

The following heavy metal wipe samples tested for Arsenic, Barium, Cadmium, Chromium, Lead, Selenium and Silver in the Federal Center's heating, ventilation and air conditioning (HVAC) systems. This raw data confirms heavy metals are present and remedial action will be needed.

*Indoor air quality results indicate that the metals detected in the HVAC systems are stable and not migrating into the air in tenant spaces. GSA is taking additional steps to help ensure these contaminants in the HVAC systems remain undisturbed and do not become airborne. Those steps include:*

- Revisiting and, if necessary, increasing controls on maintenance work related to air handling units and duct systems; and,
- Continuing to check for cross-contamination by taking air samples inside tenant spaces.

Final results from this sampling effort are expected to be available in January 2017. If you have any questions, please email [r6environmental@gsa.gov](mailto:r6environmental@gsa.gov) and GSA will provide responses from the appropriate experts.



**EMSL Analytical, Inc.**

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**11600 Lilburn Park Dr**  
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11/11/2016

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 10/28/2016. The results are tabulated on the attached data pages for the following client designated project:

**15167225**

The reference number for these samples is EMSL Order #161620033. Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact me at (317) 803-2997.

Approved By:

(b) (6)



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Doug Wiegand, Laboratory Manager

Report amended 11/11/2016 10:05:14 Replaces initial report from 11/04/2016 09:12:24

The samples associated with this report were received in good condition unless otherwise noted. This report relates only to those items tested as received by the laboratory. The QC data associated with the sample results meet the recovery and precision requirements established by the AIHA, unless specifically indicated. The final results are not field blank corrected. The laboratory is not responsible for final results calculated using air volumes that have been provided by non-laboratory personnel. This report may not be reproduced except in full and without written approval by EMSL Analytical, Inc.



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EMSL Order: 161620033  
 CustomerID: TERR57  
 CustomerPO: 15167225  
 ProjectID:

Attn: **Rick Whitney**  
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Phone: (314) 569-9368  
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 Received: 10/28/16 10:30 AM  
 Collected: 10/17/2016

Project: 15167225

## Analytical Results

**Client Sample Description** 015 **Collected:** 10/17/2016 **Lab ID:** 0001  
 Bldg 103 AHU-1A Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	1.4	1.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Barium	15	5.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	40	0.20	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	13	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Lead	23	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD

**Client Sample Description** 016 **Collected:** 10/17/2016 **Lab ID:** 0002  
 Bldg 103 AHU-1A Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	2.0	1.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Barium	19	5.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	9.6	0.20	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	24	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Lead	120	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD

**Client Sample Description** 017 **Collected:** 10/17/2016 **Lab ID:** 0003  
 Bldg 103 AHU-1 Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	0.88	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Lead	2.9	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD

**Client Sample Description** 018 **Collected:** 10/17/2016 **Lab ID:** 0004  
 Bldg 103 AHU-1 Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Barium	11	5.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	0.65	0.20	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	5.7	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD



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Project: 15167225

## Analytical Results

**Client Sample Description** 018 **Collected:** 10/17/2016 **Lab ID:** 0004  
 Bldg 103 AHU-1 Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Lead	9.3	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD

**Client Sample Description** 019 **Collected:** 10/17/2016 **Lab ID:** 0005  
 Bldg 103 DISA 48 Ton AHU Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Barium	7.9	5.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	3.4	0.20	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	8.3	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Lead	30	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD

**Client Sample Description** 020 **Collected:** 10/17/2016 **Lab ID:** 0006  
 Bldg 103 DISA 48 Ton AHU Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	1.6	0.20	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	31	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Lead	13	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD

**Client Sample Description** 021 **Collected:** 10/17/2016 **Lab ID:** 0007  
 Bldg 103 AHU-B20 Supply/R.Jam/Exhaust

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	3.3	1.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Barium	69	5.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	2.1	0.20	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	13	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Lead	90	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD

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Project: 15167225

**Analytical Results**

**Client Sample Description** 022 **Collected:** 10/17/2016 **Lab ID:** 0008  
 Bldg 103 AHU-1C Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	1.4	1.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Barium	24	5.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	88	0.20	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	13	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Lead	49	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Silver	0.86	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD

**Client Sample Description** 023 **Collected:** 10/17/2016 **Lab ID:** 0009  
 Bldg 103 AHU-1C Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	13	1.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Barium	200	5.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	7.9	0.20	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	30	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Lead	170	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	3.0	1.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Silver	5.9	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD

**Client Sample Description** 024 **Collected:** 10/17/2016 **Lab ID:** 0010  
 Bldg 103 AHU-3C Supply Only

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	0.25	0.20	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	3.2	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Lead	5.5	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD

**Client Sample Description** 025 **Collected:** 10/17/2016 **Lab ID:** 0011  
 Bldg 103 AHU-Navy Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	7.8	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD

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Project: 15167225

**Analytical Results**

**Client Sample Description** 025 **Collected:** 10/17/2016 **Lab ID:** 0011  
 Bldg 103 AHU-Navy Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Lead	1.6	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD

**Client Sample Description** 026 **Collected:** 10/17/2016 **Lab ID:** 0012  
 Bldg 103 AHU-Navy Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	4.6	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Lead	1.2	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD

**Client Sample Description** 027 **Collected:** 10/17/2016 **Lab ID:** 0013  
 Bldg 103 AHU-3 Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	6.7	1.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Barium	170	5.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	29	0.20	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	29	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Lead	270	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	1.2	1.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Silver	0.74	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD

**Client Sample Description** 028 **Collected:** 10/17/2016 **Lab ID:** 0014  
 Bldg 103 AHU-3 Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	0.22	0.20	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	0.79	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Lead	4.9	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	11/1/2016	TD	11/1/2016	TD

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Project: 15167225

**Analytical Results**

**Client Sample Description** Blank **Collected:** 10/17/2016 **Lab ID:** 0015  
 Blank

<b>Method</b>	<b>Parameter</b>	<b>Result</b>	<b>RL</b>	<b>Units</b>	<b>Prep Date</b>	<b>Analyst</b>	<b>Analysis Date</b>	<b>Analyst</b>
3050B/6010C	Arsenic	<1.0	1.0	µg/wipe	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/wipe	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/wipe	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	<0.50	0.50	µg/wipe	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Lead	<0.50	0.50	µg/wipe	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/wipe	11/1/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/wipe	11/1/2016	TD	11/1/2016	TD

**Definitions:**

ND - indicates that the analyte was not detected at the reporting limit  
 RL - Reporting Limit (Analytical)



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11/11/2016

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 10/28/2016. The results are tabulated on the attached data pages for the following client designated project:

**15167225**

The reference number for these samples is EMSL Order #161620036. Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact me at (317) 803-2997.

Approved By:

(b) (6)

Doug Wiegand, Laboratory Manager

Report amended 11/11/2016 10:18:37 Replaces initial report from 11/04/2016 09:11:36

The samples associated with this report were received in good condition unless otherwise noted. This report relates only to those items tested as received by the laboratory. The QC data associated with the sample results meet the recovery and precision requirements established by the AIHA, unless specifically indicated. The final results are not field blank corrected. The laboratory is not responsible for final results calculated using air volumes that have been provided by non-laboratory personnel. This report may not be reproduced except in full and without written approval by EMSL Analytical, Inc.





# EMSL Analytical, Inc.

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EMSL Order: 161620036  
 CustomerID: TERR57  
 CustomerPO: 15167225  
 ProjectID:

Attn: **Rick Whitney**  
**Terracon Consultants, Inc.**  
**11600 Lilburn Park Dr**  
**Saint Louis, MO 63146**

Phone: (314) 569-9368  
 Fax: (314) 692-8810  
 Received: 10/28/16 10:30 AM  
 Collected: 10/17/2016

Project: 15167225

## Analytical Results

**Client Sample Description** 001 **Collected:** 10/17/2016 **Lab ID:** 0001  
 Bldg 107 AHU-1 Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	8.7	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	3.0	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	7.2	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 002 **Collected:** 10/17/2016 **Lab ID:** 0002  
 Bldg 107 AHU-1 Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	8.7	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	3.0	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	5.2	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 003 **Collected:** 10/17/2016 **Lab ID:** 0003  
 Bldg 106 AHU Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	1.7	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	30	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	1.1	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	12	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	36	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	0.76	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 004 **Collected:** 10/17/2016 **Lab ID:** 0004  
 Bldg 106 AHU Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	2.8	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	43	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	2.1	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	7.7	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD



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 CustomerPO: 15167225  
 ProjectID:

Attn: **Rick Whitney**  
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Phone: (314) 569-9368  
 Fax: (314) 692-8810  
 Received: 10/28/16 10:30 AM  
 Collected: 10/17/2016

Project: 15167225

## Analytical Results

**Client Sample Description** 004 **Collected:** 10/17/2016 **Lab ID:** 0004  
 Bldg 106 AHU Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Lead	56	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 005 **Collected:** 10/17/2016 **Lab ID:** 0005  
 Bldg 102E AHU Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	31	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	0.30	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	4.6	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	27	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	3.3	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 006 **Collected:** 10/17/2016 **Lab ID:** 0006  
 Bldg 102E AHU Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	4.8	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	47	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	3.9	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	13	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	85	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	1.1	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 007 **Collected:** 10/17/2016 **Lab ID:** 0007  
 Bldg 103E AHU Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	4.8	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	130	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	3.7	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	19	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	130	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

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Attn: **Rick Whitney**  
**Terracon Consultants, Inc.**  
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**Saint Louis, MO 63146**

Phone: (314) 569-9368  
 Fax: (314) 692-8810  
 Received: 10/28/16 10:30 AM  
 Collected: 10/17/2016

Project: 15167225

**Analytical Results**

**Client Sample Description** 008 **Collected:** 10/17/2016 **Lab ID:** 0008  
 Bldg 103E AHU Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	16	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	240	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	4.1	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	25	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	180	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 009 **Collected:** 10/17/2016 **Lab ID:** 0009  
 Bldg 103D AHU Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	2.7	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	5.8	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	11	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	2.3	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 010 **Collected:** 10/17/2016 **Lab ID:** 0010  
 Bldg 103D AHU Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	11	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	0.92	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	2.0	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 011 **Collected:** 10/17/2016 **Lab ID:** 0011  
 Bldg 103F AHU-C2 Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	8.4	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD



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 ProjectID:

Attn: **Rick Whitney**  
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 Fax: (314) 692-8810  
 Received: 10/28/16 10:30 AM  
 Collected: 10/17/2016

Project: 15167225

## Analytical Results

**Client Sample Description** 011 **Collected:** 10/17/2016 **Lab ID:** 0011  
 Bldg 103F AHU-C2 Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Lead	0.62	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 012 **Collected:** 10/17/2016 **Lab ID:** 0012  
 Bldg 103F AHU-C2 Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	1.6	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	0.72	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 013 **Collected:** 10/17/2016 **Lab ID:** 0013  
 Bldg 103F AHU-C1 Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	14	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	1.2	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 014 **Collected:** 10/17/2016 **Lab ID:** 0014  
 Bldg 103F AHU-C1 Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	2.2	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	0.63	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD





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11/11/2016

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 10/28/2016. The results are tabulated on the attached data pages for the following client designated project:

**15167225**

The reference number for these samples is EMSL Order #161620037. Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact me at (317) 803-2997.

Approved By:

(b) (6)

Doug Wiegand, Laboratory Manager

Report amended 11/11/2016 10:22:33 Replaces initial report from 11/04/2016 09:14:15

The samples associated with this report were received in good condition unless otherwise noted. This report relates only to those items tested as received by the laboratory. The QC data associated with the sample results meet the recovery and precision requirements established by the AIHA, unless specifically indicated. The final results are not field blank corrected. The laboratory is not responsible for final results calculated using air volumes that have been provided by non-laboratory personnel. This report may not be reproduced except in full and without written approval by EMSL Analytical, Inc.

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 Fax: (314) 692-8810  
 Received: 10/28/16 10:30 AM  
 Collected: 10/26/2016

Project: 15167225

**Analytical Results**

**Client Sample Description** 063 **Collected:** 10/26/2016 **Lab ID:** 0001  
 Bldg 110 AHU 1-2 Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	7.9	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 064 **Collected:** 10/26/2016 **Lab ID:** 0002  
 Bldg 110 AHU 1-2 Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	15	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	5.2	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	10	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 065 **Collected:** 10/26/2016 **Lab ID:** 0003  
 Bldg 110 AHU 1-1 Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	3.2	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	2.2	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 066 **Collected:** 10/26/2016 **Lab ID:** 0004  
 Bldg 110 AHU 1-1 Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	1.1	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	26	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	8.1	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD



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EMSL Order: 161620037  
 CustomerID: TERR57  
 CustomerPO: 15167225  
 ProjectID:

Attn: **Rick Whitney**  
**Terracon Consultants, Inc.**  
**11600 Lilburn Park Dr**  
**Saint Louis, MO 63146**

Phone: (314) 569-9368  
 Fax: (314) 692-8810  
 Received: 10/28/16 10:30 AM  
 Collected: 10/26/2016

Project: 15167225

## Analytical Results

**Client Sample Description** 066 **Collected:** 10/26/2016 **Lab ID:** 0004  
 Bldg 110 AHU 1-1 Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Lead	8.3	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 067 **Collected:** 10/26/2016 **Lab ID:** 0005  
 Bldg 110 OAU 1-1 Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	2.1	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	58	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	0.43	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	14	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	37	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 068 **Collected:** 10/26/2016 **Lab ID:** 0006  
 Bldg 110 OAH 1-1 Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	38	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	4.6	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	1.6	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 069 **Collected:** 10/26/2016 **Lab ID:** 0007  
 Bldg 110 AHU 1-3 Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	2.3	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD



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EMSL Order: 161620037  
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 Received: 10/28/16 10:30 AM  
 Collected: 10/26/2016

Project: 15167225

**Analytical Results**

**Client Sample Description** 070 **Collected:** 10/26/2016 **Lab ID:** 0008  
 Bldg 110 AHU 1-3 Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	61	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	4.3	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	8.6	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 071 **Collected:** 10/26/2016 **Lab ID:** 0009  
 Bldg 110 AHU 2-3 Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	2.6	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	1.5	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 072 **Collected:** 10/26/2016 **Lab ID:** 0010  
 Bldg 110 AHU 2-3 Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	9.8	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	8.6	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	4.5	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 073 **Collected:** 10/26/2016 **Lab ID:** 0011  
 Bldg 110 AHU 2-2 Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	5.6	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	2.4	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

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EMSL Order: 161620037  
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 CustomerPO: 15167225  
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 Collected: 10/26/2016

Project: 15167225

**Analytical Results**

**Client Sample Description** 073 **Collected:** 10/26/2016 **Lab ID:** 0011  
 Bldg 110 AHU 2-2 Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Lead	1.5	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 074 **Collected:** 10/26/2016 **Lab ID:** 0012  
 Bldg 110 AHU 2-2 Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	1.4	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 075 **Collected:** 10/26/2016 **Lab ID:** 0013  
 Bldg 110 AHU 2-1 Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	14	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	0.93	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	1.7	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 076 **Collected:** 10/26/2016 **Lab ID:** 0014  
 Bldg 110 AHU 2-1 Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	5.6	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	0.64	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	1.0	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

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 Collected: 10/26/2016

Project: 15167225

**Analytical Results**

**Client Sample Description** Blank Blank **Collected:** 10/26/2016 **Lab ID:** 0015

<i>Method</i>	<i>Parameter</i>	<i>Result</i>	<i>RL</i>	<i>Units</i>	<i>Prep Date</i>	<i>Analyst</i>	<i>Analysis Date</i>	<i>Analyst</i>
3050B/6010C	Arsenic	<1.0	1.0	µg/wipe	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/wipe	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/wipe	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	<0.50	0.50	µg/wipe	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	<0.50	0.50	µg/wipe	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/wipe	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/wipe	10/31/2016	TD	11/1/2016	TD

**Definitions:**

ND - indicates that the analyte was not detected at the reporting limit  
 RL - Reporting Limit (Analytical)



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11/11/2016

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 10/28/2016. The results are tabulated on the attached data pages for the following client designated project:

**15167225**

The reference number for these samples is EMSL Order #161620038. Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact me at (317) 803-2997.

Approved By:

(b) (6)

Doug Wiegand, Laboratory Manager

Report amended 11/11/2016 10:27:49 Replaces initial report from 11/04/2016 09:15:13

The samples associated with this report were received in good condition unless otherwise noted. This report relates only to those items tested as received by the laboratory. The QC data associated with the sample results meet the recovery and precision requirements established by the AIHA, unless specifically indicated. The final results are not field blank corrected. The laboratory is not responsible for final results calculated using air volumes that have been provided by non-laboratory personnel. This report may not be reproduced except in full and without written approval by EMSL Analytical, Inc.



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EMSL Order: 161620038  
CustomerID: TERR57  
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Received: 10/28/16 10:30 AM  
Collected: 10/20/2016

Project: 15167225

## Analytical Results

**Client Sample Description** 055 **Collected:** 10/20/2016 **Lab ID:** 0001  
Bldg 105E AHU-2 ERF Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	7.3	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	0.57	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	3.0	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	14	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 056 **Collected:** 10/20/2016 **Lab ID:** 0002  
Bldg 105E AHU-2 ERF Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	1.7	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	26	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	4.3	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	7.2	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	79	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	3.6	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 057 **Collected:** 10/20/2016 **Lab ID:** 0003  
Bldg 105F AHU-2 FRF Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	11	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	0.58	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	3.4	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	11	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 058 **Collected:** 10/20/2016 **Lab ID:** 0004  
Bldg 105F AHU-2 FSF Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	1.6	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	21	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	3.8	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	9.3	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD



# EMSL Analytical, Inc.

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EMSL Order: 161620038  
 CustomerID: TERR57  
 CustomerPO: 15167225  
 ProjectID:

Attn: **Rick Whitney**  
**Terracon Consultants, Inc.**  
**11600 Lilburn Park Dr**  
**Saint Louis, MO 63146**

Phone: (314) 569-9368  
 Fax: (314) 692-8810  
 Received: 10/28/16 10:30 AM  
 Collected: 10/20/2016

Project: 15167225

## Analytical Results

**Client Sample Description** 058 **Collected:** 10/20/2016 **Lab ID:** 0004  
 Bldg 105F AHU-2 FSF Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Lead	68	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 059 **Collected:** 10/20/2016 **Lab ID:** 0005  
 Bldg 105L AHU-1 Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	17	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	1.2	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 060 **Collected:** 10/20/2016 **Lab ID:** 0006  
 Bldg 105L AHU-1 Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	7.6	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 061 **Collected:** 10/20/2016 **Lab ID:** 0007  
 Bldg 105L AHU-2 Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	16	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

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EMSL Order: 161620038  
 CustomerID: TERR57  
 CustomerPO: 15167225  
 ProjectID:

Attn: **Rick Whitney**  
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**Saint Louis, MO 63146**

Phone: (314) 569-9368  
 Fax: (314) 692-8810  
 Received: 10/28/16 10:30 AM  
 Collected: 10/20/2016

Project: 15167225

**Analytical Results**

**Client Sample Description** 062 **Collected:** 10/20/2016 **Lab ID:** 0008  
 Bldg 105L AHU-2 Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	21	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	1.7	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Definitions:**

ND - indicates that the analyte was not detected at the reporting limit  
 RL - Reporting Limit (Analytical)



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11/11/2016

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 10/28/2016. The results are tabulated on the attached data pages for the following client designated project:

**15167225**

The reference number for these samples is EMSL Order #161620039. Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact me at (317) 803-2997.

Approved By:

(b) (6)

Doug Wiegand, Laboratory Manager

Report amended 11/11/2016 10:30:34 Replaces initial report from 11/04/2016 09:15:52

The samples associated with this report were received in good condition unless otherwise noted. This report relates only to those items tested as received by the laboratory. The QC data associated with the sample results meet the recovery and precision requirements established by the AIHA, unless specifically indicated. The final results are not field blank corrected. The laboratory is not responsible for final results calculated using air volumes that have been provided by non-laboratory personnel. This report may not be reproduced except in full and without written approval by EMSL Analytical, Inc.





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EMSL Order: 161620039  
 CustomerID: TERR57  
 CustomerPO: 15167225  
 ProjectID:

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 Fax: (314) 692-8810  
 Received: 10/28/16 10:30 AM  
 Collected: 10/18/2016

Project: 15167225

## Analytical Results

**Client Sample Description** 029 **Collected:** 10/18/2016 **Lab ID:** 0001  
 Bldg 104E AHU-1 Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	3.5	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	4.8	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	11	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 030 **Collected:** 10/18/2016 **Lab ID:** 0002  
 Bldg 104E AHU-1 Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	25	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	7.6	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	8.2	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 031 **Collected:** 10/18/2016 **Lab ID:** 0003  
 Bldg 104E AHU-2 Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	0.96	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	1.2	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 032 **Collected:** 10/18/2016 **Lab ID:** 0004  
 Bldg 104E AHU-2 Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	14	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	8.5	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD



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EMSL Order: 161620039  
 CustomerID: TERR57  
 CustomerPO: 15167225  
 ProjectID:

Attn: **Rick Whitney**  
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 Received: 10/28/16 10:30 AM  
 Collected: 10/18/2016

Project: 15167225

## Analytical Results

**Client Sample Description** 032 **Collected:** 10/18/2016 **Lab ID:** 0004  
 Bldg 104E AHU-2 Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Lead	25	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 033 **Collected:** 10/18/2016 **Lab ID:** 0005  
 Bldg 104F AHU-1 Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	17	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	0.23	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	5.1	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	40	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 034 **Collected:** 10/18/2016 **Lab ID:** 0006  
 Bldg 104F AHU-1 Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	3.5	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	1.8	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

### Definitions:

ND - indicates that the analyte was not detected at the reporting limit  
 RL - Reporting Limit (Analytical)



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11/11/2016

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 10/28/2016. The results are tabulated on the attached data pages for the following client designated project:

**15167225**

The reference number for these samples is EMSL Order #161620040. Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact me at (317) 803-2997.

Approved By:

(b) (6)

Doug Wiegand, Laboratory Manager

Report amended 11/11/2016 10:32:52 Replaces initial report from 11/04/2016 09:16:44

The samples associated with this report were received in good condition unless otherwise noted. This report relates only to those items tested as received by the laboratory. The QC data associated with the sample results meet the recovery and precision requirements established by the AIHA, unless specifically indicated. The final results are not field blank corrected. The laboratory is not responsible for final results calculated using air volumes that have been provided by non-laboratory personnel. This report may not be reproduced except in full and without written approval by EMSL Analytical, Inc.

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EMSL Order: 161620040  
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 CustomerPO: 15167225  
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 Received: 10/28/16 10:30 AM  
 Collected: 10/20/2016

Project: 15167225

**Analytical Results**

**Client Sample Description** 035 **Collected:** 10/18/2016 **Lab ID:** 0001  
 Bldg 104 AHU-VAU B Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	0.71	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 036 **Collected:** 10/18/2016 **Lab ID:** 0002  
 Bldg 104 AHU-VAU B Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	6.2	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	4.0	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	2.4	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 037 **Collected:** 10/18/2016 **Lab ID:** 0003  
 Bldg 104 AHU-B Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	1.6	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 038 **Collected:** 10/18/2016 **Lab ID:** 0004  
 Bldg 104 AHU-B Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	2.3	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD



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 Collected: 10/20/2016

Project: 15167225

## Analytical Results

**Client Sample Description** 038 **Collected:** 10/18/2016 **Lab ID:** 0004  
 Bldg 104 AHU-B Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Lead	0.69	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 039 **Collected:** 10/18/2016 **Lab ID:** 0005  
 Bldg 104 AHU-3 Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	0.72	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	0.51	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 040 **Collected:** 10/18/2016 **Lab ID:** 0006  
 Bldg 104 AHU-3 Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	110	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	4.7	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	14	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 041 **Collected:** 10/18/2016 **Lab ID:** 0007  
 Bldg 104 AHU-VAU C Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	1.0	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

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**Analytical Results**

**Client Sample Description** 042 **Collected:** 10/18/2016 **Lab ID:** 0008  
 Bldg 104 AHU-VAU C Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	20	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	8.0	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	5.2	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 043 **Collected:** 10/18/2016 **Lab ID:** 0009  
 Bldg 104 AHU-C Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	1.4	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 044 **Collected:** 10/18/2016 **Lab ID:** 0010  
 Bldg 104 AHU-C Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	3.3	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	2.3	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 045 **Collected:** 10/20/2016 **Lab ID:** 0011  
 Bldg 104 AHU-D Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	9.0	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	6.4	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

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**Analytical Results**

**Client Sample Description** 045 **Collected:** 10/20/2016 **Lab ID:** 0011  
 Bldg 104 AHU-D Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Lead	1.4	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 046 **Collected:** 10/20/2016 **Lab ID:** 0012  
 Bldg 104 AHU-D Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	2.8	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	1.0	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 047 **Collected:** 10/20/2016 **Lab ID:** 0013  
 Bldg 104 AHU-VAU D Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	7.6	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	1.5	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	2.9	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 048 **Collected:** 10/20/2016 **Lab ID:** 0014  
 Bldg 104 AHU-VAU D Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	2.2	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	0.56	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD



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## Analytical Results

**Client Sample Description** 049 **Collected:** 10/20/2016 **Lab ID:** 0015  
 Bldg 104 AHU-RTU Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	15	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	7.1	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	5.9	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 050 **Collected:** 10/20/2016 **Lab ID:** 0016  
 Bldg 104 AHU-RTU Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	8.6	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	0.77	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	1.3	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 051 **Collected:** 10/20/2016 **Lab ID:** 0017  
 Bldg 104 AHU-VAU E Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	1.4	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	1.1	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 052 **Collected:** 10/20/2016 **Lab ID:** 0018  
 Bldg 104 AHU-VAU E Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	13	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	6.3	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD





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## Analytical Results

**Client Sample Description** 052 **Collected:** 10/20/2016 **Lab ID:** 0018  
 Bldg 104 AHU-VAU E Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Lead	5.1	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 053 **Collected:** 10/20/2016 **Lab ID:** 0019  
 Bldg 104 AHU-E Return

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	3.2	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** 054 **Collected:** 10/20/2016 **Lab ID:** 0020  
 Bldg 104 AHU-E Supply

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/100 cm <sup>2</sup>	10/31/2016	TD	11/1/2016	TD

**Client Sample Description** Blank **Collected:** 10/20/2016 **Lab ID:** 0021  
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Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	<1.0	1.0	µg/wipe	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Barium	<5.0	5.0	µg/wipe	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Cadmium	<0.20	0.20	µg/wipe	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Chromium	<0.50	0.50	µg/wipe	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Lead	<0.50	0.50	µg/wipe	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Selenium	<1.0	1.0	µg/wipe	10/31/2016	TD	11/1/2016	TD
3050B/6010C	Silver	<0.50	0.50	µg/wipe	10/31/2016	TD	11/1/2016	TD



## EMSL Analytical, Inc.

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[indianapolislab@emsl.com](mailto:indianapolislab@emsl.com)

EMSL Order:	161620040
CustomerID:	TERR57
CustomerPO:	15167225
ProjectID:	

### Definitions:

ND - indicates that the analyte was not detected at the reporting limit

RL - Reporting Limit (Analytical)



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---

Attn:

**Rick Whitney**  
**Terracon Consultants, Inc.**  
**11600 Lilburn Park Dr**  
**Saint Louis, MO 63146**

11/10/2016

Phone: (314) 569-9368  
Fax: (314) 692-8810

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 11/2/2016. The results are tabulated on the attached data pages for the following client designated project:

**15167225**

The reference number for these samples is EMSL Order #161620381. Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact me at (317) 803-2997.

Approved By:

(b) (6)

Doug Wiegand, Laboratory Manager

Report amended 11/09/2016 16:29:46 Replaces initial report from 11/03/2016 17:08:57

The samples associated with this report were received in good condition unless otherwise noted. This report relates only to those items tested as received by the laboratory. The QC data associated with the sample results meet the recovery and precision requirements established by the NELAP, unless specifically indicated. All results for soil samples are reported on a dry weight basis, unless otherwise noted. This report may not be reproduced except in full and without written approval by EMSL Analytical, Inc.

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EMSL Order: 161620381  
 CustomerID: TERR57  
 CustomerPO: 15167225  
 ProjectID:

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Phone: (314) 569-9368  
 Fax: (314) 692-8810  
 Received: 11/02/16 10:25 AM  
 Collected: 10/31/2016

Project: 15167225

**Analytical Results**

**Client Sample Description** 113 **Collected:** 10/31/2016 **Lab ID:** 0001  
 BLDG. 115 RTU-6 SUPPLY ONLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	2.0	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	30	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	80	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	3.6	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	17	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	1.4	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 114 **Collected:** 10/31/2016 **Lab ID:** 0002  
 BLDG. 115 RTU-5 SUPPLY ONLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	6.0	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	14	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	34	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	13	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	8.4	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	0.81	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 115 **Collected:** 10/31/2016 **Lab ID:** 0003  
 BLDG. 115 RTU-4 SUPPLY ONLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	6.6	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	43	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	88	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	5.0	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	14	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	0.52	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 116 **Collected:** 10/31/2016 **Lab ID:** 0004  
 BLDG. 115 RTU-3 SUPPLY ONLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	1.5	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	10	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	ND	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

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EMSL Order: 161620381  
 CustomerID: TERR57  
 CustomerPO: 15167225  
 ProjectID:

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Phone: (314) 569-9368  
 Fax: (314) 692-8810  
 Received: 11/02/16 10:25 AM  
 Collected: 10/31/2016

Project: 15167225

**Analytical Results**

**Client Sample Description** 116 **Collected:** 10/31/2016 **Lab ID:** 0004  
 BLDG. 115 RTU-3 SUPPLY ONLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Chromium	3.8	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	3.8	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	ND	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 117 **Collected:** 10/31/2016 **Lab ID:** 0005  
 BLDG. 115 RTU-2 SUPPLY ONLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	4.1	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	19	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	26	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	2.5	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	12	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	ND	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 118 **Collected:** 10/31/2016 **Lab ID:** 0006  
 BLDG. 115 RTU-1 SUPPLY ONLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	3.4	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	8.9	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	55	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	1.9	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	5.8	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	ND	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** **Collected:** 10/31/2016 **Lab ID:** 0007  
 BLANK

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	ND	1.0	µg/wipe	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	ND	5.0	µg/wipe	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	ND	0.20	µg/wipe	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	ND	0.50	µg/wipe	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	ND	0.50	µg/wipe	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/wipe	11/3/2016	TD	11/3/2016	TD

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EMSL Order: 161620381  
 CustomerID: TERR57  
 CustomerPO: 15167225  
 ProjectID:

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 Fax: (314) 692-8810  
 Received: 11/02/16 10:25 AM  
 Collected: 10/31/2016

Project: 15167225

## Analytical Results

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*Client Sample Description* *Collected:* 10/31/2016 *Lab ID:* 0007  
 BLANK

<i>Method</i>	<i>Parameter</i>	<i>Result</i>	<i>RL</i>	<i>Units</i>	<i>Prep Date</i>	<i>Analyst</i>	<i>Analysis Date</i>	<i>Analyst</i>
3050B/6010C	Silver	ND	0.50	µg/wipe	11/3/2016	TD	11/3/2016	TD

**Definitions:**

ND - indicates that the analyte was not detected at the reporting limit  
 RL - Reporting Limit (Analytical)



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11/10/2016

Phone: (314) 569-9368  
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The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 11/2/2016. The results are tabulated on the attached data pages for the following client designated project:

**15167225**

The reference number for these samples is EMSL Order #161620382. Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact me at (317) 803-2997.

Approved By:

(b) (6)

Doug Wiegand, Laboratory Manager

Report amended 11/09/2016 10:25:17 Replaces initial report from 11/09/2016 08:11:04

The samples associated with this report were received in good condition unless otherwise noted. This report relates only to those items tested as received by the laboratory. The QC data associated with the sample results meet the recovery and precision requirements established by the NELAP, unless specifically indicated. All results for soil samples are reported on a dry weight basis, unless otherwise noted. This report may not be reproduced except in full and without written approval by EMSL Analytical, Inc.



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EMSL Order: 161620382  
 CustomerID: TERR57  
 CustomerPO: 15167225  
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Phone: (314) 569-9368  
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 Received: 11/02/16 10:25 AM  
 Collected: 10/28/2016

Project: 15167225

## Analytical Results

**Client Sample Description** 077 **Collected:** 10/28/2016 **Lab ID:** 0001  
 BLDG. 105 AHU - 1D2SF SUPPLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	6.6	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	150	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	40	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	25	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	230	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	ND	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 078 **Collected:** 10/28/2016 **Lab ID:** 0002  
 BLDG. 105 AHU - 1D2RF RETURN

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	4.0	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	78	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	4.8	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	13	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	110	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	ND	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 079 **Collected:** 10/28/2016 **Lab ID:** 0003  
 BLDG. 105 AHU - 1 SUPPLY ONLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	1.8	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	44	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	0.23	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	4.0	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	21	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	ND	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 080 **Collected:** 10/28/2016 **Lab ID:** 0004  
 BLDG. 105 AHU - 1 D1 SUPPLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	2.3	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	53	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	4.6	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD



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EMSL Order: 161620382  
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Phone: (314) 569-9368  
 Fax: (314) 692-8810  
 Received: 11/02/16 10:25 AM  
 Collected: 10/28/2016

Project: 15167225

**Analytical Results**

**Client Sample Description** 080 **Collected:** 10/28/2016 **Lab ID:** 0004  
 BLDG. 105 AHU - 1 D1 SUPPLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Chromium	6.4	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	57	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	ND	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 081 **Collected:** 10/28/2016 **Lab ID:** 0005  
 BLDG. 105 AHU - 1 D1 RETURN

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	3.1	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	57	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	4.9	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	10	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	81	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	0.76	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 082 **Collected:** 10/28/2016 **Lab ID:** 0006  
 BLDG. 105 AHU - #38 PHL SUPPLY ONLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	3.6	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	17	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	5.9	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	6.7	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	76	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	ND	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 083 **Collected:** 10/28/2016 **Lab ID:** 0007  
 BLDG. 105 AHU - 4 SUPPLY ONLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	2.5	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	26	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	1.2	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	7.0	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	42	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD



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EMSL Order: 161620382  
 CustomerID: TERR57  
 CustomerPO: 15167225  
 ProjectID:

Attn: **Rick Whitney**  
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 Received: 11/02/16 10:25 AM  
 Collected: 10/28/2016

Project: 15167225

## Analytical Results

**Client Sample Description** 083 **Collected:** 10/28/2016 **Lab ID:** 0007  
 BLDG. 105 AHU - 4 SUPPLY ONLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Silver	ND	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 084 **Collected:** 10/28/2016 **Lab ID:** 0008  
 BLDG. 105 AHU - 1 PH G SUPPLY ONLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	2.8	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	7.0	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	ND	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	11	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	31	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	2.0	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 085 **Collected:** 10/28/2016 **Lab ID:** 0009  
 BLDG. 105 AHU - 2 D2 RF RETURN

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	3.3	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	95	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	11	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	16	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	220	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	ND	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 086 **Collected:** 10/28/2016 **Lab ID:** 0010  
 BLDG. 105 AHU - 2 PH G SUPPLY ONLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	2.0	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	ND	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	ND	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	6.3	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	12	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	0.94	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD



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Project: 15167225

## Analytical Results

**Client Sample Description** 087 **Collected:** 10/28/2016 **Lab ID:** 0011  
 BLDG. 105 AHU -2 D2 SF SUPPLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	1.5	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	16	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	3.2	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	6.2	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	47	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	ND	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 088 **Collected:** 10/28/2016 **Lab ID:** 0012  
 BLDG. 105 AHU - 2 D1 RETURN

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	1.7	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	16	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	1.0	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	3.0	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	24	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	ND	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 089 **Collected:** 10/28/2016 **Lab ID:** 0013  
 BLDG. 105 AHU - 2 D1 SUPPLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	1.2	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	6.5	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	0.38	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	1.4	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	5.8	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	ND	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 090 **Collected:** 10/28/2016 **Lab ID:** 0014  
 BLDG. 105 AHU - 1 PHE SUPPLY ONLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	2.2	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	53	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	0.23	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD



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## Analytical Results

**Client Sample Description** 090 **Collected:** 10/28/2016 **Lab ID:** 0014  
 BLDG. 105 AHU - 1 PHE SUPPLY ONLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Chromium	9.3	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	36	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	ND	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 091 **Collected:** 10/28/2016 **Lab ID:** 0015  
 BLDG. 105 AHU - 2 D3 SUPPLY ONLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	2.3	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	41	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	3.7	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	7.4	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	47	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	ND	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 092 **Collected:** 10/28/2016 **Lab ID:** 0016  
 BLDG. 105 AHU - 2 C3 SUPPLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	2.9	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	33	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	2.6	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	9.0	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	75	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	1.9	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 093 **Collected:** 10/28/2016 **Lab ID:** 0017  
 BLDG. 105 AHU - 2 C1 SUPPLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	1.4	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	14	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	0.37	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	3.8	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	22	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

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**Analytical Results**

**Client Sample Description** 093 **Collected:** 10/28/2016 **Lab ID:** 0017  
 BLDG. 105 AHU - 2 C1 SUPPLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Silver	ND	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 094 **Collected:** 10/28/2016 **Lab ID:** 0018  
 BLDG. 105 AHU - 2 C1 RETURN

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	3.5	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	46	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	3.5	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	7.3	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	54	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	ND	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 095 **Collected:** 10/28/2016 **Lab ID:** 0019  
 BLDG. 105 AHU - 1 C2 SF SUPPLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	2.2	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	32	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	3.9	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	16	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	130	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	ND	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 096 **Collected:** 10/28/2016 **Lab ID:** 0020  
 BLDG. 105 AHU - 2 C3 RF RETURN

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	3.0	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	51	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	0.55	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	8.0	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	38	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	ND	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

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**Analytical Results**

**Client Sample Description** 097 **Collected:** 10/28/2016 **Lab ID:** 0021  
 BLDG. 105 AHU - 1 C1 SUPPLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	2.0	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	340	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	1.1	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	6.3	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	23	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	ND	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 098 **Collected:** 10/28/2016 **Lab ID:** 0022  
 BLDG. 105 AHU - 1 C1 RETURN

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	6.2	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	77	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	22	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	20	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	200	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	ND	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 099 **Collected:** 10/28/2016 **Lab ID:** 0023  
 BLDG. 105 AHU - 2 B2 RF RETURN

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	1.8	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	38	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	3.6	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	7.3	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	44	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	ND	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 100 **Collected:** 10/28/2016 **Lab ID:** 0024  
 BLDG. 105 AHU - 2 B2 SF SUPPLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	3.1	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	50	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	2.5	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

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Project: 15167225

**Analytical Results**

**Client Sample Description** 100 **Collected:** 10/28/2016 **Lab ID:** 0024  
 BLDG. 105 AHU - 2 B2 SF SUPPLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Chromium	7.9	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	62	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	ND	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 101 **Collected:** 10/28/2016 **Lab ID:** 0025  
 BLDG. 105 AHU - 2 B1 RF RETURN

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	3.7	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	88	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	6.0	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	68	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	130	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	ND	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 102 **Collected:** 10/28/2016 **Lab ID:** 0026  
 BLDG. 105 AHU - 2 B1 SF SUPPLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	3.6	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	73	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	4.3	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	12	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	92	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	ND	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 103 **Collected:** 10/28/2016 **Lab ID:** 0027  
 BLDG. 105 AHU - 1 B2 SUPPLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	2.1	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	35	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	2.4	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	7.3	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	54	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD



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EMSL Order: 161620382  
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 CustomerPO: 15167225  
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 Received: 11/02/16 10:25 AM  
 Collected: 10/28/2016

Project: 15167225

## Analytical Results

**Client Sample Description** 103 **Collected:** 10/28/2016 **Lab ID:** 0027  
 BLDG. 105 AHU - 1 B2 SUPPLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Silver	ND	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 104 **Collected:** 10/28/2016 **Lab ID:** 0028  
 BLDG. 105 AHU - 1 B2 RETURN

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	4.4	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	77	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	7.1	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	18	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	230	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	0.88	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 105 **Collected:** 10/28/2016 **Lab ID:** 0029  
 BLDG. 105 AHU - 1 B1 RETURN

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	3.4	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	46	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	3.7	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	9.5	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	93	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	ND	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 106 **Collected:** 10/28/2016 **Lab ID:** 0030  
 BLDG. 105 AHU - 1 B1 SUPPLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	3.7	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	76	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	2.7	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	13	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	93	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	ND	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD



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Project: 15167225

**Analytical Results**

**Client Sample Description** 107 **Collected:** 10/28/2016 **Lab ID:** 0031  
 BLDG. 105 AHU - 1 A2 SUPPLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	3.4	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	45	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	5.6	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	10	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	68	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	ND	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 108 **Collected:** 10/28/2016 **Lab ID:** 0032  
 BLDG. 105 AHU - 1 A2 RETURN

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	2.5	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	33	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	23	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	7.6	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	63	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	ND	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 109 **Collected:** 10/28/2016 **Lab ID:** 0033  
 BLDG. 105 AHU - 2 A2 RETURN

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	2.9	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	41	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	2.9	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	7.2	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	74	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	ND	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 110 **Collected:** 10/28/2016 **Lab ID:** 0034  
 BLDG. 105 AHU - 2 A2 SUPPLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	1.5	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	9.7	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	ND	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

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**Analytical Results**

**Client Sample Description** 110 **Collected:** 10/28/2016 **Lab ID:** 0034  
 BLDG. 105 AHU - 2 A2 SUPPLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Chromium	3.7	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	26	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	ND	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 111 **Collected:** 10/28/2016 **Lab ID:** 0035  
 BLDG. 105 AHU - 2 A1 SUPPLY

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	1.6	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	22	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	0.52	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	7.6	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	33	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	ND	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** 112 **Collected:** 10/28/2016 **Lab ID:** 0036  
 BLDG. 105 AHU - 2 A1 RETURN

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	4.8	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	120	5.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	3.3	0.20	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	19	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	140	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Silver	ND	0.50	µg/100 cm <sup>2</sup>	11/3/2016	TD	11/3/2016	TD

**Client Sample Description** **Collected:** 10/28/2016 **Lab ID:** 0037  
 BLANK

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	ND	1.0	µg/wipe	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Barium	ND	5.0	µg/wipe	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Cadmium	ND	0.20	µg/wipe	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Chromium	ND	0.50	µg/wipe	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Lead	ND	0.50	µg/wipe	11/3/2016	TD	11/3/2016	TD
3050B/6010C	Selenium	ND	1.0	µg/wipe	11/3/2016	TD	11/3/2016	TD



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Project: 15167225

**Analytical Results**

*Client Sample Description* BLANK *Collected:* 10/28/2016 *Lab ID:* 0037

<i>Method</i>	<i>Parameter</i>	<i>Result</i>	<i>RL</i>	<i>Units</i>	<i>Prep Date</i>	<i>Analyst</i>	<i>Analysis Date</i>	<i>Analyst</i>
3050B/6010C	Silver	ND	0.50	µg/wipe	11/3/2016	TD	11/3/2016	TD

**Definitions:**

ND - indicates that the analyte was not detected at the reporting limit  
RL - Reporting Limit (Analytical)