SAF-RC-001
Industrial Hygiene Sampling
FINAL DATA

NO DISTRIBUTION REQUIRED

COMMENTS:

SDG 05I-4738-01 SAF-RC-001

Rad only X Chem only Rad & Chem

X Complete Partial

300 Area 334A Bldg

DATA CHEM LABORATORIES

Cover Page

Report Identification Number: 05I-4738-01
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 J451
Payroll#: 72520

Sample Information

Sample Date	Customer Sample Number	Laboratory Sample Number	Method	Analytical Batch Identification	Sample Matrix
14 Nov 2005	J10JJ8	05I44459	NMAM 7300M	G05BJ014	MCE
14 Nov 2005	J10JN0	05I44460	NMAM 7300M	G05BJ014	MCE
14 Nov 2005	J10HD6	05I44461	NMAM 7300M	G05BJ014	MCE
14 Nov 2005	J10HD7	05I44462	NMAM 7300M	G05BJ014	MCE

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Name: Lisa M. Reid
Title: Chemist
Date: November 18, 2005

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Case Narrative Page

Report Identification Number:	05I-4738-01
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 J451
Payroll#:	72520

General Set Information: There are 9 samples in set 05I-4743-01, 4 samples in set 05I-4744-01 and 9 samples in set 05I-4704-01 which were analyzed for Be on MCE filter. There are 4 samples in set 05I-4738 and 3 samples in set 05I-4739-01 which were analyzed for cadmium and beryllium 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 (with a thermometer reading of 96°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 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 0.1 ug/sample.

Method Blank Analysis: Beryllium was found in the two media blank samples above the above the LOQ at 0.015 ug/sample and 0.013 ug/sample. No cadmium was found in the media blank sample above the Contract Required Detection Limit (CRDL).

Dilution(s): NA.

Case Narrative Page

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 results for both beryllium and cadmium were within the control limit of ± 20%. The Relative Percent Differences (RPD) between the LCSs and the LCSDs were within the control limit of 20%.

Replicate Analysis: Two samples in this batch were replicated. The RPDs between the samples and the replicates were 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 (µg/sample) = (A) x (B) x (C)

Where:

A = Analyte concentration from instrument determination (µg/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 µg/L) x (0.025 L/sample) x (1) = 0.025 µg/sample

Miscellaneous Comments: None.

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Report Page

Report Identification Number: 05I-4738-01
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 J451
Payroll#: 72520

Customer Sample Number	Laboratory Sample Number	Date Analyzed	Beryllium µg/sample		Beryllium µg/m³		Air Volume L	
J10JJ8	05I44459	17 Nov 2005	<0.01	U	<0.027		369.	
J10JN0	05I44460	17 Nov 2005	<0.01	U	<0.062		162.	
J10HD6	05I44461	17 Nov 2005	<0.01	U	**		0.00	
J10HD7	05I44462	17 Nov 2005	<0.01	U	**		0.00	
Limit of Detection (LOD)			0.01					
Required Detection Limit (RDL)								

Customer Sample Number	Laboratory Sample Number	Date Analyzed	Cadmium µg/sample		Cadmium µg/m³	
J10JJ8	05I44459	17 Nov 2005	<0.1	U	<0.27	
J10JN0	05I44460	17 Nov 2005	<0.1	U	<0.62	
J10HD6	05I44461	17 Nov 2005	<0.1	U	**	
J10HD7	05I44462	17 Nov 2005	<0.1	U	**	
Limit of Detection (LOD)			0.1			
Required Detection Limit (RDL)						

U - Parameter not detected above LOD.
J - Parameter between LOD and RDL.

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QC Summary Page

Report Identification Number: 05I-4738-01
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 J451
Payroll#: 72520

Batch ID: G05BJ014

QC Sample ID	QC Type	Analyte	Units	Result	Parent Result	Target	Percent Rec.	Relative Percent Diff.
BL-238339-1	MB	Beryllium	µg/sample	0.015	NA	NA	NA	NA
BL-238339-1	MB	Cadmium	µg/sample	ND	NA	NA	NA	NA
QC-238339-1	LCS	Beryllium	µg/sample	10.6	NA	10.0	106.	NA
QC-238339-1	LCS	Cadmium	µg/sample	32.8	NA	30.0	109.	NA
QD-238339-1	LCSD	Beryllium	µg/sample	10.7	10.6	10.0	107.	0.914
QD-238339-1	LCSD	Cadmium	µg/sample	33.0	32.8	30.0	110.	0.694
BL-238339-2	MB	Beryllium	µg/sample	0.013	NA	NA	NA	NA
BL-238339-2	MB	Cadmium	µg/sample	ND	NA	NA	NA	NA
QC-238339-2	LCS	Beryllium	µg/sample	10.7	NA	10.0	107.	NA
QC-238339-2	LCS	Cadmium	µg/sample	33.1	NA	30.0	110.	NA
QD-238339-2	LCSD	Beryllium	µg/sample	10.8	10.7	10.0	108.	1.12
QD-238339-2	LCSD	Cadmium	µg/sample	33.3	33.1	30.0	111.	0.768

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
MS, MSD Percent Rec. = ((Result – Parent) / Target) * 100.0

LCS, LCSD Relative Percent Diff. = ((|LCS – LCSD|) / ((LCS + LCSD)/2.0)) * 100.
MS, MSD Relative Percent Diff. = ((|MS – MSD|) / ((MS+ MSD)/2.0)) * 100.
LD Relative Percent Diff. = ((|Parent – LD|) / ((Parent + LD)/2.0)) * 100

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COC Page

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Washington Closure Hanford

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CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Collector: CJ Williams	Company Contact: Denise A. Pitts and Henry W. Ruby	Telephone No.: 531-1229	Project Coordinator: Joan H. Kessner	Data Turnaround: 24 hrs
Payroll #: 72520	Sampling Location: 300 area/3341 B106	SPECIAL INSTRUCTIONS All relevant COAs must be provided: R 33400 J451	SAF No.: RC-001	
Type of Sample: Be personals		ANALYSIS METHOD (SPECIFIC): NIOSH 7300	Method of Shipment: Federal Express	
Shipped To: Datachem Salt lake city UT	Wipe Sample Media: Ghost ☐ Yes ☒ No; Other		Bill of Lading/Air Bill No.: 854193375605	
POSSIBLE SAMPLE HAZARD/REMARKS: Be	MATRIX: A - AIR; WI - WIPE; X - OTHER	Preservation (i.e., cooling required, etc.)		
Special Handling and/or Storage: N/a				

SAMPLE ANALYSIS

SAMPLE NO.	MATRIX	SAMPLE DATE	VOLUME (L) or Area ____ cm²	Comments	Asbestos Airborne	Lead Airborne	Beryllium Airborne	Beryllium Wipe	Mold	Cadmium			
					No	No	No	No	No	NO			
J10J38	A	11-14-05	369				X			X		154459	
J10J10	↑	↕	162				X			X			160
J10ND6	↓		Blank N/a				X			X			41
J10ND7	A	11-14-05	Blank N/a				X			X			10
				CJW 11-15-05									
								CJW 11-15-05					
											CJW 11-15-05		
				CJW 11-15-05									

WCH-SH-202 (08/29/2005)

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COC Page

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

J10JJ8

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

SIGN / PRINT NAMES / USE MILITARY TIME

Relinquished By/Signed	DATE / TIME	Received By/Signed	DATE / TIME
Cynthia Williams Cynthia Williams	11-14-05/1615	3746 B106 Vault locked cabinet	11-14-05/1615
Patrick Vichit / Patrick Vichit	11-16-05 1430	David St John David St John	11/16/05 1430
David St John WCH David St John	11/16/05 1500	Fed Ex	
Ted H		Mendi Edwards	17 Nov 05
Metals AA	17 Nov 05/1105		

LABORATORY SECTION	Received By	Title	DATE / TIME
	Mendi Edwards		17 Nov 05

REVIEWED BY: _____ DATE: _____

PRINT/SIGN NAME

WCH-SH-202 (08/29/2005)