0077275

SAF-RC-074
100-D/DR Burial Grounds & Remaining Sites – Soil Quick Turn
FINAL DATA PACKAGE

RECEIVED
MAY 21 2008
EDMC

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21 KW 5/15/08
INITIAL/DATE

COMMENTS:

SDG K1188 SAF RC-074

Rad only X Chem only Rad & Chem

X Complete Partial

Waste Sites: 100-D-56 transient stained soil

LIONVILLE LABORATORY INC.

13 May 2008

RECEIVED MAY 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 #	0804L891
SDG #	K1188
SAF #	RC-074
Date Received	4/9/08
# Samples	5
Matrix	SOIL
Volatiles	
Semivolatiles	
Pest/PCB	
Glycols	
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\tnu-hanford\data\b_ltrs.doc

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-074 K1188

RECEIVED
MAY 2008

DATE RECEIVED: 04/09/08 LVL LOT # :0804189

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J16M48						
SILVER, TOTAL	001	S	08L0162	04/07/08	04/22/08	04/23/08
SILVER, TOTAL	001 REP	S	08L0162	04/07/08	04/22/08	04/23/08
SILVER, TOTAL	001 MS	S	08L0162	04/07/08	04/22/08	04/23/08
ALUMINUM, TOTAL	001	S	08L0162	04/07/08	04/22/08	04/23/08
ALUMINUM, TOTAL	001 REP	S	08L0162	04/07/08	04/22/08	04/23/08
ALUMINUM, TOTAL	001 MS	S	08L0162	04/07/08	04/22/08	04/23/08
ARSENIC, TOTAL	001	S	08L0162	04/07/08	04/22/08	04/23/08
ARSENIC, TOTAL	001 REP	S	08L0162	04/07/08	04/22/08	04/23/08
ARSENIC, TOTAL	001 MS	S	08L0162	04/07/08	04/22/08	04/23/08
BORON, TOTAL	001	S	08L0162	04/07/08	04/22/08	04/23/08
BORON, TOTAL	001 REP	S	08L0162	04/07/08	04/22/08	04/23/08
BORON, TOTAL	001 MS	S	08L0162	04/07/08	04/22/08	04/23/08
BARIUM, TOTAL	001	S	08L0162	04/07/08	04/22/08	04/23/08
BARIUM, TOTAL	001 REP	S	08L0162	04/07/08	04/22/08	04/23/08
BARIUM, TOTAL	001 MS	S	08L0162	04/07/08	04/22/08	04/23/08
BERYLLIUM, TOTAL	001	S	08L0162	04/07/08	04/22/08	04/23/08
BERYLLIUM, TOTAL	001 REP	S	08L0162	04/07/08	04/22/08	04/23/08
BERYLLIUM, TOTAL	001 MS	S	08L0162	04/07/08	04/22/08	04/23/08
BISMUTH, TOTAL	001	S	08L0162	04/07/08	04/22/08	04/23/08
BISMUTH, TOTAL REP	001 REP	S	08L0162	04/07/08	04/22/08	04/23/08
BISMUTH, TOTAL SPIKE	001 MS	S	08L0162	04/07/08	04/22/08	04/23/08
CALCIUM, TOTAL	001	S	08L0162	04/07/08	04/22/08	04/23/08
CALCIUM, TOTAL	001 REP	S	08L0162	04/07/08	04/22/08	04/23/08
CALCIUM, TOTAL	001 MS	S	08L0162	04/07/08	04/22/08	04/23/08
CADMIUM, TOTAL	001	S	08L0162	04/07/08	04/22/08	04/23/08
CADMIUM, TOTAL	001 REP	S	08L0162	04/07/08	04/22/08	04/23/08
CADMIUM, TOTAL	001 MS	S	08L0162	04/07/08	04/22/08	04/23/08
COBALT, TOTAL	001	S	08L0162	04/07/08	04/22/08	04/23/08
COBALT, TOTAL	001 REP	S	08L0162	04/07/08	04/22/08	04/23/08
COBALT, TOTAL	001 MS	S	08L0162	04/07/08	04/22/08	04/23/08
CHROMIUM, TOTAL	001	S	08L0162	04/07/08	04/22/08	04/23/08
CHROMIUM, TOTAL	001 REP	S	08L0162	04/07/08	04/22/08	04/23/08
CHROMIUM, TOTAL	001 MS	S	08L0162	04/07/08	04/22/08	04/23/08
COPPER, TOTAL	001	S	08L0162	04/07/08	04/22/08	04/23/08
COPPER, TOTAL	001 REP	S	08L0162	04/07/08	04/22/08	04/23/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-074 K1188

DATE RECEIVED: 04/09/08 LVL LOT # :0804L891

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
COPPER, TOTAL	001 MS	S	08L0162	04/07/08	04/22/08	04/23/08
IRON, TOTAL	001	S	08L0162	04/07/08	04/22/08	04/23/08
IRON, TOTAL	001 REP	S	08L0162	04/07/08	04/22/08	04/23/08
IRON, TOTAL	001 MS	S	08L0162	04/07/08	04/22/08	04/23/08
MERCURY, TOTAL	001	S	08C0067	04/07/08	04/14/08	04/16/08
MERCURY, TOTAL	001 REP	S	08C0067	04/07/08	04/14/08	04/16/08
MERCURY, TOTAL	001 MS	S	08C0067	04/07/08	04/14/08	04/16/08
POTASSIUM, TOTAL	001	S	08L0162	04/07/08	04/22/08	04/23/08
POTASSIUM, TOTAL	001 REP	S	08L0162	04/07/08	04/22/08	04/23/08
POTASSIUM, TOTAL	001 MS	S	08L0162	04/07/08	04/22/08	04/23/08
LITHIUM, TOTAL	001	S	08L0162	04/07/08	04/22/08	04/23/08
LITHIUM, TOTAL	001 REP	S	08L0162	04/07/08	04/22/08	04/23/08
LITHIUM, TOTAL	001 MS	S	08L0162	04/07/08	04/22/08	04/23/08
MAGNESIUM, TOTAL	001	S	08L0162	04/07/08	04/22/08	04/23/08
MAGNESIUM, TOTAL	001 REP	S	08L0162	04/07/08	04/22/08	04/23/08
MAGNESIUM, TOTAL	001 MS	S	08L0162	04/07/08	04/22/08	04/23/08
MANGANESE, TOTAL	001	S	08L0162	04/07/08	04/22/08	04/23/08
MANGANESE, TOTAL	001 REP	S	08L0162	04/07/08	04/22/08	04/23/08
MANGANESE, TOTAL	001 MS	S	08L0162	04/07/08	04/22/08	04/23/08
MOLYBDENUM, TOTAL	001	S	08L0162	04/07/08	04/22/08	04/23/08
MOLYBDENUM, TOTAL	001 REP	S	08L0162	04/07/08	04/22/08	04/23/08
MOLYBDENUM, TOTAL	001 MS	S	08L0162	04/07/08	04/22/08	04/23/08
SODIUM, TOTAL	001	S	08L0162	04/07/08	04/22/08	04/23/08
SODIUM, TOTAL	001 REP	S	08L0162	04/07/08	04/22/08	04/23/08
SODIUM, TOTAL	001 MS	S	08L0162	04/07/08	04/22/08	04/23/08
NICKEL, TOTAL	001	S	08L0162	04/07/08	04/22/08	04/23/08
NICKEL, TOTAL	001 REP	S	08L0162	04/07/08	04/22/08	04/23/08
NICKEL, TOTAL	001 MS	S	08L0162	04/07/08	04/22/08	04/23/08
PHOSPHORUS, TOTAL	001	S	08L0162	04/07/08	04/22/08	04/23/08
PHOSPHORUS, TOTAL	001 REP	S	08L0162	04/07/08	04/22/08	04/23/08
PHOSPHORUS, TOTAL	001 MS	S	08L0162	04/07/08	04/22/08	04/23/08
LEAD, TOTAL	001	S	08L0162	04/07/08	04/22/08	04/23/08
LEAD, TOTAL	001 REP	S	08L0162	04/07/08	04/22/08	04/23/08
LEAD, TOTAL	001 MS	S	08L0162	04/07/08	04/22/08	04/23/08
ANTIMONY, TOTAL	001	S	08L0162	04/07/08	04/22/08	04/23/08
ANTIMONY, TOTAL	001 REP	S	08L0162	04/07/08	04/22/08	04/23/08
ANTIMONY, TOTAL	001 MS	S	08L0162	04/07/08	04/22/08	04/23/08
SELENIUM, TOTAL	001	S	08L0162	04/07/08	04/22/08	04/23/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-074 K1188

DATE RECEIVED: 04/09/08 LVL LOT # :0804L891

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
SELENIUM, TOTAL	001 REP	S	08L0162	04/07/08	04/22/08	04/23/08
SELENIUM, TOTAL	001 MS	S	08L0162	04/07/08	04/22/08	04/23/08
SILICON, TOTAL	001	S	08L0162	04/07/08	04/22/08	04/23/08
SILICON, TOTAL	001 REP	S	08L0162	04/07/08	04/22/08	04/23/08
SILICON, TOTAL	001 MS	S	08L0162	04/07/08	04/22/08	04/23/08
TIN, TOTAL	001	S	08L0162	04/07/08	04/22/08	04/23/08
TIN, TOTAL	001 REP	S	08L0162	04/07/08	04/22/08	04/23/08
TIN, TOTAL	001 MS	S	08L0162	04/07/08	04/22/08	04/23/08
STRONTIUM, TOTAL	001	S	08L0162	04/07/08	04/22/08	04/23/08
STRONTIUM, TOTAL	001 REP	S	08L0162	04/07/08	04/22/08	04/23/08
STRONTIUM, TOTAL	001 MS	S	08L0162	04/07/08	04/22/08	04/23/08
THALLIUM, TOTAL	001	S	08L0162	04/07/08	04/22/08	04/23/08
THALLIUM, TOTAL	001 REP	S	08L0162	04/07/08	04/22/08	04/23/08
THALLIUM, TOTAL	001 MS	S	08L0162	04/07/08	04/22/08	04/23/08
URANIUM, TOTAL	001	S	08L0162	04/07/08	04/22/08	04/23/08
URANIUM, TOTAL	001 REP	S	08L0162	04/07/08	04/22/08	04/23/08
URANIUM, TOTAL	001 MS	S	08L0162	04/07/08	04/22/08	04/23/08
VANADIUM, TOTAL	001	S	08L0162	04/07/08	04/22/08	04/23/08
VANADIUM, TOTAL	001 REP	S	08L0162	04/07/08	04/22/08	04/23/08
VANADIUM, TOTAL	001 MS	S	08L0162	04/07/08	04/22/08	04/23/08
ZINC, TOTAL	001	S	08L0162	04/07/08	04/22/08	04/23/08
ZINC, TOTAL	001 REP	S	08L0162	04/07/08	04/22/08	04/23/08
ZINC, TOTAL	001 MS	S	08L0162	04/07/08	04/22/08	04/23/08
J16M49						
SILVER, TOTAL	002	S	08L0162	04/07/08	04/22/08	04/23/08
ALUMINUM, TOTAL	002	S	08L0162	04/07/08	04/22/08	04/23/08
ARSENIC, TOTAL	002	S	08L0162	04/07/08	04/22/08	04/23/08
BORON, TOTAL	002	S	08L0162	04/07/08	04/22/08	04/23/08
BARIUM, TOTAL	002	S	08L0162	04/07/08	04/22/08	04/23/08
BERYLLIUM, TOTAL	002	S	08L0162	04/07/08	04/22/08	04/23/08
BISMUTH, TOTAL	002	S	08L0162	04/07/08	04/22/08	04/23/08
CALCIUM, TOTAL	002	S	08L0162	04/07/08	04/22/08	04/23/08
CADMIUM, TOTAL	002	S	08L0162	04/07/08	04/22/08	04/23/08
COBALT, TOTAL	002	S	08L0162	04/07/08	04/22/08	04/23/08
CHROMIUM, TOTAL	002	S	08L0162	04/07/08	04/22/08	04/23/08
COPPER, TOTAL	002	S	08L0162	04/07/08	04/22/08	04/23/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-074 K1188

DATE RECEIVED: 04/09/08 LVL LOT # :0804L891

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
IRON, TOTAL	002	S	08L0162	04/07/08	04/22/08	04/23/08
MERCURY, TOTAL	002	S	08C0067	04/07/08	04/14/08	04/16/08
POTASSIUM, TOTAL	002	S	08L0162	04/07/08	04/22/08	04/23/08
LITHIUM, TOTAL	002	S	08L0162	04/07/08	04/22/08	04/23/08
MAGNESIUM, TOTAL	002	S	08L0162	04/07/08	04/22/08	04/23/08
MANGANESE, TOTAL	002	S	08L0162	04/07/08	04/22/08	04/23/08
MOLYBDENUM, TOTAL	002	S	08L0162	04/07/08	04/22/08	04/23/08
SODIUM, TOTAL	002	S	08L0162	04/07/08	04/22/08	04/23/08
NICKEL, TOTAL	002	S	08L0162	04/07/08	04/22/08	04/23/08
PHOSPHORUS, TOTAL	002	S	08L0162	04/07/08	04/22/08	04/23/08
LEAD, TOTAL	002	S	08L0162	04/07/08	04/22/08	04/23/08
ANTIMONY, TOTAL	002	S	08L0162	04/07/08	04/22/08	04/23/08
SELENIUM, TOTAL	002	S	08L0162	04/07/08	04/22/08	04/23/08
SILICON, TOTAL	002	S	08L0162	04/07/08	04/22/08	04/23/08
TIN, TOTAL	002	S	08L0162	04/07/08	04/22/08	04/23/08
STRONTIUM, TOTAL	002	S	08L0162	04/07/08	04/22/08	04/23/08
THALLIUM, TOTAL	002	S	08L0162	04/07/08	04/22/08	04/23/08
URANIUM, TOTAL	002	S	08L0162	04/07/08	04/22/08	04/23/08
VANADIUM, TOTAL	002	S	08L0162	04/07/08	04/22/08	04/23/08
ZINC, TOTAL	002	S	08L0162	04/07/08	04/22/08	04/23/08
J16M50						
SILVER, TOTAL	003	S	08L0162	04/07/08	04/22/08	04/23/08
ALUMINUM, TOTAL	003	S	08L0162	04/07/08	04/22/08	04/23/08
ARSENIC, TOTAL	003	S	08L0162	04/07/08	04/22/08	04/23/08
BORON, TOTAL	003	S	08L0162	04/07/08	04/22/08	04/23/08
BARIUM, TOTAL	003	S	08L0162	04/07/08	04/22/08	04/23/08
BERYLLIUM, TOTAL	003	S	08L0162	04/07/08	04/22/08	04/23/08
BISMUTH, TOTAL	003	S	08L0162	04/07/08	04/22/08	04/23/08
CALCIUM, TOTAL	003	S	08L0162	04/07/08	04/22/08	04/23/08
CADMIUM, TOTAL	003	S	08L0162	04/07/08	04/22/08	04/23/08
COBALT, TOTAL	003	S	08L0162	04/07/08	04/22/08	04/23/08
CHROMIUM, TOTAL	003	S	08L0162	04/07/08	04/22/08	04/23/08
COPPER, TOTAL	003	S	08L0162	04/07/08	04/22/08	04/23/08
IRON, TOTAL	003	S	08L0162	04/07/08	04/22/08	04/23/08
MERCURY, TOTAL	003	S	08C0067	04/07/08	04/14/08	04/16/08
POTASSIUM, TOTAL	003	S	08L0162	04/07/08	04/22/08	04/23/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-074 K1188

DATE RECEIVED: 04/09/08 LVL LOT # :0804L891

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
LITHIUM, TOTAL	003	S	08L0162	04/07/08	04/22/08	04/23/08
MAGNESIUM, TOTAL	003	S	08L0162	04/07/08	04/22/08	04/23/08
MANGANESE, TOTAL	003	S	08L0162	04/07/08	04/22/08	04/23/08
MOLYBDENUM, TOTAL	003	S	08L0162	04/07/08	04/22/08	04/23/08
SODIUM, TOTAL	003	S	08L0162	04/07/08	04/22/08	04/23/08
NICKEL, TOTAL	003	S	08L0162	04/07/08	04/22/08	04/23/08
PHOSPHORUS, TOTAL	003	S	08L0162	04/07/08	04/22/08	04/23/08
LEAD, TOTAL	003	S	08L0162	04/07/08	04/22/08	04/23/08
ANTIMONY, TOTAL	003	S	08L0162	04/07/08	04/22/08	04/23/08
SELENIUM, TOTAL	003	S	08L0162	04/07/08	04/22/08	04/23/08
SILICON, TOTAL	003	S	08L0162	04/07/08	04/22/08	04/23/08
TIN, TOTAL	003	S	08L0162	04/07/08	04/22/08	04/23/08
STRONTIUM, TOTAL	003	S	08L0162	04/07/08	04/22/08	04/23/08
THALLIUM, TOTAL	003	S	08L0162	04/07/08	04/22/08	04/23/08
URANIUM, TOTAL	003	S	08L0162	04/07/08	04/22/08	04/23/08
VANADIUM, TOTAL	003	S	08L0162	04/07/08	04/22/08	04/23/08
ZINC, TOTAL	003	S	08L0162	04/07/08	04/22/08	04/23/08
J16M51						
SILVER, TOTAL	004	S	08L0162	04/07/08	04/22/08	04/23/08
ALUMINUM, TOTAL	004	S	08L0162	04/07/08	04/22/08	04/23/08
ARSENIC, TOTAL	004	S	08L0162	04/07/08	04/22/08	04/23/08
BORON, TOTAL	004	S	08L0162	04/07/08	04/22/08	04/23/08
BARIUM, TOTAL	004	S	08L0162	04/07/08	04/22/08	04/23/08
BERYLLIUM, TOTAL	004	S	08L0162	04/07/08	04/22/08	04/23/08
BISMUTH, TOTAL	004	S	08L0162	04/07/08	04/22/08	04/23/08
CALCIUM, TOTAL	004	S	08L0162	04/07/08	04/22/08	04/23/08
CADMIUM, TOTAL	004	S	08L0162	04/07/08	04/22/08	04/23/08
COBALT, TOTAL	004	S	08L0162	04/07/08	04/22/08	04/23/08
CHROMIUM, TOTAL	004	S	08L0162	04/07/08	04/22/08	04/23/08
COPPER, TOTAL	004	S	08L0162	04/07/08	04/22/08	04/23/08
IRON, TOTAL	004	S	08L0162	04/07/08	04/22/08	04/23/08
MERCURY, TOTAL	004	S	08C0067	04/07/08	04/14/08	04/16/08
POTASSIUM, TOTAL	004	S	08L0162	04/07/08	04/22/08	04/23/08
LITHIUM, TOTAL	004	S	08L0162	04/07/08	04/22/08	04/23/08
MAGNESIUM, TOTAL	004	S	08L0162	04/07/08	04/22/08	04/23/08
MANGANESE, TOTAL	004	S	08L0162	04/07/08	04/22/08	04/23/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-074 K1188

DATE RECEIVED: 04/09/08 LVL LOT # :0804L891

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
MOLYBDENUM, TOTAL	004	S	08L0162	04/07/08	04/22/08	04/23/08
SODIUM, TOTAL	004	S	08L0162	04/07/08	04/22/08	04/23/08
NICKEL, TOTAL	004	S	08L0162	04/07/08	04/22/08	04/23/08
PHOSPHORUS, TOTAL	004	S	08L0162	04/07/08	04/22/08	04/23/08
LEAD, TOTAL	004	S	08L0162	04/07/08	04/22/08	04/23/08
ANTIMONY, TOTAL	004	S	08L0162	04/07/08	04/22/08	04/23/08
SELENIUM, TOTAL	004	S	08L0162	04/07/08	04/22/08	04/23/08
SILICON, TOTAL	004	S	08L0162	04/07/08	04/22/08	04/23/08
TIN, TOTAL	004	S	08L0162	04/07/08	04/22/08	04/23/08
STRONTIUM, TOTAL	004	S	08L0162	04/07/08	04/22/08	04/23/08
THALLIUM, TOTAL	004	S	08L0162	04/07/08	04/22/08	04/23/08
URANIUM, TOTAL	004	S	08L0162	04/07/08	04/22/08	04/23/08
VANADIUM, TOTAL	004	S	08L0162	04/07/08	04/22/08	04/23/08
ZINC, TOTAL	004	S	08L0162	04/07/08	04/22/08	04/23/08
J16M52						
SILVER, TOTAL	005	S	08L0162	04/07/08	04/22/08	04/23/08
ALUMINUM, TOTAL	005	S	08L0162	04/07/08	04/22/08	04/23/08
ARSENIC, TOTAL	005	S	08L0162	04/07/08	04/22/08	04/23/08
BORON, TOTAL	005	S	08L0162	04/07/08	04/22/08	04/23/08
BARIUM, TOTAL	005	S	08L0162	04/07/08	04/22/08	04/23/08
BERYLLIUM, TOTAL	005	S	08L0162	04/07/08	04/22/08	04/23/08
BISMUTH, TOTAL	005	S	08L0162	04/07/08	04/22/08	04/23/08
CALCIUM, TOTAL	005	S	08L0162	04/07/08	04/22/08	04/23/08
CADMIUM, TOTAL	005	S	08L0162	04/07/08	04/22/08	04/23/08
COBALT, TOTAL	005	S	08L0162	04/07/08	04/22/08	04/23/08
CHROMIUM, TOTAL	005	S	08L0162	04/07/08	04/22/08	04/23/08
COPPER, TOTAL	005	S	08L0162	04/07/08	04/22/08	04/23/08
IRON, TOTAL	005	S	08L0162	04/07/08	04/22/08	04/23/08
MERCURY, TOTAL	005	S	08C0067	04/07/08	04/14/08	04/16/08
POTASSIUM, TOTAL	005	S	08L0162	04/07/08	04/22/08	04/23/08
LITHIUM, TOTAL	005	S	08L0162	04/07/08	04/22/08	04/23/08
MAGNESIUM, TOTAL	005	S	08L0162	04/07/08	04/22/08	04/23/08
MANGANESE, TOTAL	005	S	08L0162	04/07/08	04/22/08	04/23/08
MOLYBDENUM, TOTAL	005	S	08L0162	04/07/08	04/22/08	04/23/08
SODIUM, TOTAL	005	S	08L0162	04/07/08	04/22/08	04/23/08
NICKEL, TOTAL	005	S	08L0162	04/07/08	04/22/08	04/23/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-074 K1188

DATE RECEIVED: 04/09/08 LVL LOT # :0804L891

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
PHOSPHORUS, TOTAL	005	S	08L0162	04/07/08	04/22/08	04/23/08
LEAD, TOTAL	005	S	08L0162	04/07/08	04/22/08	04/23/08
ANTIMONY, TOTAL	005	S	08L0162	04/07/08	04/22/08	04/23/08
SELENIUM, TOTAL	005	S	08L0162	04/07/08	04/22/08	04/23/08
SILICON, TOTAL	005	S	08L0162	04/07/08	04/22/08	04/23/08
TIN, TOTAL	005	S	08L0162	04/07/08	04/22/08	04/23/08
STRONTIUM, TOTAL	005	S	08L0162	04/07/08	04/22/08	04/23/08
THALLIUM, TOTAL	005	S	08L0162	04/07/08	04/22/08	04/23/08
URANIUM, TOTAL	005	S	08L0162	04/07/08	04/22/08	04/23/08
VANADIUM, TOTAL	005	S	08L0162	04/07/08	04/22/08	04/23/08
ZINC, TOTAL	005	S	08L0162	04/07/08	04/22/08	04/23/08

AB QC:

SILVER LABORATORY	LC1 BS	S	08L0162	N/A	04/22/08	04/23/08
SILVER, TOTAL	MB1	S	08L0162	N/A	04/22/08	04/23/08
ALUMINUM LABORTORY	LC1 BS	S	08L0162	N/A	04/22/08	04/23/08
ALUMINUM, TOTAL	MB1	S	08L0162	N/A	04/22/08	04/23/08
ARSENIC LABORATORY	LC1 BS	S	08L0162	N/A	04/22/08	04/23/08
ARSENIC, TOTAL	MB1	S	08L0162	N/A	04/22/08	04/23/08
BORON LABORATORY	LC1 BS	S	08L0162	N/A	04/22/08	04/23/08
BORON, TOTAL	MB1	S	08L0162	N/A	04/22/08	04/23/08
BARIUM LABORATORY	LC1 BS	S	08L0162	N/A	04/22/08	04/23/08
BARIUM, TOTAL	MB1	S	08L0162	N/A	04/22/08	04/23/08
BERYLLIUM LABORATORY	LC1 BS	S	08L0162	N/A	04/22/08	04/23/08
BERYLLIUM, TOTAL	MB1	S	08L0162	N/A	04/22/08	04/23/08
BISMUTH, LCS	LC1 BS	S	08L0162	N/A	04/22/08	04/23/08
BISMUTH, TOTAL	MB1	S	08L0162	N/A	04/22/08	04/23/08
CALCIUM LABORATORY	LC1 BS	S	08L0162	N/A	04/22/08	04/23/08
CALCIUM, TOTAL	MB1	S	08L0162	N/A	04/22/08	04/23/08
CADMIUM LABORATORY	LC1 BS	S	08L0162	N/A	04/22/08	04/23/08
CADMIUM, TOTAL	MB1	S	08L0162	N/A	04/22/08	04/23/08
COBALT LABORATORY	LC1 BS	S	08L0162	N/A	04/22/08	04/23/08
COBALT, TOTAL	MB1	S	08L0162	N/A	04/22/08	04/23/08
CHROMIUM LABORATORY	LC1 BS	S	08L0162	N/A	04/22/08	04/23/08
CHROMIUM, TOTAL	MB1	S	08L0162	N/A	04/22/08	04/23/08
COPPER LABORATORY	LC1 BS	S	08L0162	N/A	04/22/08	04/23/08
COPPER, TOTAL	MB1	S	08L0162	N/A	04/22/08	04/23/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-074 K1188

DATE RECEIVED: 04/09/08 LVL LOT # :0804L891

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
IRON LABORATORY	LC1 BS	S	08L0162	N/A	04/22/08	04/23/08
IRON, TOTAL	MB1	S	08L0162	N/A	04/22/08	04/23/08
MERCURY LABORATORY	LC1 BS	S	08C0067	N/A	04/14/08	04/16/08
MERCURY, TOTAL	MB1	S	08C0067	N/A	04/14/08	04/16/08
POTASSIUM LABORATORY	LC1 BS	S	08L0162	N/A	04/22/08	04/23/08
POTASSIUM, TOTAL	MB1	S	08L0162	N/A	04/22/08	04/23/08
LITHIUM LABORATORY	LC1 BS	S	08L0162	N/A	04/22/08	04/23/08
LITHIUM, TOTAL	MB1	S	08L0162	N/A	04/22/08	04/23/08
MAGNESIUM LABORATORY	LC1 BS	S	08L0162	N/A	04/22/08	04/23/08
MAGNESIUM, TOTAL	MB1	S	08L0162	N/A	04/22/08	04/23/08
MANGANESE LABORATORY	LC1 BS	S	08L0162	N/A	04/22/08	04/23/08
MANGANESE, TOTAL	MB1	S	08L0162	N/A	04/22/08	04/23/08
MOLYBDENUM LABORATOR	LC1 BS	S	08L0162	N/A	04/22/08	04/23/08
MOLYBDENUM, TOTAL	MB1	S	08L0162	N/A	04/22/08	04/23/08
SODIUM LABORATORY	LC1 BS	S	08L0162	N/A	04/22/08	04/23/08
SODIUM, TOTAL	MB1	S	08L0162	N/A	04/22/08	04/23/08
NICKEL LABORATORY	LC1 BS	S	08L0162	N/A	04/22/08	04/23/08
NICKEL, TOTAL	MB1	S	08L0162	N/A	04/22/08	04/23/08
PHOSPHORUS LCS	LC1 BS	S	08L0162	N/A	04/22/08	04/23/08
PHOSPHORUS, TOTAL	MB1	S	08L0162	N/A	04/22/08	04/23/08
LEAD LABORATORY	LC1 BS	S	08L0162	N/A	04/22/08	04/23/08
LEAD, TOTAL	MB1	S	08L0162	N/A	04/22/08	04/23/08
ANTIMONY LABORATORY	LC1 BS	S	08L0162	N/A	04/22/08	04/23/08
ANTIMONY, TOTAL	MB1	S	08L0162	N/A	04/22/08	04/23/08
SELENIUM LABORATORY	LC1 BS	S	08L0162	N/A	04/22/08	04/23/08
SELENIUM, TOTAL	MB1	S	08L0162	N/A	04/22/08	04/23/08
SILICON LABORATORY	LC1 BS	S	08L0162	N/A	04/22/08	04/23/08
SILICON, TOTAL	MB1	S	08L0162	N/A	04/22/08	04/23/08
TIN LABORATORY	LC1 BS	S	08L0162	N/A	04/22/08	04/23/08
TIN, TOTAL	MB1	S	08L0162	N/A	04/22/08	04/23/08
STRONTIUM LCS STANDA	LC1 BS	S	08L0162	N/A	04/22/08	04/23/08
STRONTIUM, TOTAL	MB1	S	08L0162	N/A	04/22/08	04/23/08
THALLIUM LABORATORY	LC1 BS	S	08L0162	N/A	04/22/08	04/23/08
THALLIUM, TOTAL	MB1	S	08L0162	N/A	04/22/08	04/23/08
URANIUM LABORATORY	LC1 BS	S	08L0162	N/A	04/22/08	04/23/08
URANIUM, TOTAL	MB1	S	08L0162	N/A	04/22/08	04/23/08
VANADIUM LABORATORY	LC1 BS	S	08L0162	N/A	04/22/08	04/23/08
VANADIUM, TOTAL	MB1	S	08L0162	N/A	04/22/08	04/23/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-074 K1188

DATE RECEIVED: 04/09/08 LVL LOT # :0804L891

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
ZINC LABORATORY	LC1 BS	S	08L0162	N/A	04/22/08	04/23/08
ZINC, TOTAL	MB1	S	08L0162	N/A	04/22/08	04/23/08

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD RC-074
LVL#: 0804L891
SDG/SAF#: K1188/RC-032

W.O.#: 11343-606-001-9999-00
Date Received: 04-09-08

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 5 soil samples.

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

   All samples were reported with a 3-fold dilution for all ICP analytes due to sample matrix. All samples were rerun on a different instrument for Aluminum, Iron, and Sodium due to samples matrix or analyte concentration.

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. The preparation/method blank for 1 analyte was outside method criteria. Refer to the Inorganics Method Blank Data Summary.

   1.) All samples in this preparation batch with the exception of sample J16M48 were found to contain Sodium at concentrations greater than 20X the preparation blank. Therefore, redigestion and reanalysis were not required for samples J16M49, J16M50, J16M51, and J16M52.

   2.) The MB result for Sodium was greater than the Limit of Quantitation (LOQ) {3-10x the (LOD) Limit of Detection} and sample J16M48 read less than 20 times the MB

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 27 pages.

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 with the exception of Silicon at 22.2%. Refer to the Inorganics Laboratory Control Standards Report. Associated sample results may be biased low.

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

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

Sample ID	Element	PDS Concentration (ppb)	PDS % Recovery
J16M48	Aluminum	60,000	110.9
	Chromium	300	98.8
	Iron	60,000	116.3
	Antimony	300	105.1
	Silicon	6,300	98.9

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

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

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

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

Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

5/2/08
Date

LIONVILLE LABORATORY INC.
alm/m04-891

METALS METHOD GLOSSARY

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

ot#: 08041891

eaching Procedure: __1310 __1311 __1312 __Other:_____

LP 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
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	✓6010B [1]		__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: Phosphorous Method: 6010B

L-WI-033/M-03/01
000000012

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 04/28/08

CLIENT: TNUHANFORD RC-074 K1188 LVL LOT #: 0804L891

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	J16M48	Silver, Total	0.26 u	MG/KG	0.26	3.0
		Aluminum, Total	5450	MG/KG	10.5	3.0
		Arsenic, Total	3.1	MG/KG	1.3	3.0
		Boron, Total	2.7	MG/KG	1.3	3.0
		Barium, Total	69.9	MG/KG	0.26	3.0
		Beryllium, Total	0.73	MG/KG	0.13	3.0
		Bismuth, Total	1.6 u	MG/KG	1.6	3.0
		Calcium, Total	5310	MG/KG	10.5	3.0
		Cadmium, Total	0.13 u	MG/KG	0.13	3.0
		Cobalt, Total	8.5	MG/KG	0.53	3.0
		Chromium, Total	101	MG/KG	0.53	3.0
		Copper, Total	13.6	MG/KG	0.53	3.0
		Iron, Total	25400	MG/KG	11.9	3.0
		Mercury, Total	0.008u	MG/KG	0.008	1.0
		Potassium, Total	855	MG/KG	10.5	3.0
		Lithium, Total	5.1	MG/KG	0.11	3.0
		Magnesium, Total	4310	MG/KG	6.6	3.0
		Manganese, Total	326	MG/KG	0.11	3.0
		Molybdenum, Total	0.79 u	MG/KG	0.79	3.0
		Sodium, Total	301	MG/KG	5.3	3.0
		Nickel, Total	9.9	MG/KG	0.53	3.0
		Phosphorus, Total	1040	MG/KG	13.2	3.0
		Lead, Total	4.0	MG/KG	0.79	3.0
		Antimony, Total	0.79 u	MG/KG	0.79	3.0
		Selenium, Total	1.6 u	MG/KG	1.6	3.0
		Silicon, Total	385	MG/KG	10.5	3.0
		Tin, Total	1.6 u	MG/KG	1.6	3.0
		Strontium, Total	24.9	MG/KG	0.08	3.0
		Thallium, Total	1.6 u	MG/KG	1.6	3.0
		Uranium, Total	5.3 u	MG/KG	5.3	3.0
		Vanadium, Total	65.5	MG/KG	0.37	3.0
		Zinc, Total	48.7	MG/KG	1.6	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 04/28/08

CLIENT: TNUHANFORD RC-074 K1188 LVL LOT #: 0804L891

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-002	J16M49	Silver, Total	0.28 u	MG/KG	0.28	3.0
		Aluminum, Total	7030	MG/KG	11.3	3.0
		Arsenic, Total	3.9	MG/KG	1.4	3.0
		Boron, Total	4.1	MG/KG	1.4	3.0
		Barium, Total	88.2	MG/KG	0.28	3.0
		Beryllium, Total	0.70	MG/KG	0.14	3.0
		Bismuth, Total	1.7 u	MG/KG	1.7	3.0
		Calcium, Total	20100	MG/KG	11.3	3.0
		Cadmium, Total	0.14 u	MG/KG	0.14	3.0
		Cobalt, Total	8.5	MG/KG	0.56	3.0
		Chromium, Total	131	MG/KG	0.56	3.0
		Copper, Total	16.9	MG/KG	0.56	3.0
		Iron, Total	24300	MG/KG	12.7	3.0
		Mercury, Total	0.01 u	MG/KG	0.01	1.0
		Potassium, Total	1080	MG/KG	11.3	3.0
		Lithium, Total	7.5	MG/KG	0.11	3.0
		Magnesium, Total	5300	MG/KG	7.0	3.0
		Manganese, Total	344	MG/KG	0.11	3.0
		Molybdenum, Total	0.85 u	MG/KG	0.85	3.0
		Sodium, Total	1630	MG/KG	5.6	3.0
		Nickel, Total	12.4	MG/KG	0.56	3.0
		Phosphorus, Total	996	MG/KG	14.1	3.0
		Lead, Total	4.2	MG/KG	0.85	3.0
		Antimony, Total	0.85 u	MG/KG	0.85	3.0
		Selenium, Total	1.7 u	MG/KG	1.7	3.0
		Silicon, Total	480	MG/KG	11.3	3.0
		Tin, Total	1.7 u	MG/KG	1.7	3.0
		Strontium, Total	42.6	MG/KG	0.08	3.0
		Thallium, Total	1.7 u	MG/KG	1.7	3.0
		Uranium, Total	5.6 u	MG/KG	5.6	3.0
		Vanadium, Total	63.4	MG/KG	0.39	3.0
		Zinc, Total	45.1	MG/KG	1.7	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 04/28/08

CLIENT: TNUHANFORD RC-074 K1188 LVL LOT #: 0804L891

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-003	J16M50	Silver, Total	0.25 u	MG/KG	0.25	3.0
		Aluminum, Total	7720	MG/KG	10	3.0
		Arsenic, Total	3.4	MG/KG	1.2	3.0
		Boron, Total	3.2	MG/KG	1.2	3.0
		Barium, Total	78.3	MG/KG	0.25	3.0
		Beryllium, Total	0.71	MG/KG	0.12	3.0
		Bismuth, Total	1.5 u	MG/KG	1.5	3.0
		Calcium, Total	4590	MG/KG	10	3.0
		Cadmium, Total	0.12 u	MG/KG	0.12	3.0
		Cobalt, Total	9.0	MG/KG	0.50	3.0
		Chromium, Total	176	MG/KG	0.50	3.0
		Copper, Total	17.6	MG/KG	0.50	3.0
		Iron, Total	25700	MG/KG	11.2	3.0
		Mercury, Total	0.01	MG/KG	0.01	1.0
		Potassium, Total	1310	MG/KG	10	3.0
		Lithium, Total	7.8	MG/KG	0.1	3.0
		Magnesium, Total	4960	MG/KG	6.2	3.0
		Manganese, Total	354	MG/KG	0.1	3.0
		Molybdenum, Total	0.75 u	MG/KG	0.75	3.0
		Sodium, Total	1550	MG/KG	5.0	3.0
		Nickel, Total	12.7	MG/KG	0.50	3.0
		Phosphorus, Total	994	MG/KG	12.5	3.0
		Lead, Total	4.2	MG/KG	0.75	3.0
		Antimony, Total	0.75 u	MG/KG	0.75	3.0
		Selenium, Total	1.5 u	MG/KG	1.5	3.0
		Silicon, Total	367	MG/KG	10	3.0
		Tin, Total	1.5 u	MG/KG	1.5	3.0
		Strontium, Total	22.0	MG/KG	0.07	3.0
		Thallium, Total	1.5 u	MG/KG	1.5	3.0
		Uranium, Total	5.0 u	MG/KG	5.0	3.0
		Vanadium, Total	59.5	MG/KG	0.35	3.0
		Zinc, Total	49.7	MG/KG	1.5	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 04/28/08

CLIENT: TNUHANFORD RC-074 K1188

LVL LOT #: 0804L891

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-004	J16M51	Silver, Total	0.28 u	MG/KG	0.28	3.0
		Aluminum, Total	8000	MG/KG	11.1	3.0
		Arsenic, Total	4.2	MG/KG	1.4	3.0
		Boron, Total	3.6	MG/KG	1.4	3.0
		Barium, Total	83.5	MG/KG	0.28	3.0
		Beryllium, Total	0.72	MG/KG	0.14	3.0
		Bismuth, Total	2.0	MG/KG	1.7	3.0
		Calcium, Total	10100	MG/KG	11.1	3.0
		Cadmium, Total	0.14 u	MG/KG	0.14	3.0
		Cobalt, Total	8.8	MG/KG	0.55	3.0
		Chromium, Total	369	MG/KG	0.55	3.0
		Copper, Total	15.8	MG/KG	0.55	3.0
		Iron, Total	24800	MG/KG	12.4	3.0
		Mercury, Total	0.009u	MG/KG	0.009	1.0
		Potassium, Total	1190	MG/KG	11.1	3.0
		Lithium, Total	8.2	MG/KG	0.11	3.0
		Magnesium, Total	5230	MG/KG	6.9	3.0
		Manganese, Total	356	MG/KG	0.11	3.0
		Molybdenum, Total	0.83 u	MG/KG	0.83	3.0
		Sodium, Total	2140	MG/KG	5.5	3.0
		Nickel, Total	12.8	MG/KG	0.55	3.0
		Phosphorus, Total	924	MG/KG	13.8	3.0
		Lead, Total	4.5	MG/KG	0.83	3.0
		Antimony, Total	0.83 u	MG/KG	0.83	3.0
		Selenium, Total	1.7 u	MG/KG	1.7	3.0
		Silicon, Total	401	MG/KG	11.1	3.0
		Tin, Total	1.7 u	MG/KG	1.7	3.0
		Strontium, Total	27.4	MG/KG	0.08	3.0
		Thallium, Total	1.7 u	MG/KG	1.7	3.0
		Uranium, Total	5.5 u	MG/KG	5.5	3.0
		Vanadium, Total	59.9	MG/KG	0.39	3.0
		Zinc, Total	44.3	MG/KG	1.7	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 04/28/08

CLIENT: TNUHANFORD RC-074 K1188 LVL LOT #: 0804L891

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-005	J16M52	Silver, Total	0.28 u	MG/KG	0.28	3.0
		Aluminum, Total	6200	MG/KG	11.1	3.0
		Arsenic, Total	3.2	MG/KG	1.4	3.0
		Boron, Total	6.0	MG/KG	1.4	3.0
		Barium, Total	69.3	MG/KG	0.28	3.0
		Beryllium, Total	0.69	MG/KG	0.14	3.0
		Bismuth, Total	1.7 u	MG/KG	1.7	3.0
		Calcium, Total	6090	MG/KG	11.1	3.0
		Cadmium, Total	0.14 u	MG/KG	0.14	3.0
		Cobalt, Total	8.2	MG/KG	0.56	3.0
		Chromium, Total	1310	MG/KG	0.56	3.0
		Copper, Total	16.2	MG/KG	0.56	3.0
		Iron, Total	23600	MG/KG	12.5	3.0
		Mercury, Total	0.009u	MG/KG	0.009	1.0
		Potassium, Total	1110	MG/KG	11.1	3.0
		Lithium, Total	6.6	MG/KG	0.11	3.0
		Magnesium, Total	4580	MG/KG	7.0	3.0
		Manganese, Total	309	MG/KG	0.11	3.0
		Molybdenum, Total	1.1	MG/KG	0.84	3.0
		Sodium, Total	5130	MG/KG	5.6	3.0
		Nickel, Total	11.7	MG/KG	0.56	3.0
		Phosphorus, Total	848	MG/KG	13.9	3.0
		Lead, Total	3.4	MG/KG	0.84	3.0
		Antimony, Total	0.84 u	MG/KG	0.84	3.0
		Selenium, Total	1.7 u	MG/KG	1.7	3.0
		Silicon, Total	416	MG/KG	11.1	3.0
		Tin, Total	1.7 u	MG/KG	1.7	3.0
		Strontium, Total	22.4	MG/KG	0.08	3.0
		Thallium, Total	1.7 u	MG/KG	1.7	3.0
		Uranium, Total	5.6 u	MG/KG	5.6	3.0
		Vanadium, Total	63.6	MG/KG	0.39	3.0
		Zinc, Total	43.0	MG/KG	1.7	3.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 04/28/08

CLIENT: TNUHANFORD RC-074 K1188 LVL LOT #: 0804L891

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	08L0162-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	6.7		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	4.0	u	MG/KG	4.0	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	u	MG/KG	0.04	1.0
		Molybdenum, Total	0.30	u	MG/KG	0.30	1.0
		Sodium, Total	16.7		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	0.88		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	0.60	u	MG/KG	0.60	1.0
BLANK1	08C0067-MB1	Mercury, Total	0.01	u	MG/KG	0.01	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 04/28/08

CLIENT: TNUHANFORD RC-074 K1188

LVL LOT #: 0804L891

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-001	J16M48	Silver, Total	3.8	0.26u	4.4	86.4	3.0
		Aluminum, Total	6260	5450	176	459.7*	3.0
		Arsenic, Total	166	3.1	176	93.0	3.0
		Boron, Total	84.1	2.7	87.8	92.7	3.0
		Barium, Total	233	69.9	176	93.0	3.0
		Beryllium, Total	4.9	0.73	4.4	94.7	3.0
		Bismuth, Total	418	1.6 u	439	95.3	3.0
		Calcium, Total	7930	5310	2200	119.1	3.0
		Cadmium, Total	4.3	0.13u	4.4	97.7	3.0
		Cobalt, Total	49.9	8.5	43.9	94.3	3.0
		Chromium, Total	112	101	17.6	61.4*	3.0
		Copper, Total	34.3	13.6	22.0	94.1	3.0
		Iron, Total	25600	25400	87.8	154.6*	3.0
		Mercury, Total	0.13	0.00u	0.13	102.3	1.0
		Potassium, Total	2850	855	2200	90.9	3.0
		Lithium, Total	90.4	5.1	87.8	97.2	3.0
		Magnesium, Total	6640	4310	2200	106.1	3.0
		Manganese, Total	368	326	43.9	95.2*	3.0
		Molybdenum, Total	80.2	0.79u	87.8	91.3	3.0
		Sodium, Total	2450	301	2200	97.7	3.0
		Nickel, Total	51.9	9.9	43.9	95.7	3.0
		Phosphorus, Total	1480	1040	439	100.2	3.0
		Lead, Total	44.7	4.0	43.9	92.7	3.0
		Antimony, Total	22.2	0.79u	43.9	50.6	3.0
		Selenium, Total	144	1.6 u	176	81.7	3.0
		Silicon, Total	559	385	87.8	198.0*	3.0
		Tin, Total	82.0	1.6 u	87.8	93.4	3.0
		Strontium, Total	106	24.9	87.8	92.9	3.0
		Thallium, Total	163	1.6 u	176	92.9	3.0
		Uranium, Total	417	5.3 u	439	94.9	3.0
		Vanadium, Total	109	65.5	43.9	98.2	3.0
		Zinc, Total	90.4	48.7	43.9	95.0	3.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 04/28/08

CLIENT: TNUHANFORD RC-074 K1188 LVL LOT #: 0804L891

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

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-001REP	J16M48	Silver, Total	0.26u	0.25u	NC	3.0
		Aluminum, Total	5450	5580	2.4	3.0
		Arsenic, Total	3.1	2.3	29.6	3.0
		Boron, Total	2.7	2.2	20.4	3.0
		Barium, Total	69.9	73.1	4.5	3.0
		Beryllium, Total	0.73	0.78	6.4	3.0
		Bismuth, Total	1.6 u	1.9	NC	3.0
		Calcium, Total	5310	5730	7.6	3.0
		Cadmium, Total	0.13u	0.13u	NC	3.0
		Cobalt, Total	8.5	9.1	6.8	3.0
		Chromium, Total	101	93.4	8.2	3.0
		Copper, Total	13.6	13.4	1.5	3.0
		Iron, Total	25400	28000	9.7	3.0
		Mercury, Total	0.00u	0.00u	NC	1.0
		Potassium, Total	855	887	3.6	3.0
		Lithium, Total	5.1	5.0	2.0	3.0
		Magnesium, Total	4310	4450	3.2	3.0
		Manganese, Total	326	342	4.9	3.0
		Molybdenum, Total	0.79u	0.75u	NC	3.0
		Sodium, Total	301	328	8.5	3.0
		Nickel, Total	9.9	10.2	3.0	3.0
		Phosphorus, Total	1040	1240	17.1	3.0
		Lead, Total	4.0	4.4	9.5	3.0
		Antimony, Total	0.79u	0.75u	NC	3.0
		Selenium, Total	1.6 u	1.5 u	NC	3.0
		Silicon, Total	385	337	13.2	3.0
		Tin, Total	1.6 u	1.5 u	NC	3.0
		Strontium, Total	24.9	23.8	4.5	3.0
		Thallium, Total	1.6 u	1.5 u	NC	3.0
		Uranium, Total	5.3 u	5.0 u	NC	3.0
		Vanadium, Total	65.5	73.2	11.1	3.0
		Zinc, Total	48.7	52.8	8.1	3.0

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 04/28/08

CLIENT: TNUHANFORD RC-074 K1188 LVL LOT #: 0804L891

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	08L0162-LC1	Silver, LCS	45.7	50.0	MG/KG	91.4
		Aluminum, LCS	446	500	MG/KG	89.1
		Arsenic, LCS	899	1000	MG/KG	89.9
		Boron, LCS	450	500	MG/KG	89.9
		Barium, LCS	462	500	MG/KG	92.5
		Beryllium, LCS	23.0	25.0	MG/KG	92.0
		Bismuth, LCS	459	500	MG/KG	91.9
		Calcium, LCS	2330	2500	MG/KG	93.0
		Cadmium, LCS	22.4	25.0	MG/KG	89.6
		Cobalt, LCS	226	250	MG/KG	90.4
		Chromium, LCS	45.8	50.0	MG/KG	91.6
		Copper, LCS	117	125	MG/KG	93.5
		Iron, LCS	453	500	MG/KG	90.6
		Potassium, LCS	2150	2500	MG/KG	85.8
		Lithium, LCS	484	500	MG/KG	96.8
		Magnesium, LCS	2280	2500	MG/KG	91.3
		Manganese, LCS	69.5	75.0	MG/KG	92.7
		Molybdenum, LCS	443	500	MG/KG	88.6
		Sodium, LCS	2240	2500	MG/KG	89.5
		Nickel, LCS	182	200	MG/KG	91.2
		Phosphorus, LCS	439	500	MG/KG	87.8
		Lead, LCS	228	250	MG/KG	91.2
		Antimony, LCS	271	300	MG/KG	90.4
		Selenium, LCS	868	1000	MG/KG	86.8
		Silicon, LCS	111	500	MG/KG	22.2
		Tin, LCS	456	500	MG/KG	91.1
		Strontium, LCS	464	500	MG/KG	92.8
		Thallium, LCS	882	1000	MG/KG	88.2
		Uranium, LCS	472	500	MG/KG	94.4
		Vanadium, LCS	226	250	MG/KG	90.2
		Zinc, LCS	92.5	100	MG/KG	92.5
LCS1	08C0067-LC1	Mercury, LCS	5.0	4.7	MG/KG	105.8

Lionville Laboratory Incorporated Logbook #: 440

SAMPLE DIGESTION RECORD

SOP: L-SPI-3020 Rev. 00

Digestion Batch #: 08L0162
Date/Time Initiated: 4/22/08 1145
Date/Time Completed: 4/22/08 1900
Analyst(s): MW
Matrix: (Soil) Water Other:
Instr. Type: AA (ICP)
Parameters: See Worklog

(Digested) Undigested (circle one)
Balance #: B20
Balance Cal Verif: (Y) NA
Hot Plate Temp: 90°

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

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

TMW

COC Batch #	Spike Vol(s) (mL)	Initial Wt/Vol (g/mL)	Final Vol (mL)	pH <2	Type: To/So/TC	Texture	Color/Appearance	Artifact	Turb
0804L891-001		1.15gm	100 ml	<2	TO	fine	brown soil	roots	
001R		1.21gm	↓	↓	↓	↓	↓	↓	
001S	1.0ml *	1.15gm	↓	↓	↓	↓	↓	↓	
002		1.16gm	↓	↓	↓	coarse	↓	none	
003		1.28gm	↓	↓	↓	↓	↓	↓	
004		1.16gm	↓	↓	↓	↓	↓	↓	
005		1.14gm	↓	↓	↓	↓	↓	↓	
08L0162-MB1		1.0gm	↓	↓	↓	↓	boiling chips		
LC1	1.0ml *	1.0gm	↓	↓	↓	↓	10		

MW 4/22/08

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

Reagent IDs:
HNO_3 E46025
HCL E45047
H_2O_2 E44A06
1:1 HNO_3 9789-077-04
1:1 HCL

File ID#: I0016201
LIMS Transfer: (Y) N
Data Review By/Date: uploaded
PMP, 04/23/08

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

Jacksonville Laboratory Incorporated

MERCURY PREPARATION

Logbook # 422

Analyst: CB
Date 4/14/08
Start Time/Temp: 1555 / 94°
End Time/Temp: 1625 / 98°

Instrument ID HG-3.1
Balance #: 029 /NA
Pipette Calibration (Daily) Y ✓

Prep Batch: 080067
Worksheet: HG041601
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	GTR			10mL	50mL	
0.2 µg/L	3P	0.100				
1.0	R	0.500				
2.0	G7	1.000				
5.0	290	2.500				
10.0	40	5.000				
ICV	PF	0.125	2.5			
CCV	X0	0.250	5.0			
ICB/CCB	3T					4.50L
MB1	461			0.30		PBS167 100.00
LCS1	IV	*	*	0.32		LCSS167
0804L872-001	H5			0.30		
001R	95			0.31		
001S	B2	0.500	1.0	0.30		
0804L873-001	H3			0.34		96.75
002	X3			0.34		92.63
003	114			0.33		95.31
004	I94			0.32		94.16
005	R2			0.31		97.21
006	B6			0.32		97.18
0804L891-001	616			0.39		99.12
001R	F8			0.37		
001S	UT	0.500	1.0	0.39		
002	OF			0.33		91.83
003	5H			0.31		94.05
004	92			0.36		93.54
005	AIR			0.35		94.53

Standard:	ID	Prep Date/Time
CALMS	R16072-75-07B	4/14/08 1210
CV/CCV/LCS	US16072-75-08A	

Reviewed By/Date: [signature] 4/22/08

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

nville Laboratory Use Only
18041891

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNel: COMPLETE ONLY SHADED AREAS

LVLI

000000025

nt TNU Hanford RC-074
Final Proj. Sampling Date
ject# 11343-606-001-9999-00
ject Contact/Phone#
nville Laboratory Project Manager Ollie Johnson
SW846 Del STD TAT 15 Days
e Rec'd 4.9.08 Date Due 4-24-08

Refrigerator #		A	3
#/Type Container	Liquid / Solid		191
Volume	Solid		60
Preservatives			1

ANALYSES REQUESTED →

Matrix: 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	ORGANIC VOA	BNA	Pest/PCB	Herb	INORG Metal +Hg	CN	Cr+6
								Lionville Laboratory Use Only				Met①		ICR6
	001	J16M48			S	4-7-08	1009					X		X
	002	J16M49					1022					X		X
	003	J16M50					1047					X		X
	004	J16M51					1022					X		X
	005	J16M52					1026					X		X

Special Instructions:
met① = HSL + B, Bi, Li, Mo
P, Si, Sr, Sn, U

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

Relinquished by	Received by	Date	Time
Fed Ex	J. Smith	4-9-08	1025

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-074-066	Page 1 of 1

ollector D.W. Shea/Sub-contractor	Company Contact D.W.Shea	Telephone No. 521-6014	Project Coordinator KESSNER, JH
Price Code 8K	Data Turnaround 15 days		
roject Designation 100-D/DR Burial Grounds & Remaining Sites - Soil Quick Tu	Sampling Location 100-D-56, transient stained soil		SAF No. RC-074
e Chest No.	Field Logbook No. EL-1607-3	COA R00D562600	Method of Shipment Fed Ex
hipped To EBERLINE SERVICES LIONVILLE	Offsite Property No. See OPSC		Bill of Lading/Air Bill No.

POSSIBLE SAMPLE HAZARDS/REMARKS

Chromate

Special Handling and/or Storage

Preservation	None	Cool 4C	
Type of Container	G/P	G/P	DWShea 4/7/08
No. of Container(s)	1	~~1~~ 0	
Volume	60mL	60mL	
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	

Sample No.	Matrix *	Sample Date	Sample Time		
16M48	SOIL	4/7/08	1009	✓	✓
16M49	SOIL		1022	✓	✓
16M50	SOIL		1047	✓	✓
16M51	SOIL		1022	✓	✓
16M52	SOIL		1026	✓	✓

CHAIN OF POSSESSION	Sign/Print Names		
elinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
SEC sampler not avail to transfer.		DWShea DWSHEA	4/7/08 1730
elinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
DWShea DWSHEA	4/7/08 1853	Fridge 3A	4/7/08 1853
elinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
1060/3A	4/8/08 0835	MS Stankovich	4/8/08 0835
elinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
MS Stankovich	4/8/08 1000	Fed Ex	
elinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Fed Ex	4.9.08 1025	DV Smith	4.9.08 1025
elinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Full List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc} and Hg via CVAA
DWShea 4/7/08

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

VCH-EE-011

000000026

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU Hanford

Date: 4-9-08

Project/SAF/SOW/Release #: RC-074

LvLI Batch #: 0804L891

Sample Custodian: [illegible]

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier FedEx		Airbill # 7926 7914 7685
2. Custody Seals on coolers or shipping containers intact, signed & dated?	☑ Yes	☐ No	☐ No Seals
3. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	*Comments:*
4. All expected paperwork received (coc & other client specific information) sealed in plactic bag and easily accessible?	☑ Yes	☐ No	
5. Samples received cooled or ambient?	Temp 2.0	°C	Cooler # CRC-03-107
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

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD RC-074 K1188

RECEIVED MAY 2008

DATE RECEIVED: 04/09/08 LVL LOT # :0804L891

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J16M48						
% SOLIDS	001	S	08L%S033	04/07/08	04/09/08	04/10/08
% SOLIDS	001 REP	S	08L%S033	04/07/08	04/09/08	04/10/08
CHROMIUM VI	001	S	08LVI034	04/07/08	04/14/08	04/14/08
J16M49						
% SOLIDS	002	S	08L%S033	04/07/08	04/09/08	04/10/08
CHROMIUM VI	002	S	08LVI034	04/07/08	04/14/08	04/14/08
CHROMIUM VI	002 REP	S	08LVI034	04/07/08	04/14/08	04/14/08
CHROMIUM VI	002 MS	S	08LVI034	04/07/08	04/14/08	04/14/08
CHROMIUM VI	002 MSD	S	08LVI034	04/07/08	04/14/08	04/14/08
J16M50						
% SOLIDS	003	S	08L%S033	04/07/08	04/09/08	04/10/08
CHROMIUM VI	003	S	08LVI034	04/07/08	04/14/08	04/14/08
J16M51						
% SOLIDS	004	S	08L%S033	04/07/08	04/09/08	04/10/08
CHROMIUM VI	004	S	08LVI034	04/07/08	04/14/08	04/14/08
J16M52						
% SOLIDS	005	S	08L%S033	04/07/08	04/09/08	04/10/08
CHROMIUM VI	005	S	08LVI034	04/07/08	04/14/08	04/14/08
AB QC:						
CHROMIUM VI	MB1	S	08LVI034	N/A	04/14/08	04/14/08
CHROMIUM VI	MB1 BS	S	08LVI034	N/A	04/14/08	04/14/08
CHROMIUM VI	MB1 BSD	S	08LVI034	N/A	04/14/08	04/14/08

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD RC-074
LVL#: 0804L891 K1188

W.O.#: 11343-606-001-9999-00
Date Received: 04-09-08

INORGANIC NARRATIVE

1. This narrative covers the analyses of 5 soil samples.

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

   LvLI 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. LvLI 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 samples that met LvLI's sample acceptance policy.

5. The method blank for Chromium VI was within the method criteria.

6. The Laboratory Control Samples (LCS) for Chromium VI were within the laboratory control limits.

7. The matrix spike recovery (MS) for Insoluble Chromium VI was within the 75-125% control limits however MS recovery for Solube Chromium VI was above the control limit that may be attributed to low spike level and high background concentration of the target analyte.

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

9. Results for soil samples are reported on a dry weight basis.

10. 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.

Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

4/16/08
Date

njp\i04-891

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.

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

Lionville Laboratory Incorporated

WET CHEMISTRY

METHODS GLOSSARY FOR SOIL/SOLIDS SAMPLE ANALYSIS

	ASTM	SW846	OTHER
% Ash	__ D2216-80		
% Moisture	__ D2216-80		__ ILMO4.0 (e)
% Solids	✓ D2216-80		__ ILMO4.0 (e)
% Volatile Solids	__ D2216-80		
ASTM Extraction in Water	__ D3987-81/85		
BTU	__ D240-87		
CEC		__ 9081	__ c
Chromium VI		✓ 3060A/7196A	
Corrosivity ___ by coupon ___ by pH		__ 1110(mod) __ 9045C	
Cyanide, Total		__ 9010B	__ ILMO4.0 (e)
Cyanide, Reactive		__ Section 7.3/9014	
Halides, Extractable Organic		__ 9020B	__ EPA 600/4/84-008
Halides, Total		__ 9020B	__ EPA 600/4/84-008
EP Toxicity		__ 1310A	
Flash Point		__ 1010	
Ignitability		__ 1010	
Oil & Grease		__ 9071A	
Carbon, Total Organic		__ 9060	__ Lloyd Kahn (mod)
Oxygen Bomb Prep for Anions	__ D240-87(mod)	__ 5050	
Petroleum Hydrocarbons, Total Recoverable		__ 9071	__ EPA 418.1
pH, Soil		__ 9045C	
Sulfide, Reactive		__ Section 7.3/9030B	
Sulfide		__ 9030B(mod)	
Specific Gravity	__ D1429-76C/	__ D5057-90	
Sulfur, Total		__ 9056	
Synthetic Preparation Leach		__ 1312	
Paint Filter		__ 9095A	

Other: **Method:**

Other: **Method**

L-WI-034/B-01/01

Lionville Laboratory Incorporated

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 04/16/08

CLIENT: TNU-HANFORD RC-074

LVL LOT #: 0804L891

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	J16M48	% Solids	99.1	%	0.01	1.0
		Chromium VI	4.3	MG/KG	0.20	1.0
-002	J16M49	% Solids	91.8	%	0.01	1.0
		Chromium VI	8.2	MG/KG	0.22	1.0
-003	J16M50	% Solids	94.0	%	0.01	1.0
		Chromium VI	52.1	MG/KG	2.1	10.0
-004	J16M51	% Solids	93.5	%	0.01	1.0
		Chromium VI	6.4	MG/KG	0.21	1.0
-005	J16M52	% Solids	94.5	%	0.01	1.0
		Chromium VI	2110	MG/KG	42.3	200

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 04/16/08

CLIENT: TNU-HANFORD RC-074 LVL LOT #: 0804L891

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK10	08LVI034-MB1	Chromium VI	0.20 u	MG/KG	0.20	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 04/16/08

CLIENT: TNU-HANFORD RC-074

LVL LOT #: 0804L891

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-002	J16M49	Soluble Chromium VI	17.0	8.2	4.4	203.1	2.0
		Insoluble Chromium VI	1360	8.2	1270	106.5	100
BLANK10	08LVI034-MB1	Soluble Chromium VI	4.0	0.20u	4.0	100.8	1.0
		Insoluble Chromium VI	1260	0.20u	1230	102.1	100

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 04/16/08

CLIENT: TNU-HANFORD RC-074 LVL LOT #: 0804L891

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

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-001REP	J16M48	% Solids	99.1	99.2	0.030	1.0
-002REP	J16M49	Chromium VI	8.2	8.3	1.4	1.0

nville Laboratory Use Only

)8041891

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

LVLI

000000009

nt TNU Hanford RC-074

Final Proj. Sampling Date

ject# 11343-606-001-9999-00

ject Contact/Phone#

nville Laboratory Project Manager Ollette Johnson

SW846 Del STD TAT 15 Days

e Rec'd 4.9.08 Date Due 4-24-08

Refrigerator #									A								
									3								
#/Type Container	Liquid / Solid								19								
Volume	Solid								60								
Preservatives																	
ANALYSES REQUESTED →		ORGANIC							INORG								
		VOA	BNA	Pest/PCB	Herb				Metal +Hg	CN	Cr+6						
		Lionville Laboratory Use Only															
									Met①		TCR6						

TRIX DES:	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected													
Soil, Sediment, Solid, Sludge, Water, Oil, Air, Drum Solids, Drum Liquids, EP/TCLP Leachate, Wipe, Other, Fish	001	J16M48			S	4-7-08	1009							X		X				
	002	J16M49					1022							X		X				
	003	J16M50					1047							X		X				
	004	J16M51					1022							X		X				
	005	J16M52					1026							X		X				

ecial Instructions:

met① = HSL + B, Bi, Li, Mo
P, Si, Sr, Sn, U

Special Instructions:

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

Relinquished by	Received by	Date	Time
FedEx	D. Smith	4-9-08	1025

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-074-066	Page 1 of 1

ollector D.W. Shea/Sub-contractor	Company Contact D.W.Shea	Telephone No. 521-6014	Project Coordinator KESSNER, JH
Price Code 8K	Data Turnaround 15 days		
roject Designation 100-D/DR Burial Grounds & Remaining Sites - Soil Quick Tu	Sampling Location 100-D-56, transient stained soil		SAF No. RC-074
e Chest No.	Field Logbook No. EL-1607-3	COA R00D562600	Method of Shipment Fed Ex
hipped To EBERLINE SERVICES LIONVILLE	Offsite Property No. See OPSC		Bill of Lading/Air Bill No.

POSSIBLE SAMPLE HAZARDS/REMARKS

Chromate

Special Handling and/or Storage

Preservation	None	Cool 4C	
Type of Container	G/P	G/P	
No. of Container(s)	1	~~1~~ 0 DWSHEA 4/7/08	
Volume	60mL	60mL	
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	

Sample No.	Matrix *	Sample Date	Sample Time		
J16M48	SOIL	4/7/08	1009	✓	✓
J16M49	SOIL		1022	✓	✓
J16M50	SOIL		1047	✓	✓
J16M51	SOIL		1022	✓	✓
J16M52	SOIL		1026	✓	✓

CHAIN OF POSSESSION	Sign/Print Names
Relinquished By/Removed From — Date/Time SEC sampler not avail to transfer.	Received By/Stored In — Date/Time DWShea DWSHEA 4/7/08 1730
Relinquished By/Removed From — Date/Time DWShea DWSHEA 4/7/08 1853	Received By/Stored In — Date/Time Frickel 3A 4/7/08 1853
Relinquished By/Removed From — Date/Time 1060/3A 4/8/08 0835	Received By/Stored In — Date/Time MS MSTankouch 4/8/08 0835
Relinquished By/Removed From — Date/Time WCH MS MSTankouch 4/8/08 1000	Received By/Stored In — Date/Time Fed Ex
Relinquished By/Removed From — Date/Time Fed Ex 4.9.08 1025	Received By/Stored In — Date/Time DYMuth 4.9.08 1025
Relinquished By/Removed From — Date/Time	Received By/Stored In — Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Full List) [Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc] and Hg via CVAA
DWShea 4/7/08

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
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

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

WCH-EE-011

000000010

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU Hanford

Date: 4-9-08

Project/SAF/SOW/Release #: RC-074

LvLI Batch #: 0804L891

Sample Custodian: D Smith

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier FedEx		Airbill # 7926 7914 7685
2. Custody Seals on coolers or shipping containers intact, signed & dated?	☑ Yes	☐ No	☐ No Seals
3. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	*Comments:*
4. All expected paperwork received (coc & other client specific information) sealed in plactic bag and easily accessible?	☑ Yes	☐ No	
5. Samples received cooled or ambient?	Temp 2.0	°C	Cooler # CRC-03-107
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	
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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