0077960

SAF-RC-031
100-F Burial Grounds Remaining Sites - Soil Quick Turn
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Jeff DeBuigne	X9-10	KW 6/18/08 INITIAL/DATE
Kathy Wendt	H4-21	KW 6/18/08 INITIAL/DATE

COMMENTS:

SDG: K1226 SAF-RC-031

Rad only X Chem only Rad & Chem

X Complete Partial

Waste Site: 600-149 Pistol Range Characterization phase 2

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JUN 23 2008
EDMC

LIONVILLE LABORATORY INC.

RECEIVED JUN 2008

17 June 2008

Joan Kessner
WC-Hanford
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 #	0805L138
SDG #	K1226
SAF #	RC-031
Date Received	5/16/08
# Samples	1
Matrix	SOIL
Volatiles	
Semivolatiles	
Pest/PCB	
PAH	
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

Orlette S. Johnson
Project Manager

r:\group\pm\orlette\tmu-hanford\data\b_ltrs.doc

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JUN 2008

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-031 K1226

DATE RECEIVED: 05/16/08 LVL LOT # :0805L138

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J16VK0						
TCLP	001	S	08LT0045	05/15/08	05/29/08	05/30/08
SILVER, TCLP LEACHAT	002	W	08L0218	05/30/08	06/01/08	06/01/08
SILVER, TCLP LEACHAT	002 REP	W	08L0218	05/30/08	06/01/08	06/01/08
SILVER, TCLP LEACHAT	002 MS	W	08L0218	05/30/08	06/01/08	06/01/08
ALUMINUM, TCLP LEACH	002	W	08L0218	05/30/08	06/01/08	06/01/08
ALUMINUM, TCLP LEACH	002 REP	W	08L0218	05/30/08	06/01/08	06/01/08
ALUMINUM, TCLP LEACH	002 MS	W	08L0218	05/30/08	06/01/08	06/01/08
ARSENIC, TCLP LEACHA	002	W	08L0218	05/30/08	06/01/08	06/01/08
ARSENIC, TCLP LEACHA	002 REP	W	08L0218	05/30/08	06/01/08	06/01/08
ARSENIC, TCLP LEACHA	002 MS	W	08L0218	05/30/08	06/01/08	06/01/08
Boron, TCLP	002	W	08L0218	05/30/08	06/01/08	06/01/08
Boron, TCLP	002 REP	W	08L0218	05/30/08	06/01/08	06/01/08
Boron, TCLP	002 MS	W	08L0218	05/30/08	06/01/08	06/01/08
BARIUM, TCLP LEACHAT	002	W	08L0218	05/30/08	06/01/08	06/01/08
BARIUM, TCLP LEACHAT	002 REP	W	08L0218	05/30/08	06/01/08	06/01/08
BARIUM, TCLP LEACHAT	002 MS	W	08L0218	05/30/08	06/01/08	06/01/08
BERYLLIUM, TCLP LEAC	002	W	08L0218	05/30/08	06/01/08	06/01/08
BERYLLIUM, TCLP LEAC	002 REP	W	08L0218	05/30/08	06/01/08	06/01/08
BERYLLIUM, TCLP LEAC	002 MS	W	08L0218	05/30/08	06/01/08	06/01/08
CALCIUM, TCLP LEACHA	002	W	08L0218	05/30/08	06/01/08	06/01/08
CALCIUM, TCLP LEACHA	002 REP	W	08L0218	05/30/08	06/01/08	06/01/08
CALCIUM, TCLP LEACHA	002 MS	W	08L0218	05/30/08	06/01/08	06/01/08
CADMIUM, TCLP LEACHA	002	W	08L0218	05/30/08	06/01/08	06/01/08
CADMIUM, TCLP LEACHA	002 REP	W	08L0218	05/30/08	06/01/08	06/01/08
CADMIUM, TCLP LEACHA	002 MS	W	08L0218	05/30/08	06/01/08	06/01/08
COBALT, TCLP LEACHAT	002	W	08L0218	05/30/08	06/01/08	06/01/08
COBALT, TCLP LEACHAT	002 REP	W	08L0218	05/30/08	06/01/08	06/01/08
COBALT, TCLP LEACHAT	002 MS	W	08L0218	05/30/08	06/01/08	06/01/08
CHROMIUM, TCLP LEACH	002	W	08L0218	05/30/08	06/01/08	06/01/08
CHROMIUM, TCLP LEACH	002 REP	W	08L0218	05/30/08	06/01/08	06/01/08
CHROMIUM, TCLP LEACH	002 MS	W	08L0218	05/30/08	06/01/08	06/01/08
COPPER, TCLP LEACHAT	002	W	08L0218	05/30/08	06/01/08	06/01/08
COPPER, TCLP LEACHAT	002 REP	W	08L0218	05/30/08	06/01/08	06/01/08
COPPER, TCLP LEACHAT	002 MS	W	08L0218	05/30/08	06/01/08	06/01/08
IRON, TCLP LEACHATE	002	W	08L0218	05/30/08	06/01/08	06/01/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-031 K1226

DATE RECEIVED: 05/16/08 LVL LOT # :0805L138

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
IRON, TCLP LEACHATE	002 REP	W	08L0218	05/30/08	06/01/08	06/01/08
IRON, TCLP LEACHATE	002 MS	W	08L0218	05/30/08	06/01/08	06/01/08
POTASSIUM, LEACHATE	002	W	08L0218	05/30/08	06/01/08	06/01/08
POTASSIUM, TCLP LEAC	002 REP	W	08L0218	05/30/08	06/01/08	06/01/08
POTASSIUM, TCLP LEAC	002 MS	W	08L0218	05/30/08	06/01/08	06/01/08
LITHIUM, TCLP LEACHA	002	W	08L0218	05/30/08	06/01/08	06/01/08
LITHIUM, TCLP LEACHA	002 REP	W	08L0218	05/30/08	06/01/08	06/01/08
LITHIUM, TCLP LEACHA	002 MS	W	08L0218	05/30/08	06/01/08	06/01/08
MAGNESIUM TCLP LEACH	002	W	08L0218	05/30/08	06/01/08	06/01/08
MANGANESE, TCLP LEAC	002 REP	W	08L0218	05/30/08	06/01/08	06/01/08
MANGANESE, TCLP LEAC	002 MS	W	08L0218	05/30/08	06/01/08	06/01/08
MANGANESE, TCLP LEAC	002	W	08L0218	05/30/08	06/01/08	06/01/08
MANGANESE TCLP LEACH	002 REP	W	08L0218	05/30/08	06/01/08	06/01/08
MANGANESE, TCLP LEAC	002 MS	W	08L0218	05/30/08	06/01/08	06/01/08
MOLYBDENUM, TCLP LEA	002	W	08L0218	05/30/08	06/01/08	06/01/08
MOLYBDENUM, TCLP LEA	002 REP	W	08L0218	05/30/08	06/01/08	06/01/08
MOLYBDENUM, TCLP LEA	002 MS	W	08L0218	05/30/08	06/01/08	06/01/08
NICKEL, TCLP LEACHAT	002	W	08L0218	05/30/08	06/01/08	06/01/08
NICKEL, TCLP LEACHAT	002 REP	W	08L0218	05/30/08	06/01/08	06/01/08
NICKEL, TCLP LEACHAT	002 MS	W	08L0218	05/30/08	06/01/08	06/01/08
LEAD, TCLP LEACHATE	002	W	08L0218	05/30/08	06/01/08	06/01/08
LEAD, TCLP LEACHATE	002 REP	W	08L0218	05/30/08	06/01/08	06/01/08
LEAD, TCLP LEACHATE	002 MS	W	08L0218	05/30/08	06/01/08	06/01/08
ANTIMONY, TCLP LEACH	002	W	08L0218	05/30/08	06/01/08	06/01/08
ANTIMONY, TCLP LEACH	002 REP	W	08L0218	05/30/08	06/01/08	06/01/08
ANTIMONY, TCLP LEACH	002 MS	W	08L0218	05/30/08	06/01/08	06/01/08
SELENIUM, TCLP LEACH	002	W	08L0218	05/30/08	06/01/08	06/01/08
SELENIUM, TCLP LEACH	002 REP	W	08L0218	05/30/08	06/01/08	06/01/08
SELENIUM, TCLP LEACH	002 MS	W	08L0218	05/30/08	06/01/08	06/01/08
STRONTIUM, TCLP LEAC	002	W	08L0218	05/30/08	06/01/08	06/01/08
STRONTIUM, TCLP LEAC	002 REP	W	08L0218	05/30/08	06/01/08	06/01/08
STRONTIUM, TCLP LEAC	002 MS	W	08L0218	05/30/08	06/01/08	06/01/08
THALLIUM, TCLP LEACH	002	W	08L0218	05/30/08	06/01/08	06/01/08
THALLIUM, TCLP LEACH	002 REP	W	08L0218	05/30/08	06/01/08	06/01/08
THALLIUM, TCLP LEACH	002 MS	W	08L0218	05/30/08	06/01/08	06/01/08
URANIUM, LEACHATE	002	W	08L0218	05/30/08	06/01/08	06/01/08
URANIUM, LEACHATE	002 REP	W	08L0218	05/30/08	06/01/08	06/01/08
URANIUM, LEACHATE	002 MS	W	08L0218	05/30/08	06/01/08	06/01/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-031 K1226

DATE RECEIVED: 05/16/08 LVL LOT # :0805L138

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
VANADIUM, TCLP LEACH	002	W	08L0218	05/30/08	06/01/08	06/01/08
VANADIUM, TCLP LEACH	002 REP	W	08L0218	05/30/08	06/01/08	06/01/08
VANADIUM, TCLP LEACH	002 MS	W	08L0218	05/30/08	06/01/08	06/01/08
ZINC, TCLP LEACHATE	002	W	08L0218	05/30/08	06/01/08	06/01/08
ZINC, TCLP LEACHATE	002 REP	W	08L0218	05/30/08	06/01/08	06/01/08
ZINC, TCLP LEACHATE	002 MS	W	08L0218	05/30/08	06/01/08	06/01/08
J16VK0 27G						
TCLP	003	S	08LT0046	05/15/08	05/30/08	05/31/08
SILVER, TCLP LEACHAT	004	W	08L0218	05/31/08	06/01/08	06/01/08
ALUMINUM, TCLP LEACH	004	W	08L0218	05/31/08	06/01/08	06/01/08
ARSENIC, TCLP LEACHA	004	W	08L0218	05/31/08	06/01/08	06/01/08
Boron, TCLP	004	W	08L0218	05/31/08	06/01/08	06/01/08
BARIUM, TCLP LEACHAT	004	W	08L0218	05/31/08	06/01/08	06/01/08
BERYLLIUM, TCLP LEAC	004	W	08L0218	05/31/08	06/01/08	06/01/08
CALCIUM, TCLP LEACHA	004	W	08L0218	05/31/08	06/01/08	06/01/08
CADMIUM, TCLP LEACHA	004	W	08L0218	05/31/08	06/01/08	06/01/08
COBALT, TCLP LEACHAT	004	W	08L0218	05/31/08	06/01/08	06/01/08
CHROMIUM, TCLP LEACH	004	W	08L0218	05/31/08	06/01/08	06/01/08
COPPER, TCLP LEACHAT	004	W	08L0218	05/31/08	06/01/08	06/01/08
IRON, TCLP LEACHATE	004	W	08L0218	05/31/08	06/01/08	06/01/08
POTASSIUM, LEACHATE	004	W	08L0218	05/31/08	06/01/08	06/01/08
LITHIUM, TCLP LEACHA	004	W	08L0218	05/31/08	06/01/08	06/01/08
MAGNESIUM TCLP LEACH	004	W	08L0218	05/31/08	06/01/08	06/01/08
MANGANESE, TCLP LEAC	004	W	08L0218	05/31/08	06/01/08	06/01/08
MOLYBDENUM, TCLP LEA	004	W	08L0218	05/31/08	06/01/08	06/01/08
NICKEL, TCLP LEACHAT	004	W	08L0218	05/31/08	06/01/08	06/01/08
LEAD, TCLP LEACHATE	004	W	08L0218	05/31/08	06/01/08	06/01/08
ANTIMONY, TCLP LEACH	004	W	08L0218	05/31/08	06/01/08	06/01/08
SELENIUM, TCLP LEACH	004	W	08L0218	05/31/08	06/01/08	06/01/08
STRONTIUM, TCLP LEAC	004	W	08L0218	05/31/08	06/01/08	06/01/08
THALLIUM, TCLP LEACH	004	W	08L0218	05/31/08	06/01/08	06/01/08
URANIUM, LEACHATE	004	W	08L0218	05/31/08	06/01/08	06/01/08
VANADIUM, TCLP LEACH	004	W	08L0218	05/31/08	06/01/08	06/01/08
ZINC, TCLP LEACHATE	004	W	08L0218	05/31/08	06/01/08	06/01/08

AB QC:

SILVER LABORATORY	LC1 BS	W	08L0218	N/A	06/01/08	06/01/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-031 K1226

DATE RECEIVED: 05/16/08 LVL LOT # :0805L138

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
SILVER, TCLP LEACHAT	MB1	W	08L0218	N/A	06/01/08	06/01/08
SILVER, TCLP LEACHAT	MB2	W	08L0218	N/A	06/01/08	06/01/08
SILVER, TCLP LEACHAT	MB3	W	08L0218	N/A	06/01/08	06/01/08
ALUMINUM LABORTORY	LC1 BS	W	08L0218	N/A	06/01/08	06/01/08
ALUMINUM, TCLP LEACH	MB1	W	08L0218	N/A	06/01/08	06/01/08
ALUMINUM, TCLP LEACH	MB2	W	08L0218	N/A	06/01/08	06/01/08
ALUMINUM, TCLP LEACH	MB3	W	08L0218	N/A	06/01/08	06/01/08
ARSENIC LABORATORY	LC1 BS	W	08L0218	N/A	06/01/08	06/01/08
ARSENIC, TCLP LEACHA	MB1	W	08L0218	N/A	06/01/08	06/01/08
ARSENIC, TCLP LEACHA	MB2	W	08L0218	N/A	06/01/08	06/01/08
ARSENIC, TCLP LEACHA	MB3	W	08L0218	N/A	06/01/08	06/01/08
BORON LABORATORY	LC1 BS	W	08L0218	N/A	06/01/08	06/01/08
Boron, TCLP	MB1	W	08L0218	N/A	06/01/08	06/01/08
Boron, TCLP	MB2	W	08L0218	N/A	06/01/08	06/01/08
Boron, TCLP	MB3	W	08L0218	N/A	06/01/08	06/01/08
BARIUM LABORATORY	LC1 BS	W	08L0218	N/A	06/01/08	06/01/08
BARIUM, TCLP LEACHAT	MB1	W	08L0218	N/A	06/01/08	06/01/08
BARIUM, TCLP LEACHAT	MB2	W	08L0218	N/A	06/01/08	06/01/08
BARIUM, TCLP LEACHAT	MB3	W	08L0218	N/A	06/01/08	06/01/08
BERYLLIUM LABORATORY	LC1 BS	W	08L0218	N/A	06/01/08	06/01/08
BERYLLIUM, TCLP LEAC	MB1	W	08L0218	N/A	06/01/08	06/01/08
BERYLLIUM, TCLP LEAC	MB2	W	08L0218	N/A	06/01/08	06/01/08
BERYLLIUM, TCLP LEAC	MB3	W	08L0218	N/A	06/01/08	06/01/08
CALCIUM LABORATORY	LC1 BS	W	08L0218	N/A	06/01/08	06/01/08
CALCIUM, TCLP LEACHA	MB1	W	08L0218	N/A	06/01/08	06/01/08
CALCIUM, TCLP LEACHA	MB2	W	08L0218	N/A	06/01/08	06/01/08
CALCIUM, TCLP LEACHA	MB3	W	08L0218	N/A	06/01/08	06/01/08
CADMIUM LABORATORY	LC1 BS	W	08L0218	N/A	06/01/08	06/01/08
CADMIUM, TCLP LEACHA	MB1	W	08L0218	N/A	06/01/08	06/01/08
CADMIUM, TCLP LEACHA	MB2	W	08L0218	N/A	06/01/08	06/01/08
CADMIUM, TCLP LEACHA	MB3	W	08L0218	N/A	06/01/08	06/01/08
COBALT LABORATORY	LC1 BS	W	08L0218	N/A	06/01/08	06/01/08
COBALT, TCLP LEACHAT	MB1	W	08L0218	N/A	06/01/08	06/01/08
COBALT, TCLP LEACHAT	MB2	W	08L0218	N/A	06/01/08	06/01/08
COBALT, TCLP LEACHAT	MB3	W	08L0218	N/A	06/01/08	06/01/08
CHROMIUM LABORATORY	LC1 BS	W	08L0218	N/A	06/01/08	06/01/08
CHROMIUM, TCLP LEACH	MB1	W	08L0218	N/A	06/01/08	06/01/08
CHROMIUM, TCLP LEACH	MB2	W	08L0218	N/A	06/01/08	06/01/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-031 K1226

DATE RECEIVED: 05/16/08 LVL LOT # :0805L138

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
CHROMIUM, TCLP LEACH	MB3	W	08L0218	N/A	06/01/08	06/01/08
COPPER LABORATORY	LC1 BS	W	08L0218	N/A	06/01/08	06/01/08
COPPER, TCLP LEACHAT	MB1	W	08L0218	N/A	06/01/08	06/01/08
COPPER, TCLP LEACHAT	MB2	W	08L0218	N/A	06/01/08	06/01/08
COPPER, TCLP LEACHAT	MB3	W	08L0218	N/A	06/01/08	06/01/08
IRON LABORATORY	LC1 BS	W	08L0218	N/A	06/01/08	06/01/08
IRON, TCLP LEACHATE	MB1	W	08L0218	N/A	06/01/08	06/01/08
IRON, TCLP LEACHATE	MB2	W	08L0218	N/A	06/01/08	06/01/08
IRON, TCLP LEACHATE	MB3	W	08L0218	N/A	06/01/08	06/01/08
POTASSIUM LABORATORY	LC1 BS	W	08L0218	N/A	06/01/08	06/01/08
POTASSIUM, LEACHATE	MB1	W	08L0218	N/A	06/01/08	06/01/08
POTASSIUM, LEACHATE	MB2	W	08L0218	N/A	06/01/08	06/01/08
POTASSIUM, LEACHATE	MB3	W	08L0218	N/A	06/01/08	06/01/08
LITHIUM LABORATORY	LC1 BS	W	08L0218	N/A	06/01/08	06/01/08
LITHIUM, TCLP LEACHA	MB1	W	08L0218	N/A	06/01/08	06/01/08
LITHIUM, TCLP LEACHA	MB2	W	08L0218	N/A	06/01/08	06/01/08
LITHIUM, TCLP LEACHA	MB3	W	08L0218	N/A	06/01/08	06/01/08
MAGNESIUM LABORATORY	LC1 BS	W	08L0218	N/A	06/01/08	06/01/08
MAGNESIUM TCLP LEACH	MB1	W	08L0218	N/A	06/01/08	06/01/08
MAGNESIUM TCLP LEACH	MB2	W	08L0218	N/A	06/01/08	06/01/08
MAGNESIUM TCLP LEACH	MB3	W	08L0218	N/A	06/01/08	06/01/08
MANGANESE LABORATORY	LC1 BS	W	08L0218	N/A	06/01/08	06/01/08
MANGANESE, TCLP LEAC	MB1	W	08L0218	N/A	06/01/08	06/01/08
MANGANESE, TCLP LEAC	MB2	W	08L0218	N/A	06/01/08	06/01/08
MANGANESE, TCLP LEAC	MB3	W	08L0218	N/A	06/01/08	06/01/08
MOLYBDENUM LABORATOR	LC1 BS	W	08L0218	N/A	06/01/08	06/01/08
MOLYBDENUM, TCLP LEA	MB1	W	08L0218	N/A	06/01/08	06/01/08
MOLYBDENUM, TCLP LEA	MB2	W	08L0218	N/A	06/01/08	06/01/08
MOLYBDENUM, TCLP LEA	MB3	W	08L0218	N/A	06/01/08	06/01/08
NICKEL LABORATORY	LC1 BS	W	08L0218	N/A	06/01/08	06/01/08
NICKEL, TCLP LEACHAT	MB1	W	08L0218	N/A	06/01/08	06/01/08
NICKEL, TCLP LEACHAT	MB2	W	08L0218	N/A	06/01/08	06/01/08
NICKEL, TCLP LEACHAT	MB3	W	08L0218	N/A	06/01/08	06/01/08
LEAD LABORATORY	LC1 BS	W	08L0218	N/A	06/01/08	06/01/08
LEAD, TCLP LEACHATE	MB1	W	08L0218	N/A	06/01/08	06/01/08
LEAD, TCLP LEACHATE	MB2	W	08L0218	N/A	06/01/08	06/01/08
LEAD, TCLP LEACHATE	MB3	W	08L0218	N/A	06/01/08	06/01/08
ANTIMONY LABORATORY	LC1 BS	W	08L0218	N/A	06/01/08	06/01/08

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TNUHANFORD RC-031 K1226

DATE RECEIVED: 05/16/08 LVL LOT # :0805L138

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
ANTIMONY, TCLP LEACH	MB1	W	08L0218	N/A	06/01/08	06/01/08
ANTIMONY, TCLP LEACH	MB2	W	08L0218	N/A	06/01/08	06/01/08
ANTIMONY, TCLP LEACH	MB3	W	08L0218	N/A	06/01/08	06/01/08
SELENIUM LABORATORY	LC1 BS	W	08L0218	N/A	06/01/08	06/01/08
SELENIUM, TCLP LEACH	MB1	W	08L0218	N/A	06/01/08	06/01/08
SELENIUM, TCLP LEACH	MB2	W	08L0218	N/A	06/01/08	06/01/08
SELENIUM, TCLP LEACH	MB3	W	08L0218	N/A	06/01/08	06/01/08
STRONTIUM LCS STANDA	LC1 BS	W	08L0218	N/A	06/01/08	06/01/08
STRONTIUM, TCLP LEAC	MB1	W	08L0218	N/A	06/01/08	06/01/08
STRONTIUM, TCLP LEAC	MB2	W	08L0218	N/A	06/01/08	06/01/08
STRONTIUM, TCLP LEAC	MB3	W	08L0218	N/A	06/01/08	06/01/08
THALLIUM LABORATORY	LC1 BS	W	08L0218	N/A	06/01/08	06/01/08
THALLIUM, TCLP LEACH	MB1	W	08L0218	N/A	06/01/08	06/01/08
THALLIUM, TCLP LEACH	MB2	W	08L0218	N/A	06/01/08	06/01/08
THALLIUM, TCLP LEACH	MB3	W	08L0218	N/A	06/01/08	06/01/08
URANIUM LABORATORY	LC1 BS	W	08L0218	N/A	06/01/08	06/01/08
URANIUM, LEACHATE	MB1	W	08L0218	N/A	06/01/08	06/01/08
URANIUM, LEACHATE	MB2	W	08L0218	N/A	06/01/08	06/01/08
URANIUM, LEACHATE	MB3	W	08L0218	N/A	06/01/08	06/01/08
VANADIUM LABORATORY	LC1 BS	W	08L0218	N/A	06/01/08	06/01/08
VANADIUM, TCLP LEACH	MB1	W	08L0218	N/A	06/01/08	06/01/08
VANADIUM, TCLP LEACH	MB2	W	08L0218	N/A	06/01/08	06/01/08
VANADIUM, TCLP LEACH	MB3	W	08L0218	N/A	06/01/08	06/01/08
ZINC LABORATORY	LC1 BS	W	08L0218	N/A	06/01/08	06/01/08
ZINC, TCLP LEACHATE	MB1	W	08L0218	N/A	06/01/08	06/01/08
ZINC, TCLP LEACHATE	MB2	W	08L0218	N/A	06/01/08	06/01/08
ZINC, TCLP LEACHATE	MB3	W	08L0218	N/A	06/01/08	06/01/08

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD RC-031
LVL#: 0805L138
SDG/SAF#: K1226 /RC-031

W.O.#: 11343-606-001-9999-00
Date Relogged: 05-16-08

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.

1. This narrative covers the analyses of 2 TCLP leachate samples.

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

   All samples were run with a 6-fold dilution due to sample matrix.

   The samples were rerun, without dilution, on a different instrument for Aluminum, Iron, Nickel, Potassium and Zinc due to sample matrix.

3. Please refer to the Sample Receipt Check List for sample discrepancies in LvLI's sample acceptance policy.

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

5. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within the 90-110% control limits with the exception of Potassium in file TA0601A. All samples were rerun in file PS0601B for Potassium along with Aluminum, Iron, Nickel, and Zinc.

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

7. The preparation/method blank 08L0218-MB1 for 1 analyte, 08L0218-MB2 for 2 analytes, and 08L0218-MB3 for 9 analytes were 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 results for Aluminum, Arsenic, Boron, Barium, Lithium, Magnesium, Manganese, Strontium, and Zinc were greater than the Limit of Quantitation (LOQ) {3-10x

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 22 pages.

the (LOD) Limit of Detection} and all samples read less than 20 times the MB concentration with the exception of sample J16VK0 27g for Barium, Lithium, Magnesium, and Strontium. However, no corrective action criteria for MBs were provided in SW846 method 6010B. The sample results were reported herein "uncorrected" for the levels found in the MB.

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

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

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

11. The TCLP extract from client sample J16VK0 was selected for the matrix spike (MS) for this analytical batch. All MS recoveries were greater than 50% as per method criteria.

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

6/4/08
Date

alm/m05-138

LIONVILLE LABORATORY INC.

METALS METHOD GLOSSARY

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

ot#: 0805L138

eaching Procedure: __1310 __1311 __1312 __Other:_____

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

letals Digestion Methods: __3005A ✓3010A __3015 __3020A __3050B __3051 __200.7 __SS17
__Other: _____

Metals Analysis Methods

	SW846		EPA		STD MTD	EPA OSWR	USATHAMA
luminum	✓6010B		__200.7				__99
ntimony	✓6010B	__7041 [5]	__200.7	__204.2			__99
rsenic	✓6010B	__7060A [5]	__200.7	__206.2	__3113B		__99
arium	✓6010B		__200.7				__99
eryllium	✓6010B		__200.7				__99
ismuth	disregard ✗6010B	DRM 6/3/08	__200.7 [1]			__1620	__99
oron	✓6010B		__200.7				__99
admium	✓6010B	__7131A [5]	__200.7	__213.2			__99
alcium	✓6010B		__200.7				__99
hromium	✓6010B	__7191 [5]	__200.7	__218.2			__SS17
obalt	✓6010B		__200.7				__99
opper	✓6010B	__7211 [5]	__200.7	__220.2			__99
ron	✓6010B		__200.7				__99
ead	✓6010B	__7421 [5]	__200.7	__239.2	__3113B		__99
ithium	✓6010B	__7430 [4]	__200.7			__1620	__99
agnesium	✓6010B		__200.7				__99
anganese	✓6010B		__200.7				__99
ercury	__7470A [3]	__7471A [3]	__245.1 [2]	__245.5 [2]			__99
olybdenum	✓6010B		__200.7				__99
ickel	✓6010B		__200.7				__99
otassium	✓6010B	__7610 [4]	__200.7	__258.1 [4]			__99
are Earths	__6010B [1]		__200.7 [1]			__1620	__99
elenium	✓6010B	__7740 [5]	__200.7	__270.2	__3113B		__99
ilicon	__6010B [1]		__200.7			__1620	__99
ilica	__6010B		__200.7			__1620	__99
ilver	✓6010B	__7761 [5]	__200.7	__272.2			__99
odium	__6010B	__7770 [4]	__200.7	__273.1 [4]			__99
trontium	✓6010B		__200.7				__99
hallium	✓6010B	__7841 [5]	__200.7	__279.2	__200.9		__99
in	__6010B		__200.7				__99
itanium	__6010B		__200.7				__99
ranium	✓6010B [1]		__200.7 [1]			__1620	__99
anadium	✓6010B		__200.7				__99
inc	✓6010B		__200.7				__99
irconium	__6010B [1]		__200.7 [1]			__1620	__99

Other:_____ Method:_____

L-WI-033/M-03/01
000000009

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.

B = Indicates that the parameter was between the Instrument Detection Limit (IDL) and the Contract Required Detection Limit (CRDL)

Q QUALIFIERS

E = The reported value is estimated because of the presence of interference.

M = Duplicate injection precision not met.

N = Spiked sample recovery not within control limits.

S = The reported value was determined by the Method of Standard Additions (MSA).

W = Post Digestion spike for Furnace AA analysis is out of control limits (85 -115 %), while sample absorbance is less than 50% of spike absorbance.

* = Duplicate analysis not within control limits.

+ = Correlation coefficient for the MSA is less than 0.995.

ABBREVIATIONS

PB = Method or Preparation Blank.
S = Matrix Spike.
T = Matrix Spike Duplicate.
R or D = Sample Replicate

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.

RFW 21-21L-033/O-01/97

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 06/02/08

CLIENT: TNUHANFORD RC-031 K1226 LVL LOT #: 0805L138

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-002	J16VK0	Silver, TCLP Leachate	6.0	u	UG/L	6.0	6.0
		Aluminum, TCLP Leachate	644		UG/L	40.0	1.0
		Arsenic, TCLP Leachate	30.0	u	UG/L	30.0	6.0
		Boron, TCLP Leachate	97.7		UG/L	30.0	6.0
		Barium, TCLP Leachate	479		UG/L	6.0	6.0
		Beryllium,TCLP Leachate	3.0	u	UG/L	3.0	6.0
		Calcium, TCLP Leachate	47800		UG/L	240	6.0
		Cadmium, TCLP Leachate	3.0	u	UG/L	3.0	6.0
		Cobalt, TCLP Leachate	12.0	u	UG/L	12.0	6.0
		Chromium, TCLP Leachate	12.0	u	UG/L	12.0	6.0
		Copper, TCLP Leachate	12.0	u	UG/L	12.0	6.0
		Iron, TCLP Leachate	633		UG/L	45.0	1.0
		Potassium,TCLP Leachate	9490		UG/L	493	1.0
		Lithium, TCLP (B Spike	12.1		UG/L		6.0
		Magnesium,TCLP Leachate	4960		UG/L	150	6.0
		Manganese,TCLP Leachate	171		UG/L	2.4	6.0
		Molybdenum, TCLP Leacha	18.0	u	UG/L	18.0	6.0
		Nickel, TCLP Leachate	12.5	u	UG/L	12.5	1.0
		Lead, TCLP Leachate	2010		UG/L	18.0	6.0
		Antimony, TCLP Leachate	73.2		UG/L	18.0	6.0
		Selenium, TCLP Leachate	36.0	u	UG/L	36.0	6.0
		Strontium, TCLP Leachat	207		UG/L	1.8	6.0
		Thallium, TCLP Leachate	36.0	u	UG/L	36.0	6.0
		Uranium, TCLP Leachate	120	u	UG/L	120	6.0
		Vanadium, TCLP Leachate	8.4	u	UG/L	8.4	6.0
		Zinc, TCLP Leachate	33.8		UG/L	6.0	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 06/02/08

CLIENT: TNUHANFORD RC-031 K1226 LVL LOT #: 0805L138

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-004	J16VK0 27G	Silver, TCLP Leachate	6.0	u	UG/L	6.0	6.0
		Aluminum, TCLP Leachate	278		UG/L	40.0	1.0
		Arsenic, TCLP Leachate	38.1		UG/L	30.0	6.0
		Boron, TCLP Leachate	283		UG/L	30.0	6.0
		Barium, TCLP Leachate	890		UG/L	6.0	6.0
		Beryllium,TCLP Leachate	3.0	u	UG/L	3.0	6.0
		Calcium, TCLP Leachate	2240000		UG/L	240	6.0
		Cadmium, TCLP Leachate	3.0	u	UG/L	3.0	6.0
		Cobalt, TCLP Leachate	12.0	u	UG/L	12.0	6.0
		Chromium, TCLP Leachate	274		UG/L	12.0	6.0
		Copper, TCLP Leachate	34.9		UG/L	12.0	6.0
		Iron, TCLP Leachate	45.0	u	UG/L	45.0	1.0
		Potassium,TCLP Leachate	45900		UG/L	493	1.0
		Lithium, TCLP (B Spike	99.9		UG/L		6.0
		Magnesium,TCLP Leachate	46000		UG/L	150	6.0
		Manganese,TCLP Leachate	2.4	u	UG/L	2.4	6.0
		Molybdenum, TCLP Leacha	18.3		UG/L	18.0	6.0
		Nickel, TCLP Leachate	12.6		UG/L	12.5	1.0
		Lead, TCLP Leachate	18.0	u	UG/L	18.0	6.0
		Antimony, TCLP Leachate	18.0	u	UG/L	18.0	6.0
		Selenium, TCLP Leachate	39.7		UG/L	36.0	6.0
		Strontium, TCLP Leachat	11200		UG/L	1.8	6.0
		Thallium, TCLP Leachate	36.0	u	UG/L	36.0	6.0
		Uranium, TCLP Leachate	120	u	UG/L	120	6.0
		Vanadium, TCLP Leachate	72.1		UG/L	8.4	6.0
		Zinc, TCLP Leachate	9.8		UG/L	6.0	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 06/02/08

CLIENT: TNUHANFORD RC-031 K1226 LVL LOT #: 0805L138

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	08L0218-MB1	Silver, TCLP Leachate	1.0	u	UG/L	1.0	1.0
		Aluminum, TCLP Leachate	40.0	u	UG/L	40.0	1.0
		Arsenic, TCLP Leachate	7.1		UG/L	5.0	1.0
		Boron, TCLP Leachate	46.3		UG/L	5.0	1.0
		Barium, TCLP Leachate	1.0	u	UG/L	1.0	1.0
		Beryllium,TCLP Leachate	0.50	u	UG/L	0.50	1.0
		Calcium, TCLP Leachate	54.0		UG/L	40.0	1.0
		Cadmium, TCLP Leachate	0.50	u	UG/L	0.50	1.0
		Cobalt, TCLP Leachate	2.0	u	UG/L	2.0	1.0
		Chromium, TCLP Leachate	2.0	u	UG/L	2.0	1.0
		Copper, TCLP Leachate	2.2		UG/L	2.0	1.0
		Iron, TCLP Leachate	45.0	u	UG/L	45.0	1.0
		Potassium,TCLP Leachate	493	u	UG/L	493	1.0
		Lithium, TCLP (B Spike	0.58		UG/L		1.0
		Magnesium,TCLP Leachate	25.0	u	UG/L	25.0	1.0
		Manganese,TCLP Leachate	0.40	u	UG/L	0.40	1.0
		Molybdenum, TCLP Leacha	3.0	u	UG/L	3.0	1.0
		Nickel, TCLP Leachate	12.5	u	UG/L	12.5	1.0
		Lead, TCLP Leachate	3.0	u	UG/L	3.0	1.0
		Antimony, TCLP Leachate	3.0	u	UG/L	3.0	1.0
		Selenium, TCLP Leachate	6.0	u	UG/L	6.0	1.0
		Strontium, TCLP Leachat	0.30	u	UG/L	0.30	1.0
		Thallium, TCLP Leachate	6.0	u	UG/L	6.0	1.0
		Uranium, TCLP Leachate	20.0	u	UG/L	20.0	1.0
		Vanadium, TCLP Leachate	1.4	u	UG/L	1.4	1.0
		Zinc, TCLP Leachate	9.5		UG/L	6.0	1.0
BLANK2	08L0218-MB2	Silver, TCLP Leachate	6.0	u	UG/L	6.0	6.0
		Aluminum, TCLP Leachate	55.6		UG/L	40.0	1.0
		Arsenic, TCLP Leachate	30.0	u	UG/L	30.0	6.0
		Boron, TCLP Leachate	44.6		UG/L	30.0	6.0
		Barium, TCLP Leachate	6.0	u	UG/L	6.0	6.0
		Beryllium,TCLP Leachate	3.0	u	UG/L	3.0	6.0
		Calcium, TCLP Leachate	240	u	UG/L	240	6.0
		Cadmium, TCLP Leachate	3.0	u	UG/L	3.0	6.0
		Cobalt, TCLP Leachate	12.0	u	UG/L	12.0	6.0
		Chromium, TCLP Leachate	12.0	u	UG/L	12.0	6.0
		Copper, TCLP Leachate	12.0	u	UG/L	12.0	6.0
		Iron, TCLP Leachate	45.0	u	UG/L	45.0	1.0
		Potassium,TCLP Leachate	493	u	UG/L	493	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 06/02/08

CLIENT: TNUHANFORD RC-031 K1226 LVL LOT #: 0805L138

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK2	08L0218-MB2	Lithium, TCLP (B Spike	7.1		UG/L		6.0
		Magnesium,TCLP Leachate	150	u	UG/L	150	6.0
		Manganese,TCLP Leachate	2.4	u	UG/L	2.4	6.0
		Molybdenum, TCLP Leacha	18.0	u	UG/L	18.0	6.0
		Nickel, TCLP Leachate	12.5	u	UG/L	12.5	1.0
		Lead, TCLP Leachate	18.0	u	UG/L	18.0	6.0
		Antimony, TCLP Leachate	18.0	u	UG/L	18.0	6.0
		Selenium, TCLP Leachate	36.0	u	UG/L	36.0	6.0
		Strontium, TCLP Leachat	1.8	u	UG/L	1.8	6.0
		Thallium, TCLP Leachate	36.0	u	UG/L	36.0	6.0
		Uranium, TCLP Leachate	120	u	UG/L	120	6.0
		Vanadium, TCLP Leachate	8.4	u	UG/L	8.4	6.0
		Zinc, TCLP Leachate	6.9		UG/L	6.0	1.0
BLANK3	08L0218-MB3	Silver, TCLP Leachate	6.0	u	UG/L	6.0	6.0
		Aluminum, TCLP Leachate	604		UG/L	40.0	1.0
		Arsenic, TCLP Leachate	32.9		UG/L	30.0	6.0
		Boron, TCLP Leachate	38.9		UG/L	30.0	6.0
		Barium, TCLP Leachate	32.5		UG/L	6.0	6.0
		Beryllium,TCLP Leachate	3.0	u	UG/L	3.0	6.0
		Calcium, TCLP Leachate	1350		UG/L	240	6.0
		Cadmium, TCLP Leachate	3.0	u	UG/L	3.0	6.0
		Cobalt, TCLP Leachate	12.0	u	UG/L	12.0	6.0
		Chromium, TCLP Leachate	12.0	u	UG/L	12.0	6.0
		Copper, TCLP Leachate	12.0	u	UG/L	12.0	6.0
		Iron, TCLP Leachate	259		UG/L	45.0	1.0
		Potassium,TCLP Leachate	493	u	UG/L	493	1.0
		Lithium, TCLP (B Spike	10.3		UG/L		6.0
		Magnesium,TCLP Leachate	262		UG/L	150	6.0
		Manganese,TCLP Leachate	23.5		UG/L	2.4	6.0
		Molybdenum, TCLP Leacha	18.0	u	UG/L	18.0	6.0
		Nickel, TCLP Leachate	12.5	u	UG/L	12.5	1.0
		Lead, TCLP Leachate	19.1		UG/L	18.0	6.0
		Antimony, TCLP Leachate	18.0	u	UG/L	18.0	6.0
		Selenium, TCLP Leachate	36.0	u	UG/L	36.0	6.0
		Strontium, TCLP Leachat	19.5		UG/L	1.8	6.0
		Thallium, TCLP Leachate	36.0	u	UG/L	36.0	6.0
		Uranium, TCLP Leachate	120	u	UG/L	120	6.0
		Vanadium, TCLP Leachate	8.4	u	UG/L	8.4	6.0
		Zinc, TCLP Leachate	22.1		UG/L	6.0	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 06/02/08

CLIENT: TNUHANFORD RC-031 K1226 LVL LOT #: 0805L138

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-002	J16VK0	Silver, TCLP Leachate	542	6.0 u	550	98.5	6.0
		Aluminum, TCLP Leachat	2470	644	2000	91.5	1.0
		Arsenic, TCLP Leachate	2460	30.0 u	2500	98.3	6.0
		Boron, TCLP Leachate	1070	97.7	1000	97.2	6.0
		Barium, TCLP Leachate	12200	479	12000	97.3	6.0
		Beryllium, TCLP Leacha	48.8	3.0 u	50.0	97.6	6.0
		Calcium, TCLP Leachate	70900	47800	25000	92.4	6.0
		Cadmium, TCLP Leachate	143	3.0 u	150	95.6	6.0
		Cobalt, TCLP Leachate	489	12.0 u	500	97.7	6.0
		Chromium, TCLP Leachat	683	12.0 u	700	97.6	6.0
		Copper, TCLP Leachate	262	12.0 u	250	104.7	6.0
		Iron, TCLP Leachate	1550	633	1000	91.8	1.0
		Potassium,TCLP Leachat	32800	9490	25000	93.2	1.0
		Lithium, TCLP	1240	12.1	1000	122.8	6.0
		Magnesium, TCLP	30200	4960	25000	100.8	6.0
		Manganese, TCLP	665	171	500	98.8	6.0
		Molybdenum, Leachate	951	18.0 u	1000	95.1	6.0
		Nickel, TCLP Leachate	464	12.5 u	500	92.8	1.0
		Lead, TCLP Leachate	2890	2010	1000	87.7	6.0
		Antimony, TCLP Leachat	544	73.2	500	94.2	6.0
		Selenium, TCLP Leachat	1830	36.0 u	2100	86.9	6.0
		Strontium, TCLP	1180	207	1000	97.3	6.0
		Thallium, TCLP Leachat	1960	36.0 u	2000	97.9	6.0
		Uranium, TCLP Leachate	4820	120 u	5000	96.5	6.0
		Vanadium, TCLP Leachat	481	8.4 u	500	96.2	6.0
		Zinc, TCLP Leachate	515	33.8	500	96.2	1.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 06/02/08

CLIENT: TNUHANFORD RC-031 K1226 LVL LOT #: 0805L138

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-002REP	J16VK0	Silver, TCLP Leachate	6.0 u	6.0 u	NC	6.0
		Aluminum, Leachate	644	601	7.0	1.0
		Arsenic, TCLP Leachate	30.0 u	30.0 u	NC	6.0
		Boron, TCLP Leachate	97.7	83.6	15.6	6.0
		Barium, TCLP Leachate	479	490	2.4	6.0
		Beryllium TCLP Leachate	3.0 u	3.0 u	NC	6.0
		Calcium, Total	47800	47300	1.2	6.0
		Cadmium, TCLP Leachate	3.0 u	3.0 u	NC	6.0
		Cobalt, Leachate	12.0 u	12.0 u	NC	6.0
		Chromium, TCLP Leachate	12.0 u	12.0 u	NC	6.0
		Copper, Leachate	12.0 u	16.4	NC	6.0
		Iron, Leachate	633	608	4.0	1.0
		Potassium, Leachate	9490	9330	1.7	1.0
		Lithium, TCLP	u	u	NC	6.0
		Magnesium TCLP Leachate	4960	4850	2.3	6.0
		Manganese TCLP Leachate	171	169	1.3	6.0
		Molybdenum, Leachate	18.0 u	18.0 u	NC	6.0
		Nickel, Leachate	12.5 u	12.5 u	NC	1.0
		Lead, TCLP Leachate	2010	1970	1.9	6.0
		Antimony, Leachate	73.2	58.3	22.7	6.0
		Selenium, TCLP Leachate	36.0 u	36.0 u	NC	6.0
		Strontium TCLP Leachate	207	204	1.4	6.0
		Thallium, TCLP Leachate	36.0 u	36.0 u	NC	6.0
		Uranium, TCLP Leachate	120 u	120 u	NC	6.0
		Vanadium, TCLP Leachate	8.4 u	8.4 u	NC	6.0
		Zinc, Leachate	33.8	43.8	25.8	1.0

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 06/02/08

CLIENT: TNUHANFORD RC-031 K1226 LVL LOT #: 0805L138

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	08L0218-LC1	Silver, LCS	500	500	UG/L	99.9
		Aluminum, LCS	5140	5000	UG/L	102.8
		Arsenic, LCS	9630	10000	UG/L	96.3
		Boron, LCS	4870	5000	UG/L	97.4
		Barium, LCS	4950	5000	UG/L	98.9
		Beryllium, LCS	244	250	UG/L	97.8
		Calcium, LCS	25200	25000	UG/L	100.8
		Cadmium, LCS	241	250	UG/L	96.5
		Cobalt, LCS	2450	2500	UG/L	98.0
		Chromium, LCS	491	500	UG/L	98.2
		Copper, LCS	1240	1250	UG/L	99.4
		Iron, LCS	5120	5000	UG/L	102.3
		Potassium, LCS	24700	25000	UG/L	98.6
		Lithium, LCS	5190	5000	UG/L	103.8
		Magnesium, LCS	24700	25000	UG/L	98.6
		Manganese, LCS	752	750	UG/L	100.3
		Molybdenum, LCS	4890	5000	UG/L	97.8
		Nickel, LCS	2040	2000	UG/L	101.9
		Lead, LCS	2430	2500	UG/L	97.2
		Antimony, LCS	2930	3000	UG/L	97.8
		Selenium, LCS	9590	10000	UG/L	95.9
		Strontium, LCS	4980	5000	UG/L	99.5
		Thallium, LCS	9810	10000	UG/L	98.1
		Uranium, LCS	4650	5000	UG/L	93.0
		Vanadium, LCS	2470	2500	UG/L	98.8
		Zinc, LCS	1010	1000	UG/L	100.8

SAMPLE DIGESTION RECORD

SOP: L-SPI-3020 Rev. 00

Digestion Batch #: 08L0218
Date/Time Initiated: 06/01/08, 12:00
Date/Time Completed: 06/01/08
Analyst(s): PMP
Matrix: Soil (Water) Other: TCLP
Instr. Type: AA (ICP)
Parameters: See Back Log

(Digested) / Undigested (circle one)
Balance #: N/A
Balance Cal Verif: Y (NA)
Hot Plate Temp: 91°

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 _____

(GN4)

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
08SL138-002		100ml	100ml	<2	TCLP	N/A	clear	N/A	N/A
-002R									
E, * ⊗ -002S	1.0								
PMP 06-01-08 -004									
08LT0045-LB1(MB2)									
08LT0046-LB1(MB3)									
08L0218-MB1									
⊗ -LC1	1.0								

Pmp 06-01-08

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

Reagent IDs:
HNO_3 E46025
HCL
H_2O_2
1:1 HNO_3
1:1 HCL 6072-069-03

File ID#: IC021801
LIMS Transfer: (Y) N
Updated
Data Review By/Date:
PMP, 06/01/08
MM 6/2/08

⊗ Also spiked with 0.5 ml 6072-076-06 (Bi)
6072-076-07 (P-)
6072-078-01 (U-)

* Also spiked with 0.1 ml 6072-073-05
6072-078-06

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

LVLI

08051138

Client: INW HANFORD SAF# RC-031

Final Proj. Sampling Date

Project# 11343-606-001-9999-00

Project Contact/Phone#

Lionville Laboratory Project Manager: D. JOHNSON

SW846 Dal: STD TAT: 21 days

Date Rec'd: 5-16-08 Date Due: 6-6-08

Refrigerator #									A								
#/Type Container	Liquid / Solid								1 Met								
Volume									5GAL								
Preservatives																	
ANALYSES REQUESTED →		ORGANIC							INORG								
		VOA	BNA	Pest/PCB	Herb				TCLP Metal Hg	CN	D SALIATS						

Lionville Laboratory Use Only

MATRIX CODES: Soil, Sediment, Solid, Sludge, Water, Oil, Air, Drum Solids, Drum Liquids, EP/TCLP Leachate, Wipe, Other, Fish	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected														
														ITCLP		MET ACRA	8/2/08	IPAIN			
	001	J16VK0	✓	✓	Soil	5-15-08	0837							X							
	002	↓ TCLP of 001			L	*										X					
	003	J16VK0 27g			SO	5-15-08	0837							X				X			
	004	↓ TCLP of 003			L	*										X					

Special Instructions: * See lab chron

5/20/08 1. per client expand metals list; add treatment test - J16VK0 27g

2. =1= HSL (no Hg, no Na) + Bi, Li, Mo, Sr, U

3.

4.

5.

6.

Relinquished by	Received by	Date	Time
		5/16/08	0955

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGIN REWRITTEN		COMPOSITE	

0000000019

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-031-120	Page 1 of 1
Collector: Barry Lawrence	Company Contact: Joan Kessner; Telephone No.: 375-4688	Project Coordinator: KESSNER, JH	Price Code: N/A; Data Turnaround: 21 days
Project Designation: 100-F Burial Grounds Remaining Sites - Soil Quick Turn	Sampling Location: 600-149 Pistol Range Characterization phase 2	SAF No.: RC-031	
Ice Chest No.: Metal Bucket	Field Logbook No.: EFL-1174-4; COA: R601492000	Method of Shipment: Fed Ex	
Shipped To: EBERLINE SERVICES (LIONVILLE)	Offsite Property No.: A080250	Bill of Lading/Air Bill No.: See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None MO 5/15/08										
Type of Container	~~Poly Bag~~ Metal Bucket										
No. of Container(s)	1										
Volume	5gal										
SAMPLE ANALYSIS	See item (1) in Special Instructions.										

Sample No.	Matrix *	Sample Date	Sample Time										
16VK0	SOIL	5-15-08	0837	X									

CHAIN OF POSSESSION	Sign/Print Names	
Relinquished By/Removed From: Barry Lawrence	Date/Time: 0900 5-15-08	Received By/Stored In: Doug Bowers / Doug Bowers 5-15-08 0900
Relinquished By/Removed From: Doug Bowers / Doug Bowers 5-15-08 / 0940	Date/Time:	Received By/Stored In: 0940 MSTankovich MAY 15 2008
Relinquished By/Removed From: 0940 MSTankovich MAY 15 2008	Date/Time:	Received By/Stored In: FedEx
Relinquished By/Removed From: FedEx	Date/Time: 5-16-08 0955	Received By/Stored In: 5-16-08 0955
Relinquished By/Removed From:	Date/Time:	Received By/Stored In:
Relinquished By/Removed From:	Date/Time:	Received By/Stored In:

SPECIAL INSTRUCTIONS

Contact Joan Kessner for special instructions.

(1) Metals by ICP (TCLP) - 1311/6010 (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury (TCLP) - 1311/7470

OKB RTC

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

00000020

TNU 0805L138

PROPOSED TESTING

CEMENT TREATMENT TEST

Prior to testing, sample material must be well mixed. Remove an aliquot for 5 TCLP extractions (no hg). Combine extracts into 1 leachate for metals analysis. The amounts shown below can be scaled in ratio to use larger volumes as needed

For each test;

1. Add 27 g of Portland cement per 100 g of soil with mixing to the soil. – scale ratio for enough volume for 5 TCLP extractions.
2. Thoroughly mix.
3. Add water with mixing to achieve a thick paste.
4. Record water volume added.
5. Observe mixture for gas generation or swelling of the mix.
6. If gas generation or swelling is noted, hold until reaction visibly stops.
7. Estimate and record final volume (particularly if swelling is noted).
8. Run a paint filter liquid test to confirm no free liquid. Record time to initial paint filter test.
9. If the paint filter test shows free liquid, wait and retest at 10 minute intervals until no free liquid conditions exist per the paint filter test. Record total time.
10. Analyze untreated and post-treatment material for 5 TCLP extractions (no hg). Combine the 5 extracts into 1 leachate for metals (no hg) analysis.

0805L138

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU HANFORD **Date:** 5-16-08

Project/SAF/SOW/Release #: RC-031

LvLI Batch #: 0805L 138 **Sample Custodian:**

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier Fed Ex		Airbill #
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 12.8 °C		Cooler # Bucket 5 gal.
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 O.J. Date 5-16-08

LvLI LIONVILLE LABORATORY INC.