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ESL090023 Hayes 1/26/12

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U.S. DEPARTMENT OF ENERGY

PNNL-20826

Prepared for the U.S. Department of Energy
under Contract DE-AC05-76RL01830

Analytical Data Report for Sediment Samples Collected From 100-NR-2 Operable Unit

Michael Lindberg

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JANUARY 4, 2012

09/30/11 09:44

To: Anna Radloff

From: Michael J. Lindberg

Environmental Sciences Laboratory
Energy and Environment Directorate, Pacific Northwest National Laboratory

Subject: Analytical Data Report for Sediment Samples Collected From 100-NR-2 Operable Unit, Sample Delivery Group ESL090023, SAF Number F11-057

This letter contains the following information for sample delivery group ESL090023

- Cover Sheet
- Narrative
- Analytical Results
- Quality Control
- Chain of Custodies

Introduction

Between April 7, 2011 and September 20, 2011 sediment samples were received from the 100-NR-2 Operable Unit for geochemical studies.

Analytical Results/Methodology

The analyses for this project were performed at the 331 building located in the 300 Area of the Hanford Site. The analyses were performed according to Pacific Northwest National Laboratory (PNNL) approved procedures and/or nationally recognized test procedures. The data sets include the sample identification numbers, analytical results, estimated quantification limits (EQL), and quality control data.

Quality Control

The preparatory and analytical quality control requirements, calibration requirements, acceptance criteria, and failure actions are defined in the on-line QA plan "Conducting Analytical Work in Support of Regulatory Programs" (CAW). This QA plan implements the Hanford Analytical Services Quality Assurance Requirements Documents (HASQARD) for PNNL.

Definitions

Dup	Duplicate
RPD	Relative Percent Difference
NR	No Recovery (percent recovery less than zero)
ND	Non-Detectable
%REC	Percent Recovery

Sample Receipt

Samples were received with a chain of custody (COC) and were analyzed according to the sample identification numbers supplied by the client. All Samples were refrigerated upon receipt until prepared for analysis.

All samples were received with custody seals intact unless noted in the Case Narrative.

Holding Times

Holding time is defined as the time from sample preparation to the time of analyses. The prescribed holding times were met for all analytes unless noted in the Case Narrative.

Analytical Results

All reported analytical results meet the requirements of the CAW or client specified SOW unless noted in the case narrative.

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Case Narrative Report

Hold Time:

Due to the requirements of the statement of work and sampling events in the field, the 28 day and the 48 hr requirements cannot be met. The statement of work requires samples to be selected at the completion of the borehole. It is not always possible to complete a borehole and have the samples shipped to the laboratory within the hold time requirements.

Preparation Blank (PB):

No discrepancies noted.

Duplicate (DUP):

Duplicate RPD for Barium (37.8%) was above the acceptance limit (35) in 1I26009-DUP1 for ICPMS-RCRA-AE
All other duplicates and QC associated with the batch were in limits. Duplicate failure may be due to sample heterogeneity. There should be no impact to sample data as reported.

Laboratory Control Samples (LCS):

No discrepancies noted.

Post Spike (PS):

Post-Spike Recovery for Barium (140%) was outside acceptance limits (75-125) in 1I26009-PS1 for ICPMS-RCRA-AE

The native sample concentration of the sample was greater than 5 times the spike concentration. There should be not impact to data as reported.

Matrix Spike (MS):

Matrix Spike Recovery for Chromium, Hexavalent (41.6%) was outside acceptance limits (75-125) in 1H18007-MS1 for Hexavalent Chromium/Soil
Potential Matrix interference. Sample results associated with this batch are below the EQL. There should be no impact to the data as reported.

Other QC Criteria:

No discrepancies noted.

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I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Analytical Manager as verified by this signature.

Michael Lindberg

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The following analyses were performed on the following samples included in this report:

Metals 1:1 DI Water Extract by ICPMS

Metals 1:2.5 DI Water Extract by ICPMS

Metals 1:5 DI Water Extract by ICPMS

Metals Acid Extract by ICPMS

Hexavalent Chromium by Colorimetric Determination

Moisture Content

Strontium 90 1:2.5 DI Water Extract by LSC

Strontium 90 1:5 DI Water Extract by LSC

Strontium 90 Acid Extract by LSC

Strontium 90 Water Extract by LSC

SAMPLES ANALYZED IN THIS REPORT

HEIS No.	Laboratory ID	Matrix	Date Collected	Date Received
B2C4B3	1108002-01	SOIL	3/31/11 11:25	4/7/11 13:00
B2C4B4	1108002-02	SOIL	4/4/11 09:20	4/7/11 13:00
B2C4B5	1108002-03	SOIL	4/6/11 13:30	4/7/11 13:00
B2D4K4	1108002-04	SOIL	4/26/11 13:55	5/4/11 10:00
B2D1X0	1108002-05	SOIL	7/7/11 10:15	7/11/11 13:00
B2D1X1	1108002-06	SOIL	7/12/11 13:40	7/13/11 13:00
B2C4W2	1108002-07	SOIL	7/18/11 10:30	7/18/11 13:00
B2C4W3	1108002-08	SOIL	7/14/11 14:00	7/18/11 13:00
B2C414	1108002-09	SOIL	9/16/11 10:35	9/20/11 13:30
B2C415	1108002-10	SOIL	9/19/11 10:10	9/20/11 13:30

Wet Chemistry

Moisture Content (% by Weight) by AGG-WC-001

Lab ID	HEIS No.	Results	EQL	Analyzed	Batch
1108002-01	B2C4B3	2.86E1	N/A	8/10/11	1H08013
1108002-02	B2C4B4	2.73E1	N/A	8/10/11	1H08013
1108002-03	B2C4B5	3.56E1	N/A	8/10/11	1H08013
1108002-04	B2D4K4	1.02E1	N/A	8/10/11	1H08013
1108002-05	B2D1X0	1.80E1	N/A	8/10/11	1H08013
1108002-06	B2D1X1	2.42E1	N/A	8/10/11	1H08013
1108002-07	B2C4W2	3.82E1	N/A	8/10/11	1H08013
1108002-08	B2C4W3	2.23E1	N/A	8/10/11	1H08013
1108002-09	B2C414	1.18E1	N/A	9/22/11	1I20006
1108002-10	B2C415	2.42E1	N/A	9/22/11	1I20006

Hexavalent Chromium/Soil

Chromium, Hexavalent (ug/g dry) by Colorimetric Determination

Lab ID	HEIS No.	Results	EQL	Analyzed	Batch
1108002-01	B2C4B3	<6.39E-1	6.39E-1	8/18/11	1H18007
1108002-02	B2C4B4	<6.37E-1	6.37E-1	8/18/11	1H18007
1108002-03	B2C4B5	<6.78E-1	6.78E-1	8/18/11	1H18007
1108002-04	B2D4K4	<5.50E-1	5.50E-1	8/18/11	1H18007
1108002-05	B2D1X0	<5.92E-1	5.92E-1	8/18/11	1H18007
1108002-06	B2D1X1	<6.16E-1	6.16E-1	8/18/11	1H18007
1108002-07	B2C4W2	<6.95E-1	6.95E-1	8/18/11	1H18007
1108002-08	B2C4W3	<6.09E-1	6.09E-1	8/18/11	1H18007
1108002-09	B2C414	<5.60E-1	5.60E-1	9/27/11	1I26012
1108002-10	B2C415	<6.22E-1	6.22E-1	9/27/11	1I26012

Hexavalent Chromium/1:1 Water Extract

Chromium, Hexavalent (ug/g dry) by Colorimetric Determination

Lab ID	HEIS No.	Results	EQL	Analyzed	Batch
1108002-01	B2C4B3	<4.99E-2	4.99E-2	8/16/11	1H16001
1108002-02	B2C4B4	<5.00E-2	5.00E-2	8/16/11	1H16001
1108002-03	B2C4B5	<5.21E-2	5.21E-2	8/16/11	1H16001
1108002-04	B2D4K4	<5.15E-2	5.15E-2	8/16/11	1H16001
1108002-05	B2D1X0	<5.00E-2	5.00E-2	8/16/11	1H16001
1108002-06	B2D1X1	<5.00E-2	5.00E-2	8/16/11	1H16001
1108002-07	B2C4W2	<5.08E-2	5.08E-2	8/16/11	1H16001
1108002-08	B2C4W3	<5.08E-2	5.08E-2	8/16/11	1H16001
1108002-09	B2C414	<5.08E-2	5.08E-2	9/26/11	1I26001
1108002-10	B2C415	<5.00E-2	5.00E-2	9/26/11	1I26001

Hexavalent Chromium/1:2.5 Water Extract

Chromium, Hexavalent (ug/g dry) by Colorimetric Determination

Lab ID	HEIS No.	Results	EQL	Analyzed	Batch
1108002-01	B2C4B3	<1.24E-1	1.24E-1	8/16/11	1H16002
1108002-02	B2C4B4	<1.25E-1	1.25E-1	8/16/11	1H16002
1108002-03	B2C4B5	<1.25E-1	1.25E-1	8/16/11	1H16002
1108002-04	B2D4K4	<1.25E-1	1.25E-1	8/16/11	1H16002
1108002-05	B2D1X0	<1.29E-1	1.29E-1	8/16/11	1H16002
1108002-06	B2D1X1	<1.25E-1	1.25E-1	8/16/11	1H16002
1108002-07	B2C4W2	<1.27E-1	1.27E-1	8/16/11	1H16002
1108002-08	B2C4W3	<1.24E-1	1.24E-1	8/16/11	1H16002
1108002-09	B2C414	<1.25E-1	1.25E-1	9/26/11	1I26002
1108002-10	B2C415	<1.25E-1	1.25E-1	9/26/11	1I26002

Hexavalent Chromium/1:5 Water Extract

Chromium, Hexavalent (ug/g dry) by Colorimetric Determination

Lab ID	HEIS No.	Results	EQL	Analyzed	Batch
1108002-01	B2C4B3	<2.50E-1	2.50E-1	8/16/11	1H16003
1108002-02	B2C4B4	<2.50E-1	2.50E-1	8/16/11	1H16003
1108002-03	B2C4B5	<2.50E-1	2.50E-1	8/16/11	1H16003
1108002-04	B2D4K4	<2.50E-1	2.50E-1	8/16/11	1H16003
1108002-05	B2D1X0	<2.51E-1	2.51E-1	8/16/11	1H16003
1108002-06	B2D1X1	<2.49E-1	2.49E-1	8/16/11	1H16003
1108002-07	B2C4W2	<2.49E-1	2.49E-1	8/16/11	1H16003
1108002-08	B2C4W3	<2.48E-1	2.48E-1	8/16/11	1H16003
1108002-09	B2C414	<2.42E-1	2.42E-1	9/26/11	1I26003
1108002-10	B2C415	<2.50E-1	2.50E-1	9/26/11	1I26003

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RCRA Metals By PNNL-AGG-415/1:1 Water Extract

CAS #	Analyte	Results	Units	EQL	Analyzed	Batch	Method
HEIS No.	**B2C4B3**	**Lab ID:**		**1108002-01**			
14092-98-9	Chromium	<6.87E-3	ug/g dry	6.87E-3	8/22/11	1H22004	PNNL-AGG-415
7440-38-2	Arsenic	1.64E-2	ug/g dry	5.66E-3	8/22/11	1H22004	PNNL-AGG-415
14687-58-2	Selenium	<1.58E-2	ug/g dry	1.58E-2	8/22/11	1H22004	PNNL-AGG-415
14378-37-1	Silver	<6.24E-3	ug/g dry	6.24E-3	8/22/11	1H22004	PNNL-AGG-415
14336-64-2	Cadmium	<1.14E-3	ug/g dry	1.14E-3	8/22/11	1H22004	PNNL-AGG-415
13966-28-4	Lead	<2.32E-3	ug/g dry	2.32E-3	8/22/11	1H22004	PNNL-AGG-415
13981-97-0	Barium	1.61E-2	ug/g dry	6.22E-4	8/24/11	1H22004	PNNL-AGG-415
HEIS No.	**B2C4B4**	**Lab ID:**		**1108002-02**			
14092-98-9	Chromium	<6.89E-3	ug/g dry	6.89E-3	8/22/11	1H22004	PNNL-AGG-415
7440-38-2	Arsenic	1.24E-2	ug/g dry	5.67E-3	8/22/11	1H22004	PNNL-AGG-415
14687-58-2	Selenium	<1.58E-2	ug/g dry	1.58E-2	8/22/11	1H22004	PNNL-AGG-415
14378-37-1	Silver	<6.25E-3	ug/g dry	6.25E-3	8/22/11	1H22004	PNNL-AGG-415
14336-64-2	Cadmium	<1.15E-3	ug/g dry	1.15E-3	8/22/11	1H22004	PNNL-AGG-415
13966-28-4	Lead	<2.32E-3	ug/g dry	2.32E-3	8/22/11	1H22004	PNNL-AGG-415
13981-97-0	Barium	1.51E-2	ug/g dry	6.24E-4	8/24/11	1H22004	PNNL-AGG-415
HEIS No.	**B2C4B5**	**Lab ID:**		**1108002-03**			
14092-98-9	Chromium	<7.18E-3	ug/g dry	7.18E-3	8/22/11	1H22004	PNNL-AGG-415
7440-38-2	Arsenic	6.99E-3	ug/g dry	5.91E-3	8/22/11	1H22004	PNNL-AGG-415
14687-58-2	Selenium	<1.65E-2	ug/g dry	1.65E-2	8/22/11	1H22004	PNNL-AGG-415
14378-37-1	Silver	<6.52E-3	ug/g dry	6.52E-3	8/22/11	1H22004	PNNL-AGG-415
14336-64-2	Cadmium	<1.19E-3	ug/g dry	1.19E-3	8/22/11	1H22004	PNNL-AGG-415
13966-28-4	Lead	<2.42E-3	ug/g dry	2.42E-3	8/22/11	1H22004	PNNL-AGG-415
13981-97-0	Barium	1.25E-2	ug/g dry	6.51E-4	8/24/11	1H22004	PNNL-AGG-415
HEIS No.	**B2D4K4**	**Lab ID:**		**1108002-04**			
14092-98-9	Chromium	<7.10E-3	ug/g dry	7.10E-3	8/22/11	1H22004	PNNL-AGG-415
7440-38-2	Arsenic	<5.85E-3	ug/g dry	5.85E-3	8/22/11	1H22004	PNNL-AGG-415
14687-58-2	Selenium	<1.63E-2	ug/g dry	1.63E-2	8/22/11	1H22004	PNNL-AGG-415
14378-37-1	Silver	<6.45E-3	ug/g dry	6.45E-3	8/22/11	1H22004	PNNL-AGG-415
14336-64-2	Cadmium	<1.18E-3	ug/g dry	1.18E-3	8/22/11	1H22004	PNNL-AGG-415
13966-28-4	Lead	<2.40E-3	ug/g dry	2.40E-3	8/22/11	1H22004	PNNL-AGG-415
13981-97-0	Barium	1.04E-2	ug/g dry	6.44E-4	8/24/11	1H22004	PNNL-AGG-415
HEIS No.	**B2D1X0**	**Lab ID:**		**1108002-05**			
14092-98-9	Chromium	<6.89E-3	ug/g dry	6.89E-3	8/22/11	1H22004	PNNL-AGG-415
7440-38-2	Arsenic	1.48E-2	ug/g dry	5.67E-3	8/22/11	1H22004	PNNL-AGG-415
14687-58-2	Selenium	<1.58E-2	ug/g dry	1.58E-2	8/22/11	1H22004	PNNL-AGG-415
14378-37-1	Silver	<6.25E-3	ug/g dry	6.25E-3	8/22/11	1H22004	PNNL-AGG-415
14336-64-2	Cadmium	<1.15E-3	ug/g dry	1.15E-3	8/22/11	1H22004	PNNL-AGG-415
13966-28-4	Lead	<2.32E-3	ug/g dry	2.32E-3	8/22/11	1H22004	PNNL-AGG-415
13981-97-0	Barium	3.04E-3	ug/g dry	6.24E-4	8/24/11	1H22004	PNNL-AGG-415
HEIS No.	**B2D1X1**	**Lab ID:**		**1108002-06**			
14092-98-9	Chromium	<6.89E-3	ug/g dry	6.89E-3	8/22/11	1H22004	PNNL-AGG-415
7440-38-2	Arsenic	7.92E-3	ug/g dry	5.67E-3	8/22/11	1H22004	PNNL-AGG-415
14687-58-2	Selenium	<1.58E-2	ug/g dry	1.58E-2	8/22/11	1H22004	PNNL-AGG-415
14378-37-1	Silver	<6.26E-3	ug/g dry	6.26E-3	8/22/11	1H22004	PNNL-AGG-415
14336-64-2	Cadmium	<1.15E-3	ug/g dry	1.15E-3	8/22/11	1H22004	PNNL-AGG-415
13966-28-4	Lead	<2.32E-3	ug/g dry	2.32E-3	8/22/11	1H22004	PNNL-AGG-415
13981-97-0	Barium	9.04E-3	ug/g dry	6.24E-4	8/24/11	1H22004	PNNL-AGG-415

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RCRA Metals By PNNL-AGG-415/1:1 Water Extract

CAS #	Analyte	Results	Units	EQL	Analyzed	Batch	Method
HEIS No.	**B2C4W2**	**Lab ID:**		**1108002-07**			
14092-98-9	Chromium	<7.00E-3	ug/g dry	7.00E-3	8/22/11	1H22004	PNNL-AGG-415
7440-38-2	Arsenic	1.21E-2	ug/g dry	5.76E-3	8/22/11	1H22004	PNNL-AGG-415
14687-58-2	Selenium	<1.61E-2	ug/g dry	1.61E-2	8/22/11	1H22004	PNNL-AGG-415
14378-37-1	Silver	<6.35E-3	ug/g dry	6.35E-3	8/22/11	1H22004	PNNL-AGG-415
14336-64-2	Cadmium	<1.16E-3	ug/g dry	1.16E-3	8/22/11	1H22004	PNNL-AGG-415
13966-28-4	Lead	<2.36E-3	ug/g dry	2.36E-3	8/22/11	1H22004	PNNL-AGG-415
13981-97-0	Barium	1.47E-2	ug/g dry	6.34E-4	8/24/11	1H22004	PNNL-AGG-415
HEIS No.	**B2C4W3**	**Lab ID:**		**1108002-08**			
14092-98-9	Chromium	<7.00E-3	ug/g dry	7.00E-3	8/22/11	1H22004	PNNL-AGG-415
7440-38-2	Arsenic	1.20E-2	ug/g dry	5.76E-3	8/22/11	1H22004	PNNL-AGG-415
14687-58-2	Selenium	<1.61E-2	ug/g dry	1.61E-2	8/22/11	1H22004	PNNL-AGG-415
14378-37-1	Silver	<6.35E-3	ug/g dry	6.35E-3	8/22/11	1H22004	PNNL-AGG-415
14336-64-2	Cadmium	<1.16E-3	ug/g dry	1.16E-3	8/22/11	1H22004	PNNL-AGG-415
13966-28-4	Lead	<2.36E-3	ug/g dry	2.36E-3	8/22/11	1H22004	PNNL-AGG-415
13981-97-0	Barium	1.08E-2	ug/g dry	6.34E-4	8/24/11	1H22004	PNNL-AGG-415
HEIS No.	**B2C414**	**Lab ID:**		**1108002-09**			
14092-98-9	Chromium	<7.00E-3	ug/g dry	7.00E-3	9/26/11	1I26008	PNNL-AGG-415
7440-38-2	Arsenic	<5.76E-3	ug/g dry	5.76E-3	9/26/11	1I26008	PNNL-AGG-415
14687-58-2	Selenium	<1.61E-2	ug/g dry	1.61E-2	9/26/11	1I26008	PNNL-AGG-415
14378-37-1	Silver	<6.36E-3	ug/g dry	6.36E-3	9/26/11	1I26008	PNNL-AGG-415
14336-64-2	Cadmium	<1.16E-3	ug/g dry	1.16E-3	9/26/11	1I26008	PNNL-AGG-415
13966-28-4	Lead	<2.36E-3	ug/g dry	2.36E-3	9/26/11	1I26008	PNNL-AGG-415
13981-97-0	Barium	1.75E-2	ug/g dry	6.34E-4	9/27/11	1I26008	PNNL-AGG-415
HEIS No.	**B2C415**	**Lab ID:**		**1108002-10**			
14092-98-9	Chromium	<6.88E-3	ug/g dry	6.88E-3	9/26/11	1I26008	PNNL-AGG-415
7440-38-2	Arsenic	<5.67E-3	ug/g dry	5.67E-3	9/26/11	1I26008	PNNL-AGG-415
14687-58-2	Selenium	<1.58E-2	ug/g dry	1.58E-2	9/26/11	1I26008	PNNL-AGG-415
14378-37-1	Silver	<6.25E-3	ug/g dry	6.25E-3	9/26/11	1I26008	PNNL-AGG-415
14336-64-2	Cadmium	<1.15E-3	ug/g dry	1.15E-3	9/26/11	1I26008	PNNL-AGG-415
13966-28-4	Lead	<2.32E-3	ug/g dry	2.32E-3	9/26/11	1I26008	PNNL-AGG-415
13981-97-0	Barium	5.42E-2	ug/g dry	6.24E-4	9/27/11	1I26008	PNNL-AGG-415

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RCRA Metals By PNNL-AGG-415/1:2.5 Water Extract

CAS #	Analyte	Results	Units	EQL	Analyzed	Batch	Method
HEIS No.	**B2C4B3**	**Lab ID:**		**1108002-01**			
14092-98-9	Chromium	<1.71E-2	ug/g dry	1.71E-2	8/22/11	1H22003	PNNL-AGG-415
7440-38-2	Arsenic	3.19E-2	ug/g dry	1.41E-2	8/22/11	1H22003	PNNL-AGG-415
14687-58-2	Selenium	<3.93E-2	ug/g dry	3.93E-2	8/22/11	1H22003	PNNL-AGG-415
14378-37-1	Silver	<1.55E-2	ug/g dry	1.55E-2	8/22/11	1H22003	PNNL-AGG-415
14336-64-2	Cadmium	<2.84E-3	ug/g dry	2.84E-3	8/22/11	1H22003	PNNL-AGG-415
13966-28-4	Lead	<5.77E-3	ug/g dry	5.77E-3	8/22/11	1H22003	PNNL-AGG-415
13981-97-0	Barium	1.91E-2	ug/g dry	1.55E-3	8/24/11	1H22003	PNNL-AGG-415
HEIS No.	**B2C4B4**	**Lab ID:**		**1108002-02**			
14092-98-9	Chromium	<1.72E-2	ug/g dry	1.72E-2	8/22/11	1H22003	PNNL-AGG-415
7440-38-2	Arsenic	1.57E-2	ug/g dry	1.42E-2	8/22/11	1H22003	PNNL-AGG-415
14687-58-2	Selenium	<3.95E-2	ug/g dry	3.95E-2	8/22/11	1H22003	PNNL-AGG-415
14378-37-1	Silver	<1.56E-2	ug/g dry	1.56E-2	8/22/11	1H22003	PNNL-AGG-415
14336-64-2	Cadmium	<2.86E-3	ug/g dry	2.86E-3	8/22/11	1H22003	PNNL-AGG-415
13966-28-4	Lead	<5.80E-3	ug/g dry	5.80E-3	8/22/11	1H22003	PNNL-AGG-415
13981-97-0	Barium	2.16E-2	ug/g dry	1.56E-3	8/24/11	1H22003	PNNL-AGG-415
HEIS No.	**B2C4B5**	**Lab ID:**		**1108002-03**			
14092-98-9	Chromium	<1.72E-2	ug/g dry	1.72E-2	8/22/11	1H22003	PNNL-AGG-415
7440-38-2	Arsenic	<1.42E-2	ug/g dry	1.42E-2	8/22/11	1H22003	PNNL-AGG-415
14687-58-2	Selenium	<3.96E-2	ug/g dry	3.96E-2	8/22/11	1H22003	PNNL-AGG-415
14378-37-1	Silver	<1.56E-2	ug/g dry	1.56E-2	8/22/11	1H22003	PNNL-AGG-415
14336-64-2	Cadmium	<2.86E-3	ug/g dry	2.86E-3	8/22/11	1H22003	PNNL-AGG-415
13966-28-4	Lead	<5.81E-3	ug/g dry	5.81E-3	8/22/11	1H22003	PNNL-AGG-415
13981-97-0	Barium	1.63E-2	ug/g dry	1.56E-3	8/24/11	1H22003	PNNL-AGG-415
HEIS No.	**B2D4K4**	**Lab ID:**		**1108002-04**			
14092-98-9	Chromium	<1.72E-2	ug/g dry	1.72E-2	8/22/11	1H22003	PNNL-AGG-415
7440-38-2	Arsenic	<1.42E-2	ug/g dry	1.42E-2	8/22/11	1H22003	PNNL-AGG-415
14687-58-2	Selenium	<3.96E-2	ug/g dry	3.96E-2	8/22/11	1H22003	PNNL-AGG-415
14378-37-1	Silver	<1.57E-2	ug/g dry	1.57E-2	8/22/11	1H22003	PNNL-AGG-415
14336-64-2	Cadmium	<2.87E-3	ug/g dry	2.87E-3	8/22/11	1H22003	PNNL-AGG-415
13966-28-4	Lead	<5.82E-3	ug/g dry	5.82E-3	8/22/11	1H22003	PNNL-AGG-415
13981-97-0	Barium	1.56E-2	ug/g dry	1.56E-3	8/24/11	1H22003	PNNL-AGG-415
HEIS No.	**B2D1X0**	**Lab ID:**		**1108002-05**			
14092-98-9	Chromium	<1.78E-2	ug/g dry	1.78E-2	8/22/11	1H22003	PNNL-AGG-415
7440-38-2	Arsenic	4.22E-2	ug/g dry	1.47E-2	8/22/11	1H22003	PNNL-AGG-415
14687-58-2	Selenium	<4.09E-2	ug/g dry	4.09E-2	8/22/11	1H22003	PNNL-AGG-415
14378-37-1	Silver	<1.62E-2	ug/g dry	1.62E-2	8/22/11	1H22003	PNNL-AGG-415
14336-64-2	Cadmium	<2.96E-3	ug/g dry	2.96E-3	8/22/11	1H22003	PNNL-AGG-415
13966-28-4	Lead	<6.00E-3	ug/g dry	6.00E-3	8/22/11	1H22003	PNNL-AGG-415
13981-97-0	Barium	2.78E-3	ug/g dry	1.61E-3	8/24/11	1H22003	PNNL-AGG-415
HEIS No.	**B2D1X1**	**Lab ID:**		**1108002-06**			
14092-98-9	Chromium	<1.72E-2	ug/g dry	1.72E-2	8/22/11	1H22003	PNNL-AGG-415
7440-38-2	Arsenic	<1.42E-2	ug/g dry	1.42E-2	8/22/11	1H22003	PNNL-AGG-415
14687-58-2	Selenium	<3.96E-2	ug/g dry	3.96E-2	8/22/11	1H22003	PNNL-AGG-415
14378-37-1	Silver	<1.56E-2	ug/g dry	1.56E-2	8/22/11	1H22003	PNNL-AGG-415
14336-64-2	Cadmium	<2.87E-3	ug/g dry	2.87E-3	8/22/11	1H22003	PNNL-AGG-415
13966-28-4	Lead	<5.81E-3	ug/g dry	5.81E-3	8/22/11	1H22003	PNNL-AGG-415
13981-97-0	Barium	1.15E-2	ug/g dry	1.56E-3	8/24/11	1H22003	PNNL-AGG-415

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RCRA Metals By PNNL-AGG-415/1:2.5 Water Extract

CAS #	Analyte	Results	Units	EQL	Analyzed	Batch	Method
HEIS No.	**B2C4W2**	**Lab ID:**		**1108002-07**			
14092-98-9	Chromium	<1.74E-2	ug/g dry	1.74E-2	8/22/11	1H22003	PNNL-AGG-415
7440-38-2	Arsenic	2.84E-2	ug/g dry	1.44E-2	8/22/11	1H22003	PNNL-AGG-415
14687-58-2	Selenium	<4.01E-2	ug/g dry	4.01E-2	8/22/11	1H22003	PNNL-AGG-415
14378-37-1	Silver	<1.58E-2	ug/g dry	1.58E-2	8/22/11	1H22003	PNNL-AGG-415
14336-64-2	Cadmium	<2.90E-3	ug/g dry	2.90E-3	8/22/11	1H22003	PNNL-AGG-415
13966-28-4	Lead	<5.88E-3	ug/g dry	5.88E-3	8/22/11	1H22003	PNNL-AGG-415
13981-97-0	Barium	1.84E-2	ug/g dry	1.58E-3	8/24/11	1H22003	PNNL-AGG-415
HEIS No.	**B2C4W3**	**Lab ID:**		**1108002-08**			
14092-98-9	Chromium	<1.71E-2	ug/g dry	1.71E-2	8/22/11	1H22003	PNNL-AGG-415
7440-38-2	Arsenic	2.66E-2	ug/g dry	1.41E-2	8/22/11	1H22003	PNNL-AGG-415
14687-58-2	Selenium	<3.94E-2	ug/g dry	3.94E-2	8/22/11	1H22003	PNNL-AGG-415
14378-37-1	Silver	<1.56E-2	ug/g dry	1.56E-2	8/22/11	1H22003	PNNL-AGG-415
14336-64-2	Cadmium	<2.85E-3	ug/g dry	2.85E-3	8/22/11	1H22003	PNNL-AGG-415
13966-28-4	Lead	<5.78E-3	ug/g dry	5.78E-3	8/22/11	1H22003	PNNL-AGG-415
13981-97-0	Barium	<1.55E-3	ug/g dry	1.55E-3	8/22/11	1H22003	PNNL-AGG-415
HEIS No.	**B2C414**	**Lab ID:**		**1108002-09**			
14092-98-9	Chromium	<1.72E-2	ug/g dry	1.72E-2	9/26/11	1I26007	PNNL-AGG-415
7440-38-2	Arsenic	<1.42E-2	ug/g dry	1.42E-2	9/26/11	1I26007	PNNL-AGG-415
14687-58-2	Selenium	<3.95E-2	ug/g dry	3.95E-2	9/26/11	1I26007	PNNL-AGG-415
14378-37-1	Silver	<1.56E-2	ug/g dry	1.56E-2	9/26/11	1I26007	PNNL-AGG-415
14336-64-2	Cadmium	<2.86E-3	ug/g dry	2.86E-3	9/26/11	1I26007	PNNL-AGG-415
13966-28-4	Lead	<5.80E-3	ug/g dry	5.80E-3	9/26/11	1I26007	PNNL-AGG-415
13981-97-0	Barium	2.78E-2	ug/g dry	1.56E-3	9/27/11	1I26007	PNNL-AGG-415
HEIS No.	**B2C415**	**Lab ID:**		**1108002-10**			
14092-98-9	Chromium	<1.72E-2	ug/g dry	1.72E-2	9/26/11	1I26007	PNNL-AGG-415
7440-38-2	Arsenic	1.95E-2	ug/g dry	1.42E-2	9/26/11	1I26007	PNNL-AGG-415
14687-58-2	Selenium	<3.96E-2	ug/g dry	3.96E-2	9/26/11	1I26007	PNNL-AGG-415
14378-37-1	Silver	<1.56E-2	ug/g dry	1.56E-2	9/26/11	1I26007	PNNL-AGG-415
14336-64-2	Cadmium	<2.86E-3	ug/g dry	2.86E-3	9/26/11	1I26007	PNNL-AGG-415
13966-28-4	Lead	<5.81E-3	ug/g dry	5.81E-3	9/26/11	1I26007	PNNL-AGG-415
13981-97-0	Barium	1.87E-1	ug/g dry	1.56E-3	9/27/11	1I26007	PNNL-AGG-415

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RCRA Metals By PNNL-AGG-415/1:5 Water Extract

CAS #	Analyte	Results	Units	EQL	Analyzed	Batch	Method
HEIS No.	**B2C4B3**	**Lab ID:**		**1108002-01**			
14092-98-9	Chromium	<3.44E-2	ug/g dry	3.44E-2	8/22/11	1H22002	PNNL-AGG-415
7440-38-2	Arsenic	5.06E-2	ug/g dry	2.83E-2	8/22/11	1H22002	PNNL-AGG-415
14687-58-2	Selenium	<7.90E-2	ug/g dry	7.90E-2	8/22/11	1H22002	PNNL-AGG-415
14378-37-1	Silver	<3.12E-2	ug/g dry	3.12E-2	8/22/11	1H22002	PNNL-AGG-415
14336-64-2	Cadmium	<5.72E-3	ug/g dry	5.72E-3	8/22/11	1H22002	PNNL-AGG-415
13966-28-4	Lead	4.17E-2	ug/g dry	1.16E-2	8/22/11	1H22002	PNNL-AGG-415
13981-97-0	Barium	4.48E-2	ug/g dry	3.12E-3	8/24/11	1H22002	PNNL-AGG-415
HEIS No.	**B2C4B4**	**Lab ID:**		**1108002-02**			
14092-98-9	Chromium	<3.44E-2	ug/g dry	3.44E-2	8/22/11	1H22002	PNNL-AGG-415
7440-38-2	Arsenic	<2.83E-2	ug/g dry	2.83E-2	8/22/11	1H22002	PNNL-AGG-415
14687-58-2	Selenium	<7.91E-2	ug/g dry	7.91E-2	8/22/11	1H22002	PNNL-AGG-415
14378-37-1	Silver	<3.12E-2	ug/g dry	3.12E-2	8/22/11	1H22002	PNNL-AGG-415
14336-64-2	Cadmium	<5.72E-3	ug/g dry	5.72E-3	8/22/11	1H22002	PNNL-AGG-415
13966-28-4	Lead	<1.16E-2	ug/g dry	1.16E-2	8/22/11	1H22002	PNNL-AGG-415
13981-97-0	Barium	3.05E-2	ug/g dry	3.12E-3	8/24/11	1H22002	PNNL-AGG-415
HEIS No.	**B2C4B5**	**Lab ID:**		**1108002-03**			
14092-98-9	Chromium	<3.45E-2	ug/g dry	3.45E-2	8/22/11	1H22002	PNNL-AGG-415
7440-38-2	Arsenic	<2.84E-2	ug/g dry	2.84E-2	8/22/11	1H22002	PNNL-AGG-415
14687-58-2	Selenium	<7.93E-2	ug/g dry	7.93E-2	8/22/11	1H22002	PNNL-AGG-415
14378-37-1	Silver	<3.13E-2	ug/g dry	3.13E-2	8/22/11	1H22002	PNNL-AGG-415
14336-64-2	Cadmium	<5.74E-3	ug/g dry	5.74E-3	8/22/11	1H22002	PNNL-AGG-415
13966-28-4	Lead	<1.16E-2	ug/g dry	1.16E-2	8/22/11	1H22002	PNNL-AGG-415
13981-97-0	Barium	2.45E-2	ug/g dry	3.13E-3	8/24/11	1H22002	PNNL-AGG-415
HEIS No.	**B2D4K4**	**Lab ID:**		**1108002-04**			
14092-98-9	Chromium	<3.44E-2	ug/g dry	3.44E-2	8/22/11	1H22002	PNNL-AGG-415
7440-38-2	Arsenic	<2.83E-2	ug/g dry	2.83E-2	8/22/11	1H22002	PNNL-AGG-415
14687-58-2	Selenium	<7.90E-2	ug/g dry	7.90E-2	8/22/11	1H22002	PNNL-AGG-415
14378-37-1	Silver	<3.12E-2	ug/g dry	3.12E-2	8/22/11	1H22002	PNNL-AGG-415
14336-64-2	Cadmium	<5.72E-3	ug/g dry	5.72E-3	8/22/11	1H22002	PNNL-AGG-415
13966-28-4	Lead	<1.16E-2	ug/g dry	1.16E-2	8/22/11	1H22002	PNNL-AGG-415
13981-97-0	Barium	2.18E-2	ug/g dry	3.12E-3	8/24/11	1H22002	PNNL-AGG-415
HEIS No.	**B2D1X0**	**Lab ID:**		**1108002-05**			
14092-98-9	Chromium	<3.45E-2	ug/g dry	3.45E-2	8/22/11	1H22002	PNNL-AGG-415
7440-38-2	Arsenic	6.02E-2	ug/g dry	2.84E-2	8/22/11	1H22002	PNNL-AGG-415
14687-58-2	Selenium	<7.93E-2	ug/g dry	7.93E-2	8/22/11	1H22002	PNNL-AGG-415
14378-37-1	Silver	<3.13E-2	ug/g dry	3.13E-2	8/22/11	1H22002	PNNL-AGG-415
14336-64-2	Cadmium	<5.74E-3	ug/g dry	5.74E-3	8/22/11	1H22002	PNNL-AGG-415
13966-28-4	Lead	<1.16E-2	ug/g dry	1.16E-2	8/22/11	1H22002	PNNL-AGG-415
13981-97-0	Barium	<3.13E-3	ug/g dry	3.13E-3	8/24/11	1H22002	PNNL-AGG-415
HEIS No.	**B2D1X1**	**Lab ID:**		**1108002-06**			
14092-98-9	Chromium	<3.43E-2	ug/g dry	3.43E-2	8/22/11	1H22002	PNNL-AGG-415
7440-38-2	Arsenic	<2.83E-2	ug/g dry	2.83E-2	8/22/11	1H22002	PNNL-AGG-415
14687-58-2	Selenium	<7.89E-2	ug/g dry	7.89E-2	8/22/11	1H22002	PNNL-AGG-415
14378-37-1	Silver	<3.12E-2	ug/g dry	3.12E-2	8/22/11	1H22002	PNNL-AGG-415
14336-64-2	Cadmium	<5.71E-3	ug/g dry	5.71E-3	8/22/11	1H22002	PNNL-AGG-415
13966-28-4	Lead	<1.16E-2	ug/g dry	1.16E-2	8/22/11	1H22002	PNNL-AGG-415
13981-97-0	Barium	1.79E-2	ug/g dry	3.11E-3	8/24/11	1H22002	PNNL-AGG-415

RCRA Metals By PNNL-AGG-415/1:5 Water Extract

CAS #	Analyte	Results	Units	EQL	Analyzed	Batch	Method
HEIS No.	**B2C4W2**	**Lab ID:**		**1108002-07**			
14092-98-9	Chromium	<3.43E-2	ug/g dry	3.43E-2	8/22/11	1H22002	PNNL-AGG-415
7440-38-2	Arsenic	4.40E-2	ug/g dry	2.82E-2	8/22/11	1H22002	PNNL-AGG-415
14687-58-2	Selenium	<7.88E-2	ug/g dry	7.88E-2	8/22/11	1H22002	PNNL-AGG-415
14378-37-1	Silver	<3.11E-2	ug/g dry	3.11E-2	8/22/11	1H22002	PNNL-AGG-415
14336-64-2	Cadmium	<5.70E-3	ug/g dry	5.70E-3	8/22/11	1H22002	PNNL-AGG-415
13966-28-4	Lead	<1.16E-2	ug/g dry	1.16E-2	8/22/11	1H22002	PNNL-AGG-415
13981-97-0	Barium	3.06E-2	ug/g dry	3.11E-3	8/24/11	1H22002	PNNL-AGG-415
HEIS No.	**B2C4W3**	**Lab ID:**		**1108002-08**			
14092-98-9	Chromium	<3.41E-2	ug/g dry	3.41E-2	8/22/11	1H22002	PNNL-AGG-415
7440-38-2	Arsenic	3.72E-2	ug/g dry	2.81E-2	8/22/11	1H22002	PNNL-AGG-415
14687-58-2	Selenium	<7.85E-2	ug/g dry	7.85E-2	8/22/11	1H22002	PNNL-AGG-415
14378-37-1	Silver	<3.10E-2	ug/g dry	3.10E-2	8/22/11	1H22002	PNNL-AGG-415
14336-64-2	Cadmium	<5.68E-3	ug/g dry	5.68E-3	8/22/11	1H22002	PNNL-AGG-415
13966-28-4	Lead	<1.15E-2	ug/g dry	1.15E-2	8/22/11	1H22002	PNNL-AGG-415
13981-97-0	Barium	2.31E-2	ug/g dry	3.09E-3	8/24/11	1H22002	PNNL-AGG-415
HEIS No.	**B2C414**	**Lab ID:**		**1108002-09**			
14092-98-9	Chromium	<3.33E-2	ug/g dry	3.33E-2	9/26/11	1I26006	PNNL-AGG-415
7440-38-2	Arsenic	<2.74E-2	ug/g dry	2.74E-2	9/26/11	1I26006	PNNL-AGG-415
14687-58-2	Selenium	<7.65E-2	ug/g dry	7.65E-2	9/26/11	1I26006	PNNL-AGG-415
14378-37-1	Silver	<3.02E-2	ug/g dry	3.02E-2	9/26/11	1I26006	PNNL-AGG-415
14336-64-2	Cadmium	<5.54E-3	ug/g dry	5.54E-3	9/26/11	1I26006	PNNL-AGG-415
13966-28-4	Lead	<1.12E-2	ug/g dry	1.12E-2	9/26/11	1I26006	PNNL-AGG-415
13981-97-0	Barium	4.00E-2	ug/g dry	3.02E-3	9/27/11	1I26006	PNNL-AGG-415
HEIS No.	**B2C415**	**Lab ID:**		**1108002-10**			
14092-98-9	Chromium	<3.45E-2	ug/g dry	3.45E-2	9/26/11	1I26006	PNNL-AGG-415
7440-38-2	Arsenic	5.39E-2	ug/g dry	2.84E-2	9/26/11	1I26006	PNNL-AGG-415
14687-58-2	Selenium	<7.92E-2	ug/g dry	7.92E-2	9/26/11	1I26006	PNNL-AGG-415
14378-37-1	Silver	<3.13E-2	ug/g dry	3.13E-2	9/26/11	1I26006	PNNL-AGG-415
14336-64-2	Cadmium	<5.73E-3	ug/g dry	5.73E-3	9/26/11	1I26006	PNNL-AGG-415
13966-28-4	Lead	<1.16E-2	ug/g dry	1.16E-2	9/26/11	1I26006	PNNL-AGG-415
13981-97-0	Barium	3.25E-1	ug/g dry	3.12E-3	9/27/11	1I26006	PNNL-AGG-415

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RCRA Metals By PNNL-AGG-415/Acid Extract

CAS #	Analyte	Results	Units	EQL	Analyzed	Batch	Method
HEIS No.	**B2C4B3**	**Lab ID:**		**1108002-01**			
14092-98-9	Chromium	1.20E1	ug/g dry	8.46E-1	8/22/11	1H22005	PNNL-AGG-415
7440-38-2	Arsenic	1.01E0	ug/g dry	3.68E-1	9/07/11	1H22005	PNNL-AGG-415
14687-58-2	Selenium	<7.12E-1	ug/g dry	7.12E-1	8/22/11	1H22005	PNNL-AGG-415
14378-37-1	Silver	1.07E-1	ug/g dry	2.30E-2	8/22/11	1H22005	PNNL-AGG-415
14336-64-2	Cadmium	2.02E-1	ug/g dry	6.08E-2	8/22/11	1H22005	PNNL-AGG-415
13966-28-4	Lead	7.75E0	ug/g dry	2.31E-1	8/22/11	1H22005	PNNL-AGG-415
13981-97-0	Barium	3.44E1	ug/g dry	2.80E-2	8/24/11	1H22005	PNNL-AGG-415
HEIS No.	**B2C4B4**	**Lab ID:**		**1108002-02**			
14092-98-9	Chromium	7.80E0	ug/g dry	8.33E-1	8/22/11	1H22005	PNNL-AGG-415
7440-38-2	Arsenic	1.34E0	ug/g dry	3.63E-1	9/07/11	1H22005	PNNL-AGG-415
14687-58-2	Selenium	<7.01E-1	ug/g dry	7.01E-1	8/22/11	1H22005	PNNL-AGG-415
14378-37-1	Silver	4.90E-2	ug/g dry	2.27E-2	8/22/11	1H22005	PNNL-AGG-415
14336-64-2	Cadmium	8.69E-2	ug/g dry	5.99E-2	8/22/11	1H22005	PNNL-AGG-415
13966-28-4	Lead	3.75E0	ug/g dry	2.27E-1	8/22/11	1H22005	PNNL-AGG-415
13981-97-0	Barium	8.94E1	ug/g dry	1.38E-1	9/02/11	1H22005	PNNL-AGG-415
HEIS No.	**B2C4B5**	**Lab ID:**		**1108002-03**			
14092-98-9	Chromium	8.03E0	ug/g dry	8.75E-1	8/22/11	1H22005	PNNL-AGG-415
7440-38-2	Arsenic	2.18E0	ug/g dry	3.81E-1	9/07/11	1H22005	PNNL-AGG-415
14687-58-2	Selenium	<7.37E-1	ug/g dry	7.37E-1	8/22/11	1H22005	PNNL-AGG-415
14378-37-1	Silver	4.54E-2	ug/g dry	2.38E-2	8/22/11	1H22005	PNNL-AGG-415
14336-64-2	Cadmium	<6.29E-2	ug/g dry	6.29E-2	8/22/11	1H22005	PNNL-AGG-415
13966-28-4	Lead	4.18E0	ug/g dry	2.39E-1	8/22/11	1H22005	PNNL-AGG-415
13981-97-0	Barium	4.65E1	ug/g dry	2.90E-2	8/24/11	1H22005	PNNL-AGG-415
HEIS No.	**B2D4K4**	**Lab ID:**		**1108002-04**			
14092-98-9	Chromium	6.14E0	ug/g dry	7.17E-1	8/22/11	1H22005	PNNL-AGG-415
7440-38-2	Arsenic	1.05E0	ug/g dry	3.12E-1	9/07/11	1H22005	PNNL-AGG-415
14687-58-2	Selenium	<6.04E-1	ug/g dry	6.04E-1	8/22/11	1H22005	PNNL-AGG-415
14378-37-1	Silver	4.75E-2	ug/g dry	1.95E-2	8/22/11	1H22005	PNNL-AGG-415
14336-64-2	Cadmium	<5.16E-2	ug/g dry	5.16E-2	8/22/11	1H22005	PNNL-AGG-415
13966-28-4	Lead	1.37E0	ug/g dry	1.95E-1	8/22/11	1H22005	PNNL-AGG-415
13981-97-0	Barium	3.17E1	ug/g dry	2.38E-2	8/24/11	1H22005	PNNL-AGG-415
HEIS No.	**B2D1X0**	**Lab ID:**		**1108002-05**			
14092-98-9	Chromium	9.05E0	ug/g dry	7.73E-1	8/22/11	1H22005	PNNL-AGG-415
7440-38-2	Arsenic	2.05E0	ug/g dry	3.36E-1	9/07/11	1H22005	PNNL-AGG-415
14687-58-2	Selenium	<6.50E-1	ug/g dry	6.50E-1	8/22/11	1H22005	PNNL-AGG-415
14378-37-1	Silver	2.72E-2	ug/g dry	2.10E-2	8/22/11	1H22005	PNNL-AGG-415
14336-64-2	Cadmium	<5.55E-2	ug/g dry	5.55E-2	8/22/11	1H22005	PNNL-AGG-415
13966-28-4	Lead	2.65E0	ug/g dry	2.11E-1	8/22/11	1H22005	PNNL-AGG-415
13981-97-0	Barium	2.28E1	ug/g dry	2.56E-2	8/24/11	1H22005	PNNL-AGG-415
HEIS No.	**B2D1X1**	**Lab ID:**		**1108002-06**			
14092-98-9	Chromium	1.53E1	ug/g dry	7.93E-1	8/22/11	1H22005	PNNL-AGG-415
7440-38-2	Arsenic	2.13E0	ug/g dry	3.45E-1	9/07/11	1H22005	PNNL-AGG-415
14687-58-2	Selenium	<6.67E-1	ug/g dry	6.67E-1	8/22/11	1H22005	PNNL-AGG-415
14378-37-1	Silver	7.20E-2	ug/g dry	2.16E-2	8/22/11	1H22005	PNNL-AGG-415
14336-64-2	Cadmium	1.55E-1	ug/g dry	5.70E-2	8/22/11	1H22005	PNNL-AGG-415
13966-28-4	Lead	4.89E0	ug/g dry	2.16E-1	8/22/11	1H22005	PNNL-AGG-415
13981-97-0	Barium	7.10E1	ug/g dry	1.31E-1	9/02/11	1H22005	PNNL-AGG-415

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RCRA Metals By PNNL-AGG-415/Acid Extract

CAS #	Analyte	Results	Units	EQL	Analyzed	Batch	Method
HEIS No.	**B2C4W2**	**Lab ID:**		**1108002-07**			
14092-98-9	Chromium	6.94E0	ug/g dry	8.91E-1	8/22/11	1H22005	PNNL-AGG-415
7440-38-2	Arsenic	1.35E0	ug/g dry	3.88E-1	9/07/11	1H22005	PNNL-AGG-415
14687-58-2	Selenium	<7.50E-1	ug/g dry	7.50E-1	8/22/11	1H22005	PNNL-AGG-415
14378-37-1	Silver	6.17E-2	ug/g dry	2.43E-2	8/22/11	1H22005	PNNL-AGG-415
14336-64-2	Cadmium	2.42E-1	ug/g dry	6.40E-2	8/22/11	1H22005	PNNL-AGG-415
13966-28-4	Lead	4.70E0	ug/g dry	2.43E-1	8/22/11	1H22005	PNNL-AGG-415
13981-97-0	Barium	5.91E1	ug/g dry	2.95E-2	8/24/11	1H22005	PNNL-AGG-415
HEIS No.	**B2C4W3**	**Lab ID:**		**1108002-08**			
14092-98-9	Chromium	1.19E1	ug/g dry	7.88E-1	8/23/11	1H22005	PNNL-AGG-415
7440-38-2	Arsenic	2.08E0	ug/g dry	3.43E-1	9/07/11	1H22005	PNNL-AGG-415
14687-58-2	Selenium	<6.63E-1	ug/g dry	6.63E-1	8/23/11	1H22005	PNNL-AGG-415
14378-37-1	Silver	3.13E-2	ug/g dry	2.15E-2	8/23/11	1H22005	PNNL-AGG-415
14336-64-2	Cadmium	2.32E-1	ug/g dry	5.66E-2	8/23/11	1H22005	PNNL-AGG-415
13966-28-4	Lead	7.11E0	ug/g dry	2.15E-1	8/31/11	1H22005	PNNL-AGG-415
13981-97-0	Barium	8.01E1	ug/g dry	1.31E-1	9/02/11	1H22005	PNNL-AGG-415
HEIS No.	**B2C414**	**Lab ID:**		**1108002-09**			
14092-98-9	Chromium	6.71E0	ug/g dry	7.42E-1	9/27/11	1I26009	PNNL-AGG-415
7440-38-2	Arsenic	3.75E-1	ug/g dry	3.23E-1	9/28/11	1I26009	PNNL-AGG-415
14687-58-2	Selenium	<6.25E-1	ug/g dry	6.25E-1	9/26/11	1I26009	PNNL-AGG-415
14378-37-1	Silver	4.15E-2	ug/g dry	2.02E-2	9/26/11	1I26009	PNNL-AGG-415
14336-64-2	Cadmium	<5.34E-2	ug/g dry	5.34E-2	9/26/11	1I26009	PNNL-AGG-415
13966-28-4	Lead	1.19E0	ug/g dry	2.02E-1	9/26/11	1I26009	PNNL-AGG-415
13981-97-0	Barium	2.92E1	ug/g dry	1.23E-1	9/27/11	1I26009	PNNL-AGG-415
HEIS No.	**B2C415**	**Lab ID:**		**1108002-10**			
14092-98-9	Chromium	1.35E1	ug/g dry	8.31E-1	9/27/11	1I26009	PNNL-AGG-415
7440-38-2	Arsenic	3.76E0	ug/g dry	3.62E-1	9/28/11	1I26009	PNNL-AGG-415
14687-58-2	Selenium	<7.00E-1	ug/g dry	7.00E-1	9/26/11	1I26009	PNNL-AGG-415
14378-37-1	Silver	6.67E-2	ug/g dry	2.26E-2	9/26/11	1I26009	PNNL-AGG-415
14336-64-2	Cadmium	2.24E-1	ug/g dry	5.98E-2	9/26/11	1I26009	PNNL-AGG-415
13966-28-4	Lead	6.43E0	ug/g dry	2.27E-1	9/26/11	1I26009	PNNL-AGG-415
13981-97-0	Barium	2.52E2	ug/g dry	1.38E-1	9/27/11	1I26009	PNNL-AGG-415

Strontium 90/Acid Extract

Strontium-90 (pCi/g dry) by AGG-RRL-002

Lab ID	HEIS No.	Results	MDA	UNC	Analyzed	Batch
1108002-01	B2C4B3	<5.89E-1	5.89E-1		9/06/11	1H26006
1108002-02	B2C4B4	<5.86E-1	5.86E-1		9/06/11	1H26006
1108002-03	B2C4B5	<5.78E-1	5.78E-1		9/06/11	1H26006
1108002-04	B2D4K4	<5.83E-1	5.83E-1		9/06/11	1H26006
1108002-05	B2D1X0	<5.86E-1	5.86E-1		9/06/11	1H26006
1108002-06	B2D1X1	<5.72E-1	5.72E-1		9/06/11	1H26006
1108002-07	B2C4W2	<5.77E-1	5.77E-1		9/06/11	1H26006
1108002-08	B2C4W3	<5.77E-1	5.77E-1		9/06/11	1H26006
1108002-09	B2C414	<6.81E-1	6.81E-1		9/28/11	1I23004
1108002-10	B2C415	<6.87E-1	6.87E-1		9/28/11	1I23004

Strontium 90/1:1 Water Extract

Strontium-90 (pCi/g dry) by AGG-RRL-002

Lab ID	HEIS No.	Results	MDA	UNC	Analyzed	Batch
1108002-01	B2C4B3	<5.89E-1	5.89E-1		9/06/11	1H26003
1108002-02	B2C4B4	<5.90E-1	5.90E-1		9/06/11	1H26003
1108002-03	B2C4B5	<6.15E-1	6.15E-1		9/06/11	1H26003
1108002-04	B2D4K4	<6.09E-1	6.09E-1		9/06/11	1H26003
1108002-05	B2D1X0	<5.90E-1	5.90E-1		9/06/11	1H26003
1108002-06	B2D1X1	<5.91E-1	5.91E-1		9/06/11	1H26003
1108002-07	B2C4W2	<6.00E-1	6.00E-1		9/06/11	1H26003
1108002-08	B2C4W3	<6.00E-1	6.00E-1		9/06/11	1H26003
1108002-09	B2C414	<6.87E-1	6.87E-1		9/28/11	1I23001
1108002-10	B2C415	<6.76E-1	6.76E-1		9/28/11	1I23001

Strontium 90/1:2.5 Water Extract

Strontium-90 (pCi/g dry) by AGG-RRL-002

Lab ID	HEIS No.	Results	MDA	UNC	Analyzed	Batch
1108002-01	B2C4B3	<1.47E0	1.47E0		9/06/11	1H26004
1108002-02	B2C4B4	<1.47E0	1.47E0		9/06/11	1H26004
1108002-03	B2C4B5	<1.48E0	1.48E0		9/06/11	1H26004
1108002-04	B2D4K4	<1.48E0	1.48E0		9/06/11	1H26004
1108002-05	B2D1X0	<1.53E0	1.53E0		9/06/11	1H26004
1108002-06	B2D1X1	<1.48E0	1.48E0		9/06/11	1H26004
1108002-07	B2C4W2	<1.49E0	1.49E0		9/06/11	1H26004
1108002-08	B2C4W3	<1.47E0	1.47E0		9/06/11	1H26004
1108002-09	B2C414	<1.69E0	1.69E0		9/28/11	1I23002
1108002-10	B2C415	<1.69E0	1.69E0		9/28/11	1I23002

Strontium 90/1:5 Water Extract

Strontium-90 (pCi/g dry) by AGG-RRL-002

Lab ID	HEIS No.	Results	MDA	UNC	Analyzed	Batch
1108002-01	B2C4B3	<2.95E0	2.95E0		9/06/11	1H26005
1108002-02	B2C4B4	<2.95E0	2.95E0		9/06/11	1H26005
1108002-03	B2C4B5	<2.96E0	2.96E0		9/06/11	1H26005
1108002-04	B2D4K4	<2.95E0	2.95E0		9/06/11	1H26005
1108002-05	B2D1X0	<2.96E0	2.96E0		9/06/11	1H26005
1108002-06	B2D1X1	<2.94E0	2.94E0		9/06/11	1H26005
1108002-07	B2C4W2	<2.94E0	2.94E0		9/06/11	1H26005
1108002-08	B2C4W3	<2.93E0	2.93E0		9/06/11	1H26005
1108002-09	B2C414	<3.27E0	3.27E0		9/28/11	1I23003
1108002-10	B2C415	<3.38E0	3.38E0		9/28/11	1I23003

Equilibrium Kd 1:1 Calculations

1108002-01	B2C4B3
Analyte	Kd (L/g)
Arsenic	6.06E-02
Barium	2.14E+00
Cadmium	ND
Chromium (Total)	ND
Chromium, Hexavalent	ND
Lead	ND
Selenium	ND
Silver	ND
Strontium-90	ND

1108002-02	B2C4B4
Analyte	Kd (L/g)
Arsenic	1.07E-01
Barium	5.92E+00
Cadmium	ND
Chromium (Total)	ND
Chromium, Hexavalent	ND
Lead	ND
Selenium	ND
Silver	ND
Strontium-90	ND

1108002-03	B2C4B5
Analyte	Kd (L/g)
Arsenic	3.11E-01
Barium	3.72E+00
Cadmium	ND
Chromium (Total)	ND
Chromium, Hexavalent	ND
Lead	ND
Selenium	ND
Silver	ND
Strontium-90	ND

1108002-04	B2D4K4
Analyte	Kd (L/g)
Arsenic	ND
Barium	3.05E+00
Cadmium	ND
Chromium (Total)	ND
Chromium, Hexavalent	ND
Lead	ND
Selenium	ND
Silver	ND
Strontium-90	ND

1108002-05	B2D1X0
Analyte	Kd (L/g)
Arsenic	ND
Barium	7.50E+00
Cadmium	ND
Chromium (Total)	ND
Chromium, Hexavalent	ND
Lead	ND
Selenium	ND
Silver	ND
Strontium-90	ND

1108002-06	B2D1X1
Analyte	Kd (L/g)
Arsenic	ND
Barium	7.85E+00
Cadmium	ND
Chromium (Total)	ND
Chromium, Hexavalent	ND
Lead	ND
Selenium	ND
Silver	ND
Strontium-90	ND

1108002-07	B2C4W2
Analyte	Kd (L/g)
Arsenic	1.11E-01
Barium	4.02E+00
Cadmium	ND
Chromium (Total)	ND
Chromium, Hexavalent	ND
Lead	ND
Selenium	ND
Silver	ND
Strontium-90	ND

1108002-08	B2C4W3
Analyte	Kd (L/g)
Arsenic	1.72E-01
Barium	7.42E+00
Cadmium	ND
Chromium (Total)	ND
Chromium, Hexavalent	ND
Lead	ND
Selenium	ND
Silver	ND
Strontium-90	ND

1108002-09	
Analyte	Kd (L/g)
Arsenic	ND
Barium	1.67E+00
Cadmium	ND
Chromium (Total)	ND
Chromium, Hexavalent	ND
Lead	ND
Selenium	ND
Silver	ND
Strontium-90	ND

1108002-10	
Analyte	Kd (L/g)
Arsenic	ND
Barium	4.65E+00
Cadmium	ND
Chromium (Total)	ND
Chromium, Hexavalent	ND
Lead	ND
Selenium	ND
Silver	ND
Strontium-90	ND

Equilibrium Kd 1:2.5 Calculations

1108002-01	B2C4B3
Analyte	Kd (L/g)
Arsenic	3.07E-02
Barium	1.80E+00
Cadmium	ND
Chromium (Total)	ND
Chromium, Hexavalent	ND
Lead	ND
Selenium	ND
Silver	ND
Strontium-90	ND

1108002-02	B2C4B4
Analyte	Kd (L/g)
Arsenic	8.44E-02
Barium	4.14E+00
Cadmium	ND
Chromium (Total)	ND
Chromium, Hexavalent	ND
Lead	ND
Selenium	ND
Silver	ND
Strontium-90	ND

1108002-03	B2C4B5
Analyte	Kd (L/g)
Arsenic	ND
Barium	2.85E+00
Cadmium	ND
Chromium (Total)	ND
Chromium, Hexavalent	ND
Lead	ND
Selenium	ND
Silver	ND
Strontium-90	ND

1108002-04	B2D4K4
Analyte	Kd (L/g)
Arsenic	ND
Barium	2.03E+00
Cadmium	ND
Chromium (Total)	ND
Chromium, Hexavalent	ND
Lead	ND
Selenium	ND
Silver	ND
Strontium-90	ND

1108002-05	B2D1X0
Analyte	Kd (L/g)
Arsenic	ND
Barium	8.20E+00
Cadmium	ND
Chromium (Total)	ND
Chromium, Hexavalent	ND
Lead	ND
Selenium	ND
Silver	ND
Strontium-90	ND

1108002-06	B2D1X1
Analyte	Kd (L/g)
Arsenic	ND
Barium	6.17E+00
Cadmium	ND
Chromium (Total)	ND
Chromium, Hexavalent	ND
Lead	ND
Selenium	ND
Silver	ND
Strontium-90	ND

1108002-07	B2C4W2
Analyte	Kd (L/g)
Arsenic	4.65E-02
Barium	3.21E+00
Cadmium	ND
Chromium (Total)	ND
Chromium, Hexavalent	ND
Lead	ND
Selenium	ND
Silver	ND
Strontium-90	ND

1108002-08	B2C4W3
Analyte	Kd (L/g)
Arsenic	7.72E-02
Barium	ND
Cadmium	ND
Chromium (Total)	ND
Chromium, Hexavalent	ND
Lead	ND
Selenium	ND
Silver	ND
Strontium-90	ND

1108002-09	
Analyte	Kd (L/g)
Arsenic	ND
Barium	1.05E+00
Cadmium	ND
Chromium (Total)	ND
Chromium, Hexavalent	ND
Lead	ND
Selenium	ND
Silver	ND
Strontium-90	ND

1108002-10	
Analyte	Kd (L/g)
Arsenic	1.92E-01
Barium	1.35E+00
Cadmium	ND
Chromium (Total)	ND
Chromium, Hexavalent	ND
Lead	ND
Selenium	ND
Silver	ND
Strontium-90	ND

Equilibrium Kd 1:5 Calculations

1108002-01	B2C4B3
Analyte	Kd (L/g)
Arsenic	1.90E-02
Barium	7.67E-01
Cadmium	ND
Chromium (Total)	ND
Chromium, Hexavalent	ND
Lead	1.85E-01
Selenium	ND
Silver	ND
Strontium-90	ND

1108002-02	B2C4B4
Analyte	Kd (L/g)
Arsenic	ND
Barium	2.93E+00
Cadmium	ND
Chromium (Total)	ND
Chromium, Hexavalent	ND
Lead	ND
Selenium	ND
Silver	ND
Strontium-90	ND

1108002-03	B2C4B5
Analyte	Kd (L/g)
Arsenic	ND
Barium	1.90E+00
Cadmium	ND
Chromium (Total)	ND
Chromium, Hexavalent	ND
Lead	ND
Selenium	ND
Silver	ND
Strontium-90	ND

1108002-04	B2D4K4
Analyte	Kd (L/g)
Arsenic	ND
Barium	1.45E+00
Cadmium	ND
Chromium (Total)	ND
Chromium, Hexavalent	ND
Lead	ND
Selenium	ND
Silver	ND
Strontium-90	ND

1108002-05	B2D1X0
Analyte	Kd (L/g)
Arsenic	ND
Barium	ND
Cadmium	ND
Chromium (Total)	ND
Chromium, Hexavalent	ND
Lead	ND
Selenium	ND
Silver	ND
Strontium-90	ND

1108002-06	B2D1X1
Analyte	Kd (L/g)
Arsenic	ND
Barium	3.97E+00
Cadmium	ND
Chromium (Total)	ND
Chromium, Hexavalent	ND
Lead	ND
Selenium	ND
Silver	ND
Strontium-90	ND

1108002-07	B2C4W2
Analyte	Kd (L/g)
Arsenic	2.97E-02
Barium	1.93E+00
Cadmium	ND
Chromium (Total)	ND
Chromium, Hexavalent	ND
Lead	ND
Selenium	ND
Silver	ND
Strontium-90	ND

1108002-08	B2C4W3
Analyte	Kd (L/g)
Arsenic	5.49E-02
Barium	3.47E+00
Cadmium	ND
Chromium (Total)	ND
Chromium, Hexavalent	ND
Lead	ND
Selenium	ND
Silver	ND
Strontium-90	ND

1108002-09	
Analyte	Kd (L/g)
Arsenic	ND
Barium	7.29E-01
Cadmium	ND
Chromium (Total)	ND
Chromium, Hexavalent	ND
Lead	ND
Selenium	ND
Silver	ND
Strontium-90	ND

1108002-10	
Analyte	Kd (L/g)
Arsenic	6.88E-02
Barium	7.74E-01
Cadmium	ND
Chromium (Total)	ND
Chromium, Hexavalent	ND
Lead	ND
Selenium	ND
Silver	ND
Strontium-90	ND

Hexavalent Chromium/Soil - Quality Control

Environmental Science Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1H18007 - Hexavalent Chromium Digest										
Blank (1H18007-BLK1)				Prepared & Analyzed: 08/18/11						
Chromium, Hexavalent	<5.00E-2	5.00E-2	ug/g wet							
LCS (1H18007-BS1)				Prepared & Analyzed: 08/18/11						
Chromium, Hexavalent	4.13E-1	5.00E-2	ug/g wet	5.01E-1		82.5	80-120			
Duplicate (1H18007-DUP1)		**Source: 1108002-05**		Prepared & Analyzed: 08/18/11						
Chromium, Hexavalent	<5.84E-1	5.84E-1	ug/g dry		ND				20	
Matrix Spike (1H18007-MS1)		**Source: 1108002-04**		Prepared & Analyzed: 08/18/11						
Chromium, Hexavalent	2.08E-1	5.46E-1	ug/g dry	5.00E-1	5.00E-3	40.6	75-125			
Batch 1I26012 - Hexavalent Chromium Digest										
Blank (1I26012-BLK1)				Prepared: 09/26/11 Analyzed: 09/27/11						
Chromium, Hexavalent	<5.00E-2	5.00E-2	ug/g wet							
LCS (1I26012-BS1)				Prepared: 09/26/11 Analyzed: 09/27/11						
Chromium, Hexavalent	4.40E-1	5.00E-2	ug/g wet	5.01E-1		87.9	80-120			
Duplicate (1I26012-DUP1)		**Source: 1108002-10**		Prepared: 09/26/11 Analyzed: 09/27/11						
Chromium, Hexavalent	<6.22E-1	6.22E-1	ug/g dry		ND				20	
Matrix Spike (1I26012-MS1)		**Source: 1108002-10**		Prepared: 09/26/11 Analyzed: 09/27/11						
Chromium, Hexavalent	3.93E-1	6.20E-1	ug/g dry	5.00E-1	8.00E-3	76.9	75-125			

Hexavalent Chromium/1:1 Water Extract - Quality Control

Environmental Science Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1H16001 - 1:1 Water Extract (Cr6)										
Blank (1H16001-BLK1)				Prepared & Analyzed: 08/16/11						
Chromium, Hexavalent	<5.00E-2	5.00E-2	ug/g wet							
LCS (1H16001-BS1)				Prepared & Analyzed: 08/16/11						
Chromium, Hexavalent	4.92E-1	5.00E-2	ug/g wet	5.01E-1		98.3	70-130			
Duplicate (1H16001-DUP1)		**Source: 1108002-05**		Prepared & Analyzed: 08/16/11						
Chromium, Hexavalent	<4.99E-2	4.99E-2	ug/g dry		ND				20	
Post Spike (1H16001-PS1)		**Source: 1108002-03**		Prepared & Analyzed: 08/16/11						
Chromium, Hexavalent	5.11E-1	N/A	ug/mL	4.96E-1	ND	104	75-125			
Batch 1I26001 - 1:1 Water Extract (Cr6)										
Blank (1I26001-BLK1)				Prepared & Analyzed: 09/26/11						
Chromium, Hexavalent	<5.00E-2	5.00E-2	ug/g wet							
LCS (1I26001-BS1)				Prepared & Analyzed: 09/26/11						
Chromium, Hexavalent	5.07E-1	5.00E-2	ug/g wet	5.01E-1		101	70-130			
Duplicate (1I26001-DUP1)		**Source: 1108002-10**		Prepared & Analyzed: 09/26/11						
Chromium, Hexavalent	<5.00E-2	5.00E-2	ug/g dry		ND				20	
Post Spike (1I26001-PS1)		**Source: 1108002-10**		Prepared & Analyzed: 09/26/11						
Chromium, Hexavalent	5.25E-1	N/A	ug/mL	4.96E-1	2.00E-3	106	75-125			

Hexavalent Chromium/1:2.5 Water Extract - Quality Control

Environmental Science Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1H16002 - 1:2.5 Water Extract (Cr6)										
Blank (1H16002-BLK1)				Prepared & Analyzed: 08/16/11						
Chromium, Hexavalent	<5.00E-2	5.00E-2	ug/g wet							
LCS (1H16002-BS1)				Prepared & Analyzed: 08/16/11						
Chromium, Hexavalent	4.99E-1	5.00E-2	ug/g wet	5.01E-1		99.7	70-130			
Duplicate (1H16002-DUP1)		**Source: 1108002-05**		Prepared & Analyzed: 08/16/11						
Chromium, Hexavalent	<1.29E-1	1.29E-1	ug/g dry		ND				20	
Post Spike (1H16002-PS1)		**Source: 1108002-03**		Prepared & Analyzed: 08/16/11						
Chromium, Hexavalent	5.03E-1	N/A	ug/mL	4.96E-1	ND	102	75-125			
Batch 1I26002 - 1:2.5 Water Extract (Cr6)										
Blank (1I26002-BLK1)				Prepared & Analyzed: 09/26/11						
Chromium, Hexavalent	<5.00E-2	5.00E-2	ug/g wet							
LCS (1I26002-BS1)				Prepared & Analyzed: 09/26/11						
Chromium, Hexavalent	4.99E-1	5.00E-2	ug/g wet	5.01E-1		99.7	70-130			
Duplicate (1I26002-DUP1)		**Source: 1108002-10**		Prepared & Analyzed: 09/26/11						
Chromium, Hexavalent	<1.25E-1	1.25E-1	ug/g dry		ND				20	
Post Spike (1I26002-PS1)		**Source: 1108002-10**		Prepared & Analyzed: 09/26/11						
Chromium, Hexavalent	5.14E-1	N/A	ug/mL	4.96E-1	1.00E-3	104	75-125			

Hexavalent Chromium/1:5 Water Extract - Quality Control

Environmental Science Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1H16003 - 1:5 Water Extract (Cr6)										
Blank (1H16003-BLK1)				Prepared & Analyzed: 08/16/11						
Chromium, Hexavalent	<5.00E-2	5.00E-2	ug/g wet							
LCS (1H16003-BS1)				Prepared & Analyzed: 08/16/11						
Chromium, Hexavalent	4.99E-1	5.00E-2	ug/g wet	5.01E-1		99.7	70-130			
Duplicate (1H16003-DUP1)		**Source: 1108002-05**		Prepared & Analyzed: 08/16/11						
Chromium, Hexavalent	<2.02E-1	2.02E-1	ug/g dry		ND				20	
Post Spike (1H16003-PS1)		**Source: 1108002-03**		Prepared & Analyzed: 08/16/11						
Chromium, Hexavalent	5.08E-1	N/A	ug/mL	4.96E-1	ND	103	75-125			
Batch 1I26003 - 1:5 Water Extract (Cr6)										
Blank (1I26003-BLK1)				Prepared & Analyzed: 09/26/11						
Chromium, Hexavalent	<5.00E-2	5.00E-2	ug/g wet							
LCS (1I26003-BS1)				Prepared & Analyzed: 09/26/11						
Chromium, Hexavalent	5.07E-1	5.00E-2	ug/g wet	5.01E-1		101	70-130			
Duplicate (1I26003-DUP1)		**Source: 1108002-10**		Prepared & Analyzed: 09/26/11						
Chromium, Hexavalent	<2.50E-1	2.50E-1	ug/g dry		ND				20	
Post Spike (1I26003-PS1)		**Source: 1108002-10**		Prepared & Analyzed: 09/26/11						
Chromium, Hexavalent	5.42E-1	N/A	ug/mL	4.96E-1	1.00E-3	109	75-125			

RCRA Metals By PNNL-AGG-415/1:1 Water Extract - Quality Control

Environmental Science Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1H22004 - 1:1 Water Extract (ICP/ICPMS)										
Blank (1H22004-BLK1)				Prepared & Analyzed: 08/22/11						
Chromium	<6.89E-3	6.89E-3	ug/g wet							
Arsenic	<5.67E-3	5.67E-3	"							
Selenium	<1.58E-2	1.58E-2	"							
Silver	<6.26E-3	6.26E-3	"							
Cadmium	<1.15E-3	1.15E-3	"							
Lead	<2.32E-3	2.32E-3	"							
Barium	<6.24E-4	6.24E-4	"							
LCS (1H22004-BS1)				Prepared & Analyzed: 08/22/11						
Chromium	5.07E0	3.44E-1	ug/g wet	4.99E0		102	80-120			
Arsenic	5.10E0	2.84E-1	"	4.99E0		102	80-120			
Selenium	4.94E0	7.92E-1	"	4.99E0		99.0	80-120			
Silver	4.84E0	3.13E-1	"	4.99E0		97.0	80-120			
Cadmium	4.87E0	5.73E-2	"	4.99E0		97.6	80-120			
Lead	4.98E0	1.16E-1	"	4.99E0		99.7	80-120			
Barium	5.11E0	3.12E-2	"	4.99E0		102	80-120			
Duplicate (1H22004-DUP1)		**Source: 1108002-05**		Prepared & Analyzed: 08/22/11						
Chromium	<6.88E-3	6.88E-3	ug/g dry		ND				35	
Arsenic	1.93E-2	5.66E-3	"		1.48E-2			26.5	35	
Selenium	<1.58E-2	1.58E-2	"		ND				35	
Silver	<6.25E-3	6.25E-3	"		ND				35	
Cadmium	<1.14E-3	1.14E-3	"		ND				35	
Lead	<2.32E-3	2.32E-3	"		ND				35	
Barium	2.98E-3	6.23E-4	"		3.04E-3			1.90	35	
Post Spike (1H22004-PS1)		**Source: 1108002-08**		Prepared & Analyzed: 08/22/11						
Chromium	5.26E0	N/A	ug/L	5.00E0	1.15E-1	103	75-125			
Arsenic	6.22E0	N/A	"	5.00E0	1.18E0	101	75-125			
Selenium	5.24E0	N/A	"	5.00E0	ND	108	75-125			
Silver	4.84E0	N/A	"	5.00E0	2.28E-3	96.7	75-125			
Cadmium	4.93E0	N/A	"	5.00E0	4.77E-3	98.4	75-125			
Lead	5.01E0	N/A	"	5.00E0	2.98E-3	100	75-125			
Barium	6.13E0	N/A	"	5.00E0	1.06E0	101	75-125			

RCRA Metals By PNNL-AGG-415/1:1 Water Extract - Quality Control

Environmental Science Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1I26008 - 1:1 Water Extract (ICP/ICPMS)										
Blank (1I26008-BLK1)				Prepared & Analyzed: 09/26/11						
Chromium	<6.89E-3	6.89E-3	ug/g wet							
Arsenic	<5.67E-3	5.67E-3	"							
Selenium	<1.58E-2	1.58E-2	"							
Silver	<6.26E-3	6.26E-3	"							
Cadmium	<1.15E-3	1.15E-3	"							
Lead	<2.32E-3	2.32E-3	"							
Barium	<6.24E-4	6.24E-4	"							
LCS (1I26008-BS1)				Prepared & Analyzed: 09/26/11						
Chromium	5.12E0	3.44E-1	ug/g wet	4.99E0		103	80-120			
Arsenic	4.66E0	2.84E-1	"	4.99E0		93.4	80-120			
Selenium	5.01E0	7.92E-1	"	4.99E0		101	80-120			
Silver	4.88E0	3.13E-1	"	4.99E0		97.9	80-120			
Cadmium	4.75E0	5.73E-2	"	4.99E0		95.4	80-120			
Lead	4.92E0	1.16E-1	"	4.99E0		98.8	80-120			
Barium	5.01E0	3.12E-2	"	4.99E0		101	80-120			
Duplicate (1I26008-DUP1)		**Source: 1108002-10**		Prepared & Analyzed: 09/26/11						
Chromium	<6.89E-3	6.89E-3	ug/g dry		ND				35	
Arsenic	<5.67E-3	5.67E-3	"		ND				35	
Selenium	<1.58E-2	1.58E-2	"		ND				35	
Silver	<6.25E-3	6.25E-3	"		ND				35	
Cadmium	<1.15E-3	1.15E-3	"		ND				35	
Lead	<2.32E-3	2.32E-3	"		ND				35	
Barium	6.59E-2	6.24E-4	"		5.42E-2			19.5	35	
Post Spike (1I26008-PS1)		**Source: 1108002-10**		Prepared & Analyzed: 09/26/11						
Chromium	5.40E0	N/A	ug/L	5.00E0	2.55E-1	103	75-125			
Arsenic	5.51E0	N/A	"	5.00E0	5.28E-1	99.7	75-125			
Selenium	5.07E0	N/A	"	5.00E0	ND	105	75-125			
Silver	4.80E0	N/A	"	5.00E0	3.93E-3	96	75-125			
Cadmium	4.92E0	N/A	"	5.00E0	1.68E-2	98	75-125			
Lead	5.11E0	N/A	"	5.00E0	1.56E-2	102	75-125			
Barium	1.05E1	N/A	"	5.00E0	5.42E0	101	75-125			

RCRA Metals By PNNL-AGG-415/1:2.5 Water Extract - Quality Control

Environmental Science Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1H22003 - 1:2.5 Water Extract (ICP/ICPMS)										
Blank (1H22003-BLK1)				Prepared & Analyzed: 08/22/11						
Chromium	<6.89E-3	6.89E-3	ug/g wet							
Arsenic	<5.67E-3	5.67E-3	"							
Selenium	<1.58E-2	1.58E-2	"							
Silver	<6.26E-3	6.26E-3	"							
Cadmium	<1.15E-3	1.15E-3	"							
Lead	<2.32E-3	2.32E-3	"							
Barium	<6.24E-4	6.24E-4	"							
LCS (1H22003-BS1)				Prepared & Analyzed: 08/22/11						
Chromium	4.93E0	3.44E-1	ug/g wet	4.99E0		98.8	80-120			
Arsenic	4.80E0	2.84E-1	"	4.99E0		96.1	80-120			
Selenium	5.02E0	7.92E-1	"	4.99E0		101	80-120			
Silver	4.75E0	3.13E-1	"	4.99E0		95.2	80-120			
Cadmium	4.69E0	5.73E-2	"	4.99E0		94.0	80-120			
Lead	4.95E0	1.16E-1	"	4.99E0		99.1	80-120			
Barium	5.15E0	3.12E-2	"	4.99E0		103	80-120			
Duplicate (1H22003-DUP1)		**Source: 1108002-05**		Prepared & Analyzed: 08/22/11						
Chromium	<1.78E-2	1.78E-2	ug/g dry		ND				35	
Arsenic	3.14E-2	1.46E-2	"		4.22E-2			29.2	35	
Selenium	<4.09E-2	4.09E-2	"		ND				35	
Silver	<1.61E-2	1.61E-2	"		ND				35	
Cadmium	<2.96E-3	2.96E-3	"		ND				35	
Lead	<6.00E-3	6.00E-3	"		ND				35	
Barium	2.05E-3	1.61E-3	"		2.78E-3			30.5	35	
Post Spike (1H22003-PS1)		**Source: 1108002-08**		Prepared & Analyzed: 08/22/11						
Chromium	5.25E0	N/A	ug/L	5.00E0	4.97E-2	104	75-125			
Arsenic	6.07E0	N/A	"	5.00E0	1.07E0	100	75-125			
Selenium	5.40E0	N/A	"	5.00E0	8.66E-2	106	75-125			
Silver	4.83E0	N/A	"	5.00E0	8.39E-4	96.5	75-125			
Cadmium	4.89E0	N/A	"	5.00E0	4.09E-3	97.8	75-125			
Lead	4.97E0	N/A	"	5.00E0	7.55E-3	99.2	75-125			
Barium	5.69E0	N/A	"	5.00E0	6.38E-1	101	75-125			

RCRA Metals By PNNL-AGG-415/1:2.5 Water Extract - Quality Control

Environmental Science Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1I26007 - 1:2.5 Water Extract (ICP/ICPMS)										
Blank (1I26007-BLK1)				Prepared & Analyzed: 09/26/11						
Chromium	<6.89E-3	6.89E-3	ug/g wet							
Arsenic	<5.67E-3	5.67E-3	"							
Selenium	<1.58E-2	1.58E-2	"							
Silver	<6.26E-3	6.26E-3	"							
Cadmium	<1.15E-3	1.15E-3	"							
Lead	<2.32E-3	2.32E-3	"							
Barium	<6.24E-4	6.24E-4	"							
LCS (1I26007-BS1)				Prepared & Analyzed: 09/26/11						
Chromium	4.92E0	3.44E-1	ug/g wet	4.99E0		98.7	80-120			
Arsenic	4.63E0	2.84E-1	"	4.99E0		92.8	80-120			
Selenium	4.95E0	7.92E-1	"	4.99E0		99.2	80-120			
Silver	4.74E0	3.13E-1	"	4.99E0		95.1	80-120			
Cadmium	4.69E0	5.73E-2	"	4.99E0		93.9	80-120			
Lead	4.90E0	1.16E-1	"	4.99E0		98.2	80-120			
Barium	5.07E0	3.12E-2	"	4.99E0		102	80-120			
Duplicate (1I26007-DUP1)		**Source: 1108002-10**		Prepared & Analyzed: 09/26/11						
Chromium	<1.72E-2	1.72E-2	ug/g dry		ND				35	
Arsenic	1.94E-2	1.42E-2	"		1.95E-2			0.345	35	
Selenium	<3.96E-2	3.96E-2	"		ND				35	
Silver	<1.56E-2	1.56E-2	"		ND				35	
Cadmium	<2.86E-3	2.86E-3	"		ND				35	
Lead	<5.81E-3	5.81E-3	"		ND				35	
Barium	1.93E-1	1.56E-3	"		1.87E-1			3.34	35	
Post Spike (1I26007-PS1)		**Source: 1108002-10**		Prepared & Analyzed: 09/26/11						
Chromium	5.50E0	N/A	ug/L	5.00E0	1.39E-1	107	75-125			
Arsenic	6.10E0	N/A	"	5.00E0	7.80E-1	106	75-125			
Selenium	5.56E0	N/A	"	5.00E0	ND	112	75-125			
Silver	4.83E0	N/A	"	5.00E0	3.01E-3	96.6	75-125			
Cadmium	5.00E0	N/A	"	5.00E0	1.03E-2	99.8	75-125			
Lead	5.10E0	N/A	"	5.00E0	2.68E-2	101	75-125			
Barium	1.25E1	N/A	"	5.00E0	7.48E0	101	75-125			

RCRA Metals By PNNL-AGG-415/1:5 Water Extract - Quality Control

Environmental Science Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1H22002 - 1:5 Water Extract (ICP/ICPMS)										
Blank (1H22002-BLK1)				Prepared: 08/22/11		Analyzed: 08/31/11				
Chromium	<6.89E-3	6.89E-3	ug/g wet							
Arsenic	<5.67E-3	5.67E-3	"							
Selenium	<1.58E-2	1.58E-2	"							
Silver	<6.26E-3	6.26E-3	"							
Cadmium	<1.15E-3	1.15E-3	"							
Lead	<2.32E-3	2.32E-3	"							
Barium	<6.24E-4	6.24E-4	"							
LCS (1H22002-BS1)				Prepared: 08/22/11		Analyzed: 08/31/11				
Chromium	5.06E0	3.44E-1	ug/g wet	4.99E0		101	80-120			
Arsenic	4.69E0	2.84E-1	"	4.99E0		94.1	80-120			
Selenium	4.92E0	7.92E-1	"	4.99E0		98.6	80-120			
Silver	4.67E0	3.13E-1	"	4.99E0		93.6	80-120			
Cadmium	4.81E0	5.73E-2	"	4.99E0		96.3	80-120			
Lead	4.85E0	1.16E-1	"	4.99E0		97.1	80-120			
Barium	5.08E0	3.12E-2	"	4.99E0		102	80-120			
Duplicate (1H22002-DUP1)		**Source: 1108002-05**		Prepared & Analyzed: 08/22/11						
Chromium	<2.79E-2	2.79E-2	ug/g dry		ND				35	
Arsenic	4.86E-2	2.30E-2	"		6.02E-2			21.4	35	
Selenium	<6.41E-2	6.41E-2	"		ND				35	
Silver	<2.53E-2	2.53E-2	"		ND				35	
Cadmium	<4.64E-3	4.64E-3	"		ND				35	
Lead	<9.41E-3	9.41E-3	"		ND				35	
Barium	<2.53E-3	2.53E-3	"		ND				35	
Post Spike (1H22002-PS1)		**Source: 1108002-08**		Prepared & Analyzed: 08/22/11						
Chromium	5.13E0	N/A	ug/L	5.00E0	3.20E-2	102	75-125			
Arsenic	5.69E0	N/A	"	5.00E0	7.50E-1	98.8	75-125			
Selenium	5.11E0	N/A	"	5.00E0	ND	107	75-125			
Silver	4.82E0	N/A	"	5.00E0	1.54E-3	96.3	75-125			
Cadmium	4.89E0	N/A	"	5.00E0	6.32E-4	97.7	75-125			
Lead	5.04E0	N/A	"	5.00E0	3.07E-3	101	75-125			
Barium	5.62E0	N/A	"	5.00E0	4.65E-1	103	75-125			

RCRA Metals By PNNL-AGG-415/1:5 Water Extract - Quality Control

Environmental Science Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1I26006 - 1:5 Water Extract (ICP/ICPMS)										
Blank (1I26006-BLK1)				Prepared & Analyzed: 09/26/11						
Chromium	<6.89E-3	6.89E-3	ug/g wet							
Arsenic	<5.67E-3	5.67E-3	"							
Selenium	<1.58E-2	1.58E-2	"							
Silver	<6.26E-3	6.26E-3	"							
Cadmium	<1.15E-3	1.15E-3	"							
Lead	<2.32E-3	2.32E-3	"							
Barium	<6.24E-4	6.24E-4	"							
LCS (1I26006-BS1)				Prepared & Analyzed: 09/26/11						
Chromium	5.04E0	3.44E-1	ug/g wet	5.00E0		101	80-120			
Arsenic	4.62E0	2.84E-1	"	5.00E0		92.5	80-120			
Selenium	4.74E0	7.92E-1	"	5.00E0		94.9	80-120			
Silver	4.89E0	3.13E-1	"	5.00E0		98.0	80-120			
Cadmium	4.78E0	5.73E-2	"	5.00E0		95.7	80-120			
Lead	4.95E0	1.16E-1	"	5.00E0		99.1	80-120			
Barium	5.28E0	3.12E-2	"	5.00E0		106	80-120			
Duplicate (1I26006-DUP1)		**Source: 1108002-10**		Prepared & Analyzed: 09/26/11						
Chromium	<3.44E-2	3.44E-2	ug/g dry		ND				35	
Arsenic	4.76E-2	2.84E-2	"		5.39E-2			12.5	35	
Selenium	<7.92E-2	7.92E-2	"		ND				35	
Silver	<3.13E-2	3.13E-2	"		ND				35	
Cadmium	<5.73E-3	5.73E-3	"		ND				35	
Lead	<1.16E-2	1.16E-2	"		ND				35	
Barium	3.71E-1	3.12E-3	"		3.25E-1			13.2	35	
Post Spike (1I26006-PS1)		**Source: 1108002-10**		Prepared & Analyzed: 09/26/11						
Chromium	5.35E0	N/A	ug/L	5.00E0	1.16E-1	105	75-125			
Arsenic	6.04E0	N/A	"	5.00E0	1.08E0	99.2	75-125			
Selenium	4.96E0	N/A	"	5.00E0	3.04E-1	93.2	75-125			
Silver	4.95E0	N/A	"	5.00E0	4.05E-3	98.9	75-125			
Cadmium	4.99E0	N/A	"	5.00E0	6.83E-3	99.6	75-125			
Lead	5.07E0	N/A	"	5.00E0	4.82E-3	101	75-125			
Barium	1.15E1	N/A	"	5.00E0	6.49E0	99.2	75-125			

RCRA Metals By PNNL-AGG-415/Acid Extract - Quality Control

Environmental Science Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1H22005 - ASTM D 5198 (ICP/ICPMS)										
Blank (1H22005-BLK1)				Prepared & Analyzed: 08/22/11						
Chromium	<1.88E-1	1.88E-1	ug/g wet							
Arsenic	<8.20E-2	8.20E-2	"							
Selenium	<1.59E-1	1.59E-1	"							
Silver	<5.13E-3	5.13E-3	"							
Cadmium	<1.35E-2	1.35E-2	"							
Lead	<5.13E-2	5.13E-2	"							
Barium	<6.24E-3	6.24E-3	"							
LCS (1H22005-BS1)				Prepared & Analyzed: 08/22/11						
Chromium	6.04E0	9.42E-1	ug/g wet	5.90E0		102	80-120			
Arsenic	5.79E0	4.10E-1	"	5.90E0		98.2	80-120			
Selenium	6.10E0	7.93E-1	"	5.90E0		103	80-120			
Silver	5.65E0	2.56E-2	"	5.90E0		95.7	80-120			
Cadmium	5.84E0	6.77E-2	"	5.90E0		99.0	80-120			
Lead	6.05E0	2.57E-1	"	5.90E0		103	80-120			
Barium	6.13E0	3.12E-2	"	5.90E0		104	80-120			
Duplicate (1H22005-DUP1)		**Source: 1108002-05**		Prepared & Analyzed: 08/22/11						
Chromium	1.19E1	7.65E-1	ug/g dry		9.05E0			27.5	35	
Arsenic	2.43E0	3.33E-1	"		2.05E0			17.3	35	
Selenium	<6.44E-1	6.44E-1	"		ND				35	
Silver	2.66E-2	2.08E-2	"		2.72E-2			2.27	35	
Cadmium	<5.50E-2	5.50E-2	"		ND				35	
Lead	3.24E0	2.08E-1	"		2.65E0			19.8	35	
Barium	2.84E1	2.53E-2	"		2.28E1			21.9	35	
Post Spike (1H22005-PS1)		**Source: 1108002-08**		Prepared: 08/22/11	Analyzed: 08/23/11					
Chromium	3.27E1	N/A	ug/L	5.00E0	2.86E1	82.3	75-125			
Arsenic	1.00E1	N/A	"	5.00E0	4.97E0	101	75-125			
Selenium	5.04E0	N/A	"	5.00E0	2.53E-1	95.7	75-125			
Silver	4.32E0	N/A	"	5.00E0	7.49E-2	84.8	75-125			
Cadmium	5.01E0	N/A	"	5.00E0	5.55E-1	89.1	75-125			
Lead	2.09E1	N/A	"	5.00E0	1.70E1	78.5	75-125			
Barium	4.25E1	N/A	"	5.00E0	3.83E1	84.0	75-125			

RCRA Metals By PNNL-AGG-415/Acid Extract - Quality Control

Environmental Science Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1I26009 - ASTM D 5198 (ICP/ICPMS)										
Blank (1I26009-BLK1)				Prepared: 09/26/11		Analyzed: 09/27/11				
Chromium	<1.88E-1	1.88E-1	ug/g wet							
Arsenic	<8.20E-2	8.20E-2	"							
Selenium	<1.59E-1	1.59E-1	"							
Silver	<5.13E-3	5.13E-3	"							
Cadmium	<1.35E-2	1.35E-2	"							
Lead	<5.13E-2	5.13E-2	"							
Barium	<3.12E-2	3.12E-2	"							
LCS (1I26009-BS1)				Prepared: 09/26/11		Analyzed: 09/27/11				
Chromium	5.88E0	9.42E-1	ug/g wet	5.73E0		103	80-120			
Arsenic	5.67E0	4.10E-1	"	5.73E0		98.8	80-120			
Selenium	5.99E0	7.93E-1	"	5.73E0		105	80-120			
Silver	5.68E0	2.56E-2	"	5.73E0		99.1	80-120			
Cadmium	5.74E0	6.77E-2	"	5.73E0		100	80-120			
Lead	5.98E0	2.57E-1	"	5.73E0		104	80-120			
Barium	6.21E0	3.12E-2	"	5.73E0		108	80-120			
Duplicate (1I26009-DUP1)		**Source: 1108002-10**		Prepared: 09/26/11		Analyzed: 09/27/11				
Chromium	1.34E1	8.10E-1	ug/g dry		1.35E1			0.791	35	
Arsenic	4.68E0	3.53E-1	"		3.76E0			21.8	35	
Selenium	<6.82E-1	6.82E-1	"		ND				35	
Silver	6.57E-2	2.21E-2	"		6.67E-2			1.46	35	
Cadmium	2.50E-1	5.82E-2	"		2.24E-1			10.9	35	
Lead	5.97E0	2.21E-1	"		6.43E0			7.40	35	
Barium	1.72E2	1.34E-1	"		2.52E2			37.8	35	
Post Spike (1I26009-PS1)		**Source: 1108002-10**		Prepared: 09/26/11		Analyzed: 09/27/11				
Chromium	3.49E1	N/A	ug/L	5.00E0	3.05E1	87.7	75-125			
Arsenic	1.30E1	N/A	"	5.00E0	8.51E0	89.5	75-125			
Selenium	5.15E0	N/A	"	5.00E0	6.14E-1	90.7	75-125			
Silver	4.95E0	N/A	"	5.00E0	1.51E-1	96	75-125			
Cadmium	5.39E0	N/A	"	5.00E0	5.07E-1	97.7	75-125			
Lead	1.87E1	N/A	"	5.00E0	1.46E1	81.6	75-125			
Barium	1.21E2	N/A	"	5.00E0	1.14E2	140	75-125			

Strontium 90/Acid Extract - Quality Control

Environmental Science Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1H26006 - ASTM D 5198 (RadChem)										
Blank (1H26006-BLK1)				Prepared: 08/26/11		Analyzed: 09/06/11				
Strontium-90	<1.69E-1	1.69E-1	pCi/g wet							
LCS (1H26006-BS1)				Prepared: 08/26/11		Analyzed: 09/06/11				
Strontium-90	6.07E1	1.69E-1	pCi/g wet	6.02E1		101	80-120			
Duplicate (1H26006-DUP1)		**Source: 1108002-05**		Prepared: 08/26/11		Analyzed: 09/06/11				
Strontium-90	<5.80E-1	5.80E-1	pCi/g dry		ND				35	
Matrix Spike (1H26006-MS1)		**Source: 1108002-05**		Prepared: 08/26/11		Analyzed: 09/06/11				
Strontium-90	6.16E1	1.69E-1	pCi/g dry	6.50E1	ND	97.9	75-125			
Batch 1I23004 - ASTM D 5198 (RadChem)										
Blank (1I23004-BLK1)				Prepared: 09/23/11		Analyzed: 09/28/11				
Strontium-90	<1.93E-1	1.93E-1	pCi/g wet							
LCS (1I23004-BS1)				Prepared: 09/23/11		Analyzed: 09/28/11				
Strontium-90	9.05E1	1.93E-1	pCi/g wet	8.04E1		113	80-120			
Duplicate (1I23004-DUP1)		**Source: 1108002-10**		Prepared: 09/23/11		Analyzed: 09/28/11				
Strontium-90	<6.69E-1	6.69E-1	pCi/g dry		ND				35	
Matrix Spike (1I23004-MS1)		**Source: 1108002-10**		Prepared: 09/23/11		Analyzed: 09/28/11				
Strontium-90	9.23E1	1.93E-1	pCi/g dry	8.04E1	ND	118	75-125			

Strontium 90/1:1 Water Extract - Quality Control

Environmental Science Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1H26003 - 1:1 Water Extract (RadChem)										
Blank (1H26003-BLK1)				Prepared: 08/26/11		Analyzed: 09/06/11				
Strontium-90	<5.90E-1	5.90E-1	pCi/g wet							
LCS (1H26003-BS1)				Prepared: 08/26/11		Analyzed: 09/06/11				
Strontium-90	6.15E1	5.90E-1	pCi/g wet	6.02E1		102	80-120			
Duplicate (1H26003-DUP1)		**Source: 1108002-05**		Prepared: 08/26/11		Analyzed: 09/06/11				
Strontium-90	<5.90E-1	5.90E-1	pCi/g dry		ND				35	
Matrix Spike (1H26003-MS1)		**Source: 1108002-05**		Prepared: 08/26/11		Analyzed: 09/06/11				
Strontium-90	6.13E1	8.03E-1	pCi/g dry	6.50E1	ND	97.5	75-125			
Batch 1I23001 - 1:1 Water Extract (RadChem)										
Blank (1I23001-BLK1)				Prepared: 09/23/11		Analyzed: 09/28/11				
Strontium-90	<6.76E-1	6.76E-1	pCi/g wet							
LCS (1I23001-BS1)				Prepared: 09/23/11		Analyzed: 09/28/11				
Strontium-90	9.07E1	6.76E-1	pCi/g wet	8.04E1		113	80-120			
Duplicate (1I23001-DUP1)		**Source: 1108002-10**		Prepared: 09/23/11		Analyzed: 09/28/11				
Strontium-90	<6.76E-1	6.76E-1	pCi/g dry		ND				35	
Matrix Spike (1I23001-MS1)		**Source: 1108002-10**		Prepared: 09/23/11		Analyzed: 09/28/11				
Strontium-90	8.97E1	1.00E0	pCi/g dry	8.04E1	ND	115	75-125			

Strontium 90/1:2.5 Water Extract - Quality Control

Environmental Science Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1H26004 - 1:2.5 Water Extract (RadChem)										
Blank (1H26004-BLK1)				Prepared: 08/26/11		Analyzed: 09/06/11				
Strontium-90	<5.90E-1	5.90E-1	pCi/g wet							
LCS (1H26004-BS1)				Prepared: 08/26/11		Analyzed: 09/06/11				
Strontium-90	6.23E1	5.90E-1	pCi/g wet	6.02E1		103	80-120			
Duplicate (1H26004-DUP1)		**Source: 1108002-05**		Prepared: 08/26/11		Analyzed: 09/06/11				
Strontium-90	<1.52E0	1.52E0	pCi/g dry		ND				35	
Matrix Spike (1H26004-MS1)		**Source: 1108002-05**		Prepared: 08/26/11		Analyzed: 09/06/11				
Strontium-90	6.26E1	8.03E-1	pCi/g dry	6.50E1	ND	99.4	75-125			
Batch 1I23002 - 1:2.5 Water Extract (RadChem)										
Blank (1I23002-BLK1)				Prepared: 09/23/11		Analyzed: 09/28/11				
Strontium-90	<6.76E-1	6.76E-1	pCi/g wet							
LCS (1I23002-BS1)				Prepared: 09/23/11		Analyzed: 09/28/11				
Strontium-90	8.98E1	6.76E-1	pCi/g wet	8.04E1		112	80-120			
Duplicate (1I23002-DUP1)		**Source: 1108002-10**		Prepared: 09/23/11		Analyzed: 09/28/11				
Strontium-90	<1.69E0	1.69E0	pCi/g dry		ND				35	
Matrix Spike (1I23002-MS1)		**Source: 1108002-10**		Prepared: 09/23/11		Analyzed: 09/28/11				
Strontium-90	9.15E1	1.00E0	pCi/g dry	8.04E1	ND	118	75-125			

Strontium 90/1:5 Water Extract - Quality Control

Environmental Science Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1H26005 - 1:5 Water Extract (RadChem)										
Blank (1H26005-BLK1)				Prepared: 08/26/11		Analyzed: 09/06/11				
Strontium-90	<5.90E-1	5.90E-1	pCi/g wet							
LCS (1H26005-BS1)				Prepared: 08/26/11		Analyzed: 09/06/11				
Strontium-90	6.14E1	5.90E-1	pCi/g wet	6.02E1		102	80-120			
Duplicate (1H26005-DUP1)		**Source: 1108002-05**		Prepared: 08/26/11		Analyzed: 09/06/11				
Strontium-90	<2.39E0	2.39E0	pCi/g dry		ND				35	
Matrix Spike (1H26005-MS1)		**Source: 1108002-05**		Prepared: 08/26/11		Analyzed: 09/06/11				
Strontium-90	6.24E1	8.03E-1	pCi/g dry	6.50E1	ND	99	75-125			
Batch 1I23003 - 1:5 Water Extract (RadChem)										
Blank (1I23003-BLK1)				Prepared: 09/23/11		Analyzed: 09/28/11				
Strontium-90	<6.76E-1	6.76E-1	pCi/g wet							
LCS (1I23003-BS1)				Prepared: 09/23/11		Analyzed: 09/28/11				
Strontium-90	9.27E1	6.76E-1	pCi/g wet	8.04E1		115	80-120			
Duplicate (1I23003-DUP1)		**Source: 1108002-10**		Prepared: 09/23/11		Analyzed: 09/28/11				
Strontium-90	<3.38E0	3.38E0	pCi/g dry		ND				35	
Matrix Spike (1I23003-MS1)		**Source: 1108002-10**		Prepared: 09/23/11		Analyzed: 09/28/11				
Strontium-90	9.32E1	1.00E0	pCi/g dry	8.04E1	ND	119	75-125			

Strontium 90 - Quality Control		
ASTM D 5198 (RadChem)		
Sample ID	HEIS ID	Tracer Recovery
1108002-01	B2C4B3	94.1%
1108002-02	B2C4B4	92.3%
1108002-03	B2C4B5	93.7%
1108002-04	B2D4K4	92.2%
1108002-05	B2D1X0	92.7%
1108002-06	B2D1X1	94.6%
1108002-07	B2C4W2	95.1%
1108002-08	B2C4W3	94.3%
1108002-09	B2C414	90.3%
1108002-10	B2C415	94.1%

Strontium 90 - Quality Control		
1:1 Water Extract (RadChem)		
Sample ID	HEIS ID	Tracer Recovery
1108002-01	B2C4B3	91.2%
1108002-02	B2C4B4	91.2%
1108002-03	B2C4B5	89.7%
1108002-04	B2D4K4	90.6%
1108002-05	B2D1X0	92.0%
1108002-06	B2D1X1	91.9%
1108002-07	B2C4W2	90.7%
1108002-08	B2C4W3	92.6%
1108002-09	B2C414	92.6%
1108002-10	B2C415	93.5%

Strontium 90 - Quality Control		
1:2.5 Water Extract (RadChem)		
Sample ID	HEIS ID	Tracer Recovery
1108002-01	B2C4B3	93.4%
1108002-02	B2C4B4	93.2%
1108002-03	B2C4B5	95.6%
1108002-04	B2D4K4	91.6%
1108002-05	B2D1X0	93.8%
1108002-06	B2D1X1	92.2%
1108002-07	B2C4W2	93.5%
1108002-08	B2C4W3	92.4%
1108002-09	B2C414	92.0%
1108002-10	B2C415	93.6%

Strontium 90 - Quality Control		
1:5 Water Extract (RadChem)		
Sample ID	HEIS ID	Tracer Recovery
1108002-01	B2C4B3	90.6%
1108002-02	B2C4B4	93.8%
1108002-03	B2C4B5	92.1%
1108002-04	B2D4K4	90.5%
1108002-05	B2D1X0	92.1%
1108002-06	B2D1X1	91.0%
1108002-07	B2C4W2	93.0%
1108002-08	B2C4W3	89.8%
1108002-09	B2C414	93.4%
1108002-10	B2C415	92.6%

JANUARY 4, 2012

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-057-058	PAGE 1 OF 1
COLLECTOR Turner	COMPANY CONTACT RADLOFF, AW	TELEPHONE NO. 376-4554	PROJECT COORDINATOR RADLOFF, AW	PRICE CODE 8H	DATA TURNAROUND
SAMPLING LOCATION C8187 (199-N-185); I-017	PROJECT DESIGNATION 100 Area Remedial Investigation/Feasibility Analysis - 100-NR-2 - Sediment		SAF NO. F11-057	AIR QUALITY ☐	30 Days / 30 Days
ICE CHEST NO. N/A	FIELD LOGBOOK NO. HNF-N-486-1 pg 36	ACTUAL SAMPLE DEPTH 49.7-52.3 ft	COA 300104ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO Environmental Sciences Laboratory	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS		
A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	Cool~4C
		HOLDING TIME	6 Months
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	1L
	SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS	KD - Batch (No CAS);

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	[redacted]
B2C4B3	SOIL	3-31-11	1125	X

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM A. Turner	DATE/TIME 3-31-11 1240	RECEIVED BY/STORED IN MO 413554 R1	DATE/TIME 3-31-11 1240	** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐
RELINQUISHED BY/REMOVED FROM MO 413554 R1	DATE/TIME 4-7-11 1200	RECEIVED BY/STORED IN MA White	DATE/TIME 4-7-11 1200	BRM # 13564
RELINQUISHED BY/REMOVED FROM MA White	DATE/TIME 4-7-11 1300	RECEIVED BY/STORED IN J. Kuznyakov	DATE/TIME 4-7-11 1300	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

PRINTED ON 3/10/2011

SDG# ESL090023

A-6003-618 (REV 2)

JANUARY 4, 2012

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-057-061	PAGE 1 OF 1
COLLECTOR Turner	COMPANY CONTACT RADLOFF, AW	TELEPHONE NO. 376-4554	PROJECT COORDINATOR RADLOFF, AW	PRICE CODE 8H	DATA TURNAROUND
SAMPLING LOCATION C8187 (199-N-185); I-018	PROJECT DESIGNATION 100 Area Remedial Investigation/Feasibility Analysis - 100-NR-2 - Sediment		SAF NO. F11-057	AIR QUALITY ☐	30 Days / 30 Days
ICE CHEST NO. N/A	FIELD LOGBOOK NO. HNF-N-486-1 pg 37	ACTUAL SAMPLE DEPTH 69.7-72.2 Ft	COA 300104ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO Environmental Sciences Laboratory	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegetation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~4C
HOLDING TIME	6 Months
TYPE OF CONTAINER	G/P
NO. OF CONTAINER(S)	1
VOLUME	1L
SAMPLE ANALYSIS	KD - Batch (No CAS);

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B2C4B4	SOIL	4-4-11	0920	1

CHAIN OF POSSESSION	SIGN/ PRINT NAMES
RELINQUISHED BY/REMOVED FROM: A. Turner MT — DATE/TIME: 4-4-11 1510	RECEIVED BY/STORED IN: M0413 SSL R1 — DATE/TIME: 4-4-11 1510
RELINQUISHED BY/REMOVED FROM: MD 413 SSL R1 — DATE/TIME: 4-7-11 1200	RECEIVED BY/STORED IN: MA White MA Rios — DATE/TIME: 4-7-11 1200
RELINQUISHED BY/REMOVED FROM: MA White MA Rios — DATE/TIME: 4-7-11 1300	RECEIVED BY/STORED IN: J. Kulmyrka — DATE/TIME: 4-7-11 1300
RELINQUISHED BY/REMOVED FROM — DATE/TIME	RECEIVED BY/STORED IN — DATE/TIME
RELINQUISHED BY/REMOVED FROM — DATE/TIME	RECEIVED BY/STORED IN — DATE/TIME
RELINQUISHED BY/REMOVED FROM — DATE/TIME	RECEIVED BY/STORED IN — DATE/TIME
RELINQUISHED BY/REMOVED FROM — DATE/TIME	RECEIVED BY/STORED IN — DATE/TIME

SPECIAL INSTRUCTIONS
** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐

BRM # 13564

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

PRINTED ON 3/10/2011

A-6003-618 (REV 2)

JANUARY 4, 2012

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-057-064	PAGE 1 OF 1
COLLECTOR Turner	COMPANY CONTACT RADLOFF, AW	TELEPHONE NO. 376-4554	PROJECT COORDINATOR RADLOFF, AW	PRICE CODE 8H	DATA TURNAROUND
SAMPLING LOCATION C8187 (199-N-185); I-019	PROJECT DESIGNATION 100 Area Remedial Investigation/Feasibility Analysis - 100-NR-2 - Sediment		SAF NO. F11-057	AIR QUALITY ☐	30 Days / 30 Days
ICE CHEST NO. N/A	FIELD LOGBOOK NO. HNP-N-486-1 PG 38	ACTUAL SAMPLE DEPTH 90 - 92.5 Ft	COA 300104ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO Environmental Sciences Laboratory	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS		
A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	Cool~4C
		HOLDING TIME	6 Months
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	1L
	SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS	KD - Batch (No CAS);

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	[redacted]
B2C4B5	SOIL	4-6-11	1330	X

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM A. Turner AT 4-6-11	DATE/TIME 1450	RECEIVED BY/STORED IN M0413 SSU R1 4-6-11	DATE/TIME 1450	** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐ BRM # 13564
RELINQUISHED BY/REMOVED FROM M0413 SSU R1 4-7-11	DATE/TIME 1200	RECEIVED BY/STORED IN MaWhite MaWhite 4-7-11	DATE/TIME 1200	
RELINQUISHED BY/REMOVED FROM MaWhite MaWhite 4-7-11	DATE/TIME 1300	RECEIVED BY/STORED IN T. Kutnyakov Tim Kutnyakov 4-7-11	DATE/TIME 1300	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

PRINTED ON 3/10/2011

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-057-132	PAGE 1 OF 1
COLLECTOR: BAILOY	COMPANY CONTACT: RADLOFF, AW	TELEPHONE NO.: 376-4554	PROJECT COORDINATOR: RADLOFF, AW	PRICE CODE: 8H	DATA TURNAROUND
SAMPLING LOCATION: C8185 (199-N-183); I-026	PROJECT DESIGNATION: 100 Area Remedial Investigation/Feasibility Analysis - 100-NR-2 - Sediment		SAF NO.: F11-057	AIR QUALITY: ☐	30 Days / 30 Days
ICE CHEST NO.: N/A	FIELD LOGBOOK NO.: HNF-N-585-15/72	ACTUAL SAMPLE DEPTH: 106.7' - 109.2'	COA: 300104ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO: Environmental Sciences Laboratory	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A		

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegetation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~4C
HOLDING TIME	6 Months
TYPE OF CONTAINER	G/P
NO. OF CONTAINER(S)	1
VOLUME	1L
SAMPLE ANALYSIS	KD - Batch (No CAS);

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B2D4K4	SOIL	4-26-11	1355	

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
J BAILOY / KCB	4-26-11 / 1500	MO413 SSU R1	4-26-11 / 1500
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
MO 413 - SSU - R1	5-4-11 0800	MAWhitmarsh	5-4-11 0800
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
MAWhitmarsh	5-4-11 1000	I. Kutryakov	5-4-11 1000
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS
** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.

BRM # 13564

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

PRINTED ON 4/26/2011

SDG#ESL 090023

A-6003-618 (REV 2)

JANUARY 4, 2012

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-057-119	PAGE 1 OF 1
COLLECTOR: Turner, Crow, Billingsley	COMPANY CONTACT: RADLOFF, AW	TELEPHONE NO.: 376-4554	PROJECT COORDINATOR: RADLOFF, AW	PRICE CODE: 8H	DATA TURNAROUND
SAMPLING LOCATION: C8184 (199-N-182); I-002	PROJECT DESIGNATION: 100 Area Remedial Investigation/Feasibility Analysis - 100-NR-2 - Sediment		SAF NO.: F11-057	AIR QUALITY: ☐	30 Days / 30 Days
ICE CHEST NO.: N/A	FIELD LOGBOOK NO.: HNF-N-585-15 PG 75	ACTUAL SAMPLE DEPTH: 126.8'-129.3'	COA: 300104ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO: Environmental Sciences Laboratory	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A		

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegetation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~4C
HOLDING TIME	6 Months
TYPE OF CONTAINER	G/P
NO. OF CONTAINER(S)	1
VOLUME	1L
SAMPLE ANALYSIS	KD - Batch (No CAS);

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	[redacted]
B2D1X0	SOIL	7-7-11	1015	X

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: A. Turner 7-7-11	DATE/TIME: 1200	RECEIVED BY/STORED IN: M04135564 R1 7-7-11	DATE/TIME: 1200
RELINQUISHED BY/REMOVED FROM: SSU-R1 JUL 11 2011	DATE/TIME: 0930	RECEIVED BY/STORED IN: J.R. Aguilar JUL 11 2011	DATE/TIME: 0930
RELINQUISHED BY/REMOVED FROM: J.R. Aguilar JUL 11 2011	DATE/TIME: 1300	RECEIVED BY/STORED IN: J. Kudrnyakov 07/11/11	DATE/TIME: 1300
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS
** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.

BRM #13564

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

PRINTED ON 4/12/2011

SDG # ESL 090023

A-6003-618 (REV 2)

JANUARY 4, 2012

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-057-120	PAGE 1 OF 1
COLLECTOR: Turner, Crow, Billingsley	COMPANY CONTACT: RADLOFF, AW	TELEPHONE NO.: 376-4554	PROJECT COORDINATOR: RADLOFF, AW	PRICE CODE: 8H	DATA TURNAROUND
SAMPLING LOCATION: C8184 (199-N-182); I-003	PROJECT DESIGNATION: 100 Area Remedial Investigation/Feasibility Analysis - 100-NR-2 - Sediment		SAF NO.: F11-057	AIR QUALITY: ☐	30 Days / 30 Days
ICE CHEST NO.: N/A	FIELD LOGBOOK NO.: HNF-N-585-15 pg 76	ACTUAL SAMPLE DEPTH: 151.5'-154 ft	COA: 300104ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO: Environmental Sciences Laboratory	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A		

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegetation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~4C
HOLDING TIME	6 Months
TYPE OF CONTAINER	G/P
NO. OF CONTAINER(S)	1
VOLUME	1L
SAMPLE ANALYSIS	KD - Batch (No CAS);

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	[redacted]
B2D1X1	SOIL	7-12-11	1340	X

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: A. Turner	DATE/TIME: 7-12-11 1500	RECEIVED BY/STORED IN: MO 413 SSL R1	DATE/TIME: 7-12-11 1500
RELINQUISHED BY/REMOVED FROM: SSU-R1	DATE/TIME: JUL 13 2011 0700	RECEIVED BY/STORED IN: J.R. Aguilar	DATE/TIME: JUL 13 2011 0700
RELINQUISHED BY/REMOVED FROM: J.R. Aguilar	DATE/TIME: JUL 13 2011 1300	RECEIVED BY/STORED IN: I. Kutryavtsev	DATE/TIME: JUL 13 2011 1300
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS
** The CACN for all analytical work at WSCF laboratory is 402057ES20.
** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.

BRM # 13564

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

PRINTED ON 4/12/2011

SDG# ESL090023

A-6003-618 (REV 2)

JANUARY 4, 2012

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-057-067	PAGE 1 OF 1
COLLECTOR JK Bailey	COMPANY CONTACT RADLOFF, AW	TELEPHONE NO. 376-4554	PROJECT COORDINATOR RADLOFF, AW	PRICE CODE 8H	DATA TURNAROUND
SAMPLING LOCATION C8191 (199-N-189); I-029	PROJECT DESIGNATION 100 Area Remedial Investigation/Feasibility Analysis - 100-NR-2 - Sediment		SAF NO. F11-057	AIR QUALITY ☐	30 Days / 30 Days
ICE CHEST NO. N/A	FIELD LOGBOOK NO. ~~HNF-N-~~ 585-10/83	ACTUAL SAMPLE DEPTH 114.8'-117.3'	COA 300104ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO Environmental Sciences Laboratory	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	Cool~4C
A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	HOLDING TIME	6 Months
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	1L
	SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS	KD - Batch (No CAS);

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B2C4W2	SOIL	JUL 18 2011	1030	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM JK Bailey JCB	DATE/TIME JUL 18 2011/1200	RECEIVED BY/STORED IN MO-413 SSU-R1	DATE/TIME JUL 18 2011/1200
RELINQUISHED BY/REMOVED FROM MO-413 SSU-R1 7-18-11	DATE/TIME 1220	RECEIVED BY/STORED IN Am Aguilar Am Aguilar 7-18-11	DATE/TIME 1220
RELINQUISHED BY/REMOVED FROM Am Aguilar Am Aguilar 7-18-11	DATE/TIME 1300	RECEIVED BY/STORED IN I. Kuznyakov I. Kuznyakov 7-18-11	DATE/TIME 1300
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.

BRM # 13564

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

PRINTED ON 4/4/2011

SDG# ESL 090023

A-6003-618 (REV 2)

JANUARY 4, 2012

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-057-071	PAGE 1 OF 1
COLLECTOR: JK Bailey	COMPANY CONTACT: RADLOFF, AW	TELEPHONE NO.: 376-4554	PROJECT COORDINATOR: RADLOFF, AW	PRICE CODE: 8H	DATA TURNAROUND
SAMPLING LOCATION: C8191 (199-N-189); I-028	PROJECT DESIGNATION: 100 Area Remedial Investigation/Feasibility Analysis - 100-NR-2 - Sediment		SAF NO.: F11-057	AIR QUALITY ☐	30 Days / 30 Days
ICE CHEST NO.: N/A	FIELD LOGBOOK NO.: ~~HNF-N-~~ 585-10/82	ACTUAL SAMPLE DEPTH: 108.0'-110.5'	COA: 300104ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO: Environmental Sciences Laboratory	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A		

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS		
A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	Cool~4C
		HOLDING TIME	6 Months
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	1L
	SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS	KD - Batch (No CAS);

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B2C4W3	SOIL	JUL 14 2011	1400	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: JK Bailey	DATE/TIME: JUL 14 2011/1500	RECEIVED BY/STORED IN: MO-413 SSU-R1	DATE/TIME: JUL 14 2011/1500	BRM # 13564
RELINQUISHED BY/REMOVED FROM: SSU R1	DATE/TIME: 2/12/11 0930	RECEIVED BY/STORED IN:	DATE/TIME: 2/12/11 0930	
RELINQUISHED BY/REMOVED FROM:	DATE/TIME: 2/12/11 1300	RECEIVED BY/STORED IN: I. Kuznetsov 2-12-11	DATE/TIME: 1300	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

PRINTED ON 4/4/2011

A-6003-618 (REV 2)

JANUARY 4, 2012

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-057-046	PAGE 1 OF 1
COLLECTOR: JK Bailey	COMPANY CONTACT: RADLOFF, AW	TELEPHONE NO.: 376-4554	PROJECT COORDINATOR: RADLOFF, AW	PRICE CODE: C05	Data Turnaround 7 Days / 7 Days
SAMPLING LOCATION: C8186 (199-N-184); I-029	PROJECT DESIGNATION: 100 Area Remedial Investigation/Feasibility Analysis - 100-NR-2 - Sediment		SAF NO.: F11-057	AIR QUALITY: ☐	Days KS 8/30/11
ICE CHEST NO.: N/A	FIELD LOGBOOK NO.: PS HNF-N- 585-14 46	ACTUAL SAMPLE DEPTH: 105.5'-108.0'FT	COA: 300104ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO: Environmental Sciences Laboratory	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A		

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegetation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~4C
HOLDING TIME	6 Months
TYPE OF CONTAINER	G/P
NO. OF CONTAINER(S)	1
VOLUME	1L
SAMPLE ANALYSIS	KD - Batch (No CAS);

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B2C415	SOIL	SEP 19 2011	1010	✓

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: JK Bailey — DATE/TIME: SEP 19 2011 1100	RECEIVED BY/STORED IN: MO-413 SSU-R1 — DATE/TIME: SEP 19 2011 1100	
RELINQUISHED BY/REMOVED FROM: SSU-R1 — DATE/TIME: SEP 20 2011 0740	RECEIVED BY/STORED IN: J.R. Aguilar — DATE/TIME: SEP 20 2011 0740	
RELINQUISHED BY/REMOVED FROM: J.R. Aguilar — DATE/TIME: SEP 20 2011 1330	RECEIVED BY/STORED IN: L. Kuchnyakov — DATE/TIME: SEP 20 2011 1330	
RELINQUISHED BY/REMOVED FROM — DATE/TIME	RECEIVED BY/STORED IN — DATE/TIME	
RELINQUISHED BY/REMOVED FROM — DATE/TIME	RECEIVED BY/STORED IN — DATE/TIME	
RELINQUISHED BY/REMOVED FROM — DATE/TIME	RECEIVED BY/STORED IN — DATE/TIME	
RELINQUISHED BY/REMOVED FROM — DATE/TIME	RECEIVED BY/STORED IN — DATE/TIME	

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

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A-6003-618 (REV 2)

JANUARY 4, 2012

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-057-041	PAGE 1 OF 1
COLLECTOR Turner, Webb, Southerland	COMPANY CONTACT RADLOFF, AW	TELEPHONE NO. 376-4554	PROJECT COORDINATOR RADLOFF, AW	PRICE CODE C05 AIR QUALITY ☐	Data Turnaround 7 Days / 7 Days
SAMPLING LOCATION C8186 (199-N-184); I-028	PROJECT DESIGNATION 100 Area Remedial Investigation/Feasibility Analysis - 100-NR-2 - Sediment		SAF NO. F11-057		
ICE CHEST NO. N/A	FIELD LOGBOOK NO. PS HNF-N- 585-14 45	ACTUAL SAMPLE DEPTH 98-100.5 FT	COA 300104ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO Environmental Sciences Laboratory	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS		
A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	Cool~4C
		HOLDING TIME	6 Months
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	1L
	SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS	KD - Batch (No CAS);

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	[redacted]
B2C414	SOIL	9-16-11	1035	A

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM A. Turner	DATE/TIME 9-16-11 1335	RECEIVED BY/STORED IN MO-413 SSU-R1 SEP 16 2011	DATE/TIME 1335	
RELINQUISHED BY/REMOVED FROM SSU-R1	DATE/TIME SEP 20 2011 0740	RECEIVED BY/STORED IN J.R. Aguilar	DATE/TIME SEP 20 2011 0740	
RELINQUISHED BY/REMOVED FROM J.R. Aguilar	DATE/TIME SEP 20 2011 1330	RECEIVED BY/STORED IN J. Kuhnzakos	DATE/TIME SEP 20 2011 1330	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME	

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