

SAF-RC-001 Industrial Hygiene Sampling FINAL DATA

NO DISTRIBUTION REQUIRED

COMMENTS:

SDG _____ 06I-0478-01 _____ SAF-RC-001

Rad only Chem only Rad & Chem

Complete Partial

300 Area 334 Bldg

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Report Identification Number: 06I-0478-01
 Subcontract Number: 0000X-BO-G0058-B-Mod#4
 Name of Industrial Hygienist: Denise A. Pitts / Henry W. Ruby
 Laboratory Identification Number: DCHM
 SAF#: RC-001 / R33400 J452
 Payroll#: 8C104

Sample Information

| Sample Date | Customer Sample Number | Laboratory Sample Number | Method | Analytical Batch Identification | Sample Matrix |
|-------------|------------------------|--------------------------|------------|---------------------------------|---------------|
| 02 Feb 2006 | J11364 | 06I03809 | NMAM 7300M | G0616021 | MCE |
| 02 Feb 2006 | J11365 | 06I03810 | NMAM 7300M | G0616021 | MCE |
| 02 Feb 2006 | J11366 | 06I03811 | NMAM 7300M | G0616021 | MCE |
| 02 Feb 2006 | J11382 | 06I03812 | NMAM 7300M | G0616021 | MCE |
| 02 Feb 2006 | J11362 | 06I03813 | NMAM 7300M | G0616021 | MCE |
| 02 Feb 2006 | J11363 | 06I03814 | NMAM 7300M | G0616021 | MCE |

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Name: Lisa M. Reid
 Title: Chemist
 Date: February 09, 2006



Case Narrative Page

Page 2 of 9

Report Identification Number: 06I-0478-01
Subcontract Number: 0000X-BO-G0058-B-Mod#4
Name of Industrial Hygienist: Denise A. Pitts / Henry W. Ruby
Laboratory Identification Number: DCHM
SAF#: RC-001 / R33400 J452
Payroll#: 8C104

General Set Information: There are 6 samples in set 06I-0477-01, 6 samples in set 06I-0478-01, 3 samples in set 06I-0479-01 and 8 samples in set 06I-0480-01 which were analyzed for beryllium, lead and cadmium on MCE filter. No problems were encountered with the receipt of these samples and no contact with the CTR was required.

Method Summary: Samples were transferred to 50 ml centrifuge tubes and digested in the presence of 10 mL of 1:1 (v/v) nitric acid. Samples were digested in a hot block set at 110°C for 40 minutes. Samples were then diluted to a 25 mL volume with ASTM Type II Water. Samples were shaken and delivered for ICP analysis.

Sample Preparation: All samples were prepared in accordance with DCL SOP "IH-AN-021" and NIOSH method NMAM 7300 modified for hot block digestion.

Holding Times: The holding times were met for both sample preparation and analysis.

Instrument Calibration: Instrument calibration was performed in accordance with NIOSH method NMAM 7300.

Initial and Continuing Calibration Verification Analysis: Beryllium, cadmium and lead recoveries in all Initial Calibration Verification (ICV) and Continuing Calibration Verification (CCV) samples are within the quality control limits of +/- 10%.

Initial and Continuing Calibration Blank Analysis: No beryllium results were found in the Initial Calibration Blank (ICB) or Continuing Calibration Blanks (CCB) at levels above the Limit of Quantitation (LOQ) of 0.01 ug/sample. No cadmium results were found in the Initial Calibration Blank (ICB) or Continuing Calibration Blanks (CCB) at levels above the Limit of Quantitation (LOQ) of 0.08 ug/sample. No lead results were found in the Initial Calibration Blank (ICB) or Continuing Calibration Blanks (CCB) at levels above the Limit of Quantitation (LOQ) of 1. ug/sample.

Method Blank Analysis: No lead was found in the media blank sample above the Limit of Quantitation (LOQ). Beryllium results in the media blanks were as follows: BL-241019-1 is 0.021 ug/sample, BL-241019-2 is 0.37 ug/sample. Cadmium results in the media blanks were as follows: BL-241019-1 is ND, BL-241019-02 is 0.084 ug/sample.

Dilution(s): NA.

Laboratory Control Sample and Duplicate Analysis: Two Laboratory Control Samples (LCSs) and two Laboratory Control Sample Duplicates (LCSDs) were prepared and analyzed with the sample batch. The LCS result was within the control limit of +/- 20%. The Relative Percent Differences (RPD) between the LCS and the LCSD was within the control limit of 20%.

Replicate Analysis: Three samples were replicated with this analysis run. The RPD between the sample and the replicate was within the control limit of 20%. If the result of the sample or replicate is below the CRDL, replicate analysis is negligible.

Flagging Codes: None

Nonconformance/Corrective Action Report (NC/CAR): N/A

Sample Calculation: The final results are calculated by the following equation:

Final result for aqueous samples ($\mu\text{g}/\text{sample}$) = (A) x (B) x (C)

Where:

A = Analyte concentration from instrument determination ($\mu\text{g}/\text{L}$)

B = Concentration factor from sample preparation

= $\frac{\text{Final Volume of Digestate (L)}}{\text{Sample}}$

C = Dilution performed at time of analysis

Example Calculation: $(1 \mu\text{g}/\text{L}) \times (0.025 \text{ L}/\text{sample}) \times (1) = 0.025 \mu\text{g}/\text{sample}$

Miscellaneous Comments: None.



Report Page

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 Name of Industrial Hygienist: Denise A. Pitts / Henry W. Ruby
 Laboratory Identification Number: DCHM
 SAF#: RC-001 / R33400 J452
 Payroll#: 8C104

| Customer Sample Number | Laboratory Sample Number | Date Analyzed | Beryllium $\mu\text{g}/\text{sample}$ | | Beryllium $\mu\text{g}/\text{m}^3$ | | Air Volume L | |
|--------------------------------|--------------------------|---------------|---------------------------------------|---|------------------------------------|---|--------------|--|
| J11364 | 06I03809 | 07 Feb 2006 | <0.02 | U | <0.0049 | U | 4058. | |
| J11365 | 06I03810 | 07 Feb 2006 | <0.02 | U | <0.0046 | U | 4330. | |
| J11366 | 06I03811 | 07 Feb 2006 | <0.02 | U | <0.029 | U | 697.0 | |
| J11382 | 06I03812 | 07 Feb 2006 | <0.02 | U | <0.019 | U | 1063. | |
| J11362 | 06I03813 | 07 Feb 2006 | <0.02 | U | ** | | 0.000 | |
| J11363 | 06I03814 | 07 Feb 2006 | <0.02 | U | ** | | 0.000 | |
| Limit of Detection (LOD) | | | 0.02 | | | | | |
| Required Detection Limit (RDL) | | | | | | | | |

| Customer Sample Number | Laboratory Sample Number | Date Analyzed | Lead $\mu\text{g}/\text{sample}$ | | Lead $\mu\text{g}/\text{m}^3$ | | Cadmium $\mu\text{g}/\text{sample}$ | |
|--------------------------------|--------------------------|---------------|----------------------------------|---|-------------------------------|---|-------------------------------------|---|
| J11364 | 06I03809 | 07 Feb 2006 | <0.5 | U | <0.12 | U | <0.06 | U |
| J11365 | 06I03810 | 07 Feb 2006 | <0.5 | U | <0.12 | U | <0.06 | U |
| J11366 | 06I03811 | 07 Feb 2006 | <0.5 | U | <0.72 | U | <0.06 | U |
| J11382 | 06I03812 | 07 Feb 2006 | <0.5 | U | <0.47 | U | <0.06 | U |
| J11362 | 06I03813 | 07 Feb 2006 | <0.5 | U | ** | | <0.06 | U |
| J11363 | 06I03814 | 07 Feb 2006 | <0.5 | U | ** | | <0.06 | U |
| Limit of Detection (LOD) | | | 0.5 | | | | 0.06 | |
| Required Detection Limit (RDL) | | | | | | | | |

| Customer Sample Number | Laboratory Sample Number | Date Analyzed | Cadmium $\mu\text{g}/\text{m}^3$ | |
|------------------------|--------------------------|---------------|----------------------------------|---|
| J11364 | 06I03809 | 07 Feb 2006 | <0.015 | U |
| J11365 | 06I03810 | 07 Feb 2006 | <0.014 | U |
| J11366 | 06I03811 | 07 Feb 2006 | <0.086 | U |
| J11382 | 06I03812 | 07 Feb 2006 | <0.056 | U |
| J11362 | 06I03813 | 07 Feb 2006 | ** | |
| J11363 | 06I03814 | 07 Feb 2006 | ** | |



Report Page

| Customer Sample Number | Laboratory Sample Number | Date Analyzed | Cadmium $\mu\text{g}/\text{m}^3$ |
|--------------------------------|--------------------------|---------------|----------------------------------|
| Limit of Detection (LOD) | | | |
| Required Detection Limit (RDL) | | | |

U - Parameter not detected above LOD.

J - Parameter between LOD and RDL.

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 Laboratory Identification Number: DCHM
 SAF: RC-001 / R33400 J452
 Payroll#: 8C104

Batch ID: G0616021

| QC Sample ID | QC Type | Analyte | Units | Result | Parent Result | Target | Percent Rec. | Relative Percent Diff. |
|--------------|---------|-----------|-----------|--------|---------------|--------|--------------|------------------------|
| BL-241019-1 | MB | Beryllium | µg/sample | 0.021 | NA | NA | NA | NA |
| BL-241019-1 | MB | Lead | µg/sample | ND | NA | NA | NA | NA |
| BL-241019-1 | MB | Cadmium | µg/sample | ND | NA | NA | NA | NA |
| QC-241019-1 | LCS | Beryllium | µg/sample | 10.5 | NA | 10.0 | 105. | NA |
| QC-241019-1 | LCS | Lead | µg/sample | 101. | NA | 100. | 101. | NA |
| QC-241019-1 | LCS | Cadmium | µg/sample | 30.9 | NA | 30.0 | 103. | NA |
| QD-241019-1 | LCSD | Beryllium | µg/sample | 10.8 | 10.5 | 10.0 | 108. | 2.71 |
| QD-241019-1 | LCSD | Lead | µg/sample | 104. | 101. | 100. | 104. | 2.57 |
| QD-241019-1 | LCSD | Cadmium | µg/sample | 31.6 | 30.9 | 30.0 | 105. | 2.44 |
| BL-241019-2 | MB | Beryllium | µg/sample | 0.037 | NA | NA | NA | NA |
| BL-241019-2 | MB | Lead | µg/sample | 0.30 | NA | NA | NA | NA |
| BL-241019-2 | MB | Cadmium | µg/sample | 0.084 | NA | NA | NA | NA |
| QD-241019-2 | LCSD | Beryllium | µg/sample | 10.9 | 10.9 | 10.0 | 109. | 0.525 |
| QD-241019-2 | LCSD | Lead | µg/sample | 106. | 107. | 100. | 106. | 0.799 |
| QD-241019-2 | LCSD | Cadmium | µg/sample | 32.3 | 32.6 | 30.0 | 108. | 0.945 |
| QC-241019-2 | LCS | Beryllium | µg/sample | 10.9 | NA | 10.0 | 109. | NA |
| QC-241019-2 | LCS | Lead | µg/sample | 107. | NA | 100. | 107. | NA |
| QC-241019-2 | LCS | Cadmium | µg/sample | 32.6 | NA | 30.0 | 109. | NA |

MB - Method Blank

LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample Duplicate

MS - Matrix Spike

MSD - Matrix Spike Duplicate

LD - Laboratory Duplicate

NA - Not Applicable

ND - Parameter not detected above LOD

LCS, LCSD Percent Rec. = (Result / Target) * 100.0



QC Summary Page

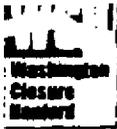
Page 7 of 9

MS, MSD Percent Rec. = $((\text{Result} - \text{Parent}) / \text{Target}) * 100.0$

LCS, LCSD Relative Percent Diff. = $((|\text{LCS} - \text{LCSD}|) / ((\text{LCS} + \text{LCSD})/2.0)) * 100.$

MS, MSD Relative Percent Diff. = $((|\text{MS} - \text{MSD}|) / ((\text{MS} + \text{MSD})/2.0)) * 100.$

LD Relative Percent Diff. = $((|\text{Parent} - \text{LD}|) / ((\text{Parent} + \text{LD})/2.0)) * 100$



CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

| | | | | |
|---|---|--|--|---------------------------------|
| Collector: Carla Hughes | Company Contact Denise A. Pitts and Henry W. Ruby | Telephone No. 531-1229 | Project Coordinator Joan H. Kessner | Data Turnaround 3 day |
| Payroll #: 8C104 | Sampling Location 300 Area 334 | SPECIAL INSTRUCTIONS All relevant COAs must be provided: R33400 J452 ANALYSIS METHOD (SPECIFIC): NIOSH 7300 - Be/Pb/Cd | | SAF No. RC-001 |
| Type of Sample: Air | Wipe Sample Media: Ghost <input type="checkbox"/> Yes <input type="checkbox"/> No Other _____ | Method of Shipment | | |
| Shipped To: DataChem SALT Lake City, UT | Bill of Lading/Air Bill No. 8544 9435 4737 | | | |

| | | | | | | | | | | | |
|---|---|---|----|----|----|----|----|----|----|----|----|
| POSSIBLE SAMPLE HAZARD/REMARKS Be/Cd/Lead | MATRIX A - AIR WI - WIPE X - OTHER | Preservation (i.e., cooling required, etc.) | No |
|---|---|---|----|----|----|----|----|----|----|----|----|

| SAMPLE ANALYSIS | | | | | Asbestos Airborne | Lead Airborne | Beryllium Airborne | Beryllium Wipe | Mold | Lead Wipe | Cd Wipe | Cd Airborne |
|-------------------|--------|-------------|-----------------|---------------------------|-------------------|---------------|--------------------|----------------|------|-----------|---------|-------------|
| SAMPLE NO. | MATRIX | SAMPLE DATE | VOLUME (L) Area | Comments | | | | | | | | |
| J11364 | a | 2-2-06 | 4058 | N/A | | X | X | | | | | X |
| J11365 | | | 4330 | N/A | | X | X | | | | | X |
| J11366 | | | 697 | N/A | 2-2-06 | X | X | | | | | X |
| J11382 | | | 1063 | N/A | 2-2-06 | X | X | | | | | X |
| J11362 | ↓ | ↓ | N/A | Blank Blank CKH 2-2-06 | | X | X | | | | | X |
| J11363 | a | 2-2-06 | NA | Blank | | X | X | | | | | X |
| COPY | | | | | | | | | | | | |
| FIELD SAMPLE COPY | | | | | | | | | | | | |
| | | | | | CKH 2-2-06 | | | | | | | |

Enter on line below the first Sample Number from Page One:

J11364

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

SIGN / PRINT NAMES / USE MILITARY TIME

| Relinquished By/Stamp | DATE / TIME | Received By/Stamp | DATE / TIME |
|---------------------------------|----------------------|--|---------------|
| Carla Hughes / Carla Hughes | 2-2-06 / 1430 | Locked Drawer 300 Area, 3746 Bldg., Rm 16 | 2-2-06 / 1430 |
| Locked cabinet Bldg 3746 Rm #16 | | | |
| Carli Malba Golden Melton | 02-06-06 / 1500 | RZ Steffler R.J. Steffler | 2-6-06 / 1500 |
| RZ Steffler R.J. Steffler | WCH 2-6-06 / 1600 | Fed Ex | |
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| | | | |
| LABORATORY SECTION | Received By | Title | DATE / TIME |

REVIEWED BY: _____ DATE: _____
 PRINT/SIGN NAME