0073756

SAF-RC-020
100-BC Burial Grounds – Soil Full Protocol
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Jason Capron X3-40	KW 8/21/07 INITIAL/DATE
Jeanette Duncan H4-21	KW 8/21/07 INITIAL/DATE

COMMENTS:

SDG K0875 **SAF-RC-020**

Rad only X Chem only Rad & Chem

X Complete Partial

Waste Site: **100-B-23 treated wood sites**

RECEIVED
AUG 23 2007
EDMC

LIONVILLE LABORATORY INC.

14 August 2007

RECEIVED
AUG 2007

Joan Kessner
WC-Hanford
3190 Washington Way
MSIN H9-03
Richland, WA 99354

Subject: Analytical Data Package

Dear Ms. Kessner:

Enclosed are the hard copy analytical reports for the batch number/fraction indicated (marked X) in the following table:

LvLI Batch #	0707L603
SDG #	K0875
SAF #	RC-020
Date Received	7/18/07
# Samples	3
Matrix	SOIL
Volatiles	
Semivolatiles	X
Pest/PCB	X
Glycols	
DRO/KRO/GRO	
GC Alcohols	
Herbicides	
Metals	X
Inorganics	X

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

Sincerely,
Lionville Laboratory Incorporated

Orlette S. Johnson
Project Manager

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

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RECEIVED
AUG 2007

Lionville Laboratory, Inc.
BNA ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-020 K0875

DATE RECEIVED: 07/18/07 LVL LOT # :

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J156N9	001	S	07LE0395	07/16/07	07/20/07	08/03/07
J156N9	001 MS	S	07LE0395	07/16/07	07/20/07	08/03/07
J156N9	001 MSD	S	07LE0395	07/16/07	07/20/07	08/03/07
J156P0	002	S	07LE0395	07/16/07	07/20/07	08/03/07
J156P1	003	S	07LE0395	07/16/07	07/20/07	08/03/07

LAB QC:

SBLKMP	MB1	S	07LE0395	N/A	07/20/07	07/25/07
SBLKMP	MB1 BS	S	07LE0395	N/A	07/20/07	07/25/07

LIONVILLE LABORATORY INC.

Case Narrative

Client: TNU-HANFORD RC-020
LVL #: 0707L603
SDG/SAF # K0875/RC-020

W.O. #: 11343-606-001-9999-00
Date Received: 07-18-2007

SEMIVOLATILE

Three (3) soil samples were collected on 07-16-2007.

The samples and their associated QC samples were extracted according to Lionville Laboratory SOPs based on SW 846 method 3540C on 07-20-2007 and analyzed according to criteria set forth in Lionville Laboratory SOPs based on SW 846 Method 8270C for client specified Semivolatile target compounds on 07-25-2007 and 08-03-2007.

All soil samples are reported on a dry weight basis unless requested by the client, required by the method, or noted otherwise. The following is a summary of QC results accompanying the sample results. Lionville Laboratory Inc (LvLI) certifies that all test results meet the requirements of NELAC except as noted below:

1. Samples were extracted and analyzed within required holding time.

2. Non-target compounds were detected in the samples.

3. One (1) of forty-two (42) surrogate recoveries was outside acceptance criteria. However, the surrogate recovery criteria were met (i.e., no more than one outlier per fraction (acid and base neutral} and no recoveries less than 10%).

4. Eight (8) of one hundred twenty-eight (128) matrix spike recoveries were outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR) has been enclosed.

5. All blank spike recoveries were within acceptance criteria.

6. The method blank contained the common laboratory contaminants Di-n-butylphthalate and Bis (2-Ethylhexyl) phthalate at levels less than the CRQL. The method blank also contained the target compound Benzo (g, h, i) perylene at a level less than the CRQL.

7. Internal standard area and retention time criteria were met.

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 1 8 pages.

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LIONVILLE LABORATORY INC.

8. 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").

9. 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.

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

for Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

8/9/07
Date

som\gorup\data\bna\tnu-hanford\0707-603.doc

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Lionville Laboratory Sample Discrepancy Report (SDR)

SDR #: 07MS164

Initiator: Sharon Saylor
Date: 8-6-07
Client: TRU RC020

Batch: 07071L603
Samples: 001ms, 001msd
Method: SW846/MCAWW/CLP/

Parameter: 8270
Matrix: SOLID
Prep Batch: 07160395

1. Reason for SDR

a. COC Discrepancy __ Tech Profile Error __ Client Request __ Sampler Error on C-O-C __ Transcription Error __ Wrong Test Code __ Other _____

b. General Discrepancy

__ Missing Sample/Extract* __ Container Broken __ Wrong Sample Pulled __ Label ID's Illegible
__ Hold Time Exceeded __ Insufficient Sample* __ Preservation Wrong __ Received Past Hold
__ Improper Bottle Type __ Not Amenable to Analysis

Note*: Verified by [Log-In] or [Prep Group] (circle)...signature/date: _____

c. Problem (Include all relevant specific results; attach data if necessary)

low recovery of several analytes in the ms but the msd + QS are OK
(13 dichlorobenzene, 14 dichlorobenzene, hexachloroethane, 124 Trichlorobenzene, hexachlorocyclopentadiene)

2. Known or Probable Causes(s) Hexachlorocyclopentadiene is subject to thermal decomposition in the inlet of the gas chromatograph, chemical reactions in acetone solution and photochemical decomposition. Others potential

3. Discussion and Proposed Action Other Description: narrate

__ Re-log
__ Entire Batch
__ Following Samples: _____
__ Re-leach
__ Re-extract
__ Re-digest
__ Revise EDD
__ Change Test Code to _____
__ Place On/Take Off Hold (circle)

4. Project Manager Instructions...signature/date: 8/7/07

__ Concur with Proposed Action
__ Disagree with Proposed Action; See Instruction
__ Include in Case Narrative
__ Client Contacted:
Date/Person _____
__ Add
__ Cancel

5. Final Action...signature/date: 8/09/07 Other Explanation:

✓ Verified re-[log][leach][extract][digest][analysis] (circle)
__ Included in Case Narrative
__ Hard Copy COC Revised
__ Electronic COC Revised
__ EDD Corrections Completed

When Final Action has been recorded, forward original to QA Specialist for distribution and filing.

Route	Distribution of Completed SDR	Route	Distribution of Completed SDR
__	X Initiator	__	__ Metals: Beegle
__	X Lab General Manager: M. Taylor	__	__ Inorganic: Perrone
1	X Project Mgr: Stone/Johnson	__	__ GC/LC: Kiger
__	__ Data Management: Stilwell	2	__ MS: Rychlak/Daley
__	__ Sample Prep: Beegle/Kiger	__	__ Log-in: Perry
		__	__ Admin: _____
		__	__ Other: _____

QA-105-A-0805

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.

sb\10-03\gloss.doc

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.

Semivolatiles by GC/MS, HSL List

RFW Batch Number: 0707L603 Client: TNUHANFORD RC-020 K0875 Work Order: 11343606001 Report Date: 08/06/07 14:26 Page: 1a

	Cust ID:	J156N9	J156N9	J156N9	J156P0	J156P1	SBLKMP
Sample Information	RFW#:	001	001 MS	001 MSD	002	003	07LE0395-MB1
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate Recovery	Nitrobenzene-d5	60 %	53 %	77 %	52 %	62 %	50 %
	2-Fluorobiphenyl	68 %	71 %	101 %	67 %	67 %	60 %
	Terphenyl-d14	76 %	91 %	111 %	81 %	78 %	91 %
	Phenol-d5	63 %	62 %	82 %	60 %	60 %	52 %
	2-Fluorophenol	58 %	53 %	77 %	56 %	57 %	42 %
	2,4,6-Tribromophenol	72 %	94 %	101 %	84 %	14 * %	20 %
		fl	fl	fl	fl	fl	fl
Phenol		330 U	58 %	79 %	330 U	330 U	330 U
bis(2-Chloroethyl)ether		330 U	51 %	77 %	330 U	330 U	330 U
2-Chlorophenol		330 U	55 %	80 %	330 U	330 U	330 U
1,3-Dichlorobenzene		330 U	47 * %	74 %	330 U	330 U	330 U
1,4-Dichlorobenzene		330 U	47 * %	74 %	330 U	330 U	330 U
1,2-Dichlorobenzene		330 U	52 %	81 %	330 U	330 U	330 U
2-Methylphenol		330 U	64 %	91 %	330 U	330 U	330 U
2,2'-oxybis(1-Chloropropane)		330 U	51 %	78 %	330 U	330 U	330 U
3/4 Methylphenol		330 U	65 %	84 %	330 U	330 U	330 U
N-Nitroso-di-n-propylamine		330 U	61 %	86 %	330 U	330 U	330 U
Hexachloroethane		330 U	42 * %	67 %	330 U	330 U	330 U
Nitrobenzene		330 U	54 %	80 %	330 U	330 U	330 U
Isophorone		330 U	62 %	86 %	330 U	330 U	330 U
2-Nitrophenol		330 U	58 %	83 %	330 U	330 U	330 U
2,4-Dimethylphenol		330 U	69 %	91 %	330 U	330 U	330 U
bis(2-Chloroethoxy)methane		330 U	62 %	89 %	330 U	330 U	330 U
2,4-Dichlorophenol		330 U	72 %	96 %	330 U	330 U	330 U
1,2,4-Trichlorobenzene		330 U	55 * %	80 %	330 U	330 U	330 U
Naphthalene		330 U	57 %	82 %	330 U	330 U	330 U
4-Chloroaniline		330 U	40 %	60 %	330 U	330 U	330 U
Hexachlorobutadiene		330 U	57 %	85 %	330 U	330 U	330 U
4-Chloro-3-methylphenol		330 U	76 %	92 %	330 U	330 U	330 U
2-Methylnaphthalene		330 U	92 %	124 * %	330 U	330 U	330 U
Hexachlorocyclopentadiene		330 U	17 * %	29 %	330 U	330 U	330 U
2,4,6-Trichlorophenol		330 U	60 %	63 %	330 U	330 U	330 U
2,4,5-Trichlorophenol		840 U	97 %	115 %	840 U	840 U	840 U

*= Outside of EPA CLP QC limits.

000000008

Cust ID:	J156N9		J156N9		J156N9		J156P0		J156P1		SBLKMP	
RFW#:	001		001 MS		001 MSD		002		003		07LE0395-MB1	
2-Chloronaphthalene	330	U	68	%	101	%	330	U	330	U	330	U
2-Nitroaniline	840	U	74	%	95	%	840	U	840	U	840	U
Dimethylphthalate	330	U	66	%	96	%	330	U	330	U	330	U
Acenaphthylene	330	U	64	%	93	%	330	U	330	U	330	U
2,6-Dinitrotoluene	330	U	62	%	93	%	330	U	330	U	330	U
3-Nitroaniline	840	U	67	%	94	%	840	U	840	U	840	U
Acenaphthene	170	J	74	%	90	%	200	J	330	U	330	U
2,4-Dinitrophenol	840	U	43	%	52	%	840	U	840	U	840	U
4-Nitrophenol	840	U	71	%	113	%	840	U	840	U	840	U
Dibenzofuran	150	J	66	%	94	%	220	J	330	U	330	U
2,4-Dinitrotoluene	330	U	77	%	103	%	330	U	330	U	330	U
Diethylphthalate	330	U	67	%	96	%	330	U	330	U	330	U
4-Chlorophenyl-phenylether	330	U	76	%	100	%	330	U	330	U	330	U
Fluorene	230	J	67	%	93	%	390		330	U	330	U
4-Nitroaniline	840	U	63	%	99	%	840	U	840	U	840	U
4,6-Dinitro-2-methylphenol	840	U	72	%	77	%	840	U	840	U	840	U
N-Nitrosodiphenylamine (1)	330	U	81	%	87	%	330	U	330	U	330	U
4-Bromophenyl-phenylether	330	U	78	%	87	%	330	U	330	U	330	U
Hexachlorobenzene	330	U	86	%	98	%	330	U	330	U	330	U
Pentachlorophenol	840	U	96	%	90	%	840	U	840	U	840	U
Phenanthrene	1000		142 *	%	105	%	2400		330	U	330	U
Anthracene	220	J	89	%	100	%	1900		330	U	330	U
Carbazole	85	J	107	%	122 *	%	370		330	U	330	U
Di-n-butylphthalate	22	JB	86	%	107	%	27	JB	35	JB	39	J
Fluoranthene	770		121	%	105	%	1600		330	U	330	U
Pyrene	620		108	%	96	%	1200		330	U	330	U
Butylbenzylphthalate	330	U	81	%	105	%	20	J	330	U	330	U
3,3'-Dichlorobenzidine	330	U	33	%	59	%	330	U	330	U	330	U
Benzo(a)anthracene	260	J	92	%	98	%	490		330	U	330	U
Chrysene	570		67	%	75	%	1400		330	U	330	U
bis(2-Ethylhexyl)phthalate	67	JB	81	%	104	%	170	JB	72	JB	110	J
Di-n-octyl phthalate	330	U	93	%	117	%	330	U	330	U	330	U
Benzo(b)fluoranthene	150	J	84	%	115	%	270	J	330	U	330	U
Benzo(k)fluoranthene	200	J	94	%	95	%	290	J	330	U	330	U
Benzo(a)pyrene	120	J	85	%	101	%	220	J	330	U	330	U
Indeno(1,2,3-cd)pyrene	43	J	64	%	88	%	83	J	330	U	330	U
Dibenz(a,h)anthracene	23	J	63	%	89	%	45	J	330	U	330	U
Benzo(g,h,i)perylene	37	JB	60	%	85	%	77	JB	330	U	22	J

(1) - Cannot be separated from Diphenylamine. *= Outside of EPA CLP QC limits.

000000009

000000010

Cust ID: SBLKMP BS

Sample Information

RFW#: 07LE0395-MB1
Matrix: SOIL
D.F.: 1.00
Units: ug/Kg

Surrogate Recovery	Nitrobenzene-d5	78	%
	2-Fluorobiphenyl	85	%
	Terphenyl-d14	101	%
	Phenol-d5	86	%
	2-Fluorophenol	84	%
	2,4,6-Tribromophenol	43	%

Phenol	85	%
bis(2-Chloroethyl)ether	85	%
2-Chlorophenol	80	%
1,3-Dichlorobenzene	79	%
1,4-Dichlorobenzene	79	%
1,2-Dichlorobenzene	82	%
2-Methylphenol	87	%
2,2'-oxybis(1-Chloropropane)	81	%
3/4 Methylphenol	84	%
N-Nitroso-di-n-propylamine	83	%
Hexachloroethane	68	%
Nitrobenzene	76	%
Isophorone	85	%
2-Nitrophenol	77	%
2,4-Dimethylphenol	67	%
bis(2-Chloroethoxy)methane	84	%
2,4-Dichlorophenol	88	%
1,2,4-Trichlorobenzene	83	%
Naphthalene	78	%
4-Chloroaniline	70	%
Hexachlorobutadiene	89	%
4-Chloro-3-methylphenol	84	%
2-Methylnaphthalene	85	%
Hexachlorocyclopentadiene	80	%
2,4,6-Trichlorophenol	46	%
2,4,5-Trichlorophenol	72	%

*= Outside of EPA CLP QC limits.

Cust ID: SBLKMP BS

RFW#: 07LE0395-MB1

2-Chloronaphthalene	83	%
2-Nitroaniline	87	%
Dimethylphthalate	93	%
Acenaphthylene	84	%
2,6-Dinitrotoluene	81	%
3-Nitroaniline	121	%
Acenaphthene	84	%
2,4-Dinitrophenol	81	%
4-Nitrophenol	77	%
Dibenzofuran	84	%
2,4-Dinitrotoluene	85	%
Diethylphthalate	90	%
4-Chlorophenyl-phenylether	89	%
Fluorene	86	%
4-Nitroaniline	102	%
4,6-Dinitro-2-methylphenol	102	%
N-Nitrosodiphenylamine (1)	81	%
4-Bromophenyl-phenylether	89	%
Hexachlorobenzene	100	%
Pentachlorophenol	74	%
Phenanthrene	100	%
Anthracene	94	%
Carbazole	114	%
Di-n-butylphthalate	97	%
Fluoranthene	107	%
Pyrene	90	%
Butylbenzylphthalate	94	%
3,3'-Dichlorobenzidine	105	%
Benzo(a)anthracene	104	%
Chrysene	92	%
bis(2-Ethylhexyl)phthalate	93	%
Di-n-octyl phthalate	79	%
Benzo(b)fluoranthene	92	%
Benzo(k)fluoranthene	82	%
Benzo(a)pyrene	90	%
Indeno(1,2,3-cd)pyrene	100	%
Dibenz(a,h)anthracene	101	%
Benzo(g,h,i)perylene	98	%

(1) - Cannot be separated from Diphenylamine. *= Outside of EPA CLP QC limits.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J156N9

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD RC-020 K0875

Matrix: (soil/water) SOIL

Lab Sample ID: 0707L603-001

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: D080315

Level: (low/med) LOW

Date Received: 07/18/07

% Moisture: 0 decanted: (Y/N)__

Date Extracted: 07/20/07

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 08/03/07

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: _____

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	3.101	20000	JAB
2.	ALDOL CONDENSATE	3.265	40000	JA
3.	ALDOL CONDENSATE	3.308	10000	JA
4.	UNKNOWN	20.974	700	J
5.	ALKANE	23.377	700	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J156P0

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD RC-020 K0875

Matrix: (soil/water) SOIL

Lab Sample ID: 0707L603-002

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: D080314

Level: (low/med) LOW

Date Received: 07/18/07

% Moisture: 0 decanted: (Y/N)__

Date Extracted: 07/20/07

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 08/03/07

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: _____

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	3.076	20000	JA
2.	ALDOL CONDENSATE	3.093	5000	JAB
3.	ALDOL CONDENSATE	3.239	40000	JA
4.	UNKNOWN	20.974	1000	J
5.	ALKANE	23.369	1000	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J156P1

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD RC-020 K0875

Matrix: (soil/water) SOIL

Lab Sample ID: 0707L603-003

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: D080313

Level: (low/med) LOW

Date Received: 07/18/07

% Moisture: 0 decanted: (Y/N)__

Date Extracted: 07/20/07

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 08/03/07

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: _____

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	3.067	20000	JA
2.	ALDOL CONDENSATE	3.110	10000	JAB
3.	ALDOL CONDENSATE	3.213	30000	JA
4.	UNKNOWN	17.055	700	JB
5.	UNKNOWN	20.957	600	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SBLKMP

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD RC-020 K0875

Matrix: (soil/water) SOIL

Lab Sample ID: 07LE0395-MB1

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: D072519

Level: (low/med) LOW

Date Received: 07/20/07

% Moisture: _____ decanted: (Y/N)__

Date Extracted: 07/20/07

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 07/25/07

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: _____

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	1.735	200	JA
2.	UNKNOWN	2.743	700	J
3.	UNKNOWN	3.234	100	J
4.	ALDOL CONDENSATE	3.510	20000	JA
5.	UNKNOWN	17.774	800	J

Lionville Laboratory Use Only

07071603

Custody Transfer Record/Lab Work Request

Page 1 of 1

See SRC

LVLI

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TNU HANFORD SAF# RC-020

Est. Final Proj. Sampling Date:

Project#: 11343-606-001-4999-00

Project Contact/Phone#:

Lionville Laboratory Project Manager: O Johnson

QC: SW846 Del: STD TAT: 21DAY

Date Rec'd: 7-18-07 Date Due: 8-8-07

		A	B	R	C	D		E							
Refrigerator #		2	2		2	2		2							
#/Type Container	Liquid / Solid	1G	1G		1G	1G		1P							
Volume		120	120		250	250		250							
Preservatives		—	—		—	—		—							
ANALYSES REQUESTED		ORGANIC						INORG							
		VOA	BNA	Pest/PCB	Herb	Pest	TOT TPH		Metal HG	CN					
		Lionville Laboratory Use Only													
			06254	OPCB		06084	IPHC		Met①						

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															
001	J156N9			Soil	7-16-07	1345		✓	✓		✓	✓		✓							
002	J156R0			Soil	7-16-07	1350		✓	✓		✓	✓		✓							
003	J156P1			Soil	7-16-07	1253		✓						✓							

Special Instructions:

Met① = HSL + B, Mo, Si
NOTL

Special Instructions:

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

Relinquished by	Received by	Date	Time
[signature]	[signature]	7/18/07	09:35

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN		COMPOSITE WASTE	

000000016

0701C 600J

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-020-082	Page 1 of 1

Collector C. Martinez	Company Contact C. Martinez	Telephone No. 509-539-2816	Project Coordinator KESSNER, JH	Price Code 21 days	Data Turnaround 8D
Project Designation 100-BC Burial Grounds - Soil Full Protocol	Sampling Location 100-B-23 treated wood sites		SAF No. RC-020		
Ice Chest No. ERC-02-009	Field Logbook No. EFL1173-13	COA R10B232000	Method of Shipment FED EX		
Shipped To EBERLINE SERVICES/ LIONVILLE	Offsite Property No. A070381		Bill of Lading/Air Bill No. see OSPC		

000000017

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

cool 4 degrees

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C						
Type of Container	G/P	aG	aG	aG	aG						
No. of Container(s)	1	1	1	1	1						
Volume	250mL	120mL	120mL	250mL	250mL						
SAMPLE ANALYSIS	See item (1) in Special Instructions.	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1						
Sample No.	Matrix *	Sample Date	Sample Time								
J156N9	SOIL	07/16/07	1345	✓	✓	✓	✓	✓			
J156P0	SOIL	07/16/07	1350	✓	✓	✓	✓	✓			
J156P1	SOIL	07/16/07	1253	✓	n/a	✓	n/a	n/a			

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
C. Martinez / C. Martinez	1700 07/16/07	3728 3B	1700 07/16/07
3728 3B	7-17-07 0900	KM Singleton	7-17-07 0900
KM Singleton	7-17-07 1500	FED EX	
Fed Ex	7-18-07 0935	Peter Hermanby	7-18-07 0935

SPECIAL INSTRUCTIONS

None

(1) ICP Metals - 6010TR (Client List) [Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc]; Mercury - 7470 - (CV)

Sampler unavailable to relinquish samples from 3728 Ref # 3B. 3728 Custodian removed samples for shipping on 7/17/07

Matrix *

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

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

WCH-EE-011

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU HANFORD

Project/SAF/SOW/Release #: RC-020

Date: 7-18-07

LvLI Batch #: 0707L603

Sample Custodian: [signature]

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier: FedEx		Airbill # 7996 7635 4184
2. Custody Seals on coolers or shipping containers intact, signed & dated?	☑ Yes	☐ No	☐ No Seals
3. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	Comments:
4. All expected paperwork received (coc & other client specific information) sealed in plastic bag and easily accessible?	☑ Yes	☐ No	
5. Samples received cooled or ambient?	Temp 2.9 °C		Cooler # ERC-02-009
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify):
Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)	☑ Yes	☐ No	
6. Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals
7. COC (Client & LvLI) signed & dated?	☑ Yes	☐ No	
8. Sample containers are intact?	☑ Yes	☐ No	
9. All samples on COC received?	☑ Yes	☐ No	
All samples received on COC?	☑ Yes	☐ No	
10. All sample label information matches COC?	☑ Yes	☐ No	
11. Samples properly preserved? (If #5 is no, then this is no.)	☑ Yes	☐ No	
12. Samples received within hold times?	☑ Yes	☐ No	
Short holds taken to wet lab?	☐ Yes	☐ No	☑ N/A
13. VOA, TOC, TOX free of headspace?	☐ Yes	☐ No	☑ N/A
14. QC stickers placed on bottles designated by client?	☐ Yes	☐ No	☑ N/A
15. Shipment meets LvLI Sample Acceptance Policy? (Identify all bottles that do not meet the policy, which is on the reverse of this page.)	☑ Yes	☐ No	
16. Project Manager contacted concerning any discrepancies?	☐ Yes	☐ No	☑ N/A

Person Contacted _____ Date _____

LvLI

LIONVILLE LABORATORIES, INC.

Lionville Laboratory, Inc.
PEST/PCB ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-020 K0875

RECEIVED AUG 2007 corrected

DATE RECEIVED: 07/18/07 LVL LOT. #.

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J156N9	001	S	07LE0394	07/16/07	07/20/07	08/07/07
J156N9	001 MS	S	07LE0394	07/16/07	07/20/07	08/07/07
J156N9	001 MSD	S	07LE0394	07/16/07	07/20/07	08/07/07
J156P0	002	S	07LE0394	07/16/07	07/20/07	08/07/07

LAB QC:

PBLKDO	MB1	S	07LE0394	N/A	07/20/07	08/07/07
PBLKDO	MB1 BS	S	07LE0394	N/A	07/20/07	08/07/07

LIONVILLE LABORATORY INC.

Case Narrative

Client: TNU-HANFORD RC-020
LVL #: 0707L603
SDG/SAF # K0875/RC-020

W.O. #: 11343-606-001-9999-00
Date Received: 07-18-2007

CHLORINATED PESTICIDES

Two (2) soil samples were collected on 07-16-2007.

The samples and their associated QC samples were extracted on 07-20-2007 and analyzed according to Lionville Laboratory SOPs based on SW846, 3rd Edition procedure on 08-07-2007. The extraction procedure was based on method 3540C and the extracts were analyzed based on method 8081A.

All soil samples are reported on a dry weight basis unless requested by the client, required by the method, or noted otherwise. The following is a summary of the QC results accompanying the sample results. Lionville Laboratory Inc (LvLI) certifies that all test results meet the requirements of NELAC except as noted below:

1. Samples were extracted and analyzed within required holding time.

2. The method blank was below the reporting limits for all target compounds.

3. Two (2) of twelve (12) surrogate recoveries were outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR) has been enclosed.

4. One (1) of twenty (20) blank spike recoveries was outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR) has been enclosed.

5. Ten (10) of forty (40) matrix spike recoveries were outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR) has been enclosed.

6. The sample and its associated matrix spike samples required a 4-fold instrument dilution due to the sample matrix. The reporting limits were adjusted to reflect the necessary dilution.

7. The initial calibrations associated with this data set were within acceptance criteria.

8. The continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.

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 9 pages.

LIONVILLE LABORATORY INC.

9. 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.

10. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy 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

8/14/07
Date

som\r:\group\data\pest\tnu hanford\0707s603s.pst

Lionville Laboratory Sample Discrepancy Report (SDR)

SDR #: 07GC201

Initiator: CAC
Date: 8-10-07
Client: TNW

Batch: 0707L603
Samples: 001MS+MSD, BS
Method: SW846/MCAWW/CLP/

Parameter: 0608H
Matrix: SOIL
Prep Batch: 07LE0394

1. Reason for SDR

a. COC Discrepancy __ Tech Profile Error __ Client Request __ Sampler Error on C-O-C __ Transcription Error __ Wrong Test Code __ Other _____

b. General Discrepancy

__ Missing Sample/Extract* __ Container Broken __ Wrong Sample Pulled __ Label ID's Illegible
__ Hold Time Exceeded __ Insufficient Sample* __ Preservation Wrong __ Received Past Hold
__ Improper Bottle Type __ Not Amenable to Analysis

Note*: Verified by [Log-In] or [Prep Group] (circle)...signature/date: _____

c. Problem (Include all relevant specific results; attach data if necessary)

both surrogates out high in MSD ← Appears double spiked.
several spikes out high in MS+MSD
DeltaBHC spike out high in BS

2. Known or Probable Causes(s)

3. Discussion and Proposed Action

__ Re-log
__ Entire Batch
__ Following Samples: _____
__ Re-leach
__ Re-extract
__ Re-digest
__ Revise EDD
__ Change Test Code to _____
__ Place On/Take Off Hold (circle)

Other Description:

No Impact on data.
High recoveries with both samples as non detects.

JD 8/12/07

4. Project Manager Instructions...signature/date: 8/13/07

__ Concur with Proposed Action
__ Disagree with Proposed Action; See Instruction
✓ Include in Case Narrative
__ Client Contacted:
Date/Person _____
__ Add
__ Cancel

5. Final Action...signature/date: 8/14/07

Other Explanation:

✓ Verified re-[log][leach][extract][digest][analysis] (circle)
✓ Included in Case Narrative
__ Hard Copy COC Revised
__ Electronic COC Revised
__ EDD Corrections Completed

When Final Action has been recorded, forward original to QA Specialist for distribution and filing.

Route	Distribution of Completed SDR	Route	Distribution of Completed SDR
__	X Initiator	__	__ Metals: Beegle
__	X Lab General Manager: M. Taylor	__	__ Inorganic: Perrone
__	X Project Mgr: Stone/Johnson	__	__ GC/LC: Kiger
__	__ Data Management: Stilwell	__	__ MS: Rychlak/Daley
__	__ Sample Prep: Beegle/Kiger	__	__ Log-in: Perry
		__	__ Admin: _____
		__	__ Other: _____

QA-105-A-0805

GLOSSARY OF DATA

DATA QUALIFIERS

U	=	Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).
J	=	Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification 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.
E	=	Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
I	=	Interference.
.I	=	Indicates an interference on one analytical column only. Result is reported from remaining analytical column.

ABBREVIATIONS

BS	=	Indicates blank spike in which reagent grade water is spiked with the CLP matrix spiking 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	=	Indicates that recoveries were not obtained because the extract had to be diluted for analysis.
NA	=	Not Applicable.
DF	=	Dilution Factor.
NR	=	Not Required.
NS	=	Not Spiked.
SP	=	Indicates Spiked Compound.
P	=	This flag is used for an PESTICIDE/PCB target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). The lower of the two values is reported on Form I and flagged with a "P".
D	=	This flag identifies all compounds identified in an analysis at a secondary dilution factor.
C	=	This flag applies to a compound that has been confirmed by GC/MS.
NPM	=	No pattern match for multi-component target analytes.

Lionville Laboratory, Inc.

Pesticide/PCBs by GC, CLP List

Report Date: 08/13/07 10:29

RFW Batch Number: 0707L603 Client: TNUHANFORD RC-020 K0875 Work Order: 11343606001 Page: 1

	Cust ID:	J156N9	J156N9	J156N9	J156P0	PBLKDO	PBLKDO BS
Sample Information	RFW#:	001	001 MS	001 MSD	002	07LE0394-MB1	07LE0394-MB1
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	4.00	4.00	4.00	4.00	1.00	1.00
	Units:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Surrogate:	Tetrachloro-m-xylene	97 %	108 %	225 * %	102 %	91 %	97 %
	Decachlorobiphenyl	100 %	112 %	216 * %	104 %	97 %	94 %
		fl	fl	fl	fl	fl	fl
Alpha-BHC		1.3 U	110 %	110 %	1.3 U	0.33 U	118 %
gamma-BHC (Lindane)		1.3 U	117 %	116 %	1.3 U	0.33 U	116 %
Beta-BHC		1.3 U	131 * %	124 %	1.3 U	0.33 U	106 %
Heptachlor		1.3 U	125 %	125 %	1.3 U	0.33 U	110 %
Delta-BHC		1.3 U	115 %	115 %	1.3 U	0.33 U	124 * %
Aldrin		1.3 U	117 %	112 %	1.3 U	0.33 U	113 %
Heptachlor epoxide		1.3 U	124 %	120 %	1.3 U	0.33 U	112 %
gamma-Chlordane		1.3 U	118 %	113 %	1.3 U	0.33 U	111 %
Endosulfan I		1.3 U	128 * %	117 %	1.3 U	0.33 U	116 %
alpha-Chlordane		1.3 U	123 %	114 %	1.3 U	0.33 U	109 %
4,4'-DDE		1.3 U	138 * %	194 * %	1.3 U	0.33 U	116 %
Dieldrin		1.3 U	119 %	111 %	1.3 U	0.33 U	116 %
Endrin		1.3 U	127 %	129 %	1.3 U	0.33 U	116 %
4,4'-DDD		1.3 U	118 %	111 %	~~2.7~~ 1.3 U	0.33 U	119 %
Endosulfan II		1.3 U	125 * %	122 * %	1.3 U	0.33 U	113 %
4,4'-DDT		1.3 U	113 %	130 %	1.3 U	0.33 U	112 %
Endrin aldehyde		1.3 U	131 * %	130 %	1.3 U	0.33 U	100 %
Endosulfan sulfate		1.3 U	126 * %	126 * %	1.3 U	0.33 U	109 %
Methoxychlor		1.3 U	148 %	143 %	1.3 U	0.33 U	110 %
Endrin ketone		1.3 U	131 %	151 * %	1.3 U	0.33 U	114 %
Toxaphene		13 U	13 U	13 U	13 U	3.3 U	3.3 U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

ID
8/13/07

Lionville Laboratory Use Only

0707L603

Custody Transfer Record/Lab Work Request

Page 1 of 1

See SRC

LVLI

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TNU HANFORD SAF# RC-020

Est. Final Proj. Sampling Date:

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

Project Contact/Phone#:

Lionville Laboratory Project Manager: O Johnson

QC: SW846 Del: STD TAT: 2DAY

Date Rec'd: 7-18-07 Date Due: 8-8-07

		A	B	R	C	D		E							
Refrigerator #		2	2		2	2		2							
#/Type Container	Liquid														
	Solid	1G	1G		1G	1G		1P							
Volume		120	120		250	250		250							
Preservatives		—	—		—	—		—							
ANALYSES REQUESTED		ORGANIC						INORG							
		VOA	BNA	~~Pest/~~ PCB	Herb	Pest.	TOT TPH		Metal RG	CN					
		Lionville Laboratory Use Only													
			0625H	OPCB		0608H	IPHC		MetD						

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		0625H	OPCB		0608H	IPHC		MetD						
001	J156N9			Soil	7-16-07	1345		✓	✓		✓	✓		✓						
002	J156R0			Soil	7-16-07	1350		✓	✓		✓	✓		✓						
003	J156P1			Soil	7-16-07	1257		✓						✓						

Special Instructions:

MetD = HSL + B, Mo, Si
NO TL

Special Instructions:

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

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	7/18/07	0935

Relinquished by	Received by	Date	Time

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

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-020-082	Page 1 of 1
Collector: C. Martinez	Company Contact: C. Martinez; Telephone No.: 509-539-2816	Project Coordinator: KESSNER, JH	Price Code: 21 days; Data Turnaround: 8D
Project Designation: 100-BC Burial Grounds - Soil Full Protocol	Sampling Location: 100-B-23 treated wood sites	SAF No.: RC-020	
Ice Chest No.: ERC-02-009	Field Logbook No.: EFL1173-13; COA: R10B232000	Method of Shipment: FED EX	
Shipped To: EBERLINE SERVICES/ LIONVILLE	Offsite Property No.: A070381	Bill of Lading/Air Bill No.: see OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

cool 4 degrees

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C						
Type of Container	G/P	aG	aG	aG	aG						
No. of Container(s)	1	1	1	1	1						
Volume	250mL	120mL	120mL	250mL	250mL						
SAMPLE ANALYSIS	See item (1) in Special Instructions.	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1						
Sample No.	Matrix *	Sample Date	Sample Time								
J156N9	SOIL	07/16/07	1345	✓	✓	✓	✓	✓			
J156P0	SOIL	07/16/07	1350	✓	✓	✓	✓	✓			
J156P1	SOIL	07/16/07	1253	✓	n/a	✓	n/a	n/a			

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
C. Martinez / C. Martinez	1700 07/16/07	3728 3B	1700 07/16/07
3728 3B	7-17-07 0900	KM Singleton	7-17-07 0900
KM Singleton	7-17-07 WCH 1500	FED EX	
Fed Ex	7-18-07 0935	Carter Hernandez	7-18-07 0935

SPECIAL INSTRUCTIONS

None

(1) ICP Metals - 6010TR (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7470 - (CV)

Sampler unavailable to relinquish samples from 3728 Ref # 3B. 3728 Custodian removed samples for shipping on 7/17/07

Matrix *

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

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

WCH-EE-011

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNC HANFORD
Project/QAP/SOW/Release #: RC-020

Date: 7-18-07

LvLI Batch #: 0707L603

Sample Custodian: [illegible]

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier: FedEx		Airbill # 7796 7635 4184
2. Custody Seals on coolers or shipping containers intact, signed & dated?	☑ Yes	☐ No	☐ No Seals
3. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	Comments:
4. All expected paperwork received (coc & other client specific information) sealed in plastic bag and easily accessible?	☑ Yes	☐ No	
5. Samples received cooled or ambient?	Temp 2.9°	°C	Cooler # ERC-02-009
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify):
Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)	☑ Yes	☐ No	
6. Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals
7. COC (Client & LvLI) signed & dated?	☑ Yes	☐ No	
8. Sample containers are intact?	☑ Yes	☐ No	
9. All samples on COC received?	☑ Yes	☐ No	
All samples received on COC?	☑ Yes	☐ No	
10. All sample label information matches COC?	☑ Yes	☐ No	
11. Samples properly preserved? (If #5 is no, then this is no.)	☑ Yes	☐ No	
12. Samples received within hold times?	☑ Yes	☐ No	
Short holds taken to wet lab?	☐ Yes	☐ No	☑ N/A
13. VOA, TOC, TOX free of headspace?	☐ Yes	☐ No	☑ N/A
14. QC stickers placed on bottles designated by client?	☐ Yes	☐ No	☑ N/A
15. Shipment meets LvLI Sample Acceptance Policy? (Identify all bottles that do not meet the policy, which is on the reverse of this page.)	☑ Yes	☐ No	
16. Project Manager contacted concerning any discrepancies?	☐ Yes	☐ No	☑ N/A

Person Contacted _____ Date: _____

LvLI

Lionville Laboratory, Inc.
PCB ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-020 K0875

RECEIVED
AUG 2007

DATE RECEIVED: 07/18/07 LVL LOT #

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J156N9	001	S	07LE0394	07/16/07	07/20/07	07/27/07
J156P0	002	S	07LE0394	07/16/07	07/20/07	07/27/07
J156P0	002 MS	S	07LE0394	07/16/07	07/20/07	07/27/07
J156P0	002 MSD	S	07LE0394	07/16/07	07/20/07	07/27/07

LAB QC:

PBLKDO	MB1	S	07LE0394	N/A	07/20/07	07/27/07
PBLKDO	MB1 BS	S	07LE0394	N/A	07/20/07	07/27/07

LIONVILLE LABORATORY INC.

Case Narrative

Client: TNU-HANFORD RC-020
LVL #: 0707L603
SDG/SAF # K0875/RC-020

W.O. #: 11343-606-001-9999-00
Date Received: 07-18-2007

PCB

Two (2) soil samples were collected on 07-16-2007.

The samples and their associated QC samples were extracted on 07-20-2007 and analyzed according to Lionville Laboratory SOPs based on SW846, 3rd Edition procedure on 07-27-2007. The extraction procedure was based on method 3540C and the extracts were analyzed based on method 8082.

All soil samples are reported on a dry weight basis unless requested by the client, required by the method, or noted otherwise. The following is a summary of the QC results accompanying the sample results. Lionville Laboratory Inc (LvLI) certifies that all test results meet the requirements of NELAC except as noted below:

1. Samples were extracted and analyzed within required holding time.

2. The samples and their associated QC samples received Copper-Sulfur and Sulfuric Acid cleanups according to Lionville Laboratory SOPs based on SW846 methods 3660A and 3665A respectively.

3. The method blank was below the reporting limits for all target compounds.

4. All surrogate recoveries were within acceptance criteria.

5. The blank spike recoveries were within acceptance criteria.

6. All matrix spike recoveries were within acceptance criteria.

7. The initial calibrations associated with this data set were within acceptance criteria.

8. The continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.

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 8 pages.

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

LIONVILLE LABORATORY INC.

9. 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.

10. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy 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

8/9/07
Date

som\r:\group\data\pest\tnu hanford\0707so603s.pcb

GLOSSARY OF DATA

DATA QUALIFIERS

U	=	Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).
J	=	Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification 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.
E	=	Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
I	=	Interference.
.I	=	Indicates an interference on one analytical column only. Result is reported from remaining analytical column.

ABBREVIATIONS

BS	=	Indicates blank spike in which reagent grade water is spiked with the CLP matrix spiking 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	=	Indicates that recoveries were not obtained because the extract had to be diluted for analysis.
NA	=	Not Applicable.
DF	=	Dilution Factor.
NR	=	Not Required.
NS	=	Not Spiked.
SP	=	Indicates Spiked Compound.
P	=	This flag is used for an PESTICIDE/PCB target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). The lower of the two values is reported on Form I and flagged with a "P".
D	=	This flag identifies all compounds identified in an analysis at a secondary dilution factor.
C	=	This flag applies to a compound that has been confirmed by GC/MS.
NPM	=	No pattern match for multi-component target analytes.

Lionville Laboratory, Inc.

PCBs by GC

Report Date: 08/06/07 15:24

RFW Batch Number: 0707L603 Client: TNUHANFORD RC-020 K0875 Work Order: 11343606001 Page: 1

	Cust ID:	J156N9		J156P0		J156P0		J156P0		PBLKDO		PBLKDO BS	
Sample Information	RFW#:	001		002		002 MS		002 MSD		07LE0394-MB1		07LE0394-MB1	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	D.F.:	1.00		1.00		1.00		1.00		1.00		1.00	
	Units:	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
Surrogate:	Tetrachloro-m-xylene	77	%	87	%	104	%	82	%	88	%	98	%
	Decachlorobiphenyl	53	%	62	%	80	%	64	%	87	%	97	%
			fl		fl		fl		fl		fl		fl
Aroclor-1016		13	U	13	U	119	%	99	%	13	U	106	%
Aroclor-1221		13	U	13	U	13	U	13	U	13	U	13	U
Aroclor-1232		13	U	13	U	13	U	13	U	13	U	13	U
Aroclor-1242		13	U	13	U	13	U	13	U	13	U	13	U
Aroclor-1248		13	U	13	U	13	U	13	U	13	U	13	U
Aroclor-1254		13	U	13	U	13	U	13	U	13	U	13	U
Aroclor-1260		13	U	21		87	%	61	%	13	U	105	%

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

000000005

Lionville Laboratory Use Only

0707L603

Custody Transfer Record/Lab Work Request

Page 1 of 1

See SRC

LVLI

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TAKE HANFORD SAF# RC-020

Est. Final Proj. Sampling Date:

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

Project Contact/Phone#:

Lionville Laboratory Project Manager: O Johnson

QC: SW846 Del: STD TAT: 2DAY

Date Rec'd: 7-18-07 Date Due: 8-8-07

		A	B	R	C	D		E
Refrigerator #		2	2		2	2		2
#/Type Container	Liquid / Solid	1G	1G		1G	1G		1P
Volume		120	120		250	250		250
Preservatives		—	—		—	—		—
ANALYSES REQUESTED →		ORGANIC: VOA	ORGANIC: BNA	ORGANIC: PCB	ORGANIC: Herb	ORGANIC: PEST.	ORGANIC: TOT TPH	INORG: Metal HG / CN
Lionville Laboratory Use Only			8625H	OPCB		8608H	IPHC	MetD

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	VOA	BNA	PCB	Herb	PEST.	TPH		Metal HG	CN
001	J156N9			Soil	7-16-07	1345		✓	✓		✓	✓		✓	
002	J156R0			SOIL	7-16-07	1350		✓	✓		✓	✓		✓	
003	J156P1			SOIL	7-16-07	1253		✓						✓	

Special Instructions:
MetD = HSL + B, Mo, S.
NOTL

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

OPCBR

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	7/18/07	0935

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN	COMPOSITE WASTE		

000000000

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-020-082	Page 1 of 1

Collector C. Martinez	Company Contact C. Martinez	Telephone No. 509-539-2816	Project Coordinator KESSNER, JH
Price Code 21 days	Data Turnaround 8D		
Project Designation 100-BC Burial Grounds - Soil Full Protocol	Sampling Location 100-B-23 treated wood sites		SAF No. RC-020
Ice Chest No. ERC-02-609	Field Logbook No. EFL1173-13	COA R10B232000	Method of Shipment FED EX
Shipped To EBERLINE SERVICES/ LIONVILLE	Offsite Property No. A070381		Bill of Lading/Air Bill No. see OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

cool 4 degrees

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	G/P	aG	aG	aG	aG					
No. of Container(s)	1	1	1	1	1					
Volume	250mL	120mL	120mL	250mL	250mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1					

Sample No.	Matrix *	Sample Date	Sample Time										
J156N9	SOIL	07/16/07	1345	✓	✓	✓	✓	✓					
J156P0	SOIL	07/16/07	1350	✓	✓	✓	✓	✓					
J156P1	SOIL	07/16/07	1253	✓	n/a	✓	n/a	n/a					

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
C. Martinez / C. Martinez	1700 07/16/07	3728 3B	1700 07/16/07
3728 3B	7-17-07 0900	KM Singleton	7-17-07 0900
KM Singleton	7-17-07 WCH 1500	FED EX	
Fed Ex	7-18-07 0935	Carter Hummel	7-18-07 0935

SPECIAL INSTRUCTIONS

None

(1) ICP Metals - 6010TR (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7470 - (CV)

Sampler unavailable to relinquish samples from 3728 Ref # 3B. 3728 Custodian removed samples for shipping on 7/17/07

Matrix *

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

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

WCH-EE-01 i

0000000007

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNLC HANFORD

Project/SAF/SOW/Release #: RC-020

Date: 7-18-07

LvLI Batch #: 0707L603

Sample Custodian: [signature]

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier FedEx		Airbill # 7796 7635 4184
2. Custody Seals on coolers or shipping containers intact, signed & dated?	☑ Yes	☐ No	☐ No Seals
3. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	Comments:
4. All expected paperwork received (coc & other client specific information) sealed in plastic bag and easily accessible?	☑ Yes	☐ No	
5. Samples received cooled or ambient?	Temp 2.9°	°C	Cooler # ERC-02-009
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify):
Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)	☑ Yes	☐ No	
6. Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals
7. COC (Client & LvLI) signed & dated?	☑ Yes	☐ No	
8. Sample containers are intact?	☑ Yes	☐ No	
9. All samples on COC received?	☑ Yes	☐ No	
All samples received on COC?	☑ Yes	☐ No	
10. All sample label information matches COC?	☑ Yes	☐ No	
11. Samples properly preserved? (If #5 is no, then this is no.)	☑ Yes	☐ No	
12. Samples received within hold times?	☑ Yes	☐ No	
Short holds taken to wet lab?	☐ Yes	☐ No	☑ N/A
13. VOA, TOC, TOX free of headspace?	☐ Yes	☐ No	☑ N/A
14. QC stickers placed on bottles designated by client?	☐ Yes	☐ No	☑ N/A
15. Shipment meets LvLI Sample Acceptance Policy? (Identify all bottles that do not meet the policy, which is on the reverse of this page.)	☑ Yes	☐ No	
16. Project Manager contacted concerning any discrepancies?	☐ Yes	☐ No	☑ N/A
Person Contacted _____		Date _____	

LvLI LIONVILLE LABORATORIES INC.

000000008

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-020 K0875

RECEIVED
AUG 2007

DATE RECEIVED: 07/18/07 LVL LOT # :0707[illegible]

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J156N9						
SILVER, TOTAL	001	S	07L0329	07/16/07	07/19/07	07/26/07
SILVER, TOTAL	001 REP	S	07L0329	07/16/07	07/19/07	07/26/07
SILVER, TOTAL	001 MS	S	07L0329	07/16/07	07/19/07	07/26/07
ALUMINUM, TOTAL	001	S	07L0329	07/16/07	07/19/07	07/27/07
ALUMINUM, TOTAL	001 REP	S	07L0329	07/16/07	07/19/07	07/27/07
ALUMINUM, TOTAL	001 MS	S	07L0329	07/16/07	07/19/07	07/27/07
ARSENIC, TOTAL	001	S	07L0329	07/16/07	07/19/07	07/26/07
ARSENIC, TOTAL	001 REP	S	07L0329	07/16/07	07/19/07	07/26/07
ARSENIC, TOTAL	001 MS	S	07L0329	07/16/07	07/19/07	07/26/07
BORON, TOTAL	001	S	07L0329	07/16/07	07/19/07	07/26/07
BORON, TOTAL	001 REP	S	07L0329	07/16/07	07/19/07	07/26/07
BORON, TOTAL	001 MS	S	07L0329	07/16/07	07/19/07	07/26/07
BARIUM, TOTAL	001	S	07L0329	07/16/07	07/19/07	07/26/07
BARIUM, TOTAL	001 REP	S	07L0329	07/16/07	07/19/07	07/26/07
BARIUM, TOTAL	001 MS	S	07L0329	07/16/07	07/19/07	07/26/07
BERYLLIUM, TOTAL	001	S	07L0329	07/16/07	07/19/07	07/26/07
BERYLLIUM, TOTAL	001 REP	S	07L0329	07/16/07	07/19/07	07/26/07
BERYLLIUM, TOTAL	001 MS	S	07L0329	07/16/07	07/19/07	07/26/07
CALCIUM, TOTAL	001	S	07L0329	07/16/07	07/19/07	07/26/07
CALCIUM, TOTAL	001 REP	S	07L0329	07/16/07	07/19/07	07/26/07
CALCIUM, TOTAL	001 MS	S	07L0329	07/16/07	07/19/07	07/26/07
CADMIUM, TOTAL	001	S	07L0329	07/16/07	07/19/07	07/26/07
CADMIUM, TOTAL	001 REP	S	07L0329	07/16/07	07/19/07	07/26/07
CADMIUM, TOTAL	001 MS	S	07L0329	07/16/07	07/19/07	07/26/07
COBALT, TOTAL	001	S	07L0329	07/16/07	07/19/07	07/26/07
COBALT, TOTAL	001 REP	S	07L0329	07/16/07	07/19/07	07/26/07
COBALT, TOTAL	001 MS	S	07L0329	07/16/07	07/19/07	07/26/07
CHROMIUM, TOTAL	001	S	07L0329	07/16/07	07/19/07	07/26/07
CHROMIUM, TOTAL	001 REP	S	07L0329	07/16/07	07/19/07	07/26/07
CHROMIUM, TOTAL	001 MS	S	07L0329	07/16/07	07/19/07	07/26/07
COPPER, TOTAL	001	S	07L0329	07/16/07	07/19/07	07/26/07
COPPER, TOTAL	001 REP	S	07L0329	07/16/07	07/19/07	07/26/07
COPPER, TOTAL	001 MS	S	07L0329	07/16/07	07/19/07	07/26/07
IRON, TOTAL	001	S	07L0329	07/16/07	07/19/07	07/27/07
IRON, TOTAL	001 REP	S	07L0329	07/16/07	07/19/07	07/27/07

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-020 K0875

DATE RECEIVED: 07/18/07 LVL LOT # :0707L603

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
IRON, TOTAL	001 MS	S	07L0329	07/16/07	07/19/07	07/27/07
MERCURY, TOTAL	001	S	07C0125	07/16/07	07/23/07	~~07/31/07~~ 07/24/07
MERCURY, TOTAL	001 REP	S	07C0125	07/16/07	07/23/07	07/24/07
MERCURY, TOTAL	001 MS	S	07C0125	07/16/07	07/23/07	07/24/07
POTASSIUM, TOTAL	001	S	07L0329	07/16/07	07/19/07	07/26/07
POTASSIUM, TOTAL	001 REP	S	07L0329	07/16/07	07/19/07	07/26/07
POTASSIUM, TOTAL	001 MS	S	07L0329	07/16/07	07/19/07	07/26/07
MAGNESIUM, TOTAL	001	S	07L0329	07/16/07	07/19/07	07/26/07
MAGNESIUM, TOTAL	001 REP	S	07L0329	07/16/07	07/19/07	07/26/07
MAGNESIUM, TOTAL	001 MS	S	07L0329	07/16/07	07/19/07	07/26/07
MANGANESE, TOTAL	001	S	07L0329	07/16/07	07/19/07	07/26/07
MANGANESE, TOTAL	001 REP	S	07L0329	07/16/07	07/19/07	07/26/07
MANGANESE, TOTAL	001 MS	S	07L0329	07/16/07	07/19/07	07/26/07
MOLYBDENUM, TOTAL	001	S	07L0329	07/16/07	07/19/07	07/26/07
MOLYBDENUM, TOTAL	001 REP	S	07L0329	07/16/07	07/19/07	07/26/07
MOLYBDENUM, TOTAL	001 MS	S	07L0329	07/16/07	07/19/07	07/26/07
SODIUM, TOTAL	001	S	07L0329	07/16/07	07/19/07	07/26/07
SODIUM, TOTAL	001 REP	S	07L0329	07/16/07	07/19/07	07/26/07
SODIUM, TOTAL	001 MS	S	07L0329	07/16/07	07/19/07	07/26/07
NICKEL, TOTAL	001	S	07L0329	07/16/07	07/19/07	07/26/07
NICKEL, TOTAL	001 REP	S	07L0329	07/16/07	07/19/07	07/26/07
NICKEL, TOTAL	001 MS	S	07L0329	07/16/07	07/19/07	07/26/07
LEAD, TOTAL	001	S	07L0329	07/16/07	07/19/07	07/26/07
LEAD, TOTAL	001 REP	S	07L0329	07/16/07	07/19/07	07/26/07
LEAD, TOTAL	001 MS	S	07L0329	07/16/07	07/19/07	07/26/07
ANTIMONY, TOTAL	001	S	07L0329	07/16/07	07/19/07	07/26/07
ANTIMONY, TOTAL	001 REP	S	07L0329	07/16/07	07/19/07	07/26/07
ANTIMONY, TOTAL	001 MS	S	07L0329	07/16/07	07/19/07	07/26/07
SELENIUM, TOTAL	001	S	07L0329	07/16/07	07/19/07	07/26/07
SELENIUM, TOTAL	001 REP	S	07L0329	07/16/07	07/19/07	07/26/07
SELENIUM, TOTAL	001 MS	S	07L0329	07/16/07	07/19/07	07/26/07
SILICON, TOTAL	001	S	07L0329	07/16/07	07/19/07	07/26/07
~~SILICON, TOTAL~~	~~001 REP~~	~~S~~	~~07L0329~~	~~07/16/07~~	~~07/19/07~~	~~07/26/07~~
SILICON, TOTAL	001 MS	S	07L0329	07/16/07	07/19/07	07/26/07
VANADIUM, TOTAL	001	S	07L0329	07/16/07	07/19/07	07/26/07
VANADIUM, TOTAL	001 REP	S	07L0329	07/16/07	07/19/07	07/26/07
VANADIUM, TOTAL	001 MS	S	07L0329	07/16/07	07/19/07	07/26/07
ZINC, TOTAL	001	S	07L0329	07/16/07	07/19/07	07/26/07

W.E. pw 8/8/07

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-020 K0875

DATE RECEIVED: 07/18/07 LVL LOT # :0707L603

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
ZINC, TOTAL	001 REP	S	07L0329	07/16/07	07/19/07	07/26/07
ZINC, TOTAL	001 MS	S	07L0329	07/16/07	07/19/07	07/26/07
J156P0						
SILVER, TOTAL	002	S	07L0329	07/16/07	07/19/07	07/26/07
ALUMINUM, TOTAL	002	S	07L0329	07/16/07	07/19/07	07/27/07
ARSENIC, TOTAL	002	S	07L0329	07/16/07	07/19/07	07/26/07
BORON, TOTAL	002	S	07L0329	07/16/07	07/19/07	07/26/07
BARIUM, TOTAL	002	S	07L0329	07/16/07	07/19/07	07/26/07
BERYLLIUM, TOTAL	002	S	07L0329	07/16/07	07/19/07	07/26/07
CALCIUM, TOTAL	002	S	07L0329	07/16/07	07/19/07	07/26/07
CADMIUM, TOTAL	002	S	07L0329	07/16/07	07/19/07	07/26/07
COBALT, TOTAL	002	S	07L0329	07/16/07	07/19/07	07/26/07
CHROMIUM, TOTAL	002	S	07L0329	07/16/07	07/19/07	07/26/07
COPPER, TOTAL	002	S	07L0329	07/16/07	07/19/07	07/26/07
IRON, TOTAL	002	S	07L0329	07/16/07	07/19/07	07/27/07
MERCURY, TOTAL	002	S	07C0125	07/16/07	07/23/07	07/24/07
POTASSIUM, TOTAL	002	S	07L0329	07/16/07	07/19/07	07/26/07
MAGNESIUM, TOTAL	002	S	07L0329	07/16/07	07/19/07	07/26/07
MANGANESE, TOTAL	002	S	07L0329	07/16/07	07/19/07	07/26/07
MOLYBDENUM, TOTAL	002	S	07L0329	07/16/07	07/19/07	07/26/07
SODIUM, TOTAL	002	S	07L0329	07/16/07	07/19/07	07/26/07
NICKEL, TOTAL	002	S	07L0329	07/16/07	07/19/07	07/26/07
LEAD, TOTAL	002	S	07L0329	07/16/07	07/19/07	07/26/07
ANTIMONY, TOTAL	002	S	07L0329	07/16/07	07/19/07	07/26/07
SELENIUM, TOTAL	002	S	07L0329	07/16/07	07/19/07	07/26/07
SILICON, TOTAL	002	S	07L0329	07/16/07	07/19/07	07/26/07
VANADIUM, TOTAL	002	S	07L0329	07/16/07	07/19/07	07/26/07
ZINC, TOTAL	002	S	07L0329	07/16/07	07/19/07	07/26/07
J156P1						
SILVER, TOTAL	003	S	07L0329	07/16/07	07/19/07	07/26/07
ALUMINUM, TOTAL	003	S	07L0329	07/16/07	07/19/07	07/27/07
ARSENIC, TOTAL	003	S	07L0329	07/16/07	07/19/07	07/26/07
BORON, TOTAL	003	S	07L0329	07/16/07	07/19/07	07/26/07
BARIUM, TOTAL	003	S	07L0329	07/16/07	07/19/07	07/26/07

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-020 K0875

DATE RECEIVED: 07/18/07 LVL LOT # :0707L603

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
BERYLLIUM, TOTAL	003	S	07L0329	07/16/07	07/19/07	07/26/07
CALCIUM, TOTAL	003	S	07L0329	07/16/07	07/19/07	07/26/07
CADMIUM, TOTAL	003	S	07L0329	07/16/07	07/19/07	07/26/07
COBALT, TOTAL	003	S	07L0329	07/16/07	07/19/07	07/26/07
CHROMIUM, TOTAL	003	S	07L0329	07/16/07	07/19/07	07/26/07
COPPER, TOTAL	003	S	07L0329	07/16/07	07/19/07	07/26/07
IRON, TOTAL	003	S	07L0329	07/16/07	07/19/07	07/27/07
MERCURY, TOTAL	003	S	07C0125	07/16/07	07/23/07	07/24/07
POTASSIUM, TOTAL	003	S	07L0329	07/16/07	07/19/07	07/26/07
MAGNESIUM, TOTAL	003	S	07L0329	07/16/07	07/19/07	07/26/07
MANGANESE, TOTAL	003	S	07L0329	07/16/07	07/19/07	07/26/07
MOLYBDENUM, TOTAL	003	S	07L0329	07/16/07	07/19/07	07/26/07
SODIUM, TOTAL	003	S	07L0329	07/16/07	07/19/07	07/26/07
NICKEL, TOTAL	003	S	07L0329	07/16/07	07/19/07	07/26/07
LEAD, TOTAL	003	S	07L0329	07/16/07	07/19/07	07/26/07
ANTIMONY, TOTAL	003	S	07L0329	07/16/07	07/19/07	07/26/07
SELENIUM, TOTAL	003	S	07L0329	07/16/07	07/19/07	07/26/07
SILICON, TOTAL	003	S	07L0329	07/16/07	07/19/07	07/26/07
VANADIUM, TOTAL	003	S	07L0329	07/16/07	07/19/07	07/26/07
ZINC, TOTAL	003	S	07L0329	07/16/07	07/19/07	07/26/07

LAB QC:

SILVER LABORATORY	LC1 BS	S	07L0329	N/A	07/19/07	07/26/07
SILVER, TOTAL	MB1	S	07L0329	N/A	07/19/07	07/26/07
ALUMINUM LABORTORY	LC1 BS	S	07L0329	N/A	07/19/07	07/27/07
ALUMINUM, TOTAL	MB1	S	07L0329	N/A	07/19/07	07/27/07
ARSENIC LABORATORY	LC1 BS	S	07L0329	N/A	07/19/07	07/26/07
~~ARSENIC, TOTAL~~	~~MB1~~	~~S~~	~~07L0329~~	~~N/A~~	~~07/19/07~~	~~07/26/07~~
BORON LABORATORY	LC1 BS	S	07L0329	N/A	07/19/07	07/26/07
BORON, TOTAL	MB1	S	07L0329	N/A	07/19/07	07/26/07
BARIUM LABORATORY	LC1 BS	S	07L0329	N/A	07/19/07	07/26/07
BARIUM, TOTAL	MB1	S	07L0329	N/A	07/19/07	07/26/07
BERYLLIUM LABORATORY	LC1 BS	S	07L0329	N/A	07/19/07	07/26/07
BERYLLIUM, TOTAL	MB1	S	07L0329	N/A	07/19/07	07/26/07
CALCIUM LABORATORY	LC1 BS	S	07L0329	N/A	07/19/07	07/26/07
CALCIUM, TOTAL	MB1	S	07L0329	N/A	07/19/07	07/26/07
CADMIUM LABORATORY	LC1 BS	S	07L0329	N/A	07/19/07	07/26/07

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-020 K0875

DATE RECEIVED: 07/18/07 LVL LOT # :0707L603

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
CADMIUM, TOTAL	MB1	S	07L0329	N/A	07/19/07	07/26/07
COBALT LABORATORY	LC1 BS	S	07L0329	N/A	07/19/07	07/26/07
COBALT, TOTAL	MB1	S	07L0329	N/A	07/19/07	07/26/07
CHROMIUM LABORATORY	LC1 BS	S	07L0329	N/A	07/19/07	07/26/07
CHROMIUM, TOTAL	MB1	S	07L0329	N/A	07/19/07	07/26/07
COPPER LABORATORY	LC1 BS	S	07L0329	N/A	07/19/07	07/26/07
COPPER, TOTAL	MB1	S	07L0329	N/A	07/19/07	07/26/07
IRON LABORATORY	LC1 BS	S	07L0329	N/A	07/19/07	07/27/07
IRON, TOTAL	MB1	S	07L0329	N/A	07/19/07	07/27/07
MERCURY LABORATORY	LC1 BS	S	07C0125	N/A	07/23/07	07/24/07
MERCURY, TOTAL	MB1	S	07C0125	N/A	07/23/07	07/24/07
POTASSIUM LABORATORY	LC1 BS	S	07L0329	N/A	07/19/07	07/26/07
POTASSIUM, TOTAL	MB1	S	07L0329	N/A	07/19/07	07/26/07
MAGNESIUM LABORATORY	LC1 BS	S	07L0329	N/A	07/19/07	07/26/07
MAGNESIUM, TOTAL	MB1	S	07L0329	N/A	07/19/07	07/26/07
MANGANESE LABORATORY	LC1 BS	S	07L0329	N/A	07/19/07	07/26/07
MANGANESE, TOTAL	MB1	S	07L0329	N/A	07/19/07	07/26/07
MOLYBDENUM LABORATOR	LC1 BS	S	07L0329	N/A	07/19/07	07/26/07
MOLYBDENUM, TOTAL	MB1	S	07L0329	N/A	07/19/07	07/26/07
SODIUM LABORATORY	LC1 BS	S	07L0329	N/A	07/19/07	07/26/07
SODIUM, TOTAL	MB1	S	07L0329	N/A	07/19/07	07/26/07
NICKEL LABORATORY	LC1 BS	S	07L0329	N/A	07/19/07	07/26/07
NICKEL, TOTAL	MB1	S	07L0329	N/A	07/19/07	07/26/07
LEAD LABORATORY	LC1 BS	S	07L0329	N/A	07/19/07	07/26/07
LEAD, TOTAL	MB1	S	07L0329	N/A	07/19/07	07/26/07
ANTIMONY LABORATORY	LC1 BS	S	07L0329	N/A	07/19/07	07/26/07
ANTIMONY, TOTAL	MB1	S	07L0329	N/A	07/19/07	07/26/07
SELENIUM LABORATORY	LC1 BS	S	07L0329	N/A	07/19/07	07/26/07
SELENIUM, TOTAL	MB1	S	07L0329	N/A	07/19/07	07/26/07
SILICON LABORATORY	LC1 BS	S	07L0329	N/A	07/19/07	07/26/07
SILICON, TOTAL	MB1	S	07L0329	N/A	07/19/07	07/26/07
VANADIUM LABORATORY	LC1 BS	S	07L0329	N/A	07/19/07	07/26/07
VANADIUM, TOTAL	MB1	S	07L0329	N/A	07/19/07	07/26/07
ZINC LABORATORY	LC1 BS	S	07L0329	N/A	07/19/07	07/26/07
ZINC, TOTAL	MB1	S	07L0329	N/A	07/19/07	07/26/07

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD RC-020
LVL#: 0707L603
SDG/SAF#: K0875/RC-020

W.O.#: 11343-606-001-9999-00
Date Received: 07-18-07

METALS CASE NARRATIVE

The following is a summary of the QC results accompanying the sample results. Lionville Laboratory (LvLI) certifies that all test results meet the requirements of NELAC except as noted below.

All soil samples are reported on a dry weight basis unless requested by the client, required by the method, or noted otherwise.

1. This narrative covers the analyses of 3 soil samples.

2. The 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. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within the 90-110% control limits (80-120% for Mercury).

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

6. The preparation/method blanks for 3 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 Calcium, Sodium, and Zinc were greater than the Practical Quantitation Limit (PQL) {3 x the (IDL) Instrument Detection Level} and sample J156N9 for Sodium, and sample J156P1 for Calcium, Sodium, and Zinc, read less than 20 times the MB concentration. However, no corrective action criteria for MBs were provided in SW846 method 6010B. The sample results were reported herein "uncorrected" for the levels found in the MB.

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

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 19 pages.

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

9. The matrix spike (MS) recoveries for 7 analytes were outside the 75-125% control limits. Refer to the Inorganics Accuracy Report.

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

Sample ID	Element	PDS Concentration (ppb)	PDS % Recovery
J156N9	Aluminum	22,000	98.0
	Calcium	22,000	92.2
	Iron	22,000	118.8
	Manganese	2,000	96.0
	Antimony	100	96.2
	Silicon	2,100	91.3

11. The duplicate analyses for 14 analytes were outside the 20% Relative Percent Difference (RPD) control limits. Refer to the Inorganics Precision Report.

12. For the purposes of this report, the data has been reported to the 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.

for Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

8/9/07
Date

jjw/m07-603

LIONVILLE LABORATORY INC.

METALS METHOD GLOSSARY

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

ot#: 0707L603

eaching Procedure: __1310 __1311 __1312 __Other:_____

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

Metals Digestion Methods: __3005A __3010A __3015 __3020A X3050B __3051 __200.7 __SS17
__Other: _____

Metals Analysis Methods

	SW846		EPA		STD MTD	EPA OSWR	USATHAMA
luminum	X6010B		__200.7				__99
ntimony	X6010B	__7041 [5]	__200.7	__204.2			__99
rsenic	X6010B	__7060A [5]	__200.7	__206.2	__3113B		__99
arium	X6010B		__200.7				__99
eryllium	X6010B		__200.7				__99
ismuth	__6010B [1]		__200.7 [1]			__1620	__99
oron	X6010B		__200.7				__99
admium	X6010B	__7131A [5]	__200.7	__213.2			__99
alcium	X6010B		__200.7				__99
hromium	X6010B	__7191 [5]	__200.7	__218.2			__SS17
obalt	X6010B		__200.7				__99
opper	X6010B	__7211 [5]	__200.7	__220.2			__99
ron	X6010B		__200.7				__99
ead	X6010B	__7421 [5]	__200.7	__239.2	__3113B		__99
ithium	__6010B	__7430 [4]	__200.7			__1620	__99
agnesium	X6010B		__200.7				__99
anganese	X6010B		__200.7				__99
ercury	__7470A [3]	X7471A [3]	__245.1 [2]	__245.5 [2]			__99
olybdenum	X6010B		__200.7				__99
ickel	X6010B		__200.7				__99
otassium	X6010B	__7610 [4]	__200.7	__258.1 [4]			__99
are Earths	__6010B [1]		__200.7 [1]			__1620	__99
elenium	X6010B	__7740 [5]	__200.7	__270.2	__3113B		__99
ilicon	X6010B [1]		__200.7			__1620	__99
ilica	__6010B		__200.7			__1620	__99
ilver	X6010B	__7761 [5]	__200.7	__272.2			__99
odium	X6010B	__7770 [4]	__200.7	__273.1 [4]			__99
trontium	__6010B		__200.7				__99
hallium	__6010B	__7841 [5]	__200.7	__279.2	__200.9		__99
in	__6010B		__200.7				__99
itanium	__6010B		__200.7				__99
ranium	__6010B [1]		__200.7 [1]			__1620	__99
anadium	X6010B		__200.7				__99
inc	X6010B		__200.7				__99
irconium	__6010B [1]		__200.7 [1]			__1620	__99

Other:_____ Method:_____

L-WI-033/M-03/01
000000008

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.

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 08/01/07

CLIENT: TNUHANFORD RC-020 K0875 LVL LOT #: 0707L603

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	J156N9	Silver, Total	0.09 u	MG/KG	0.09	1.0
		Aluminum, Total	4430	MG/KG	1.7	1.0
		Arsenic, Total	4.4	MG/KG	0.39	1.0
		Boron, Total	3.2	MG/KG	0.34	1.0
		Barium, Total	71.8	MG/KG	0.02	1.0
		Beryllium, Total	0.15	MG/KG	0.01	1.0
		Calcium, Total	5100	MG/KG	0.68	1.0
		Cadmium, Total	0.10	MG/KG	0.05	1.0
		Cobalt, Total	6.6	MG/KG	0.08	1.0
		Chromium, Total	7.3	MG/KG	0.1	1.0
		Copper, Total	15.5	MG/KG	0.09	1.0
		Iron, Total	14300	MG/KG	0.32	1.0
		Mercury, Total	1.4	MG/KG	0.01	1.0
		Potassium, Total	901	MG/KG	3.0	1.0
		Magnesium, Total	3310	MG/KG	0.77	1.0
		Manganese, Total	261	MG/KG	0.07	1.0
		Molybdenum, Total	0.49	MG/KG	0.15	1.0
		Sodium, Total	156	MG/KG	0.67	1.0
		Nickel, Total	8.3	MG/KG	0.26	1.0
		Lead, Total	6.7	MG/KG	0.31	1.0
		Antimony, Total	0.21 u	MG/KG	0.21	1.0
		Selenium, Total	0.57	MG/KG	0.41	1.0
		Silicon, Total	1230	MG/KG	0.82	1.0
		Vanadium, Total	27.9	MG/KG	0.08	1.0
		Zinc, Total	34.3	MG/KG	0.04	1.0

MG/KG added entry MW 8/1/07

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 08/01/07

CLIENT: TNUHANFORD RC-020 K0875 LVL LOT #: 0707L603

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-002	J156P0	Silver, Total	0.09 u	MG/KG	0.09	1.0
		Aluminum, Total	5870	MG/KG	1.7	1.0
		Arsenic, Total	3.2	MG/KG	0.39	1.0
		Boron, Total	2.6	MG/KG	0.35	1.0
		Barium, Total	71.5	MG/KG	0.02	1.0
		Beryllium, Total	0.09	MG/KG	0.01	1.0
		Calcium, Total	5550	MG/KG	0.68	1.0
		Cadmium, Total	0.11	MG/KG	0.05	1.0
		Cobalt, Total	7.7	MG/KG	0.08	1.0
		Chromium, Total	13.1	MG/KG	0.1	1.0
		Copper, Total	16.3	MG/KG	0.09	1.0
		Iron, Total	18100	MG/KG	0.33	1.0
		Mercury, Total	1.3	MG/KG	0.02	1.0
		Potassium, Total	1080	MG/KG	3.1	1.0
		Magnesium, Total	4070	MG/KG	0.78	1.0
		Manganese, Total	282	MG/KG	0.07	1.0
		Molybdenum, Total	0.73	MG/KG	0.15	1.0
		Sodium, Total	218	MG/KG	0.67	1.0
		Nickel, Total	11.7	MG/KG	0.26	1.0
		Lead, Total	6.9	MG/KG	0.32	1.0
		Antimony, Total	0.27	MG/KG	0.21	1.0
		Selenium, Total	0.55	MG/KG	0.41	1.0
		Silicon, Total	924	MG/KG	0.83	1.0
		Vanadium, Total	42.9	MG/KG	0.08	1.0
		Zinc, Total	42.2	MG/KG	0.04	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 08/01/07

CLIENT: TNUHANFORD RC-020 K0875 LVL LOT #: 0707L603

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-003	J156P1	Silver, Total	0.09 u	MG/KG	0.09	1.0
		Aluminum, Total	46.8	MG/KG	1.7	1.0
		Arsenic, Total	0.40 u	MG/KG	0.40	1.0
		Boron, Total	0.35 u	MG/KG	0.35	1.0
		Barium, Total	1.2	MG/KG	0.02	1.0
		Beryllium, Total	0.01 u	MG/KG	0.01	1.0
		Calcium, Total	21.8	MG/KG	0.69	1.0
		Cadmium, Total	0.05 u	MG/KG	0.05	1.0
		Cobalt, Total	0.08 u	MG/KG	0.08	1.0
		Chromium, Total	0.19	MG/KG	0.1	1.0
		Copper, Total	0.29	MG/KG	0.09	1.0
		Iron, Total	106	MG/KG	0.33	1.0
		Mercury, Total	0.02 u	MG/KG	0.02	1.0
		Potassium, Total	24.2	MG/KG	3.1	1.0
		Magnesium, Total	7.0	MG/KG	0.79	1.0
		Manganese, Total	5.0	MG/KG	0.07	1.0
		Molybdenum, Total	0.25	MG/KG	0.16	1.0
		Sodium, Total	11.4	MG/KG	0.68	1.0
		Nickel, Total	0.26 u	MG/KG	0.26	1.0
		Lead, Total	0.32 u	MG/KG	0.32	1.0
		Antimony, Total	0.21 u	MG/KG	0.21	1.0
		Selenium, Total	0.42 u	MG/KG	0.42	1.0
		Silicon, Total	66.0	MG/KG	0.84	1.0
		Vanadium, Total	0.08 u	MG/KG	0.08	1.0
		Zinc, Total	2.4	MG/KG	0.04	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 08/01/07

CLIENT: TNUHANFORD RC-020 K0875 LVL LOT #: 0707L603

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	07L0329-MB1	Silver, Total	0.09 u	MG/KG	0.09	1.0
		Aluminum, Total	1.8 u	MG/KG	1.8	1.0
		Arsenic, Total	0.40 u	MG/KG	0.40	1.0
		Boron, Total	0.35 u	MG/KG	0.35	1.0
		Barium, Total	0.02 u	MG/KG	0.02	1.0
		Beryllium, Total	0.01 u	MG/KG	0.01	1.0
		Calcium, Total	7.0	MG/KG	0.70	1.0
		Cadmium, Total	0.05 u	MG/KG	0.05	1.0
		Cobalt, Total	0.08 u	MG/KG	0.08	1.0
		Chromium, Total	0.15	MG/KG	0.1	1.0
		Copper, Total	0.21	MG/KG	0.09	1.0
		Iron, Total	2.0	MG/KG	0.33	1.0
		Potassium, Total	3.1 u	MG/KG	3.1	1.0
		Magnesium, Total	0.95	MG/KG	0.79	1.0
		Manganese, Total	0.07 u	MG/KG	0.07	1.0
		Molybdenum, Total	0.19	MG/KG	0.16	1.0
		Sodium, Total	10.2	MG/KG	0.69	1.0
		Nickel, Total	0.26 u	MG/KG	0.26	1.0
		Lead, Total	0.32 u	MG/KG	0.32	1.0
		Antimony, Total	0.22 u	MG/KG	0.22	1.0
		Selenium, Total	0.42 u	MG/KG	0.42	1.0
		Silicon, Total	0.93	MG/KG	0.84	1.0
		Vanadium, Total	0.08 u	MG/KG	0.08	1.0
		Zinc, Total	1.0	MG/KG	0.04	1.0
BLANK1	07C0125-MB1	Mercury, Total	0.02 u	MG/KG	0.02	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 08/01/07

CLIENT: TNUHANFORD RC-020 K0875 LVL LOT #: 0707L603

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-001	J156N9	Silver, Total	4.4	0.09u	4.8	91.7	1.0
		Aluminum, Total	6350	4430	190	1009 *	1.0
		Arsenic, Total	166	4.4	190	84.9	1.0
		Boron, Total	85.8	3.2	95.2	86.8	1.0
		Barium, Total	252	71.8	190	94.4	1.0
		Beryllium, Total	4.4	0.15	4.8	88.6	1.0
		Calcium, Total	8230	5100	2380	131.5	1.0
		Cadmium, Total	4.4	0.10	4.8	89.5	1.0
		Cobalt, Total	52.2	6.6	47.6	95.8	1.0
		Chromium, Total	27.5	7.3	19.0	106.3	1.0
		Copper, Total	38.3	15.5	23.8	95.8	1.0
		Iron, Total	17900	14300	95.2	3767 *	1.0
		Mercury, Total	1.3	1.4	0.14	-56. *	1.0
		Potassium, Total	3230	901	2380	97.7	1.0
		Magnesium, Total	6110	3310	2380	117.6	1.0
		Manganese, Total	365	261	47.6	218.5*	1.0
		Molybdenum, Total	88.4	0.49	95.2	92.3	1.0
		Sodium, Total	2390	156	2380	93.7	1.0
		Nickel, Total	52.8	8.3	47.6	93.5	1.0
		Lead, Total	50.0	6.7	47.6	91.0	1.0
		Antimony, Total	27.8	0.21u	47.6	58.4	1.0
		Selenium, Total	163	0.57	190	85.4	1.0
		Silicon, Total	1280	1230	95.2	54.1*	1.0
		Vanadium, Total	84.5	27.9	47.6	118.9	1.0
		Zinc, Total	85.9	34.3	47.6	108.4	1.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 08/01/07

CLIENT: TNUHANFORD RC-020 K0875 LVL LOT #: 0707L603

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

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-001REP	J156N9	Silver, Total	0.09u	0.09u	NC	1.0
		Aluminum, Total	4430	5400	19.8	1.0
		Arsenic, Total	4.4	2.9	41.1	1.0
		Boron, Total	3.2	2.3	32.7	1.0
		Barium, Total	71.8	73.7	2.6	1.0
		Beryllium, Total	0.15	0.11	25.5	1.0
		Calcium, Total	5100	6590	25.5	1.0
		Cadmium, Total	0.10	0.16	45.7	1.0
		Cobalt, Total	6.6	7.1	7.3	1.0
		Chromium, Total	7.3	10.4	35.0	1.0
		Copper, Total	15.5	21.9	34.2	1.0
		Iron, Total	14300	16400	13.4	1.0
		Mercury, Total	1.4	1.4	2.4	1.0
		Potassium, Total	901	986	9.0	1.0
		Magnesium, Total	3310	3870	15.5	1.0
		Manganese, Total	261	260	0.23	1.0
		Molybdenum, Total	0.49	0.92	61.9	1.0
		Sodium, Total	156	192	20.5	1.0
		Nickel, Total	8.3	10.5	23.4	1.0
		Lead, Total	6.7	6.8	1.5	1.0
		Antimony, Total	0.21u	0.24	~~NC~~ 200	1.0
		Selenium, Total	0.57	0.91	46.0	1.0
		Silicon, Total	1230	1060	15.4	1.0
		Vanadium, Total	27.9	39.8	35.2	1.0
		Zinc, Total	34.3	42.5	21.4	1.0

corrected value
PMS 8/8/07

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 08/01/07

CLIENT: TNUHANFORD RC-020 K0875 LVL LOT #: 0707L603

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	07L0329-LC1	Silver, LCS	46.2	49.0	MG/KG	94.3
		Aluminum, LCS	441	490	MG/KG	90.0
		Arsenic, LCS	867	980	MG/KG	88.5
		Boron, LCS	448	490	MG/KG	91.4
		Barium, LCS	458	490	MG/KG	93.4
		Beryllium, LCS	22.9	24.5	MG/KG	93.5
		Calcium, LCS	2330	2450	MG/KG	94.9
		Cadmium, LCS	22.8	24.5	MG/KG	93.1
		Cobalt, LCS	234	245	MG/KG	95.6
		Chromium, LCS	46.4	49.0	MG/KG	94.7
		Copper, LCS	114	122	MG/KG	92.8
		Iron, LCS	452	490	MG/KG	92.2
		Potassium, LCS	2170	2450	MG/KG	88.6
		Magnesium, LCS	2270	2450	MG/KG	92.6
		Manganese, LCS	70.4	73.5	MG/KG	95.8
		Molybdenum, LCS	461	490	MG/KG	94.0
		Sodium, LCS	2170	2450	MG/KG	88.7
		Nickel, LCS	183	196	MG/KG	93.5
		Lead, LCS	229	245	MG/KG	93.4
		Antimony, LCS	269	294	MG/KG	91.6
		Selenium, LCS	856	980	MG/KG	87.4
		Silicon, LCS	435	490	MG/KG	88.9
		Vanadium, LCS	235	245	MG/KG	95.9
		Zinc, LCS	91.3	98.0	MG/KG	93.2
LCS1	07C0125-LC1	Mercury, LCS	2.9	2.8	MG/KG	102.6

Lionville Laboratory Use Only

07071603

Custody Transfer Record/Lab Work Request

Page 1 of 1

See SRC

LVLI

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: THE HANFORD SAF# RC-020

Est. Final Proj. Sampling Date:

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

Project Contact/Phone#:

Lionville Laboratory Project Manager: O Johnson

QC: SW846 Del: STD TAT: 21DAY

Date Rec'd: 7-18-07 Date Due: 8-8-07

		A	B	C	D	E
Refrigerator #		2	2	2	2	2
#/Type Container	Liquid / Solid	1G	1G	1G	1G	1P
Volume		120	120	250	250	250
Preservatives		—	—	—	—	—
ANALYSES REQUESTED	ORGANIC: VOA					
	ORGANIC: BNA	✓	✓			
	ORGANIC: Pest/PCB			✓		
	ORGANIC: Herb					
	ORGANIC: Pest					
	ORGANIC: TOT TPH				✓	
	INORG: Metal					✓
	INORG: CN					
Lionville Laboratory Use Only		8625H	OPCB	8608H	IPHC	Met①

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
001	J156N9			Soil	7-16-07	1345
002	J156R0			Soil	7-16-07	1350
003	J156P1			Soil	7-16-07	1253

Special Instructions:

Met① = HSL + B, Mo, Si
NOTL

Special Instructions:

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

Relinquished by	Received by	Date	Time
[signature]	[signature]	7/18/07	0935

Relinquished by	Received by	Date	Time

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

000000017

0701C005

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-020-082	Page 1 of 1

Collector C. Martinez	Company Contact C. Martinez	Telephone No. 509-539-2816	Project Coordinator KESSNER, JH
Price Code 21 days	Data Turnaround 8D		
Project Designation 100-BC Burial Grounds - Soil Full Protocol	Sampling Location 100-B-23 treated wood sites		SAF No. RC-020
Ice Chest No. ERC-02-609	Field Logbook No. EFL1173-13	COA R10B232000	Method of Shipment FED EX
Shipped To EBERLINE SERVICES/ LIONVILLE	Offsite Property No. A070381		Bill of Lading/Air Bill No. see OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

cool 4 degrees

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C						
Type of Container	G/P	aG	aG	aG	aG						
No. of Container(s)	1	1	1	1	1						
Volume	250mL	120mL	120mL	250mL	250mL						
SAMPLE ANALYSIS	See item (1) in Special Instructions.	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1						

Sample No.	Matrix *	Sample Date	Sample Time										
J156N9	SOIL	07/16/07	1345	✓	✓	✓	✓	✓					
J156P0	SOIL	07/16/07	1350	✓	✓	✓	✓	✓					
J156P1	SOIL	07/16/07	1253	✓	n/a	✓	n/a	n/a					

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time 1700	Received By/Stored In	Date/Time 1700
C. Martinez / C. Martinez	07/16/07	3728 3B	07/16/07
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
3728 3B 7-17-07	0900	KM Singleton	7-17-07 0900
Relinquished By/Removed From	Date/Time WCH	Received By/Stored In	Date/Time
KM Singleton	7-17-07 1500	FED EX	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Fed Ex	7-18-07 0935	Patti Hennessy	7-18-07 0935
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

None

(1) ICP Metals - 6010TR (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7470 - (CV)

Sampler unavailable to relinquish samples from 3728 Ref # 3B. 3728 Custodian removed samples for shipping on 7/17/07

Matrix *

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

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

WCH-EE-011

000000018

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU HANFORD
Project/SAF/SOW/Release #: RC-020

Date: 7-18-07

LvLI Batch #: 0707L603

Sample Custodian: [signature]

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier FedEx		Airbill # 7996 7655 4184
2. Custody Seals on coolers or shipping containers intact, signed & dated?	☑ Yes	☐ No	☐ No Seals
3. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	Comments:
4. All expected paperwork received (coc & other client specific information) sealed in plastic bag and easily accessible?	☑ Yes	☐ No	
5. Samples received cooled or ambient?	Temp 2.9°	°C	Cooler # ERC-02-009
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify):
Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)	☑ Yes	☐ No	
6. Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals
7. COC (Client & LvLI) signed & dated?	☑ Yes	☐ No	
8. Sample containers are intact?	☑ Yes	☐ No	
9. All samples on COC received?	☑ Yes	☐ No	
All samples received on COC?	☑ Yes	☐ No	
10. All sample label information matches COC?	☑ Yes	☐ No	
11. Samples properly preserved? (If #5 is no, then this is no.)	☑ Yes	☐ No	
12. Samples received within hold times?	☑ Yes	☐ No	
Short holds taken to wet lab?	☐ Yes	☐ No	☑ N/A
13. VOA, TOC, TOX free of headspace?	☐ Yes	☐ No	☑ N/A
14. QC stickers placed on bottles designated by client?	☐ Yes	☐ No	☑ N/A
15. Shipment meets LvLI Sample Acceptance Policy? (Identify all bottles that do not meet the policy, which is on the reverse of this page.)	☑ Yes	☐ No	
16. Project Manager contacted concerning any discrepancies?	☐ Yes	☐ No	☑ N/A
Person Contacted _____		Date _____	

LvLI LIONVILLE LABORATORY INC.

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-020 K0875

RECEIVED
AUG 2007

DATE RECEIVED: 07/18/07 LVL LOT # :07[illegible]603

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J156N9						
% SOLIDS	001	S	07L%S083	07/16/07	07/24/07	07/25/07
PETROLEUM HYDROCARBO	001	S	07LHC029	07/16/07	08/01/07	08/02/07
J156P0						
% SOLIDS	002	S	07L%S083	07/16/07	07/24/07	07/25/07
PETROLEUM HYDROCARBO	002	S	07LHC029	07/16/07	08/01/07	08/02/07
PETROLEUM HYDROCARBO	002 REP	S	07LHC029	07/16/07	08/01/07	08/02/07
PETROLEUM HYDROCARBO	002 MS	S	07LHC029	07/16/07	08/01/07	08/02/07
J156P1						
% SOLIDS	003	S	07L%S083	07/16/07	07/24/07	07/25/07
% SOLIDS	003 REP	S	07L%S083	07/16/07	07/24/07	07/25/07

AB QC:

PETROLEUM HYDROCARBO	MB1	S	07LHC029	N/A	08/01/07	08/02/07
PETROLEUM HYDROCARBO	MB1 BS	S	07LHC029	N/A	08/01/07	08/02/07

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD RC-020 K0875
LVL#: 0707L603

W.O.#: 11343-606-001-9999-00
Date Received: 07-18-07

INORGANIC NARRATIVE

1. This narrative covers the analyses of 3 soil samples.

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

   LvLI is NELAP accredited by the state of Pennsylvania and holds over 20 additional state accreditations. For a complete list of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager. LvLI certifies that all test results meet the requirements of NELAC with any exception noted in the following statements.

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

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

5. The method blank for Petroleum Hydrocarbons (PHC) was within the method criteria.

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

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

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

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

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

Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

8/6/07
Date

njp\i07-603

The results presented in this report relate to the analytical testing and conditions of the samples upon receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 11 pages.

Lionville Laboratory Incorporated

WET CHEMISTRY

METHODS GLOSSARY FOR SOIL/SOLIDS SAMPLE ANALYSIS

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

L-WI-034/B-01/01

Lionville Laboratory Incorporated

METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

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

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

ABBREVIATIONS

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

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

ANALYTICAL WET CHEMISTRY METHODS

1. ASTM Standard Methods.

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

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

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

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

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

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

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

f. Code of Federal Regulations.

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 08/06/07

CLIENT: TNUHANFORD RC-020 K0875

LVL LOT #: 0707L603

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	J156N9	% Solids	100		%	0.01	1.0
		Petroleum Hydrocarbons	133	u	MG/KG	133	1.0
-002	J156P0	% Solids	100		%	0.01	1.0
		Petroleum Hydrocarbons	133	u	MG/KG	133	1.0
-003	J156P1	% Solids	100		%	0.01	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 08/06/07

CLIENT: TNUHANFORD RC-020 K0875

LVL LOT #: 0707L603

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK10	07LHC029-MB1	Petroleum Hydrocarbons	133	u	MG/KG	133	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 08/06/07

CLIENT: TNUHANFORD RC-020 K0875 LVL LOT #: 0707L603

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-002	J156P0	Petroleum Hydrocarbons	545	54.8	555	88.5	1.0
BLANK10	07LHC029-MB1	Petroleum Hydrocarbons	561	133 u	555	101.1	1.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 08/06/07

CLIENT: TNUHANFORD RC-020 K0875

LVL LOT #: 0707L603

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

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT		REPLICATE		RPD	DILUTION FACTOR(REP)
-002REP	J156P0	Petroleum Hydrocarbons	133	u	132	u	NC	1.0
-003REP	J156P1	% Solids	100		100		0.00	1.0

Lionville Laboratory Use Only

07071603

Custody Transfer Record/Lab Work Request

Page ___ of ___

See SRC

VLI

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TMC HANFORD SAF# RC-020

Est. Final Proj. Sampling Date:

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

Project Contact/Phone#:

Lionville Laboratory Project Manager: O Johnson

QC: SW846 Del: STD TAT: 21DAY

Date Rec'd: 7-18-07 Date Due: 8-8-07

		A	B	C	D	E
Refrigerator #		2	2	2	2	2
#/Type Container	Liquid					
	Solid	1G	1G	1G	1G	1P
Volume		120	120	250	250	250
Preservatives		—	—	—	—	—
ANALYSES REQUESTED	ORGANIC	VOA	BNA	PCB	Herb	OCST / TPH
	INORG					Metal Hg / CN
Lionville Laboratory Use Only			8625H	8082B		8608H / TPHC		MetD

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	8625H	8082B	8608H	TPHC	MetD
001	T156N9			Soil	7-16-07	1345	✓	✓	✓	✓	✓
002	T156R0			Soil	7-16-07	1350	✓	✓	✓	✓	✓
003	T156P1			Soil	7-16-07	1253	✓				✓

Special Instructions:
MetD = HSL + B, Mo, S.
NOTL

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

Relinquished by	Received by	Date	Time
[signature]	[signature]	7/18/07	0935

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN	COMPOSITE WASTE		

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-020-082	Page 1 of 1

Collector C. Martinez	Company Contact C. Martinez	Telephone No. 509-539-2816	Project Coordinator KESSNER, JH	Price Code 21 days	Data Turnaround 8D
Project Designation 100-BC Burial Grounds - Soil Full Protocol	Sampling Location 100-B-23 treated wood sites		SAF No. RC-020		
Ice Chest No. ERC-02-609	Field Logbook No. EFL1173-13	COA R10B232000	Method of Shipment FED EX		
Shipped To EBERLINE SERVICES, LIONVILLE	Offsite Property No. A070381		Bill of Lading/Air Bill No. see OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

cool 4 degrees

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C						
Type of Container	G/P	aG	aG	aG	aG						
No. of Container(s)	1	1	1	1	1						
Volume	250mL	120mL	120mL	250mL	250mL						
SAMPLE ANALYSIS	See item (1) in Special Instructions.	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1						

Sample No.	Matrix *	Sample Date	Sample Time										
J156N9	SOIL	07/16/07	1345	✓	✓	✓	✓	✓					
J156P0	SOIL	07/16/07	1350	✓	✓	✓	✓	✓					
J156P1	SOIL	07/16/07	1253	✓	n/a	✓	n/a	n/a					

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
C. Martinez / C. Martinez	1700 07/16/07	3728 3B	1700 07/16/07
3728 3B	7-17-07 0900	KM Singleton	7-17-07 0900
KM Singleton	7-17-07 WCH 1500	FED EX	
Fed Ex	7-18-07 0935	Carla Hennerby	7-18-07 0935

SPECIAL INSTRUCTIONS

None

(1) ICP Metals - 6010TR (Client List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc]; Mercury - 7470 - (CV)

Sampler unavailable to relinquish samples from 3728 Ref # 3B. 3728 Custodian removed samples for shipping on 7/17/07

Matrix *

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

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

WCH-EE-01

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU HANFORD
Project/SAF/SOW/Release #: RC-020

Date: 7-18-07

LvLI Batch #: 0707L603

Sample Custodian: [illegible]

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier: FedEx		Airbill #: 7996 7635 4184
2. Custody Seals on coolers or shipping containers intact, signed & dated?	☑ Yes	☐ No	☐ No Seals
3. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	Comments:
4. All expected paperwork received (coc & other client specific information) sealed in plactic bag and easily accessible?	☑ Yes	☐ No	
5. Samples received cooled or ambient?	Temp 2.9°	°C	Cooler # ERC-02-009
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify):
Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)	☑ Yes	☐ No	
6. Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals
7. COC (Client & LvLI) signed & dated?	☑ Yes	☐ No	
8. Sample containers are intact?	☑ Yes	☐ No	
9. All samples on COC received?	☑ Yes	☐ No	
All samples received on COC?	☑ Yes	☐ No	
10. All sample label information matches COC?	☑ Yes	☐ No	
11. Samples properly preserved? (If #5 is no, then this is no.)	☑ Yes	☐ No	
12. Samples received within hold times?	☑ Yes	☐ No	
Short holds taken to wet lab?	☐ Yes	☐ No	☑ N/A
13. VOA, TOC, TOX free of headspace?	☐ Yes	☐ No	☑ N/A
14. QC stickers placed on bottles designated by client?	☐ Yes	☐ No	☑ N/A
15. Shipment meets LvLI Sample Acceptance Policy? (Identify all bottles that do not meet the policy, which is on the reverse of this page.)	☑ Yes	☐ No	
16. Project Manager contacted concerning any discrepancies?	☐ Yes	☐ No	☑ N/A

Person Contacted _____ Date _____

LvLI LIONVILLE LABORATORIES, INC.