0079265

SAF-RC-007
100-N Ancillary Facilities & 190-DR ETF
Analytical Data Requirements - Liquid
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Tom Edmundson X5-50 KW 11/10/08
INITIAL/DATE

COMMENTS:

SDG K1388 **SAF-RC-007**

Rad only X Chem only Rad & Chem

X Complete Partial

Waste Site: 182-N Basement Fire Water Line

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EDMC

LvLI
LIONVILLE LABORATORY INC.

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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 #	0810L057
SDG #	K1388
SAF #	RC-007
Date Received	10/10/08
# Samples	1
Matrix	WATER
Volatiles	
Semivolatiles	
Pest/PCB	
PAH	
DRO/KRO/GRO	
GC Alcohols	
Herbicides	
Metals	X
Inorganics	X

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

Orlette S. Johnson
Project Manager
r:\group\pm\orlette\hanford\data\b_ltrs.doc

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Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-007 K1388

DATE RECEIVED: 10/10/08 LVL LOT # :0810L057

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J17K82						
TOTAL ORGANIC CARBON	001	W	08LTC019	10/08/08	10/13/08	10/13/08
TOTAL ORGANIC CARBON	001 REP	W	08LTC019	10/08/08	10/13/08	10/13/08
TOTAL ORGANIC CARBON	001 MS	W	08LTC019	10/08/08	10/13/08	10/13/08
LAB QC:						
TOTAL ORGANIC CARBON	MB1	W	08LTC019	N/A	10/13/08	10/13/08
TOTAL ORGANIC CARBON	MB1 BS	W	08LTC019	N/A	10/13/08	10/13/08

LIONVILLE LABORATORY INC.

Analytical Report

Client: WC-HANFORD RC-007 K1388
LVL#: 0810L057

W.O.#: 60049-001-001-0001-00
Date Received: 10-10-08

INORGANIC NARRATIVE

1. This narrative covers the analysis of 1 water sample.

2. The sample was prepared and analyzed in accordance with the methods checked on the attached glossary.

   Lionville Lab (LvL) is NELAP accredited by the State of Pennsylvania. For a complete list 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.

3. Sample holding times as required by the method and/or contract were met.

4. The results presented in this report are derived from a sample that met LvLI's sample acceptance policy.

5. The method blank was within the method criteria.

6. The Laboratory Control Sample (LCS) was within the laboratory control limits.

7. The matrix spike recovery was within the 75-125% control limits.

8. The replicate analysis was within the 20% Relative Percent Difference (RPD) control limit.

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 hard copy package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Judy Stone

Iain Daniels
Laboratory Manager
Lionville Laboratory

10/28/08
Date

njp\i10-057

The results presented in this report relate to the analytical testing and conditions of the samples upon 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 11 pages.

Lionville Laboratory Incorporated

WET CHEMISTRY

METHODS GLOSSARY FOR WATER SAMPLE ANALYSIS

	EPA /600	SW846	OTHER
Acidity	___ 305.1		
___Alkalinity ___Bicarbonate ___Carbonate	___ 310.1		
BOD	___ 405.1		___ 5210B (b)
Ion Chromatography:			
___Bromide ___Chloride ___Fluoride	___ 300.0	___ 9056	
___Nitrate ___Nitrite ___Phosphate	___ 300.0	___ 9056	
___Sulfate ___Formate ___Acetate ___Oxalate	___ 300.0	___ 9056	
Chloride	___ 325.2	___ 9251	
Chorine, Residual	___ 330.5 (mod)		
Cyanide, Amenable to Chlorination	___ 335.2	___ 9010B	
Cyanide, Total	___ 335.2	___ 9010B ___ 9014	___ ILMO4.0 (e)
Cyanide, Weak Acid Dissociable		___	___ 412 (a) ___ 4500CN-I (b
COD	___ 410.4(mod)		___ 5220C (b)
Color	___ 110.2		
Corrosivity by Coupon		___ 1110(mod)	
Chromium VI		___ 7196A	___ 3500Cr-D (b)
Fluoride	___ 340.2		___ 4500-FC
Hardness, Calcium	___ 215.2		
Hardness, Total	___ 130.2		
Iodide			___ ASTM D19P202 (1)
Surfactant	___ 425.1		
___Nitrate-Nitrite ___Nitrate ___Nitrite	___ 353.2		
Ammonia	___ 350.3		
Total___ Kjeldahl ___ Organic Nitrogen	___ 351.3		
Total ✓ Organic ___ Inorganic Carbon	✓ 415.1	___ 9060	
Oil & Grease	___ 413.1	___ 9070	
___ pH ____ pH; paper	___ 150.1	___ 9040B ___ 9041A	
Petroleum Hydrocarbons, Total Recoverable	___ 418.1		
Phenol	___ 420.1 ___ 420.2	___ 9065 ___ 9066	
___Ortho ___Total Phosphate	___ 365.2		___ 4500-P B ___ C
Salinity			___ 210A (a) ___ 2520 (b)
Settleable Solids	___ 160.5		
Sulfide	___ 376.1	___ 9030B/9034 (acid soluble)	
Reactive ___Cyanide ___Sulfide		___ Section 7.3 (__9014__9030B)	
Silica	___ 370.1		
Sulfite	___ 377.1		
Sulfate	___ 375.4	___ 9038	
Specific Conductance	___ 120.1	___ 9050A	
Specific Gravity			___ D5057-90 ___ 213E (a)
Synthetic Precipitation Leach	___ 1312		
Total ___Dissolved __Suspended ___Solids	160 ___.1 ___.2 ___.3		
Total Organic Halides	___ 450.1	___ 9020B	
Turbidity	___ 180.1		
Volatile Solids:			
__Total __Dissolved __Suspended	___ 160.4		
Other:		**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
LC = Laboratory Control Sample.
NC = Not calculated.

A suffix of -R, -S, or -T following these codes indicate a replicate, spike or sample duplicate analysis respectively.

ANALYTICAL WET CHEMISTRY METHODS

1. ASTM Standard Methods.

2. USEPA Methods for Chemical Analysis of Water and Wastes (USEPA 600/4-79-020).

3. Test Methods for Evaluating Solid Waste (USEPA SW-846).

a. Standard Methods for the Examination of Water and Waste, 16 ed, (1983).

b. Standard Methods for the Examination of Water and Waste, 17 ed, (1989)/18ed (1992).

c. Method of Soil Analysis, Part 1, Physical and Mineralogical Methods, 2nd ed, (1986).

d. Method of Soil Analysis, Part 2, Chemical and Microbiological Properties, Am. Soc. Agron., Madison, WI (1965).

e. USEPA Contract Laboratory Program, Statement of Work for Inorganic Analysis.

f. Code of Federal Regulations.

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 10/27/08

CLIENT: WC-HANFORD RC-007 K1388 LVL LOT #: 0810L057

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	J17K82	Total Organic Carbon	266	MG/L	25.0	50.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 10/27/08

CLIENT: WC-HANFORD RC-007 K1388 LVL LOT #: 0810L057

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK10	08LTC019-MB1	Total Organic Carbon	0.50 u	MG/L	0.50	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 10/27/08

CLIENT: WC-HANFORD RC-007 K1388 LVL LOT #: 0810L057

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-001	J17K82	Total Organic Carbon	521	266	250	102.3	50.0
BLANK10	08LTC019-MB1	Total Organic Carbon	4.9	0.50u	5.0	98.8	1.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 10/27/08

CLIENT: WC-HANFORD RC-007 K1388 LVL LOT #: 0810L057

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

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-001REP	J17K82	Total Organic Carbon	266	270	1.6	50.0

onville Laboratory Use Only

0810L057

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

LVLI

ient WC HANFORD SAF# RC-057

t. Final Proj. Sampling Date

oject# 60049-001-001-0001-00

oject Contact/Phone#

onville Laboratory Project Manager O. JOHNSON

c SW846 Del STD TAT 3 Day

ate Rec'd 10-10-08 Date Due 10-B-08

Refrigerator #													A									
#/Type Container	Liquid												6									
	Solid												1G									
Volume													40									
Preservatives													HCL									
ANALYSES REQUESTED →		ORGANIC													INORG							
		VOA	BNA	Pest/PCB	Herb								TOC		Metal	CN						
		Lionville Laboratory Use Only																				
													IOCT		Met①							
Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected																
001	J17K82	✓	✓	W	10-8-08	1415							X		X							

ATRIX ODES:
- Soil
E- Sediment
D- Solid
L- Sludge
- Water
- Oil
- Air
S- Drum Solids
L- Drum Liquids EP/TCLP Leachate
I- Wipe
- Other Fish

pecial Instructions:

met① = HSL – CO, TL + Sa, Li

Special Instructions:

1.
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
[signature]	[signature]	10/10/08	0930

Relinquished by	Received by	Date	Time

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

600000000

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-007-030 | Page 1 of 1

Collector: Edmundson	Company Contact: Tom Edmundson	Telephone No.: 947-5192	Project Coordinator: KESSNER, JH
Price Code: 7K	Data Turnaround: ~~15~~ Days 3 day JRE 10-8-08		
Project Designation: 100-N Ancillary Facilities & 190-DR ETF Analytical Data Re	Sampling Location: 182-N Basement Fire Water Line		SAF No.: RC-007
Ice Chest No.: SAWS-49	Field Logbook No.: EL-1516-13	COA: RD4MXX2F00	Method of Shipment: Fed Ex
Shipped To: EBERLINE SERVICES, LIONVILLE	Offsite Property No.: A090031		Bill of Lading/Air Bill No.: See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

Cool to 4C

Preservation	HNO3 to pH <2	Cool 4C	HCl or H2SO4 to pH <2 Coo									
Type of Container	G/P	P	G									
No. of Container(s)	D	1	1									
Volume	~~500mL~~ 40ml	500mL	~~125mL~~ 40ml									
SAMPLE ANALYSIS	See item (1) in Special Instructions	See item (2) in Special Instructions JRE 10-8-08	TOC - 415.1									
Sample No.	Matrix *	Sample Date	Sample Time									
117K82	WATER	10-8-08	1415	✓		✓						

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
J.R. Edmundson	10-8-08 1630	1060 Battelle #2C	10-8-08 1630
Relinquished By/Removed From	Date/Time 1000	Received By/Stored In	Date/Time 1000
1060 Battelle 2C/J.E. Bernhard	10-9-08	J.E. Bernhard	10-9-08
Relinquished By/Removed From	Date/Time 1005	Received By/Stored In	Date/Time
J.E. Bernhard WCH	10-9-08	FEDEX	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
FedEx	10-10-08 0930	Dale Hernandez	10-10-08 0930
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

~~Preservative not available. Please preserve upon receipt at the lab.~~ JRE 10-8-08

(1) ICP Metals - 6010A (Supertrace) {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}; ICP Metals - 6010TR (Add-On) {Aluminum, Antimony, Beryllium, Calcium, Copper, Iron, Lithium, Magnesium, Manganese, Nickel, Potassium, Silica, Sodium, Vanadium, Zinc}; Mercury - 7470 - (CV)
(2) IC Anions - 300.0 {Bromide, Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate}; pH (Water) - 9040

Please contact Joan Kessner for special instruction.

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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

TCH-EE-011

00000000

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: WC HANFORD

Project/SAF/SOW/Release #: RC-007

Date: 10-10-08

LvLI Batch #: 0810L057

Sample Custodian:

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier Fed Ex		Airbill # 7905 9888 0981
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 4.3°	°C	Cooler # SAWS-49
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

RECEIVED
NOV 2008

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-007 K1388

DATE RECEIVED: 10/10/08 LVL LOT # :0810L057

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J17K82						
SILVER, TOTAL	001	W	08L0372	10/08/08	10/13/08	10/15/08
ALUMINUM, TOTAL	001	W	08L0372	10/08/08	10/13/08	10/15/08
ARSENIC, TOTAL	001	W	08L0372	10/08/08	10/13/08	10/15/08
BARIUM, TOTAL	001	W	08L0372	10/08/08	10/13/08	10/15/08
BERYLLIUM, TOTAL	001	W	08L0372	10/08/08	10/13/08	10/15/08
CALCIUM, TOTAL	001	W	08L0372	10/08/08	10/13/08	10/15/08
CADMIUM, TOTAL	001	W	08L0372	10/08/08	10/13/08	10/15/08
CHROMIUM, TOTAL	001	W	08L0372	10/08/08	10/13/08	10/15/08
COPPER, TOTAL	001	W	08L0372	10/08/08	10/13/08	10/15/08
IRON, TOTAL	001	W	08L0372	10/08/08	10/13/08	10/15/08
MERCURY, TOTAL	001	W	08C0182	10/08/08	10/13/08	10/14/08
POTASSIUM, TOTAL	001	W	08L0372	10/08/08	10/13/08	10/15/08
LITHIUM, TOTAL	001	W	08L0372	10/08/08	10/13/08	10/15/08
MAGNESIUM, TOTAL	001	W	08L0372	10/08/08	10/13/08	10/15/08
MANGANESE, TOTAL	001	W	08L0372	10/08/08	10/13/08	10/15/08
SODIUM, TOTAL	001	W	08L0372	10/08/08	10/13/08	10/15/08
NICKEL, TOTAL	001	W	08L0372	10/08/08	10/13/08	10/15/08
LEAD, TOTAL	001	W	08L0372	10/08/08	10/13/08	10/15/08
SILICA, TOTAL	001	W	08L0372	10/08/08	10/13/08	10/15/08
ANTIMONY, TOTAL	001	W	08L0372	10/08/08	10/13/08	10/15/08
SELENIUM, TOTAL	001	W	08L0372	10/08/08	10/13/08	10/15/08
VANADIUM, TOTAL	001	W	08L0372	10/08/08	10/13/08	10/15/08
ZINC, TOTAL	001	W	08L0372	10/08/08	10/13/08	10/15/08

LAB QC:

SILVER LABORATORY	LC1 BS	W	08L0372	N/A	10/13/08	10/15/08
SILVER, TOTAL	MB1	W	08L0372	N/A	10/13/08	10/15/08
ALUMINUM LABORTORY	LC1 BS	W	08L0372	N/A	10/13/08	10/15/08
ALUMINUM, TOTAL	MB1	W	08L0372	N/A	10/13/08	10/15/08
ARSENIC LABORATORY	LC1 BS	W	08L0372	N/A	10/13/08	10/15/08
ARSENIC, TOTAL	MB1	W	08L0372	N/A	10/13/08	10/15/08
BARIUM LABORATORY	LC1 BS	W	08L0372	N/A	10/13/08	10/15/08
BARIUM, TOTAL	MB1	W	08L0372	N/A	10/13/08	10/15/08
BERYLLIUM LABORATORY	LC1 BS	W	08L0372	N/A	10/13/08	10/15/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-007 K1388

DATE RECEIVED: 10/10/08 LVL LOT # :0810L057

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
BERYLLIUM, TOTAL	MB1	W	08L0372	N/A	10/13/08	10/15/08
CALCIUM LABORATORY	LC1 BS	W	08L0372	N/A	10/13/08	10/15/08
CALCIUM, TOTAL	MB1	W	08L0372	N/A	10/13/08	10/15/08
CADMIUM LABORATORY	LC1 BS	W	08L0372	N/A	10/13/08	10/15/08
CADMIUM, TOTAL	MB1	W	08L0372	N/A	10/13/08	10/15/08
CHROMIUM LABORATORY	LC1 BS	W	08L0372	N/A	10/13/08	10/15/08
CHROMIUM, TOTAL	MB1	W	08L0372	N/A	10/13/08	10/15/08
COPPER LABORATORY	LC1 BS	W	08L0372	N/A	10/13/08	10/15/08
COPPER, TOTAL	MB1	W	08L0372	N/A	10/13/08	10/15/08
IRON LABORATORY	LC1 BS	W	08L0372	N/A	10/13/08	10/15/08
IRON, TOTAL	MB1	W	08L0372	N/A	10/13/08	10/15/08
MERCURY LABORATORY	LC1 BS	W	08C0182	N/A	10/13/08	10/14/08
MERCURY, TOTAL	MB1	W	08C0182	N/A	10/13/08	10/14/08
POTASSIUM LABORATORY	LC1 BS	W	08L0372	N/A	10/13/08	10/15/08
POTASSIUM, TOTAL	MB1	W	08L0372	N/A	10/13/08	10/15/08
LITHIUM LABORATORY	LC1 BS	W	08L0372	N/A	10/13/08	10/15/08
LITHIUM, TOTAL	MB1	W	08L0372	N/A	10/13/08	10/15/08
MAGNESIUM LABORATORY	LC1 BS	W	08L0372	N/A	10/13/08	10/15/08
MAGNESIUM, TOTAL	MB1	W	08L0372	N/A	10/13/08	10/15/08
MANGANESE LABORATORY	LC1 BS	W	08L0372	N/A	10/13/08	10/15/08
MANGANESE, TOTAL	MB1	W	08L0372	N/A	10/13/08	10/15/08
SODIUM LABORATORY	LC1 BS	W	08L0372	N/A	10/13/08	10/15/08
SODIUM, TOTAL	MB1	W	08L0372	N/A	10/13/08	10/15/08
NICKEL LABORATORY	LC1 BS	W	08L0372	N/A	10/13/08	10/15/08
NICKEL, TOTAL	MB1	W	08L0372	N/A	10/13/08	10/15/08
LEAD LABORATORY	LC1 BS	W	08L0372	N/A	10/13/08	10/15/08
LEAD, TOTAL	MB1	W	08L0372	N/A	10/13/08	10/15/08
SILICA LABORATORY	LC1 BS	W	08L0372	N/A	10/13/08	10/15/08
SILICA, TOTAL	MB1	W	08L0372	N/A	10/13/08	10/15/08
ANTIMONY LABORATORY	LC1 BS	W	08L0372	N/A	10/13/08	10/15/08
ANTIMONY, TOTAL	MB1	W	08L0372	N/A	10/13/08	10/15/08
SELENIUM LABORATORY	LC1 BS	W	08L0372	N/A	10/13/08	10/15/08
SELENIUM, TOTAL	MB1	W	08L0372	N/A	10/13/08	10/15/08
VANADIUM LABORATORY	LC1 BS	W	08L0372	N/A	10/13/08	10/15/08
VANADIUM, TOTAL	MB1	W	08L0372	N/A	10/13/08	10/15/08
ZINC LABORATORY	LC1 BS	W	08L0372	N/A	10/13/08	10/15/08
ZINC, TOTAL	MB1	W	08L0372	N/A	10/13/08	10/15/08

LIONVILLE LABORATORY INC.

Analytical Report

Client: WC-HANFORD RC-057
LVL#: 0810L057
SDG/SAF#: K1388/RC-057

W.O.#: 60049-001-001-0001-00
Date Received: 10-10-08

METALS CASE NARRATIVE

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 water sample.

2. The sample was prepared and analyzed in accordance with methods checked on the attached glossary.

   The sample was prepped with 10-fold dilutions for all metals due to limited sample volume.

   The sample was rerun on a different instrument for Aluminum, Potassium, and Sodium 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).

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

6. All preparation/method blanks (MB) were within method criteria {less than the Limit of Quantitation (3-10X the LOD), or samples greater than 20X MB value}. Refer to the Inorganics Method Blank Data Summary.

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

8. All laboratory control samples (LCS) were within the 80-120% control limits. Refer to the Inorganics Laboratory Control Standards Report.

9. Matrix spike (MS) recoveries and duplicate analyses were not performed on this batch due to limited sample volume, and are associated with WC-Hanford, LvL batches# 0810L016 and

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 15 pages.

208 Welsh Pool Road • Exton, PA 19341- 1313 • (610) 280-3000 • Fax (610) 280-3041

0810L017 for both ICP metals and Mercury, digested within the same digestion batches.

10. 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.

11. 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.

12. 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

10/24/02
Date

jjw/m10-057

LIONVILLE LABORATORY INC.

METALS METHOD GLOSSARY

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

Lot#: 0810L057

Leaching Procedure: __1310 __1311 __1312 __Other:_____

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

Metals Digestion Methods: X3005A __3010A __3015 __3020A __3050B __3051 __200.7 __SS17
__Other: _____

Metals Analysis Methods

	SW846		EPA		STD MTD	EPA OSWR	USATHAMA
Aluminum	X 6010B		__200.7				__99
Antimony	X 6010B	__7041 [5]	__200.7	__204.2			__99
Arsenic	X 6010B	__7060A [5]	__200.7	__206.2	__3113B		__99
Barium	X 6010B		__200.7				__99
Beryllium	X 6010B		__200.7				__99
Bismuth	__6010B [1]		__200.7 [1]			__1620	__99
Boron	__6010B		__200.7				__99
Cadmium	X 6010B	__7131A [5]	__200.7	__213.2			__99
Calcium	X 6010B		__200.7				__99
Chromium	X 6010B	__7191 [5]	__200.7	__218.2			__SS17
Cobalt	__6010B		__200.7				__99
Copper	X 6010B	__7211 [5]	__200.7	__220.2			__99
Iron	X 6010B		__200.7				__99
Lead	X 6010B	__7421 [5]	__200.7	__239.2	__3113B		__99
Lithium	X 6010B	__7430 [4]	__200.7			__1620	__99
Magnesium	X 6010B		__200.7				__99
Manganese	X 6010B		__200.7				__99
Mercury	X 7470A [3]	__7471A [3]	__245.1 [2]	__245.5 [2]			__99
Molybdenum	__6010B		__200.7				__99
Nickel	X 6010B		__200.7				__99
Potassium	X 6010B	__7610 [4]	__200.7	__258.1 [4]			__99
Rare Earths	__6010B [1]		__200.7 [1]			__1620	__99
Selenium	X 6010B	__7740 [5]	__200.7	__270.2	__3113B		__99
Silicon	__6010B [1]		__200.7			__1620	__99
Silica	X 6010B		__200.7			__1620	__99
Silver	X 6010B	__7761 [5]	__200.7	__272.2			__99
Sodium	X 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	X 6010B		__200.7				__99
Zinc	X 6010B		__200.7				__99
Zirconium	__6010B [1]		__200.7 [1]			__1620	__99

Other: _____ 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 10/20/08

CLIENT: WC-HANFORD RC-007 K1388 LVL LOT #: 0810L057

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	J17K82	Silver, Total	10.0	u	UG/L	10.0	1.0
		Aluminum, Total	112000		UG/L	400	1.0
		Arsenic, Total	93.2		UG/L	50.0	1.0
		Barium, Total	2160		UG/L	10.0	1.0
		Beryllium, Total	5.0	u	UG/L	5.0	1.0
		Calcium, Total	180000		UG/L	400	1.0
		Cadmium, Total	67.9		UG/L	5.0	1.0
		Chromium, Total	556		UG/L	20.0	1.0
		Copper, Total	1410		UG/L	20.0	1.0
		Iron, Total	1060000		UG/L	450	1.0
		Mercury, Total	2.3		UG/L	0.60	10.0
		Potassium, Total	52500		UG/L	4930	1.0
		Lithium, Total	106		UG/L	4.0	1.0
		Magnesium, Total	54100		UG/L	250	1.0
		Manganese, Total	15800		UG/L	4.0	1.0
		Sodium, Total	82600		UG/L	200	1.0
		Nickel, Total	801		UG/L	20.0	1.0
		Lead, Total	1210		UG/L	30.0	1.0
		SILICA , Total	328000		UG/L	852	2.1
		Antimony, Total	220		UG/L	30.0	1.0
		Selenium, Total	60.0	u	UG/L	60.0	1.0
		Vanadium, Total	435		UG/L	14.0	1.0
		Zinc, Total	42900		UG/L	60.0	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 10/20/08

CLIENT: WC-HANFORD RC-007 K1388 LVL LOT #: 0810L057

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	08L0372-MB1	Silver, Total	1.0	u	UG/L	1.0	1.0
		Aluminum, Total	42.5		UG/L	40.0	1.0
		Arsenic, Total	5.0	u	UG/L	5.0	1.0
		Barium, Total	1.0	u	UG/L	1.0	1.0
		Beryllium, Total	0.50	u	UG/L	0.50	1.0
		Calcium, Total	40.0	u	UG/L	40.0	1.0
		Cadmium, Total	0.50	u	UG/L	0.50	1.0
		Chromium, Total	2.0	u	UG/L	2.0	1.0
		Copper, Total	2.0	u	UG/L	2.0	1.0
		Iron, Total	45.0	u	UG/L	45.0	1.0
		Potassium, Total	493	u	UG/L	493	1.0
		Lithium, Total	0.40	u	UG/L	0.40	1.0
		Magnesium, Total	25.0	u	UG/L	25.0	1.0
		Manganese, Total	0.40	u	UG/L	0.40	1.0
		Sodium, Total	20.0	u	UG/L	20.0	1.0
		Nickel, Total	2.0	u	UG/L	2.0	1.0
		Lead, Total	3.4		UG/L	3.0	1.0
		SILICA , Total	85.2	u	UG/L	85.2	2.1
		Antimony, Total	3.0	u	UG/L	3.0	1.0
		Selenium, Total	6.0	u	UG/L	6.0	1.0
		Vanadium, Total	1.4	u	UG/L	1.4	1.0
		Zinc, Total	6.0	u	UG/L	6.0	1.0
BLANK1	08C0182-MB1	Mercury, Total	0.06	u	UG/L	0.06	1.0

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 10/20/08

CLIENT: WC-HANFORD RC-007 K1388 LVL LOT #: 0810L057

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	08L0372-LC1	Silver, LCS	501	500	UG/L	100.2
		Aluminum, LCS	5050	5000	UG/L	101.1
		Arsenic, LCS	9930	10000	UG/L	99.3
		Barium, LCS	4980	5000	UG/L	99.7
		Beryllium, LCS	255	250	UG/L	101.9
		Calcium, LCS	25500	25000	UG/L	102.1
		Cadmium, LCS	250	250	UG/L	100.2
		Chromium, LCS	512	500	UG/L	102.3
		Copper, LCS	1240	1250	UG/L	98.9
		Iron, LCS	5110	5000	UG/L	102.2
		Potassium, LCS	24900	25000	UG/L	99.7
		Lithium, LCS	5200	5000	UG/L	104.0
		Magnesium, LCS	25200	25000	UG/L	100.9
		Manganese, LCS	766	750	UG/L	102.2
		Sodium, LCS	24800	25000	UG/L	99.2
		Nickel, LCS	2040	2000	UG/L	102.1
		Lead, LCS	2530	2500	UG/L	101.1
		SILICA , LCS	10600	10700	UG/L	99.3
		Antimony, LCS	2960	3000	UG/L	98.7
		Selenium, LCS	9820	10000	UG/L	98.2
		Vanadium, LCS	2520	2500	UG/L	100.6
		Zinc, LCS	1020	1000	UG/L	102.0
LCS1	08C0182-LC1	Mercury, LCS	5.3	5.0	UG/L	105.8

Lionville Laboratory Incorporated

MERCURY PREPARATION

Logbook # 498

Analyst: TEB
Date 10/13/08
Start Time/Temp: 1530 | 99°
End Time/Temp: 1730 | 95°

Instrument ID Hg-3.1
Balance #: (NA)
Pipette Calibration (Daily) Y ✓

Prep Batch: 08L0182
Worksheet: Hg-121401
SOP No. ME-HgCVAA, Rev. 02

pH < 2 for Liquids? __ Yes ✓ 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	1C			33mL	33mL	
0.2 µg/L	NJ	0.0667				
1.0	6J	0.334				
2.0	X5	0.667				
5.0	Q2	1.667				
10.0	92	3.334				
ICV	5H	0.0834	2.5			
CCV	X3	0.167	5.0			
ICB/CCB	ET					
MB1	C4D					DPW182
LC1	194	0.167	5.0			LCSW182
0810L057-001	P3			3.3mL		dil. due to limit'd vol
limit'd vol TEB 10/13/08 W1R	~~AB~~					
~~W1S~~	R2					
0809L176-001	KC			33mL		
W1R	C48					
W1S	35	0.334	1.0			~~dil due to matrix~~ TEB 10/13/08
* 0810L016-001	HR			16.5mL		dil due to matrix
* W1R	C8					
* W1S	2V	0.334	1.0			
0810L017-001	AP					dil due to limit'd vol.
W1R	C					
W1S	191	0.334	1.0			
0810L026-001	A7			33mL		
W1R	L5					
W1S	925	0.334	1.0			
0809L202-001	F2					

Standard:	ID	Prep Date/Time
CAL/MS	R1 6077-78-14B	10/13/08 0920
ICV/CCV/LCS	US 6077-78-15A	

Reviewed By/Date: [signature] 10/16/08

see book # 9348 for std traceability information

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

ME-HgCVAA-Prep1007

*pH ~ 7. diluted & brought pH to <2 in tube TEB 10/13/08

Page #:

000000010

Lionville Laboratory
Incorporated

MERCURY PREPARATION

Logbook # 498

Analyst: TB
Date 10/13/08
Start Time/Temp:
End Time/Temp: See page 058

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

Prep Batch: 08C0182
Worksheet: HG101401
SOP No. ME-HgCVAA, Rev. 02

pH < 2 for Liquids? ✓ Yes __ 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.
0810L010-001	K			33mL	33mL	
001R	PF					
001S	LV	0.334	1.0			
002	G12					
003	500					
004	C15					
0810L015-001	711					
001R	SPRT					
001S	8	0.334	1.0			
002	B2					
003	E7					
004	NR					
005	P18					
006	WN					
007	224					
008	G7					
009	818					
010	BB					

TB 10/13/08

Standard:	ID	Prep Date/Time
AL/MS	~~TB~~ 10/13/08 R	
CV/CCV/LCS	See page 058	

Reviewed By/Date: [signature] 10/16/0

see book # 9368 for std traceability information

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

HgCVAA-Prep1007

Page #:

000000011

Lionville Laboratory Incorporated

Logbook #: 982

SAMPLE DIGESTION RECORD

SOP: L-SPI-3020 Rev. 00

Digestion Batch #: 08L0372
Date/Time Initiated: 10/13/08 1100
Date/Time Completed: 10/13/08
Analyst(s): MW
Matrix: Soil (Water) Other:
Instr. Type: AA (ICP)
Parameters: See Backlog

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

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	Tur
0810L057-001 (*)		10ml*	100ml	<2	TO	N/A	dark brown sed.		
0810L016-001		25ml*		>2			clear/colorless		
001R									
001S	1.0ml								
0810L017-001		100ml		<2					
001R									
001S**	1.0ml								
08L0372-MB1									
LC1**	1.0ml								

TMW 10/13/08

Spiking IDs:
MS #: 8100-04-04
05
06
6072-78-07
LCS #: 08
09
10
11

Reagent IDs:
HNO_3 G11022
HCL G26054
H_2O_2
1:1 HNO_3
1:1 HCL

File ID#: IC037201 IC037202 IC037 IC037

LIMS Transfer: (Y) N updated

Data Review By/Date: 10/16/08

** also 0.5ml 6072-076-11 (Bi)
0.5ml 6072-079-14 (P)
0.5ml 6072-078-01 (U)

(*) no matrix dc - insuff volume
* - prep at dilution - insuff volume

L-SPI-3020-A-0601

ionville Laboratory Use Only

0810L057

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

LVLI

000000013

ient WC HANFORD SAF# RC-057

t. Final Proj. Sampling Date

oject# 60049-001-001-0001-00

oject Contact/Phone#

onville Laboratory Project Manager O. JOHNSON

c SW846 Del STD TAT 3 Day

ate Rec'd 10-10-08 Date Due 10-B-08

Refrigerator #											A						
#/Type Container	Liquid										6						
	Solid										1G						
Volume											40						
Preservatives											HCL						
ANALYSES REQUESTED →		ORGANIC											INORG				
		VOA	BNA	Pest/PCB	Herb						TOC		Metal	CN			
		Lionville Laboratory Use Only															
											I OCT		Met ①				
001	J17K82	/	/	W	10-8-08	1415					X		X				

ATRIX ODES:
- Soil
- E- Sediment
- D- Solid
- L- Sludge
- Water
- Oil
- Air
- S- Drum Solids
- L- Drum Liquids EP/TCLP Leachate
- I- Wipe
- Other
- Fish

pecial Instructions:

met ① = HSL – CO, TL + Sa, Li

Special Instructions:

1.
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	10/10/08	0930

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-007-030	Page 1 of 1

Collector Edmundson	Company Contact Tom Edmundson	Telephone No. 947-5192	Project Coordinator KESSNER, JH
Price Code 7K	Data Turnaround ~~15~~ Days 3 day JRE 10-8-08		
Project Designation 100-N Ancillary Facilities & 190-DR ETF Analytical Data Re	Sampling Location 182-N Basement Fire Water Line		SAF No. RC-007
Ice Chest No. SAWS-49	Field Logbook No. EL-1516-13	COA RD4MXX2F00	Method of Shipment Fed Ex
Shipped To EBERLINE SERVICES, LIONVILLE	Offsite Property No. A090031		Bill of Lading/Air Bill No. See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

Cool to 4C

Preservation	HNO3 to pH <2	Cool 4C	HCl or H2SO4 to pH <2 Coo									
Type of Container	G/P	P	G									
No. of Container(s)	0	1	1									
Volume	~~500mL~~ 40ml	500mL	~~125mL~~ 40ml									
SAMPLE ANALYSIS	See item (1) in Special Instructions	See item (2) in Special Instructions 10-8-08	TOC - 415.1									
Sample No. / Matrix * / Sample Date / Sample Time												
H17K82 / WATER / 10-8-08 / 1415	✓		✓									

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
J.R. Edmundson	10-8-08 1630	1060 Battelle #2C	10-8-08 1630
Relinquished By/Removed From	Date/Time 1000	Received By/Stored In	Date/Time 1000
1060 Battelle 2C/J.E. Bernhard	10-9-08	J.E. Bernhard	10-9-08
Relinquished By/Removed From	Date/Time 1005	Received By/Stored In	Date/Time
J.E. Bernhard WCH	10-9-08	FEDEX	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
FedEx	10-10-08 0930	Vito Hernandez	10-10-08 0930
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

~~Preservative not available. Please preserve upon receipt at the lab.~~ JRE 10-8-08

(1) ICP Metals - 6010A (Supertrace) {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}; ICP Metals - 6010TR (Add-On) {Aluminum, Antimony, Beryllium, Calcium, Copper, Iron, Lithium, Magnesium, Manganese, Nickel, Potassium, Silica, Sodium, Vanadium, Zinc}; Mercury - 7470 - (CV)
(2) IC Anions - 300.0 {Bromide, Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate}; pH (Water) - 9040

Please contact Joan Kessner for special instruction.

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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

CH-EE-011

00000014

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: WC HANFORD
Project/SAF/SOW/Release #: RC-007

Date: 10-10-08

LvLI Batch #: 0810L057

Sample Custodian:

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier FedEx		Airbill # 7905 9888 0981
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 4.3°	°C	Cooler # SAWS-49
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