SAF-RC-155
618-10 & 618-11 Field Remediation – Other
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21 KW 5/30/12
INITIAL/DATE

COMMENTS:

SDG K3899 SAF-RC-155

Rad only ☑ Chem only Rad & Chem

☑ Complete Partial

Sample Location/Waste Site: Drums at 618-10

LIONVILLE LABORATORY
A division of Eberline Analytical Corporation

264 Welsh Pool Road
Exton, Pennsylvania 19341
Phone (610) 280-3000
Fax (610) 280-3041

24 May 2012

Joan Kessner
WC-Hanford, Inc.
2620 Fermi Avenue
MSIN H4-21
Richland, WA 99354

Subject: Analytical Data Package

Dear Ms. Kessner:

Enclosed are the hard copy analytical reports for the batch number/fraction indicated (marked X) in the following table:

LvLI Batch #	1205028
SDG #	K3899
SAF #	RC-155
Date Received	05/09/12
# Samples	1
Matrix	OTHER LIQUID
Volatiles	
Semivolatiles	
Pest/PCB	X
Glycols	
DRO/KRO/GRO	
PAHs	
Herbicides	
Metals	X
Inorganics	

The electronic data deliverable (EDD) has been emailed. If you have any questions, please don't hesitate to contact me at (610) 280-3012.

Sincerely,

Lionville Laboratory
A Division of Eberline Analytical Corporation

Orlette S. Johnson
Project Manager

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 32 pages.

CHAIN OF CUSTODY

Revision

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Lionville Laboratory
A Division of Eberline Analytical Corporation

Lionville Laboratory Use Only: 1205028

Client: WC Hanford SAF# RC-155
Est. Final Proj. Sampling Date:
Project#:
Project Contact/Phone#:
Lionville Laboratory Project Manager: O. Johnson
QC: SW Del: STA TAT: 21 days

Date Rec'd: 5-9-12 Date Due: 5-30-12

		A					B							
Refrigerator #		2					2							
#/Type Container	Liquid	1AG					1AG							
	Solid													
Volume	Liquid	250					250							
	Solid													
Preservatives		✓					✓							
ANALYSES REQUESTED		ORGANIC: VOA	BNA	~~Pest~~ PCB	Herb			INORG: Metal Hg	CN					
Lionville Laboratory Use Only				8082			TCLP RCRA	Met ①						
01	JIPILO RAD II			other Liquid	5-3-12	1345	X	X						

MATRIX CODES:
W Water
WW Waste Water
GW Groundwater
WST Waste
WI Wipe
SO Solid
S Soil
SL Sludge
SE Sediment
PC Paint Chips
O Oil
NAL Non-Aqueous Liquid
L Leachate
A Air
T Tissue
F Fish

Special Instructions:

Met ① = HSL + B, mo, Si (NOTL)

Special Instructions:
5-14-12 1. TCLP metals added per Client
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
[signature]	[signature]	5/9/12	0955

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-155-021	Page 1 of 1

Collector: Keevan Lucas	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Price Code: 9L	Data Turnaround: 21 Days		
Project Designation: 618-10 & 618-11 Field Remediation - Other	Sampling Location: Drums at 618-10		SAF No.: RC-155
Ice Chest No.: WCH-11-059	Field Logbook No.: EL-1664	COA: I618AC8100	Method of Shipment: Fedex
Shipped To: SV 5/3/12 ~~EBERLINE SERVICES~~ LIONVILLE	Offsite Property No.: A110356		Bill of Lading/Air Bill No.: see ospc

POSSIBLE SAMPLE HAZARDS/REMARKS

Radioactive < DOT limits

5-8-12 cmB

Special Handling and/or Storage

Cool 4°C

SV 5/3/12

SAMPLE ANALYSIS													
Preservation				Cool 4C *	Cool 4C	Cool 4C	Cool 4C	None					
Type of Container				aG	aG	aG	aG	aG					
No. of Container(s)				1	1	1	1	1					
Volume				250mL	250mL	250mL	250mL	250mL					
				See item (1) in Special Instructions.	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	PCBs - 8082	RCF SEA Shipping Screen					
Sample No.	Matrix *	Sample Date	Sample Time										
~~J1P1K8~~ SV 5/3/12	~~OTHER~~												
~~J1P1K9~~ SV 5/3/12	~~OTHER~~												
J1P1L0	~~OTHER~~ AJ 5-3-12 other liquid	5-3-12	1345	X			X		RCF	33034	618A-12-0006		

SV 5/3/12

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
K. Lucas Keevan Lucas	5-3-12 1405	Doug Powers Doug Powers	5-3-12 1405
Doug Powers Doug Powers	5-3-12 1405	DP	5-3-12
Doug Powers Doug Powers	5-3-12 1545	1040#2 A. Freier A. Freier	1545 5-3-12
A. Freier A. Freier	WCH 1040#2 0945 5-8-12	Fed Ex	
Fed Ex	5-9-12 0955	VICTOR HERNANDEZ	5/9/12 0955
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

Please trans ship RCF sample to lab for analysis.

(1) ICP Metals - 6010TR (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV) {Mercury}

Please run all analyses from available material. SV 5/3/12

* Cooling not maintained on sample for metals analysis. AJ 5-3-12

Matrix *

S=Soil
SE=Sediment
SO=Solid
Sl=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
Wl=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

REVIEWED BY CMB DATE 5-8-12

~~REVIEWED BY DATE~~ 5-8-12 CMB

RAD II

WCH-EE-011

000000004

Lionville Laboratory

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: WC Hanford **Date:** 5/9/12

Project/SAF/SOW/Release #: RC-155

LvL Batch #: 1205028 **Sample Custodian:**

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier FedEx		Airbill # 7935 4124 4918
2. Custody Seals on coolers or shipping containers intact, signed & dated?	☑ Yes	☐ No	☐ No Seals
3. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	*Comments:*
4. All expected paperwork received (coc & other client specific information) sealed in plactic bag and easily accessible?	☑ Yes	☐ No	
5. Samples received cooled or ambient?	**Temp** 2.2°	°C	Cooler # WCH-11-059
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify):
Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)	☑ Yes	☐ No	
6. Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals
7. COC (Client & LvL) signed & dated?	☑ Yes	☐ No	
8. Sample containers are intact?	☑ Yes	☐ No	
9. All samples on COC received?	☑ Yes	☐ No	
All samples received on COC?	☑ Yes	☐ No	
10. All sample label information matches COC?	☑ Yes	☐ No	
11. Samples properly preserved? (If #5 is no, then this is no.)	☑ Yes	☐ No	
12. Samples received within hold times?	☑ Yes	☐ No	
Short holds taken to wet lab?	☐ Yes	☐ No	☑ N/A
13. VOA, TOC, TOX free of headspace?	☐ Yes	☐ No	☑ N/A
14. QC stickers placed on bottles designated by client?	☑ Yes	☐ No	☐ N/A
15. Shipment meets LvL Sample Acceptance Policy? (Identify all bottles that do not meet the policy, which is on the reverse of this page.)	☑ Yes	☐ No	
16. Project Manager contacted concerning any discrepancies?	☐ Yes	☐ No	☑ N/A

Person Contacted_____ Date _____

SR-002-B.doc

PCBS

264 Welsh Pool Road
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Phone: 610-280-3000
Fax: 610-280-3041

WC-Hanford, Inc.	Project: RC-155	
2620 Fermi Avenue	Project Number: K3899	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	05/21/2012 19:31

Analytical Report for Polychlorinated Biphenyls by SW846 8082

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J1P1L0	1205028-01	Other Liquid	05/03/2012 13:45	05/09/2012 09:55

LIONVILLE LABORATORY
A division of Eberline Analytical Corporation

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Exton, Pennsylvania 19341
Phone (610) 280-3000
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Case Narrative

Client: WC-HANFORD RC-155 K3899
LVL #: 1205028

W.O. #: 60049-001-001-0001-00
Received: 05-09-2012

PCBs

One (1) other liquid sample was collected on 05-03-2012.

The sample and associated QC samples were extracted 05-17-2012 and analyzed 05-18-2012 according to criteria set forth in Lionville Laboratory SOPs. The extraction procedure was based on SW846 Method 3580A (waste dilution 1 g into 10 mls hexane) and the analysis procedure was based on SW846 Method 8082 for client specified target compounds. All samples received Copper-Sulfur and Sulfuric Acid cleanups based on SW846 methods 3660A and 3665A, respectively.

Lionville Laboratory (LvL) is NELAP accredited by the State of Pennsylvania. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager. LvL certifies that all test results meet the requirements of NELAC with any exception noted in the following statements:

1. The results presented in this report are derived from a sample that met LvL's sample acceptance policy.
2. All required holding times for extraction and analysis have been met.
3. All obtainable surrogate recoveries were within acceptance criteria.
4. The method blank was below the reporting limit for all target compounds.
5. All blank spike recoveries were within acceptance criteria.
6. All matrix spike recoveries were within acceptance criteria.
7. All initial calibrations associated with this data set were within acceptance criteria.
8. All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.
9. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the laboratory manager or a designee as verified by the following signature.

Iain Daniels
LvL Laboratory Manager

5/23/12
Date

r:\group\data\2012\pcb\wc hanford\1205028jes.doc

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of pages.

GLOSSARY OF DATA

DATA QUALIFIERS

U	=	Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).
J	=	Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
B	=	This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination.
E	=	Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
I	=	Interference.
. I	=	Indicates an interference on one analytical column only. Result is reported from remaining analytical column.
P	=	This flag is used for a dual column analysis (i.e. pesticides/PCB/herbicides) when there is greater than 40% difference for detected concentrations between the two GC columns; the lower of the two values is reported on Form 1 and flagged with a "P".
D	=	This flag identifies all compounds identified in an analysis at a secondary dilution factor.
C	=	This flag applies to a compound that has been confirmed by GC/MS.

ABBREVIATIONS

BS	=	Indicates blank spike in which reagent grade water is spiked with the CLP matrix spiking solutions and carried through all the steps in the method. Spike recoveries are reported.
BSD	=	Indicates blank spike duplicate.
MS	=	Indicates matrix spike.
MSD	=	Indicates matrix spike duplicate.
DL	=	Indicates that recoveries were not obtained because the extract had to be diluted for analysis.
NA	=	Not Applicable.
DF	=	Dilution Factor.
NR	=	Not Required.
NS	=	Not Spiked.
SP	=	Indicates Spiked Compound.
NPM	=	No pattern match for multi-component target analytes.

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WC-Hanford, Inc.	Project: RC-155	
2620 Fermi Avenue	Project Number: K3899	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	05/21/2012 19:31

Notes and Definitions

U	Analyte included in the analysis, but not detected
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
B	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag)
*	Value outside QC acceptance criteria
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
wet	Sample results reported on a wet weight basis
RPD	Relative Percent Difference

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WC-Hanford, Inc.	Project: RC-155	
2620 Fermi Avenue	Project Number: K3899	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	05/21/2012 19:31

J1P1L0
1205028-01 (Other Liquid)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Polychlorinated Biphenyls by SW846 8082									
Aroclor 1016	361	U	361	ug/kg	1	L205139	05/17/2012	05/18/2012	8082
Aroclor 1221	361	U	361	ug/kg	1	L205139	05/17/2012	05/18/2012	8082
Aroclor 1232	361	U	361	ug/kg	1	L205139	05/17/2012	05/18/2012	8082
Aroclor 1242	361	U	361	ug/kg	1	L205139	05/17/2012	05/18/2012	8082
Aroclor 1248	361	U	361	ug/kg	1	L205139	05/17/2012	05/18/2012	8082
Aroclor 1254	**1120**		361	ug/kg	1	L205139	05/17/2012	05/18/2012	8082
Aroclor 1260	**126**	J	361	ug/kg	1	L205139	05/17/2012	05/18/2012	8082
Aroclor 1262	361	U	361	ug/kg	1	L205139	05/17/2012	05/18/2012	8082
Aroclor 1268	361	U	361	ug/kg	1	L205139	05/17/2012	05/18/2012	8082
Surrogate: Decachlorobiphenyl	*59 %*		*10-150*			*L205139*	*05/17/2012*	*05/18/2012*	*8082*
Surrogate: Tetrachloro-meta-xylene	*45 %*		*10-150*			*L205139*	*05/17/2012*	*05/18/2012*	*8082*

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WC-Hanford, Inc.	Project: RC-155	
2620 Fermi Avenue	Project Number: K3899	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	05/21/2012 19:31

Polychlorinated Biphenyls by SW846 8082 - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L205139 - SW 3580A										
Blank (L205139-BLK1)				Prepared: 05/17/2012 Analyzed: 05/18/2012						
Aroclor 1016	400	U	400	ug/kg						
Aroclor 1221	400	U	400	ug/kg						
Aroclor 1232	400	U	400	ug/kg						
Aroclor 1242	400	U	400	ug/kg						
Aroclor 1248	400	U	400	ug/kg						
Aroclor 1254	400	U	400	ug/kg						
Aroclor 1260	400	U	400	ug/kg						
Aroclor 1262	400	U	400	ug/kg						
Aroclor 1268	400	U	400	ug/kg						
Surrogate: Decachlorobiphenyl	*1080*			*ug/kg*	*1000.0*		*108*	*10-150*		
Surrogate: Tetrachloro-meta-xylene	*1100*			*ug/kg*	*1000.1*		*110*	*10-150*		
LCS (L205139-BS1)				Prepared: 05/17/2012 Analyzed: 05/18/2012						
Aroclor 1016	5570		400	ug/kg	5000.0		111	50-138		40
Aroclor 1260	6000		400	ug/kg	5000.0		120	50-148		40
Surrogate: Decachlorobiphenyl	*1240*			*ug/kg*	*1000.0*		*124*	*10-150*		
Surrogate: Tetrachloro-meta-xylene	*1220*			*ug/kg*	*1000.1*		*122*	*10-150*		
Matrix Spike (L205139-MS1)		**Source: 1205028-01**		Prepared: 05/17/2012 Analyzed: 05/18/2012						
Aroclor 1016	3230		396	ug/kg	4947.1	361 U	65	50-138		40
Aroclor 1260	3440		396	ug/kg	4947.1	126	67	50-148		40
Surrogate: Decachlorobiphenyl	*527*			*ug/kg*	*989.41*		*53*	*10-150*		
Surrogate: Tetrachloro-meta-xylene	*436*			*ug/kg*	*989.51*		*44*	*10-150*		
Matrix Spike Dup (L205139-MSD1)		**Source: 1205028-01**		Prepared: 05/17/2012 Analyzed: 05/18/2012						
Aroclor 1016	3120		362	ug/kg	4529.4	361 U	69	50-138	5	40
Aroclor 1260	3340		362	ug/kg	4529.4	126	71	50-148	6	40
Surrogate: Decachlorobiphenyl	*454*			*ug/kg*	*905.88*		*50*	*10-150*		
Surrogate: Tetrachloro-meta-xylene	*393*			*ug/kg*	*905.97*		*43*	*10-150*		

PREPARATION BENCH SHEET

L205139

Lionville Laboratory

Printed: 5/17/2012 2:09:53PM

00000013

Matrix: Waste **Prepared using: GC - SW 3580A** **Surrogate used: 1101873**

Lab Number	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
1205028-01	8082 PCBs	05/17/2012 13:13	1.1072	10				250	WC-Hanford, Inc.	RAD II
L205139-BLK1	QC	05/17/2012 13:13	1	10				250		
L205139-BS1	QC	05/17/2012 13:13	1	10	1200123		250	250		
L205139-MS1	QC	05/17/2012 13:13	1.0107	10	1200123	1205028-01	250	250		RAD II
L205139-MSD1	QC	05/17/2012 13:13	1.1039	10	1200123	1205028-01	250	250		RAD II

Scleaned 05.18.12 SZ
Cu lot# G16W031

5/17/12 1503
Extracts Relinquished By Date

05.18.12 6:10
Extracts Received By Date

METALS

LIONVILLE LABORATORY
A division of Eberline Analytical Corporation

264 Welsh Pool Road
Exton, PA 19341
Phone: 610-280-3000
Fax: 610-280-3041

WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-155 Project Number: K3899 Project Manager: Joan Kessner	**Reported:** 05/24/2012 06:06

Analytical Report for Metals by SW846 6000/7000 series

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J1P1L0	1205028-01	Other Liquid	05/03/2012 13:45	05/09/2012 09:55

LIONVILLE LABORATORY
A division of Eberline Analytical Corporation

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Phone (610) 280-3000
Fax (610) 280-3041

Case Narrative

Client: WC-HANFORD RC-155
LVL#: 1205028
SDG/SAF#: K3899/RC-155

W.O.#: 60049-001-001-0001-00
Date Received: 05-09-12

METALS

The following is a summary of the QC results accompanying the sample results. Lionville Laboratory (LvL) certifies that all test results meet the requirements of NELAC except as noted below.

1. This narrative covers the analysis of 1 other liquid sample. and 1 TCLP leachate sample.

2. The sample was prepared and analyzed in accordance with methods listed on the data report forms.

   The other liquid sample was prepared with a 50-fold dilution for ICP metals and a 100-fold dilution for Mercury analyses due to sample matrix.

   The TCLP leachate samples were prepared with a 50-fold dilution for ICP metals and a 100-fold dilution for Mercury due to the TCLP leachate samples were filtrates of organic liquid that were not miscible with water or reagents. Since the samples were non-miscible, the TCLP extracts were digested using soil digestion methods with an initial volume instead of weight.

3. All samples were analyzed within the required holding times.

4. Please refer to the Sample Receipt Check List for any sample discrepancies in LvL's sample acceptance policy.

5. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within the 90-110% control limits (80-120% Mercury).

6. All Initial and Continuing Calibration Blanks (ICB/CCBs) were within control limits (less than the LOQ).

7. All preparation/method blanks were within method criteria. {less than the Limit of Quantitation, or samples were greater than 20X MB value}.

8. All ICP Interference Check Standards were within control limits.

9. All laboratory control samples (LCS) were within the 80-120% control limits with the exception of L205092-BS1 for Silicon (76%). The other liquid sample result for Silicon may be slightly biased low.

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10. The matrix spike (MS) recoveries for 2 analytes were outside the 75-125% control limits.

11. For analytes where the MS is out of control, a post-digestion MS (PDS) is performed. A PDS was prepared at meaningful concentration levels for the following analytes:

Sample ID	Element	PDS Concentration (ppb)	PDS % Recovery
J1P1L0	Copper	2,100	93.9
	Zinc	1,200	122.0

12. All duplicate analyses were within the 20% Relative Percent Difference (RPD) control limits. The ± 20% RPD control limit applies to sample results greater than ten times the MDL.

13. The TCLP leachate duplicate analyses were within the 20% Relative Percent Difference (RPD) control limit critieria. The ± 20% RPD control limit applies to sample results greater than ten times the MDL.

14. The TCLP extract from sample J1P1L0 was selected for the matrix spike (MS) for this analytical batch. All MS recoveries were greater than 50% as per method criteria. The TCLP matrix spike was analyzed and reported with a 5-fold dilution for all TCLP leachate analytes due to the high concentration of Barium in the sample.

15. For the purposes of this report, the data has been reported to the Limit of Detection (LOD). Values between the LOD and the Limit of Quantitation (LOQ) are acquired in a region of less-certain quantification.

16. LvL is NELAP accredited by the State of Pennsylvania. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.

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

Iain Daniels
Laboratory Manager
Lionville Laboratory

5/24/12
Date

alm/m05-028nallcs.doc

LIONVILLE LABORATORY
A division of Eberline Analytical Corporation

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Phone: 610-280-3000
Fax: 610-280-3041

WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-155 Project Number: K3899 Project Manager: Joan Kessner	**Reported:** 05/24/2012 06:06

Notes and Definitions

U	Analyte included in the analysis, but not detected
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
B	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag)
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DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
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dry	Sample results reported on a dry weight basis
wet	Sample results reported on a wet weight basis
RPD	Relative Percent Difference

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WC-Hanford, Inc.	Project: RC-155	
2620 Fermi Avenue	Project Number: K3899	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	05/24/2012 06:06

J1P1L0
1205028-01 (Other Liquid)

Lionville Laboratory

Metals by SW846 6000/7000 series

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Aluminum	10000	U	10000	ug/L	1	L205092	05/11/2012	05/15/2012	6010B
Antimony	500	U	500	ug/L	1	L205092	05/11/2012	05/15/2012	6010B
Arsenic	**194**	B	500	ug/L	1	L205092	05/11/2012	05/15/2012	6010B
Barium	**188**	B	250	ug/L	1	L205092	05/11/2012	05/15/2012	6010B
Beryllium	100	U	100	ug/L	1	L205092	05/11/2012	05/15/2012	6010B
Boron	1000	U	1000	ug/L	1	L205092	05/11/2012	05/15/2012	6010B
Cadmium	**39.5**	B	125	ug/L	1	L205092	05/11/2012	05/15/2012	6010B
Calcium	**3880**	B	10000	ug/L	1	L205092	05/11/2012	05/15/2012	6010B
Chromium	**3040**		500	ug/L	1	L205092	05/11/2012	05/15/2012	6010B
Cobalt	**1250**	B	1500	ug/L	1	L205092	05/11/2012	05/15/2012	6010B
Copper	**377000**		1000	ug/L	1	L205092	05/11/2012	05/15/2012	6010B
Iron	**15300**		10000	ug/L	1	L205092	05/11/2012	05/15/2012	6010B
Lead	**9060**		500	ug/L	1	L205092	05/11/2012	05/15/2012	6010B
Magnesium	2500	U	2500	ug/L	1	L205092	05/11/2012	05/15/2012	6010B
Manganese	**281**	B	500	ug/L	1	L205092	05/11/2012	05/15/2012	6010B
Molybdenum	**134**	B	500	ug/L	1	L205092	05/11/2012	05/15/2012	6010B
Nickel	**596**	B	1250	ug/L	1	L205092	05/11/2012	05/15/2012	6010B
Potassium	50000	U	50000	ug/L	1	L205092	05/11/2012	05/15/2012	6010B
Selenium	**643**		500	ug/L	1	L205092	05/11/2012	05/15/2012	6010B
Silicon	3000	U	3000	ug/L	1	L205092	05/11/2012	05/15/2012	6010B
Silver	500	U	500	ug/L	1	L205092	05/11/2012	05/15/2012	6010B
Sodium	25000	U	25000	ug/L	1	L205092	05/11/2012	05/15/2012	6010B
Vanadium	**37900**		500	ug/L	1	L205092	05/11/2012	05/15/2012	6010B
Zinc	**243000**		1500	ug/L	1	L205092	05/11/2012	05/15/2012	6010B
Mercury	20.0	U	20.0	ug/L	1	L205081	05/10/2012	05/11/2012	7471A

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-155 Project Number: K3899 Project Manager: Joan Kessner	**Reported:** 05/24/2012 06:06

J1P1L0
1205028-01 (Other Liquid)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
TCLP Metals by SW846 1311 6000/7000 series									
Arsenic	0.500	U	0.500	mg/L	1	L205178	05/22/2012	05/23/2012	6010
Barium	0.250	U	0.250	mg/L	1	L205178	05/22/2012	05/23/2012	6010
Cadmium	0.125	U	0.125	mg/L	1	L205178	05/22/2012	05/23/2012	6010
Chromium	0.500	U	0.500	mg/L	1	L205178	05/22/2012	05/23/2012	6010
Lead	0.500	U	0.500	mg/L	1	L205178	05/22/2012	05/23/2012	6010
Selenium	**0.441**	B	0.500	mg/L	1	L205178	05/22/2012	05/23/2012	6010
Silver	0.500	U	0.500	mg/L	1	L205178	05/22/2012	05/23/2012	6010
Mercury	0.0200	U	0.0200	mg/L	1	L205174	05/21/2012	05/22/2012	7470

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-155 Project Number: K3899 Project Manager: Joan Kessner	**Reported:** 05/24/2012 06:06

Metals by SW846 6000/7000 series - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L205081 - SW 7471A Prep										
Blank (L205081-BLK1)				Prepared: 05/10/2012 Analyzed: 05/11/2012						
Mercury	20.0	U	20.0	ug/L						
LCS (L205081-BS1)				Prepared: 05/10/2012 Analyzed: 05/11/2012						
Mercury	521		20.0	ug/L	500.00		104	80-120		20
Duplicate (L205081-DUP2)		**Source: 1205028-01**		Prepared: 05/10/2012 Analyzed: 05/11/2012						
Mercury	20.0	U	20.0	ug/L		20.0 U				20
Matrix Spike (L205081-MS2)		**Source: 1205028-01**		Prepared: 05/10/2012 Analyzed: 05/11/2012						
Mercury	95.7		20.0	ug/L	100.00	20.0 U	95.7	75-125		20
Batch L205092 - SW 3050B										
Blank (L205092-BLK1)				Prepared: 05/11/2012 Analyzed: 05/15/2012						
Aluminum	10000	U	10000	ug/L						
Antimony	500	U	500	ug/L						
Arsenic	500	U	500	ug/L						
Barium	250	U	250	ug/L						
Beryllium	100	U	100	ug/L						
Boron	1000	U	1000	ug/L						
Cadmium	125	U	125	ug/L						
Calcium	10000	U	10000	ug/L						
Chromium	500	U	500	ug/L						
Cobalt	1500	U	1500	ug/L						
Copper	1000	U	1000	ug/L						
Iron	10000	U	10000	ug/L						
Lead	500	U	500	ug/L						
Magnesium	2500	U	2500	ug/L						
Manganese	500	U	500	ug/L						
Molybdenum	500	U	500	ug/L						
Nickel	1250	U	1250	ug/L						
Potassium	50000	U	50000	ug/L						
Selenium	500	U	500	ug/L						
Silicon	3000	U	3000	ug/L						
Silver	500	U	500	ug/L						
Sodium	25000	U	25000	ug/L						
Vanadium	500	U	500	ug/L						
Zinc	1500	U	1500	ug/L						

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-155 Project Number: K3899 Project Manager: Joan Kessner	**Reported:** 05/24/2012 06:06

Metals by SW846 6000/7000 series - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L205092 - SW 3050B										
LCS (L205092-BS1)				Prepared: 05/11/2012 Analyzed: 05/15/2012						
Aluminum	231000		10000	ug/L	250000		92	80-120		20
Antimony	142000		500	ug/L	150000		94	80-120		20
Arsenic	490000		500	ug/L	500000		98	80-120		20
Barium	242000		250	ug/L	250000		97	80-120		20
Beryllium	11900		100	ug/L	12500		95	80-120		20
Boron	235000		1000	ug/L	250000		94	80-120		20
Cadmium	11800		125	ug/L	12500		94	80-120		20
Calcium	1180000		10000	ug/L	1250000		94	80-120		20
Chromium	23600		500	ug/L	25000		94	80-120		20
Cobalt	116000		1500	ug/L	125000		93	80-120		20
Copper	59000		1000	ug/L	62500		94	80-120		20
Iron	240000		10000	ug/L	250000		96	80-120		20
Lead	113000		500	ug/L	125000		91	80-120		20
Magnesium	1150000		2500	ug/L	1250000		92	80-120		20
Manganese	35700		500	ug/L	37500		95	80-120		20
Molybdenum	242000		500	ug/L	250000		97	80-120		20
Nickel	91800		1250	ug/L	100000		92	80-120		20
Potassium	1180000		50000	ug/L	1250000		94	80-120		20
Selenium	475000		500	ug/L	500000		95	80-120		20
Silicon	191000		3000	ug/L	250000		76*	80-120		20
Silver	24000		500	ug/L	25000		96	80-120		20
Sodium	1210000		25000	ug/L	1250000		96	80-120		20
Vanadium	121000		500	ug/L	125000		97	80-120		20
Zinc	46500		1500	ug/L	50000		93	80-120		20
Duplicate (L205092-DUP1)		**Source: 1205028-01**		Prepared: 05/11/2012 Analyzed: 05/15/2012						
Aluminum	10000	U	10000	ug/L		10000 U				20
Antimony	500	U	500	ug/L		500 U				20
Arsenic	176	B	500	ug/L		194			10	20
Barium	173	B	250	ug/L		188			8	20
Beryllium	100	U	100	ug/L		100 U				20
Boron	1000	U	1000	ug/L		1000 U				20
Cadmium	38.3	B	125	ug/L		39.5			3	20
Calcium	3540	B	10000	ug/L		3880			9	20
Chromium	2770		500	ug/L		3040			9	20
Cobalt	1170	B	1500	ug/L		1250			7	20
Copper	356000		1000	ug/L		377000			6	20

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WC-Hanford, Inc.	Project: RC-155	
2620 Fermi Avenue	Project Number: K3899	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	05/24/2012 06:06

Metals by SW846 6000/7000 series - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L205092 - SW 3050B										
Duplicate (L205092-DUP1)		**Source: 1205028-01**		Prepared: 05/11/2012 Analyzed: 05/15/2012						
Iron	14000		10000	ug/L		15300			9	20
Lead	8700		500	ug/L		9060			4	20
Magnesium	2500	U	2500	ug/L		2500 U				20
Manganese	256	B	500	ug/L		281			9	20
Molybdenum	500	U	500	ug/L		134				20
Nickel	550	B	1250	ug/L		596			8	20
Potassium	50000	U	50000	ug/L		50000 U				20
Selenium	568		500	ug/L		643			12	20
Silicon	3000	U	3000	ug/L		3000 U				20
Silver	500	U	500	ug/L		500 U				20
Sodium	25000	U	25000	ug/L		25000 U				20
Vanadium	34600		500	ug/L		37900			9	20
Zinc	239000		1500	ug/L		243000			2	20
Matrix Spike (L205092-MS1)		**Source: 1205028-01**		Prepared: 05/11/2012 Analyzed: 05/15/2012						
Aluminum	89400		10000	ug/L	100000	10000 U	89	75-125		20
Antimony	21600		500	ug/L	25000	500 U	86	75-125		20
Arsenic	92100		500	ug/L	100000	194	92	75-125		20
Barium	94300		250	ug/L	100000	188	94	75-125		20
Beryllium	2270		100	ug/L	2500.0	100 U	91	75-125		20
Boron	40100		1000	ug/L	50000	1000 U	80	75-125		20
Cadmium	2420		125	ug/L	2500.0	39.5	95	75-125		20
Calcium	1120000		10000	ug/L	1250000	3880	90	75-125		20
Chromium	12700		500	ug/L	10000	3040	97	75-125		20
Cobalt	24300		1500	ug/L	25000	1250	92	75-125		20
Copper	442000		1000	ug/L	12500	377000	519*	75-125		20
Iron	64000		10000	ug/L	50000	15300	97	75-125		20
Lead	32300		500	ug/L	25000	9060	93	75-125		20
Magnesium	1100000		2500	ug/L	1250000	2500 U	88	75-125		20
Manganese	23300		500	ug/L	25000	281	92	75-125		20
Molybdenum	48400		500	ug/L	50000	134	97	75-125		20
Nickel	23500		1250	ug/L	25000	596	92	75-125		20
Potassium	1110000		50000	ug/L	1250000	50000 U	89	75-125		20
Selenium	93800		500	ug/L	100000	643	93	75-125		20
Silicon	43800		3000	ug/L	50000	3000 U	88	75-125		20
Silver	2360		500	ug/L	2500.0	500 U	95	75-125		20
Sodium	1120000		25000	ug/L	1250000	25000 U	89	75-125		20

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-155 Project Number: K3899 Project Manager: Joan Kessner	**Reported:** 05/24/2012 06:06

Metals by SW846 6000/7000 series - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L205092 - SW 3050B									
Matrix Spike (L205092-MS1)		**Source: 1205028-01**	Prepared: 05/11/2012 Analyzed: 05/15/2012						
Vanadium	67600	500	ug/L	25000	37900	119	75-125		20
Zinc	308000	1500	ug/L	25000	243000	259*	75-125		20

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WC-Hanford, Inc.	Project: RC-155	
2620 Fermi Avenue	Project Number: K3899	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	05/24/2012 06:06

TCLP Metals by SW846 1311 6000/7000 series - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L205174 - SW 7471A Prep										
Blank (L205174-BLK1)				Prepared: 05/21/2012 Analyzed: 05/22/2012						
Mercury	0.0200	U	0.0200	mg/L						
Blank (L205174-BLK2)				Prepared: 05/21/2012 Analyzed: 05/22/2012						
Mercury	0.0200	U	0.0200	mg/L						
LCS (L205174-BS1)				Prepared: 05/21/2012 Analyzed: 05/22/2012						
Mercury	0.524		0.0200	mg/L	0.50000		105	80-120		
Duplicate (L205174-DUP1)		**Source: 1205028-01**		Prepared: 05/21/2012 Analyzed: 05/22/2012						
Mercury	0.0200	U	0.0200	mg/L		0.0200 U				20
Matrix Spike (L205174-MS1)		**Source: 1205028-01**		Prepared: 05/21/2012 Analyzed: 05/22/2012						
Mercury	0.198		0.0200	mg/L	0.20000	0.0200 U	99.0	75-125		
Batch L205178 - SW 3050B										
Blank (L205178-BLK1)				Prepared: 05/22/2012 Analyzed: 05/23/2012						
Arsenic	0.500	U	0.500	mg/L						
Barium	0.250	U	0.250	mg/L						
Cadmium	0.125	U	0.125	mg/L						
Chromium	0.500	U	0.500	mg/L						
Lead	0.500	U	0.500	mg/L						
Selenium	0.500	U	0.500	mg/L						
Silver	0.500	U	0.500	mg/L						
Blank (L205178-BLK2)				Prepared: 05/22/2012 Analyzed: 05/23/2012						
Arsenic	0.500	U	0.500	mg/L						
Barium	0.250	U	0.250	mg/L						
Cadmium	0.125	U	0.125	mg/L						
Chromium	0.500	U	0.500	mg/L						
Lead	0.500	U	0.500	mg/L						
Selenium	0.500	U	0.500	mg/L						
Silver	0.500	U	0.500	mg/L						

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WC-Hanford, Inc.	Project: RC-155	
2620 Fermi Avenue	Project Number: K3899	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	05/24/2012 06:06

TCLP Metals by SW846 1311 6000/7000 series - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L205178 - SW 3050B										
LCS (L205178-BS1)				Prepared: 05/22/2012 Analyzed: 05/23/2012						
Arsenic	472		0.500	mg/L	500.00		94.5	80-120		20
Barium	242		0.250	mg/L	250.00		96.7	80-120		20
Cadmium	12.5		0.125	mg/L	12.500		100	80-120		20
Chromium	24.2		0.500	mg/L	25.000		96.9	80-120		20
Lead	117		0.500	mg/L	125.00		93.4	80-120		20
Selenium	459		0.500	mg/L	500.00		91.8	80-120		20
Silver	23.7		0.500	mg/L	25.000		95.0	80-120		20
Duplicate (L205178-DUP1)		**Source: 1205028-01**		Prepared: 05/22/2012 Analyzed: 05/23/2012						
Arsenic	0.500	U	0.500	mg/L		0.500 U				20
Barium	0.250	U	0.250	mg/L		0.250 U				20
Cadmium	0.125	U	0.125	mg/L		0.125 U				20
Chromium	0.500	U	0.500	mg/L		0.500 U				20
Lead	0.500	U	0.500	mg/L		0.500 U				20
Selenium	0.394	B	0.500	mg/L		0.441			11.3	20
Silver	0.500	U	0.500	mg/L		0.500 U				20
Matrix Spike (L205178-MS1)		**Source: 1205028-01**		Prepared: 05/22/2012 Analyzed: 05/23/2012						
Arsenic	176		2.50	mg/L	250.00	0.500 U	70.3	50-1000		20
Barium	3500		1.25	mg/L	5000.0	0.250 U	70.0	50-1000		20
Cadmium	38.7		0.625	mg/L	50.000	0.125 U	77.4	50-1000		20
Chromium	175		2.50	mg/L	250.00	0.500 U	70.0	50-1000		20
Lead	196		2.50	mg/L	250.00	0.500 U	78.4	50-1000		20
Selenium	36.7		2.50	mg/L	50.000	0.441	72.5	50-1000		20
Silver	201		2.50	mg/L	250.00	0.500 U	80.4	50-1000		20

Lionville Laboratory

Logbook #: 1111

SAMPLE DIGESTION RECORD

Digestion Batch #: L205092
Date/Time Initiated: 5/11/12 1145
Date/Time Completed: 5/11/12 1255
Analyst: JJS
Matrix (circle): Soil Water Other
Method (circle one): 3005A 3010A 3050 200.7 (1994)
pH/Turbidity: N/A for Solids.
NOTE: All temperatures are recorded as corrected temperatures

Digested / Undigested (circle one)
Balance #: B14
Balance Cal Verification: ✓ NA
Temp: 96
BLOCK 1 2 3 (circle one)

CIC = clear/colorless

Work Order #	Spike Vol (mL)	Initial Wt/Vol (g/mL)	Final Vol (mL)	pH <2	Type: To/Sol/ TC	Texture	Color / Appearance	Artifact	Turb
1205028-01		1	50		TO	oily	Black	N/A	N/A
L205092-Dup		1	50		↓	↓	↓	↓	↓
MS1	0.5	1	50						
BLK		1	50				CIC		
BS1	0.5	1	50				CIC		

JJS
5/11/12

Spiking IDs / Expiration Date:
MS#: 1200457
LCS#: 1200458

Reagent IDs:
HNO_3 K41023
HCl L01031
H_2O_2 K09103
1:1 HNO_3 637-066-02
1:1 HCl

File ID#:

Data Review By/Date: 5/14/12

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Signed\SPI\Metals Digestion log.doc

Page #:

PREPARATION BENCH SHEET

L205092

Lionville Laboratory

Printed: 5/14/2012 11:17:49AM

Matrix: Non Aqueous Liquic **Prepared using: METALS - SW 3050B** **(No Surrogate**

Lab Number	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
1205028-01	6010B ICP Trace	05/11/2012 11:36	1	50					WC-Hanford, Inc.	HSL + B, Mo, Si (no TL)
L205092-BLK1	QC	05/11/2012 11:36	1	50						
L205092-BS1	QC	05/11/2012 11:36	1	50	1200458		500			
L205092-DUP1	QC	05/11/2012 11:36	1	50		1205028-01				
L205092-MS1	QC	05/11/2012 11:36	1	50	1200457	1205028-01	500			

JJS 5/14/12 Preetel 05/14/12

Extracts Relinquished By Date Extracts Received By Date

Lionville Laboratory

MERCURY PREPARATION

Logbook # 1123

Analyst: [illegible]
Date 5/10/12
Start Time/Temp: 2000/95°
End Time/Temp: 2030/98°

Instrument ID: HG3.1
Balance # NA
Pipette Calibration (Daily) Y

Prep Batch: L205081
Worksheet: HG051101
SOP No. ME-HgCVAA
BLOCK 1 2 (circle one)

NOTE: All temperatures are recorded as corrected temperatures.

LvL Work Order#	pH < 2 (Liq)	Spike Vol (mL)	Spike Conc. (µg/L)	Initial Wt. or Vol (g or mL)	Final Sample Vol (mL)	Comments, % Solids, etc.
Blank				10	50	
0.2 µg/L		0.100		10	50	
1.0 µg/L		0.500		10	50	
2.0 µg/L		1.000		10	50	
5.0 µg/L		2.500		10	50	
10.0 µg/L		5.000		10	50	
ICV		0.125	2.5	10	50	
CCV		0.250	5.0	10	50	
ICB/CCB				10	50	
L205081-BLK1				0.5	50	
BS1		0.250	5.0	0.5	50	
1205021-01				0.5	50	
L205081-DUP1				0.5	50	
MS1		0.500	1.0	0.5	50	
1205028-01				0.5	50	
L205081-DUP2				0.5	50	
MS2		0.500	1.0	0.5	50	

MW 5/10/12

Standard:	ID	Prep Date/Time
ICAL/MS	RI 1200588	5/10/12 1800
ICV/CCV/LCS	F.V. 1101427	↓

Reviewed By/Date: [illegible] 5/14/12

se book # 9368 for std traceability information

Soil LCS True Value = N/A mg/Kg
Standard # _____

Water Matrix Spiking Solution Concentration = 0.1 µg/ml
Water LCS Spiking Concentration: 1.0 µg/ml

A

ME-HgCVAA-Prep0910

Page #:

000000029

Lionville Laboratory Logbook #: 1111

SAMPLE DIGESTION RECORD

Digestion Batch #: L205178
Date/Time Initiated: 5/22/12 1015
Date/Time Completed: 5/22/12 1545
Analyst: JS
Matrix (circle): Soil Water Other
Method (circle one): 3005A 3010A 3050 200.7 (1994)
pH/Turbidity: N/A for Solids.
NOTE: All temperatures are recorded as corrected temperatures

Digested / Undigested (circle one)
Balance #: NA
Balance Cal Verification: Y NA
Temp: 98
BLOCK 1 2 3 (circle one)

C/C - clear/colorless

Work Order #	Spike Vol (mL)	Initial Wt/Vol (g/mL)	Final Vol (mL)	pH <2	Type: To/Sol/ TC	Texture	Color / Appearance	Artifact	Turb
1205028-01		1	50		TC	oily	clear/yellow	N/A	N/A
-Rp1		1	50						
-MS1	0.5	1	50						
-BLK1		1	50				C/C		
-BS1	0.5	1	50				C/C		
-BLK2		1	50				C/C		

JJS
5/22/12

Spiking IDs / Expiration Date:
MS#: 1200388
~~H01851~~
H01384 [signature] 5/24/12
LCS#: 1200458

Reagent IDs:
HNO_3 K49023
HCl L01031
H_2O_2 K09A03
1:1 HNO_3 637-66-02
1:1 HCl

File ID#:

Data Review By/Date: [signature] 5/23/12

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Signed\SPI\Metals Digestion log.doc

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*: Associated with L205103.

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Lionville Laboratory

MERCURY PREPARATION

Logbook # 1123

Analyst: [illegible]
Date 5/21/12
Start Time/Temp: 2030/95°
End Time/Temp: 2110/97°

Instrument ID: HG3.4
Balance # ____ (N/A)
Pipette Calibration (Daily) (Y) ____

Prep Batch: L205174
Worksheet: HG052204
SOP No. ME-HgCVAA
BLOCK 1 (3) 2 (circle one)

NOTE: All temperatures are recorded as corrected temperatures.

LvL Work Order#	pH < 2 (Liq)	Spike Vol (mL)	Spike Conc. (µg/L)	Initial Wt. or Vol (g or (mL))	Final Sample Vol (mL)	Comments, % Solids, etc.
blank				10	50	
0.2 µg/l		0.100		10	50	
1.0 µg/l		0.500		10	50	
2.0 µg/l		1.000		10	50	
5.0 µg/l		2.500		10	50	
10.0 µg/l		5.000		10	50	
ICV		0.125	2.5	10	50	
CCV		0.250	5.0	10	50	
ICB/CCB				10	50	
L205174-BLK1				0.5	50	
W.E. 5/21/12 5 BS1		0.250	5.0	0.5	50	
BLK2				0.5	50	
1205028-01				0.5	50	
L205174-DUP1				0.5	50	
MS1		1.000	2.0 (200)	0.5	50	
1205031-07				0.5	50	
L205174-DUP2				0.5	50	
MS2		1.000	2.0 (200)	0.5	50	
1205031-08				0.5	50	

[illegible] 5/21/12

Standard:	ID	Prep Date/Time
ICAL/MS	RI 1200588	5/21/12 1100
ICV/CCV/LCS	I.V. 1101427	1

Reviewed By/Date: [illegible] 5/23/12

se book # 9368 for std traceability information

Soil LCS True Value = N/A mg/Kg
Standard # ____

Water Matrix Spiking Solution Concentration = 0.1 µg/ml
Soil LCS Spiking Concentration: 1.0 µg/ml

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ME-HgCVAA-Prep0910

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Lionville Laboratory

TCLP EXTRACTION RECORD
(NON-VOLATILES)

LOGBOOK # 1116

Start Date: 5-14-12 Start Time: 11:02 Analyst: RH SOP: SPI-1311.1	End Date: 5-14-12 ~~N/A~~ RH End Time: 16:30 ~~N/A~~ RH Analyst: RH Method: 1311	Tumbler Speed: N/A ~~30~~ RH RPM Leachate Batch #: L205103 Leachate Page: 1 of 1 Room Temp. (°C): Start 21 /Finish 21 **Room Temp. Acceptance Criteria: 23°C ± 2°**

LvL #: L205028-01 Client ID#: JIPILO pH After 5 Min: N/A pH After Acid/Heat: N/A Extraction Fluid/pH: Sample Wt.(g): N/A Extract Fluid Vol.(mL): N/A pH After Extraction:	Initial Filtration Data and Comments: RAD II Solids: ____% / NA USED * FILTERATION PROCESS Initial Filtrate Added:
LvL #: L205031-07 Client ID#: 11-1591 pH After 5 Min: N/A pH After Acid/Heat: N/A Extraction Fluid/pH: Sample Wt.(g): N/A Extract Fluid Vol.(mL): pH After Extraction:	Initial Filtration Data and Comments: Solids: ____% / NA Initial Filtrate Added:
LvL # L205031-8 Client ID#: 11-1592 pH After 5 Min: N/A pH After Acid/Heat: N/A Extraction Fluid/pH: Sample Wt.(g): N/A Extract Fluid Vol.(mL): pH After Extraction:	Initial Filtration Data and Comments: Solids: ____% / NA Initial Filtrate Added:
LvL #: L205103 Client ID#: pH After 5 Min: N/A pH After Acid/Heat: N/A Extraction Fluid/pH: Sample Wt.(g): N/A Extract Fluid Vol.(mL): pH After Extraction:	Initial Filtration Data and Comments: Solids: ____% / NA * DI WATER Blank Initial Filtrate Added:

Standard	ID	Prep Date	Expir Date	pH Acceptance Criteria
Fluid #1				4.93 ± 0.05
Fluid # 2				2.88 ± 0.05

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