ASBESTOS ABATEMENT CLOSE-OUT REPORT – Goodfellow Federal Center – Building #122B (MO0620)

Prepared for:

Mr. Gary Adams, GSA Heartland Region
Certified Industrial Hygienist
GSA Heartland Region Safety & Environmental Management Office
1500 East Bannister Road, Room 2101
Kansas City, Missouri  64131-3088

Project Number: 91101.02

November 29, 2011
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<td>4</td>
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**Appendices:**

- A: Accreditation Documentation
- B: Daily Field Reports
- C: Asbestos Air Monitoring Reports (PCM)
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1. INTRODUCTION

As authorized by GSA-Heartland, OCCU-TEC provided third-party air monitoring and project oversight services for an asbestos abatement project located at the Goodfellow Federal Center – Building #122B, located at 4300 Goodfellow Blvd., in St. Louis, Missouri. This final report contains the OCCU-TEC representatives’ air sampling data, laboratory results, and accreditation documentation. This report has been prepared to document completion of the project in accordance with the Task Order prepared for the project.

2. PROJECT DESCRIPTION

The abatement project at the Goodfellow Federal Center – Building #122B, located at 4300 Goodfellow Blvd. took place to pro-actively abate potential asbestos hazards before potential exposures to GSA personnel and/or building tenants occur. Materials selected for abatement were determined by accessing the present condition and the potential for future disturbance. Global Environmental Inc. (GEI), of St. Charles, Missouri, a sub-contractor for Terracon Consultants, Inc. (Terracon) of Lenexa, Kansas, performed the asbestos abatement activities in the building from November 4, 2011 through November 5, 2011. GEI abated the following asbestos-containing materials while OCCU-TEC was on-site:

<table>
<thead>
<tr>
<th>Floor Number</th>
<th>Location</th>
<th>Description</th>
<th>Quantity</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basement</td>
<td>Ice Machine Room</td>
<td>Pipe Fittings -3-4&quot;</td>
<td>45</td>
<td>Each</td>
</tr>
<tr>
<td>Basement</td>
<td>Ice Machine Room</td>
<td>Pipe Fittings - 5&quot;</td>
<td>9</td>
<td>Each</td>
</tr>
<tr>
<td>Basement</td>
<td>Ice Machine Room</td>
<td>Pipe Fittings - 6&quot;</td>
<td>4</td>
<td>Each</td>
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<td>Pipe Insulation - 3-4&quot;</td>
<td>90</td>
<td>Ln. Ft</td>
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<tr>
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<td>Ice Machine Room</td>
<td>Pipe insulation - 5&quot;</td>
<td>25</td>
<td>Ln. Ft</td>
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<tr>
<td>Basement</td>
<td>Ice Machine Room</td>
<td>Pipe Fittings - 8&quot;</td>
<td>4</td>
<td>Each</td>
</tr>
<tr>
<td>Basement</td>
<td>Ice Machine Room</td>
<td>Pipe Insulation - 6&quot;</td>
<td>8</td>
<td>Ln. Ft</td>
</tr>
<tr>
<td>Basement</td>
<td>Ice Machine Room</td>
<td>Pipe Insulation - 8&quot;</td>
<td>8</td>
<td>Ln. Ft</td>
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<tr>
<td>Basement</td>
<td>Air Handler Room</td>
<td>Pipe Insulation - 3-4&quot;</td>
<td>310</td>
<td>Ln. Ft</td>
</tr>
<tr>
<td>Basement</td>
<td>Air Handler Room</td>
<td>Pipe Fittings -3-4&quot;</td>
<td>117</td>
<td>Each</td>
</tr>
<tr>
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<td>Air Handler Room</td>
<td>Pipe insulation - 5&quot;</td>
<td>45</td>
<td>Ln. Ft</td>
</tr>
<tr>
<td>Floor Number</td>
<td>Location</td>
<td>Description</td>
<td>Quantity</td>
<td>Units</td>
</tr>
<tr>
<td>--------------</td>
<td>----------------------</td>
<td>------------------------------</td>
<td>----------</td>
<td>-------</td>
</tr>
<tr>
<td>Basement</td>
<td>Air Handler Room</td>
<td>Pipe Insulation - 6&quot;</td>
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<td>Ln. Ft</td>
</tr>
<tr>
<td>Basement</td>
<td>Air Handler Room</td>
<td>Tank Insulation - White</td>
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<td>Basement</td>
<td>Air Handler Room</td>
<td>Pipe Fittings - 12&quot;</td>
<td>15</td>
<td>Each</td>
</tr>
</tbody>
</table>

OCCU-TEC was on-site during the entire abatement process. Appendix A contains accreditation documentation for OCCU-TEC staff on-site during asbestos abatement activities.

3. OBSERVATIONS

Airborne fiber concentrations measured outside the work area by OCCU-TEC ranged from between < 0.001 fibers per cubic centimeter (f/cc) to 0.007 f/cc.

Following completion of asbestos abatement, OCCU-TEC conducted clearance air monitoring using phase contract microscopy (PCM) and transmission electron microscopy (TEM). These procedures were performed to indicate successful completion of the abatement activities. Airborne fiber concentrations in the clearance samples were less than 0.01 f/cc by PCM. This indicated that the area were ready for re-occupancy. Visual inspections and clearance air monitoring indicated successful completion of the asbestos abatement actions. OCCU-TEC authorized the abatement contractor to remove the containment enclosures following analysis of the PCM clearance samples.

Daily field reports are attached as Appendix B. Photos were taken during the abatement activities per GSA’s request. A photo log is attached as Appendix E.

4. AIR SAMPLING

**ASBESTOS PCM AREA AND CLEARANCE SAMPLING**

PCM air samples were collected on 25 millimeter, 0.8-micron pore size mixed cellulose ester membrane filters. The filters were contained in three piece cassettes equipped with electrically conductive 50-mm cowls. Sample flow rates ranged from 3.08 liters per minute to 10.11 liters per minute. This flow rate was selected to provide a low detection limit with minimal likelihood of overloading the filter.

PCM analyses were performed according to the analysis procedures specified in the National Institute of Occupational Safety and Health, Protocol 7400, Asbestos Fibers, using the "A" counting rules. This method does not permit discrimination between asbestos fibers and non-asbestos fibers. Asbestos air monitoring PCM reports are provided in Appendix C.
ASBESTOS TEM CLEARANCE SAMPLING

TEM clearance sampling took place following completion of the visual inspections and encapsulation of the work areas. All asbestos clearances were collected on 25 millimeter; 0.45-micron pore size mixed cellulose ester membrane filters. The filters were contained in three-piece cassettes equipped with electrically conductive 50-mm cowlers. Samples are currently being held by OCCU-TEC pending further instruction by GSA. TEM sampling data tables are attached as Appendix D.

5. RECOMMENDATIONS

OCCU-TEC recommends that the building management undertake the following:

1. Update the building asbestos management program to include the completed abatement action.

2. Continued implementation of the building's asbestos management program.
CERTIFICATION
NUMBER: 7011091511MOIR11347

THIS CERTIFIES
Patricia J. Garcia
HAS COMPLETED THE CERTIFICATION
REQUIREMENTS FOR
Inspector

APPROVED: 10/19/2011   TRAINING DATE: 9/15/2011
EXPIRES: 10/18/2012
Missouri State Certificate for Asbestos Related Occupations

issued by Department of Natural Resources
P.O. Box 176
Jefferson City, MO 65102
Phone (573) 751-4817

Patricia J. Garcia

has successfully completed the requirements for certification as a AIR SAMPLING PROFESSIONAL. This Missouri State Certification is subject to review and the director may deny, suspend or revoke the certification per RSMo chapter 643.230.

3/11/2008
Date

Director of Air Pollution Control Program
THIS CERTIFIES THAT

Patricia Garcia

has successfully completed a NIOSH 582 Equivalency Course in

SAMPLING & EVALUATING
AIRBORNE ASBESTOS DUST

Presented by:

OCCU-TEC, Inc.
6501 E. Commerce, Suite 230
Kansas City, Missouri 64120
(816) 231-5580

May 3 – May 7, 2004

Course Date
Appendix B

Daily Field Reports
**DAILY FIELD REPORT**

*(Please print information clearly)*

**CLIENT:** GSA  
**PROJECT NAME:** 3rd Party Air Monitoring Project Oversight  
**PROJECT NUMBER:** 91101.02  
**DATE:** 11-04-11  
**CONTRACTOR:** Global Environmental  
**OCCU-TEC PERSONNEL:** Patricia Garcia  
**IN:** 11:00  
**OUT:** 23:15  
**CONTRACTOR SUPERVISOR:** Chris Townsend/Vicki Dunn  
**NUMBER OF WORKERS:** 6  
**IN:** 15:00  
**OUT:** 20:00/23:15  
**VISITORS ON SITE:** Kevin Arnold w/Terracon Onsite as GC  
**OBSERVED WEATHER CONDITIONS:**  
- Temperature: __56 Degrees  
- Conditions: Clear __X__, Cloudy ______, Rain / Snow ______

**TODAY'S ACTIVITIES:**  
- Prep. __X__, Removal __X__, Cleanup __X__, Encap. __X__, Enclosure ____, Demo. ____, Teardown/Demob. __X__

**Area of Activity:**  
- Basement Ice Machine Room  
- Quantity Removed: 45 Fittings  
- Material Description: 3" to 4" Pipe Fittings  
- Quantity Remaining: 0

**Area of Activity:**  
- Basement Ice Machine Room  
- Quantity Removed: 9 Fittings  
- Material Description: 5" Pipe Fitting  
- Quantity Remaining: 0

**Area of Activity:**  
- Basement Ice Machine Room  
- Quantity Removed: 4 Fittings  
- Material Description: 6" Pipe Fitting  
- Quantity Remaining: 0

**WORK PROCEDURES:**  
- Gross Removal __, Glovebag __, Friable __, Non-Friable __, Exterior __, Other (Explain) __________

**ENGINEERING CONTROLS:**  
- Full Containment __, Critical Barriers __, Splash Guards __, Drop Cloth __, Barrier Tape __

**NEGATIVE AIR SYSTEM:**  
- Yes __X__, No ______, # of Stages __X__, # of Units __, Manometer on site __, Manometer Reading (if < 0.02") __________

**DECONTAMINATION UNIT:**  
- Yes __X__, No ______, # of Stages __X__, Shower: Yes __X__, No ______

**PROJECT SITE CHECKLIST:**

- Emergency Info. Posted __X__  
- Fire Extinguishers On-Site __X__  
- GFCI's Used __X__  
- OSHA Info. Posted __X__  
- Personal Sampling Conducted __X__  
- Entrance Warning Signs Posted __X__  
- Entry/Exit Logs Posted __X__  
- Storage Bins Labeled __X__  
- Bags Labeled __X__  
- Floor and Walls Covered __X__  
- Area Ventilation Off __X__  
- All Edges Sealed __X__  
- Penetrations Sealed __X__  
- Entry Curtains __X__  
- Critical barriers __X__  
- Containment Smoke Tested __X__  
- Work Area Secured __X__

**PERSONAL PROTECTIVE EQUIPMENT:**

- Disposable Suits __X__  
- Boots __X__  
- Gloves __X__  
- Safety Glasses/ Goggles __X__  
- Hard Hat __X__  
- Safety Vest __X__

**RESPIRATORY PROTECTION:**

- Half-Face Air Purifying Respirator __X__  
- Full-Face Air Purifying Respirator __X__  
- Powered Air Purifying Respirator __X__

**SIGNIFICANT EVENTS:**

- Other: ____________________________

**WORK PRACTICES:**

- Wet Methods Used __X__  
- HEPA Vacuums Used __X__  
- Waste Double-Bagged or Barreled __X__  
- Wastewater Filtered or Barreled __X__  
- Negative Air Pressure Achieved __X__

**CONTAINMENT SYSTEM:**

- Equipment Decontaminated __X__  
- Shower: Yes __X__, No ______

**AIR MONITORING PERFORMED BY OCCU-TEC INC.:**

<table>
<thead>
<tr>
<th>Type</th>
<th>No. of Background Samples</th>
<th>No. of Area Samples</th>
<th>No. of Personal Samples</th>
<th>No. of Clearance Samples</th>
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</thead>
<tbody>
<tr>
<td>PCM</td>
<td><strong>X</strong>, TEM</td>
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<td></td>
<td></td>
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**DAILY FIELD REPORT**

**SIGNATURE:** Patricia Garcia

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F:\SHARE\CLIENT\GSA Heartland Region\2011\91101 2011 3rd Party Air Monitoring and Project Oversight\Goodfellow Federal Center - St. Louis, MO\Bldg #122B\Abatement Report\Daily Field Report
### Daily Field Report

**Client:** GSA  
**Project Name:** 3rd Party Air Monitoring Project Oversight  
**Project Number:** 91101.02  
**Date:** 11-04-11

**Contractor:** Global Environmental  
**OCCU-Tec Personnel:** Patricia Garcia

**IN:** 11:00  
**OUT:** 23:15  
**Contractor Supervisor:** Chris Townsend/Vicki Dunn  
**Number of Workers:** 6  
**IN:** 15:00  
**OUT:** 20:00/23:15  
**Visitors on Site:** Kevin Arnold w/Terracon Onsite as GC

**Observed Weather Conditions:**  
- **Temperature:** 56 Degrees  
- **Conditions:** Clear X, Cloudy ______, Rain / Snow ______

### Today's Activities:

### Area of Activity:
- **Basement Ice Machine Room**
  - **Material Description:** 3” to 4” Pipe Insulation
  - **Quantity Removed:** 90 LF
  - **Quantity Remaining:** 0

- **Basement Ice Machine Room**
  - **Material Description:** 5” Pipe Insulation
  - **Quantity Remaining:** 0

### Work Procedures:
- Gross Removal X, Glovebag X, Friable X, Non-Friable ___, Exterior ___, Other (Explain) __________

### Engineering Controls:
- **Full Containment X**, Critical Barriers X, Splash Guards ___, Drop Cloth X, Barrier Tape __________

### Negative Air System:
- Yes X, No ___, # of Stages 3

### Decontamination Unit:
- Yes X, No ___, # of Stages 3

### Personal Protective Equipment:
- **Disposable Suits X**
- **Gloves X**
- **Safety Glasses/ Goggles X**
- **Hard Hat X**
- **Vests X**
- **Hearing Protection X**
- **Other:**

### Work Practices:
- **Wet Methods Used X**
- **HEPA Vacuums Used X**
- **Waste Double-Bagged or Barreled X**
- **Wastewater Filtered or Barreled X**
- **Negative Air Pressure Achieved X**
- **Equipment Decontaminated X**

### Site Checklist:
- **Emergency Info. Posted X**
- **Fire Extinguishers On-Site X**
- **GFCI's Used X**
- **OSHA Info. Posted X**
- **Personal Sampling Conducted X**
- **Entrance Warning Signs Posted X**
- **Entry/Exit Logs Posted X**
- **Storage Bins Labeled X**
- **Bags Labeled X**
- **Floor and Walls Covered X**
- **Area Ventilation Off X**
- **All Edges Sealed X**
- **Penetrations Sealed X**
- **Entry Curtains X**
- **Critical Barriers X**
- **Containment Smoke Tested X**
- **Work Area Secured X**

### Air Monitoring Performed by OCCU-Tec Inc.:

<table>
<thead>
<tr>
<th>Type</th>
<th>No. of Background Samples</th>
<th>No. of Area Samples</th>
<th>No. of Personal Samples</th>
<th>No. of Clearance Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCM</td>
<td>X______________________</td>
<td>X__________________</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>TEM</td>
<td>X______________________</td>
<td>X__________________</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

**Signature:** Patricia Garcia
# Daily Field Report

**Project Name:** 3rd Party Air Monitoring Project Oversight  
**Client:** GSA  
**Client Number:** 91101.02  
**Date:** 11-04-11  
**Contractor:** Global Environmental  
**OCCU-TEC Personnel:** Patricia Garcia  
**IN:** 11:00  
**OUT:** 23:15  
**Significant Events:** Negative Air Pressure Achieved  
**Other:** HEPA Vacuums Used  
**Work Practices:** Full Containment, Critical Barriers, Splash Guards, Drop Cloth, Barrier Tape  
**Engineering Controls:** Powered Air Purifying Respirator  
**Personal Protective Equipment:** Safety Glasses/Goggles, Gloves, Protective Coverall, Powered Air Purifying Respirator  
**Respiratory Protection:** Powered Air Purifying Respirator  
**Air Monitoring Performed by OCCU-TEC Inc.:** PCM, TEM  
**Type:**  
- No. of Background Samples: 5  
- No. of Area Samples: 3  

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**Work Area Security:**  
- Bags Labeled  
- Gloves  
- Floor and Walls Covered  
- Area Ventilation Off  
- All Edges Sealed  
- Penetrations Sealed  
- Entry Curtains  
- Critical Barriers  
- Containment Smoke Tested  
- Work Area Secured  

**Personal Protective Equipment:**  
- Disposable Suits  
- Boots  
- Safety Glasses/Goggles  
- Hard Hat  
- Safety Vest  
- Hearing Protection  
- Other:  

**Observation Weather Conditions:**  
- Temperature: 56 Degrees  
- Conditions: Clear, Cloudy, Rain/Snow  

**Today’s Activities:**  
- Prep, Removal, Cleanup, Encap, Enclosure, Demo, Teardown/Demob  
- Gross Removal, Glovebag, Friable, Non-Friable, Exterior, Other (Explain)  
- Gross Removal, Glovebag, Friable, Non-Friable, Exterior, Other (Explain)  

**Area of Activity:**  
- Basement Ice Machine Room  
- Quantity Removed: 8 LF  
- Quantity Remaining: 0  
- Material Description: 6" Pipe Insulation  
- Quantity Removed: 8 LF  
- Quantity Remaining: 0  
- Material Description: 8" Pipe Insulation  

**Work Procedures:**  
- Gross Removal, Glovebag, Friable, Non-Friable, Exterior, Other (Explain)  
- Gross Removal, Glovebag, Friable, Non-Friable, Exterior, Other (Explain)  

**Negative Air System:**  
- Yes, No, Number of Stages 3  
- Manometer Reading (if < 0.02"")  

**Decontamination Unit:**  
- Yes, No  
- Number of Stages 2  

**Signatures:**  
- Patricia Garcia  

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**Other:**  
- OSHA Info Posted  
- GFCI’s Used  
- Fire Extinguishers On-Site  
- Entrance Warning Signs Posted  
- Entry/Exit Logs Posted  
- Storage Bins Labeled  
- Shower: Yes, No  

---

**Address:**  
- 4151 N. Mulberry Drive, Suite 275  
- KANSAS CITY, MO 64116  
- PH: (816) 231-5580  
- FAX: (816) 231-5641  
- TOLL FREE: (800) 950-1953  
- KANSAS CITY, MO 64116  

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**Contact Information:**  
- FAX: (816) 231-5641  
- TOLL FREE: (800) 950-1953  
- PH: (816) 231-5580
### Daily Field Report

**Client:** GSA  
**Project Name:** 3rd Party Air Monitoring Project Oversight  
**Project Number:** 91101.02  
**Date:** 11-05-11  
**Contractor:** Global Environmental

**OCCU-TEC Personnel:** Patricia Garcia

**Visitor on Site:** Kevin Arnold w/Terracon Onsite as GC

**Work Practices:**  
- Area Ventilation Off
- Hard Hat
- Temperature: 56 Degrees
- Conditions: Clear
- Entry Curtains
- PCM
- TEM
- Powered Air Purifying Respirator
- Gloves
- Equipment Decontaminated
- Quantity Removed: 117 LF
- Hearing Protection
- Full Containment
- Critical Barriers
- Splash Guards
- Drop Cloth
- Barrier Tape

**Respiratory Protection:**  
- Boots
- Hard Hat
- Safety Glasses/Goggles
- Other
- Shower: Yes

**Work Procedures:**  
- Gross Removal
- Glovebag
- Friable
- Non-Friable
- Exterior
- Other (Explain)
- No. of Area Samples: 3
- No. of Clearance Samples: 5
- No. of Background Samples

**Personal Protective Equipment:**  
- Disposable Suits
- Gloves
- Safety Glasses
- Hard Hat
- Other
- Bags Labeled
- Wet Methods Used
- HEPA Vacuums Used
- Waste Double-Bagged or Barreled
- Wastewater Filtered or Barreled
- Negative Air Pressure Achieved
- Equipment Decontaminated

**Air Monitoring Performed by OCCU-TEC Inc.:**  
- PCM X
- TEM X

**Significant Events:**

**Project Site Checklist:**  
- Emergency Info. Posted
- Fire Extinguishers On-Site
- GFCI's Used
- OSHA Info Posted
- Personal Sampling Conducted
- Entrance Warning Signs Posted
- Storage Bins Labeled
- Floor and Walls Covered
- Area Ventilation Off
- All Edges Sealed
- Penetrations Sealed
- Entry Curtains
- Critical Barriers
- Containment Smoke Tested
- Work Area Secured

**Decontamination Unit:** Yes X

**Number of Workers:** 7

**Contractor Supervisor:** Chris Townsend/Vicki Dunn

**Visitors on Site:** Kevin Arnold w/Terracon Onsite as GC

**Observer Weather Conditions:**
- Temperature: 56 Degrees
- Conditions: Clear

**Area of Activity:**  
- Basement Air Handler Room
- Quantity Removed: 117 LF
- Material Description: 3” or 4” Pipe Insulation

**Manometer on Site:** Yes X
- Manometer Reading (if < 0.02”): X
- No. of Stages: 3
- No. of Units: 2

**Other:**
- Storage Bins Labeled
- Floor and Walls Covered
- Area Ventilation Off
- All Edges Sealed
- Penetrations Sealed
- Entry Curtains
- Critical Barriers
- Containment Smoke Tested
- Work Area Secured

**Air Monitoring Performed by OCCU-TEC Inc.:**

**Personal Protective Equipment:**  
- Disposable Suits
- Gloves
- Safety Glasses
- Hard Hat
- Other
- Bags Labeled
- Wet Methods Used
- HEPA Vacuums Used
- Waste Double-Bagged or Barreled
- Wastewater Filtered or Barreled
- Negative Air Pressure Achieved
- Equipment Decontaminated

**Respiratory Protection:**  
- Half-Face Air Purifying Respirator
- Full-Face Air Purifying Respirator
- Powered Air Purifying Respirator

**Emergency Action Plan:**

**Emergency Contact:**

**OCCU-TEC Personnel:** Patricia Garcia

**Signature:** Patricia Garcia
### DAILY FIELD REPORT

**CLIENT:** GSA  
**PROJECT NUMBER:** 91101.02  
**DATE:** 11-05-11

**CONTRACTOR:** Global Environmental  
**OCCU-TEC PERSONNEL:** Patricia Garcia

**IN:** 7:00  
**OUT:** 20:00

**VISITORS ON SITE:** Kevin Arnold w/Terracon Onsite as GC

**OBSERVED WEATHER CONDITIONS:**  
- Temperature: **56 Degrees**  
- Conditions: Clear **X**, Cloudy **____**, Rain / Snow **____**

**TODAY'S ACTIVITIES:**  

<table>
<thead>
<tr>
<th>Area of Activity</th>
<th>Basement Air Handler Room</th>
<th>Quantity Removed</th>
<th>Material Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>45 Each</td>
<td>6&quot; Pipe Fitting</td>
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</table>

<table>
<thead>
<tr>
<th>Area of Activity</th>
<th>Basement Air Handler Room</th>
<th>Quantity Removed</th>
<th>Material Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>24 SF</td>
<td>Tank Insulation</td>
</tr>
</tbody>
</table>

**WORK PROCEDURES:**  
- Gross Removal **X**, Glovebag **X**, Fribale **X**, Non-Fribale **____**, Exterior **____**, Other (Explain) **____**

**ENGINEERING CONTROLS:**  
- Full Containment **X**, Critical Barriers **X**, Splash Guards **____**, Drop Cloth **X**, Barrier Tape **____**

**NEGATIVE AIR SYSTEM:**  
- Yes **X**, No **____**, # of Units **2**, Manometer on site **____**, Manometer Reading (if < 0.02") **____**

**DECONTAMINATION UNIT:**  
- Yes **X**, No **____**, # of Stages **3**  
  - Shower: Yes **X**, No **____**

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### PROJECT SITE CHECKLIST

<table>
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<tr>
<th>X</th>
<th>Emergency Info. Posted</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>Fire Extinguishers On-Site</td>
</tr>
<tr>
<td>X</td>
<td>GFCI's Used</td>
</tr>
<tr>
<td>X</td>
<td>OSHA Info. Posted</td>
</tr>
<tr>
<td>X</td>
<td>Personal Sampling Conducted</td>
</tr>
<tr>
<td>X</td>
<td>Entrance Warning Signs Posted</td>
</tr>
<tr>
<td>X</td>
<td>Entry/Exit Logs Posted</td>
</tr>
<tr>
<td>X</td>
<td>Storage Bins Labeled</td>
</tr>
<tr>
<td>X</td>
<td>Containment Smoke Tested</td>
</tr>
<tr>
<td>X</td>
<td>Work Area Secured</td>
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</table>

### PERSONAL PROTECTIVE EQUIPMENT

<table>
<thead>
<tr>
<th>X</th>
<th>Disposable Suits</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>Boots</td>
</tr>
<tr>
<td>X</td>
<td>Gloves</td>
</tr>
<tr>
<td>X</td>
<td>Safety Glasses/ Goggles</td>
</tr>
<tr>
<td>X</td>
<td>Hard Hat</td>
</tr>
<tr>
<td>X</td>
<td>Safety Vest</td>
</tr>
<tr>
<td>X</td>
<td>Hearing Protection</td>
</tr>
<tr>
<td>X</td>
<td>Other:</td>
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</table>

### WORK PRACTICES

<table>
<thead>
<tr>
<th>X</th>
<th>Wet Methods Used</th>
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<tr>
<td>X</td>
<td>HEPA Vacuums Used</td>
</tr>
<tr>
<td>X</td>
<td>Waste Double-Bagged or Barreled</td>
</tr>
<tr>
<td>X</td>
<td>Wastewater Filtered or Barreled</td>
</tr>
<tr>
<td>X</td>
<td>Negative Air Pressure Achieved</td>
</tr>
<tr>
<td>X</td>
<td>Equipment Decontaminated</td>
</tr>
<tr>
<td>X</td>
<td>Other:</td>
</tr>
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</table>

### RESPIRATORY PROTECTION

<table>
<thead>
<tr>
<th>X</th>
<th>Half-Face Air Purifying Respirator</th>
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</thead>
<tbody>
<tr>
<td>X</td>
<td>Full-Face Air Purifying Respirator</td>
</tr>
<tr>
<td>X</td>
<td>Powered Air Purifying Respirator</td>
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**SPECIAL EVENTS**

- Other: 

---

**AIR MONITORING PERFORMED BY OCCU-TEC INC.:**  
- PCM **X**, TEM **X**

<table>
<thead>
<tr>
<th>Type</th>
<th>No. of Background Samples</th>
<th>No. of Personal Samples</th>
</tr>
</thead>
<tbody>
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<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type</th>
<th>No. of Area Samples</th>
<th>No. of Clearance Samples</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
<td>5</td>
</tr>
</tbody>
</table>

**SIGNATURE:** Patricia Garcia

---

F:\SHARE\CLIENT\GSA Heartland Region\2011\91101 2011 3rd Party Air Monitoring and Project Oversight\Goodfellow Federal Center - St. Louis, MO\Bldg #122B\Abatement Report\Daily Field Report
Appendix C

Asbestos Air Monitoring Reports (PCM)
### PCM ANALYSIS OF AIR SAMPLES

**Address:**
1500 E. Bannister, Kansas City, MO

**Project Name:**
Goodfellow Federal Center - Bldg. #122B (MO0620)

### Analysis Details

**Filter Type:**
25mm, 0.8 um MCE

**Analytical Method:**
NIOSH 7400

**Blank Average:**
0

### Analysis Table

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<tr>
<th>Client Sample ID</th>
<th>Activity/Location</th>
<th>Sample Type</th>
<th>Pump ID</th>
<th>Flow Rate (l/min)</th>
<th>Running Time</th>
<th>Total Volume</th>
<th>Fibers</th>
<th>Fields</th>
<th>Fibers/mm²</th>
<th>Fibers/cc</th>
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<td>BGD</td>
<td>401</td>
<td>10.11</td>
<td>10.11</td>
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<td>11:29</td>
<td>14:17</td>
<td>168</td>
<td>1698.5</td>
</tr>
<tr>
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<td>Basement - Ice Machine Room</td>
<td>BGD</td>
<td>407</td>
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<td>10.11</td>
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<td>11:30</td>
<td>14:18</td>
<td>168</td>
<td>1698.5</td>
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<td>14:19</td>
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<td>14:20</td>
<td>168</td>
<td>1698.5</td>
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<tr>
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<td>408</td>
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<td>10.11</td>
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<td>14:21</td>
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<td>3.08</td>
<td>3.08</td>
<td>3.08</td>
<td>16:30</td>
<td>10:55</td>
<td>1105</td>
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<td>OWA</td>
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<td>3.08</td>
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<td>10:56</td>
<td>1105</td>
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<td>OWA</td>
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<td>3.08</td>
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<td>10:57</td>
<td>1105</td>
<td>3403.4</td>
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</table>

### Sample and Activity

- **Sample Type:**
  - PRS=personal
  - NAE=negative air exhaust
  - BGD=background

- **Activity:**
  - PREP=site prep.
  - BLOG=bag load out
  - GLO= glovebag
  - CLEAN=clean up
  - GREM=gross removal
  - EXC=excursion

### Respirator Type

- HM=half mask
- AP=air purifying resp.
- FF=full face
- SA=supplied air
- P=powered
- PD=pressure demand
- SCBA=self-contained breathing apparatus.

### Notes

- The NIOSH 7400 counting rules do not distinguish between asbestos and non-asbestos fibers.
- The NIOSH 7400 method assumes the lowest quantitative fiber density is 7 fibers / 100 fields at 95% confidence level. OCCUTEC's limit of detection (LOD) is equal to 7 fibers/100 fields.
- Samples proceeded by a < sign are calculated using a count of 7 fibers per 100 fields.
- The estimated intracounter coefficient of variation (CV) for this laboratory is 0.77 (Low Range), 0.27 (Medium Range), 0.17 (High Range).
- Low Range = 5 to 20 Fibers; Medium Range = 20 to 50 Fibers; High Range = 50 to 100 Fibers.
- The estimated interlaboratory CV for the quality control program that this laboratory participates in is 0.45.
### PCM ANALYSIS OF AIR SAMPLES

**Client Name:** GSA - Heartland  
**Address:** 1500 E. Bannister, Kansas City, MO  
**Project Name:** Goodfellow Federal Center - Bldg. #122B (MO0620)

---

**Filter Type:** 25mm, 0.8 um MCE  
**Analytical Method:** NIOSH 7400

---

**Client Activity/ Sample Pump Flow Rate (l/min) Running Time Total Volume Fibers Fields mm2 cc**

<table>
<thead>
<tr>
<th>Sample ID</th>
<th>Location/ Type</th>
<th>Sample Type</th>
<th>Pump ID</th>
<th>Flow Rate (l/min)</th>
<th>Running Time</th>
<th>Total Volume</th>
<th>Fibers</th>
<th>Fields</th>
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<td>100</td>
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<td>Basement - Ice Machine Rm: HM; GLBG</td>
<td>IWA</td>
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<td>100 5.73</td>
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<td>127 1284 2</td>
<td>100 1.91</td>
<td>&lt; 0.003</td>
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</table>

**Sample Type:**  
PRS=personal  
IWA=inside work area  
NAE=negative air exhaust  
BLK=blank  
OWA=outside work area  
CR=clean room  
CL=clean up  
BGD=background  
GREM=gross removal  
EXC=excursion

**Activity:**  
PREP=site prep.  
GLBG=glovebag  
CLN=clean up  
BG=bag load out  
FB=full face  
SA=supplied air  
P=powered  
PD=pressure demand  
SCBA=self contained breathing apparatus

**Respirator Type:**  
HM=half mask  
APR=air purifying resp.  
FF=full face  
SA=supplied air  
P=powered  
P=pressure demand  
SCBA=self contained breathing apparatus

---

The NIOSH 7400 counting rules A does not distinguish between asbestos and non-asbestos fibers.  
The NIOSH 7400 method assumes the lowest quantitative fiber density is 7 fibers / 100 fields at 95% confidence level. OCCUTECE's limit of detection (LOD) is equal to 7 fibers/100 fields.  
Samples proceeded by a < sign are calculated using a count of 7 fibers per 100 fields.

---

The estimated intracounter coefficient of variation (CV) for this laboratory is 0.77 (Low Range), 0.27 (Medium Range), 0.17 (High Range).  
Low Range = 5 to 20 Fibers; Medium Range = 20 to 50 Fibers; High Range = 50 to 100 Fibers.

---

The estimated interlaboratory CV for the quality control program that this laboratory participates in is 0.45.

---

**Analysis By:**  
**Checked By:**

---

AIHA PAT Lab #: 101266

---

This report should not be reproduced except in full.

---

*Analysis Master:*  
*Quality Control:*  
*Critical Limit:*  
*Interpretation:*
Appendix D

Asbestos Clearance Reports (TEM)
### TEM ANALYSIS OF AIR SAMPLES

#### 4151 North Mulberry Drive, Suite 275
Kansas City, Missouri 64116
(816) 231-5580
Toll Free: (800) 950-1953
Fax: (816) 231-5641

**OCCU-TEC Project #:** 91101.02  
**Sample Date:** 11/5/2011  
**Analysis Date:** 11/29/2011  
**Rotometer #:** PJG

**CLIENT NAME:** GSA - Heartland  
**Sample Date:** 11/5/2011  
**Analysis Date:** 11/29/2011  
**Rotometer #:** PJG

**ADDRESS:** 1500 E Bannister Kansas City MO  
**Analysis Date:** 11/29/2011  
**Rotometer #:** PJG

**PROJECT NAME:** Goodfellow Federal Center - Bldg #122B (MO0620)  
**Report Date:** 11/29/2011  
**Rotometer #:** PJG

**FILTER TYPE:** 25mm, 0.45 um

<table>
<thead>
<tr>
<th>Client Sample ID</th>
<th>Activity/Location</th>
<th>Sample Type</th>
<th>Pump ID</th>
<th>Flow Rate (L/min)</th>
<th>Running Time</th>
<th>Total Volume</th>
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</tr>
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</tr>
</tbody>
</table>

**SAMPLE TYPE**  
PRS=personal  
BLK= blank  
CL=inside clearance  
BGD=background  
GLBG=glovebag  
NAE=negative air exhaust  
OWA=outside work area  
OCL=outside clearance  

er  
**ACTIVITY**  
PREP=site prep.  
BGLO=bag load out  
GLBG=glovebag  
CLN=clean up  
GREM=gross removal  
EXC=excursion  

**RESPIRATOR TYPE**  
HM=half mask  
APR=air purifying resp.  
FF=full face  
SA=supplied air  
P=powered  
PD=pressure demand  
SCBA=self contained breathing apparatus

Sampled By: Pat Garcia
Appendix E

Photo Log
Photo #1: Pre-Abatement – Basement Air Handler Room (Thermal Pipe Insulation)

Photo #2: Pre-Abatement – Basement Air Handler Room (Thermal Pipe Insulation)
Photo #3: Pre-Abatement – Air Handler Room (Tank Insulation)

Photo #4: During-Abatement – Air Handler Room (Glovebag Removal)

Client: GSA Heartland Region
Project Location: Goodfellow Fed. Center. – Bldg. #122B (MO0620)
Date: November 29, 2011
Project No: 91101.02
Photo #5: During-Abatement – Air Handler Room (Glovebag Removal)

Photo #6: During-Abatement – Air Handler Room (Glovebag Removal)
Photo #7: During-Abatement – Air Handler Room (Glovebag Removal)

Photo #8: Post-Abatement – Air Handler Room (Glovebag Removal)
Photo #9: Post-Abatement – Air Handler Room (Tank Insulation Removal)

Photo #10: Post-Abatement – Air Handler Room (Tank Insulation Removal)