0078946

SAF-RC-032
100-F Remaining Sites Burial Grounds - Soil Full Protocol
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21 KW 10/20/08
INITIAL/DATE

COMMENTS:

SDG K1350 SAF-RC-032

Rad only X Chem only Rad & Chem

X Complete Partial

Waste Site: **600-149 pistol range**

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OCT 2 2 2008
EDMC

LIONVILLE LABORATORY INC.

RECEIVED
OCT 2008

15 October 2008

Joan Kessner
WC-Hanford, Inc.
2620 Fermi Avenue
MSIN H9-03
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 #	0809L135
SDG #	K1350
SAF #	RC-032
Date Received	9/18/08
# Samples	2
Matrix	SOIL
Volatiles	
Semivolatiles	
Pest/PCB	
Glycols	
DRO/KRO/GRO	
GC Alcohols	
Herbicides	
Metals	X
Inorganics	

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

Sincerely,
Lionville Laboratory Incorporated

Ornette S. Johnson
Project Manager
d:\b_ltrs.doc

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OCT 2008

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-032 K1350

DATE RECEIVED: 09/18/08 LVL LOT # :0809L135

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J17J50						
SILVER, TOTAL	001	S	08L0343	09/17/08	09/19/08	09/20/08
ALUMINUM, TOTAL	001	S	08L0343	09/17/08	09/19/08	09/20/08
ARSENIC, TOTAL	001	S	08L0343	09/17/08	09/19/08	09/20/08
BORON, TOTAL	001	S	08L0343	09/17/08	09/19/08	09/20/08
BARIUM, TOTAL	001	S	08L0343	09/17/08	09/19/08	09/20/08
BERYLLIUM, TOTAL	001	S	08L0343	09/17/08	09/19/08	09/20/08
CALCIUM, TOTAL	001	S	08L0343	09/17/08	09/19/08	09/20/08
CADMIUM, TOTAL	001	S	08L0343	09/17/08	09/19/08	09/20/08
COBALT, TOTAL	001	S	08L0343	09/17/08	09/19/08	09/20/08
CHROMIUM, TOTAL	001	S	08L0343	09/17/08	09/19/08	09/20/08
COPPER, TOTAL	001	S	08L0343	09/17/08	09/19/08	09/20/08
IRON, TOTAL	001	S	08L0343	09/17/08	09/19/08	09/20/08
MERCURY, TOTAL	001	S	08C0166	09/17/08	09/19/08	09/19/08
POTASSIUM, TOTAL	001	S	08L0343	09/17/08	09/19/08	09/20/08
MAGNESIUM, TOTAL	001	S	08L0343	09/17/08	09/19/08	09/20/08
MANGANESE, TOTAL	001	S	08L0343	09/17/08	09/19/08	09/20/08
MOLYBDENUM, TOTAL	001	S	08L0343	09/17/08	09/19/08	09/20/08
SODIUM, TOTAL	001	S	08L0343	09/17/08	09/19/08	09/20/08
NICKEL, TOTAL	001	S	08L0343	09/17/08	09/19/08	09/20/08
LEAD, TOTAL	001	S	08L0343	09/17/08	09/19/08	09/20/08
ANTIMONY, TOTAL	001	S	08L0343	09/17/08	09/19/08	09/20/08
SELENIUM, TOTAL	001	S	08L0343	09/17/08	09/19/08	09/20/08
SILICON, TOTAL	001	S	08L0343	09/17/08	09/19/08	09/20/08
TIN, TOTAL	001	S	08L0343	09/17/08	09/19/08	09/20/08
VANADIUM, TOTAL	001	S	08L0343	09/17/08	09/19/08	09/20/08
ZINC, TOTAL	001	S	08L0343	09/17/08	09/19/08	09/20/08
J17J51						
SILVER, TOTAL	002	S	08L0343	09/17/08	09/19/08	09/20/08
SILVER, TOTAL	002 REP	S	08L0343	09/17/08	09/19/08	09/20/08
SILVER, TOTAL	002 MS	S	08L0343	09/17/08	09/19/08	09/20/08
ALUMINUM, TOTAL	002	S	08L0343	09/17/08	09/19/08	09/20/08
ALUMINUM, TOTAL	002 REP	S	08L0343	09/17/08	09/19/08	09/20/08
ALUMINUM, TOTAL	002 MS	S	08L0343	09/17/08	09/19/08	09/20/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-032

DATE RECEIVED: 09/18/08 LVL LOT # :0809L135

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
ARSENIC, TOTAL	002	S	08L0343	09/17/08	09/19/08	09/20/08
ARSENIC, TOTAL	002 REP	S	08L0343	09/17/08	09/19/08	09/20/08
ARSENIC, TOTAL	002 MS	S	08L0343	09/17/08	09/19/08	09/20/08
BORON, TOTAL	002	S	08L0343	09/17/08	09/19/08	09/20/08
BORON, TOTAL	002 REP	S	08L0343	09/17/08	09/19/08	09/20/08
BORON, TOTAL	002 MS	S	08L0343	09/17/08	09/19/08	09/20/08
BARIUM, TOTAL	002	S	08L0343	09/17/08	09/19/08	09/20/08
BARIUM, TOTAL	002 REP	S	08L0343	09/17/08	09/19/08	09/20/08
BARIUM, TOTAL	002 MS	S	08L0343	09/17/08	09/19/08	09/20/08
BERYLLIUM, TOTAL	002	S	08L0343	09/17/08	09/19/08	09/20/08
BERYLLIUM, TOTAL	002 REP	S	08L0343	09/17/08	09/19/08	09/20/08
BERYLLIUM, TOTAL	002 MS	S	08L0343	09/17/08	09/19/08	09/20/08
CALCIUM, TOTAL	002	S	08L0343	09/17/08	09/19/08	09/20/08
CALCIUM, TOTAL	002 REP	S	08L0343	09/17/08	09/19/08	09/20/08
CALCIUM, TOTAL	002 MS	S	08L0343	09/17/08	09/19/08	09/20/08
CADMIUM, TOTAL	002	S	08L0343	09/17/08	09/19/08	09/20/08
CADMIUM, TOTAL	002 REP	S	08L0343	09/17/08	09/19/08	09/20/08
CADMIUM, TOTAL	002 MS	S	08L0343	09/17/08	09/19/08	09/20/08
COBALT, TOTAL	002	S	08L0343	09/17/08	09/19/08	09/20/08
COBALT, TOTAL	002 REP	S	08L0343	09/17/08	09/19/08	09/20/08
COBALT, TOTAL	002 MS	S	08L0343	09/17/08	09/19/08	09/20/08
CHROMIUM, TOTAL	002	S	08L0343	09/17/08	09/19/08	09/20/08
CHROMIUM, TOTAL	002 REP	S	08L0343	09/17/08	09/19/08	09/20/08
CHROMIUM, TOTAL	002 MS	S	08L0343	09/17/08	09/19/08	09/20/08
COPPER, TOTAL	002	S	08L0343	09/17/08	09/19/08	09/20/08
COPPER, TOTAL	002 REP	S	08L0343	09/17/08	09/19/08	09/20/08
COPPER, TOTAL	002 MS	S	08L0343	09/17/08	09/19/08	09/20/08
IRON, TOTAL	002	S	08L0343	09/17/08	09/19/08	09/20/08
IRON, TOTAL	002 REP	S	08L0343	09/17/08	09/19/08	09/20/08
IRON, TOTAL	002 MS	S	08L0343	09/17/08	09/19/08	09/20/08
MERCURY, TOTAL	002	S	08C0166	09/17/08	09/19/08	09/19/08
MERCURY, TOTAL	002 REP	S	08C0166	09/17/08	09/19/08	09/19/08
MERCURY, TOTAL	002 MS	S	08C0166	09/17/08	09/19/08	09/19/08
POTASSIUM, TOTAL	002	S	08L0343	09/17/08	09/19/08	09/20/08
POTASSIUM, TOTAL	002 REP	S	08L0343	09/17/08	09/19/08	09/20/08
POTASSIUM, TOTAL	002 MS	S	08L0343	09/17/08	09/19/08	09/20/08
MAGNESIUM, TOTAL	002	S	08L0343	09/17/08	09/19/08	09/20/08
MAGNESIUM, TOTAL	002 REP	S	08L0343	09/17/08	09/19/08	09/20/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-032

DATE RECEIVED: 09/18/08 LVL LOT # :0809L135

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
MAGNESIUM, TOTAL	002 MS	S	08L0343	09/17/08	09/19/08	09/20/08
MANGANESE, TOTAL	002	S	08L0343	09/17/08	09/19/08	09/20/08
MANGANESE, TOTAL	002 REP	S	08L0343	09/17/08	09/19/08	09/20/08
MANGANESE, TOTAL	002 MS	S	08L0343	09/17/08	09/19/08	09/20/08
MOLYBDENUM, TOTAL	002	S	08L0343	09/17/08	09/19/08	09/20/08
MOLYBDENUM, TOTAL	002 REP	S	08L0343	09/17/08	09/19/08	09/20/08
MOLYBDENUM, TOTAL	002 MS	S	08L0343	09/17/08	09/19/08	09/20/08
SODIUM, TOTAL	002	S	08L0343	09/17/08	09/19/08	09/20/08
SODIUM, TOTAL	002 REP	S	08L0343	09/17/08	09/19/08	09/20/08
SODIUM, TOTAL	002 MS	S	08L0343	09/17/08	09/19/08	09/20/08
NICKEL, TOTAL	002	S	08L0343	09/17/08	09/19/08	09/20/08
NICKEL, TOTAL	002 REP	S	08L0343	09/17/08	09/19/08	09/20/08
NICKEL, TOTAL	002 MS	S	08L0343	09/17/08	09/19/08	09/20/08
LEAD, TOTAL	002	S	08L0343	09/17/08	09/19/08	09/20/08
LEAD, TOTAL	002 REP	S	08L0343	09/17/08	09/19/08	09/20/08
LEAD, TOTAL	002 MS	S	08L0343	09/17/08	09/19/08	09/20/08
ANTIMONY, TOTAL	002	S	08L0343	09/17/08	09/19/08	09/20/08
ANTIMONY, TOTAL	002 REP	S	08L0343	09/17/08	09/19/08	09/20/08
ANTIMONY, TOTAL	002 MS	S	08L0343	09/17/08	09/19/08	09/20/08
SELENIUM, TOTAL	002	S	08L0343	09/17/08	09/19/08	09/20/08
SELENIUM, TOTAL	002 REP	S	08L0343	09/17/08	09/19/08	09/20/08
SELENIUM, TOTAL	002 MS	S	08L0343	09/17/08	09/19/08	09/20/08
SILICON, TOTAL	002	S	08L0343	09/17/08	09/19/08	09/20/08
SILICON, TOTAL	002 REP	S	08L0343	09/17/08	09/19/08	09/20/08
SILICON, TOTAL	002 MS	S	08L0343	09/17/08	09/19/08	09/20/08
TIN, TOTAL	002	S	08L0343	09/17/08	09/19/08	09/20/08
TIN, TOTAL	002 REP	S	08L0343	09/17/08	09/19/08	09/20/08
TIN, TOTAL	002 MS	S	08L0343	09/17/08	09/19/08	09/20/08
VANADIUM, TOTAL	002	S	08L0343	09/17/08	09/19/08	09/20/08
VANADIUM, TOTAL	002 REP	S	08L0343	09/17/08	09/19/08	09/20/08
VANADIUM, TOTAL	002 MS	S	08L0343	09/17/08	09/19/08	09/20/08
ZINC, TOTAL	002	S	08L0343	09/17/08	09/19/08	09/20/08
ZINC, TOTAL	002 REP	S	08L0343	09/17/08	09/19/08	09/20/08
ZINC, TOTAL	002 MS	S	08L0343	09/17/08	09/19/08	09/20/08

LAB QC:

SILVER LABORATORY	LC1 BS	S	08L0343	N/A	09/19/08	09/20/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-032

DATE RECEIVED: 09/18/08 LVL LOT # :0809L135

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
SILVER, TOTAL	MB1	S	08L0343	N/A	09/19/08	09/20/08
ALUMINUM LABORTORY	LC1 BS	S	08L0343	N/A	09/19/08	09/20/08
ALUMINUM, TOTAL	MB1	S	08L0343	N/A	09/19/08	09/20/08
ARSENIC LABORATORY	LC1 BS	S	08L0343	N/A	09/19/08	09/20/08
ARSENIC, TOTAL	MB1	S	08L0343	N/A	09/19/08	09/20/08
BORON LABORATORY	LC1 BS	S	08L0343	N/A	09/19/08	09/20/08
BORON, TOTAL	MB1	S	08L0343	N/A	09/19/08	09/20/08
BARIUM LABORATORY	LC1 BS	S	08L0343	N/A	09/19/08	09/20/08
BARIUM, TOTAL	MB1	S	08L0343	N/A	09/19/08	09/20/08
BERYLLIUM LABORATORY	LC1 BS	S	08L0343	N/A	09/19/08	09/20/08
BERYLLIUM, TOTAL	MB1	S	08L0343	N/A	09/19/08	09/20/08
CALCIUM LABORATORY	LC1 BS	S	08L0343	N/A	09/19/08	09/20/08
CALCIUM, TOTAL	MB1	S	08L0343	N/A	09/19/08	09/20/08
CADMIUM LABORATORY	LC1 BS	S	08L0343	N/A	09/19/08	09/20/08
CADMIUM, TOTAL	MB1	S	08L0343	N/A	09/19/08	09/20/08
COBALT LABORATORY	LC1 BS	S	08L0343	N/A	09/19/08	09/20/08
COBALT, TOTAL	MB1	S	08L0343	N/A	09/19/08	09/20/08
CHROMIUM LABORATORY	LC1 BS	S	08L0343	N/A	09/19/08	09/20/08
CHROMIUM, TOTAL	MB1	S	08L0343	N/A	09/19/08	09/20/08
COPPER LABORATORY	LC1 BS	S	08L0343	N/A	09/19/08	09/20/08
COPPER, TOTAL	MB1	S	08L0343	N/A	09/19/08	09/20/08
IRON LABORATORY	LC1 BS	S	08L0343	N/A	09/19/08	09/20/08
IRON, TOTAL	MB1	S	08L0343	N/A	09/19/08	09/20/08
MERCURY LABORATORY	LC1 BS	S	08C0166	N/A	09/19/08	09/19/08
MERCURY, TOTAL	MB1	S	08C0166	N/A	09/19/08	09/19/08
POTASSIUM LABORATORY	LC1 BS	S	08L0343	N/A	09/19/08	09/20/08
POTASSIUM, TOTAL	MB1	S	08L0343	N/A	09/19/08	09/20/08
MAGNESIUM LABORATORY	LC1 BS	S	08L0343	N/A	09/19/08	09/20/08
MAGNESIUM, TOTAL	MB1	S	08L0343	N/A	09/19/08	09/20/08
MANGANESE LABORATORY	LC1 BS	S	08L0343	N/A	09/19/08	09/20/08
MANGANESE, TOTAL	MB1	S	08L0343	N/A	09/19/08	09/20/08
MOLYBDENUM LABORATOR	LC1 BS	S	08L0343	N/A	09/19/08	09/20/08
MOLYBDENUM, TOTAL	MB1	S	08L0343	N/A	09/19/08	09/20/08
SODIUM LABORATORY	LC1 BS	S	08L0343	N/A	09/19/08	09/20/08
SODIUM, TOTAL	MB1	S	08L0343	N/A	09/19/08	09/20/08
NICKEL LABORATORY	LC1 BS	S	08L0343	N/A	09/19/08	09/20/08
NICKEL, TOTAL	MB1	S	08L0343	N/A	09/19/08	09/20/08
LEAD LABORATORY	LC1 BS	S	08L0343	N/A	09/19/08	09/20/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-032

DATE RECEIVED: 09/18/08 LVL LOT # :0809L135

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
LEAD, TOTAL	MB1	S	08L0343	N/A	09/19/08	09/20/08
ANTIMONY LABORATORY	LC1 BS	S	08L0343	N/A	09/19/08	09/20/08
ANTIMONY, TOTAL	MB1	S	08L0343	N/A	09/19/08	09/20/08
SELENIUM LABORATORY	LC1 BS	S	08L0343	N/A	09/19/08	09/20/08
SELENIUM, TOTAL	MB1	S	08L0343	N/A	09/19/08	09/20/08
SILICON LABORATORY	LC1 BS	S	08L0343	N/A	09/19/08	09/20/08
SILICON, TOTAL	MB1	S	08L0343	N/A	09/19/08	09/20/08
TIN LABORATORY	LC1 BS	S	08L0343	N/A	09/19/08	09/20/08
TIN, TOTAL	MB1	S	08L0343	N/A	09/19/08	09/20/08
VANADIUM LABORATORY	LC1 BS	S	08L0343	N/A	09/19/08	09/20/08
VANADIUM, TOTAL	MB1	S	08L0343	N/A	09/19/08	09/20/08
ZINC LABORATORY	LC1 BS	S	08L0343	N/A	09/19/08	09/20/08
ZINC, TOTAL	MB1	S	08L0343	N/A	09/19/08	09/20/08

LIONVILLE LABORATORY INC.

Analytical Report

Client: WC-HANFORD RC-032
LVL#: 0809L135
SDG/SAF#: K1350/RC-032

W.O.#: 60049-001-001-0001-00
Date Received: 09-18-08

METALS CASE NARRATIVE

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

All soil samples are reported on a dry weight basis unless requested by the client, required by the method, or noted otherwise.

1. This narrative covers the analyses of 2 soil samples.

2. The samples were prepared and analyzed in accordance with methods checked on the attached glossary.

   The samples were run with 3-fold dilutions for ICP metals due to sample matrix.

3. All analyses were performed within the required holding times.

4. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within the 90-110% control limits (80-120% for Mercury). The percent recovery for the ending CCV for Aluminum was 110.5 % in file TA0920A. All sample results contained in this report were surrounded by QC within control.

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

6. The preparation/method blank for 1 analyte was outside method criteria. {less than the Limit of Quantitation (3-10X the LOD), MB value less than 5% of the RCRA limit, or samples greater than 20X MB value}. Refer to the Inorganics Method Blank Data Summary.

   a). The MB 08L343 result for Sodium was greater than the Limit of Quantitation (LOQ) {3-10x the (LOD) Limit of Detection} and the samples read less than 20 times the MB concentration. However, no corrective action criteria for MBs were provided in SW846 method 6010B. The sample result was reported herein "uncorrected" for the levels found in the MB.

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

8. All laboratory control samples (LCS) were within the 80-120% control limits with the

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 20 pages.

exception of Silicon (13.9%). Sample results for Silicon may be biased low. Refer to the Inorganics Laboratory Control Standards Report.

9. Matrix spike (MS) recoveries for 5 analytes were outside the 75-125% control limits. Refer to the Inorganics Accuracy Report.

10. For analytes where the ICP MS is out-of-control, a post-digestion MS (PDS) and serial dilution are performed. A PDS was prepared at meaningful concentration level for the following analytes:

Sample ID	Element	PDS Concentration (ppb)	PDS % Recovery
J17J51	Aluminum	66,000	105.6
	Iron	66,000	103.0
	Antimony	300	102.4
	Lead	300	113.2
	Silicon	6,300	104.5

11. The duplicate analyses for 2 analytes were outside the 20% Relative Percent Difference (RPD) control limits. Refer to the Inorganics Precision Report.

12. 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.

13. LvLI 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.

14. 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 Incorporated
alm/m09-135

10/9/08
Date

LVLI
LIONVILLE LABORATORY INC.

METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within th

Lot#: 08091135

Leaching Procedure: __1310 __1311 __1312 __Other:_____

CLP Metals __ Digestion and __ Analysis Methods: __ILM03.0 __ILM04.0

Metals Digestion Methods: __3005A __3010A __3015 __3020A ✓3050B __3051 __200.7 __SS17
__Other: _____

Metals Analysis Methods

	SW846		EPA		STD MTD	EPA OSWR	USATHAMA
Aluminum	✓6010B		__200.7				__99
Antimony	✓6010B	__7041 [5]	__200.7	__204.2			__99
Arsenic	✓6010B	__7060A [5]	__200.7	__206.2	__3113B		__99
Barium	✓6010B		__200.7				__99
Beryllium	✓6010B		__200.7				__99
Bismuth	__6010B [1]		__200.7 [1]			__1620	__99
Boron	✓6010B		__200.7				__99
Cadmium	✓6010B	__7131A [5]	__200.7	__213.2			__99
Calcium	✓6010B		__200.7				__99
Chromium	✓6010B	__7191 [5]	__200.7	__218.2			__SS17
Cobalt	✓6010B		__200.7				__99
Copper	✓6010B	__7211 [5]	__200.7	__220.2			__99
Iron	✓6010B		__200.7				__99
Lead	✓6010B	__7421 [5]	__200.7	__239.2	__3113B		__99
Lithium	__6010B	__7430 [4]	__200.7			__1620	__99
Magnesium	✓6010B		__200.7				__99
Manganese	✓6010B		__200.7				__99
Mercury	__7470A [3]	✓7471A [3]	__245.1 [2]	__245.5 [2]			__99
Molybdenum	✓6010B		__200.7				__99
Nickel	✓6010B		__200.7				__99
Potassium	✓6010B	__7610 [4]	__200.7	__258.1 [4]			__99
Rare Earths	__6010B [1]		__200.7 [1]			__1620	__99
Selenium	✓6010B	__7740 [5]	__200.7	__270.2	__3113B		__99
Silicon	✓6010B [1]		__200.7			__1620	__99
Silica	__6010B		__200.7			__1620	__99
Silver	✓6010B	__7761 [5]	__200.7	__272.2			__99
Sodium	✓6010B	__7770 [4]	__200.7	__273.1 [4]			__99
Strontium	__6010B		__200.7				__99
Thallium	__6010B	__7841 [5]	__200.7	__279.2	__200.9		__99
Tin	✓6010B		__200.7				__99
Titanium	__6010B		__200.7				__99
Uranium	__6010B [1]		__200.7 [1]			__1620	__99
Vanadium	✓6010B		__200.7				__99
Zinc	✓6010B		__200.7				__99
Zirconium	__6010B [1]		__200.7 [1]			__1620	__99

Method:

METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

U = Indicates that the parameter was not detected at or above the reported limit. The associated numerical value is the sample detection limit.

* = Indicates that the original sample result is greater than 4x the spike amount added.

ABBREVIATIONS

MB = Method or Preparation Blank.
MS = Matrix Spike.
MSD = Matrix Spike Duplicate.
REP = Sample Replicate
LCS = Laboratory Control Sample.
NC = Not calculated.

ANALYTICAL METAL METHODS

1. Not included in the method element list.

2. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, approximately 0.3 grams of sample is taken to a final volume of 50 mL (including all reagents).

3. Flame AA.

4. Graphite Furnace AA.

L-WI-033/N-04/98

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 09/23/08

CLIENT: WC-HANFORD RC-032 LVL LOT #: 0809L135

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	J17J50	Silver, Total	0.28 u	MG/KG	0.28	3.0
		Aluminum, Total	7040	MG/KG	11.0	3.0
		Arsenic, Total	3.3	MG/KG	1.4	3.0
		Boron, Total	1.4 u	MG/KG	1.4	3.0
		Barium, Total	75.8	MG/KG	0.28	3.0
		Beryllium, Total	0.14 u	MG/KG	0.14	3.0
		Calcium, Total	6810	MG/KG	11.0	3.0
		Cadmium, Total	0.14 u	MG/KG	0.14	3.0
		Cobalt, Total	7.3	MG/KG	0.55	3.0
		Chromium, Total	9.2	MG/KG	0.55	3.0
		Copper, Total	15.4	MG/KG	0.55	3.0
		Iron, Total	21200	MG/KG	12.4	3.0
		Mercury, Total	0.009u	MG/KG	0.009	1.0
		Potassium, Total	1330	MG/KG	11.0	3.0
		Magnesium, Total	4970	MG/KG	6.9	3.0
		Manganese, Total	330	MG/KG	0.11	3.0
		Molybdenum, Total	0.83 u	MG/KG	0.83	3.0
		Sodium, Total	148	MG/KG	5.5	3.0
		Nickel, Total	10.2	MG/KG	0.55	3.0
		Lead, Total	63.8	MG/KG	0.83	3.0
		Antimony, Total	0.83 u	MG/KG	0.83	3.0
		Selenium, Total	1.7 u	MG/KG	1.7	3.0
		Silicon, Total	680	MG/KG	11.0	3.0
		Tin, Total	1.7 u	MG/KG	1.7	3.0
		Vanadium, Total	49.8	MG/KG	0.39	3.0
		Zinc, Total	44.0	MG/KG	1.7	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 09/23/08

CLIENT: WC-HANFORD RC-032 LVL LOT #: 0809L135

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-002	J17J51	Silver, Total	0.26 u	MG/KG	0.26	3.0
		Aluminum, Total	7510	MG/KG	10.4	3.0
		Arsenic, Total	2.8	MG/KG	1.3	3.0
		Boron, Total	1.3 u	MG/KG	1.3	3.0
		Barium, Total	79.5	MG/KG	0.26	3.0
		Beryllium, Total	0.13 u	MG/KG	0.13	3.0
		Calcium, Total	3970	MG/KG	10.4	3.0
		Cadmium, Total	0.13 u	MG/KG	0.13	3.0
		Cobalt, Total	7.5	MG/KG	0.52	3.0
		Chromium, Total	8.8	MG/KG	0.52	3.0
		Copper, Total	24.7	MG/KG	0.52	3.0
		Iron, Total	22400	MG/KG	11.7	3.0
		Mercury, Total	0.009u	MG/KG	0.009	1.0
		Potassium, Total	1440	MG/KG	10.4	3.0
		Magnesium, Total	4550	MG/KG	6.5	3.0
		Manganese, Total	346	MG/KG	0.10	3.0
		Molybdenum, Total	0.78 u	MG/KG	0.78	3.0
		Sodium, Total	145	MG/KG	5.2	3.0
		Nickel, Total	9.3	MG/KG	0.52	3.0
		Lead, Total	179	MG/KG	0.78	3.0
		Antimony, Total	1.6	MG/KG	0.78	3.0
		Selenium, Total	1.6 u	MG/KG	1.6	3.0
		Silicon, Total	551	MG/KG	10.4	3.0
		Tin, Total	1.6 u	MG/KG	1.6	3.0
		Vanadium, Total	53.6	MG/KG	0.36	3.0
		Zinc, Total	45.5	MG/KG	1.6	3.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 09/23/08

CLIENT: WC-HANFORD RC-032 LVL LOT #: 0809L135

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	08L0343-MB1	Silver, Total	0.10 u	MG/KG	0.10	1.0
		Aluminum, Total	15.9	MG/KG	4.0	1.0
		Arsenic, Total	0.50 u	MG/KG	0.50	1.0
		Boron, Total	0.50 u	MG/KG	0.50	1.0
		Barium, Total	0.10 u	MG/KG	0.10	1.0
		Beryllium, Total	0.05 u	MG/KG	0.05	1.0
		Calcium, Total	6.4	MG/KG	4.0	1.0
		Cadmium, Total	0.05 u	MG/KG	0.05	1.0
		Cobalt, Total	0.20 u	MG/KG	0.20	1.0
		Chromium, Total	0.24	MG/KG	0.20	1.0
		Copper, Total	0.20 u	MG/KG	0.20	1.0
		Iron, Total	4.5 u	MG/KG	4.5	1.0
		Potassium, Total	4.0 u	MG/KG	4.0	1.0
		Magnesium, Total	2.5 u	MG/KG	2.5	1.0
		Manganese, Total	0.1	MG/KG	0.04	1.0
		Molybdenum, Total	0.30 u	MG/KG	0.30	1.0
		Sodium, Total	17.4	MG/KG	2.0	1.0
		Nickel, Total	0.20 u	MG/KG	0.20	1.0
		Lead, Total	0.30 u	MG/KG	0.30	1.0
		Antimony, Total	0.30 u	MG/KG	0.30	1.0
		Selenium, Total	0.60 u	MG/KG	0.60	1.0
		Silicon, Total	4.0 u	MG/KG	4.0	1.0
		Tin, Total	0.76	MG/KG	0.60	1.0
		Vanadium, Total	0.14 u	MG/KG	0.14	1.0
		Zinc, Total	0.68	MG/KG	0.60	1.0
BLANK1	08C0166-MB1	Mercury, Total	0.01 u	MG/KG	0.01	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 09/23/08

CLIENT: WC-HANFORD RC-032 LVL LOT #: 0809L135

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-002	J17J51	Silver, Total	3.8	0.26u	4.1	92.7	3.0
		Aluminum, Total	8710	7510	164	734.8*	3.0
		Arsenic, Total	159	2.8	164	95.3	3.0
		Boron, Total	75.6	1.3 u	81.8	92.4	3.0
		Barium, Total	232	79.5	164	93.4	3.0
		Beryllium, Total	4.0	0.13u	4.1	97.6	3.0
		Calcium, Total	6250	3970	2040	111.6	3.0
		Cadmium, Total	3.9	0.13u	4.1	95.1	3.0
		Cobalt, Total	47.1	7.5	40.9	96.8	3.0
		Chromium, Total	24.9	8.8	16.4	98.2	3.0
		Copper, Total	40.5	24.7	20.4	77.5	3.0
		Iron, Total	23000	22400	81.8	793.9*	3.0
		Mercury, Total	0.16	0.00u	0.16	101.9	1.0
		Potassium, Total	3290	1440	2040	90.1	3.0
		Magnesium, Total	6280	4550	2040	84.5	3.0
		Manganese, Total	378	346	40.9	76.8*	3.0
		Molybdenum, Total	77.2	0.78u	81.8	94.4	3.0
		Sodium, Total	2040	145	2040	92.8	3.0
		Nickel, Total	48.8	9.3	40.9	96.6	3.0
		Lead, Total	165	179	40.9	-33. *	3.0
		Antimony, Total	19.6	1.6	40.9	44.0	3.0
		Selenium, Total	134	1.6 u	164	81.9	3.0
		Silicon, Total	534	551	81.8	-20. *	3.0
		Tin, Total	78.1	1.6 u	81.8	95.5	3.0
		Vanadium, Total	94.4	53.6	40.9	99.8	3.0
		Zinc, Total	86.9	45.5	40.9	101.2	3.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 09/23/08

CLIENT: WC-HANFORD RC-032 LVL LOT #: 0809L135

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-002REP	J17J51	Silver, Total	0.26u	0.25u	NC	3.0
		Aluminum, Total	7510	7630	1.6	3.0
		Arsenic, Total	2.8	2.3	19.6	3.0
		Boron, Total	1.3 u	1.6	~~NC~~ 200*	3.0
		Barium, Total	79.5	82.0	3.1	3.0
		Beryllium, Total	0.13u	0.12u	NC	3.0
		Calcium, Total	3970	3960	0.26	3.0
		Cadmium, Total	0.13u	0.12u	NC	3.0
		Cobalt, Total	7.5	7.7	2.6	3.0
		Chromium, Total	8.8	8.7	1.1	3.0
		Copper, Total	24.7	23.6	4.6	3.0
		Iron, Total	22400	22500	0.71	3.0
		Mercury, Total	0.00u	0.00u	NC	1.0
		Potassium, Total	1440	1460	0.93	3.0
		Magnesium, Total	4550	4530	0.49	3.0
		Manganese, Total	346	357	3.0	3.0
		Molybdenum, Total	0.78u	0.74u	NC	3.0
		Sodium, Total	145	167	14.5	3.0
		Nickel, Total	9.3	9.3	0.00	3.0
		Lead, Total	179	173	3.2	3.0
		Antimony, Total	1.6	0.82	64.3	3.0
		Selenium, Total	1.6 u	1.5 u	NC	3.0
		Silicon, Total	551	558	1.4	3.0
		Tin, Total	1.6 u	1.5 u	NC	3.0
		Vanadium, Total	53.6	54.5	1.7	3.0
		Zinc, Total	45.5	46.1	1.3	3.0

* Corrected RPD
aem
9/24/08

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 09/23/08

CLIENT: WC-HANFORD RC-032 LVL LOT #: 0809L135

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	08L0343-LC1	Silver, LCS	48.5	50.0	MG/KG	97.0
		Aluminum, LCS	599	500	MG/KG	119.9
		Arsenic, LCS	958	1000	MG/KG	95.8
		Boron, LCS	465	500	MG/KG	92.9
		Barium, LCS	477	500	MG/KG	95.5
		Beryllium, LCS	24.8	25.0	MG/KG	99.2
		Calcium, LCS	2490	2500	MG/KG	99.6
		Cadmium, LCS	24.3	25.0	MG/KG	97.2
		Cobalt, LCS	244	250	MG/KG	97.6
		Chromium, LCS	49.7	50.0	MG/KG	99.4
		Copper, LCS	123	125	MG/KG	98.2
		Iron, LCS	520	500	MG/KG	104.0
		Potassium, LCS	2190	2500	MG/KG	87.8
		Magnesium, LCS	2380	2500	MG/KG	95.4
		Manganese, LCS	74.0	75.0	MG/KG	98.7
		Molybdenum, LCS	487	500	MG/KG	97.4
		Sodium, LCS	2260	2500	MG/KG	90.4
		Nickel, LCS	198	200	MG/KG	99.0
		Lead, LCS	244	250	MG/KG	97.5
		Antimony, LCS	282	300	MG/KG	94.2
		Selenium, LCS	904	1000	MG/KG	90.4
		Silicon, LCS	69.3	500	MG/KG	13.9
		Tin, LCS	495	500	MG/KG	99.1
		Vanadium, LCS	241	250	MG/KG	96.2
		Zinc, LCS	99.5	100	MG/KG	99.5
LCS1	08C0166-LC1	Mercury, LCS	4.7	4.7	MG/KG	99.2

SAMPLE DIGESTION RECORD

SOP: L-SPI-3020 Rev. 00

Digestion Batch #: 08L0343
Date/Time Initiated: 9/19/08 1130
Date/Time Completed: 9/19/08 1900
Analyst(s): MW
Matrix: (Soil) Water Other: and oil
Instr. Type: AA (ICP)
Parameters: Lee leachlog

(Digested) Undigested (circle one)
Balance #: B20
Balance Cal Verif: (Y) NA
Hot Plate Temp: 92°

Method: SW (circle) 3005A, 3010A, 3015, 3020A, 7060A (As/Se), 7760A (Ag), (3050B), 3051
DW 200.7 (1994), 200.9, 3113B
MCAWW 200.7 (1982), 200 (AA), 206.2 (As/Se)
SM 3030C (NC)
CLP ILMO3.0, ILMO4.0
Other

TMW

COC Batch #	Spike Vol(s) (mL)	Initial Wt/Vol (g/mL)	Final Vol (mL)	pH <2	Type: To/So/TC	Texture	Color/Appearance	Artifact	Turb
0809L135-001		1.22gr	100ml	<2	TO	coarse	brown soil	N/A	
002		1.18gr				fine	light brown soil	vegetation	
002R		1.24gr							
002S	1.0 ml	1.25gr							
0809L114-001		1.22gr				coarse	Ottawa sand	N/A	
002		1.23gr					brown soil	rocks	
002R		1.25gr					(light)		
002S	1.0 ml	1.25gr							
003		1.18gr					brown soil		
004		1.29gr							
005		1.34gr							
006		1.35gr							
007		1.28gr							
008		1.25gr						rocks, veg., wood	
009		1.39gr							
0809L054-001		1.12gr				liquid	clear + brown		
001R		1.14gr							
* 001S	1.0 ml	(A) 1.13gr							
002		1.14gr					tan, thin		
003		1.10gr					tan, milky		
004		1.12gr					brown oil		
005		1.04gr							
006		1.19gr				coarse	white w/ black flecks	rocks + glass	
007		1.09gr					reddish brown + sand-like		

Spiking IDs:
MS #: 8100-04-01, 02, 03, 6072-78-07
LCS #: 08, 09, 10, 11

Reagent IDs:
HNO_3 607057
HCL 626054
H_2O_2 615A18
1:1 HNO_3 9789-083-08
1:1 HCL

File ID#: IC034301, IC034302, IC034303
LIMS Transfer: (Y) N
Data Review By/Date: PMP, 09/20/08

updated

* 0809L054-001S boiled over on hot plate - cancel per PM.

* RAB

(A) also 0.5 ml 6072-079-13 (Zr)

SAMPLE DIGESTION RECORD

SOP: L-SPI-3020 Rev. 00

Digestion Batch #: 08L0343
Date/Time Initiated:
Date/Time Completed: 068
Analyst(s):
Matrix: Soil Water Other:
Instr. Type: AA ICP
Parameters: See page
Digested / Undigested (circle one)
Balance #:
Balance Cal Verif: Y NA
Hot Plate Temp:

Method: SW (circle)
3005A
3010A
3015
3020A
7060A (As/Se)
7760A (Ag)
3050B
3051
CLP ILMO3.0
ILMO4.0

DW 200.7 (1994)
200.9
3113B
MCAWW 200.7 (1982)
200 (AA)
206.2 (As/Se)
SM 3030C (NC)
Other

TMW

COC Batch #	Spike Vol(s) (mL)	Initial Wt/Vol (g/mL)	Final Vol (mL)	pH <2	Type: To/So/ TC	Texture	Color/Appearance	Artifact	Turb
08L0343-MB1		1.0 gm	100 ml	✓	TO	coarse	boiling chips		
LCS1	1.0 ml	1.0 gm	✓	✓		✓	✓		

PM 9/19/08

Spiking IDs:
MS #:
LCS #:
See page 069

Reagent IDs:
HNO_3
HCL
H_2O_2
1:1 HNO_3
1:1 HCL
See page 069

IC034301, IC034304
File ID#: IC034303
LIMS Transfer: Y N updated
Data Review By/Date: PMP, 09/20/08

Honville Laboratory
Incorporated

MERCURY PREPARATION

Logbook # 498

Analyst: [illegible]
Date: 9/19/08
Start Time/Temp: 1420 | 95
End Time/Temp: 1450 | 97°

Instrument ID: HG3.3
Balance #: B29 / NA
Pipette Calibration (Daily) Y ✓

Prep Batch: 08C0166
Worksheet: HG091903
SOP No. ME-HgCVAA, Rev. 02

pH < 2 for Liquids? __ Yes NA No (If no: designate affected samples in Comments column, and initiate an SDR)

NOTE: The Inital/Final Volume for water samples = 33mL, unless otherwise noted.
The Final volume for soil samples = 50mL, unless otherwise noted.

LvLI Batch #	Container Number	Spike Volume (mL)	Spike Conc. (µg/L)	Initial Wt. or Volume (g or mL)	Final Sample Volume (mL)	Comments, % Solids, etc.
Blank	DX			10mL	50mL	
0.2ug/L	C8	0.100				
1.0	R	0.500				
2.0	8T	1.000				
5.0	H3	2.500				
10.0	I4	5.000				
ICV	711	0.125	2.5			
CCV	1721	0.250	5.0			
ICB/CCB	Gd					
MB1	114			0.30		PBS166 100.0
LC1	K17	*	*	0.30		LCSS166
0809L135-001	C4D			0.32		
002	KX			0.32		
002R	111E			0.36		
002S	A	0.500	1.0	0.32		
0809L052-001	X8			0.34		93.4
002	B6			0.31		97.2
002R	C7			0.33		
002S	P&C	0.500	1.0	0.31		

5.00 9/19/08

Standard:	ID	Prep Date/Time
ICAL/MS	R1 6072-78-14B	9/19/08 0850
ICV/CCV/LCS	US 6072-78-15A	

Reviewed By/Date: [signature] 9/22/

see book # 9368 for std traceability information

Soil LCS =US Metals in soil No.3; True Value = 4.70 mg/Kg
Catalogue #1RM-021, Lot # E021

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

Lionville Laboratory Use Only

0809L135

Custody Transfer Record/Lab Work Request

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

LVLI

000000019

Client: Washington Closure Hanford AC-032

Est. Final Proj. Sampling Date:

Project#: 60049-001-001-0001-00

Project Contact/Phone#:

Lionville Laboratory Project Manager: Juliette Johnson

QC: SW846 Del: STP TAT: 3 days

Date Rec'd: 9-18-08 Date Due: 9-21-08

Refrigerator #									A							
#/Type Container	Liquid								3							
	Solid								1gl							
Volume	Solid								250							
Preservatives									1							
ANALYSES REQUESTED →		ORGANIC							INORG							
		VOA	BNA	Pest/PCB	Herb				Metal + Hg	CN						
									Lionville Laboratory Use Only							
									Met①							
001	J17J50			S	9.17.08	0906			X							
002	J17J51			J	↓	0909			X							

MATRIX CODES:
S- Soil
SE- Sediment
SO- Solid
SL- Sludge
W- Water
O- Oil
A- Air
DS- Drum Solids
DL- Drum Liquids
L- EP/TCLP Leachate
WI- Wipe
X- Other
F- Fish

Special Instructions: Run matrix QC

met① = HSL + B, Mo, Si, Sn
NOTL

Special Instructions:
1.
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
Lee Ex	[illegible]	9.18.08	0940

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN		"COMPOSITE WASTE"	

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-199	Page 1 of 1

Collector Tony Ethrington	Company Contact Doug Bowers Telephone No. 528-6409	Project Coordinator KESSNER, JH	Price Code Data Turnaround ASAP
Project Designation 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location 600-149 pistol range	SAF No. RC-032	
Ice Chest No. ERC-96-014	Field Logbook No. EL-1627 COA 0601492600	Method of Shipment FED EX	
Shipped To EBERLINE SERVICES / LIONVILLE	Offsite Property No. A080352	Bill of Lading/Air Bill No. See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None										
Type of Container	aG										
No. of Container(s)	1										
Volume	250 ml 8-17-08										
	See item (1) in Special Instructions.										

SAMPLE ANALYSIS

Sample No.	Matrix *	Sample Date	Sample Time										
J17J50	SOIL	~~0906~~ 9-17-08	0906	X		point	18						
J17J51	SOIL	~~0909~~ 9-17-08	0909	X		point	20						

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Tony Ethrington	9-17-08 0916	Doug Bowers / Doug Bowers	9-17-08/0916
Doug Bowers / Doug Bowers	09-17-08/1005	MStankovich	9/17/08 1005
WCH MStankovich	1040 SEP 17 2008	Fed Ex	
Fed Ex	9-18-08/0940	[signature]	9-18-08/0940

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (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) tin also.

Matrix *

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

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

WCH-EE-011

000000020

YMW

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: W.C. Hanford

Project/SAF/SOW/Release #: RC-032

Date: 9-18-08

LvLI Batch #: 0809L135

Sample Custodian: [illegible]

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier Fed Ex		Airbill # 7993 7542 950
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 29	°C	Cooler # ERC-96-014
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 & LvLI) 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 LvLI 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 _____

LvLI