0067659

SAF-B03-018
ERDF Groundwater Well Samples
FINAL DATA PACKAGE

MAIL COMPLETE COPY OF DATA PACKAGE TO:

Jim Rugg	H9-03	____NB 11/7/05_____ INITIAL/DATE
Rich Weiss	H9-01	____NB 11/7/05_____ INITIAL/DATE

COMMENTS: (PLEASE INCLUDE THE FOLLOWING ON THE FAX COVER SHEET)

SDG _____K0025___ SAF-B03-018

Rad only X Chem only Rad & Chem

X Complete Partial

RECEIVED
NOV 16 2005
EDMC

LIONVILLE LABORATORY INC.

19 October 2005

Joan Kessner
WC-Hanford
3190 Washington Way
MSIN H9-03
Richland, WA 99352

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 #	0509L377
SDG #	K0025
SAF #	B03-018
Date Received	9-23-05
# Samples	11
Matrix	Water
Volatiles	X
Semivolatiles	
Pest/PCB	
PAH	
DRO/KRO/GRO	
GC Alcohols	
Herbicides	
Metals	X
Inorganics	X

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

Sincerely,
Lionville Laboratory Incorporated

Orlette S. Johnson
Project Manager

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

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

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B03-018 K0025

DATE RECEIVED: 09/23/05 LVL LOT # :0509L377

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B1DMW5						
SILVER, TOTAL	001	W	05L0555	09/22/05	09/26/05	09/26/05
SILVER, TOTAL	001 REP	W	05L0555	09/22/05	09/26/05	09/26/05
ALUMINUM, TOTAL	001	W	05L0555	09/22/05	09/26/05	09/26/05
ALUMINUM, TOTAL	001 REP	W	05L0555	09/22/05	09/26/05	09/26/05
BARIUM, TOTAL	001	W	05L0555	09/22/05	09/26/05	09/26/05
BARIUM, TOTAL	001 REP	W	05L0555	09/22/05	09/26/05	09/26/05
BERYLLIUM, TOTAL	001	W	05L0555	09/22/05	09/26/05	09/26/05
BERYLLIUM, TOTAL	001 REP	W	05L0555	09/22/05	09/26/05	09/26/05
CALCIUM, TOTAL	001	W	05L0555	09/22/05	09/26/05	09/26/05
CALCIUM, TOTAL	001 REP	W	05L0555	09/22/05	09/26/05	09/26/05
CADMIUM, TOTAL	001	W	05L0555	09/22/05	09/26/05	09/26/05
CADMIUM, TOTAL	001 REP	W	05L0555	09/22/05	09/26/05	09/26/05
COBALT, TOTAL	001	W	05L0555	09/22/05	09/26/05	09/26/05
COBALT, TOTAL	001 REP	W	05L0555	09/22/05	09/26/05	09/26/05
CHROMIUM, TOTAL	001	W	05L0555	09/22/05	09/26/05	09/26/05
CHROMIUM, TOTAL	001 REP	W	05L0555	09/22/05	09/26/05	09/26/05
COPPER, TOTAL	001	W	05L0555	09/22/05	09/26/05	09/26/05
COPPER, TOTAL	001 REP	W	05L0555	09/22/05	09/26/05	09/26/05
IRON, TOTAL	001	W	05L0555	09/22/05	09/26/05	09/26/05
IRON, TOTAL	001 REP	W	05L0555	09/22/05	09/26/05	09/26/05
POTASSIUM, TOTAL	001	W	05L0555	09/22/05	09/26/05	09/26/05
POTASSIUM, TOTAL	001 REP	W	05L0555	09/22/05	09/26/05	09/26/05
MAGNESIUM, TOTAL	001	W	05L0555	09/22/05	09/26/05	09/26/05
MAGNESIUM, TOTAL	001 REP	W	05L0555	09/22/05	09/26/05	09/26/05
MANGANESE, TOTAL	001	W	05L0555	09/22/05	09/26/05	09/26/05
MANGANESE, TOTAL	001 REP	W	05L0555	09/22/05	09/26/05	09/26/05
SODIUM, TOTAL	001	W	05L0555	09/22/05	09/26/05	09/26/05
SODIUM, TOTAL	001 REP	W	05L0555	09/22/05	09/26/05	09/26/05
NICKEL, TOTAL	001	W	05L0555	09/22/05	09/26/05	09/26/05
NICKEL, TOTAL	001 REP	W	05L0555	09/22/05	09/26/05	09/26/05
ANTIMONY, TOTAL	001	W	05L0555	09/22/05	09/26/05	09/26/05
ANTIMONY, TOTAL	001 REP	W	05L0555	09/22/05	09/26/05	09/26/05
VANADIUM, TOTAL	001	W	05L0555	09/22/05	09/26/05	09/26/05
VANADIUM, TOTAL	001 REP	W	05L0555	09/22/05	09/26/05	09/26/05
ZINC, TOTAL	001	W	05L0555	09/22/05	09/26/05	09/26/05

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B03-018 K0025

DATE RECEIVED: 09/23/05

LVL LOT # :0509L377

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
ZINC, TOTAL	001 REP	W	05L0555	09/22/05	09/26/05	09/26/05
B1DMX1						
SILVER, SOLUBLE	002	W	05L0555	09/22/05	09/26/05	09/26/05
SILVER, SOLUBLE	002 MS	W	05L0555	09/22/05	09/26/05	09/26/05
ALUMINUM, SOLUBLE	002	W	05L0555	09/22/05	09/26/05	09/26/05
ALUMINUM, SOLUBLE	002 MS	W	05L0555	09/22/05	09/26/05	09/26/05
BARIUM, SOLUBLE	002	W	05L0555	09/22/05	09/26/05	09/26/05
BARIUM, SOLUBLE	002 MS	W	05L0555	09/22/05	09/26/05	09/26/05
BERYLLIUM, SOLUBLE	002	W	05L0555	09/22/05	09/26/05	09/26/05
BERYLLIUM, SOLUBLE	002 MS	W	05L0555	09/22/05	09/26/05	09/26/05
CALCIUM, SOLUBLE	002	W	05L0555	09/22/05	09/26/05	09/26/05
CALCIUM, SOLUBLE	002 MS	W	05L0555	09/22/05	09/26/05	09/26/05
CADMIUM, SOLUBLE	002	W	05L0555	09/22/05	09/26/05	09/26/05
CADMIUM, SOLUBLE	002 MS	W	05L0555	09/22/05	09/26/05	09/26/05
COBALT, SOLUBLE	002	W	05L0555	09/22/05	09/26/05	09/26/05
COBALT, SOLUBLE	002 MS	W	05L0555	09/22/05	09/26/05	09/26/05
CHROMIUM, SOLUBLE	002	W	05L0555	09/22/05	09/26/05	09/26/05
CHROMIUM, SOLUBLE	002 MS	W	05L0555	09/22/05	09/26/05	09/26/05
COPPER, SOLUBLE	002	W	05L0555	09/22/05	09/26/05	09/26/05
COPPER, SOLUBLE	002 MS	W	05L0555	09/22/05	09/26/05	09/26/05
IRON, SOLUBLE	002	W	05L0555	09/22/05	09/26/05	09/26/05
IRON, SOLUBLE	002 MS	W	05L0555	09/22/05	09/26/05	09/26/05
POTASSIUM, SOLUBLE	002	W	05L0555	09/22/05	09/26/05	09/26/05
POTASSIUM, SOLUBLE	002 MS	W	05L0555	09/22/05	09/26/05	09/26/05
MAGNESIUM, SOLUBLE	002	W	05L0555	09/22/05	09/26/05	09/26/05
MAGNESIUM, SOLUBLE	002 MS	W	05L0555	09/22/05	09/26/05	09/26/05
MANGANESE, SOLUBLE	002	W	05L0555	09/22/05	09/26/05	09/26/05
MANGANESE, SOLUBLE	002 MS	W	05L0555	09/22/05	09/26/05	09/26/05
SODIUM, SOLUBLE	002	W	05L0555	09/22/05	09/26/05	09/26/05
SODIUM, SOLUBLE	002 MS	W	05L0555	09/22/05	09/26/05	09/26/05
NICKEL, SOLUBLE	002	W	05L0555	09/22/05	09/26/05	09/26/05
NICKEL, SOLUBLE	002 MS	W	05L0555	09/22/05	09/26/05	09/26/05
ANTIMONY, SOLUBLE	002	W	05L0555	09/22/05	09/26/05	09/26/05
ANTIMONY, SOLUBLE	002 MS	W	05L0555	09/22/05	09/26/05	09/26/05
VANADIUM, SOLUBLE	002	W	05L0555	09/22/05	09/26/05	09/26/05
VANADIUM, SOLUBLE	002 MS	W	05L0555	09/22/05	09/26/05	09/26/05

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B03-018 K0025

DATE RECEIVED: 09/23/05 LVL LOT # :0509L377

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
ZINC, SOLUBLE	002	W	05L0555	09/22/05	09/26/05	09/26/05
ZINC, SOLUBLE	002 MS	W	05L0555	09/22/05	09/26/05	09/26/05
B1DMW6						
SILVER, TOTAL	003	W	05L0555	09/22/05	09/26/05	09/26/05
ALUMINUM, TOTAL	003	W	05L0555	09/22/05	09/26/05	09/26/05
BARIUM, TOTAL	003	W	05L0555	09/22/05	09/26/05	09/26/05
BERYLLIUM, TOTAL	003	W	05L0555	09/22/05	09/26/05	09/26/05
CALCIUM, TOTAL	003	W	05L0555	09/22/05	09/26/05	09/26/05
CADMIUM, TOTAL	003	W	05L0555	09/22/05	09/26/05	09/26/05
COBALT, TOTAL	003	W	05L0555	09/22/05	09/26/05	09/26/05
CHROMIUM, TOTAL	003	W	05L0555	09/22/05	09/26/05	09/26/05
COPPER, TOTAL	003	W	05L0555	09/22/05	09/26/05	09/26/05
IRON, TOTAL	003	W	05L0555	09/22/05	09/26/05	09/26/05
POTASSIUM, TOTAL	003	W	05L0555	09/22/05	09/26/05	09/26/05
MAGNESIUM, TOTAL	003	W	05L0555	09/22/05	09/26/05	09/26/05
MANGANESE, TOTAL	003	W	05L0555	09/22/05	09/26/05	09/26/05
SODIUM, TOTAL	003	W	05L0555	09/22/05	09/26/05	09/26/05
NICKEL, TOTAL	003	W	05L0555	09/22/05	09/26/05	09/26/05
ANTIMONY, TOTAL	003	W	05L0555	09/22/05	09/26/05	09/26/05
VANADIUM, TOTAL	003	W	05L0555	09/22/05	09/26/05	09/26/05
ZINC, TOTAL	003	W	05L0555	09/22/05	09/26/05	09/26/05
B1DMX2						
SILVER, SOLUBLE	004	W	05L0555	09/22/05	09/26/05	09/26/05
ALUMINUM, SOLUBLE	004	W	05L0555	09/22/05	09/26/05	09/26/05
BARIUM, SOLUBLE	004	W	05L0555	09/22/05	09/26/05	09/26/05
BERYLLIUM, SOLUBLE	004	W	05L0555	09/22/05	09/26/05	09/26/05
CALCIUM, SOLUBLE	004	W	05L0555	09/22/05	09/26/05	09/26/05
CADMIUM, SOLUBLE	004	W	05L0555	09/22/05	09/26/05	09/26/05
COBALT, SOLUBLE	004	W	05L0555	09/22/05	09/26/05	09/26/05
CHROMIUM, SOLUBLE	004	W	05L0555	09/22/05	09/26/05	09/26/05
COPPER, SOLUBLE	004	W	05L0555	09/22/05	09/26/05	09/26/05
IRON, SOLUBLE	004	W	05L0555	09/22/05	09/26/05	09/26/05
POTASSIUM, SOLUBLE	004	W	05L0555	09/22/05	09/26/05	09/26/05
MAGNESIUM, SOLUBLE	004	W	05L0555	09/22/05	09/26/05	09/26/05

Lionville Laboratory, Inc.
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TNUHANFORD B03-018 K0025

DATE RECEIVED: 09/23/05 LVL LOT # :0509L377

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
MANGANESE, SOLUBLE	004	W	05L0555	09/22/05	09/26/05	09/26/05
SODIUM, SOLUBLE	004	W	05L0555	09/22/05	09/26/05	09/26/05
NICKEL, SOLUBLE	004	W	05L0555	09/22/05	09/26/05	09/26/05
ANTIMONY, SOLUBLE	004	W	05L0555	09/22/05	09/26/05	09/26/05
VANADIUM, SOLUBLE	004	W	05L0555	09/22/05	09/26/05	09/26/05
ZINC, SOLUBLE	004	W	05L0555	09/22/05	09/26/05	09/26/05
B1DMW7						
SILVER, TOTAL	005	W	05L0555	09/22/05	09/26/05	09/26/05
ALUMINUM, TOTAL	005	W	05L0555	09/22/05	09/26/05	09/26/05
BARIUM, TOTAL	005	W	05L0555	09/22/05	09/26/05	09/26/05
BERYLLIUM, TOTAL	005	W	05L0555	09/22/05	09/26/05	09/26/05
CALCIUM, TOTAL	005	W	05L0555	09/22/05	09/26/05	09/26/05
CADMIUM, TOTAL	005	W	05L0555	09/22/05	09/26/05	09/26/05
COBALT, TOTAL	005	W	05L0555	09/22/05	09/26/05	09/26/05
CHROMIUM, TOTAL	005	W	05L0555	09/22/05	09/26/05	09/26/05
COPPER, TOTAL	005	W	05L0555	09/22/05	09/26/05	09/26/05
IRON, TOTAL	005	W	05L0555	09/22/05	09/26/05	09/26/05
POTASSIUM, TOTAL	005	W	05L0555	09/22/05	09/26/05	09/26/05
MAGNESIUM, TOTAL	005	W	05L0555	09/22/05	09/26/05	09/26/05
MANGANESE, TOTAL	005	W	05L0555	09/22/05	09/26/05	09/26/05
SODIUM, TOTAL	005	W	05L0555	09/22/05	09/26/05	09/26/05
NICKEL, TOTAL	005	W	05L0555	09/22/05	09/26/05	09/26/05
ANTIMONY, TOTAL	005	W	05L0555	09/22/05	09/26/05	09/26/05
VANADIUM, TOTAL	005	W	05L0555	09/22/05	09/26/05	09/26/05
ZINC, TOTAL	005	W	05L0555	09/22/05	09/26/05	09/26/05
B1DMX3						
SILVER, SOLUBLE	006	W	05L0555	09/22/05	09/26/05	09/26/05
ALUMINUM, SOLUBLE	006	W	05L0555	09/22/05	09/26/05	09/26/05
BARIUM, SOLUBLE	006	W	05L0555	09/22/05	09/26/05	09/26/05
BERYLLIUM, SOLUBLE	006	W	05L0555	09/22/05	09/26/05	09/26/05
CALCIUM, SOLUBLE	006	W	05L0555	09/22/05	09/26/05	09/26/05
CADMIUM, SOLUBLE	006	W	05L0555	09/22/05	09/26/05	09/26/05
COBALT, SOLUBLE	006	W	05L0555	09/22/05	09/26/05	09/26/05
CHROMIUM, SOLUBLE	006	W	05L0555	09/22/05	09/26/05	09/26/05

Lionville Laboratory, Inc.
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TNUHANFORD B03-018 K0025

DATE RECEIVED: 09/23/05 LVL LOT # :0509L377

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
COPPER, SOLUBLE	006	W	05L0555	09/22/05	09/26/05	09/26/05
IRON, SOLUBLE	006	W	05L0555	09/22/05	09/26/05	09/26/05
POTASSIUM, SOLUBLE	006	W	05L0555	09/22/05	09/26/05	09/26/05
MAGNESIUM, SOLUBLE	006	W	05L0555	09/22/05	09/26/05	09/26/05
MANGANESE, SOLUBLE	006	W	05L0555	09/22/05	09/26/05	09/26/05
SODIUM, SOLUBLE	006	W	05L0555	09/22/05	09/26/05	09/26/05
NICKEL, SOLUBLE	006	W	05L0555	09/22/05	09/26/05	09/26/05
ANTIMONY, SOLUBLE	006	W	05L0555	09/22/05	09/26/05	09/26/05
VANADIUM, SOLUBLE	006	W	05L0555	09/22/05	09/26/05	09/26/05
ZINC, SOLUBLE	006	W	05L0555	09/22/05	09/26/05	09/26/05
B1DMW8						
SILVER, TOTAL	007	W	05L0555	09/22/05	09/26/05	09/26/05
ALUMINUM, TOTAL	007	W	05L0555	09/22/05	09/26/05	09/26/05
BARIUM, TOTAL	007	W	05L0555	09/22/05	09/26/05	09/26/05
BERYLLIUM, TOTAL	007	W	05L0555	09/22/05	09/26/05	09/26/05
CALCIUM, TOTAL	007	W	05L0555	09/22/05	09/26/05	09/26/05
CADMIUM, TOTAL	007	W	05L0555	09/22/05	09/26/05	09/26/05
COBALT, TOTAL	007	W	05L0555	09/22/05	09/26/05	09/26/05
CHROMIUM, TOTAL	007	W	05L0555	09/22/05	09/26/05	09/26/05
COPPER, TOTAL	007	W	05L0555	09/22/05	09/26/05	09/26/05
IRON, TOTAL	007	W	05L0555	09/22/05	09/26/05	09/26/05
POTASSIUM, TOTAL	007	W	05L0555	09/22/05	09/26/05	09/26/05
MAGNESIUM, TOTAL	007	W	05L0555	09/22/05	09/26/05	09/26/05
MANGANESE, TOTAL	007	W	05L0555	09/22/05	09/26/05	09/26/05
SODIUM, TOTAL	007	W	05L0555	09/22/05	09/26/05	09/26/05
NICKEL, TOTAL	007	W	05L0555	09/22/05	09/26/05	09/26/05
ANTIMONY, TOTAL	007	W	05L0555	09/22/05	09/26/05	09/26/05
VANADIUM, TOTAL	007	W	05L0555	09/22/05	09/26/05	09/26/05
ZINC, TOTAL	007	W	05L0555	09/22/05	09/26/05	09/26/05
B1DMX4						
SILVER, SOLUBLE	008	W	05L0555	09/22/05	09/26/05	09/26/05
ALUMINUM, SOLUBLE	008	W	05L0555	09/22/05	09/26/05	09/26/05
BARIUM, SOLUBLE	008	W	05L0555	09/22/05	09/26/05	09/26/05
BERYLLIUM, SOLUBLE	008	W	05L0555	09/22/05	09/26/05	09/26/05

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B03-018 K0025

DATE RECEIVED: 09/23/05 LVL LOT # :0509L377

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
CALCIUM, SOLUBLE	008	W	05L0555	09/22/05	09/26/05	09/26/05
CADMIUM, SOLUBLE	008	W	05L0555	09/22/05	09/26/05	09/26/05
COBALT, SOLUBLE	008	W	05L0555	09/22/05	09/26/05	09/26/05
CHROMIUM, SOLUBLE	008	W	05L0555	09/22/05	09/26/05	09/26/05
COPPER, SOLUBLE	008	W	05L0555	09/22/05	09/26/05	09/26/05
IRON, SOLUBLE	008	W	05L0555	09/22/05	09/26/05	09/26/05
POTASSIUM, SOLUBLE	008	W	05L0555	09/22/05	09/26/05	09/26/05
MAGNESIUM, SOLUBLE	008	W	05L0555	09/22/05	09/26/05	09/26/05
MANGANESE, SOLUBLE	008	W	05L0555	09/22/05	09/26/05	09/26/05
SODIUM, SOLUBLE	008	W	05L0555	09/22/05	09/26/05	09/26/05
NICKEL, SOLUBLE	008	W	05L0555	09/22/05	09/26/05	09/26/05
ANTIMONY, SOLUBLE	008	W	05L0555	09/22/05	09/26/05	09/26/05
VANADIUM, SOLUBLE	008	W	05L0555	09/22/05	09/26/05	09/26/05
ZINC, SOLUBLE	008	W	05L0555	09/22/05	09/26/05	09/26/05
B1DMW9						
SILVER, TOTAL	009	W	05L0555	09/22/05	09/26/05	09/26/05
ALUMINUM, TOTAL	009	W	05L0555	09/22/05	09/26/05	09/26/05
BARIUM, TOTAL	009	W	05L0555	09/22/05	09/26/05	09/26/05
BERYLLIUM, TOTAL	009	W	05L0555	09/22/05	09/26/05	09/26/05
CALCIUM, TOTAL	009	W	05L0555	09/22/05	09/26/05	09/26/05
CADMIUM, TOTAL	009	W	05L0555	09/22/05	09/26/05	09/26/05
COBALT, TOTAL	009	W	05L0555	09/22/05	09/26/05	09/26/05
CHROMIUM, TOTAL	009	W	05L0555	09/22/05	09/26/05	09/26/05
COPPER, TOTAL	009	W	05L0555	09/22/05	09/26/05	09/26/05
IRON, TOTAL	009	W	05L0555	09/22/05	09/26/05	09/26/05
POTASSIUM, TOTAL	009	W	05L0555	09/22/05	09/26/05	09/26/05
MAGNESIUM, TOTAL	009	W	05L0555	09/22/05	09/26/05	09/26/05
MANGANESE, TOTAL	009	W	05L0555	09/22/05	09/26/05	09/26/05
SODIUM, TOTAL	009	W	05L0555	09/22/05	09/26/05	09/26/05
NICKEL, TOTAL	009	W	05L0555	09/22/05	09/26/05	09/26/05
ANTIMONY, TOTAL	009	W	05L0555	09/22/05	09/26/05	09/26/05
VANADIUM, TOTAL	009	W	05L0555	09/22/05	09/26/05	09/26/05
ZINC, TOTAL	009	W	05L0555	09/22/05	09/26/05	09/26/05
B1DMX5						
SILVER, SOLUBLE	010	W	05L0555	09/22/05	09/26/05	09/26/05

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B03-018 K0025

DATE RECEIVED: 09/23/05 LVL LOT # :0509L377

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
ALUMINUM, SOLUBLE	010	W	05L0555	09/22/05	09/26/05	09/26/05
BARIUM, SOLUBLE	010	W	05L0555	09/22/05	09/26/05	09/26/05
BERYLLIUM, SOLUBLE	010	W	05L0555	09/22/05	09/26/05	09/26/05
CALCIUM, SOLUBLE	010	W	05L0555	09/22/05	09/26/05	09/26/05
CADMIUM, SOLUBLE	010	W	05L0555	09/22/05	09/26/05	09/26/05
COBALT, SOLUBLE	010	W	05L0555	09/22/05	09/26/05	09/26/05
CHROMIUM, SOLUBLE	010	W	05L0555	09/22/05	09/26/05	09/26/05
COPPER, SOLUBLE	010	W	05L0555	09/22/05	09/26/05	09/26/05
IRON, SOLUBLE	010	W	05L0555	09/22/05	09/26/05	09/26/05
POTASSIUM, SOLUBLE	010	W	05L0555	09/22/05	09/26/05	09/26/05
MAGNESIUM, SOLUBLE	010	W	05L0555	09/22/05	09/26/05	09/26/05
MANGANESE, SOLUBLE	010	W	05L0555	09/22/05	09/26/05	09/26/05
SODIUM, SOLUBLE	010	W	05L0555	09/22/05	09/26/05	09/26/05
NICKEL, SOLUBLE	010	W	05L0555	09/22/05	09/26/05	09/26/05
ANTIMONY, SOLUBLE	010	W	05L0555	09/22/05	09/26/05	09/26/05
VANADIUM, SOLUBLE	010	W	05L0555	09/22/05	09/26/05	09/26/05
ZINC, SOLUBLE	010	W	05L0555	09/22/05	09/26/05	09/26/05

LAB QC:

SILVER LABORATORY	LC1 BS	W	05L0555	N/A	09/26/05	09/26/05
SILVER, TOTAL	MB1	W	05L0555	N/A	09/26/05	09/26/05
ALUMINUM LABORTORY	LC1 BS	W	05L0555	N/A	09/26/05	09/26/05
ALUMINUM, TOTAL	MB1	W	05L0555	N/A	09/26/05	09/26/05
BARIUM LABORATORY	LC1 BS	W	05L0555	N/A	09/26/05	09/26/05
BARIUM, TOTAL	MB1	W	05L0555	N/A	09/26/05	09/26/05
BERYLLIUM LABORATORY	LC1 BS	W	05L0555	N/A	09/26/05	09/26/05
BERYLLIUM, TOTAL	MB1	W	05L0555	N/A	09/26/05	09/26/05
CALCIUM LABORATORY	LC1 BS	W	05L0555	N/A	09/26/05	09/26/05
CALCIUM, TOTAL	MB1	W	05L0555	N/A	09/26/05	09/26/05
CADMIUM LABORATORY	LC1 BS	W	05L0555	N/A	09/26/05	09/26/05
CADMIUM, TOTAL	MB1	W	05L0555	N/A	09/26/05	09/26/05
COBALT LABORATORY	LC1 BS	W	05L0555	N/A	09/26/05	09/26/05
COBALT, TOTAL	MB1	W	05L0555	N/A	09/26/05	09/26/05
CHROMIUM LABORATORY	LC1 BS	W	05L0555	N/A	09/26/05	09/26/05
CHROMIUM, TOTAL	MB1	W	05L0555	N/A	09/26/05	09/26/05
COPPER LABORATORY	LC1 BS	W	05L0555	N/A	09/26/05	09/26/05
COPPER, TOTAL	MB1	W	05L0555	N/A	09/26/05	09/26/05

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B03-018 K0025

DATE RECEIVED: 09/23/05 LVL LOT # :0509L377

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
IRON LABORATORY	LC1 BS	W	05L0555	N/A	09/26/05	09/26/05
IRON, TOTAL	MB1	W	05L0555	N/A	09/26/05	09/26/05
POTASSIUM LABORATORY	LC1 BS	W	05L0555	N/A	09/26/05	09/26/05
POTASSIUM, TOTAL	MB1	W	05L0555	N/A	09/26/05	09/26/05
MAGNESIUM LABORATORY	LC1 BS	W	05L0555	N/A	09/26/05	09/26/05
MAGNESIUM, TOTAL	MB1	W	05L0555	N/A	09/26/05	09/26/05
MANGANESE LABORATORY	LC1 BS	W	05L0555	N/A	09/26/05	09/26/05
MANGANESE, TOTAL	MB1	W	05L0555	N/A	09/26/05	09/26/05
SODIUM LABORATORY	LC1 BS	W	05L0555	N/A	09/26/05	09/26/05
SODIUM, TOTAL	MB1	W	05L0555	N/A	09/26/05	09/26/05
NICKEL LABORATORY	LC1 BS	W	05L0555	N/A	09/26/05	09/26/05
NICKEL, TOTAL	MB1	W	05L0555	N/A	09/26/05	09/26/05
ANTIMONY LABORATORY	LC1 BS	W	05L0555	N/A	09/26/05	09/26/05
ANTIMONY, TOTAL	MB1	W	05L0555	N/A	09/26/05	09/26/05
VANADIUM LABORATORY	LC1 BS	W	05L0555	N/A	09/26/05	09/26/05
VANADIUM, TOTAL	MB1	W	05L0555	N/A	09/26/05	09/26/05
ZINC LABORATORY	LC1 BS	W	05L0555	N/A	09/26/05	09/26/05
ZINC, TOTAL	MB1	W	05L0555	N/A	09/26/05	09/26/05

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD B03-018
LVL#: 0509L377
SDG/SAF#: K0025/B03-018

W.O.#: 11343-606-001-9999-00
Date Received: 09-23-05

METALS CASE NARRATIVE

1. This narrative covers the analyses of 10 water samples.

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

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

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

5. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within the 90-110% control limits.

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

7. The preparation/method blanks for 2 analytes were outside method criteria. {less than the Practical Quantitation Limit (3X the IDL), or samples greater than 20X MB value}. Refer to the Inorganics Method Blank Data Summary.

   a). The MB results for Aluminum and Sodium were greater than the Practical Quantitation Limit (PQL) {3 x the (IDL) Instrument Detection Level} and some 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.

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

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

10. All matrix spike (MS) recoveries were within the 75-125% control limits. Refer to the Inorganics Accuracy Report.

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 30 pages.

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11. The duplicate analyses for 5 analytes were outside the 20% Relative Percent Difference (RPD) control limits. Refer to the Inorganics Precision Report. The replicate analysis was redigeseted for Aluminum, Chromium, Iron, and Manganese, however, the redigestion showed even more disparity than that found in the original digestion.

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

13. LvLI is NELAP accredited by the state of Pennsylvania and holds over 20 additional state accreditations. 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

10/11/05
Date

jjw/m09-377

LVLI
LIONVILLE LABORATORY INC.

METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within th
Lot#: 0509L377

Leaching Procedure: __1310 __1311 __1312 __Other:_____

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

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

Metals Analysis Methods

	SW846		EPA		STD MTD	EPA OSWR	USATHAMA
Aluminum	X6010B		__200.7				__99
Antimony	X6010B	__7041 [5]	__200.7	__204.2			__99
Arsenic	__6010B	__7060A [5]	__200.7	__206.2	__3113B		__99
Barium	X6010B		__200.7				__99
Beryllium	X6010B		__200.7				__99
Bismuth	__6010B [1]		__200.7 [1]			__1620	__99
Boron	__6010B		__200.7				__99
Cadmium	X6010B	__7131A [5]	__200.7	__213.2			__99
Calcium	X6010B		__200.7				__99
Chromium	X6010B	__7191 [5]	__200.7	__218.2			__SS17
Cobalt	X6010B		__200.7				__99
Copper	X6010B	__7211 [5]	__200.7	__220.2			__99
Iron	X6010B		__200.7				__99
Lead	__6010B	__7421 [5]	__200.7	__239.2	__3113B		__99
Lithium	__6010B	__7430 [4]	__200.7			__1620	__99
Magnesium	X6010B		__200.7				__99
Manganese	X6010B		__200.7				__99
Mercury	__7470A [3]	__7471A [3]	__245.1 [2]	__245.5 [2]			__99
Molybdenum	__6010B		__200.7				__99
Nickel	X6010B		__200.7				__99
Potassium	X6010B	__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	X6010B	__7761 [5]	__200.7	__272.2			__99
Sodium	X6010B	__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	X6010B		__200.7				__99
Zinc	X6010B		__200.7				__99
Zirconium	__6010B [1]		__200.7 [1]			__1620	__99

Other: _____ Method: _____

METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

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

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

ABBREVIATIONS

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

ANALYTICAL METAL METHODS

1. Not included in the method element list.

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

3. Flame AA.

4. Graphite Furnace AA.

L-WI-033/N-04/98

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 10/05/05

CLIENT: TNUHANFORD B03-018 K0025 LVL LOT #: 0509L377

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	B1DMW5	Silver, Total	4.6	u	UG/L	4.6	1.0
		Aluminum, Total	311		UG/L	19.2	1.0
		Barium, Total	59.1		UG/L	3.2	1.0
		Beryllium, Total	0.20	u	UG/L	0.20	1.0
		Calcium, Total	45600		UG/L	17.8	1.0
		Cadmium, Total	2.9	u	UG/L	2.9	1.0
		Cobalt, Total	4.5	u	UG/L	4.5	1.0
		Chromium, Total	5.6		UG/L	3.6	1.0
		Copper, Total	2.2		UG/L	1.8	1.0
		Iron, Total	760		UG/L	11.3	1.0
		Potassium, Total	4990		UG/L	340	1.0
		Magnesium, Total	14300		UG/L	37.7	1.0
		Manganese, Total	31.1		UG/L	5.4	1.0
		Sodium, Total	20000		UG/L	17.4	1.0
		Nickel, Total	13.9		UG/L	10.7	1.0
		Antimony, Total	26.1	u	UG/L	26.1	1.0
		Vanadium, Total	24.4		UG/L	3.7	1.0
		Zinc, Total	571		UG/L	1.1	1.0
-002	B1DMX1	Silver, Soluble	4.6	u	UG/L	4.6	1.0
		Aluminum, Soluble	68.4		UG/L	19.2	1.0
		Barium, Soluble	48.4		UG/L	3.2	1.0
		Beryllium, Soluble	0.20	u	UG/L	0.20	1.0
		Calcium, Soluble	42400		UG/L	17.8	1.0
		Cadmium, Soluble	2.9	u	UG/L	2.9	1.0
		Cobalt, Soluble	4.5	u	UG/L	4.5	1.0
		Chromium, Soluble	3.6	u	UG/L	3.6	1.0
		Copper, Soluble	2.7		UG/L	1.8	1.0
		Iron, Soluble	31.5		UG/L	11.3	1.0
		Potassium, Soluble	4950		UG/L	340	1.0
		Magnesium, Soluble	13300		UG/L	37.7	1.0
		Manganese, Soluble	5.4	u	UG/L	5.4	1.0
		Sodium, Soluble	18400		UG/L	17.4	1.0
		Nickel, Soluble	10.7	u	UG/L	10.7	1.0
		Antimony, Soluble	26.1	u	UG/L	26.1	1.0
		Vanadium, Soluble	21.5		UG/L	3.7	1.0
		Zinc, Soluble	266		UG/L	1.1	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 10/05/05

CLIENT: TNUHANFORD B03-018 K0025 LVL LOT #: 0509L377

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-003	B1DMW6	Silver, Total	4.6	u	UG/L	4.6	1.0
		Aluminum, Total	19.2	u	UG/L	19.2	1.0
		Barium, Total	3.2	u	UG/L	3.2	1.0
		Beryllium, Total	0.20	u	UG/L	0.20	1.0
		Calcium, Total	32.4		UG/L	17.8	1.0
		Cadmium, Total	2.9	u	UG/L	2.9	1.0
		Cobalt, Total	4.5	u	UG/L	4.5	1.0
		Chromium, Total	3.6	u	UG/L	3.6	1.0
		Copper, Total	1.8	u	UG/L	1.8	1.0
		Iron, Total	11.3	u	UG/L	11.3	1.0
		Potassium, Total	340	u	UG/L	340	1.0
		Magnesium, Total	37.7	u	UG/L	37.7	1.0
		Manganese, Total	5.4	u	UG/L	5.4	1.0
		Sodium, Total	27.0		UG/L	17.4	1.0
		Nickel, Total	13.4		UG/L	10.7	1.0
		Antimony, Total	26.1	u	UG/L	26.1	1.0
		Vanadium, Total	3.7	u	UG/L	3.7	1.0
		Zinc, Total	1.4		UG/L	1.1	1.0
-004	B1DMX2	Silver, Soluble	4.6	u	UG/L	4.6	1.0
		Aluminum, Soluble	19.2	u	UG/L	19.2	1.0
		Barium, Soluble	3.2	u	UG/L	3.2	1.0
		Beryllium, Soluble	0.20	u	UG/L	0.20	1.0
		Calcium, Soluble	28.2		UG/L	17.8	1.0
		Cadmium, Soluble	2.9	u	UG/L	2.9	1.0
		Cobalt, Soluble	4.5	u	UG/L	4.5	1.0
		Chromium, Soluble	4.3		UG/L	3.6	1.0
		Copper, Soluble	1.8	u	UG/L	1.8	1.0
		Iron, Soluble	11.3	u	UG/L	11.3	1.0
		Potassium, Soluble	340	u	UG/L	340	1.0
		Magnesium, Soluble	37.7	u	UG/L	37.7	1.0
		Manganese, Soluble	5.4	u	UG/L	5.4	1.0
		Sodium, Soluble	59.7		UG/L	17.4	1.0
		Nickel, Soluble	10.7	u	UG/L	10.7	1.0
		Antimony, Soluble	26.1	u	UG/L	26.1	1.0
		Vanadium, Soluble	3.7	u	UG/L	3.7	1.0
		Zinc, Soluble	1.1	u	UG/L	1.1	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 10/05/05

CLIENT: TNUHANFORD B03-018 K0025 LVL LOT #: 0509L377

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-005	B1DMW7	Silver, Total	4.6	u	UG/L	4.6	1.0
		Aluminum, Total	24.2		UG/L	19.2	1.0
		Barium, Total	60.5		UG/L	3.2	1.0
		Beryllium, Total	0.20	u	UG/L	0.20	1.0
		Calcium, Total	49300		UG/L	17.8	1.0
		Cadmium, Total	2.9	u	UG/L	2.9	1.0
		Cobalt, Total	4.5	u	UG/L	4.5	1.0
		Chromium, Total	9.5		UG/L	3.6	1.0
		Copper, Total	1.8	u	UG/L	1.8	1.0
		Iron, Total	78.8		UG/L	11.3	1.0
		Potassium, Total	5220		UG/L	340	1.0
		Magnesium, Total	15800		UG/L	37.7	1.0
		Manganese, Total	5.4	u	UG/L	5.4	1.0
		Sodium, Total	18300		UG/L	17.4	1.0
		Nickel, Total	10.7	u	UG/L	10.7	1.0
		Antimony, Total	26.1	u	UG/L	26.1	1.0
		Vanadium, Total	27.9		UG/L	3.7	1.0
		Zinc, Total	7.3		UG/L	1.1	1.0
-006	B1DMX3	Silver, Soluble	4.6	u	UG/L	4.6	1.0
		Aluminum, Soluble	25.2		UG/L	19.2	1.0
		Barium, Soluble	54.5		UG/L	3.2	1.0
		Beryllium, Soluble	0.20	u	UG/L	0.20	1.0
		Calcium, Soluble	44900		UG/L	17.8	1.0
		Cadmium, Soluble	2.9	u	UG/L	2.9	1.0
		Cobalt, Soluble	4.5	u	UG/L	4.5	1.0
		Chromium, Soluble	3.6	u	UG/L	3.6	1.0
		Copper, Soluble	2.0		UG/L	1.8	1.0
		Iron, Soluble	33.8		UG/L	11.3	1.0
		Potassium, Soluble	4750		UG/L	340	1.0
		Magnesium, Soluble	14400		UG/L	37.7	1.0
		Manganese, Soluble	5.4	u	UG/L	5.4	1.0
		Sodium, Soluble	16600		UG/L	17.4	1.0
		Nickel, Soluble	10.7	u	UG/L	10.7	1.0
		Antimony, Soluble	26.1	u	UG/L	26.1	1.0
		Vanadium, Soluble	24.9		UG/L	3.7	1.0
		Zinc, Soluble	8.5		UG/L	1.1	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 10/05/05

CLIENT: TNUHANFORD B03-018 K0025 LVL LOT #: 0509L377

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-007	B1DMW8	Silver, Total	4.6	u	UG/L	4.6	1.0
		Aluminum, Total	42.8		UG/L	19.2	1.0
		Barium, Total	65.8		UG/L	3.2	1.0
		Beryllium, Total	0.20	u	UG/L	0.20	1.0
		Calcium, Total	59000		UG/L	17.8	1.0
		Cadmium, Total	2.9	u	UG/L	2.9	1.0
		Cobalt, Total	4.5	u	UG/L	4.5	1.0
		Chromium, Total	12.8		UG/L	3.6	1.0
		Copper, Total	2.7		UG/L	1.8	1.0
		Iron, Total	219		UG/L	11.3	1.0
		Potassium, Total	6060		UG/L	340	1.0
		Magnesium, Total	19000		UG/L	37.7	1.0
		Manganese, Total	5.4	u	UG/L	5.4	1.0
		Sodium, Total	19600		UG/L	17.4	1.0
		Nickel, Total	18.7		UG/L	10.7	1.0
		Antimony, Total	26.1	u	UG/L	26.1	1.0
		Vanadium, Total	25.3		UG/L	3.7	1.0
		Zinc, Total	33.2		UG/L	1.1	1.0
-008	B1DMX4	Silver, Soluble	4.6	u	UG/L	4.6	1.0
		Aluminum, Soluble	25.6		UG/L	19.2	1.0
		Barium, Soluble	65.4		UG/L	3.2	1.0
		Beryllium, Soluble	0.20	u	UG/L	0.20	1.0
		Calcium, Soluble	58700		UG/L	17.8	1.0
		Cadmium, Soluble	2.9	u	UG/L	2.9	1.0
		Cobalt, Soluble	4.5	u	UG/L	4.5	1.0
		Chromium, Soluble	3.6	u	UG/L	3.6	1.0
		Copper, Soluble	1.8	u	UG/L	1.8	1.0
		Iron, Soluble	20.3		UG/L	11.3	1.0
		Potassium, Soluble	5840		UG/L	340	1.0
		Magnesium, Soluble	19000		UG/L	37.7	1.0
		Manganese, Soluble	5.4	u	UG/L	5.4	1.0
		Sodium, Soluble	19700		UG/L	17.4	1.0
		Nickel, Soluble	14.3		UG/L	10.7	1.0
		Antimony, Soluble	30.0		UG/L	26.1	1.0
		Vanadium, Soluble	27.4		UG/L	3.7	1.0
		Zinc, Soluble	9.1		UG/L	1.1	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 10/05/05

CLIENT: TNUHANFORD B03-018 K0025 LVL LOT #: 0509L377

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-009	B1DMW9	Silver, Total	4.6	u	UG/L	4.6	1.0
		Aluminum, Total	60.2		UG/L	19.2	1.0
		Barium, Total	61.5		UG/L	3.2	1.0
		Beryllium, Total	0.20	u	UG/L	0.20	1.0
		Calcium, Total	55500		UG/L	17.8	1.0
		Cadmium, Total	2.9	u	UG/L	2.9	1.0
		Cobalt, Total	4.5	u	UG/L	4.5	1.0
		Chromium, Total	18.4		UG/L	3.6	1.0
		Copper, Total	1.8	u	UG/L	1.8	1.0
		Iron, Total	213		UG/L	11.3	1.0
		Potassium, Total	5580		UG/L	340	1.0
		Magnesium, Total	17900		UG/L	37.7	1.0
		Manganese, Total	5.4	u	UG/L	5.4	1.0
		Sodium, Total	18600		UG/L	17.4	1.0
		Nickel, Total	10.9		UG/L	10.7	1.0
		Antimony, Total	26.1	u	UG/L	26.1	1.0
		Vanadium, Total	23.9		UG/L	3.7	1.0
		Zinc, Total	29.3		UG/L	1.1	1.0
-010	B1DMX5	Silver, Soluble	4.6	u	UG/L	4.6	1.0
		Aluminum, Soluble	19.2	u	UG/L	19.2	1.0
		Barium, Soluble	63.8		UG/L	3.2	1.0
		Beryllium, Soluble	0.20	u	UG/L	0.20	1.0
		Calcium, Soluble	58800		UG/L	17.8	1.0
		Cadmium, Soluble	2.9	u	UG/L	2.9	1.0
		Cobalt, Soluble	4.5	u	UG/L	4.5	1.0
		Chromium, Soluble	5.4		UG/L	3.6	1.0
		Copper, Soluble	1.8	u	UG/L	1.8	1.0
		Iron, Soluble	35.4		UG/L	11.3	1.0
		Potassium, Soluble	6010		UG/L	340	1.0
		Magnesium, Soluble	19100		UG/L	37.7	1.0
		Manganese, Soluble	5.4	u	UG/L	5.4	1.0
		Sodium, Soluble	19700		UG/L	17.4	1.0
		Nickel, Soluble	10.7	u	UG/L	10.7	1.0
		Antimony, Soluble	26.1	u	UG/L	26.1	1.0
		Vanadium, Soluble	23.4		UG/L	3.7	1.0
		Zinc, Soluble	8.6		UG/L	1.1	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 10/05/05

CLIENT: TNUHANFORD B03-018 K0025 LVL LOT #: 0509L377

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	05L0555-MB1	Silver, Total	4.6	u	UG/L	4.6	1.0
		Aluminum, Total	103		UG/L	19.2	1.0
		Barium, Total	3.2	u	UG/L	3.2	1.0
		Beryllium, Total	0.20	u	UG/L	0.20	1.0
		Calcium, Total	36.2		UG/L	17.8	1.0
		Cadmium, Total	2.9	u	UG/L	2.9	1.0
		Cobalt, Total	4.5	u	UG/L	4.5	1.0
		Chromium, Total	4.3		UG/L	3.6	1.0
		Copper, Total	2.5		UG/L	1.8	1.0
		Iron, Total	16.6		UG/L	11.3	1.0
		Potassium, Total	340	u	UG/L	340	1.0
		Magnesium, Total	37.7	u	UG/L	37.7	1.0
		Manganese, Total	5.4	u	UG/L	5.4	1.0
		Sodium, Total	718		UG/L	17.4	1.0
		Nickel, Total	12.6		UG/L	10.7	1.0
		Antimony, Total	26.1	u	UG/L	26.1	1.0
		Vanadium, Total	3.7	u	UG/L	3.7	1.0
		Zinc, Total	2.0		UG/L	1.1	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 10/05/05

CLIENT: TNUHANFORD B03-018 K0025 LVL LOT #: 0509L377

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-002	B1DMX1	Silver, Soluble	46.4	4.6 u	50.0	92.8	1.0
		Aluminum, Soluble	1890	68.4	2000	91.2	1.0
		Barium, Soluble	1820	48.4	2000	88.4	1.0
		Beryllium, Soluble	43.7	0.20u	50.0	87.4	1.0
		Calcium, Soluble	68100	42400	25000	102.5	1.0
		Cadmium, Soluble	42.3	2.9 u	50.0	84.6	1.0
		Cobalt, Soluble	458	4.5 u	500	91.5	1.0
		Chromium, Soluble	187	3.6 u	200	93.3	1.0
		Copper, Soluble	227	2.7	250	89.6	1.0
		Iron, Soluble	927	31.5	1000	89.6	1.0
		Potassium, Soluble	28100	4950	25000	92.7	1.0
		Magnesium, Soluble	36800	13300	25000	94.1	1.0
		Manganese, Soluble	452	5.4 u	500	90.3	1.0
		Sodium, Soluble	42300	18400	25000	95.7	1.0
		Nickel, Soluble	460	10.7 u	500	91.9	1.0
		Antimony, Soluble	453	26.1 u	500	90.6	1.0
		Vanadium, Soluble	459	21.5	500	87.5	1.0
		Zinc, Soluble	731	266	500	92.9	1.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 10/05/05

CLIENT: TNUHANFORD B03-018 K0025 LVL LOT #: 0509L377

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

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-001REP	B1DMW5	Silver, Total	4.6 u	4.6 u	NC	1.0
		Aluminum, Total	311	1190	117.3	1.0
		Barium, Total	59.1	62.3	5.3	1.0
		Beryllium, Total	0.20u	0.20u	NC	1.0
		Calcium, Total	45600	44200	3.0	1.0
		Cadmium, Total	2.9 u	2.9 u	NC	1.0
		Cobalt, Total	4.5 u	4.5 u	NC	1.0
		Chromium, Total	5.6	16.4	98.2	1.0
		Copper, Total	2.2	5.0	77.8	1.0
		Iron, Total	760	2610	109.9	1.0
		Potassium, Total	4990	5400	7.8	1.0
		Magnesium, Total	14300	14100	1.1	1.0
		Manganese, Total	31.1	53.8	53.6	1.0
		Sodium, Total	20000	19200	3.9	1.0
		Nickel, Total	13.9	15.9	13.4	1.0
		Antimony, Total	26.1 u	26.1 u	NC	1.0
		Vanadium, Total	24.4	27.3	11.2	1.0
		Zinc, Total	571	563	1.4	1.0

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 10/05/05

CLIENT: TNUHANFORD B03-018 K0025

LVL LOT #: 0509L377

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	05L0555-LC1	Silver, LCS	498	500	UG/L	99.7
		Aluminum, LCS	5230	5000	UG/L	104.5
		Barium, LCS	5000	5000	UG/L	99.9
		Beryllium, LCS	239	250	UG/L	95.5
		Calcium, LCS	25100	25000	UG/L	100.6
		Cadmium, LCS	265	250	UG/L	106.1
		Cobalt, LCS	2560	2500	UG/L	102.3
		Chromium, LCS	503	500	UG/L	100.6
		Copper, LCS	1230	1250	UG/L	98.2
		Iron, LCS	4940	5000	UG/L	98.9
		Potassium, LCS	24300	25000	UG/L	97.2
		Magnesium, LCS	24700	25000	UG/L	98.8
		Manganese, LCS	753	750	UG/L	100.5
		Sodium, LCS	24700	25000	UG/L	99.0
		Nickel, LCS	1990	2000	UG/L	99.4
		Antimony, LCS	2870	3000	UG/L	95.6
		Vanadium, LCS	2430	2500	UG/L	97.1
		Zinc, LCS	1020	1000	UG/L	101.6

Lionville Laboratory Use Only

0509L377

Custody Transfer Record/Lab Work Request

Page 1 of 2

VLI

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

See SRC

Client: [illegible]

Est. Final Prop. Sampling Date:

Project #: [illegible]

Project Contact/Phone #:

Lionville Laboratory Project Manager: [illegible]

QC: [illegible] Dal: [illegible] TAT: [illegible]

Date Rec'd: 9/23/05 Date Due: 10/23/05

		A-C					D		E		F	G	H	I		
Refrigerator #		1					1	3	3		3	3	3	3		
#/Type Container	Liquid / Solid	6					6	1	1		1	1	1	1		
Volume	Liquid / Solid	40					500	—	500		500	500	250	500		
Preservatives		4oC					H2SO4	—	HNO3		—	—	—	H2SO4		
ANALYSES REQUESTED →		ORGANIC: VOA	BNA	Pest/PCB	Herb		TOX	50 ml	INORG: To Metal	CN	TDS	IC	AK	NH3		

Lionville Laboratory Use Only

MATRIX CODES: SL Sludge, SE Sediment, SO Soil, BL Blender, W Water, O Oil, A Air, DS Drums Solids, DL Drum Liquids, LX EP/TCLP Leachate, WI Wipe, X Other, F Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	0624H					ITOX	METALS50	METALS70		TDS	IC1	IALKL	INH3N2		
001	[illegible]			W	9/23/05	1051	3					1	1	1		1	1	1	1		
002	[illegible]													[illegible]							
003	[illegible]				9/23/05	0820	3					1		1		1	1	1	1		
004	[illegible]												1	[illegible]							
005	[illegible]					0924	3					1		1		1	1	1	1		
006	[illegible]												1	[illegible]							
007	[illegible]					1233	3					1		1		1	1	1	1		
008	[illegible]													1							
009	[illegible]						3							1		1	1	1	1		
010	[illegible]													[illegible]							

Special Instructions: RUN MATRIX QC

METALS50 = Al, Ag, Ba, Be, Cd, Ca, Co, Cr, Cu, Fe, K, Mg, Mn, Ni, Na, Sb, V, Zn

IC1 = IC - Br, Cl, Fl, NO2, NO3, PO4, SO4

DATE/REVISIONS:

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

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	9/23/05	0945

Relinquished by	Received by	Date	Time

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

000000022

Lionville Laboratory Use Only

0509L377

Custody Transfer Record/Lab Work Request

VLI

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: [illegible]

Est. Final Proj. Sampling Date:

Project:

Project Contact/Phone #:

Lionville Laboratory Project Manager:

QC: Pcl: TAT:

Date Rec'd: Date Due:

Refrigerator #		A-C	1																
#/Type Container	Liquid	6																	
	Solid																		
Volume	Liquid	24																	
	Solid																		
Preservatives		4d																	
ANALYSES REQUESTED →			ORGANIC								INORG								
			VOA	BNA	Pest/ PCB	Herb					Metal	CN							
			Lionville Laboratory Use Only																
			0624H																

MATRIX CODES: SP - Spill; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquid; 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
011	[illegible]			2	[illegible]	2802
013	[illegible]					

Special Instructions:

DATE/REVISIONS:

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

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	9/23/05	0945

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

00000023

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # B03-018-131

Page 1 of 1

Collector: DURATEK R.T. SICKLE	Contact/Requester	Telephone No. MSIN FAX
SAF No.: B03-018	Sampling Origin	Purchase Order/Charge Code
Project Title: ERDF Groundwater Well Samples	DTS- Sample H98	Ice Chest No. SML 4080 Temp.
Shipped To (Lab): Lionville Laboratory Incorporated	Method of Shipment	Bill of Lading/Air Bill No. 7901 6306 5355
Protocol: GPP	Priority: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1DMW5		W	9-22-05	1051	1x500-mL G/P	TDS - 160.1	Cool 4C
B1DMW5		W			3x40-mL aGs*	VOA - 8260B (TCL)	HCl or H2SO4 to pH <2 Cool 4C
B1DMW5		W			1x500-mL G/P	ICP Metals - 6010B (TAL)	HNO3 to pH <2
B1DMW5		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B1DMW5		W			1x250-mL G/P	Alkalinity - 310.1	Cool 4C
B1DMW5		W			1x500-mL G/P	NO2/NO3 - 353.2	H2SO4 to pH <2 Cool 4C
B1DMW5		W			1x20-mL P	Activity Scan	None
B1DMW5		W			1x500-mL aGs*	TOX - 9020	H2SO4 to pH <2 Cool 4C
B1DMX1 (F)		W			1x500-mL G/P	ICP Metals - 6010B (TAL)	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
DURATEK R.T. SICKLE			SEP 22 2005 1400	FED EX			
Relinquished By			Date/Time	Received By			Date/Time
			9/23/05 0945				9-23-05 0945
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

000000024

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # B03-018-132

000000025

Collector: DURATEK R. T. SICKLE	Contact/Requester	Telephone No. MSIN FAX
AF No.: B03-018	Sampling Origin	Purchase Order/Charge Code
Project Title: ERDF Groundwater Well Samples	DTS-54005 H 98	Ice Chest No. SML 4050 Temp.
Shipped To (Lab): Lionville Laboratory Incorporated	Method of Shipment	Bill of Lading/Air Bill No. 7901 6306 5355
Protocol: GPP	Priority: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1DMW6		W	9-22-05	0800	1x500-mL G/P	TDS - 160.1	Cool 4C
B1DMW6		W			3x40-mL aGs*	VOA - 8260B (TCL)	HCl or H2SO4 to pH <2 Cool 4C
B1DMW6		W			1x500-mL G/P	ICP Metals - 6010B (TAL)	HNO3 to pH <2
B1DMW6		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B1DMW6		W			1x250-mL G/P	Alkalinity - 310.1	Cool 4C
B1DMW6		W			1x500-mL G/P	NO2/NO3 - 353.2	H2SO4 to pH <2 Cool 4C
B1DMW6		W			1x20-mL P	Activity Scan	None
B1DMW6		W			1x500-mL aGs*	TOX - 9020	H2SO4 to pH <2 Cool 4C
B1DMX2 (F)		W			1x500-mL G/P	ICP Metals - 6010B (TAL)	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
DURATEK R. T. SICKLE			SEP 22 2005 1400	FedEx			
FedEx			9/23/05 0945				9-23-05 0945

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # B03-018-133

000000026

Collector DURATEK R.T. SICKLE	Contact/Requester	Telephone No. MSIN FAX
SAF No. B03-018	Sampling Origin	Purchase Order/Charge Code
Project Title ERDF Groundwater Well Samples	DTS-SALWS H 98	Ice Chest No. SML 4050 Temp.
Shipped To (Lab) Lionville Laboratory Incorporated	Method of Shipment	Bill of Lading/Air Bill No. 7901630455 55
Protocol GPP	Priority: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1DMW7		W	9-22-05	0924	1x500-mL G/P	TDS - 160.1	Cool 4C
B1DMW7		W			3x40-mL aGs*	VOA - 8260B (TCL)	HCl or H2SO4 to pH <2 Cool 4C
B1DMW7		W			1x500-mL G/P	ICP Metals - 6010B (TAL)	HNO3 to pH <2
B1DMW7		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B1DMW7		W			1x250-mL G/P	Alkalinity - 310.1	Cool 4C
B1DMW7		W			1x500-mL G/P	NO2/NO3 - 353.2	H2SO4 to pH <2 Cool 4C
B1DMW7		W			1x20-mL P	Activity Scan	None
B1DMW7		W			1x500-mL aGs*	TOX - 9020	H2SO4 to pH <2 Cool 4C
B1DMX3 (F)		W			1x500-mL G/P	ICP Metals - 6010B (TAL)	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
DURATEK R.T. SICKLE			SEP 22 2005	FED EX			
Relinquished By			Date/Time	Received By			Date/Time
Fed Ex			9/23/05 0945				9-23-05 0945
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S = Soil		DS = Drum Solid	
SE = Sediment		DL = Drum Liqui	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wine	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # B03-018-134

000000027

Collector: DURATEK R. T. SICKLE	Contact/Requester	Telephone No. MSIN FAX
SAF No. B03-018	Sampling Origin	Purchase Order/Charge Code
Project Title: ERDF Groundwater Well Samples	UTS- SAWS 1498	Ice Chest No. JML 4060 Temp.
Shipped To (Lab): Lionville Laboratory Incorporated	Method of Shipment	Bill of Lading/Air Bill No. 7901630653 55
Protocol: GPP	Priority: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1DMW8		W	9-22-05	1233	1x500-mL G/P	TDS - 160.1	Cool 4C
B1DMW8		W			3x40-mL aGs*	VOA - 8260B (TCL)	HCl or H2SO4 to pH <2 Cool 4C
B1DMW8		W			1x500-mL G/P	ICP Metals - 6010B (TAL)	HNO3 to pH <2
B1DMW8		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B1DMW8		W			1x250-mL G/P	Alkalinity - 310.1	Cool 4C
B1DMW8		W			1x500-mL G/P	NO2/NO3 - 353.2	H2SO4 to pH <2 Cool 4C
B1DMW8		W			1x20-mL P	Activity Scan	None
B1DMW8		W			1x500-mL aGs*	TOX - 9020	H2SO4 to pH <2 Cool 4C
B1DMX4 (F)		W			1x500-mL G/P	ICP Metals - 6010B (TAL)	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
DURATEK R. T. SICKLE			SEP 22 2005 1400	FED EX			
			9-23-05 0945				9-23-05 0945
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # B03-018-135

000000028

Collector: DURATEK H. T. SICKLE	Contact/Requester	Telephone No. MSIN FAX
IAF No.: B03-018	Sampling Origin	Purchase Order/Charge Code
Project Title: ERDF Groundwater Well Samples	DTS- SAWS H9B	Ice Chest No. SML 4050 Temp.
Shipped To (Lab): Lionville Laboratory Incorporated	Method of Shipment	Bill of Lading/Air Bill No. 7901 6306 5355
Protocol: GPP	Priority: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1DMW9		W	9-22-05	1233	1x500-mL G/P	TDS - 160.1	Cool 4C
B1DMW9		W			3x40-mL aGs*	VOA - 8260B (TCL)	HCl or H2SO4 to pH <2 Cool 4C
B1DMW9		W			1x500-mL G/P	ICP Metals - 6010B (TAL)	HNO3 to pH <2
B1DMW9		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B1DMW9		W			1x250-mL G/P	Alkalinity - 310.1	Cool 4C
B1DMW9		W			1x500-mL G/P	NO2/NO3 - 353.2	H2SO4 to pH <2 Cool 4C
B1DMW9		W			1x20-mL P	Activity Scan	None
B1DMW9		W			1x500-mL aGs*	TOX - 9020	H2SO4 to pH <2 Cool 4C
B1DMX5 (F)		W			1x500-mL G/P	ICP Metals - 6010B (TAL)	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
DURATEK H. T. SICKLE			SEP 22 2005 1400	FED EX			
			9/23/05 0945				9-23-05 0945

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # B03-018-139

Page 1 of 1

Collector: DURATEK R. T. BICKLE	Contact/Requester	Telephone No. MSIN FAX
SAF No. B03-018	Sampling Origin	Purchase Order/Charge Code
Project Title: ERDF Groundwater Well Samples	JTS- SAMS 1498	Ice Chest No. SML 4050 Temp.
Shipped To (Lab): Lionville Laboratory Incorporated	Method of Shipment	Bill of Lading/Air Bill No. 7901 6306 5355
Protocol: GPP	Priority: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1DMX9		W	9-22-05	0800	3x40-mL aGs*	VOA - 8260B (TCL)	HCl or H2SO4 to pH <2 Cool 4C
B1DMX9		W	↓	↓	1x20-mL P	Activity Scan	None

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
DURATEK R.T. BICKLE			1400 SEP 22 2005	Fed Ex			
Fed Ex			9/23/05 0945				9/23/05 0945
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S = Soil		DS = Drum Solid	
SD = Sediment		DL = Drum Liquid	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wine	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

000000029

Lionville Laboratory Incorporated
SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU-HANFORD **Date:** 9/23/05

Purchase Order / Project# / SAF# / SOW# / Release #: B03-018

LvLI Batch # : 0509L377 **Sample Custodian:** [signature]

NOTE: EXPLAIN ALL DISCREPANCIES

1.	Samples Hand Delivered or Shipped	Carrier Fed Ex		Airbill# 7901 6306 5355	
2.	Custody seals on coolers or shipping container intact, signed and dated?	☑ Yes	☐ No	☐ No Seals	Comments
3.	Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No		
4.	All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible?	☑ Yes	☐ No		
5.	Samples received cooled or ambient?	Temp 5	°C	Cooler # SML 4050	
6.	Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals	
7.	coc signed and dated?	☑ Yes	☐ No		
8.	Sample containers are intact?	☑ Yes	☐ No		
9.	All samples on coc received? All samples received on coc?	☑ Yes	☐ No		
10.	All sample label information matches coc?	☑ Yes	☐ No		
11.	Samples properly preserved?	☑ Yes	☐ No		
12.	Samples received within hold times? Short holds taken to wet lab?	☑ Yes	☐ No		
13.	VOA, TOC, TOX free of headspace?	9-23-05 ☑ Yes	☐ No	☐ N/A	TOC Air Bubble
14.	QC stickers placed on bottles designated by client?	☐ Yes	☐ No	☑ N/A	
15.	Shipment meets LvLI Sample Acceptance Policy? (Identify all bottles not within policy. See reverse side for policy)	☐ Yes	☑ No		
16.	Project Manager contacted concerning discrepancies? name/date (or samples outside criteria)	☑ Yes	☐ No	☐ No Discrepancies	

SR-002-B

LVLI LIONVILLE LABORATORY INC.

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B03-018 K0025

DATE RECEIVED: 09/23/05 LVL LOT # :0509L377

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS	ANALYSIS TIME
B1DMW5							
ALKALINITY	001	W	05LAK039	09/22/05	10/04/05	10/04/05	
ALKALINITY	001 REP	W	05LAK039	09/22/05	10/04/05	10/04/05	
BROMIDE BY IC	001	W	05LIC071	09/22/05	09/27/05	09/27/05	
BROMIDE BY IC	001 REP	W	05LIC071	09/22/05	09/27/05	09/27/05	
BROMIDE BY IC	001 MS	W	05LIC071	09/22/05	09/27/05	09/27/05	
CHLORIDE BY IC	001	W	05LICA71	09/22/05	09/27/05	09/27/05	
CHLORIDE BY IC	001 REP	W	05LICA71	09/22/05	09/27/05	09/27/05	
CHLORIDE BY IC	001 MS	W	05LICA71	09/22/05	09/27/05	09/27/05	
FLUORIDE BY IC	001	W	05LIC071	09/22/05	09/27/05	09/27/05	
FLUORIDE BY IC	001 REP	W	05LIC071	09/22/05	09/27/05	09/27/05	
FLUORIDE BY IC	001 MS	W	05LIC071	09/22/05	09/27/05	09/27/05	
NITRITE BY IC	001	W	05LIC071	09/22/05	09/27/05	09/27/05	2157
NITRITE BY IC	001 REP	W	05LIC071	09/22/05	09/27/05	09/27/05	2232
NITRITE BY IC	001 MS	W	05LIC071	09/22/05	09/27/05	09/27/05	2307
NITRATE BY IC	001	W	05LIC071	09/22/05	09/27/05	09/27/05	2315
NITRATE BY IC	001 REP	W	05LIC071	09/22/05	09/27/05	09/27/05	2349
NITRATE BY IC	001 MS	W	05LIC071	09/22/05	09/27/05	09/27/05	2359
PHOSPHATE BY IC	001	W	05LICA74	09/22/05	10/04/05	10/04/05	2004
PHOSPHATE BY IC	001 REP	W	05LICA74	09/22/05	10/04/05	10/04/05	2022
PHOSPHATE BY IC	001 MS	W	05LICA74	09/22/05	10/04/05	10/04/05	2039
SULFATE BY IC	001	W	05LICA71	09/22/05	09/27/05	09/27/05	
SULFATE BY IC	001 REP	W	05LICA71	09/22/05	09/27/05	09/27/05	
SULFATE BY IC	001 MS	W	05LICA71	09/22/05	09/27/05	09/27/05	
NITRATE NITRITE	001	W	05LN3056	09/22/05	10/13/05	10/13/05	
TOTAL DISSOLVED SOLI	001	W	05LSS105	09/22/05	09/24/05	09/24/05	
TOTAL DISSOLVED SOLI	001 REP	W	05LSS105	09/22/05	09/24/05	09/24/05	
TOTAL ORGANIC HALIDE	001	W	05LTX013	09/22/05	09/26/05	09/26/05	
B1DMW6							
ALKALINITY	003	W	05LAK039	09/22/05	10/04/05	10/04/05	
BROMIDE BY IC	003	W	05LIC071	09/22/05	09/27/05	09/28/05	
CHLORIDE BY IC	003	W	05LICA71	09/22/05	09/27/05	09/28/05	
FLUORIDE BY IC	003	W	05LIC071	09/22/05	09/27/05	09/28/05	
NITRITE BY IC	003	W	05LIC071	09/22/05	09/27/05	09/28/05	0017

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B03-018 K0025

DATE RECEIVED: 09/23/05 LVL LOT # :0509L377

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS	ANALYSIS TIME
NITRATE BY IC	003	W	05LIC071	09/22/05	09/27/05	09/28/05	0017
PHOSPHATE BY IC	003	W	05LICA74	09/22/05	10/04/05	10/04/05	2056
SULFATE BY IC	003	W	05LICA71	09/22/05	09/27/05	09/28/05	
NITRATE NITRITE	003	W	05LN3056	09/22/05	10/13/05	10/13/05	
NITRATE NITRITE	003 REP	W	05LN3056	09/22/05	10/13/05	10/13/05	
NITRATE NITRITE	003 MS	W	05LN3056	09/22/05	10/13/05	10/13/05	
TOTAL DISSOLVED SOLI	003	W	05LSS105	09/22/05	09/24/05	09/24/05	
TOTAL ORGANIC HALIDE	003	W	05LTX013	09/22/05	09/26/05	09/26/05	
TOTAL ORGANIC HALIDE	003 REP	W	05LTX013	09/22/05	09/26/05	09/26/05	
B1DMW7							
ALKALINITY	005	W	05LAK039	09/22/05	10/04/05	10/04/05	
BROMIDE BY IC	005	W	05LIC071	09/22/05	09/27/05	09/28/05	
CHLORIDE BY IC	005	W	05LICA71	09/22/05	09/27/05	09/28/05	
FLUORIDE BY IC	005	W	05LIC071	09/22/05	09/27/05	09/28/05	
NITRITE BY IC	005	W	05LIC071	09/22/05	09/27/05	09/28/05	0034
NITRATE BY IC	005	W	05LIC071	09/22/05	09/27/05	09/28/05	0051
PHOSPHATE BY IC	005	W	05LICA74	09/22/05	10/04/05	10/04/05	2114
SULFATE BY IC	005	W	05LICA71	09/22/05	09/27/05	09/28/05	
NITRATE NITRITE	005	W	05LN3056	09/22/05	10/13/05	10/13/05	
TOTAL DISSOLVED SOLI	005	W	05LSS105	09/22/05	09/24/05	09/24/05	
TOTAL ORGANIC HALIDE	005	W	05LTX013	09/22/05	09/26/05	09/26/05	
TOTAL ORGANIC HALIDE	005 MS	W	05LX013	09/22/05	09/26/05	09/27/05	
B1DMW8							
ALKALINITY	007	W	05LAK039	09/22/05	10/04/05	10/04/05	
BROMIDE BY IC	007	W	05LIC071	09/22/05	09/27/05	09/28/05	
CHLORIDE BY IC	007	W	05LICA71	09/22/05	09/27/05	09/28/05	
FLUORIDE BY IC	007	W	05LIC071	09/22/05	09/27/05	09/28/05	
NITRITE BY IC	007	W	05LIC071	09/22/05	09/27/05	09/28/05	0109
NITRATE BY IC	007	W	05LIC071	09/22/05	09/27/05	09/28/05	0144
PHOSPHATE BY IC	007	W	05LICA74	09/22/05	10/04/05	10/04/05	2131
SULFATE BY IC	007	W	05LICA71	09/22/05	09/27/05	09/28/05	
NITRATE NITRITE	007	W	05LN3056	09/22/05	10/13/05	10/13/05	
TOTAL DISSOLVED SOLI	007	W	05LSS105	09/22/05	09/24/05	09/24/05	
TOTAL ORGANIC HALIDE	007	W	05LX013	09/22/05	09/26/05	09/27/05	

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B03-018 K0025

DATE RECEIVED: 09/23/05 LVL LOT # :0509L377

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS	ANALYSIS TIME
B1DMW9							
ALKALINITY	009	W	05LAK039	09/22/05	10/04/05	10/04/05	
BROMIDE BY IC	009	W	05LIC071	09/22/05	09/27/05	09/28/05	
CHLORIDE BY IC	009	W	05LICA71	09/22/05	09/27/05	09/28/05	
FLUORIDE BY IC	009	W	05LIC071	09/22/05	09/27/05	09/28/05	
NITRITE BY IC	009	W	05LIC071	09/22/05	09/27/05	09/28/05	0201
NITRATE BY IC	009	W	05LIC071	09/22/05	09/27/05	09/28/05	0236
PHOSPHATE BY IC	009	W	05LICA74	09/22/05	10/04/05	10/04/05	2:49
SULFATE BY IC	009	W	05LICA71	09/22/05	09/27/05	09/28/05	
NITRATE NITRITE	009	W	05LN3056	09/22/05	10/13/05	10/13/05	
TOTAL DISSOLVED SOLI	009	W	05LSS105	09/22/05	09/24/05	09/24/05	
TOTAL ORGANIC HALIDE	009	W	05LX013	09/22/05	09/26/05	09/27/05	

LAB QC:

ALKALINITY	MB1	W	05LAK039	N/A	10/04/05	10/04/05
ALKALINITY	MB1 BS	W	05LAK039	N/A	10/04/05	10/04/05
ALKALINITY	MB1 BSD	W	05LAK039	N/A	10/04/05	10/04/05
BROMIDE BY IC	MB1	W	05LIC071	N/A	09/27/05	09/27/05
BROMIDE BY IC	MB1 BS	W	05LIC071	N/A	09/27/05	09/27/05
CHLORIDE BY IC	MB1	W	05LICA71	N/A	09/27/05	09/27/05
CHLORIDE BY IC	MB1 BS	W	05LICA71	N/A	09/27/05	09/27/05
FLUORIDE BY IC	MB1	W	05LIC071	N/A	09/27/05	09/27/05
FLUORIDE BY IC	MB1 BS	W	05LIC071	N/A	09/27/05	09/27/05
NITRITE BY IC	MB1	W	05LIC071	N/A	09/27/05	09/27/05
NITRITE BY IC	MB1 BS	W	05LIC071	N/A	09/27/05	09/27/05
NITRATE BY IC	MB1	W	05LIC071	N/A	09/27/05	09/27/05
NITRATE BY IC	MB1 BS	W	05LIC071	N/A	09/27/05	09/27/05
PHOSPHATE BY IC	MB1	W	05LICA74	N/A	10/04/05	10/04/05
PHOSPHATE BY IC	MB1 BS	W	05LICA74	N/A	10/04/05	10/04/05
SULFATE BY IC	MB1	W	05LICA71	N/A	09/27/05	09/27/05
SULFATE BY IC	MB1 BS	W	05LICA71	N/A	09/27/05	09/27/05
NITRATE NITRITE	MB1	W	05LN3056	N/A	10/13/05	10/13/05
NITRATE NITRITE	MB1 BS	W	05LN3056	N/A	10/13/05	10/13/05
TOTAL DISSOLVED SOLI	MB1	W	05LSS105	N/A	09/24/05	09/24/05
TOTAL DISSOLVED SOLI	MB1 BS	W	05LSS105	N/A	09/24/05	09/24/05

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B03-018 K0025

DATE RECEIVED: 09/23/05 LVL LOT # :0509L377

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
TOTAL DISSOLVED SOLI	MB1 BSD	W	05LSS105	N/A	09/24/05	09/24/05
TOTAL ORGANIC HALIDE	MB1	W	05LTX013	N/A	09/26/05	09/26/05
TOTAL ORGANIC HALIDE	MB1 BS	W	05LTX013	N/A	09/26/05	09/26/05

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD B03-018 K0025
LVL#: 0509L377

W.O.#: 11343-606-001-9999-00
Date Received: 09-23-05

INORGANIC NARRATIVE

1. This narrative covers the analyses of 5 water 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 and holds over 20 additional state accreditations. For a complete list of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.

3. Sample holding times as required by the method and/or contract were met with the exception of Nitrite, Nitrate and Phosphate (see the sample chronology summary for analyses times for short hold samples).

4. The results presented in this report are derived from samples that met LvLI's sample acceptance policy with the exception of Total Organic Halides (TOX) as noted on the Sample Receipt Checklist.

5. The method blanks were within the method criteria.

6. The Laboratory Control Samples (LCS) were within the laboratory control limits. The duplicate LCS for Alkalinity and Total Dissolved Solids (TDS) were within the 20% Relative Percent Difference (RPD) control limit.

7. The matrix spike recoveries for Bromide, Chloride, Fluoride, Nitrite, Nitrate, Phosphate, Sulfate, Nitrate Nitrite and TOX were within the 75-125% control limits.

8. The replicate analyses for Alkalinity, Bromide, Chloride, Fluoride, Nitrite, Nitrate, Phosphate, Sulfate, TDS, Nitrate Nitrite and TOX were within the 20% RPD control limit.

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

Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

10/17/05
Date

njp\09-377

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 22 pages.

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

Lionville Laboratory Incorporated

WET CHEMISTRY

METHODS GLOSSARY FOR WATER SAMPLE ANALYSIS

	EPA /600	SW846	OTHER
Acidity	305.1		
✓ Alkalinity ___ Bicarbonate ___ Carbonate	✓ 310.1		
BOD	405.1		___ 5210B (b)
Ion Chromatography:			
✓ Bromide ✓ Chloride ✓ Fluoride	✓ 300.0	___ 9056	
✓ Nitrate ✓ Nitrite ✓ Phosphate	✓ 300.0	___ 9056	
✓ Sulfate ___ Formate ___ Acetate ___ Oxalate	✓ 300.0	___ 9056	
Chloride	325.2	___ 9251	
Chorine, Residual	330.5 (mod)		
Cyanide, Amenable to Chlorination	335.2	___ 9010B	
Cyanide, Total	335.2	___ 9010B ___ 9014	___ ILMO4.0 (e)
Cyanide, Weak Acid Dissociable		___	___ 412 (a) ___ 4500CN-I (b)
COD	410.4(mod)		___ 5220C (b)
Color	110.2		
Corrosivity by Coupon		___ 1110(mod)	
Chromium VI		___ 7196A	___ 3500Cr-D (b)
Fluoride	340.2		___ 4500-FC
Hardness, Calcium	215.2		
Hardness, Total	130.2		
Iodide			___ ASTM D19P202 (1)
Surfactant	425.1		
✓ Nitrate-Nitrite ___ Nitrate ___ Nitrite	✓ 353.2		
Ammonia	350.3		
Total___ Kjeldahl ___ Organic Nitrogen	351.3		
Total___ Organic ___ Inorganic Carbon	415.1	___ 9060	
Oil & Grease	413.1	___ 9070	
___ pH ____ pH; paper	150.1	___ 9040B ___ 9041A	
Petroleum Hydrocarbons, Total Recoverable	418.1		
Phenol	420.1 ___ 420.2	___ 9065 ___ 9066	
___ Ortho ___ Total Phosphate	365.2		___ 4500-P B ___ C
Salinity			___ 210A (a) ___ 2520 (b)
Settleable Solids	160.5		
Sulfide	376.1	___ 9030B/9034 (acid soluble)	
Reactive ___ Cyanide ___ Sulfide		___ Section 7.3 (___9014___9030B)	
Silica	370.1		
Sulfite	377.1		
Sulfate	375.4	___ 9038	
Specific Conductance	120.1	___ 9050A	
Specific Gravity			___ D5057-90 ___ 213E (a)
Synthetic Precipitation Leach	___ 1312		
Total ✓ Dissolved ___ Suspended ___ Solids	160 ✓.1 ___.2 ___.3		
Total Organic Halides	450.1	✓ 9020B	
Turbidity	180.1		
Volatile Solids:			
___ Total ___ Dissolved ___ Suspended	160.4		
Other:		Method:	

06

L-WI-034/A-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 10/17/05

CLIENT: TNUHANFORD B03-018 K0025 LVL LOT #: 0509L377
WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	B1DMW5	Alkalinity	132	MG/L	2.0	1.0
		Bromide by IC	0.25 u	MG/L	0.25	1.0
		Chloride by IC	23.0	MG/L	2.5	10.0
		Fluoride by IC	0.32	MG/L	0.25	1.0
		Nitrite by IC	0.25 u	MG/L	0.25	1.0
		Nitrate by IC	66.9	MG/L	2.50	10.0
		Phosphate by IC	0.50 u	MG/L	0.50	1.0
		Sulfate by IC	32.8	MG/L	2.5	10.0
		Nitrate Nitrite	12.5	MG/L	0.50	25.0
		Total Dissolved Solids	387	MG/L	5.00	1.0
		Total Organic Halides	8.8	UG/L	5.0	1.0
-003	B1DMW6	Alkalinity	2.0 u	MG/L	2.0	1.0
		Bromide by IC	0.25 u	MG/L	0.25	1.0
		Chloride by IC	0.25 u	MG/L	0.25	1.0
		Fluoride by IC	0.25 u	MG/L	0.25	1.0
		Nitrite by IC	0.25 u	MG/L	0.25	1.0
		Nitrate by IC	0.25 u	MG/L	0.25	1.0
		Phosphate by IC	0.50 u	MG/L	0.50	1.0
		Sulfate by IC	0.25 u	MG/L	0.25	1.0
		Nitrate Nitrite	0.020u	MG/L	0.020	1.0
		Total Dissolved Solids	130	MG/L	5.00	1.0
		Total Organic Halides	5.0 u	UG/L	5.0	1.0
-005	B1DMW7	Alkalinity	126	MG/L	2.0	1.0
		Bromide by IC	0.25 u	MG/L	0.25	1.0
		Chloride by IC	17.1	MG/L	2.5	10.0
		Fluoride by IC	0.34	MG/L	0.25	1.0
		Nitrite by IC	0.25 u	MG/L	0.25	1.0
		Nitrate by IC	73.9	MG/L	2.50	10.0
		Phosphate by IC	0.50 u	MG/L	0.50	1.0
		Sulfate by IC	32.3	MG/L	2.5	10.0
		Nitrate Nitrite	14.4	MG/L	0.50	25.0
		Total Dissolved Solids	403	MG/L	5.00	1.0
		Total Organic Halides	12.2	UG/L	5.0	1.0
-007	B1DMW8	Alkalinity	126	MG/L	2.0	1.0
		Bromide by IC	0.25 u	MG/L	0.25	1.0
		Chloride by IC	24.8	MG/L	2.5	10.0
		Fluoride by IC	0.29	MG/L	0.25	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 10/17/05

CLIENT: TNUHANFORD B03-018 K0025 LVL LOT #: 0509L377
WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-007	B1DMW8	Nitrite by IC	0.25 u	MG/L	0.25	1.0
		Nitrate by IC	122	MG/L	5.00	20.0
		Phosphate by IC	0.50 u	MG/L	0.50	1.0
		Sulfate by IC	31.5	MG/L	2.5	10.0
		Nitrate Nitrite	24.6	MG/L	1.0	50.0
		Total Dissolved Solids	460	MG/L	5.00	1.0
		Total Organic Halides	7.5	UG/L	5.0	1.0
-009	B1DMW9	Alkalinity	130	MG/L	2.0	1.0
		Bromide by IC	0.25 u	MG/L	0.25	1.0
		Chloride by IC	24.5	MG/L	2.5	10.0
		Fluoride by IC	0.28	MG/L	0.25	1.0
		Nitrite by IC	0.25 u	MG/L	0.25	1.0
		Nitrate by IC	120	MG/L	5.00	20.0
		Phosphate by IC	0.50 u	MG/L	0.50	1.0
		Sulfate by IC	31.1	MG/L	2.5	10.0
		Nitrate Nitrite	24.0	MG/L	1.0	50.0
		Total Dissolved Solids	500	MG/L	5.00	1.0
		Total Organic Halides	5.5	UG/L	5.0	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 10/17/05

CLIENT: TNUHANFORD B03-018 K0025 LVL LOT #: 0509L377
WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK10	05LAK039-MB1	Alkalinity	0.50 u	MG/L	0.50	1.0
BLANK10	05LIC071-MB1	Bromide by IC	0.25 u	MG/L	0.25	1.0
		Fluoride by IC	0.25 u	MG/L	0.25	1.0
		Nitrite by IC	0.25 u	MG/L	0.25	1.0
		Nitrate by IC	0.25 u	MG/L	0.25	1.0
BLANK10	05LICA71-MB1	Chloride by IC	0.25 u	MG/L	0.25	1.0
		Sulfate by IC	0.25 u	MG/L	0.25	1.0
BLANK10	05LICA74-MB1	Phosphate by IC	0.50 u	MG/L	0.50	1.0
BLANK10	05LN3056-MB1	Nitrate Nitrite	0.020u	MG/L	0.020	1.0
BLANK10	05LSS105-MB1	Total Dissolved Solids	5.00 u	MG/L	5.00	1.0
BLANK10	05LTX013-MB1	Total Organic Halides	5.0 u	UG/L	5.0	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 10/17/05

CLIENT: TNUHANFORD B03-018 K0025 LVL LOT #: 0509L377

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-001	B1DMW5	Bromide by IC	11.0	0.018	10.0	109.4	2.0
		Chloride by IC	133	23.0	100	109.6	20.0
		Fluoride by IC	11.4	0.32	10.0	110.9	2.0
		Nitrite by IC	11.2	0.25u	10.0	112.2	2.0
		Nitrate by IC	178	66.9	100	111.5	20.0
		Phosphate by IC	8.9	0.50u	10.0	88.7	2.0
		Sulfate by IC	147	32.8	100	113.9	20.0
-003	B1DMW6	Nitrate Nitrite	0.50	0.02u	0.50	99.4	1.0
-005	B1DMW7	Total Organic Halides	53.4	12.2	50.0	82.3	1.0
BLANK10	05LAK039-MB1	Alkalinity	97.4	0.50u	100	97.4	1.0
		Alkalinity MSD	96.8	0.50u	100	96.8	1.0
BLANK10	05LIC071-MB1	Bromide by IC	4.8	0.25u	5.0	96.7	1.0
		Fluoride by IC	4.8	0.25u	5.0	96.6	1.0
		Nitrite by IC	4.84	0.25u	5.00	96.7	1.0
		Nitrate by IC	4.81	0.25u	5.00	96.2	1.0
BLANK10	05LICA71-MB1	Chloride by IC	4.6	0.25u	5.0	92.6	1.0
		Sulfate by IC	4.9	0.25u	5.0	98.5	1.0
BLANK10	05LICA74-MB1	Phosphate by IC	5.1	0.50u	5.0	102.4	1.0
BLANK10	05LN3056-MB1	Nitrate Nitrite	0.50	0.02u	0.50	100.6	1.0
BLANK10	05LSS105-MB1	Total Dissolved Solids	96.0	5.00u	100	96.0	1.0
		Total Dissolved Solids	101	5.00u	100	101.0	1.0
BLANK10	05LTX013-MB1	Total Organic Halides	48.9	5.0 u	50.0	97.8	1.0

Lionville Laboratory, Inc.

INORGANICS DUPLICATE SPIKE REPORT 10/17/05

CLIENT: TNUHANFORD B03-018 K0025 LVL LOT #: 0509L377
WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKE#1 %RECOV	SPIKE#2 %RECOV	%DIFF
BLANK10	05LAK039-MB1	Alkalinity	97.4	96.8	0.57
BLANK10	05LSS105-MB1	Total Dissolved Solids	96.0	101.0	5.1

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 10/17/05

CLIENT: TNUHANFORD B03-018 K0025 LVL LOT #: 0509L377

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

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-001REP	B1DMW5	Alkalinity	132	130	1.7	1.0
		Bromide by IC	0.25u	0.25u	NC	1.0
		Chloride by IC	23.0	23.8	3.2	10.0
		Fluoride by IC	0.32	0.31	2.6	1.0
		Nitrite by IC	0.25u	0.25u	NC	1.0
		Nitrate by IC	66.9	66.7	0.30	10.0
		Phosphate by IC	0.50u	0.50u	NC	1.0
		Sulfate by IC	32.8	32.1	2.1	10.0
		Total Dissolved Solids	387	403	4.1	1.0
-003REP	B1DMW6	Nitrate Nitrite	0.02u	0.02u	NC	1.0
		Total Organic Halides	5.0 u	5.9	NC	1.0

Lionville Laboratory Use Only: 0509L377

Custody Transfer Record/Lab Work Request

Page 1 of 2

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

See SRC

Client: TNU-HANFORD SAFH B03-018
Est. Final Proj. Sampling Date:
Project #: 11343-606-001-9999-00
Project Contact/Phone #:
Lionville Laboratory Project Manager: DJ
QC: Spec Del: Std TAT: 30 Days
Date Rec'd: 9/23/05 Date Due: 10/23/05

		A					P		E		F	G	H	I
Refrigerator #		1					1	3	3		3	3	3	3
#/Type Container	Liquid	G					G	—	P		P	P	P	P
	Solid													
Volume	Liquid	40					500	—	500		500	500	250	500
	Solid													
Preservatives		HCl					H2SO4	—	HNO3		—	—	—	H2SO4
ANALYSES REQUESTED	ORGANIC: VOA	BNA	Pest/PCB	Herb			TOX	50 Metals	INORG: To Metal	CN	TDS	IC Anions	Alk	NH2 NO3

Lionville Laboratory Use Only

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	0624H					ITOX	METALS50	METALS70		TDS	IC1	IALK	IN3N2		
001	BID MW5			W	9/22/05	1051	3					1		1		1	1	1	1		
002	X1				↓	↓							1	JP 10/3/05							
003	W6				9/22/05	0800	3					1		1		1	1	1	1		
004	X2					↓							1	JP 10/3/05							
005	W7					0924	3					1		1		1	1	1	1		
006	X3					↓							1	JP 10/3/05							
007	W8					1233	3					1		1		1	1	1	1		
008	X4												1	JP 10/3/05							
009	W9						3					1		1		1	1	1	1		
010	X5												1	JP 10/3/05							

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

Special Instructions: RUN MATRIX QC

METALS(50) = Al, Ag, Ba, Be, Cd, Ca, Co, Cr, Cu, Fe, K, Mg, Mn, Ni, Na, Sb, V, Zn

IC(1) = IC - Br, Cl, Fl, NO2, NO3, PO4, SO4

DATE/REVISIONS:
1.
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
[signature]	[signature]	9/23/05	0944

Relinquished by	Received by	Date	Time

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

Lionville Laboratory Use Only

0509L377

Custody Transfer Record/Lab Work Request

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client TNU-HANFORD 603-018

Est. Final Proj. Sampling Date

Project #

Project Contact/Phone # Joel Pitt

Lionville Laboratory Project Manager

QC Del TAT

Date Rec'd Date Due

Refrigerator #		A-C																	
#/Type Container	Liquid	1																	
	Solid	G																	
Volume	Liquid	40																	
	Solid																		
Preservatives		HCL																	
ANALYSES REQUESTED →		ORGANIC							INORG										
		VOA	BNA	Pest/ PCB	Herb				Metal	CN									
		↓ Lionville Laboratory Use Only ↓																	
		06244																	

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															
011	B1DMX9			W	9-23-05	0800	3														
	~~AB3M 9-23-05~~																				

Special Instructions:

DATE/REVISIONS:

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

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	9/23/05	0945

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # B03-018-131

Page 1 of 1

Collector: DURATEK A.T. SICKLE	Contact/Requester	Telephone No. MSIN FAX
SAF No.: B03-018	Sampling Origin	Purchase Order/Charge Code
Project Title: ERDF Groundwater Well Samples	DTS- Sample H98	Ice Chest No. SML 4080 Temp.
Shipped To (Lab): Lionville Laboratory Incorporated	Method of Shipment	Bill of Lading/Air Bill No. 7901 6306 5355
Protocol: GPP	Priority: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1DMW5		W	9-22-05	1051	1x500-mL G/P	TDS - 160.1	Cool 4C
B1DMW5		W			3x40-mL aGs*	VOA - 8260B (TCL)	HCl or H2SO4 to pH <2 Cool 4C
B1DMW5		W			1x500-mL G/P	ICP Metals - 6010B (TAL)	HNO3 to pH <2
B1DMW5		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B1DMW5		W			1x250-mL G/P	Alkalinity - 310.1	Cool 4C
B1DMW5		W			1x500-mL G/P	NO2/NO3 - 353.2	H2SO4 to pH <2 Cool 4C
B1DMW5		W			1x20-mL P	Activity Scan	None
B1DMW5		W			1x500-mL aGs*	TOX - 9020	H2SO4 to pH <2 Cool 4C
B1DMX1 (F)		W			1x500-mL G/P	ICP Metals - 6010B (TAL)	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
DURATEK A.T. SICKLE			SEP 22 2005 1400	FED EX			
Relinquished By			Date/Time	Received By			Date/Time
			9/23/05 0945				9-23-05 0945
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S = Soil		DS = Drum Solid	
SE = Sediment		DL = Drum Liqui	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wine	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # B03-018-132

Page 1 of 1

17

Collector: DURATEK R. T. SICKLE	Contact/Requester	Telephone No. MSIN FAX
IF No. B03-018	Sampling Origin	Purchase Order/Charge Code
Project Title: ERDF Groundwater Well Samples	BTS-54005 H 98	Ice Chest No. SML 4050 Temp.
Shipped To (Lab): Lionville Laboratory Incorporated	Method of Shipment	Bill of Lading/Air Bill No. 7901 6306 5353
Protocol: GPP	Priority: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
1DMW6		W	9-22-05	0800	1x500-mL G/P	TDS - 160.1	Cool 4C
1DMW6		W			3x40-mL aGs*	VOA - 8260B (TCL)	HCl or H2SO4 to pH <2 Cool 4C
1DMW6		W			1x500-mL G/P	ICP Metals - 6010B (TAL)	HNO3 to pH <2
1DMW6		W			1x500-mL P	IC Anions - 300.0	Cool 4C
1DMW6		W			1x250-mL G/P	Alkalinity - 310.1	Cool 4C
1DMW6		W			1x500-mL G/P	NO2/NO3 - 353.2	H2SO4 to pH <2 Cool 4C
1DMW6		W			1x20-mL P	Activity Scan	None
1DMW6		W			1x500-mL aGs*	TOX - 9020	H2SO4 to pH <2 Cool 4C
1DMX2 (F)		W			1x500-mL G/P	ICP Metals - 6010B (TAL)	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
DURATEK R. T. SICKLE			1400 SEP 22 2005				
			9/23/05 0945			9-23-05	0945

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # B03-018-133

Page 1 of 1

Collector DURATEK R.T. SICKLE	Contact/Requester	Telephone No. MSIN FAX
SAF No. B03-018	Sampling Origin	Purchase Order/Charge Code
Project Title ERDF Groundwater Well Samples	DTS-SALLS H 98	Ice Chest No. SML 4050 Temp.
Shipped To (Lab) Lionville Laboratory Incorporated	Method of Shipment	Bill of Lading/Air Bill No. 7901630653 55
Protocol GPP	Priority: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1DMW7		W	9-22-05	0924	1x500-mL G/P	TDS - 160.1	Cool 4C
B1DMW7		W			3x40-mL aGs*	VOA - 8260B (TCL)	HCl or H2SO4 to pH <2 Cool 4C
B1DMW7		W			1x500-mL G/P	ICP Metals - 6010B (TAL)	HNO3 to pH <2
B1DMW7		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B1DMW7		W			1x250-mL G/P	Alkalinity - 310.1	Cool 4C
B1DMW7		W			1x500-mL G/P	NO2/NO3 - 353.2	H2SO4 to pH <2 Cool 4C
B1DMW7		W			1x20-mL P	Activity Scan	None
B1DMW7		W			1x500-mL aGs*	TOX - 9020	H2SO4 to pH <2 Cool 4C
B1DMX3 (F)		W			1x500-mL G/P	ICP Metals - 6010B (TAL)	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
DURATEK R.T. SICKLE			SEP 22 2005 1400	FED EX			
Relinquished By			Date/Time	Received By			Date/Time
Fed Ex			9/23/05 0945				9-23-05 0945
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # B03-018-134

Collector: DURATEK R.T. SICKLE	Contact/Requester	Telephone No. MSIN FAX
AF No. B03-018	Sampling Origin	Purchase Order/Charge Code
Project Title: ERDF Groundwater Well Samples	UTS- SAWS 1198	Ice Chest No. SML4050 Temp.
Shipped To (Lab): Lionville Laboratory Incorporated	Method of Shipment	Bill of Lading/Air Bill No. 7901630653 55
Protocol: GPP	Priority: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
* **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1DMW8		W	9-22-05	1233	1x500-mL G/P	TDS - 160.1	Cool 4C
B1DMW8		W			3x40-mL aGs*	VOA - 8260B (TCL)	HCl or H2SO4 to pH <2 Cool 4C
B1DMW8		W			1x500-mL G/P	ICP Metals - 6010B (TAL)	HNO3 to pH <2
B1DMW8		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B1DMW8		W			1x250-mL G/P	Alkalinity - 310.1	Cool 4C
B1DMW8		W			1x500-mL G/P	NO2/NO3 - 353.2	H2SO4 to pH <2 Cool 4C
B1DMW8		W			1x20-mL P	Activity Scan	None
B1DMW8		W			1x500-mL aGs*	TOX - 9020	H2SO4 to pH <2 Cool 4C
B1DMX4 (F)		W			1x500-mL G/P	ICP Metals - 6010B (TAL)	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
DURATEK R.T. SICKLE			SEP 22 2005 1400	FED EX			
			9-23-05 0945				9-23-05 0945

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # B03-018-135

Page 1 of 1

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ollector DURATEK R. T. SICKLE	Contact/Requester	Telephone No. MSIN FAX
AF No. B03-018	Sampling Origin	Purchase Order/Charge Code
roject Title ERDF Groundwater Well Samples	DTS- SAWS H9B	Ice Chest No. SML 4050 Temp.
hipped To (Lab) Lionville Laboratory Incorporated	Method of Shipment	Bill of Lading/Air Bill No. 7901 6306 5355
rotocol GPP	Priority: 45 Days	Offsite Property No.

OSSIBLE SAMPLE HAZARDS/REMARKS

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
31DMW9		W	9-22-05	1233	1x500-mL G/P	TDS - 160.1	Cool 4C
31DMW9		W			3x40-mL aGs*	VOA - 8260B (TCL)	HCl or H2SO4 to pH <2 Cool 4C
31DMW9		W			1x500-mL G/P	ICP Metals - 6010B (TAL)	HNO3 to pH <2
31DMW9		W			1x500-mL P	IC Anions - 300.0	Cool 4C
31DMW9		W			1x250-mL G/P	Alkalinity - 310.1	Cool 4C
31DMW9		W			1x500-mL G/P	NO2/NO3 - 353.2	H2SO4 to pH <2 Cool 4C
31DMW9		W			1x20-mL P	Activity Scan	None
31DMW9		W			1x500-mL aGs*	TOX - 9020	H2SO4 to pH <2 Cool 4C
31DMX5 (F)		W			1x500-mL G/P	ICP Metals - 6010B (TAL)	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
DURATEK R. T. SICKLE			SEP 22 2005 1400	FED EX			
Relinquished By			Date/Time	Received By			Date/Time
Fred Ep			9/23/05 0945				9-23-05 0945
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

FINAL SAMPLE DISPOSITION

Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # B03-018-139

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Collector: DURATEK R. T. SICKLE	Contact/Requester	Telephone No. MSIN FAX
AF No. B03-018	Sampling Origin	Purchase Order/Charge Code
Project Title: ERDF Groundwater Well Samples	JTS- SAMS 1498	Ice Chest No. SML 4050 Temp.
Shipped To (Lab): Lionville Laboratory Incorporated	Method of Shipment	Bill of Lading/Air Bill No. 7901 6306 5355
Protocol: GPP	Priority: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
* **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
31DMX9		W	9-22-05	0800	3x40-mL aGs*	VOA - 8260B (TCL)	HCl or H2SO4 to pH <2 Cool 4C
31DMX9		W	↓	↓	1x20-mL P	Activity Scan	None

Relinquished By	Received By
Print: DURATEK R. T. SICKLE; Sign: [signature]; Date/Time: 1400 SEP 22 2005	Print: FedEx; Sign: ; Date/Time:
Relinquished By: FedEx; Date/Time: 9/23/05 0945	Received By: [signature]; Date/Time: 9/23-05 0945
Relinquished By: ; Date/Time:	Received By: ; Date/Time:
Relinquished By: ; Date/Time:	Received By: ; Date/Time:

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

Lionville Laboratory Incorporated
SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU-HANFORD **Date:** 9/23/05

Purchase Order / Project# / SAF# / SOW# / Release #: B03-018

LvLI Batch # : 0509L377 **Sample Custodian:** [signature]

NOTE: EXPLAIN ALL DISCREPANCIES

1.	Samples Hand Delivered or Shipped	Carrier Fed Ex		Airbill# 7901 6306 5355	
2.	Custody seals on coolers or shipping container intact, signed and dated?	☑ Yes	☐ No	☐ No Seals	Comments
3.	Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No		
4.	All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible?	☑ Yes	☐ No		
5.	Samples received cooled or ambient?	Temp 5	°C	Cooler # SML4050	
6.	Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals	
7.	coc signed and dated?	☑ Yes	☐ No		
8.	Sample containers are intact?	☑ Yes	☐ No		
9.	All samples on coc received? All samples received on coc?	☑ Yes	☐ No		
10.	All sample label information matches coc?	☑ Yes	☐ No		
11.	Samples properly preserved?	☑ Yes	☐ No		
12.	Samples received within hold times? Short holds taken to wet lab?	☑ Yes	☐ No		
13.	VOA, TOC, TOX free of headspace?	9-23-05 ☑ Yes	☑ No	☐ N/A	TOC Air Bubble
14.	QC stickers placed on bottles designated by client?	☐ Yes	☐ No	☑ N/A	
15.	Shipment meets LvLI Sample Acceptance Policy? (Identify all bottles not within policy. See reverse side for policy)	☐ Yes	☑ No	See #13	
16.	Project Manager contacted concerning discrepancies? name/date (or samples outside criteria)	☑ Yes	☐ No	☐ No Discrepancies	

SR-002-B

LvLI LIONVILLE LABORATORY INC.

LIONVILLE LABORATORY INC.

19 October 2005

Joan Kessner
WC-Hanford
3190 Washington Way
MSIN H9-03
Richland, WA 99352

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 #	0509L377
SDG #	K0025
SAF #	B03-018
Date Received	9-23-05
# Samples	11
Matrix	Water
Volatiles	X
Semivolatiles	
Pest/PCB	
PAH	
DRO/KRO/GRO	
GC Alcohols	
Herbicides	
Metals	X
Inorganics	X

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

Sincerely,
Lionville Laboratory Incorporated

Orlette S. Johnson
Project Manager

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

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

Lionville Laboratory, Inc.
VOA ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B03-018 K0025

DATE RECEIVED: 09/23/05 LVL LOT # :0509L377

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B1DMW5	001	W	05LVX211	09/22/05	N/A	09/28/05
B1DMW5	001 MS	W	05LVX211	09/22/05	N/A	09/28/05
B1DMW5	001 MSD	W	05LVX211	09/22/05	N/A	09/28/05
B1DMW6	003	W	05LVX211	09/22/05	N/A	09/28/05
B1DMW7	005	W	05LVX211	09/22/05	N/A	09/28/05
B1DMW8	007	W	05LVX211	09/22/05	N/A	09/28/05
B1DMW9	009	W	05LVX211	09/22/05	N/A	09/28/05
B1DMX9	011	W	05LVX212	09/22/05	N/A	09/29/05

LAB QC:

VBLKFF	MB1	W	05LVX211	N/A	N/A	09/28/05
VBLKFF	MB1 BS	W	05LVX211	N/A	N/A	09/28/05
VBLKFH	MB1	W	05LVX212	N/A	N/A	09/29/05

LIONVILLE LABORATORY INC.

Case Narrative

Client: TNU-HANFORD B03-018
LVL #: 0509L377
SDG/SAF # K0025/B03-018

W.O. #: 11343-606-001-9999-00
Date Received: 09-23-2005

GC/MS VOLATILE

Six (6) water samples were collected on 09-22-2005.

The samples and their associated QC samples were analyzed according to criteria set forth in Lionville Laboratory SOPs based on SW 846 Method 8260B for TCL volatile target compounds on 09-28,29-2005.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analyses:

1. All results presented in this report are derived from samples that met LvLI's sample acceptance policy.
2. Samples were analyzed within required holding time.
3. A non-target compound was detected in sample B1DMX9.
4. All surrogate recoveries were within acceptance criteria.
5. All matrix spike recoveries were within acceptance criteria.
6. All blank spike recoveries were within acceptance criteria.
7. The method blank contained the common laboratory contaminants Methylene Chloride and/or Acetone at levels less than the CRQL.
8. Internal standard area and retention time criteria were met.
9. Manual integrations are performed according to SOP QA-125 to produce quality data with the utmost integrity. All manual integrations are required to be technically valid and properly documented. Appropriate technical flags are defined in the Glossary ("Technical Flags For Manual Integration").
10. LvLI is NELAP accredited by the state of Pennsylvania and holds over 20 additional state accreditations. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.
11. "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

10/6/05
Date

som\group\data\voa\tnu-hanford\0509-377.doc

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 2 6 pages.

GLOSSARY

DATA QUALIFIERS

U = Compound was analyzed for but not detected. The associated numerical value is the estimated sample quantitation limit which is included and corrected for dilution and percent moisture.

J = Indicates an estimated value. This flag is used under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. For example, if the limit of detection is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.

B = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination. This flag is also used for a TIC as well as for a positively identified TCL compound.

E = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.

D = Identifies all compounds identified in an analysis at a secondary dilution factor.

I = Interference.

NQ = Result qualitatively confirmed but not able to quantify.

N = Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.

X = This flag is used for a TIC compound which is quantified relative to a response factor generated from a daily calibration standard (rather than quantified relative to the closest internal standard).

Y = Additional qualifiers used as required are explained in the case narrative.

GLOSSARY

ABBREVIATIONS

BS = Indicates blank spike in which reagent grade water is spiked with the CLP matrix spike solutions and carried through all the steps in the method. Spike recoveries are reported.

BSD = Indicates blank spike duplicate.

MS = Indicates matrix spike.

MSD = Indicates matrix spike duplicate.

DL = Suffix added to sample number to indicate that results are from a diluted analysis.

NA = Not Applicable.

DF = Dilution Factor.

NR = Not Required.

SP, Z = Indicates Spiked Compound.

TECHNICAL FLAGS FOR MANUAL INTEGRATION

Manual quan modifications or integrations are performed routinely to improve the data quality for a variety of technical reasons. Documentation of these modifications should be clear and concise. The following 'flags' are used to indicate the technical reasons for quan modifications:

MP - **Missed Peak:** Manually added peak not found by automatic quan program.

PA - **Peak Assignment:** Quan report was changed to reflect correct peak assignment.

RI - **Routine Integration:** Routine integrations are performed for some analytes that are consistently integrated improperly by the automatic integration programs. Examples are the Dichlorobenzene isomers on the VOA packed column and Benzo (b) fluoranthene /Benzo (k) fluoranthene which are poorly resolve on the BNA column.

SP - **Split Peak:** The automatic integration improperly split the peak; a manual integration was performed to get the correct area.

CB - **Co-elution/ Background:** Peak was manually integrated to eliminate contribution from co-eluting compounds, background signal, or other interference.

PI - **Proper Integration:** A peak with poor or inconsistent integration (i.e., excessive tail) was properly integrated manually.

Lionville Laboratory, Inc.

Volatiles by GC/MS, HSL List

RFW Batch Number: **0509L377** Client: **TNU-HANFORD B03-018** Work Order: 11343606001 Page: 1a

Report Date: 10/03/05 14:53

	Cust ID:	B1DMW5		B1DMW5		B1DMW5		B1DMW6		B1DMW7		B1DMW8	
Sample Information	RFW#:	001		001 MS		001 MSD		003		005		007	
	Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	D.F.:	1.00		1.00		1.00		1.00		1.00		1.00	
	Units:	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
Surrogate Recovery	Toluene-d8	97	%	100	%	96	%	95	%	99	%	106	%
	Bromofluorobenzene	94	%	102	%	99	%	94	%	96	%	103	%
	1,2-Dichloroethane-d4	93	%	100	%	100	%	94	%	95	%	101	%
Chloromethane		10	U	93	%	85	%	10	U	10	U	10	U
Bromomethane		10	U	89	%	82	%	10	U	10	U	10	U
Vinyl Chloride		10	U	89	%	84	%	10	U	10	U	10	U
Chloroethane		10	U	99	%	88	%	10	U	10	U	10	U
Methylene Chloride		3	JB	96	%	90	%	3	JB	3	JB	3	JB
Acetone		10	U	87	%	80	%	10	U	10	U	10	U
Carbon Disulfide		5	U	102	%	96	%	5	U	5	U	5	U
1,1-Dichloroethene		5	U	104	%	94	%	5	U	5	U	5	U
1,1-Dichloroethane		5	U	109	%	103	%	5	U	5	U	5	U
1,2-Dichloroethene (total)		5	U	102	%	97	%	5	U	5	U	5	U
Chloroform		1	J	106	%	101	%	5	U	1	J	2	J
1,2-Dichloroethane		5	U	103	%	100	%	5	U	5	U	5	U
2-Butanone		10	U	95	%	103	%	10	U	10	U	10	U
1,1,1-Trichloroethane		5	U	106	%	100	%	5	U	5	U	5	U
Carbon Tetrachloride		6		108	%	99	%	5	U	7		8	
Bromodichloromethane		5	U	108	%	107	%	5	U	5	U	5	U
1,2-Dichloropropane		5	U	107	%	105	%	5	U	5	U	5	U
cis-1,3-Dichloropropene		5	U	103	%	103	%	5	U	5	U	5	U
Trichloroethene		5	U	103	%	98	%	5	U	5	U	5	U
Dibromochloromethane		5	U	106	%	104	%	5	U	5	U	5	U
1,1,2-Trichloroethane		5	U	99	%	97	%	5	U	5	U	5	U
Benzene		5	U	104	%	100	%	5	U	5	U	5	U
Trans-1,3-Dichloropropene		5	U	101	%	97	%	5	U	5	U	5	U
Bromoform		5	U	103	%	105	%	5	U	5	U	5	U
4-Methyl-2-pentanone		10	U	97	%	96	%	10	U	10	U	10	U
2-Hexanone		10	U	88	%	90	%	10	U	10	U	10	U
Tetrachloroethene		5	U	104	%	95	%	5	U	1	J	2	J
1,1,2,2-Tetrachloroethane		5	U	93	%	90	%	1	J	5	U	5	U
Toluene		5	U	101	%	96	%	5	U	5	U	5	U

*= Outside of EPA CLP QC limits.

000000006

RFW Batch Number: 0509L377 Client: TNU-HANFORD B03-018 Work Order: 11343606001 Page: 1b

Cust ID:	B1DMW5		B1DMW5		B1DMW5		B1DMW6		B1DMW7		B1DMW8	
RFW#:	001		001 MS		001 MSD		003		005		007	
Chlorobenzene	5	U	100	%	97	%	5	U	5	U	5	U
Ethylbenzene	5	U	100	%	98	%	1	J	5	U	5	U
Styrene	5	U	102	%	99	%	5	U	5	U	5	U
Xylene (total)	5	U	102	%	96	%	4	J	5	U	5	U
M&P Xylene	5	U	103	%	95	%	2	J	5	U	5	U
O-Xylene	5	U	102	%	97	%	1	J	5	U	5	U
cis-1,2-Dichloroethene	5	U	102	%	98	%	5	U	5	U	5	U
trans-1,2-Dichloroethene	5	U	102	%	95	%	5	U	5	U	5	U

*= Outside of EPA CLP QC limits.

000000007

Lionville Laboratory, Inc.

Volatiles by GC/MS, HSL List

RFW Batch Number: **0509L377** Client: **TNU-HANFORD B03-018** Work Order: 11343606001 Page: 2a

Report Date: 10/03/05 14:53

000000008

	Cust ID:	B1DMW9		B1DMX9		VBLKFF		VBLKFF BS		VBLKFH	
Sample Information	RFW#:	009		011		05LVX211-MB1		05LVX211-MB1		05LVX212-MB1	
	Matrix:	WATER		WATER		WATER		WATER		WATER	
	D.F.:	1.00		1.00		1.00		1.00		1.00	
	Units:	UG/L		UG/L		UG/L		UG/L		UG/L	
Surrogate Recovery	Toluene-d8	105	%	100	%	98	%	93	%	98	%
	Bromofluorobenzene	105	%	88	%	94	%	91	%	99	%
	1,2-Dichloroethane-d4	102	%	79	%	94	%	90	%	96	%
Chloromethane		10	U	10	U	10	U	76	%	10	U
Bromomethane		10	U	10	U	10	U	90	%	10	U
Vinyl Chloride		10	U	10	U	10	U	87	%	10	U
Chloroethane		10	U	10	U	10	U	99	%	10	U
Methylene Chloride		2	JB	3	JB	3	J	93	%	1	J
Acetone		10	U	10	U	10	U	79	%	6	J
Carbon Disulfide		5	U	5	U	5	U	103	%	5	U
1,1-Dichloroethene		5	U	5	U	5	U	102	%	5	U
1,1-Dichloroethane		5	U	5	U	5	U	101	%	5	U
1,2-Dichloroethene (total)		5	U	5	U	5	U	99	%	5	U
Chloroform		2	J	5	U	5	U	102	%	5	U
1,2-Dichloroethane		5	U	5	U	5	U	89	%	5	U
2-Butanone		10	U	10	U	10	U	87	%	10	U
1,1,1-Trichloroethane		5	U	5	U	5	U	102	%	5	U
Carbon Tetrachloride		8		5	U	5	U	105	%	5	U
Bromodichloromethane		5	U	5	U	5	U	101	%	5	U
1,2-Dichloropropane		5	U	5	U	5	U	97	%	5	U
cis-1,3-Dichloropropene		5	U	5	U	5	U	96	%	5	U
Trichloroethene		5	U	5	U	5	U	97	%	5	U
Dibromochloromethane		5	U	5	U	5	U	100	%	5	U
1,1,2-Trichloroethane		5	U	5	U	5	U	92	%	5	U
Benzene		5	U	5	U	5	U	97	%	5	U
Trans-1,3-Dichloropropene		5	U	5	U	5	U	92	%	5	U
Bromoform		5	U	5	U	5	U	102	%	5	U
4-Methyl-2-pentanone		10	U	10	U	10	U	87	%	10	U
2-Hexanone		10	U	10	U	10	U	81	%	10	U
Tetrachloroethene		2	J	5	U	5	U	97	%	5	U
1,1,2,2-Tetrachloroethane		5	U	5	U	5	U	77	%	5	U
Toluene		5	U	5	U	5	U	94	%	5	U

*= Outside of EPA CLP QC limits.

RFW Batch Number: **0509L377** Client: **TNU-HANFORD B03-018** Work Order: 11343606001 Page: 2b

Cust ID:	B1DMW9	B1DMX9	VBLKFF	VBLKFF BS	VBLKFH
RFW#:	009	011	05LVX211-MB1	05LVX211-MB1	05LVX212-MB1
Chlorobenzene	5 U	5 U	5 U	93 %	5 U
Ethylbenzene	5 U	5 U	5 U	91 %	5 U
Styrene	5 U	5 U	5 U	93 %	5 U
Xylene (total)	5 U	5 U	5 U	92 %	5 U
M&P Xylene	5 U	5 U	5 U	92 %	5 U
O-Xylene	5 U	5 U	5 U	91 %	5 U
cis-1,2-Dichloroethene	5 U	5 U	5 U	99 %	5 U
trans-1,2-Dichloroethene	5 U	5 U	5 U	99 %	5 U

*= Outside of EPA CLP QC limits.

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B1DMW5

Lab Name: Lionville Labs, Inc. Contract: 11343606001

Lab Code: Lionvi Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 0509L377-001

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: x092813

Level: (low/med) LOW Date Received: 09/23/05

% Moisture: not dec. _____ Date Analyzed: 09/28/05

Column: (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

FORM 1 VOA-TIC 1/87 Rev.

1E

VOLATILE ORGANICS ANALYSIS SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B1DMW6

Lab Name: Lionville Labs, Inc. Contract: 11343606001

Lab Code: Lionvi Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 0509L377-003

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: x092816

Level: (low/med) LOW Date Received: 09/23/05

% Moisture: not dec. _____ Date Analyzed: 09/28/05

Column: (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

FORM 1 VOA-TIC 1/87 Rev.

1E

VOLATILE ORGANICS ANALYSIS SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B1DMW7

Lab Name: Lionville Labs, Inc. Contract: 11343606001

Lab Code: Lionvi Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 0509L377-005

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: x092817

Level: (low/med) LOW Date Received: 09/23/05

% Moisture: not dec. _____ Date Analyzed: 09/28/05

Column: (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

FORM 1 VOA-TIC 1/87 Rev.

1E

VOLATILE ORGANICS ANALYSIS SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B1DMW8

Lab Name: Lionville Labs, Inc. Contract: 11343606001

Lab Code: Lionvi Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 0509L377-007

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: x092818

Level: (low/med) LOW Date Received: 09/23/05

% Moisture: not dec. _____ Date Analyzed: 09/28/05

Column: (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

FORM 1 VOA-TIC 1/87 Rev.

1E

VOLATILE ORGANICS ANALYSIS SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B1DMW9

Lab Name: Lionville Labs, Inc. Contract: 11343606001

Lab Code: Lionvi Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 0509L377-009

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: x092819

Level: (low/med) LOW Date Received: 09/23/05

% Moisture: not dec. _____ Date Analyzed: 09/28/05

Column: (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

FORM 1 VOA-TIC 1/87 Rev.

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B1DMX9

Lab Name: Lionville Labs, Inc. Contract: 11343606001

Lab Code: Lionvi Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 0509L377-011

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: x092907

Level: (low/med) LOW Date Received: 09/23/05

% Moisture: not dec. _____ Date Analyzed: 09/29/05

Column: (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	SILOXANE	16.683	5	J

FORM 1 VOA-TIC 1/87 Rev.

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKFF

Lab Name: Lionville Labs, Inc. Contract: 11343606001

Lab Code: Lionvi Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 05LVX211-MB1

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: x092805

Level: (low/med) LOW Date Received: 09/28/05

% Moisture: not dec. _____ Date Analyzed: 09/28/05

Column: (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

FORM 1 VOA-TIC 1/87 Rev.

1E

VOLATILE ORGANICS ANALYSIS SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKFH

Lab Name: Lionville Labs, Inc. Contract: 11343606001

Lab Code: Lionvi Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 05LVX212-MB1

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: x092906

Level: (low/med) LOW Date Received: 09/29/05

% Moisture: not dec. _____ Date Analyzed: 09/29/05

Column: (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

FORM 1 VOA-TIC 1/87 Rev.

Lionville Laboratory Use Only

05091377

Custody Transfer Record/Lab Work Request

Page 1 of 2

See SRC

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: [illegible]

Est. Finish for Sampling Date: [illegible]

Project: [illegible]

Project Contact/Phone: [illegible]

Lionville Laboratory Project Manager: [illegible]

QC: [illegible] Del: [illegible] TAT: [illegible]

Date Rec'd 9/23/05 Date Due 10/23/05

		A-C					D		E		F	G	H	I		
Refrigerator #		1					1	3	3		3	3	3	3		
#/Type Container	Liquids	[illegible]					[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]		
	Solids															
Volume	Liquids	[illegible]					500	[illegible]	500		500	500	250	500		
	Solids															
Preservatives	Liquids	[illegible]					[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]		
ANALYSES REQUESTED →		ORGANIC							INORG							
		VOA	BNA	Pest/PCB	Herb		TOX	METALS	To Metal	CN	TDS	IC	ALK	NH3		

Lionville Laboratory Use Only

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	0624H					ITOX	METALS	METALS		TDS	IC	IALK	INH3		
001	[illegible]			W	9/23/05	1051	3					1		1		1	1	1	1		
002	[illegible]												1	1							
003	[illegible]					0900	3					1		1		1	1	1	1		
004	[illegible]												1	1							
005	[illegible]					0924	3					1		1		1	1	1	1		
006	[illegible]												1	1							
007	[illegible]					2233	3					1		1		1	1	1	1		
008	[illegible]												1	1							
009	[illegible]						3					1		1		1	1	1	1		
010	[illegible]												1	1							

Matrix Codes: W = Water, O = Oil, DL = Drum Liquids, L = Liquids, W = Wipes, X = Other

Special Instructions: RUN MATRIX QC

METALS(1) = Al, Ag, Ba, Be, Cd, Ca, Co, Cr, Cu, Fe, K, Mg, Mn, Ni, Na, Sb, V, Zn

IC(1) = IC - Br, Cl, F, NO_2, NO_3, PO_4, SO_4

DATE/REVISIONS:

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

Relinquished by	Received by	Date	Time
[signature]	[signature]	9/23/05	0945

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
COMPOSITE WASTE"	ORIGINAL REWRITTEN		

0000000018

Lionville Laboratory Use Only

0509L377

Custody Transfer Record/Lab Work Request

VLI

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: [illegible]

Est. Final Prep/Sampling Date:

Project #:

Project Contact/Phone:

Lionville Laboratory Project Manager:

QC Del: IA

Date Rec'd _____ Date Due _____

Refrigerator #		A-C																	
#/Type Container	Liquid	1																	
	Solid																		
Volume	Liquid	40																	
	Solid																		
Preservatives		HCL																	
ANALYSES REQUESTED →		ORGANIC								INORG									
		VOA	BNA	Pest/ PCB	Herb					Metal	CN								
		Lionville Laboratory Use Only																	
		06244																	

MATRIX CODES: S = Soil, SD = Sediment, SO = Solid, SL = Sludge, W = Water, O = Oil, A = Air, DS = Drum Solids, DL = Drum Liquids, T = Tube, EP = TCLP Extract, L = Leachate, WI = Wipe, X = Other, P = Paint

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected
011	[illegible]			[illegible]	[illegible]	0800
[illegible]	[illegible]					

Special Instructions:

DATE/REVISIONS:

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

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	9/23/05	0948

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

6100000019

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # B03-018-131

Page 1 of 1

Collector: DURATEX R.T. SICKLE	Contact/Requester	Telephone No. MSIN FAX
SAF No. B03-018	Sampling Origin	Purchase Order/Charge Code
Project Title: ERDF Groundwater Well Samples	DTS - Sample H98	Ice Chest No. SML 4080 Temp.
Shipped To (Lab): Lionville Laboratory Incorporated	Method of Shipment	Bill of Lading/Air Bill No. 7901 6306 5355
Protocol: GPP	Priority: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS

** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1DMW5		W	9-22-05	1051	1x500-mL G/P	TDS - 160.1	Cool 4C
B1DMW5		W			3x40-mL aGs*	VOA - 8260B (TCL)	HCl or H2SO4 to pH <2 Cool 4C
B1DMW5		W			1x500-mL G/P	ICP Metals - 6010B (TAL)	HNO3 to pH <2
B1DMW5		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B1DMW5		W			1x250-mL G/P	Alkalinity - 310.1	Cool 4C
B1DMW5		W			1x500-mL G/P	NO2/NO3 - 353.2	H2SO4 to pH <2 Cool 4C
B1DMW5		W			1x20-mL P	Activity Scan	None
B1DMW5		W			1x500-mL aGs*	TOX - 9020	H2SO4 to pH <2 Cool 4C
B1DMX1 (F)		W			1x500-mL G/P	ICP Metals - 6010B (TAL)	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
DURATEX R.T. SICKLE			SEP 22 2005 1400	FED EX			
Relinquished By			Date/Time	Received By			Date/Time
			9/23/05 0945				9-23-05 0945
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # B03-018-132

Page 1 of 1

Collector DURATEK R. T. SICKLE	Contact/Requester	Telephone No. MSIN FAX
SAF No. B03-018	Sampling Origin	Purchase Order/Charge Code
Project Title ERDF Groundwater Well Samples	BTS-5444S H 98	Ice Chest No. SML 4050 Temp.
Shipped To (Lab) Lionville Laboratory Incorporated	Method of Shipment	Bill of Lading/Air Bill No. 7901 6306 5355
Protocol GPP	Priority: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1DMW6		W	9-22-05	0800	1x500-mL G/P	TDS - 160.1	Cool 4C
B1DMW6		W			3x40-mL aGs*	VOA - 8260B (TCL)	HCl or H2SO4 to pH <2 Cool 4C
B1DMW6		W			1x500-mL G/P	ICP Metals - 6010B (TAL)	HNO3 to pH <2
B1DMW6		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B1DMW6		W			1x250-mL G/P	Alkalinity - 310.1	Cool 4C
B1DMW6		W			1x500-mL G/P	NO2/NO3 - 353.2	H2SO4 to pH <2 Cool 4C
B1DMW6		W			1x20-mL P	Activity Scan	None
B1DMW6		W			1x500-mL aGs*	TOX - 9020	H2SO4 to pH <2 Cool 4C
B1DMX2 (F)		W			1x500-mL G/P	ICP Metals - 6010B (TAL)	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
DURATEK R. T. SICKLE			SEP 22 2005 1400				
			9/23/05 0945				9-23-05 0945

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

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PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # B03-018-133

Page 1 of 1

000000022

Collector: DURATEK R.T. SICKLE	Contact/Requester	Telephone No. MSIN FAX
SAF No. B03-018	Sampling Origin	Purchase Order/Charge Code
Project Title: ERDF Groundwater Well Samples	DTS-SALS H98	Ice Chest No. SMC 4050 Temp.
Shipped To (Lab): Lionville Laboratory Incorporated	Method of Shipment	Bill of Lading/Air Bill No. 79016306 5355
Protocol: GPP	Priority: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1DMW7		W	9-22-05	0924	1x500-mL G/P	TDS - 160.1	Cool 4C
B1DMW7		W			3x40-mL aGs*	VOA - 8260B (TCL)	HCl or H2SO4 to pH <2 Cool 4C
B1DMW7		W			1x500-mL G/P	ICP Metals - 6010B (TAL)	HNO3 to pH <2
B1DMW7		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B1DMW7		W			1x250-mL G/P	Alkalinity - 310.1	Cool 4C
B1DMW7		W			1x500-mL G/P	NO2/NO3 - 353.2	H2SO4 to pH <2 Cool 4C
B1DMW7		W			1x20-mL P	Activity Scan	None
B1DMW7		W			1x500-mL aGs*	TOX - 9020	H2SO4 to pH <2 Cool 4C
B1DMX3 (F)		W			1x500-mL G/P	ICP Metals - 6010B (TAL)	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
DURATEK R.T. SICKLE			SEP 22 2005 10:03	FED EX			
Relinquished By: Fed Ex			9/23/05 0945	Received By			9-23-05 0945
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # B03-018-134

Page 1 of 1

Collector: DURATEK R.T. SICKLE	Contact/Requester	Telephone No. MSIN FAX
SAF No. B03-018	Sampling Origin	Purchase Order/Charge Code
Project Title: ERDF Groundwater Well Samples	UTS- SAWS 1498	Ice Chest No. SML 4150 Temp.
Shipped To (Lab): Lionville Laboratory Incorporated	Method of Shipment	Bill of Lading/Air Bill No. 7901630653 55
Protocol: GPP	Priority: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS

** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1DMW8		W	9-22-05	1233	1x500-mL G/P	TDS - 160.1	Cool 4C
B1DMW8		W			3x40-mL aGs*	VOA - 8260B (TCL)	HCl or H2SO4 to pH <2 Cool 4C
B1DMW8		W			1x500-mL G/P	ICP Metals - 6010B (TAL)	HNO3 to pH <2
B1DMW8		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B1DMW8		W			1x250-mL G/P	Alkalinity - 310.1	Cool 4C
B1DMW8		W			1x500-mL G/P	NO2/NO3 - 353.2	H2SO4 to pH <2 Cool 4C
B1DMW8		W			1x20-mL P	Activity Scan	None
B1DMW8		W			1x500-mL aGs*	TOX - 9020	H2SO4 to pH <2 Cool 4C
B1DMX4 (F)		W			1x500-mL G/P	ICP Metals - 6010B (TAL)	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
DURATEK R.T. SICKLE			SEP 22 2005 1400	FED EX			
			9-23-05 0945				9-23-05 0945

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

000000023

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # B03-018-135

000000024

Collector DURATEK R.T.SICKLE	Contact/Requester	Telephone No. MSIN FAX
SAF No. B03-018	Sampling Origin	Purchase Order/Charge Code
Project Title ERDF Groundwater Well Samples	DTS- SAWS H9B	Ice Chest No. SML 4050 Temp.
Shipped To (Lab) Lionville Laboratory Incorporated	Method of Shipment	Bill of Lading/Air Bill No. 7901 6304 5355
Protocol GPP	Priority: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1DMW9		W	9-22-05	1233	1x500-mL G/P	TDS - 160.1	Cool 4C
B1DMW9		W			3x40-mL aGs*	VOA - 8260B (TCL)	HCl or H2SO4 to pH <2 Cool 4C
B1DMW9		W			1x500-mL G/P	ICP Metals - 6010B (TAL)	HNO3 to pH <2
B1DMW9		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B1DMW9		W			1x250-mL G/P	Alkalinity - 310.1	Cool 4C
B1DMW9		W			1x500-mL G/P	NO2/NO3 - 353.2	H2SO4 to pH <2 Cool 4C
B1DMW9		W			1x20-mL P	Activity Scan	None
B1DMW9		W			1x500-mL aGs*	TOX - 9020	H2SO4 to pH <2 Cool 4C
B1DMX5 (F)		W			1x500-mL G/P	ICP Metals - 6010B (TAL)	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
DURATEK R.T.SICKLE			SEP 22 2005 1400	FED EX			
Relinquished By			Date/Time	Received By			Date/Time
[signature]			9/23/05 0945	[signature]			9-23-05 0945
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

FINAL SAMPLE DISPOSITION

Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # B03-018-139

Page 1 of 1

Collector: DURATEK R. T. BICKLE	Contact/Requester	Telephone No. MSIN FAX
SAF No. B03-018	Sampling Origin	Purchase Order/Charge Code
Project Title: ERDF Groundwater Well Samples	DTS- SAMS 1498	Ice Chest No. SML 4050 Temp.
Shipped To (Lab): Lionville Laboratory Incorporated	Method of Shipment	Bill of Lading/Air Bill No. 7901 6306 5355
Protocol: GPP	Priority: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1DMX9		W	9-22-05	0800	3x40-mL aGs*	VOA - 8260B (TCL)	HCl or H2SO4 to pH <2 Cool 4C
B1DMX9		W	↓	↓	1x20-mL P	Activity Scan	None

Relinquished By	Received By
Print: DURATEK R. T. BICKLE Sign: Date/Time 1400 SEP 22 2005	Print: Sign: Date/Time
Relinquished By: Date/Time 9/23/05 0945	Received By: 9/23-05 Date/Time 0945
Relinquished By: Date/Time	Received By: Date/Time
Relinquished By: Date/Time	Received By: Date/Time

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

000000025

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU-HANFORD

Date: 9/23/05

Purchase Order / Project# / SAF# / SOW# / Release #: B03-018

LvLI Batch # : 0509L377

Sample Custodian: [signature]

NOTE: EXPLAIN ALL DISCREPANCIES

1.	Samples Hand Delivered or Shipped	Carrier Fed Ex		Airbill# 790163065355	
2.	Custody seals on coolers or shipping container intact, signed and dated?	☑ Yes	☐ No	☐ No Seals	Comments
3.	Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No		
4.	All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible?	☑ Yes	☐ No		
5.	Samples received cooled or ambient?	Temp 5	°C	Cooler # SML4050	
6.	Custody seals on sample containers intact, signed and dated?	☐ Yes	☐ No	☐ No Seals	
7.	coc signed and dated?	☐ Yes	☐ No		
8.	Sample containers are intact?	☑ Yes	☐ No		
9.	All samples on coc received? All samples received on coc?	☑ Yes	☐ No		
10.	All sample label information matches coc?	☐ Yes	☐ No		
11.	Samples properly preserved?	☑ Yes	☐ No		
12.	Samples received within hold times? Short holds taken to wet lab?	☐ Yes	☐ No		
13.	VOA, TOC, TOX free of headspace?	9-23-05 ☑ Yes	☐ No	☐ N/A	TOC Air Bubble
14.	QC stickers placed on bottles designated by client?	☐ Yes	☐ No	☑ N/A	
15.	Shipment meets LvLI Sample Acceptance Policy? (Identify all bottles not within policy. See reverse side for policy)	☐ Yes	☐ No		
16.	Project Manager contacted concerning discrepancies? name/date (or samples outside criteria)	☐ Yes	☐ No	☐ No Discrepancies	

SR-002-B

LVLI LIONVILLE LABORATORY INC.