0078704

SAF-RC-054
118-K-1 Burial Grounds – Soil Quick Turn
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21 KW 8/20/08
INITIAL/DATE

COMMENTS:

SDG K1256 **SAF-RC-054**

Rad only X Chem only Rad & Chem

X Complete Partial

ADD ON METALS

Waste Site: 118-K-1

RECEIVED
SEP 0 8 2008
EDMC

LIONVILLE LABORATORY INC.

RECEIVED 2008

7 August 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 #	0807L475
SDG #	K1256 addon
SAF #	RC-054
Date Received	7/21/08
# Samples	5
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

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

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

RECEIVED
AUG 2008

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-054 K1256

DATE RECEIVED: 07/21/08 LVL LOT # :08071475

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J17256						
SILVER, TOTAL	001	S	08L0282	06/12/08	07/23/08	07/24/08
SILVER, TOTAL	001 REP	S	08L0282	06/12/08	07/23/08	07/24/08
SILVER, TOTAL	001 MS	S	08L0282	06/12/08	07/23/08	07/24/08
ALUMINUM, TOTAL	001	S	08L0282	06/12/08	07/23/08	07/24/08
ALUMINUM, TOTAL	001 REP	S	08L0282	06/12/08	07/23/08	07/24/08
ALUMINUM, TOTAL	001 MS	S	08L0282	06/12/08	07/23/08	07/24/08
ARSENIC, TOTAL	001	S	08L0282	06/12/08	07/23/08	07/24/08
ARSENIC, TOTAL	001 REP	S	08L0282	06/12/08	07/23/08	07/24/08
ARSENIC, TOTAL	001 MS	S	08L0282	06/12/08	07/23/08	07/24/08
BORON, TOTAL	001	S	08L0282	06/12/08	07/23/08	07/24/08
BORON, TOTAL	001 REP	S	08L0282	06/12/08	07/23/08	07/24/08
BORON, TOTAL	001 MS	S	08L0282	06/12/08	07/23/08	07/24/08
BARIUM, TOTAL	001	S	08L0282	06/12/08	07/23/08	07/24/08
BARIUM, TOTAL	001 REP	S	08L0282	06/12/08	07/23/08	07/24/08
BARIUM, TOTAL	001 MS	S	08L0282	06/12/08	07/23/08	07/24/08
BERYLLIUM, TOTAL	001	S	08L0282	06/12/08	07/23/08	07/24/08
BERYLLIUM, TOTAL	001 REP	S	08L0282	06/12/08	07/23/08	07/24/08
BERYLLIUM, TOTAL	001 MS	S	08L0282	06/12/08	07/23/08	07/24/08
BISMUTH, TOTAL	001	S	08L0282	06/12/08	07/23/08	07/24/08
BISMUTH, TOTAL REP	001 REP	S	08L0282	06/12/08	07/23/08	07/24/08
BISMUTH, TOTAL SPIKE	001 MS	S	08L0282	06/12/08	07/23/08	07/24/08
CALCIUM, TOTAL	001	S	08L0282	06/12/08	07/23/08	07/24/08
CALCIUM, TOTAL	001 REP	S	08L0282	06/12/08	07/23/08	07/24/08
CALCIUM, TOTAL	001 MS	S	08L0282	06/12/08	07/23/08	07/24/08
CADMIUM, TOTAL	001	S	08L0282	06/12/08	07/23/08	07/24/08
CADMIUM, TOTAL	001 REP	S	08L0282	06/12/08	07/23/08	07/24/08
CADMIUM, TOTAL	001 MS	S	08L0282	06/12/08	07/23/08	07/24/08
COBALT, TOTAL	001	S	08L0282	06/12/08	07/23/08	07/24/08
COBALT, TOTAL	001 REP	S	08L0282	06/12/08	07/23/08	07/24/08
COBALT, TOTAL	001 MS	S	08L0282	06/12/08	07/23/08	07/24/08
CHROMIUM, TOTAL	001	S	08L0282	06/12/08	07/23/08	07/24/08
CHROMIUM, TOTAL	001 REP	S	08L0282	06/12/08	07/23/08	07/24/08
CHROMIUM, TOTAL	001 MS	S	08L0282	06/12/08	07/23/08	07/24/08
COPPER, TOTAL	001	S	08L0282	06/12/08	07/23/08	07/24/08
COPPER, TOTAL	001 REP	S	08L0282	06/12/08	07/23/08	07/24/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-054 K1256

DATE RECEIVED: 07/21/08 LVL LOT # :0807L475

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
COPPER, TOTAL	001 MS	S	08L0282	06/12/08	07/23/08	07/24/08
IRON, TOTAL	001	S	08L0282	06/12/08	07/23/08	07/24/08
IRON, TOTAL	001 REP	S	08L0282	06/12/08	07/23/08	07/24/08
IRON, TOTAL	001 MS	S	08L0282	06/12/08	07/23/08	07/24/08
MERCURY, TOTAL	001	S	08C0132	06/12/08	07/22/08	07/23/08
MERCURY, TOTAL	001 REP	S	08C0132	06/12/08	07/22/08	07/23/08
MERCURY, TOTAL	001 MS	S	08C0132	06/12/08	07/22/08	07/23/08
POTASSIUM, TOTAL	001	S	08L0282	06/12/08	07/23/08	07/25/08
POTASSIUM, TOTAL	001 REP	S	08L0282	06/12/08	07/23/08	07/25/08
POTASSIUM, TOTAL	001 MS	S	08L0282	06/12/08	07/23/08	07/25/08
LITHIUM, TOTAL	001	S	08L0282	06/12/08	07/23/08	07/24/08
LITHIUM, TOTAL	001 REP	S	08L0282	06/12/08	07/23/08	07/24/08
LITHIUM, TOTAL	001 MS	S	08L0282	06/12/08	07/23/08	07/24/08
MAGNESIUM, TOTAL	001	S	08L0282	06/12/08	07/23/08	07/24/08
MAGNESIUM, TOTAL	001 REP	S	08L0282	06/12/08	07/23/08	07/24/08
MAGNESIUM, TOTAL	001 MS	S	08L0282	06/12/08	07/23/08	07/24/08
MANGANESE, TOTAL	001	S	08L0282	06/12/08	07/23/08	07/24/08
MANGANESE, TOTAL	001 REP	S	08L0282	06/12/08	07/23/08	07/24/08
MANGANESE, TOTAL	001 MS	S	08L0282	06/12/08	07/23/08	07/24/08
MOLYBDENUM, TOTAL	001	S	08L0282	06/12/08	07/23/08	07/24/08
MOLYBDENUM, TOTAL	001 REP	S	08L0282	06/12/08	07/23/08	07/24/08
MOLYBDENUM, TOTAL	001 MS	S	08L0282	06/12/08	07/23/08	07/24/08
SODIUM, TOTAL	001	S	08L0282	06/12/08	07/23/08	07/25/08
SODIUM, TOTAL	001 REP	S	08L0282	06/12/08	07/23/08	07/25/08
SODIUM, TOTAL	001 MS	S	08L0282	06/12/08	07/23/08	07/25/08
NICKEL, TOTAL	001	S	08L0282	06/12/08	07/23/08	07/24/08
NICKEL, TOTAL	001 REP	S	08L0282	06/12/08	07/23/08	07/24/08
NICKEL, TOTAL	001 MS	S	08L0282	06/12/08	07/23/08	07/24/08
PHOSPHORUS, TOTAL	001	S	08L0282	06/12/08	07/23/08	07/25/08
PHOSPHORUS, TOTAL	001 REP	S	08L0282	06/12/08	07/23/08	07/25/08
PHOSPHORUS, TOTAL	001 MS	S	08L0282	06/12/08	07/23/08	07/25/08
LEAD, TOTAL	001	S	08L0282	06/12/08	07/23/08	07/24/08
LEAD, TOTAL	001 REP	S	08L0282	06/12/08	07/23/08	07/24/08
LEAD, TOTAL	001 MS	S	08L0282	06/12/08	07/23/08	07/24/08
ANTIMONY, TOTAL	001	S	08L0282	06/12/08	07/23/08	07/24/08
ANTIMONY, TOTAL	001 REP	S	08L0282	06/12/08	07/23/08	07/24/08
ANTIMONY, TOTAL	001 MS	S	08L0282	06/12/08	07/23/08	07/24/08
SELENIUM, TOTAL	001	S	08L0282	06/12/08	07/23/08	07/24/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-054 K1256

DATE RECEIVED: 07/21/08 LVL LOT # :0807L475

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
SELENIUM, TOTAL	001 REP	S	08L0282	06/12/08	07/23/08	07/24/08
SELENIUM, TOTAL	001 MS	S	08L0282	06/12/08	07/23/08	07/24/08
SILICON, TOTAL	001	S	08L0282	06/12/08	07/23/08	07/24/08
SILICON, TOTAL	001 REP	S	08L0282	06/12/08	07/23/08	07/24/08
SILICON, TOTAL	001 MS	S	08L0282	06/12/08	07/23/08	07/24/08
TIN, TOTAL	001	S	08L0282	06/12/08	07/23/08	07/24/08
TIN, TOTAL	001 REP	S	08L0282	06/12/08	07/23/08	07/24/08
TIN, TOTAL	001 MS	S	08L0282	06/12/08	07/23/08	07/24/08
STRONTIUM, TOTAL	001	S	08L0282	06/12/08	07/23/08	07/24/08
STRONTIUM, TOTAL	001 REP	S	08L0282	06/12/08	07/23/08	07/24/08
STRONTIUM, TOTAL	001 MS	S	08L0282	06/12/08	07/23/08	07/24/08
THALLIUM, TOTAL	001	S	08L0282	06/12/08	07/23/08	07/24/08
THALLIUM, TOTAL	001 REP	S	08L0282	06/12/08	07/23/08	07/24/08
THALLIUM, TOTAL	001 MS	S	08L0282	06/12/08	07/23/08	07/24/08
URANIUM, TOTAL	001	S	08L0282	06/12/08	07/23/08	07/24/08
URANIUM, TOTAL	001 REP	S	08L0282	06/12/08	07/23/08	07/24/08
URANIUM, TOTAL	001 MS	S	08L0282	06/12/08	07/23/08	07/24/08
VANADIUM, TOTAL	001	S	08L0282	06/12/08	07/23/08	07/24/08
VANADIUM, TOTAL	001 REP	S	08L0282	06/12/08	07/23/08	07/24/08
VANADIUM, TOTAL	001 MS	S	08L0282	06/12/08	07/23/08	07/24/08
ZINC, TOTAL	001	S	08L0282	06/12/08	07/23/08	07/24/08
ZINC, TOTAL	001 REP	S	08L0282	06/12/08	07/23/08	07/24/08
ZINC, TOTAL	001 MS	S	08L0282	06/12/08	07/23/08	07/24/08
J17257						
SILVER, TOTAL	002	S	08L0282	06/12/08	07/23/08	07/24/08
ALUMINUM, TOTAL	002	S	08L0282	06/12/08	07/23/08	07/24/08
ARSENIC, TOTAL	002	S	08L0282	06/12/08	07/23/08	07/24/08
BORON, TOTAL	002	S	08L0282	06/12/08	07/23/08	07/24/08
BARIUM, TOTAL	002	S	08L0282	06/12/08	07/23/08	07/24/08
BERYLLIUM, TOTAL	002	S	08L0282	06/12/08	07/23/08	07/24/08
BISMUTH, TOTAL	002	S	08L0282	06/12/08	07/23/08	07/24/08
CALCIUM, TOTAL	002	S	08L0282	06/12/08	07/23/08	07/24/08
CADMIUM, TOTAL	002	S	08L0282	06/12/08	07/23/08	07/24/08
COBALT, TOTAL	002	S	08L0282	06/12/08	07/23/08	07/24/08
CHROMIUM, TOTAL	002	S	08L0282	06/12/08	07/23/08	07/24/08
COPPER, TOTAL	002	S	08L0282	06/12/08	07/23/08	07/24/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-054 K1256

DATE RECEIVED: 07/21/08 LVL LOT # :0807L475

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
IRON, TOTAL	002	S	08L0282	06/12/08	07/23/08	07/24/08
MERCURY, TOTAL	002	S	08C0132	06/12/08	07/22/08	07/23/08
POTASSIUM, TOTAL	002	S	08L0282	06/12/08	07/23/08	07/25/08
LITHIUM, TOTAL	002	S	08L0282	06/12/08	07/23/08	07/24/08
MAGNESIUM, TOTAL	002	S	08L0282	06/12/08	07/23/08	07/24/08
MANGANESE, TOTAL	002	S	08L0282	06/12/08	07/23/08	07/24/08
MOLYBDENUM, TOTAL	002	S	08L0282	06/12/08	07/23/08	07/24/08
SODIUM, TOTAL	002	S	08L0282	06/12/08	07/23/08	07/25/08
NICKEL, TOTAL	002	S	08L0282	06/12/08	07/23/08	07/24/08
PHOSPHORUS, TOTAL	002	S	08L0282	06/12/08	07/23/08	07/25/08
LEAD, TOTAL	002	S	08L0282	06/12/08	07/23/08	07/24/08
ANTIMONY, TOTAL	002	S	08L0282	06/12/08	07/23/08	07/24/08
SELENIUM, TOTAL	002	S	08L0282	06/12/08	07/23/08	07/24/08
SILICON, TOTAL	002	S	08L0282	06/12/08	07/23/08	07/24/08
TIN, TOTAL	002	S	08L0282	06/12/08	07/23/08	07/24/08
STRONTIUM, TOTAL	002	S	08L0282	06/12/08	07/23/08	07/24/08
THALLIUM, TOTAL	002	S	08L0282	06/12/08	07/23/08	07/24/08
URANIUM, TOTAL	002	S	08L0282	06/12/08	07/23/08	07/24/08
VANADIUM, TOTAL	002	S	08L0282	06/12/08	07/23/08	07/24/08
ZINC, TOTAL	002	S	08L0282	06/12/08	07/23/08	07/24/08
J17258						
SILVER, TOTAL	003	S	08L0282	06/12/08	07/23/08	07/24/08
ALUMINUM, TOTAL	003	S	08L0282	06/12/08	07/23/08	07/24/08
ARSENIC, TOTAL	003	S	08L0282	06/12/08	07/23/08	07/24/08
BORON, TOTAL	003	S	08L0282	06/12/08	07/23/08	07/24/08
BARIUM, TOTAL	003	S	08L0282	06/12/08	07/23/08	07/24/08
BERYLLIUM, TOTAL	003	S	08L0282	06/12/08	07/23/08	07/24/08
BISMUTH, TOTAL	003	S	08L0282	06/12/08	07/23/08	07/24/08
CALCIUM, TOTAL	003	S	08L0282	06/12/08	07/23/08	07/24/08
CADMIUM, TOTAL	003	S	08L0282	06/12/08	07/23/08	07/24/08
COBALT, TOTAL	003	S	08L0282	06/12/08	07/23/08	07/24/08
CHROMIUM, TOTAL	003	S	08L0282	06/12/08	07/23/08	07/24/08
COPPER, TOTAL	003	S	08L0282	06/12/08	07/23/08	07/24/08
IRON, TOTAL	003	S	08L0282	06/12/08	07/23/08	07/24/08
MERCURY, TOTAL	003	S	08C0132	06/12/08	07/22/08	07/23/08
POTASSIUM, TOTAL	003	S	08L0282	06/12/08	07/23/08	07/25/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-054 K1256

DATE RECEIVED: 07/21/08 LVL LOT # :0807L475

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
LITHIUM, TOTAL	003	S	08L0282	06/12/08	07/23/08	07/24/08
MAGNESIUM, TOTAL	003	S	08L0282	06/12/08	07/23/08	07/24/08
MANGANESE, TOTAL	003	S	08L0282	06/12/08	07/23/08	07/24/08
MOLYBDENUM, TOTAL	003	S	08L0282	06/12/08	07/23/08	07/24/08
SODIUM, TOTAL	003	S	08L0282	06/12/08	07/23/08	07/25/08
NICKEL, TOTAL	003	S	08L0282	06/12/08	07/23/08	07/24/08
PHOSPHORUS, TOTAL	003	S	08L0282	06/12/08	07/23/08	07/25/08
LEAD, TOTAL	003	S	08L0282	06/12/08	07/23/08	07/24/08
ANTIMONY, TOTAL	003	S	08L0282	06/12/08	07/23/08	07/24/08
SELENIUM, TOTAL	003	S	08L0282	06/12/08	07/23/08	07/24/08
SILICON, TOTAL	003	S	08L0282	06/12/08	07/23/08	07/24/08
TIN, TOTAL	003	S	08L0282	06/12/08	07/23/08	07/24/08
STRONTIUM, TOTAL	003	S	08L0282	06/12/08	07/23/08	07/24/08
THALLIUM, TOTAL	003	S	08L0282	06/12/08	07/23/08	07/24/08
URANIUM, TOTAL	003	S	08L0282	06/12/08	07/23/08	07/24/08
VANADIUM, TOTAL	003	S	08L0282	06/12/08	07/23/08	07/24/08
ZINC, TOTAL	003	S	08L0282	06/12/08	07/23/08	07/24/08

LAB QC:

SILVER LABORATORY	LC1 BS	S	08L0282	N/A	07/23/08	07/24/08
SILVER, TOTAL	MB1	S	08L0282	N/A	07/23/08	07/24/08
ALUMINUM LABORTORY	LC1 BS	S	08L0282	N/A	07/23/08	07/24/08
ALUMINUM, TOTAL	MB1	S	08L0282	N/A	07/23/08	07/24/08
ARSENIC LABORATORY	LC1 BS	S	08L0282	N/A	07/23/08	07/24/08
ARSENIC, TOTAL	MB1	S	08L0282	N/A	07/23/08	07/24/08
BORON LABORATORY	LC1 BS	S	08L0282	N/A	07/23/08	07/24/08
BORON, TOTAL	MB1	S	08L0282	N/A	07/23/08	07/24/08
BARIUM LABORATORY	LC1 BS	S	08L0282	N/A	07/23/08	07/24/08
BARIUM, TOTAL	MB1	S	08L0282	N/A	07/23/08	07/24/08
BERYLLIUM LABORATORY	LC1 BS	S	08L0282	N/A	07/23/08	07/24/08
BERYLLIUM, TOTAL	MB1	S	08L0282	N/A	07/23/08	07/24/08
BISMUTH, LCS	LC1 BS	S	08L0282	N/A	07/23/08	07/24/08
BISMUTH, TOTAL	MB1	S	08L0282	N/A	07/23/08	07/24/08
CALCIUM LABORATORY	LC1 BS	S	08L0282	N/A	07/23/08	07/24/08
CALCIUM, TOTAL	MB1	S	08L0282	N/A	07/23/08	07/24/08
CADMIUM LABORATORY	LC1 BS	S	08L0282	N/A	07/23/08	07/24/08
CADMIUM, TOTAL	MB1	S	08L0282	N/A	07/23/08	07/24/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-054 K1256

DATE RECEIVED: 07/21/08 LVL LOT # :0807L475

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
COBALT LABORATORY	LC1 BS	S	08L0282	N/A	07/23/08	07/24/08
COBALT, TOTAL	MB1	S	08L0282	N/A	07/23/08	07/24/08
CHROMIUM LABORATORY	LC1 BS	S	08L0282	N/A	07/23/08	07/24/08
CHROMIUM, TOTAL	MB1	S	08L0282	N/A	07/23/08	07/24/08
COPPER LABORATORY	LC1 BS	S	08L0282	N/A	07/23/08	07/24/08
COPPER, TOTAL	MB1	S	08L0282	N/A	07/23/08	07/24/08
IRON LABORATORY	LC1 BS	S	08L0282	N/A	07/23/08	07/24/08
IRON, TOTAL	MB1	S	08L0282	N/A	07/23/08	07/24/08
MERCURY LABORATORY	LC1 BS	S	08C0132	N/A	07/22/08	07/23/08
MERCURY, TOTAL	MB1	S	08C0132	N/A	07/22/08	07/23/08
POTASSIUM LABORATORY	LC1 BS	S	08L0282	N/A	07/23/08	07/25/08
POTASSIUM, TOTAL	MB1	S	08L0282	N/A	07/23/08	07/25/08
LITHIUM LABORATORY	LC1 BS	S	08L0282	N/A	07/23/08	07/24/08
LITHIUM, TOTAL	MB1	S	08L0282	N/A	07/23/08	07/24/08
MAGNESIUM LABORATORY	LC1 BS	S	08L0282	N/A	07/23/08	07/24/08
MAGNESIUM, TOTAL	MB1	S	08L0282	N/A	07/23/08	07/24/08
MANGANESE LABORATORY	LC1 BS	S	08L0282	N/A	07/23/08	07/24/08
MANGANESE, TOTAL	MB1	S	08L0282	N/A	07/23/08	07/24/08
MOLYBDENUM LABORATOR	LC1 BS	S	08L0282	N/A	07/23/08	07/24/08
MOLYBDENUM, TOTAL	MB1	S	08L0282	N/A	07/23/08	07/24/08
SODIUM LABORATORY	LC1 BS	S	08L0282	N/A	07/23/08	07/25/08
SODIUM, TOTAL	MB1	S	08L0282	N/A	07/23/08	07/25/08
NICKEL LABORATORY	LC1 BS	S	08L0282	N/A	07/23/08	07/24/08
NICKEL, TOTAL	MB1	S	08L0282	N/A	07/23/08	07/24/08
PHOSPHORUS LCS	LC1 BS	S	08L0282	N/A	07/23/08	07/25/08
PHOSPHORUS, TOTAL	MB1	S	08L0282	N/A	07/23/08	07/25/08
LEAD LABORATORY	LC1 BS	S	08L0282	N/A	07/23/08	07/24/08
LEAD, TOTAL	MB1	S	08L0282	N/A	07/23/08	07/24/08
ANTIMONY LABORATORY	LC1 BS	S	08L0282	N/A	07/23/08	07/24/08
ANTIMONY, TOTAL	MB1	S	08L0282	N/A	07/23/08	07/24/08
SELENIUM LABORATORY	LC1 BS	S	08L0282	N/A	07/23/08	07/24/08
SELENIUM, TOTAL	MB1	S	08L0282	N/A	07/23/08	07/24/08
SILICON LABORATORY	LC1 BS	S	08L0282	N/A	07/23/08	07/24/08
SILICON, TOTAL	MB1	S	08L0282	N/A	07/23/08	07/24/08
TIN LABORATORY	LC1 BS	S	08L0282	N/A	07/23/08	07/24/08
TIN, TOTAL	MB1	S	08L0282	N/A	07/23/08	07/24/08
STRONTIUM LCS STANDA	LC1 BS	S	08L0282	N/A	07/23/08	07/24/08
STRONTIUM, TOTAL	MB1	S	08L0282	N/A	07/23/08	07/24/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-054 K1256

DATE RECEIVED: 07/21/08 LVL LOT # :0807L475

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
THALLIUM LABORATORY	LC1 BS	S	08L0282	N/A	07/23/08	07/24/08
THALLIUM, TOTAL	MB1	S	08L0282	N/A	07/23/08	07/24/08
URANIUM LABORATORY	LC1 BS	S	08L0282	N/A	07/23/08	07/24/08
URANIUM, TOTAL	MB1	S	08L0282	N/A	07/23/08	07/24/08
VANADIUM LABORATORY	LC1 BS	S	08L0282	N/A	07/23/08	07/24/08
VANADIUM, TOTAL	MB1	S	08L0282	N/A	07/23/08	07/24/08
ZINC LABORATORY	LC1 BS	S	08L0282	N/A	07/23/08	07/24/08
ZINC, TOTAL	MB1	S	08L0282	N/A	07/23/08	07/24/08

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD RC-054
LVL#: 0807L475
SDG/SAF#: K1256/RC-054

W.O.#: 11343-606-001-9999-00
Relog Date: 07-21-08

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 3 soil samples.

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

3. All analyses were performed within the required holding times with the exception of Mercury due to the relog date was past the hold time for Mercury.

4. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within the 90-110% control limits (80-120% for Mercury) with the exception of Sodium and Potassium in file TA0724A. All samples were reported from file PS0725B for Potassium and Sodium along with Phosphorous.

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, the samples were greater than 20X MB value}. Refer to the Inorganics Method Blank Data Summary.

   a). The MB result for Sodium were greater than the Limit of Quantitation (LOQ) {3-10x the (LOD) Limit of Detection} and all samples read less than 20 times the MB concentration. 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.

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 exception of Silicon. Sample results for Silicon may be biased low. Refer to the Inorganics Laboratory Control

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.

Standards Report.

9. The matrix spike (MS) recoveries for 4 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
J17256	Antimony	100	104.9
	Aluminum	20,000	100.9
	Iron	20,000	109.3
	Silicon	2,100	96.8

11. The duplicate analysis for 1 analyte was 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

7/29/08
Date

alm/m07-475

LVLI
LIONVILLE LABORATORY INC.

METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within Lot#: 08071475

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

Other: Phosphorous Method: 6010B

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 07/29/08

CLIENT: TNUHANFORD RC-054 K1256 LVL LOT #: 0807L475

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	J17256	Silver, Total	0.1 u	MG/KG	0.1	1.0
		Aluminum, Total	6980	MG/KG	3.8	1.0
		Arsenic, Total	2.3	MG/KG	0.48	1.0
		Boron, Total	1.6	MG/KG	0.48	1.0
		Barium, Total	56.8	MG/KG	0.1	1.0
		Beryllium, Total	0.40	MG/KG	0.05	1.0
		Bismuth, Total	0.57 u	MG/KG	0.57	1.0
		Calcium, Total	2700	MG/KG	3.8	1.0
		Cadmium, Total	0.05 u	MG/KG	0.05	1.0
		Cobalt, Total	5.5	MG/KG	0.19	1.0
		Chromium, Total	13.0	MG/KG	0.19	1.0
		Copper, Total	9.2	MG/KG	0.19	1.0
		Iron, Total	16400	MG/KG	4.3	1.0
		Mercury, Total	0.02	MG/KG	0.009	1.0
		Potassium, Total	1590	MG/KG	46.8	1.0
		Lithium, Total	7.5	MG/KG	0.04	1.0
		Magnesium, Total	3560	MG/KG	2.4	1.0
		Manganese, Total	253	MG/KG	0.04	1.0
		Molybdenum, Total	0.28 u	MG/KG	0.28	1.0
		Sodium, Total	118	MG/KG	1.9	1.0
		Nickel, Total	11.5	MG/KG	0.19	1.0
		Phosphorus, Total	672	MG/KG	4.8	1.0
		Lead, Total	4.3	MG/KG	0.28	1.0
		Antimony, Total	0.28 u	MG/KG	0.28	1.0
		Selenium, Total	0.57 u	MG/KG	0.57	1.0
		Silicon, Total	483	MG/KG	3.8	1.0
		Tin, Total	0.57 u	MG/KG	0.57	1.0
		Strontium, Total	19.6	MG/KG	0.03	1.0
		Thallium, Total	0.62	MG/KG	0.57	1.0
		Uranium, Total	1.9 u	MG/KG	1.9	1.0
		Vanadium, Total	35.4	MG/KG	0.13	1.0
		Zinc, Total	37.2	MG/KG	0.57	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 07/29/08

CLIENT: TNUHANFORD RC-054 K1256

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

LVL LOT #: 0807L475

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-002	J17257	Silver, Total	0.08 u	MG/KG	0.08	1.0
		Aluminum, Total	6700	MG/KG	3.2	1.0
		Arsenic, Total	3.6	MG/KG	0.40	1.0
		Boron, Total	2.6	MG/KG	0.40	1.0
		Barium, Total	64.4	MG/KG	0.08	1.0
		Beryllium, Total	0.51	MG/KG	0.04	1.0
		Bismuth, Total	0.48 u	MG/KG	0.48	1.0
		Calcium, Total	3650	MG/KG	3.2	1.0
		Cadmium, Total	0.11	MG/KG	0.04	1.0
		Cobalt, Total	6.8	MG/KG	0.16	1.0
		Chromium, Total	10.3	MG/KG	0.16	1.0
		Copper, Total	12.7	MG/KG	0.16	1.0
		Iron, Total	20000	MG/KG	3.6	1.0
		Mercury, Total	0.009u	MG/KG	0.009	1.0
		Potassium, Total	1390	MG/KG	39.0	1.0
		Lithium, Total	6.4	MG/KG	0.03	1.0
		Magnesium, Total	3550	MG/KG	2.0	1.0
		Manganese, Total	306	MG/KG	0.03	1.0
		Molybdenum, Total	1.2	MG/KG	0.24	1.0
		Sodium, Total	193	MG/KG	1.6	1.0
		Nickel, Total	9.9	MG/KG	0.16	1.0
		Phosphorus, Total	782	MG/KG	4.0	1.0
		Lead, Total	4.3	MG/KG	0.24	1.0
		Antimony, Total	1.2	MG/KG	0.24	1.0
		Selenium, Total	0.48 u	MG/KG	0.48	1.0
		Silicon, Total	456	MG/KG	3.2	1.0
		Tin, Total	0.71	MG/KG	0.48	1.0
		Strontium, Total	21.1	MG/KG	0.02	1.0
		Thallium, Total	1.1	MG/KG	0.48	1.0
		Uranium, Total	8.3	MG/KG	1.6	1.0
		Vanadium, Total	50.3	MG/KG	0.11	1.0
		Zinc, Total	50.5	MG/KG	0.48	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 07/29/08

CLIENT: TNUHANFORD RC-054 K1256 LVL LOT #: 0807L475

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-003	J17258	Silver, Total	0.09 u	MG/KG	0.09	1.0
		Aluminum, Total	6830	MG/KG	3.5	1.0
		Arsenic, Total	2.1	MG/KG	0.44	1.0
		Boron, Total	1.6	MG/KG	0.44	1.0
		Barium, Total	62.0	MG/KG	0.09	1.0
		Beryllium, Total	0.42	MG/KG	0.04	1.0
		Bismuth, Total	0.52 u	MG/KG	0.52	1.0
		Calcium, Total	3370	MG/KG	3.5	1.0
		Cadmium, Total	0.04 u	MG/KG	0.04	1.0
		Cobalt, Total	6.1	MG/KG	0.17	1.0
		Chromium, Total	11.8	MG/KG	0.17	1.0
		Copper, Total	10.0	MG/KG	0.17	1.0
		Iron, Total	17500	MG/KG	3.9	1.0
		Mercury, Total	0.009u	MG/KG	0.009	1.0
		Potassium, Total	1460	MG/KG	42.9	1.0
		Lithium, Total	7.1	MG/KG	0.03	1.0
		Magnesium, Total	3560	MG/KG	2.2	1.0
		Manganese, Total	287	MG/KG	0.03	1.0
		Molybdenum, Total	3.0	MG/KG	0.26	1.0
		Sodium, Total	131	MG/KG	1.7	1.0
		Nickel, Total	10.6	MG/KG	0.17	1.0
		Phosphorus, Total	787	MG/KG	4.4	1.0
		Lead, Total	4.3	MG/KG	0.26	1.0
		Antimony, Total	0.26 u	MG/KG	0.26	1.0
		Selenium, Total	0.52 u	MG/KG	0.52	1.0
		Silicon, Total	440	MG/KG	3.5	1.0
		Tin, Total	0.52 u	MG/KG	0.52	1.0
		Strontium, Total	21.3	MG/KG	0.03	1.0
		Thallium, Total	0.64	MG/KG	0.52	1.0
		Uranium, Total	280	MG/KG	1.7	1.0
		Vanadium, Total	36.8	MG/KG	0.12	1.0
		Zinc, Total	38.6	MG/KG	0.52	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 07/29/08

CLIENT: TNUHANFORD RC-054 K1256 LVL LOT #: 0807L475

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	08L0282-MB1	Silver, Total	0.10 u	MG/KG	0.10	1.0
		Aluminum, Total	4.0 u	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
		Bismuth, Total	0.60 u	MG/KG	0.60	1.0
		Calcium, Total	12.1	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	0.20 u	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	49.3 u	MG/KG	49.3	1.0
		Lithium, Total	0.04 u	MG/KG	0.04	1.0
		Magnesium, Total	2.5 u	MG/KG	2.5	1.0
		Manganese, Total	0.04	MG/KG	0.04	1.0
		Molybdenum, Total	0.30 u	MG/KG	0.30	1.0
		Sodium, Total	14.9	MG/KG	2.0	1.0
		Nickel, Total	0.20 u	MG/KG	0.20	1.0
		Phosphorus, Total	5.0 u	MG/KG	5.0	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	0.75	MG/KG	0.60	1.0
		Strontium, Total	0.04	MG/KG	0.03	1.0
		Thallium, Total	0.60 u	MG/KG	0.60	1.0
		Uranium, Total	2.0 u	MG/KG	2.0	1.0
		Vanadium, Total	0.14 u	MG/KG	0.14	1.0
		Zinc, Total	1.0	MG/KG	0.60	1.0
BLANK1	08C0132-MB1	Mercury, Total	0.01 u	MG/KG	0.01	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 07/29/08

CLIENT: TNUHANFORD RC-054 K1256

LVL LOT #: 0807L475

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-001	J17256	Silver, Total	4.3	0.1 u	4.6	93.5	1.0
		Aluminum, Total	8230	6980	183	678.8*	1.0
		Arsenic, Total	170	2.3	183	91.3	1.0
		Boron, Total	84.9	1.6	91.7	90.8	1.0
		Barium, Total	227	56.8	183	92.7	1.0
		Beryllium, Total	4.7	0.40	4.6	93.6	1.0
		Bismuth, Total	431	0.57u	458	93.9	1.0
		Calcium, Total	5080	2700	2290	103.5	1.0
		Cadmium, Total	4.2	0.05u	4.6	91.3	1.0
		Cobalt, Total	47.7	5.5	45.9	91.9	1.0
		Chromium, Total	30.6	13.0	18.3	96.2	1.0
		Copper, Total	31.7	9.2	22.9	98.3	1.0
		Iron, Total	17000	16400	91.7	679.0*	1.0
		Mercury, Total	0.18	0.02	0.16	103.2	1.0
		Potassium, Total	3600	1590	2290	87.4	1.0
		Lithium, Total	104	7.5	91.7	105.3	1.0
		Magnesium, Total	5940	3560	2290	103.7	1.0
		Manganese, Total	296	253	45.9	94.1*	1.0
		Molybdenum, Total	81.2	0.28u	91.7	88.5	1.0
		Sodium, Total	2300	118	2290	95.2	1.0
		Nickel, Total	54.0	11.5	45.9	92.6	1.0
		Phosphorus, Total	1040	672	458	79.5	1.0
		Lead, Total	46.2	4.3	45.9	91.3	1.0
		Antimony, Total	21.1	0.28u	45.9	46.0	1.0
		Selenium, Total	144	0.57u	183	78.8	1.0
		Silicon, Total	745	483	91.7	286.2*	1.0
		Tin, Total	82.5	0.57u	91.7	90.0	1.0
		Strontium, Total	108	19.6	91.7	96.4	1.0
		Thallium, Total	166	0.62	183	90.0	1.0
		Uranium, Total	438	1.9 u	458	95.6	1.0
		Vanadium, Total	77.1	35.4	45.9	90.8	1.0
		Zinc, Total	80.1	37.2	45.9	93.5	1.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 07/29/08

CLIENT: TNUHANFORD RC-054 K1256 LVL LOT #: 0807L475

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

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-001REP	J17256	Silver, Total	0.1 u	0.09u	NC	1.0
		Aluminum, Total	6980	7310	4.5	1.0
		Arsenic, Total	2.3	2.4	4.3	1.0
		Boron, Total	1.6	1.6	0.00	1.0
		Barium, Total	56.8	57.9	1.9	1.0
		Beryllium, Total	0.40	0.41	4.3	1.0
		Bismuth, Total	0.57u	0.56u	NC	1.0
		Calcium, Total	2700	2830	4.5	1.0
		Cadmium, Total	0.05u	0.05u	NC	1.0
		Cobalt, Total	5.5	5.6	1.8	1.0
		Chromium, Total	13.0	14.1	8.1	1.0
		Copper, Total	9.2	9.3	1.1	1.0
		Iron, Total	16400	17000	4.1	1.0
		Mercury, Total	0.02	0.00u	NC	1.0
		Potassium, Total	1590	1580	0.72	1.0
		Lithium, Total	7.5	7.9	5.2	1.0
		Magnesium, Total	3560	3760	5.3	1.0
		Manganese, Total	253	256	1.4	1.0
		Molybdenum, Total	0.28u	0.28u	NC	1.0
		Sodium, Total	118	120	2.4	1.0
		Nickel, Total	11.5	12.1	5.1	1.0
		Phosphorus, Total	672	664	1.1	1.0
		Lead, Total	4.3	4.4	2.3	1.0
		Antimony, Total	0.28u	0.28u	NC	1.0
		Selenium, Total	0.57u	0.56u	NC	1.0
		Silicon, Total	483	499	3.3	1.0
		Tin, Total	0.57u	0.74	NC	1.0
		Strontium, Total	19.6	20.2	3.0	1.0
		Thallium, Total	0.62	0.78	22.1	1.0
		Uranium, Total	1.9 u	1.8 u	NC	1.0
		Vanadium, Total	35.4	36.4	2.8	1.0
		Zinc, Total	37.2	38.9	4.5	1.0

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 07/29/08

CLIENT: TNUHANFORD RC-054 K1256 LVL LOT #: 0807L475

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	08L0282-LC1	Silver, LCS	47.7	50.0	MG/KG	95.4
		Aluminum, LCS	494	500	MG/KG	98.8
		Arsenic, LCS	942	1000	MG/KG	94.2
		Boron, LCS	470	500	MG/KG	94.0
		Barium, LCS	477	500	MG/KG	95.5
		Beryllium, LCS	24.1	25.0	MG/KG	96.4
		Bismuth, LCS	475	500	MG/KG	95.0
		Calcium, LCS	2430	2500	MG/KG	97.2
		Cadmium, LCS	23.6	25.0	MG/KG	94.4
		Cobalt, LCS	238	250	MG/KG	95.3
		Chromium, LCS	48.2	50.0	MG/KG	96.4
		Copper, LCS	121	125	MG/KG	97.0
		Iron, LCS	483	500	MG/KG	96.7
		Potassium, LCS	2340	2500	MG/KG	93.4
		Lithium, LCS	504	500	MG/KG	100.8
		Magnesium, LCS	2390	2500	MG/KG	95.7
		Manganese, LCS	73.1	75.0	MG/KG	97.5
		Molybdenum, LCS	466	500	MG/KG	93.3
		Sodium, LCS	2430	2500	MG/KG	97.1
		Nickel, LCS	191	200	MG/KG	95.6
		Phosphorus, LCS	456	500	MG/KG	91.1
		Lead, LCS	237	250	MG/KG	94.8
		Antimony, LCS	279	300	MG/KG	92.9
		Selenium, LCS	910	1000	MG/KG	91.0
		Silicon, LCS	241	500	MG/KG	48.2
		Tin, LCS	482	500	MG/KG	96.4
		Strontium, LCS	483	500	MG/KG	96.5
		Thallium, LCS	943	1000	MG/KG	94.3
		Uranium, LCS	475	500	MG/KG	94.9
		Vanadium, LCS	238	250	MG/KG	95.2
		Zinc, LCS	97.1	100	MG/KG	97.1
LCS1	08C0132-LC1	Mercury, LCS	5.0	4.7	MG/KG	106.4

SAMPLE DIGESTION RECORD

SOP: L-SPI-3020 Rev. 00

Digestion Batch #: 08L0282
Date/Time Initiated: 7/23/08 1359
Date/Time Completed: 7/23/08 1800
Analyst(s): MW
Matrix: Soil Water Other:
Instr. Type: AA ICP
Parameters: HSL+B-, Bi, Li, Mo, P-, Si, Sn, Sr, U-

Digested / Undigested (circle one)
Balance #: B20
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

TW

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
08072475-001		1.1 gm	100 ml	<2	TO	fine	brown soil	plant matter	
001R		1.4 gm							
001S	1.0 ml *	1.5 gm							
002		1.32 gm						roots, white fl	
003		1.21 gm						roots	
08L0282-MB1		1.0 gm				coarse	bottom clip		
LC1	1.0 ml *	1.0 gm							

MW 7/23/08

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

Reagent IDs:
HNO_3 G07057
HCL G15040
H_2O_2 G15A18
1:1 HNO_3 9789-081-03
1:1 HCL

File ID#: IC028201
LIMS Transfer: (Y) N
Data Review By/Date: PMP, 07/25/08

updated

* and 0.5 ml 6072-076-06 (Bi)
0.5 ml 6072-076-07 (P-)
0.5 ml 6072-078-01 (U-)

Lionville Laboratory Incorporated

MERCURY PREPARATION

Logbook # 455

Analyst: EM
Date: 7/22/08
Start Time/Temp: 1500 | 97°
End Time/Temp: 1530 | 96°

Instrument ID: HG3.1
Balance #: B29 /NA
Pipette Calibration (Daily) Y ✓

Prep Batch: 08C0132
Worksheet: HG072301
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	UT			10mL	50mL	
0.2 µg/L	AB	0.100				
1.0	3P	0.500				
2.0	C7	1.000				
5.0	55	2.500				
10.0	S	5.000				
ICV	B2	0.125	2.5			
CCV	Z	0.250	5.0			
ICB/CCB	AP					9.80L
MB1	X0			0.30		PBS132 100.00
LC1	L2	*	*	0.32		LCSS132
0807L446-001	401			0.31		R
002	NB			0.32		
* 002SR	92			0.42		
* 002S	700	0.500	1.0	0.32		
0807L475-001	3			0.34		94.85
001R	E			0.37		
001S	JB	0.500	1.0	0.34		
002	N60			0.35		95.55
003	L15			0.34		94.97
0807L435-001	X5			0.34		R 96.01
001R	TR			0.36		
001S	816	0.500	1.0	0.34		
002	290			0.39		94.74
003	2I			0.38		94.80
0807L461-001	AH			0.38		95.29
001R	31			0.33		

Standard:	ID	Prep Date/Time
ICAL/MS	RI 6072-78-14B	7/22/08 1025
ICV/CCV/LCS	US 6072-78-15A	↓

Reviewed By/Date: [signature] 7/29/08

see book # 936Y 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 Incorporated

MERCURY PREPARATION

Logbook # 455

Analyst: TLB
Date: 7/22/08
Start Time/Temp:
End Time/Temp: See page 077

Instrument ID: HG3.1
Balance #: B29 ✓ /NA
Pipette Calibration (Daily) Y ✓

Prep Batch: 08C0132
Worksheet: HG072301
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.
0807L461-0015	CX	0.500	1.0	0.38	50mL	95.29

TLB 7/22/08

Standard:	ID	Prep Date/Time
ICAL/MS		
ICV/CCV/LCS	See page 077	

Reviewed By/Date: [signature] 7/24/08

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

0807L475

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

LVLI

000000022

Client: TNU HANFORD RC-054

Est. Final Proj. Sampling Date:

Project#: 11343-606-001-9999-00

Project Contact/Phone#:

Lionville Laboratory Project Manager: O Johnson

QC: SW846 Del: STD TAT: 3days

Date Rec'd: 7-21-08 Date Due: 7-24-08

Refrigerator #:

#/Type Container: Liquid / Solid

Volume:

Preservatives:

ANALYSES REQUESTED →

ORGANIC				INORG	
VOA	BNA	Pest/PCB	Herb	Metal	CN

Lionville Laboratory Use Only

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

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	Metal
001	J17256			Soil	6-12-08	0710	X
002	57					0752	X
003	58					0809	X

Special Instructions:

Met(1) = HSL + B, Bi, Li, Mo, P, Si, Sn, Sr, U

Special Instructions:

1. Relog of 0804L302
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time