA- 103D-07 2 nd Floor Column N31 | | As | 0.25 | < 0.25 | < 0.71 | | |
| | N31 | 352.8 | Ba | 0.025 | < 0.025 | < 0.071 | |
| | | | Cd | 0.025 | < 0.025 | < 0.071 | |
| 71021191104 7 | 1101104 7 | | Pb | 0.13 | < 0.13 | < 0.37 | |
| 71931181IPA_7 | | | Se | 0.25 | < 0.25 | < 0.71 | |
| 122019-MetA- 103D-08 2 nd Floor Column L32 | | | Ag | 0.13 | < 0.13 | < 0.37 | |
| | 2 nd Floor Column | | As | 0.25 | < 0.25 | < 0.71 | |
| | 252.0 | Ba | 0.025 | < 0.025 | < 0.071 | | |
| | | 352.8 | Cd | 0.025 | < 0.025 | < 0.071 | |
| 71021101104 0 | | | Pb | 0.13 | < 0.13 | < 0.37 | |
| 71931181IPA_8 | | | Se | 0.25 | < 0.25 | < 0.71 | |

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Scientific Analytical Institute, Inc. 4604 Dundas Dr. Greensboro, NC 27407 Phone: 336.292.3888 Fax: 336.292.3313

| Lab Use Only Lab Order ID: | 1 | C | 3 | 18 | 1 |
|-------------------------------|---|---|---|----|---|
| Client Code: | | ł | | | _ |

A-F-018 EXP: 2/4/2021

| Company Contact Information | | | Industrial Hygiene Test Typ | pes |
|---|------------------------------|--|--|---|
| Company: OCCU-TEC Inc. | Contact: Justin A | rnold | Silica as Alpha Quartz (XSZ)* With Respirable Dust (XDZ) | - |
| Address: 2604 NE Industrial Drive, Suite 230 | Phone □:816-81 | 0-3276 | Silica as Cristobalite (XSC)* With Respirable Dust (XDC) | _ |
| North Kansas City, MO 64117 | | | Silica as Tridymite (XST)* | |
| restar randas ony, me o 1117 | | occutec.com | With Respirable Dust (XDT) Silica as Alpha Quartz, Cristobalite, Tridymi | - |
| | Ellian .jamoid@c | occutec.com | (XSA)* | |
| Billing/Invoice Information | Turn Aroun | nd Times | Silica Bulk (XSI)* | |
| SAME | 90 Min. | 48 Hours | Bulk Phase ID/Whole Rock (XUK) | |
| Company: | 3 Hours 🔲 7 | 72 Hours | Total Dust NIOSH Method 0500 (GTD) | |
| Contact: | 6 Hours 🔲 9 | 96 Hours 🔲 | Respirable Dust NIOSH Method 0600 (GRD) | |
| Address: | 12 Hours | 120 Hours | PCM NIOSH 7400-A Rules (PCM) | |
| | 24 Hours | 144 ⁺ Hours | B Rules (PCB) TWA (PTA) | |
| | ^TATs not available for | certain test types | TEM NIOSH 7402 (Asbestos) (TNI) | |
| PO Number: | | | Hexavalent Chromium (OSHA ID-215) (Note if from spray paint operations) | |
| Project Name/Number: 919103 | | | Metals (NIOSH 7300) (Specify Metals Under Comments) | × |
| _ | | | Other | |
| Sample ID # Description/L | ocation | Volume/Ar | ea Comments Ag, As, Ba, Cd, Pb, | S |
| TEID POINT | 0 20 | 352.8 L | Ag, As, Ba, Cd, Pb, | |
| 122010 Mark 102D 02 7Wd (| P 39 | 3528/ | Ag, As, Ba, Cd, Pb, | 0 |
| 122010 Math 102D 04 15+ 1 | N 36 | | Ag, As, Ba, Cd, Pb, | S |
| TIGO COLUMN | N 20 | | | |
| 122019-MetA-103D-05 St []. /] | | 352.86 | | Se |
| 122019-MetA-103D-05 St Floor Column | P 34 | 352.8 L | Ag, As, Ba, Cd, Pb, | S |
| 122019-MetA-103D-06 5+ floor Column | P 34 N 33 | 352.8 L | Ag, As, Ba, Cd, Pb, Ag, As, Ba, Cd, Pb, | Se Se |
| 122019-MetA-103D-06 5+ floor Column 122019-MetA-103D-07 2nd floor Column | P 34 | 352.8 L 352.8 L 352.8 L | Ag, As, Ba, Cd, Pb, | Se, Se, Se, Se |
| 122019-MetA-103D-06 5+ floor Column 122019-MetA-103D-07 2nd floor Column | P34 N33 N31 | 352.8 L | Ag, As, Ba, Cd, Pb, Ag, As, Ba, Cd, Pb, Ag, As, Ba, Cd, Pb, | Se, Se, Se, Se |
| 122019-MetA-103D-06 5+ floor Column 122019-MetA-103D-07 2nd floor Column | P34 N33 N31 | 352.8 L 352.8 L 352.8 L | Ag, As, Ba, Cd, Pb, Ag, As, Ba, Cd, Pb, Ag, As, Ba, Cd, Pb, | Se, Se, Se, Se |
| 122019-MetA-103D-06 5+ floor Column 122019-MetA-103D-07 2nd floor Column | P34 N33 N31 | 352.8 L 352.8 L 352.8 L | Ag, As, Ba, Cd, Pb, Ag, As, Ba, Cd, Pb, Ag, As, Ba, Cd, Pb, | Se, Se, Se, Se |
| 122019-MetA-103D-06 5+ floor Column 122019-MetA-103D-07 2nd floor Column | P34 N33 N31 | 352.8 L 352.8 L 352.8 L | Ag, As, Ba, Cd, Pb, Ag, As, Ba, Cd, Pb, Ag, As, Ba, Cd, Pb, | Se, Se, Se, Se |
| 122019-MetA-103D-06 5+ floor Column 122019-MetA-103D-07 2nd floor Column 122019-MetA-103D-08 2nd floor Column | P 34 N 33 N 31 L 32 | 352.8 L 352.8 L 352.8 L 352.8 L | Ag, As, Ba, Cd, Pb, Ag, As, Ba, Cd, Pb, Ag, As, Ba, Cd, Pb, Ag, As, Ba, Cd, Pb, | Se , |
| 122019-MetA-103D-06 St floor Column 122019-MetA-103D-07 2nd floor Column 122019-MetA-103D-08 2nd floor Column | P34 N33 N31 | 352.8 L 352.8 L 352.8 L 352.8 L | Ag, As, Ba, Cd, Pb, Ag, As, Ba, Cd, Pb, Ag, As, Ba, Cd, Pb, Ag, As, Ba, Cd, Pb, | Se , |

Appendix CQualifications 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