

SAF-B00-004

Industrial Hygiene Sampling – Airborne

FINAL DATA

NO DISTRIBUTION REQUIRED

COMMENTS:

SDG 05I-0194-02 SAF-B00-004

Rad only Chem only Rad & Chem

Complete Partial

300 Area 313 Bldg

RECEIVED
SEP 21 2005
EDMC

Report Identification Number: ~~061-0194-032~~
 Subcontract Number: 0000X-BO-G0058-B-Mod#3
 Name of Industrial Hygienist: Henry W. Ruby / Denise A. Pitts
 Laboratory Identification Number: DCHM
 SAF#: B00-004; B00-005
 Payroll#: 72520



Sample Information

Sample Date	Customer Sample Number	Laboratory Sample Number	Method	Analytical Batch Identification	Sample Matrix
20-JAN-2005	COMP-12005	061-0194-032	NIOSH 7300M	G050S003	MCE

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Name: Michelle Paradise
 Title: Chemist
 Date: January 26, 2005

Beryllium (Composite)



Case Narrative Page

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Report Identification Number: 05I-0194-02
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General Set Information: There are ten samples in set 05I-0190-01 (two filters), three samples in set 05I-0191-01 (one filter), eight samples in set 05I-0192-01 (one filter), ten samples in set 05I-0193-01 (two filters), six samples in set 05I-0194-01 (two filters), and one sample in set 05I-0194-02 (seventeen filters) for a total of 38 samples in this group. Samples set 05I-0194-02 is a composite of samples J021V7, J021Y7, J02204, J02206, J02202, J02207, J02205, J02203, J021R5 AND IS Ided as COMP-12005 The samples were analyzed for beryllium on MCE filter or filters (shown above as filters per sample). Problems were encountered with the receipt of these samples and contact with the CTR was required. The client wanted Total Dust, method NMAM 0500 followed by compositing of filters and analysis of Beryllium by NMAM 7300M. The request for compositing was not indicated on the COC nor was a request for Total Dust indicated in the analytical columns. Most of the samples that this required this type of sample handling were already prepped by the time DCL was made aware of the requirements.

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 at 110°C for 60 minutes. Samples were then diluted to 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 recoveries in all Initial Calibration Verification (ICV) and Continuing Calibration Verification (CCV) samples are within the quality control limits of $\pm 10\%$.

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 Contract Required Detection Limits (CRDL) of 0.02 ug/sample.

Method Blank Analysis: No beryllium was found in the media blank sample above the Contract Required Detection Limit (CRDL).

Dilution(s): None of the samples were diluted.

Laboratory Control Sample and Duplicate Analysis: Three Laboratory Control Samples (LCS) and three Laboratory Control Sample Duplicates (LCSD) were prepared and analyzed with the sample batch. The LCS results are within control limits of $\pm 20\%$. The Relative Percent Differences (RPD) between the LCSs and LCSDs are within the control limit of 20%.

Replicate Analysis: Four samples in this batch were replicated. The RPDs between the samples and the replicates are within the control limit of 20%. If the result of the sample or replicate is below the CRDL, replicate analysis is negligible.

Flagging Codes:

U - Analyte not detected above the Method Detection Limit (MDL) of 0.004 ug/sample.

J - Analyte result is reported above the Method Detection Limit (MDL) of 0.004 ug/sample, but below the Contract Required Detection Limit (CRDL) of 0.02 ug/sample.

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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Subcontract Number: 0000X-BO-G0058-B-Mod#3
Name of Industrial Hygienist: Henry W. Ruby / Denise A. Pitts
Laboratory Identification Number: DCHM
SAF#: B00-004; B00-005
Payroll#: 72520

Customer Sample Number	Laboratory Sample Number	Date Analyzed	Beryllium $\mu\text{g}/\text{sample}$
COMP-12005	05I01789	25 Jan 2005	0.029
Limit of Detection (LOD)			0.004
Required Detection Limit (RDL)			0.02

U - Parameter not detected above LOD.

J - Parameter between LOD and RDL.

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 Subcontract Number: 0000X-BO-G0058-B-Mod#3
 Name of Industrial Hygienist: Henry W. Ruby / Denise A. Pitts
 Laboratory Identification Number: DCHM
 SAF#: B00-004; B00-005
 Payroll#: 72520

Batch ID: G050S003

QC Sample ID	QC Type	Analyte	Units	Result	Parent Result	Target	Percent Rec.	Relative Percent Diff.
BL-227613-1	MB	Beryllium	µg/sample	ND	NA	NA	NA	NA
QC-227613-1	LCS	Beryllium	µg/sample	10.3	NA	10.0	103.	NA
QD-227613-1	LCSD	Beryllium	µg/sample	10.1	10.3	10.0	101.	1.95
BL-227614-1	MB	Beryllium	µg/sample	ND	NA	NA	NA	NA
QC-227614-1	LCS	Beryllium	µg/sample	9.99	NA	10.0	99.9	NA
QD-227614-1	LCSD	Beryllium	µg/sample	10.2	9.99	10.0	102.	2.33
BL-227626-1	MB	Beryllium	µg/sample	ND	NA	NA	NA	NA
QC-227626-1	LCS	Beryllium	µg/sample	10.1	NA	10.0	101.	NA
QD-227626-1	LCSD	Beryllium	µg/sample	10.2	10.1	10.0	102.	0.272

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

$$\text{LCS, LCSD Percent Rec.} = (\text{Result} / \text{Target}) * 100.0$$

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

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

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

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

05I-0194-01

Bechtel Hanford, Inc.		ERC/INDUSTRIAL HYGIENE CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST							
Collector: <i>Mythia Williams</i>	Company Contact: <i>Henry W. Ruby and Denise A. Pitts</i>	Telephone No. 373-5600	Project Coordinator <i>Joan H. Kessner</i>		Data Turnaround <i>24 hour</i>				
Payroll #: <i>72520</i>	Sampling Location <i>300 area/313 building</i>	SPECIAL INSTRUCTIONS All relevant COAs must be provided: <i>R300XX J451</i> ANALYSIS METHOD (SPECIFIC): <i>modified 9700</i>			SAF No. B00-004; B00-005	Method of Shipment <i>Fed. Ex</i>			
Type of Sample: <i>Bulk - Beryllium</i>		Shipped To: <i>Datachem Salt Lake City UT</i>			Bill of Lading/Air Bill No. <i>84579149 9762</i>				
POSSIBLE SAMPLE HAZARD/REMARKS <i>Beryllium</i>	MATRIX A - AIR WI - WIPE X - OTHER	Preservation (ie., cooling required, etc.)	No	No	NO				
Special Handling and/or Storage <i>N/A</i>									
SAMPLE ANALYSIS						Asbestos Airborne	Lead Airborne	Beryllium Airborne	Total Dust
SAMPLE NO.	MATRIX	SAMPLE DATE	VOLUME (L)	Comments					
<i>J02144</i>	<i>A</i>	<i>1-20-05</i>	<i>25 cm²</i>				<i>X</i>		<i>05I0169S</i>
<i>J02148</i>	<i>A</i>	<i>1-20-05</i>	<i>25 cm²</i>				<i>X</i>		<i>96</i>
<i>J02146</i>	<i>A</i>	<i>1-20-05</i>	<i>25 cm²</i>				<i>X</i>		<i>97</i>
<i>J02149</i>	<i>A</i>	<i>1-20-05</i>	<i>25 cm²</i>				<i>X</i>		<i>98</i>
<i>J02201</i>	<i>A</i>	<i>1-20-05</i>	<i>25 cm²</i>	<i>1-20-05</i>			<i>X</i>		<i>99</i>
<i>J02200</i>	<i>A</i>	<i>1-20-05</i>	<i>25 cm²</i>	<i>1-20-05</i>			<i>X</i>		<i>700</i>
<i>J02147</i>	<i>A</i>	<i>1-20-05</i>	<i>25 cm²</i>				<i>X</i>	<i>X</i>	<i>01</i>
<i>J02147</i>	<i>A</i>	<i>1-20-05</i>	<i>25 cm²</i>	<i>Comp 12005</i>			<i>X</i>	<i>X</i>	<i>02</i>
<i>J02204</i>	<i>A</i>	<i>1-20-05</i>	<i>25 cm²</i>				<i>X</i>	<i>X</i>	<i>03</i>
<i>J02206</i>	<i>A</i>	<i>1-20-05</i>	<i>25 cm²</i>				<i>X</i>	<i>X</i>	<i>04</i>

BHI-SH-202 (07/28/2004)

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DataChem Laboratories, Inc.
960 West Levoy Drive
Salt Lake City, Utah 84123-2547

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FAX: (801) 268-9992
Web Page: www.datachem.com
E-mail: lab@datachem.com

ERC/INDUSTRIAL HYGIENE CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			
SIGN / PRINT NAMES / USE MILITARY TIME			
Relinquished By/From:	DATE/TIME	Received By/To:	DATE/TIME
Cynthia Williams Cynthia Williams	1-20-05 / 1530	3746 Bldg Rm #16 locked cabinet	1-20-05 / 1530
Patrick Vichit from 3746 Bldg Rm 16 locked cabinet	1-21-05 1225	Kevin Nielson / R. Nielson	
Kevin Nielson / R. Nielson	1/21/05 1315	Fed-Ex	1/21/05 1315
Fed-Ex		Kevin Griffiths	10-24-05 10:00 AM
Relinquished By/From:	DATE/TIME	Received By/To:	DATE/TIME
Relinquished By/From:	DATE/TIME	Received By/To:	DATE/TIME
Relinquished By/From:	DATE/TIME	Received By/To:	DATE/TIME
Relinquished By/From:	DATE/TIME	Received By/To:	DATE/TIME
Relinquished By/From:	DATE/TIME	Received By/To:	DATE/TIME
Relinquished By/From:	DATE/TIME	Received By/To:	DATE/TIME
Relinquished By/From:	DATE/TIME	Received By/To:	DATE/TIME
LABORATORY SECTION	Received By	Title	DATE/TIME
	Kevin Griffiths	PM	1/24/05 10 AM

REVIEWED BY: _____ PRINT/SIGN NAME

DATE: _____

BHI-SH-202 (07/28/2004)

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Bechtel Hanford, Inc.		ERC/INDUSTRIAL HYGIENE CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						
Collector: <i>Cynthia Williams</i>	Company Contact Henry W. Ruby and Denise A. Pitts	Telephone No. 373-5600	Project Coordinator Joan H. Kessner		Data Turnaround <i>24 hours</i>			
Payroll #: <i>72520</i>	Sampling Location <i>300 area / 318 Bldg</i>	SPECIAL INSTRUCTIONS All relevant COAs must be provided: <i>R300XJ3451</i> ANALYSIS METHOD (SPECIFIC): <i>0500/7300 vacuum DUST Sampling</i>			SAF No. B00-004; B00-005		Method of Shipment <i>Fed. Ex</i>	
Type of Sample: <i>Bulk - Beryllium</i>	Shipped To: <i>Datachem Salt Lake City UT</i>	Bill of Lading/Air Bill No. <i>8457 9149 9762</i>						
POSSIBLE SAMPLE HAZARD/REMARKS <i>Beryllium</i>	MATRIX A - AIR WT - WIPE X - OTHER	Preservation (i.e., cooling required, etc.)	No	No	ND			
Special Handling and/or Storage <i>N/A</i>			Asbestos Airborne	Lead Airborne	Beryllium Airborne			
SAMPLE ANALYSIS			Asbestos Airborne	Lead Airborne	Beryllium Airborne			
SAMPLE NO.	MATRIX	SAMPLE DATE	VOLUME (L)	Comments				
<i>J02202</i>	<i>A</i>	<i>1-20-05</i>	<i>25 cm²</i>	<i>SPOT - done CJUW 1-20-05</i>			<i>05</i>	
<i>J02207</i>	<i>A</i>	<i>1-20-05</i>	<i>25 cm²</i>				<i>06</i>	
<i>J02205</i>	<i>A</i>	<i>1-20-05</i>	<i>25 cm²</i>				<i>07</i>	
<i>J02203</i>	<i>A</i>	<i>1-20-05</i>	<i>25 cm²</i>				<i>08</i>	
<i>J02185</i>	<i>A</i>	<i>1-20-05</i>	<i>25 cm²</i>				<i>09</i>	
		<i>CJUW 1-20-05</i>						

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1-20-05

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SIGN / PRINT NAMES / USE MILITARY TIME			
Released By/Client:	DATE/TIME	Received By/Client:	DATE/TIME
Cynthia Williams <i>Cynthia Williams</i>	1-20-05/1530	3746 Bldg Rm # 16 locked cabinet	1-20-05/1530
Patrick / Patrick Vichit from 3746 Bldg Rm 16 locked cabinet	1-21-05 1225	Kevin Nielson / R. Nielson	1/21/05 1225
Kevin Nielson / R. Nielson	1/21/05 1315	Fed. Ex	1/21/05 1315
Fed Ex		Kevin Griffiths	1-24-05/10:00
Released By/Client:	DATE/TIME	Received By/Client:	DATE/TIME
Released By/Client:	DATE/TIME	Received By/Client:	DATE/TIME
Released By/Client:	DATE/TIME	Received By/Client:	DATE/TIME
Released By/Client:	DATE/TIME	Received By/Client:	DATE/TIME
Released By/Client:	DATE/TIME	Received By/Client:	DATE/TIME
Released By/Client:	DATE/TIME	Received By/Client:	DATE/TIME
Released By/Client:	DATE/TIME	Received By/Client:	DATE/TIME
Released By/Client:	DATE/TIME	Received By/Client:	DATE/TIME
LABORATORY SECTION	Released By: <i>Kevin Griffiths</i>	Title: <i>PPM</i>	DATE/TIME: <i>1-24-05/10:00</i>

REVIEWED BY: _____ PRINT/SIGN NAME

DATE: _____

BHI-SH-202 (07/28/2004)

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