SAF-RC-051
100 & 300 Area Component of the RCBRA - Incremental Soil Sampling
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

RECEIVED
JUN 2 2 2006
EDMC

Jill Thomson	H0-23	KW 6/13/06 INITIAL/DATE
Jeanette Duncan	H9-02	KW 6/13/06 INITIAL/DATE

COMMENTS:

SDG K0300 SAF-RC-051

Rad only X Chem only Rad & Chem

X Complete Partial

Waste Site: 100-D Riparian #2

LIONVILLE LABORATORY INC.

7 June 2006

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

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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 #	0604L738
SDG #	K0300
SAF #	RC-051
Date Received	4/11/06
# Samples	6
Mat\rix	Soil
Volatiles	
Semivolatiles	X
Pest/PCB	X
PAH	
DRO/KRO/GRO	
GC Alcohols	
Herbicides	
Metals	X
Inorganics	X

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

Sincerely,
Lionville Laboratory Incorporated

Orlette S. Johnson
Project Manager

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

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

RECEIVED
JUN 2006

Lionville Laboratory, Inc.
BNA ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-051 K0300

DATE RECEIVED: 04/11/06 LVL LOT # :06041938

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J11JC0	001	S	06LE0297	04/09/06	04/19/06	04/28/06
J11JD8	002	S	06LE0297	04/09/06	04/19/06	04/26/20
J11JD8	002 MS	S	06LE0297	04/09/06	04/19/06	04/26/20
J11JD8	002 MSD	S	06LE0297	04/09/06	04/19/06	04/28/06
J11JD9	003	S	06LE0297	04/09/06	04/19/06	04/29/06
J11JF0	004	S	06LE0297	04/09/06	04/19/06	04/29/06
J11JF1	005	S	06LE0297	04/09/06	04/19/06	05/02/06
J11JR9	006	S	06LE0297	04/09/06	04/19/06	04/30/06

LAB QC:

SBLKWI	MB1	S	06LE0297	N/A	04/19/06	04/24/06
SBLKWI	MB1 BS	S	06LE0297	N/A	04/19/06	04/24/06

LIONVILLE LABORATORY INC.

Case Narrative

Client: TNU-HANFORD RC-051
LVL #: 0604L738
SDG/SAF # K0300/RC-051

W.O. #: 11343-606-001-9999-00
Date Received: 04-11-2006

SEMIVOLATILE

Six (6) soil samples were collected on 04-09-2006.

The samples and their associated QC samples were extracted according to Lionville Laboratory SOPs based on SW 846 method 3540C on 04-19-2006 and analyzed according to criteria set forth in Lionville Laboratory SOPs based on SW 846 Method 8270C for TCL Semivolatile target compounds on 04-24,26,28,29,30-2006 and 05-02-2006.

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. All results presented in this report are derived from samples that met LvLI's sample acceptance policy with the exception of a discrepancy, which was documented on the Sample Receipt Checklist.

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

3. All soil sample results were reported on a wet-weight basis.

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

5. All surrogate recoveries were within acceptance criteria.

6. All matrix spike recoveries were within acceptance criteria.

7. All blank spike recoveries were within acceptance criteria.

8. The method blank contained the common laboratory contaminants Bis (2-Ethylhexyl) phthalate and Di-n-butylphthalate at levels less than the CRQL.

9. 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 2 7 pages.

LIONVILLE LABORATORY INC.

10. 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").

11. 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.

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

Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

5/9/06
Date

som\gorup\data\bna\tnu-hanford\0604-738.doc

GLOSSARY

DATA QUALIFIERS

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

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

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

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

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

I = Interference.

NQ = Result qualitatively confirmed but not able to quantify.

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

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

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

GLOSSARY

ABBREVIATIONS

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

BSD = Indicates blank spike duplicate.

MS = Indicates matrix spike.

MSD = Indicates matrix spike duplicate.

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

NA = Not Applicable.

DF = Dilution Factor.

NR = Not Required.

SP, Z = Indicates Spiked Compound.

TECHNICAL FLAGS FOR MANUAL INTEGRATION

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

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

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

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

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

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

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

Lionville Laboratory, Inc.

Semivolatiles by GC/MS, HSL List

Report Date: 05/04/06 13:43

RFW Batch Number: **0604L738** Client: **TNUHANFORD RC-051 K0300** Work Order: 11343606001 Page: 1a

000000007

	Cust ID:	J11JC0		J11JD8		J11JD8		J11JD8		J11JD9		J11JF0	
Sample Information	RFW#:	001		002		002 MS		002 MSD		003		004	
	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	58	%	74	%	58	%	63	%	55	%	66	%
	2-Fluorobiphenyl	65	%	83	%	69	%	77	%	58	%	73	%
	Terphenyl-d14	77	%	103	%	75	%	91	%	74	%	93	%
	Phenol-d5	50	%	70	%	58	%	63	%	50	%	60	%
	2-Fluorophenol	42	%	60	%	48	%	49	%	44	%	51	%
	2,4,6-Tribromophenol	71	%	95	%	76	%	91	%	67	%	84	%
			fl		fl		fl		fl		fl		fl
Phenol		330	U	330	U	64	%	69	%	330	U	330	U
bis(2-Chloroethyl)ether		330	U	330	U	59	%	63	%	330	U	330	U
2-Chlorophenol		330	U	330	U	61	%	67	%	330	U	330	U
1,3-Dichlorobenzene		330	U	330	U	53	%	62	%	330	U	330	U
1,4-Dichlorobenzene		330	U	330	U	52	%	61	%	330	U	330	U
1,2-Dichlorobenzene		330	U	330	U	56	%	66	%	330	U	330	U
2-Methylphenol		330	U	330	U	68	%	74	%	330	U	330	U
2,2'-oxybis(1-Chloropropane)		330	U	330	U	61	%	66	%	330	U	330	U
4-Methylphenol		330	U	330	U	71	%	79	%	330	U	330	U
N-Nitroso-di-n-propylamine		330	U	330	U	69	%	80	%	330	U	330	U
Hexachloroethane		330	U	330	U	51	%	56	%	330	U	330	U
Nitrobenzene		330	U	330	U	61	%	71	%	330	U	330	U
Isophorone		330	U	330	U	74	%	84	%	330	U	330	U
2-Nitrophenol		330	U	330	U	70	%	74	%	330	U	330	U
2,4-Dimethylphenol		330	U	330	U	68	%	81	%	330	U	330	U
bis(2-Chloroethoxy)methane		330	U	330	U	69	%	76	%	330	U	330	U
2,4-Dichlorophenol		330	U	330	U	71	%	82	%	330	U	330	U
1,2,4-Trichlorobenzene		330	U	330	U	60	%	72	%	330	U	330	U
Naphthalene		330	U	330	U	62	%	72	%	330	U	330	U
4-Chloroaniline		330	U	330	U	53	%	46	%	330	U	330	U
Hexachlorobutadiene		330	U	330	U	66	%	80	%	330	U	330	U
4-Chloro-3-methylphenol		330	U	330	U	75	%	88	%	330	U	330	U
2-Methylnaphthalene		330	U	330	U	69	%	82	%	330	U	330	U
Hexachlorocyclopentadiene		330	U	330	U	48	%	53	%	330	U	330	U
2,4,6-Trichlorophenol		330	U	330	U	77	%	96	%	330	U	330	U
2,4,5-Trichlorophenol		830	U	830	U	80	%	95	%	830	U	830	U

*= Outside of EPA CLP QC limits.

RFW Batch Number: 0604L738 Client: TNUHANFORD RC-051 K0300 Work Order: 11343606001 Page: 1b

Cust ID:	J11JC0		J11JD8		J11JD8		J11JD8		J11JD9		J11JF0	
RFW#:	001		002		002 MS		002 MSD		003		004	
2-Chloronaphthalene	330	U	330	U	72	%	86	%	330	U	330	U
2-Nitroaniline	830	U	830	U	78	%	92	%	830	U	830	U
Dimethylphthalate	330	U	330	U	79	%	92	%	330	U	330	U
Acenaphthylene	330	U	330	U	73	%	89	%	330	U	330	U
2,6-Dinitrotoluene	330	U	330	U	78	%	90	%	330	U	330	U
3-Nitroaniline	830	U	830	U	85	%	84	%	830	U	830	U
Acenaphthene	330	U	330	U	72	%	90	%	330	U	330	U
2,4-Dinitrophenol	830	U	830	U	65	%	79	%	830	U	830	U
4-Nitrophenol	830	U	830	U	75	%	90	%	830	U	830	U
Dibenzofuran	330	U	330	U	74	%	94	%	330	U	330	U
2,4-Dinitrotoluene	330	U	330	U	83	%	95	%	330	U	330	U
Diethylphthalate	330	U	330	U	77	%	93	%	330	U	330	U
4-Chlorophenyl-phenylether	330	U	330	U	74	%	92	%	330	U	330	U
Fluorene	330	U	330	U	71	%	90	%	330	U	330	U
4-Nitroaniline	830	U	830	U	69	%	76	%	830	U	830	U
4,6-Dinitro-2-methylphenol	830	U	830	U	92	%	107	%	830	U	830	U
N-Nitrosodiphenylamine (1)	330	U	330	U	66	%	81	%	330	U	330	U
4-Bromophenyl-phenylether	330	U	330	U	70	%	87	%	330	U	330	U
Hexachlorobenzene	330	U	330	U	82	%	99	%	330	U	330	U
Pentachlorophenol	830	U	830	U	92	%	117	%	830	U	830	U
Phenanthrene	330	U	330	U	75	%	95	%	330	U	330	U
Anthracene	330	U	330	U	76	%	95	%	330	U	330	U
Carbazole	330	U	330	U	76	%	86	%	330	U	330	U
Di-n-butylphthalate	330	U	20	JB	75	%	90	%	330	U	330	U
Fluoranthene	330	U	330	U	76	%	89	%	330	U	330	U
Pyrene	28	J	330	U	81	%	110	%	17	J	17	J
Butylbenzylphthalate	330	U	330	U	86	%	102	%	330	U	330	U
3,3'-Dichlorobenzidine	330	U	330	U	43	%	27	%	330	U	330	U
Benzo(a)anthracene	17	J	330	U	76	%	95	%	330	U	330	U
Chrysene	17	J	330	U	75	%	88	%	330	U	330	U
bis(2-Ethylhexyl)phthalate	38	JB	40	JB	83	%	98	%	26	JB	42	JB
Di-n-octyl phthalate	330	U	330	U	94	%	98	%	330	U	330	U
Benzo(b)fluoranthene	330	U	330	U	78	%	106	%	330	U	330	U
Benzo(k)fluoranthene	330	U	330	U	77	%	80	%	330	U	330	U
Benzo(a)pyrene	330	U	330	U	73	%	88	%	330	U	330	U
Indeno(1,2,3-cd)pyrene	330	U	330	U	75	%	84	%	330	U	330	U
Dibenz(a,h)anthracene	330	U	330	U	75	%	80	%	330	U	330	U
Benzo(g,h,i)perylene	330	U	330	U	73	%	77	%	330	U	330	U

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

0000000008

Lionville Laboratory, Inc.

Semivolatiles by GC/MS, HSL List

Report Date: 05/04/06 13:43

RFW Batch Number: 0604L738 Client: TNUHANFORD RC-051 K0300 Work Order: 11343606001 Page: 2a

000000009

	Cust ID:	J11JF1		J11JR9		SBLKWI		SBLKWI BS	
Sample Information	RFW#:	005		006		06LE0297-MB1		06LE0297-MB1	
	Matrix:	SOIL		SOIL		SOIL		SOIL	
	D.F.:	1.00		1.00		1.00		1.00	
	Units:	ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Surrogate Recovery	Nitrobenzene-d5	71	%	62	%	67	%	70	%
	2-Fluorobiphenyl	74	%	62	%	65	%	74	%
	Terphenyl-d14	90	%	91	%	82	%	82	%
	Phenol-d5	59	%	68	%	71	%	73	%
	2-Fluorophenol	56	%	64	%	70	%	72	%
	2,4,6-Tribromophenol	77	%	66	%	54	%	78	%
Phenol		330	U	330	U	330	U	84	%
bis(2-Chloroethyl)ether		330	U	330	U	330	U	82	%
2-Chlorophenol		330	U	330	U	330	U	84	%
1,3-Dichlorobenzene		330	U	330	U	330	U	77	%
1,4-Dichlorobenzene		330	U	330	U	330	U	76	%
1,2-Dichlorobenzene		330	U	330	U	330	U	81	%
2-Methylphenol		330	U	330	U	330	U	81	%
2,2'-oxybis(1-Chloropropane)		330	U	330	U	330	U	81	%
4-Methylphenol		330	U	330	U	330	U	82	%
N-Nitroso-di-n-propylamine		330	U	330	U	330	U	83	%
Hexachloroethane		330	U	330	U	330	U	76	%
Nitrobenzene		330	U	330	U	330	U	78	%
Isophorone		330	U	330	U	330	U	87	%
2-Nitrophenol		330	U	330	U	330	U	80	%
2,4-Dimethylphenol		330	U	330	U	330	U	67	%
bis(2-Chloroethoxy)methane		330	U	330	U	330	U	84	%
2,4-Dichlorophenol		330	U	330	U	330	U	84	%
1,2,4-Trichlorobenzene		330	U	330	U	330	U	78	%
Naphthalene		330	U	330	U	330	U	77	%
4-Chloroaniline		330	U	330	U	330	U	95	%
Hexachlorobutadiene		330	U	330	U	330	U	86	%
4-Chloro-3-methylphenol		330	U	330	U	330	U	84	%
2-Methylnaphthalene		330	U	330	U	330	U	82	%
Hexachlorocyclopentadiene		330	U	330	U	330	U	62	%
2,4,6-Trichlorophenol		330	U	330	U	330	U	84	%
2,4,5-Trichlorophenol		830	U	830	U	830	U	87	%

*= Outside of EPA CLP QC limits.

Cust ID:	J11JF1		J11JR9		SBLKWI		SBLKWI BS	
RFW#:	005		006		06LE0297-MB1		06LE0297-MB1	
2-Chloronaphthalene	330	U	330	U	330	U	81	%
2-Nitroaniline	830	U	830	U	830	U	86	%
Dimethylphthalate	330	U	330	U	330	U	87	%
Acenaphthylene	330	U	330	U	330	U	81	%
2,6-Dinitrotoluene	330	U	330	U	330	U	84	%
3-Nitroaniline	830	U	830	U	830	U	109	%
Acenaphthene	330	U	330	U	330	U	80	%
2,4-Dinitrophenol	830	U	830	U	830	U	34	%
4-Nitrophenol	830	U	830	U	830	U	83	%
Dibenzofuran	330	U	330	U	330	U	82	%
2,4-Dinitrotoluene	330	U	330	U	330	U	90	%
Diethylphthalate	330	U	330	U	330	U	87	%
4-Chlorophenyl-phenylether	330	U	330	U	330	U	84	%
Fluorene	330	U	330	U	330	U	79	%
4-Nitroaniline	830	U	830	U	830	U	88	%
4,6-Dinitro-2-methylphenol	830	U	830	U	830	U	81	%
N-Nitrosodiphenylamine (1)	330	U	330	U	330	U	74	%
4-Bromophenyl-phenylether	330	U	330	U	330	U	76	%
Hexachlorobenzene	330	U	330	U	330	U	88	%
Pentachlorophenol	830	U	830	U	830	U	90	%
Phenanthrene	330	U	330	U	330	U	85	%
Anthracene	330	U	330	U	330	U	87	%
Carbazole	330	U	330	U	330	U	85	%
Di-n-butylphthalate	330	U	93	JB	33	J	88	%
Fluoranthene	330	U	330	U	330	U	88	%
Pyrene	330	U	330	U	330	U	87	%
Butylbenzylphthalate	330	U	330	U	330	U	94	%
3,3'-Dichlorobenzidine	330	U	330	U	330	U	100	%
Benzo(a)anthracene	330	U	330	U	330	U	86	%
Chrysene	330	U	330	U	330	U	84	%
bis(2-Ethylhexyl)phthalate	49	JB	21	JB	27	J	93	%
Di-n-octyl phthalate	330	U	330	U	330	U	98	%
Benzo(b)fluoranthene	330	U	330	U	330	U	87	%
Benzo(k)fluoranthene	330	U	330	U	330	U	85	%
Benzo(a)pyrene	330	U	330	U	330	U	83	%
Indeno(1,2,3-cd)pyrene	330	U	330	U	330	U	83	%
Dibenz(a,h)anthracene	330	U	330	U	330	U	82	%
Benzo(g,h,i)perylene	330	U	330	U	330	U	81	%

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

000000010

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J11JC0

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

Client: TNUHANFORD RC-051 K0300

Matrix: (soil/water) SOIL

Lab Sample ID: 0604L738-001

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: J042811

Level: (low/med) LOW

Date Received: 04/11/06

% Moisture: 100 decanted: (Y/N)__

Date Extracted: 04/19/06

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 04/28/06

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. 110-82-7	CYCLOHEXANE	4.824	1000	JBN
2.	ALKANE	31.031	2000	J
3.	UNKNOWN	34.210	600	J
4.	ALKANE	34.883	2000	J
5.	UNKNOWN	37.544	1000	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J11JD8

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

Client: TNUHANFORD RC-051 K0300

Matrix: (soil/water) SOIL

Lab Sample ID: 0604L738-002

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: D042614

Level: (low/med) LOW

Date Received: 04/11/06

% Moisture: 100 decanted: (Y/N)__

Date Extracted: 04/19/06

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 04/26/20

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. 110-82-7	CYCLOHEXANE	3.611	3000	JBN
2.	ALKANE	27.694	1000	J
3.	UNKNOWN	29.934	2000	J
4.	ALKANE	30.769	3000	J
5.	ALKANE	34.775	3000	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J11JD9

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

Client: TNUHANFORD RC-051 K0300

Matrix: (soil/water) SOIL

Lab Sample ID: 0604L738-003

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: J042813

Level: (low/med) LOW

Date Received: 04/11/06

% Moisture: 100 decanted: (Y/N)__

Date Extracted: 04/19/06

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 04/29/06

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. 110-82-7	CYCLOHEXANE	4.834	1000	JBN
2.	ALKANE	28.370	500	J
3.	UNKNOWN	30.337	300	J
4.	ALKANE	31.031	2000	J
5.	ALKANE	34.883	2000	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J11JF0

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

Client: TNUHANFORD RC-051 K0300

Matrix: (soil/water) SOIL

Lab Sample ID: 0604L738-004

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

Lab File ID: J042814

Level: (low/med) LOW

Date Received: 04/11/06

% Moisture: 100 decanted: (Y/N)__

Date Extracted: 04/19/06

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 04/29/06

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. 110-82-7	CYCLOHEXANE	4.824	2000	JBN
2.	ALKANE	28.370	600	J
3.	UNKNOWN	30.316	700	J
4.	ALKANE	31.031	2000	J
5.	ALKANE	34.883	2000	J

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J11JF1

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

Client: TNUHANFORD RC-051 K0300

Matrix: (soil/water) SOIL

Lab Sample ID: 0604L738-005

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

Lab File ID: J050204

Level: (low/med) LOW

Date Received: 04/11/06

% Moisture: 100 decanted: (Y/N)__

Date Extracted: 04/19/06

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 05/02/06

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. 110-82-7	CYCLOHEXANE	4.803	2000	JBN
2.	ALKANE	28.338	500	J
3.	UNKNOWN	30.275	1000	J
4.	ALKANE	31.000	2000	J
5.	ALKANE	34.820	2000	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J11JR9

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

Client: TNUHANFORD RC-051 K0300

Matrix: (soil/water) SOIL

Lab Sample ID: 0604L738-006

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: D043005

Level: (low/med) LOW

Date Received: 04/11/06

% Moisture: 100 decanted: (Y/N)__

Date Extracted: 04/19/06

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 04/30/06

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 4

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 110-82-7	CYCLOHEXANE	3.559	2000	JBN
2.	UNKNOWN	3.848	70	J
3.	UNKNOWN	24.659	100	J
4.	UNKNOWN	29.250	70	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SBLKWI

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

Client: TNUHANFORD RC-051 K0300

Matrix: (soil/water) SOIL

Lab Sample ID: 06LE0297-MB1

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

Lab File ID: D042414

Level: (low/med) LOW

Date Received: 04/19/06

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

Date Extracted: 04/19/06

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 04/24/06

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: _____

Number TICs found: 3

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 110-82-7	CYCLOHEXANE	3.653	5000	JN
2.	UNKNOWN	3.903	100	J
3.	PHTHALATE	26.135	80	J

Lionville Laboratory Use Only

0604C738

Custody Transfer Record/Lab Work Request

Page 1 of See SRC

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: INU HANFORD SAF4 RC-051

Est. Final Proj. Sampling Date:

Project #: 11343-006-001-9999-00

Project Contact/Phone #:

Lionville Laboratory Project Manager: DJ

QC: Spec Del: std TAT: 30 Days

Date Rec'd: 4/11/06 Date Due: 5/11/06

		A-C	D-F	G	G-I			J-L		M-O	P-R	S-U	V	
Refrigerator #		2	2		2			2		2	2	2		
#/Type Container	Liquid													
	Solid	G	G		G			G		G	G	G	G	
Volume	Liquid													
	Solid	30g	30g		30g			30g		30g	30g	30g	30g	
Preservatives		—	—		—			—		—	—	—	—	
ANALYSES REQUESTED →		ORGANIC						INORG		IC	N2	N3	IAN	
		VOA	BNA	Pest/PCB	Herb	PCB		Metal	CN	Anions				
								↓ Lionville Laboratory Use Only ↓						
			0625H	0608H		OPCB		METALS(1)		ICANIONS	INSND	ICAIN		

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	0608H		OPCB			METALS(1)		ICANIONS	INSND	ICAIN		
001	J11J C0	✓	✓	Soil	4-9-06	1030		1	1		1			3		1	1	1		
002	J11J D8	✓	✓			1125		3	1		1			1		1	1	3		
003	J11J D9	✓	✓			1230		1	3		3			1		1	1	1		
004	J11J F0	✓	✓			1320		1	1		1			1		3	3	1		
005	J11J F1					1430		1	1		1			3		1	1	3		
006	J11J R9			Soil	4-9-06	1000		1	1		1			1		1	1	1		

Special Instructions: QC-001 Met
002 BNA, Herbicides
003 Pest, PCB
004 Anions, N2, N3

No % SOL

METALS(1) = HSL + Bi, B, Li, Mo, P, Si, Sr, Sn, U (No Hg)

DATE/REVISIONS:
→ 005 1. DO NOT USE EXTRA Volume for Met or Herb check. See
2. ORLETTR or IAN.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
[signature]	[signature]	4/11/06	0920

Relinquished by	Received by	Date	Time

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

0000000018

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-051-71	Page 2 of 3

Collector STANKOVICH, M.	Company Contact JOAN KESSNER Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 8L Data Turnaround 45 Days
Project Designation 100 & 300 Area Component of the RCBRA - Incremental So	Sampling Location 100-D RIPARIAN #2	SAF No. RC-051	Air Quality ☐
Ice Chest No.	Field Logbook No. EL-1596 COA BESRAS6520	Method of Shipment FED EX	
Shipped To EBERLINE SERVICES (LIONVILLE)	Offsite Property No. A060151	Bill of Lading/Air Bill No. SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

NONE

Special Handling and/or Storage

Use page 3 for original material to Corvallis for MIS preparation and aliquoting, page 1 for radioanalytical fractions to Eberline, & page 2 for chemical analytical fractions to Lionville.

Preservation	None	None	None	None	None	None	None	None	None	None
Type of Container	G/P	G/P	aG	aG	aG	aG	G/P	G/P	^	^
No. of Container(s)	9	9	7		7	7	7	7	0	0
Volume	30g	30g	30g	30g	30g	30g	30g	30g	1^	1^
SAMPLE ANALYSIS	See item (1) in Special Instructions	Chromium Hex - 7196	Semi-VOA - 8270A (TCL)	PAHs - 8310	Pesticides - 8081	PCBs - 8082	IC Anions - 300.0 (Nitrate)	NO2/NO3 - 353.2 (Nitrogen in Nitrite and Nitrate)		
Sample No. / Matrix * / Sample Date / Sample Time										
J11JC0 / SOIL / 4-9-06 / 10:30	3	1	1		1	1	1	1		
J11JD8 /	1	3	3		1	1	1	1		
J11JD9 /	1	1	1		3	3	1	1		
J11JF0 / 13:20	1	1	1		1	1	3	3		
J11JF1 / 14:30	3	3	1		1	1	1	1		

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Elizabeth M Tepper		CH2M Hill	
Elizabeth M Tepper (CH2M)	4-10-06 11:30	Fed Ex	4-10-06 11:30
Fed Ex	4/11/06 0920	[illegible]	4-11-06 0920
Fed Ex	4/11/06 0920	[illegible]	4-11-06 0920
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

` These marks indicate that unless lined out, analytes to be included with Strontium-89,90 -- Total Sr analysis fraction.

^~ These marks indicate that this is a non-analysis used to properly format COC form. Contact Joan Kessner for any questions.

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

Matrix *
S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W=Water
OI=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

8HI-EE-011 (08/29/2005)

CH2M HILL Soil Sampling Bench Sheet
Spring 2006

Project ID WCH

Project # 336761.AO.ZZ

Site # 100-D RIPARIAN # 2

Sample # J11JC0

Tray # 9

Tare Wt. 1459 gm.

Total Dry Wt. 4636.0 gm.

Net Dry Wt. 3177.0 gm.

ALL SAMPLES COLLECTED BELOW CONSIST OF 50 SAMPLE INCREMENTS

Analyte	Sample Time	Grams Needed	Grams Collected	Initials
GEA	10:30	400 g	407.7 g	ET
RAD STR		30 g	30.78 g	
ICP MET		30 g	30.39 g	
HEX CR		30 g	30.47 g	
SEMI VOA		30 g	30.60 g	
PEST		30 g	30.41 g	
PCB		30 g	30.78 g	
IC ANION		30 g	30.73 g	
NO2/NO3		30 g	30.45 g	
RAD STR MS		30 g	30.57 g	
RAD STR MSD		30 g	30.61 g	
ICP MET MS		30 g	30.58 g	
ICP MET MSD		30 g	30.42 g	

Comments:

Name (print): Elizabeth M Tepper

Signature: Elizabeth M Tepper

Sub-Sampled Date: 4-9-06

CH2M HILL Soil Sampling Bench Sheet
Spring 2006

Project ID WCH

Project # 336761.AO.ZZ

Site # 100-D RIPARIAN # 2

Sample # J11JD8

Tray # 80

Tare Wt. 1450 gm.

Total Dry Wt. 5789.1 gm.

Net Dry Wt. 4339.1 gm.

ALL SAMPLES COLLECTED BELOW CONSIST OF 50 SAMPLE INCREMENTS

Analyte	Sample Time	Grams Needed	Grams Collected	Initials
GEA	11:25	400 g	406.1	ET
RAD STR		30 g	30.47 g	
ICP MET		30 g	30.41	
HEX CR		30 g	30.86	
SEMI VOA		30 g	30.59	
PEST		30 g	30.78	
PCB		30 g	30.12	
IC ANION		30 g	30.30	
NO2/NO3		30 g	30.77	
HEX CR MS		30 g	30.76	
HEX CR MSD		30 g	30.32	
SEMI VOA MS		30 g	30.14	
SEMI VOA MSD		30 g	30.30	

Comments:

Name (print): Elizabeth M Tepper

Signature: Elizabeth M Tepper

Sub-Sampled Date: 4-9-06

CH2M HILL Soil Sampling Bench Sheet
Spring 2006

Project ID WCH

Project # 336761.AO.ZZ

Site # 100-D RIPARIAN # 2

Sample # J11JD9

Tray # 46

Tare Wt. 1460 gm.

Total Dry Wt. 4647.5 gm.

Net Dry Wt. 3187.5 gm.

ALL SAMPLES COLLECTED BELOW CONSIST OF 50 SAMPLE INCREMENTS

Analyte	Sample Time	Grams Needed	Grams Collected	Initials
GEA	12:30	400 g	402.7	E T
RAD STR		30 g	30.04	
ICP MET		30 g	30.59	
HEX CR		30 g	30.21	
SEMI VOA		30 g	30.15	
PEST		30 g	30.56	
PCB		30 g	30.96	
IC ANION		30 g	30.98	
NO2/NO3		30 g	30.12	
PEST MS		30 g	30.69	
PEST MSD		30 g	30.04	
PCB MS		30 g	30.53	
PCB MSD		30 g	30.29	

Comments:

Name (print): Elizabeth M Tepper

Signature: Elizabeth M Tepper

Sub-Sampled Date: 4-9-06

CH2M HILL Soil Sampling Bench Sheet
Spring 2006

Project ID WCH

Project # 336761.AO.ZZ

Site # 100-D RIPARIAN # 2

Sample # J11JF0

Tray # 3

Tare Wt. 1458 gm.

Total Dry Wt. 4648.9 gm.

Net Dry Wt. 3190.9 gm.

ALL SAMPLES COLLECTED BELOW CONSIST OF 50 SAMPLE INCREMENTS

Analyte	Sample Time	Grams Needed	Grams Collected	Initials
GEA	13:20	400 g	408.7	ET
RAD STR		30 g	30.43	
ICP MET		30 g	30.34	
HEX CR		30 g	30.81	
SEMI VOA		30 g	30.08	
PEST		30 g	30.21	
PCB		30 g	30.42	
IC ANION		30 g	30.44	
NO2/NO3		30 g	31.22	
IC ANION MS		30 g	30.61	
IC ANION MSD		30 g	30.84	
NO2/NO3 MS		30 g	30.36	
NO2/NO3 MSD		30 g	30.10	

Comments:

Name (print): Elizabeth M Tepper

Signature: Elizabeth M Tepper

Sub-Sampled Date: 4-9-06

CH2M HILL Soil Sampling Bench Sheet
Spring 2006

Project ID WCH

Project # 336761.AO.ZZ

Site # 100-D RIPARIAN # 2

Sample # J11JF1

Tray # 47

Tare Wt. 1450 gm.

Total Dry Wt. 4192.5 gm.

Net Dry Wt. 2742.5 gm.

ALL SAMPLES COLLECTED BELOW CONSIST OF 50 SAMPLE INCREMENTS

Analyte	Sample Time	Grams Needed	Grams Collected	Initials
GEA	14:30	400 g	404.1	ET
RAD STR		30 g	30.50	
ICP MET		30 g	30.23	
HEX CR		30 g	30.11	
SEMI VOA		30 g	30.37	
PEST		30 g	30.72	
PCB		30 g	30.49	
IC ANION		30 g	30.35	
NO2/NO3		30 g	30.61	
ICP MET MS		30 g	30.22	
ICP MET MSD		30 g	30.27	
HEX CR MS		30 g	30.45	
HEX CR MSD		30 g	30.48	

Comments:

Name (print): Elizabeth M Tepper

Signature: Elizabeth M Tepper

Sub-Sampled Date: 4-9-06

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-051-137	Page 2 of 2

Collector STANKOVICH, M.	**Company Contact** JOAN KESSNER **Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH	Price Code 8L — Data Turnaround 45 Days
Project Designation 100 & 300 Area Component of the RCBRA - Incremental So	**Sampling Location** EQUIPMENT BLANK, RIPARIAN	**SAF No.** RC-051	Air Quality ☐
Ice Chest No.	**Field Logbook No.** EL-1596-1 — **COA** BESRAS6520	**Method of Shipment** FED EX	
Shipped To EBERLINE SERVICES (LIONVILLE)	**Offsite Property No.** A060151	**Bill of Lading/Air Bill No.** SEE OSPC	

0000000025

POSSIBLE SAMPLE HAZARDS/REMARKS

NONE

Special Handling and/or Storage

Use page 3 for original material to Corvallis for MIS preparation and aliquoting, page 1 for radioanalytical fractions to Eberline, & page 2 for chemical analytical fractions to Lionville.

Preservation	None	None	None	None	None	None	None	None	None	None
Type of Container	G/P	G/P	aG	aG	aG	aG	G/P	G/P	^	^
No. of Container(s)	1	1	1	1	1	1	1	1	0	0
Volume	30g	30g	30g	30g	30g	30g	30g	30g	1^	1^
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	Semi-VOA - 8270A (TCL)	PAHs - 8310	Pesticides - 8081	PCBs - 8082	IC Anions - 300.0 (Nitrate)	NO2/NO3 - 353.2 (Nitrogen in Nitrite and Nitrate)	~	~~

Sample No.	Matrix *	Sample Date	Sample Time										
J11JR9	SOIL	4-9-06	10:00	1	1	1	1	1	1	1	1		

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Elizabeth M Tepper		CH2M Hill	
Elizabeth M Tepper (CH2M)	4-10-06 11:30	Fed Ex	4-10-06 11:30
Fed Ex	4-11-06 10:20	D. Smith	4-11-06 10:20

SPECIAL INSTRUCTIONS

` These marks indicate that unless lined out, analytes to be included with Strontium-89,90 -- Total Sr analysis fraction.

~ These marks indicate that this is a non-analysis used to properly format COC form.

Contact Joan Kessner for any questions.

(1) ICP Metals - 6010 (Full List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc)

Matrix *
Se=Soil
Sl=Sediment
SO=Solid
Sl=Sludge
W=Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquid
T=Tissue
Wi=Wipe
L=Liquid
Ve=Vegetation
X=Other

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

BHI-EE-011 (08/29/2005)

CH2M HILL Soil Sampling Bench Sheet
Spring 2006

Project ID WCH

Project # 336761.AO.ZZ

Site # Equipment Blank Riparian

Sample # J11JR9

Tray # 6 2

Tare Wt. 1458 gm.

Total Dry Wt. 4033.7 gm.

Net Dry Wt. 2575.7 gm.

ALL SAMPLES COLLECTED BELOW CONSIST OF 50 SAMPLE INCREMENTS

Analyte	Sample Time	Grams Needed	Grams Collected	Initials
ICP MET	10:00	30 g	30.37 g	ET
HEX CR		30 g	30.76 g	
SEMI VOA		30 g	30.63 g	
PEST		30 g	30.09 g	
PCB		30 g	30.64 g	
IC ANION		30 g	30.03 g	
NO2/NO3		30 g	30.19 g	
PAH	10:00	30 g	31.01 g	ET

Comments:

Name (print): Elizabeth Tepper

Signature: Elizabeth M Tepper

Sub-Sampled Date: ~~4-6~~ 4-9-06

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU HANFORD

Date: 4/11/06

Purchase Order / Project# / SAF# / SOW# / Release #: RC - 051

LvLI Batch # : 0604L738

Sample Custodian: Victor Hernandez

NOTE: EXPLAIN ALL DISCREPANCIES

1.	Samples Hand Delivered or Shipped	Carrier FED EX		Airbill# 6595 0631 3432 1 1 3443	
2.	Custody seals on coolers or shipping container intact, signed and dated?	☑ Yes	☐ No	☐ No Seals	Comments
3.	Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No		
4.	All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible?	☑ Yes	☐ No		
5.	Samples received cooled or ambient? I.C	Temp 17.7 °C		Cooler #	
6.	Custody seals on sample containers intact, signed and dated?	☐ Yes	☐ No	☑ No Seals	
7.	coc signed and dated?	☑ Yes	☐ No		
8.	Sample containers are intact?	☑ Yes	☐ No		
9.	All samples on coc received? All samples received on coc?	☑ Yes	☐ No		
10.	All sample label information matches coc?	☑ Yes	☐ No		
11.	Samples properly preserved?	☑ Yes	☐ No		
12.	Samples received within hold times? Short holds taken to wet lab?	☑ Yes	☐ No		
13.	VOA, TOC, TOX free of headspace?	☐ 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 not within policy. See reverse side for policy)	☑ Yes 4-11-06	☑ No Temperature		
16.	Project Manager contacted concerning discrepancies? name/date (or samples outside criteria)	☐ Yes	☐ No	☑ No Discrepancies	

SR-002-B

LVLI

RECEIVED
JUN 2006

Lionville Laboratory, Inc.
PCB ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-051 K0300

DATE RECEIVED: 04/11/06 LVL LOT # 06L1398

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J11JC0	001	S	06LE0313	04/09/06	04/23/06	05/04/06
J11JD8	002	S	06LE0313	04/09/06	04/23/06	05/04/06
J11JD9	003	S	06LE0313	04/09/06	04/23/06	05/04/06
J11JD9	003 MS	S	06LE0313	04/09/06	04/23/06	05/04/06
J11JD9	003 MSD	S	06LE0313	04/09/06	04/23/06	05/04/06
J11JF0	004	S	06LE0313	04/09/06	04/23/06	05/04/06
J11JF1	005	S	06LE0313	04/09/06	04/23/06	05/05/06
J11JR9	006	S	06LE0313	04/09/06	04/23/06	05/05/06

LAB QC:

PBLKGJ	MB1	S	06LE0313	N/A	04/23/06	05/04/06
PBLKGJ	MB1 BS	S	06LE0313	N/A	04/23/06	05/04/06

LIONVILLE LABORATORY INC.

Case Narrative

Client: TNU-HANFORD RC-051
LVL #: 0604L738
SDG/SAF # K0300/RC-051

W.O. #: 11343-606-001-9999-00
Date Received: 04-11-2006

PCB

Six (6) soil samples were collected on 04-09-2006.

The samples and their associated QC samples were extracted on 04-23-2006 and analyzed according to Lionville Laboratory SOPs based on SW846, 3rd Edition procedures on 05-04,05-2006. 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 base 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. Discrepancies from the Sample acceptance policy have been recorded on the Sample Receipt Checklist.

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

3. 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 results for soil samples were reported on a wet-weight basis.

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

9. 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 15 pages.

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

10. LvLI is NELAP accredited by the state of Pennsylvania and holds over 20 additional state accreditations. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.

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

Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

5/11/06
Date

kim\r:\group\data\pest\tmu hanford\0604-738.pcbs

LVLI
LIONVILLE LABORATORY INC.

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: 05/11/06 11:45

RFW Batch Number: 0604L738 Client: TNUHANFORD RC-051 K0300 Work Order: 11343606001 Page: 1

000000005

	Cust ID:	J11JC0	J11JD8	J11JD9	J11JD9	J11JD9	J11JF0
Sample Information	RFW#:	001	002	003	003 MS	003 MSD	004
	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	97 %	97 %	96 %	97 %	100 %	101 %
	Decachlorobiphenyl	106 %	105 %	102 %	106 %	109 %	106 %
Aroclor-1016		13 U	13 U	13 U	94 %	95 %	13 U
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	13 U	13 U	100 %	104 %	13 U

	Cust ID:	J11JF1	J11JR9	PBLKGJ	PBLKGJ BS
Sample Information	RFW#:	005	006	06LE0313-MB1	06LE0313-MB1
	Matrix:	SOIL	SOIL	SOIL	SOIL
	D.F.:	1.00	1.00	1.00	1.00
	Units:	UG/KG	UG/KG	UG/KG	UG/KG
Surrogate:	Tetrachloro-m-xylene	99 %	98 %	99 %	100 %
	Decachlorobiphenyl	103 %	101 %	102 %	105 %
Aroclor-1016		13 U	13 U	13 U	89 %
Aroclor-1221		13 U	13 U	13 U	13 U
Aroclor-1232		13 U	13 U	13 U	13 U
Aroclor-1242		13 U	13 U	13 U	13 U
Aroclor-1248		13 U	13 U	13 U	13 U
Aroclor-1254		13 U	13 U	13 U	13 U
Aroclor-1260		13 U	13 U	13 U	90 %

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.

5/11/06

Lionville Laboratory Use Only

0604C738

Custody Transfer Record/Lab Work Request

Page 1 of See SRC

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TNU HANFORD SAF & RC-051

Est. Final Proj. Sampling Date:

Project #: 11343-006-001-9999-00

Project Contact/Phone #:

Lionville Laboratory Project Manager: DJ

QC: Spec Del: Std TAT: 30 Days

Date Rec'd: 4/11/06 Date Due: 5/11/06

	A-C	D-F	G	G-J			J-L		M-O	P-R	S-U	V	
Refrigerator #	2	2		2			2		2	2	2		
#/Type Container (Liquid / Solid)	G	G		G			G		G	G	G	G	
Volume (Liquid / Solid)	309	309		309			309		309	309	309	309	
Preservatives	—	—		—			—		—	—	—	—	
ANALYSES REQUESTED	ORGANIC: VOA	BNA	Pest/PCB	Herb	PCB		INORG: Metal	CN	IC 2, N, Hg	N2 N3	IPP Rad	PAHs	
Lionville Laboratory Use Only		06025H	06008H		OPCB		METALS(i)		ICNO3	INBND	ICP16		

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	MS	MSD	Matrix	Date Collected	Time Collected											
001	J11J C0	✓	✓	Soil	4-9-06	1030		1	1		1			3		1	1	1
002	J11J D8	✓	✓			1125		3	1		1			1		1	1	3
003	J11J D9	✓	✓			1230		1	3		3			1		1	1	1
004	J11J F0	✓	✓			1320		1	1		1			1		3	3	1
005	J11J F1					1430		1	1		1			3		1	1	3
006	J11J R9			Soil	4-9-06	1000		1	1		1			1		1	1	1

Special Instructions: QC-001 MET
002 BNA, Herbicides
003 Pest, PCB
004 Anions, N2, N3

No ?, SOL

METALS(i) = HSL + Bi, B, Li, Mo, P, Si, Sr, Sn, U (No Hg)

DATE/REVISIONS:
→ 005 1. DO NOT USE EXTRA VOLUME for Met or Herbicides. See
2. DRETTR or IAIN.
3. OPCB R
4. 06008H j
5.
6.

Relinquished by	Received by	Date	Time
[signature]	[signature]	4/11/06	0920

Relinquished by	Received by	Date	Time

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

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-051-71	Page 2 of 3

Collector STANKOVICH, M.	**Company Contact** JOAN KESSNER	**Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH
Project Designation 100 & 300 Area Component of the RCBRA - Incremental So	**Sampling Location** 100-D RIPARIAN #2		**SAF No.** RC-051
Ice Chest No.	**Field Logbook No.** EL-1596	**COA** BESRAS6520	**Method of Shipment** FED EX
Shipped To EBERLINE SERVICES (LIONVILLE)	**Offsite Property No.** A060151		**Bill of Lading/Air Bill No.** SEE OSPC

Price Code 8L

Air Quality ☐

Data Turnaround 45 Days

POSSIBLE SAMPLE HAZARDS/REMARKS

NONE

Special Handling and/or Storage

Use page 3 for original material to Corvallis for MIS preparation and aliquoting, page 1 for radioanalytical fractions to Eberline, & page 2 for chemical analytical fractions to Lionville.

Preservation	None	None	None	None	None	None	None	None	None	None
Type of Container	G/P	G/P	aG	aG	aG	aG	G/P	G/P	^	^
No. of Container(s)	9	9	7		7	7	7	7	0	0
Volume	30g	30g	30g	30g	30g	30g	30g	30g	1^	1^
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	Semi-VOA - 8270A (TCL)	PAHs - 8310	Pesticides - 8081	PCBs - 8082	IC Anions - 300.0 (Nitrate)	NO2/NO3 - 353.2 (Nitrogen in Nitrite and Nitrate)	-	--

Sample No.	Matrix *	Sample Date	Sample Time										
J11JC0	SOIL	4-9-06	10:30	3	1	1		1	1	1	1		
J11JD8			11:25	1	3	3		1	1	1	1		
J11JD9			12:30	1	1	1		3	3	1	1		
J11JF0			13:20	1	1	1		1	1	3	3		
J11JF1			14:30	3	3	1		1	1	1	1		

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Elizabeth M Tepper		CH2M Hill	
Elizabeth M Tepper CH2M	4-10-06 11:30	Fed Ex	4-10-06 11:30
Fed Ex	4/11/06 0920	[illegible]	4-11-06 0920
Fed Ex	4/11/06 0920	[illegible]	4-11-06 0920

SPECIAL INSTRUCTIONS

` These marks indicate that unless lined out, analytes to be included with Strontium-89,90 -- Total Sr analysis fraction.

^- These marks indicate that this is a non-analysis used to properly format COC form.

Contact Joan Kessner for any questions.

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

Matrix *

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

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

BHI-EE-011 (08/29/2005)

CH2M HILL Soil Sampling Bench Sheet
Spring 2006

Project ID WCH

Project # 336761.AO.ZZ

Site # 100-D RIPARIAN # 2

Sample # J11JC0

Tray # 9

Tare Wt. 1459 gm.

Total Dry Wt. 4636.0 gm.

Net Dry Wt. 3177.0 gm.

ALL SAMPLES COLLECTED BELOW CONSIST OF 50 SAMPLE INCREMENTS

Analyte	Sample Time	Grams Needed	Grams Collected	Initials
GEA	10:30	400 g	407.7 g	ET
RAD STR		30 g	30.78 g	
ICP MET		30 g	30.39 g	
HEX CR		30 g	30.47 g	
SEMI VOA		30 g	30.60 g	
PEST		30 g	30.41 g	
PCB		30 g	30.78 g	
IC ANION		30 g	30.73 g	
NO2/NO3		30 g	30.45 g	
RAD STR MS		30 g	30.57 g	
RAD STR MSD		30 g	30.61 g	
ICP MET MS		30 g	30.58 g	
ICP MET MSD		30 g	30.42 g	

Comments:

Name (print): Elizabeth M Tepper

Signature: Elizabeth M Tepper

Sub-Sampled Date: 4-9-06

000000008

CH2M HILL Soil Sampling Bench Sheet
Spring 2006

Project ID WCH

Project # 336761.AO.ZZ

Site # 100-D RIPARIAN # 2

Sample # J11JD8

Tray # 50

Tare Wt. 1450 gm.

Total Dry Wt. 5789.1 gm.

Net Dry Wt. 4339.1 gm.

ALL SAMPLES COLLECTED BELOW CONSIST OF 50 SAMPLE INCREMENTS

Analyte	Sample Time	Grams Needed	Grams Collected	Initials
GEA	11:25	400 g	406.1	ET
RAD STR		30 g	30.47 g	
ICP MET		30 g	30.41	
HEX CR		30 g	30.86	
SEMI VOA		30 g	30.59	
PEST		30 g	30.78	
PCB		30 g	30.12	
IC ANION		30 g	30.30	
NO2/NO3		30 g	30.77	
HEX CR MS		30 g	30.76	
HEX CR MSD		30 g	30.32	
SEMI VOA MS		30 g	30.14	
SEMI VOA MSD		30 g	30.35	

Comments:

Name (print): Elizabeth M Tepper

Signature: Elizabeth M Tepper

Sub-Sampled Date: 4-9-06

CH2M HILL Soil Sampling Bench Sheet
Spring 2006

Project ID WCH

Project # 336761.AO.ZZ

Site # 100-D RIPARIAN # 2

Sample # J11JD9

Tray # 46

Tare Wt. 1460 gm.

Total Dry Wt. 4647.5 gm.

Net Dry Wt. 3187.5 gm.

ALL SAMPLES COLLECTED BELOW CONSIST OF 50 SAMPLE INCREMENTS

Analyte	Sample Time	Grams Needed	Grams Collected	Initials
GEA	12:30	400 g	402.7	ET
RAD STR		30 g	30.04	
ICP MET		30 g	30.59	
HEX CR		30 g	30.2	
SEMI VOA		30 g	30.15	
PEST		30 g	30.56	
PCB		30 g	30.96	
IC ANION		30 g	30.98	
NO2/NO3		30 g	30.12	
PEST MS		30 g	30.69	
PEST MSD		30 g	30.04	
PCB MS		30 g	30.53	
PCB MSD		30 g	30.29	

Comments:

Name (print): Elizabeth M Tepper

Signature: Elizabeth M Tepper

Sub-Sampled Date: 4-9-06

CH2M HILL Soil Sampling Bench Sheet
Spring 2006

Project ID WCH

Project # 336761.AO.ZZ

Site # 100-D RIPARIAN # 2

Sample # J11JF0

Tray # 3

Tare Wt. 1458 gm.

Total Dry Wt. 4648.9 gm.

Net Dry Wt. 3190.9 gm.

ALL SAMPLES COLLECTED BELOW CONSIST OF 50 SAMPLE INCREMENTS

Analyte	Sample Time	Grams Needed	Grams Collected	Initials
GEA	13:20	400 g	408.7	ET
RAD STR		30 g	30.43	
ICP MET		30 g	30.34	
HEX CR		30 g	30.81	
SEMI VOA		30 g	30.08	
PEST		30 g	30.21	
PCB		30 g	30.42	
IC ANION		30 g	30.44	
NO2/NO3		30 g	31.22	
IC ANION MS		30 g	30.61	
IC ANION MSD		30 g	30.84	
NO2/NO3 MS		30 g	30.86	
NO2/NO3 MSD		30 g	30.10	

Comments:

Name (print): Elizabeth M Tepper

Signature: Elizabeth M Tepper

Sub-Sampled Date: 4-9-06

CH2M HILL Soil Sampling Bench Sheet
Spring 2006

Project ID WCH

Project # 336761.AO.ZZ

Site # 100-D RIPARIAN # 2

Sample # J11JF1

Tray # 47

Tare Wt. 1450 gm.

Total Dry Wt. 4192.5 gm.

Net Dry Wt. 2742.5 gm.

ALL SAMPLES COLLECTED BELOW CONSIST OF 50 SAMPLE INCREMENTS

Analyte	Sample Time	Grams Needed	Grams Collected	Initials
GEA	14:30	400 g	404.1	ET
RAD STR		30 g	30.50	
ICP MET		30 g	30.23	
HEX CR		30 g	30.11	
SEMI VOA		30 g	30.37	
PEST		30 g	30.72	
PCB		30 g	30.49	
IC ANION		30 g	30.35	
NO2/NO3		30 g	30.61	
ICP MET MS		30 g	30.22	
ICP MET MSD		30 g	30.27	
HEX CR MS		30 g	30.45	
HEX CR MSD		30 g	30.48	

Comments:

Name (print): Elizabeth M Tepper

Signature: Elizabeth M Tepper

Sub-Sampled Date: 4-9-06

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-051-137	Page 2 of 3

Collector STANKOVICH, M.	**Company Contact** JOAN KESSNER **Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH	Price Code 8L
Project Designation 100 & 300 Area Component of the RCBRA - Incremental So	**Sampling Location** EQUIPMENT BLANK, RIPARIAN	**SAF No.** RC-051	Air Quality [ ]
Ice Chest No.	**Field Logbook No.** EL-1596-1 / **COA** BESRAS6520	**Method of Shipment** FED EX	Data Turnaround 45 Days
Shipped To EBERLINE SERVICES (LIONVILLE)	**Offsite Property No.** A060151	**Bill of Lading/Air Bill No.** SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

NONE

Special Handling and/or Storage

Use page 3 for original material to Corvallis for MIS preparation and aliquoting, page 1 for radioanalytical fractions to Eberline, & page 2 for chemical analytical fractions to Lionville.

Preservation	None	None	None	None	None	None	None	None	None	None
Type of Container	G/P	G/P	aG	aG	aG	aG	G/P	G/P	^	^
No. of Container(s)	1	1	1	1	1	1	1	1	0	0
Volume	30g	30g	30g	30g	30g	30g	30g	30g	1^	1^
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	Semi-VOA - 8270A (TCL)	PAHs - 8310	Pesticides - 8081	PCBs - 8082	IC Anions - 300.0 (Nitrate)	NO2/NO3 - 353.2 (Nitrogen in Nitrite and Nitrate)	-	--
Sample No. / Matrix * / Sample Date / Sample Time										
J11JR9 / SOIL / 4-9-06 / 10:00	1	1	1	1	1	1	1	1		

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Elizabeth M Tepper		CH2M Hill	
Relinquished By/Removed From: CH2M Elizabeth M Tepper	4-10-06 11:30	Received By/Stored In: Fed Ex	4-10-06 11:30
Relinquished By/Removed From: Fed Ex	4.11.06 / 0920	Received By/Stored In: D. Smith	4.11.06 / 0920
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

` These marks indicate that unless lined out, analytes to be included with Strontium-89,90 -- Total Sr analysis fraction.

^-- These marks indicate that this is a non-analysis used to properly format COC form. Contact Joan Kessner for any questions.

(1) ICP Metals - 6010 (Full List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc)

Matrix *
S=Soil
SE=Sediment
SO=Solid
Sl=Sludge
W=Water
O=Oil
A=Air
DS=Drum Solid
DL=Drum Liquid
Ti=Tissue
Wi=Wipe
L=Liquid
Ve=Vegetation
X=Other

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

BHI-EE-011 (08/29/2005)

CH2M HILL Soil Sampling Bench Sheet
Spring 2006

Project ID WCH

Project # 336761.AO.ZZ

Site # Equipment Blank Riparian

Sample # J11JR9

Tray # 6 2

Tare Wt. 1458 gm.

Total Dry Wt. 4033.7 gm.

Net Dry Wt. 2575.7 gm.

ALL SAMPLES COLLECTED BELOW CONSIST OF 50 SAMPLE INCREMENTS

Analyte	Sample Time	Grams Needed	Grams Collected	Initials
ICP MET	10:00	30 g	30.37 g	ET
HEX CR		30 g	30.76 g	
SEMI VOA		30 g	30.63 g	
PEST		30 g	30.09 g	
PCB		30 g	30.64 g	
IC ANION		30 g	30.03 g	
NO2/NO3		30 g	30.19 g	
PAH	10:00	30 g	31.01 g	ET

Comments:

Name (print): Elizabeth Tepper

Signature: Elizabeth M Tepper

Sub-Sampled Date: ~~4-6~~ 4-9-06

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNC HANFORD

Date: 4/11/06

Purchase Order / Project# / SAF# / SOW# / Release #: RC - 051

LvLI Batch # : 0604L738

Sample Custodian: Victor Hernandez

NOTE: EXPLAIN ALL DISCREPANCIES

1.	Samples Hand Delivered or Shipped	Carrier FED EX	Airbill# 6595 0631 3432 1 1 3443	
2.	Custody seals on coolers or shipping container intact, signed and dated?	☑ Yes	☐ No	☐ No Seals Comments
3.	Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	
4.	All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible?	☑ Yes	☐ No	
5.	Samples received cooled or ambient? I-C	Temp 17.7 °C		Cooler #
6.	Custody seals on sample containers intact, signed and dated?	☐ Yes	☐ No	☑ No Seals
7.	coc signed and dated?	☑ Yes	☐ No	
8.	Sample containers are intact?	☑ Yes	☐ No	
9.	All samples on coc received? All samples received on coc?	☑ Yes	☐ No	
10.	All sample label information matches coc?	☑ Yes	☐ No	
11.	Samples properly preserved?	☑ Yes	☐ No	
12.	Samples received within hold times? Short holds taken to wet lab?	☑ Yes	☐ No	
13.	VOA, TOC, TOX free of headspace?	☐ 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 not within policy. See reverse side for policy)	☑ Yes 4-11-06	☑ No Temperature	
16.	Project Manager contacted concerning discrepancies? name/date (or samples outside criteria)	☐ Yes	☐ No	☑ No Discrepancies

SR-002-B

LvLI

RECEIVED
JUN 2006

Lionville Laboratory, Inc.
PEST/PCB ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-051 K0300

DATE RECEIVED: 04/11/06 LVL LOT # :0604L738

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J11JC0	001	S	06LE0312	04/09/06	04/23/06	05/04/06
J11JD8	002	S	06LE0312	04/09/06	04/23/06	05/04/06
J11JD9	003	S	06LE0312	04/09/06	04/23/06	05/04/06
J11JD9	003 MS	S	06LE0312	04/09/06	04/23/06	05/04/06
J11JD9	003 MSD	S	06LE0312	04/09/06	04/23/06	05/04/06
J11JF0	004	S	06LE0312	04/09/06	04/23/06	05/04/06
J11JF1	005	S	06LE0312	04/09/06	04/23/06	05/04/06
J11JR9	006	S	06LE0312	04/09/06	04/23/06	05/04/06

LAB QC:

PBLKGG	MB1	S	06LE0312	N/A	04/23/06	05/03/06
PBLKGG	MB1 BS	S	06LE0312	N/A	04/23/06	05/03/06

JGS 5/1/6

LIONVILLE LABORATORY INC.

Case Narrative

Client: TNU-HANFORD RC-051
LVL #: 0604L738
SDG/SAF # K0300/RC-051

W.O. #: 11343-606-001-9999-00
Date Received: 04-11-2006

CHLORINATED PESTICIDES

Six (6) soil samples were collected on 04-09-2006.

The samples and their associated QC samples were extracted on 04-23-2006 and analyzed according to Lionville Laboratory SOPs based on SW846, 3rd Edition procedures on 05-03,04-2006. 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 bases unless requested by the client, required by the methods 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. Discrepancies for the Sample acceptance policy have been recorded on the Sample Receipt Checklist.

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

3. The samples and their associated QC samples received a Copper-Sulfur cleanup according to Lionville Laboratory SOPs based on SW846 method 3660A.

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

5. One (1) of twenty (20) obtainable surrogate recoveries were outside acceptance criteria. However, the surrogate recovery criteria were met (i.e., no more than one outlier per sample).

5. All blank spike recoveries were within acceptance criteria.

6. All matrix spike recoveries were within acceptance criteria.

7. All samples required a 4-fold dilution due to the nature of the sample matrix. The reporting limits were adjusted to reflect the necessary dilution.

8. The results for soil samples were reported on a wet-weight basis.

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 16 pages.

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

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

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

11. 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.

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

Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

5/10/00
Date

kim\r:\group\data\pest\tmu hanford\0604-738.pst

LVLI
LIONVILLE LABORATORY INC.

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: 05/09/06 14:21

RFW Batch Number: **0604L738** Client: **TNUHANFORD RC-051 K0300** Work Order: 11343606001 Page: 1

	Cust ID:	J11JC0	J11JD8	J11JD9	J11JD9	J11JD9	J11JF0
Sample Information	RFW#:	001	002	003	003 MS	003 MSD	004
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	4.00	4.00	4.00	4.00	4.00	4.00
	Units:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Surrogate:	Tetrachloro-m-xylene	130 * %	116 %	105 %	112 %	117 %	110 %
	Decachlorobiphenyl	112 %	108 %	98 %	107 %	107 %	110 %
		fl	fl	fl	fl	fl	fl
Alpha-BHC		1.3 U	1.3 U	1.3 U	79 %	92 %	1.3 U
gamma-BHC (Lindane)		1.3 U	1.3 U	1.3 U	82 %	98 %	1.3 U
Beta-BHC		1.3 U	1.3 U	1.3 U	89 %	104 %	1.3 U
Heptachlor		1.3 U	1.3 U	1.3 U	83 %	94 %	1.3 U
Delta-BHC		1.3 U	1.3 U	1.3 U	71 %	81 %	1.3 U
Aldrin		1.3 U	1.3 U	1.3 U	78 %	88 %	1.3 U
Heptachlor epoxide		1.3 U	1.3 U	1.3 U	84 %	96 %	0.33 J
gamma-Chlordane		1.3 U	1.3 U	1.3 U	82 %	92 %	1.3 U
Endosulfan I		3.3	1.2 J	1.4 J	84 %	91 %	1.1 J
alpha-Chlordane		1.3 U	1.3 U	1.3 U	84 %	94 %	1.3 U
4,4'-DDE		0.97 J	0.63 J	0.57 J	81 %	89 %	0.57 J
Dieldrin		1.3 U	1.3 U	1.3 U	78 %	89 %	1.3 U
Endrin		1.3 U	1.3 U	1.3 U	81 %	92 %	1.3 U
4,4'-DDD		1.3 U	1.3 U	1.3 U	85 %	94 %	1.3 U
Endosulfan II		1.3 U	1.3 U	1.3 U	80 %	90 %	1.3 U
4,4'-DDT		1.3 U	1.3 U	1.3 U	72 %	82 %	1.3 U
Endrin aldehyde		1.3 U	1.3 U	1.3 U	77 %	86 %	1.3 U
Endosulfan sulfate		1.3 U	1.3 U	1.3 U	78 %	89 %	1.3 U
Methoxychlor		1.3 U	1.3 U	1.3 U	82 %	94 %	1.3 U
Endrin ketone		1.3 U	1.3 U	1.3 U	82 %	92 %	1.3 U
Toxaphene		13 U	13 U	13 U	13 U	13 U	13 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

95575816

Lionville Laboratory, Inc.

Pesticide/PCBs by GC, CLP List

Report Date: 05/09/06 14:21

RFW Batch Number: **0604L738** Client: **TNUHANFORD RC-051 K0300** Work Order: 11343606001 Page: 2

	Cust ID:	J11JF1		J11JR9		PBLKGG		PBLKGG BS	
Sample Information	RFW#:	005		006		06LE0312-MB1		06LE0312-MB1	
	Matrix:	SOIL		SOIL		SOIL		SOIL	
	D.F.:	4.00		4.00		1.00		1.00	
	Units:	UG/KG		UG/KG		UG/KG		UG/KG	
Surrogate:	Tetrachloro-m-xylene	117	%	106	%	106	%	117	%
	Decachlorobiphenyl	116	%	106	%	88	%	96	%
Alpha-BHC		1.3	U	1.3	U	0.33	U	100	%
gamma-BHC (Lindane)		1.3	U	1.3	U	0.33	U	97	%
Beta-BHC		1.3	U	1.3	U	0.33	U	100	%
Heptachlor		1.3	U	1.3	U	0.33	U	92	%
Delta-BHC		1.3	U	1.3	U	0.33	U	89	%
Aldrin		1.3	U	1.3	U	0.33	U	78	%
Heptachlor epoxide		1.3	U	1.3	U	0.33	U	90	%
gamma-Chlordane		1.3	U	1.3	U	0.33	U	90	%
Endosulfan I		0.60	J	1.3	U	0.33	U	90	%
alpha-Chlordane		1.3	U	1.3	U	0.33	U	89	%
4,4'-DDE		0.63	J	1.3	U	0.33	U	92	%
Dieldrin		1.3	U	1.3	U	0.33	U	92	%
Endrin		1.3	U	1.3	U	0.33	U	96	%
4,4'-DDD		1.3	U	1.3	U	0.33	U	96	%
Endosulfan II		1.3	U	1.3	U	0.33	U	89	%
4,4'-DDT		1.3	U	1.3	U	0.33	U	87	%
Endrin aldehyde		1.3	U	1.3	U	0.33	U	85	%
Endosulfan sulfate		1.3	U	1.3	U	0.33	U	86	%
Methoxychlor		1.3	U	1.3	U	0.33	U	90	%
Endrin ketone		1.3	U	1.3	U	0.33	U	87	%
Toxaphene		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

5/9/06

Lionville Laboratory Use Only: 0604C738

Custody Transfer Record/Lab Work Request

Page 1 of See SRC

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TNU HANFORD SAF# RC-051
Est. Final Proj. Sampling Date:
Project #: 11343-006-001-9999-00
Project Contact/Phone #:
Lionville Laboratory Project Manager: DJ
QC: Spec Del: Std TAT: 30Days
Date Rec'd: 4/11/06 Date Due: 5/11/06

			A-C	D-F	G	G-I			J-L		M-O	P-R	S-U	V			
Refrigerator #			2	2		2			2		2	2	2				
#/Type Container	Liquid																
	Solid		G	G		G			G		G	G	G	G			
Volume	Liquid																
	Solid		30g	30g		30g			30g		30g	30g	30g	30g			
Preservatives			—	—		—			—		—	—	—	—			
ANALYSES REQUESTED →			ORGANIC						INORG								
			VOA	BNA	Pest/PCB	Herb	PCB		Metal	CN	IC Anions	N2 N3	Hex Chrom	FAN's			
			Lionville Laboratory Use Only														
				0625H	0608H		OPCB		METALS(1)		ICNO3	INBID	IAN26				

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	0608H		OPCB			METALS(1)		ICNO3	INBID	IAN26				
001	J11J C0	✓	✓	Soil	4-9-06	1030		1	1		1			3		1	1	1				
002	J11J D8	✓	✓			1125		3	1		1			1		1	1	3				
003	J11J D9	✓	✓			1230		1	3		3			1		1	1	1				
004	J11J F0	✓	✓			1320		1	1		1			1		3	3	1				
005	J11J F1					1430		1	1		1			3		1	1	3				
006	J11J R9			Soil	4-9-06	1000		1	1		1			1		1	1	1				

Special Instructions: QC-001 Met
002 BNA, Hexachrom
003 Pest, PCB
004 Anions, N2, N3

No % SOL

METALS(1) = HSL + Bi, B, Li, Mo, P, Si, Sr, Sn, U (No Hg)

DATE/REVISIONS:
→ 005 1. DO NOT USE EXTRA VOLUME for Met or Hex Chrom See
2. DRLETTR or IAN.
3. OPCB R
4. 0608H j
5.
6.

Relinquished by	Received by	Date	Time
[signature]	[signature]	4/11/06	0920

Relinquished by	Received by	Date	Time

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

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-051-71	Page 2 of 3

Collector STANKOVICH, M.	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 8L Data Turnaround 45 Days
Project Designation 100 & 300 Area Component of the RCBRA - Incremental So	Sampling Location 100-D RIPARIAN #2		SAF No. RC-051	Air Quality ☐
Ice Chest No.	Field Logbook No. EL-1596	COA BESRAS6520	Method of Shipment FED EX	
Shipped To EBERLINE SERVICES (LIONVILLE)	Offsite Property No. A060151		Bill of Lading/Air Bill No. SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

NONE

Special Handling and/or Storage

Use page 3 for original material to Corvallis for MIS preparation and aliquoting, page 1 for radioanalytical fractions to Eberline, & page 2 for chemical analytical fractions to Lionville.

SAMPLE ANALYSIS												
Preservation				None	None	None	None	None	None	None	None	None	None
Type of Container				G/P	G/P	aG	aG	aG	aG	G/P	G/P	^	^
No. of Container(s)				9	9	7		7	7	7	7	0	0
Volume				30g	30g	30g	30g	30g	30g	30g	30g	1^	1^
				See item (1) in Special Instructions.	Chromium Hex - 7196	Semi-VOA - 8270A (TCL)	PAHs - 8310	Pesticides - 8081	PCBs - 8082	IC Anions - 300.0 (Nitrate)	NO2/NO3 - 353.2 (Nitrogen in Nitrite and Nitrate)	-	--
Sample No.	Matrix *	Sample Date	Sample Time										
J11JC0	SOIL	4-9-06	10:30	3	1	1		1	1	1	1		
J11JD8			11:25	1	3	3		1	1	1	1		
J11JD9			12:30	1	1	1		3	3	1	1		
J11JF0			13:20	1	1	1		1	1	3	3		
J11JF1			14:30	3	3	1		1	1	1	1		

3606

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Elizabeth M Tepper		CH2M Hill	
Elizabeth M Tepper CH2M	4-10-06 11:30	Fed Ex	4-10-06 11:30
Fed Ex	4/11/06 0920	[illegible]	4-11-06 0920
Fed Ex	4/11/06 0920	[illegible]	4-11-06 0920

SPECIAL INSTRUCTIONS

` These marks indicate that unless lined out, analytes to be included with Strontium-89,90 -- Total Sr analysis fraction.

^~ These marks indicate that this is a non-analysis used to properly format COC form.

Contact Joan Kessner for any questions.

(1) ICP Metals - 6010 (Full List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc)

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

BHI-EE-011 (08/29/2005)

CH2M HILL Soil Sampling Bench Sheet
Spring 2006

Project ID WCH

Project # 336761.AO.ZZ

Site # 100-D RIPARIAN # 2

Sample # J11JC0

Tray # 9

Tare Wt. 1459 gm.

Total Dry Wt. 4636.0 gm.

Net Dry Wt. 3177.0 gm.

ALL SAMPLES COLLECTED BELOW CONSIST OF 50 SAMPLE INCREMENTS

Analyte	Sample Time	Grams Needed	Grams Collected	Initials
GEA	10:30	400 g	407.7 g	ET
RAD STR		30 g	30.78 g	
ICP MET		30 g	30.34 g	
HEX CR		30 g	30.47 g	
SEMI VOA		30 g	30.60 g	
PEST		30 g	30.41 g	
PCB		30 g	30.18 g	
IC ANION		30 g	30.73 g	
NO2/NO3		30 g	30.45 g	
RAD STR MS		30 g	30.57 g	
RAD STR MSD		30 g	30.61 g	
ICP MET MS		30 g	30.58 g	
ICP MET MSD		30 g	30.42 g	

Comments:

Name (print): Elizabeth M Tepper

Signature: Elizabeth M Tepper

Sub-Sampled Date: 4-9-06

999999999

CH2M HILL Soil Sampling Bench Sheet
Spring 2006

Project ID WCH

Project # 336761.AO.ZZ

Site # 100-D RIPARIAN # 2

Sample # J11JD8

Tray # 50

Tare Wt. 1450 gm.

Total Dry Wt. 5789.1 gm.

Net Dry Wt. 4339.1 gm.

ALL SAMPLES COLLECTED BELOW CONSIST OF 50 SAMPLE INCREMENTS

Analyte	Sample Time	Grams Needed	Grams Collected	Initials
GEA	11:25	400 g	406.1	ET
RAD STR		30 g	30.47 g	
ICP MET		30 g	30.41	
HEX CR		30 g	30.86	
SEMI VOA		30 g	30.59	
PEST		30 g	30.78	
PCB		30 g	30.12	
IC ANION		30 g	30.30	
NO2/NO3		30 g	30.77	
HEX CR MS		30 g	30.76	
HEX CR MSD		30 g	30.32	
SEMI VOA MS		30 g	30.14	
SEMI VOA MSD		30 g	30.38	

Comments:

Name (print): Elizabeth M Tepper

Signature: Elizabeth M Tepper

Sub-Sampled Date: 4-9-06

CH2M HILL Soil Sampling Bench Sheet
Spring 2006

Project ID WCH

Project # 336761.AO.ZZ

Site # 100-D RIPARIAN # 2

Sample # J11JD9

Tray # 46

Tare Wt. 1460 gm.

Total Dry Wt. 4647.5 gm.

Net Dry Wt. 3187.5 gm.

ALL SAMPLES COLLECTED BELOW CONSIST OF 50 SAMPLE INCREMENTS

Analyte	Sample Time	Grams Needed	Grams Collected	Initials
GEA	12:30	400 g	402.7	ET
RAD STR		30 g	30.04	
ICP MET		30 g	30.59	
HEX CR		30 g	30.2	
SEMI VOA		30 g	30.15	
PEST		30 g	30.58	
PCB		30 g	30.96	
IC ANION		30 g	30.98	
NO2/NO3		30 g	30.12	
PEST MS		30 g	30.69	
PEST MSD		30 g	30.04	
PCB MS		30 g	30.53	
PCB MSD		30 g	30.29	

Comments:

Name (print): Elizabeth M Tepper

Signature: Elizabeth M Tepper

Sub-Sampled Date: 4-9-06

CH2M HILL Soil Sampling Bench Sheet
Spring 2006

Project ID WCH

Project # 336761.AO.ZZ

Site # 100-D RIPARIAN # 2

Sample # J11JF0

Tray # 3

Tare Wt. 1458 gm.

Total Dry Wt. 4648.9 gm.

Net Dry Wt. 3190.9 gm.

ALL SAMPLES COLLECTED BELOW CONSIST OF 50 SAMPLE INCREMENTS

Analyte	Sample Time	Grams Needed	Grams Collected	Initials
GEA	13:20	400 g	408.7	ET
RAD STR		30 g	30.43	
ICP MET		30 g	30.34	
HEX CR		30 g	30.81	
SEMI VOA		30 g	30.08	
PEST		30 g	30.21	
PCB		30 g	30.42	
IC ANION		30 g	30.44	
NO2/NO3		30 g	31.22	
IC ANION MS		30 g	30.61	
IC ANION MSD		30 g	30.84	
NO2/NO3 MS		30 g	30.86	
NO2/NO3 MSD		30 g	30.10	

Comments:

Name (print): Elizabeth M Tepper

Signature: Elizabeth M Tepper

Sub-Sampled Date: 4-9-06

CH2M HILL Soil Sampling Bench Sheet
Spring 2006

Project ID WCH

Project # 336761.AO.ZZ

Site # 100-D RIPARIAN # 2

Sample # J11JF1

Tray # 47

Tare Wt. 1450 gm.

Total Dry Wt. 4192.5 gm.

Net Dry Wt. 2742.5 gm.

ALL SAMPLES COLLECTED BELOW CONSIST OF 50 SAMPLE INCREMENTS

Analyte	Sample Time	Grams Needed	Grams Collected	Initials
GEA	14:30	400 g	404.1	ET
RAD STR		30 g	30.58	
ICP MET		30 g	30.23	
HEX CR		30 g	30.11	
SEMI VOA		30 g	30.37	
PEST		30 g	30.72	
PCB		30 g	30.49	
IC ANION		30 g	30.35	
NO2/NO3		30 g	30.61	
ICP MET MS		30 g	30.22	
ICP MET MSD		30 g	30.27	
HEX CR MS		30 g	30.45	
HEX CR MSD		30 g	30.48	

Comments:

Name (print): Elizabeth M Tepper

Signature: Elizabeth M Tepper

Sub-Sampled Date: 4-9-06

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-051-137	Page 2 of 3

Collector STANKOVICH, M.	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 8L	Data Turnaround 45 Days
Project Designation 100 & 300 Area Component of the RCBRA - Incremental So	Sampling Location EQUIPMENT BLANK, RIPARIAN		SAF No. RC-051	Air Quality ☐	
Ice Chest No.	Field Logbook No. EL-1596-1	COA BESRAS6520	Method of Shipment FED EX		
Shipped To EBERLINE SERVICES (LIONVILLE)	Offsite Property No. A060151		Bill of Lading/Air Bill No. SEE OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS

NONE

Special Handling and/or Storage

Use page 3 for original material to Corvallis for MIS preparation and aliquoting, page 1 for radioanalytical fractions to Eberline, & page 2 for chemical analytical fractions to Lionville.

Preservation	None	None	None	None	None	None	None	None	None	None
Type of Container	G/P	G/P	aG	aG	aG	aG	G/P	G/P	^	^
No. of Container(s)	1	1	1	1	1	1	1	1	0	0
Volume	30g	30g	30g	30g	30g	30g	30g	30g	1^	1^
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	Semi-VOA - 8270A (TCL)	PAHs - 8310	Pesticides - 8081	PCBs - 8082	IC Anions - 300.0 (Nitrate)	NO2/NO3 - 353.2 (Nitrogen in Nitrite and Nitrate)	-	--
Sample No. / Matrix * / Sample Date / Sample Time										
J11JR9 / SOIL / 4-9-06 / 10:00	1	1	1	1	1	1	1	1		

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Elizabeth M Tepper		CH2M Hill	
Relinquished By/Removed From CH2M	Date/Time 11:30	Received By/Stored In	Date/Time 11:30
Elizabeth M Tepper	4-10-06	Fed Ex	4-10-06
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Fed Ex	4.11.06 / 0920	D Smith	4.11.06 / 0820
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
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

` These marks indicate that unless lined out, analytes to be included with Strontium-89,90 -- Total Sr analysis fraction.

^~ These marks indicate that this is a non-analysis used to properly format COC form.

Contact Joan Kessner for any questions.

(1) ICP Metals - 6010 (Full List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc)

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

BHI-EE-011 (08/29/2005)

CH2M HILL Soil Sampling Bench Sheet
Spring 2006

Project ID WCH

Project # 336761.AO.ZZ

Site # Equipment Blank Riparian

Sample # J11JR9

Tray # 6 2

Tare Wt. 1458 gm.

Total Dry Wt. 4033.7 gm.

Net Dry Wt. 2575.7 gm.

ALL SAMPLES COLLECTED BELOW CONSIST OF 50 SAMPLE INCREMENTS

Analyte	Sample Time	Grams Needed	Grams Collected	Initials
ICP MET	10:00	30 g	30.37 g	ET
HEX CR		30 g	30.76 g	
SEMI VOA		30 g	30.63 g	
PEST		30 g	30.09 g	
PCB		30 g	30.64 g	
IC ANION		30 g	30.03 g	
NO2/NO3		30 g	30.19 g	
PAH	10:00	30 g	31.01 g	ET

Comments:

Name (print): Elizabeth Tepper

Signature: Elizabeth M Tepper

Sub-Sampled Date: ~~4-6~~ 4-9-06

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU HANFORD

Date: 4/11/06

Purchase Order / Project# / SAF# / SOW# / Release #: RC - 051

LvLI Batch # : 0604L738

Sample Custodian: Victor Hernandez

NOTE: EXPLAIN ALL DISCREPANCIES

1.	Samples Hand Delivered or Shipped	Carrier FED EX		Airbill# 6595 0631 3432 1 1 3443	
2.	Custody seals on coolers or shipping container intact, signed and dated?	☑ Yes	☐ No	☐ No Seals	Comments
3.	Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No		
4.	All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible?	☑ Yes	☐ No		
5.	Samples received cooled or ambient? I-R	Temp 17.7 °C		Cooler #	
6.	Custody seals on sample containers intact, signed and dated?	☐ Yes	☐ No	☑ No Seals	
7.	coc signed and dated?	☑ Yes	☐ No		
8.	Sample containers are intact?	☑ Yes	☐ No		
9.	All samples on coc received? All samples received on coc?	☑ Yes	☐ No		
10.	All sample label information matches coc?	☑ Yes	☐ No		
11.	Samples properly preserved?	☑ Yes	☐ No		
12.	Samples received within hold times? Short holds taken to wet lab?	☑ Yes	☐ No		
13.	VOA, TOC, TOX free of headspace?	☐ 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 not within policy. See reverse side for policy)	☑ Yes 4-11-06	☑ No	Temperature	
16.	Project Manager contacted concerning discrepancies? name/date (or samples outside criteria)	☐ Yes	☐ No	☑ No Discrepancies	

SR-002-B

LVLI LIONVILLE LABORATORY INC

999999815

RECEIVED
JUN 2006

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-051 K0300

DATE RECEIVED: 04/11/06 LVL LOT # :0604L738

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J11JC0						
NITRATE BY IC	001	S	06LICD52	04/09/06	05/30/06	05/30/06
CHROMIUM VI	001	S	06LVI027	04/09/06	04/13/06	04/13/06
NITRATE NITRITE	001	S	06LN3043	04/09/06	05/31/06	05/31/06
J11JD8						
NITRATE BY IC	002	S	06LICD52	04/09/06	05/30/06	05/30/06
CHROMIUM VI	002	S	06LVI027	04/09/06	04/13/06	04/13/06
CHROMIUM VI	002 REP	S	06LVI027	04/09/06	04/13/06	04/13/06
CHROMIUM VI	002 MS	S	06LVI027	04/09/06	04/13/06	04/13/06
NITRATE NITRITE	002	S	06LN3043	04/09/06	05/31/06	05/31/06
J11JD9						
NITRATE BY IC	003	S	06LICD52	04/09/06	05/30/06	05/30/06
CHROMIUM VI	003	S	06LVI027	04/09/06	04/13/06	04/13/06
NITRATE NITRITE	003	S	06LN3043	04/09/06	05/31/06	05/31/06
J11JF0						
NITRATE BY IC	004	S	06LICD52	04/09/06	05/30/06	05/30/06
NITRATE BY IC	004 REP	S	06LICD52	04/09/06	05/30/06	05/30/06
NITRATE BY IC	004 MS	S	06LICD52	04/09/06	05/30/06	05/31/06
CHROMIUM VI	004	S	06LVI027	04/09/06	04/13/06	04/13/06
NITRATE NITRITE	004	S	06LN3043	04/09/06	05/31/06	05/31/06
NITRATE NITRITE	004 REP	S	06LN3043	04/09/06	05/31/06	05/31/06
NITRATE NITRITE	004 MS	S	06LN3043	04/09/06	05/31/06	05/31/06
J11JF1						
NITRATE BY IC	005	S	06LICD52	04/09/06	05/30/06	05/30/06
CHROMIUM VI	005	S	06LVI027	04/09/06	04/13/06	04/13/06
NITRATE NITRITE	005	S	06LN3043	04/09/06	05/31/06	05/31/06
J11JR9						
NITRATE BY IC	006	S	06LICD52	04/09/06	05/30/06	05/30/06

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-051 K0300

DATE RECEIVED: 04/11/06 LVL LOT # :0604L738

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
CHROMIUM VI	006	S	06LVI027	04/09/06	04/13/06	04/13/06
NITRATE NITRITE	006	S	06LN3043	04/09/06	05/31/06	05/31/06

LAB QC:

NITRATE BY IC	MB1	S	06LICD52	N/A	05/30/06	05/30/06
NITRATE BY IC	MB1 BS	S	06LICD52	N/A	05/30/06	05/30/06
CHROMIUM VI	MB1	S	06LVI027	N/A	04/13/06	04/13/06
CHROMIUM VI	MB1 BS	S	06LVI027	N/A	04/13/06	04/13/06
CHROMIUM VI	MB1 BSD	S	06LVI027	N/A	04/13/06	04/13/06
NITRATE NITRITE	MB1	S	06LN3043	N/A	05/31/06	05/31/06
NITRATE NITRITE	MB1 BS	S	06LN3043	N/A	05/31/06	05/31/06

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD RC-051 K0300
LVL#: 0604L738

W.O.#: 11343-606-001-9999-00
Date Received: 04-11-06

INORGANIC NARRATIVE

1. This narrative covers the analyses of 6 soil samples.

2. The samples were prepared and analyzed in accordance with the methods checked on the attached glossary with the exception of the sample digestate compilation modification requested by the client for Chromium VI. The total sample mass submitted for each sample number was determined and then portioned for the digestion preparation step and the subsequent digestates were composited prior to the colorimetric analysis. For Nitrate Nitrite and IC analyses, the sample extraction ratios were 1:10 using the total sample masses submitted. The Nitrate Nitrite extracts were preserved with sulfuric acid prior to analysis. The sample weights were as follows:

LvLI Sample	Site ID	Cr6+ sample wt,g	Nitrate-Nitrite IC Nitrate sample wt,g
0604L738-001	J11JC0	30.463	30.742
0604L738-002	J11JD8	30.836	NA
0604L738-002 dup	J11JD8	30.750	NA
0604L738-002 spk	J11JD8	30.273	30.338
0604L738-003	J11JD9	30.190	31.050
0604L738-004	J11JF0	30.800	30.669
0604L738-004 dup	J11JF0	NA	30.468
0604L738-004 spk	J11JF0	NA	30.983
0604L738-005	J11JF1	30.435	30.373
0604L738-006	J11JR9	30.761	30.057

Elevated reporting limits for Chromium VI are the result of the necessity to dilute the samples to diminish background color of the digestates.

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 20 pages.

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

LvLI is NELAP accredited by the state of Pennsylvania and holds over 20 additional state accreditations. For a complete list of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.

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

4. The results presented in this report are derived from samples that did not meet LvLI's sample acceptance policy as noted on the Sample Receipt Checklist.

5. The method blanks were within the method criteria.

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

7. The matrix spike recoveries for Soluble Chromium VI, Nitrate and Nitrate Nitrite were within the 75-125% control limits.

8. The replicate analyses for Chromium VI, Nitrate and Nitrate Nitrite were within the 20% Relative Percent Difference (RPD) control limit.

9. Results for solid samples were reported on an "as received" 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

6/5/06
Date

njp\04-738

LvLI
LIONVILLE LABORATORY INC.

Lionville Laboratory Incorporated

WET CHEMISTRY

METHODS GLOSSARY FOR SOIL/SOLIDS SAMPLE ANALYSIS

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

Other: Nitrate **Method:** EPA 300.0

Other: Nitrate Nitrite **Method** EPA 353.2 (mod.)

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 06/02/06

CLIENT: TNUHANFORD RC-051 K0300 LVL LOT #: 0604L738
WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	J11JC0	Nitrate by IC	72.0	MG/KG	2.44	1.0
		Chromium VI	0.20 u	MG/KG	0.20	1.0
		Nitrate Nitrite	16.6	MG/KG	0.98	5.0
-002	J11JD8	Nitrate by IC	56.5	MG/KG	2.47	1.0
		Chromium VI	0.20 u	MG/KG	0.20	1.0
		Nitrate Nitrite	13.0	MG/KG	0.40	2.0
-003	J11JD9	Nitrate by IC	41.3	MG/KG	2.42	1.0
		Chromium VI	0.20 u	MG/KG	0.20	1.0
		Nitrate Nitrite	9.4	MG/KG	0.39	2.0
-004	J11JF0	Nitrate by IC	53.9	MG/KG	2.44	1.0
		Chromium VI	0.78 u	MG/KG	0.78	4.0
		Nitrate Nitrite	11.9	MG/KG	0.39	2.0
-005	J11JF1	Nitrate by IC	36.5	MG/KG	2.47	1.0
		Chromium VI	0.20 u	MG/KG	0.20	1.0
		Nitrate Nitrite	16.4	MG/KG	0.40	2.0
-006	J11JR9	Nitrate by IC	2.50 u	MG/KG	2.50	1.0
		Chromium VI	0.20 u	MG/KG	0.20	1.0
		Nitrate Nitrite	0.54	MG/KG	0.20	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 06/02/06

CLIENT: TNUHANFORD RC-051 K0300 LVL LOT #: 0604L738

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK10	06LICD52-MB1	Nitrate by IC	2.50 u	MG/KG	2.50	1.0
BLANK10	06LVI027-MB1	Chromium VI	0.20 u	MG/KG	0.20	1.0
BLANK10	06LN3043-MB1	Nitrate Nitrite	0.20 u	MG/KG	0.20	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 06/02/06

CLIENT: TNUHANFORD RC-051 K0300 LVL LOT #: 0604L738

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-002	J11JD8	Soluble Chromium VI	3.2	0.20u	4.0	87.2	1.0
-004	J11JF0	Nitrate by IC	158	53.9	97.0	107.1	2.0
		Nitrate Nitrite	39.8	11.9	24.2	115.3	5.0
BLANK10	06LICD52-MB1	Nitrate by IC	48.8	2.50u	50.0	97.6	1.0
BLANK1D	06LVI027-MB1	Soluble Chromium VI	4.0	0.20u	4.0	100.6	1.0
		Insoluble Chromium VI	1330	0.20u	1280	104.4	100
BLANK10	06LN3043-MB1	Nitrate Nitrite	5.2	0.20u	5.0	104.2	1.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 06/02/06

CLIENT: TNUHANFORD RC-051 K0300 LVL LOT #: 0604L738

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

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-002REP	J11JD8	Chromium VI	0.20u	0.20u	NC	1.0
-004REP	J11JF0	Nitrate by IC	53.9	53.2	1.2	1.0
		Nitrate Nitrite	11.9	11.8	1.0	2.0

Lionville Laboratory Use Only

0604C738

Custody Transfer Record/Lab Work Request

Page 1 of See SRC

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TNU HANFORD SAFH RC-051

Est. Final Proj. Sampling Date:

Project #: 113413-006-001-9999-00

Project Contact/Phone #:

Lionville Laboratory Project Manager: DJ

QC: Spec Del: Std TAT: 30 Days

Date Rec'd: 4/11/06 Date Due: 5/11/06

		A-C	D-F	G	G-J			K-L		M-O	P-R	S-U	V	
Refrigerator #		2	2		2			2		2	2	2		
#/Type Container	Liquid													
	Solid	G	G		G			G		G	G	G	G	
Volume	Liquid													
	Solid	30g	30g		30g			30g		30g	30g	30g	30g	
Preservatives		—	—		—			—		—	—	—	—	
ANALYSES REQUESTED →	ORGANIC: VOA							INORG: Metal						
	BNA								CN					
	Pest/PCB				PCB									
	Herb													
										IC Anions	N2 N3	PT Phos	Anions	

Lionville Laboratory Use Only

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

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA	BNA (0604254)	Pest/PCB (0604H)	Herb	PCB (OFCB)			METALS (1)	CN	IC NO3	IC NO2	IC PO4
001	J11J C0	✓	✓	Soil	4-9-06	1030		1	1		1			3		1	1	1
002	J11J D8	✓	✓			1125		3	1		1			1		1	1	3
003	J11J D9	✓	✓			1230		1	3		3			1		1	1	1
004	J11J F0	✓	✓			1320		1	1		1			1		3	3	1
005	J11J F1					1430		1	1		1			3		1	1	3
006	J11J R9			Soil	4-9-06	1000		1	1		1			1		1	1	1

Special Instructions: QC-001 Met
002 BNA, Herbicides
003 Pest, PCB
004 Anions, N2, N3

No % SOL

METALS (1) = HSL + Bi, B, Li, Mo, P, Si, Sr, Sn, U (No Hg)

DATE/REVISIONS:
→ 005 1. DO NOT USE EXTRA VOLUME for Met or Hex Chrom See
2. DRETTR or IAIN.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
[signature]	[signature]	4/11/06	0920

Relinquished by	Received by	Date	Time

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

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-051-71	Page 2 of 3

Collector STANKOVICH, M.	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH
Project Designation 100 & 300 Area Component of the RCBRA - Incremental So	Sampling Location 100-D RIPARIAN #2		SAF No. RC-051
Ice Chest No.	Field Logbook No. EL-1596	COA BESRAS6520	Method of Shipment FED EX
Shipped To EBERLINE SERVICES (LIONVILLE)	Offsite Property No. A060151		Bill of Lading/Air Bill No. SEE OSPC

Price Code 8L

Air Quality ☐

Data Turnaround C 45 Days

POSSIBLE SAMPLE HAZARDS/REMARKS

NONE

Special Handling and/or Storage

Use page 3 for original material to Corvallis for MIS preparation and aliquoting, page 1 for radioanalytical fractions to Eberline, & page 2 for chemical analytical fractions to Lionville.

Preservation	None	None	None	None	None	None	None	None	None	None
Type of Container	G/P	G/P	aG	aG	aG	aG	G/P	G/P	^	^
No. of Container(s)	9	9	7		7	7	7	7	0	0
Volume	30g	30g	30g	30g	30g	30g	30g	30g	1^	1^
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	Semi-VOA - 8270A (TCL)	PAHs - 8310	Pesticides - 8081	PCBs - 8082	IC Anions - 300.0 (Nitrate)	NO2/NO3 - 353.2 (Nitrogen in Nitrite and Nitrate)	~	--

Sample No.	Matrix *	Sample Date	Sample Time										
J11JC0	SOIL	4-9-06	10:30	3	1	1		1	1	1	1		
J11JD8			11:25	1	3	3		1	1	1	1		
J11JD9			12:30	1	1	1		3	3	1	1		
J11JF0			13:20	1	1	1		1	1	3	3		
J11JF1			14:30	3	3	1		1	1	1	1		

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Elizabeth M Tepper		CH2M Hill	
Elizabeth M Tepper CH2M	4-10-06 11:30	Fed Ex	4-10-06 11:30
Fed Ex	4/11/06 0920	[signature]	4-11-06 0920
Fed Ex	4/11/06 0920	[signature]	4-11-06 0920

SPECIAL INSTRUCTIONS

` These marks indicate that unless lined out, analytes to be included with Strontium-89,90 -- Total Sr analysis fraction.

^~ These marks indicate that this is a non-analysis used to properly format COC form. Contact Joan Kessner for any questions.

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

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
Ve=Vegetation
X=Other

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-051-137	Page 2 of 3

Collector STANKOVICH, M.	**Company Contact** JOAN KESSNER **Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH	**Price Code** 8L **Data Turnaround** 45 Days
Project Designation 100 & 300 Area Component of the RCBRA - Incremental So	**Sampling Location** EQUIPMENT BLANK, RIPARIAN	**SAF No.** RC-051	**Air Quality** ☐
Ice Chest No.	**Field Logbook No.** EL-1596-1 **COA** BESRAS6520	**Method of Shipment** FED EX	
Shipped To EBERLINE SERVICES / LIONVILLE	**Offsite Property No.** A060151	**Bill of Lading/Air Bill No.** SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

NONE

Special Handling and/or Storage

Use page 3 for original material to Corvallis for MIS preparation and aliquoting. page 1 for radioanalytical fractions to Eberline, & page 2 for chemical analytical fractions to Lionville.

Preservation	None	None	None	None	None	None	None	None	None	None
Type of Container	G/P	G/P	aG	aG	aG	aG	G/P	G/P	^	^
No. of Container(s)	1	1	1	1	1	1	1	1	0	0
Volume	30g	30g	30g	30g	30g	30g	30g	30g	1^	1^

SAMPLE ANALYSIS

Sample No.	Matrix *	Sample Date	Sample Time	See item (1) in Special Instructions.	Chromium Hex - 7196	Semi-VOA - 8270A (TCL)	PAHs - 8310	Pesticides - 8081	PCBs - 8082	IC Anions - 300.0 (Nitrate)	NO2/NO3 - 353.2 (Nitrogen in Nitrite and Nitrate)	-	--
J11JR9	SOIL	4-9-06	10:00	1	1	1	1	1	1	1	1		

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Elizabeth M Tepper		CH2M Hill	
Elizabeth M Tepper CH2M	4-10-06 11:30	Fed Ex	4-10-06 11:30
Fed Ex	4-11-06 / 0920	D Smith	4-11-06 / 0920

SPECIAL INSTRUCTIONS

` These marks indicate that unless lined out, analytes to be included with Strontium-89,90 -- Total Sr analysis fraction.

^-- These marks indicate that this is a non-analysis used to properly format COC form. Contact Joan Kessner for any questions.

(1) ICP Metals - 6010 (Full List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc)

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
Ve=Vegetation
X=Other

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

BHI-EE-011 (08/29/2005)

CH2M HILL Soil Sampling Bench Sheet
Spring 2006

Project ID WCH

Project # 336761.AO.ZZ

Site # 100-D RIPARIAN # 2

Sample # J11JC0

Tray # 9

Tare Wt. 1459 gm.

Total Dry Wt. 4636.0 gm.

Net Dry Wt. 3177.0 gm.

ALL SAMPLES COLLECTED BELOW CONSIST OF 50 SAMPLE INCREMENTS

Analyte	Sample Time	Grams Needed	Grams Collected	Initials
GEA	10:30	400 g	407.7 g	E.T
RAD STR		30 g	30.78 g	
ICP MET		30 g	30.39 g	
HEX CR		30 g	30.47 g	
SEMI VOA		30 g	30.60 g	
PEST		30 g	30.41 g	
PCB		30 g	30.78 g	
IC ANION		30 g	30.73 g	
NO2/NO3		30 g	30.45 g	
RAD STR MS		30 g	30.57 g	
RAD STR MSD		30 g	30.61 g	
ICP MET MS		30 g	30.58 g	
ICP MET MSD		30 g	30.42 g	

Comments:

Name (print): Elizabeth M Tepper

Signature: Elizabeth M Tepper

Sub-Sampled Date: 4-9-06

CH2M HILL Soil Sampling Bench Sheet
Spring 2006

Project ID WCH

Project # 336761.AO.ZZ

Site # 100-D RIPARIAN # 2

Sample # J11JD8

Tray # 50

Tare Wt. 1450 gm.

Total Dry Wt. 5789.1 gm.

Net Dry Wt. 4339.1 gm.

ALL SAMPLES COLLECTED BELOW CONSIST OF 50 SAMPLE INCREMENTS

Analyte	Sample Time	Grams Needed	Grams Collected	Initials
GEA	11:25	400 g	406.1	ET
RAD STR		30 g	30.47 g	
ICP MET		30 g	30.41	
HEX CR		30 g	30.86	
SEMI VOA		30 g	30.59	
PEST		30 g	30.78	
PCB		30 g	30.12	
IC ANION		30 g	30.30	
NO2/NO3		30 g	30.77	
HEX CR MS		30 g	30.76	
HEX CR MSD		30 g	30.32	
SEMI VOA MS		30 g	30.14	
SEMI VOA MSD		30 g	30.30	

Comments:

Name (print): Elizabeth M Tepper

Signature: Elizabeth M Tepper

Sub-Sampled Date: 4-9-06

CH2M HILL Soil Sampling Bench Sheet
Spring 2006

Project ID WCH

Project # 336761.AO.ZZ

Site # 100-D RIPARIAN # 2

Sample # J11JD9

Tray # 46

Tare Wt. 1460 gm.

Total Dry Wt. 4647.5 gm.

Net Dry Wt. 3187.5 gm.

ALL SAMPLES COLLECTED BELOW CONSIST OF 50 SAMPLE INCREMENTS

Analyte	Sample Time	Grams Needed	Grams Collected	Initials
GEA	12:30	400 g	402.7	E T
RAD STR		30 g	30.04	
ICP MET		30 g	30.59	
HEX CR		30 g	30.2	
SEMI VOA		30 g	30.15	
PEST		30 g	30.58	
PCB		30 g	30.96	
IC ANION		30 g	30.98	
NO2/NO3		30 g	30.12	
PEST MS		30 g	30.69	
PEST MSD		30 g	30.04	
PCB MS		30 g	30.53	
PCB MSD		30 g	30.29	

Comments:

Name (print): Elizabeth M Tepper

Signature: Elizabeth M Tepper

Sub-Sampled Date: 4-9-06

CH2M HILL Soil Sampling Bench Sheet
Spring 2006

Project ID WCH

Project # 336761.AO.ZZ

Site # 100-D RIPARIAN # 2

Sample # J11JF0

Tray # 3

Tare Wt. 1456 gm.

Total Dry Wt. 4648.9 gm.

Net Dry Wt. 3190.9 gm.

ALL SAMPLES COLLECTED BELOW CONSIST OF 50 SAMPLE INCREMENTS

Analyte	Sample Time	Grams Needed	Grams Collected	Initials
GEA	13:20	400 g	408.7	ET
RAD STR		30 g	30.43	
ICP MET		30 g	30.34	
HEX CR		30 g	30.81	
SEMI VOA		30 g	30.08	
PEST		30 g	30.21	
PCB		30 g	30.42	
IC ANION		30 g	30.44	
NO2/NO3		30 g	31.22	
IC ANION MS		30 g	30.61	
IC ANION MSD		30 g	30.84	
NO2/NO3 MS		30 g	30.86	
NO2/NO3 MSD		30 g	30.10	

Comments:

Name (print): Elizabeth M Tepper

Signature: Elizabeth M Tepper

Sub-Sampled Date: 4-9-06

CH2M HILL Soil Sampling Bench Sheet
Spring 2006

Project ID WCH

Project # 336761.AO.ZZ

Site # 100-D RIPARIAN # 2

Sample # J11JF1

Tray # 47

Tare Wt. 1450 gm.

Total Dry Wt. 4192.5 gm.

Net Dry Wt. 2742.5 gm.

ALL SAMPLES COLLECTED BELOW CONSIST OF 50 SAMPLE INCREMENTS

Analyte	Sample Time	Grams Needed	Grams Collected	Initials
GEA	14:30	400 g	404.1	ET
RAD STR		30 g	30.50	
ICP MET		30 g	30.23	
HEX CR		30 g	30.11	
SEMI VOA		30 g	30.37	
PEST		30 g	30.72	
PCB		30 g	30.49	
IC ANION		30 g	30.35	
NO2/NO3		30 g	30.61	
ICP MET MS		30 g	30.22	
ICP MET MSD		30 g	30.27	
HEX CR MS		30 g	30.45	
HEX CR MSD		30 g	30.48	

Comments:

Name (print): Elizabeth M Tepper

Signature: Elizabeth M Tepper

Sub-Sampled Date: 4-9-06

CH2M HILL Soil Sampling Bench Sheet
Spring 2006

Project ID WCH

Project # 336761.AO.ZZ

Site # Equipment Blank Riparian

Sample # J11JR9

Tray # 6 2

Tare Wt. 1458 gm.

Total Dry Wt. 4033.7 gm.

Net Dry Wt. 2575.7 gm.

ALL SAMPLES COLLECTED BELOW CONSIST OF 50 SAMPLE INCREMENTS

Analyte	Sample Time	Grams Needed	Grams Collected	Initials
ICP MET	10:00	30 g	30.37 g	ET
HEX CR		30 g	30.76 g	
SEMI VOA		30 g	30.62 g	
PEST		30 g	30.09 g	
PCB		30 g	30.64 g	
IC ANION		30 g	30.03 g	
NO2/NO3		30 g	30.19 g	
PAH	10:00	30 g	31.01 g	ET

Comments:

Name (print): Elizabeth Tepper

Signature: Elizabeth M Tepper

Sub-Sampled Date: ~~4-6~~ 4-9-06

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNC HANFORD

Date: 4/11/06

Purchase Order / Project# / SAF# / SOW# / Release #: RC - 051

LvLI Batch # : 0604L738

Sample Custodian: Victor Hernandez

NOTE: EXPLAIN ALL DISCREPANCIES

1.	Samples Hand Delivered or Shipped	Carrier FED EX	Airbill# 6595 0631 3432 1 1 3443	
2.	Custody seals on coolers or shipping container intact, signed and dated?	☑ Yes	☐ No	☐ No Seals Comments
3.	Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	
4.	All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible?	☑ Yes	☐ No	
5.	Samples received cooled or ambient? I-R	Temp 17.7 °C		Cooler #
6.	Custody seals on sample containers intact, signed and dated?	☐ Yes	☐ No	☑ No Seals
7.	coc signed and dated?	☑ Yes	☐ No	
8.	Sample containers are intact?	☑ Yes	☐ No	
9.	All samples on coc received? All samples received on coc?	☑ Yes	☐ No	
10.	All sample label information matches coc?	☑ Yes	☐ No	
11.	Samples properly preserved?	☑ Yes	☐ No	
12.	Samples received within hold times? Short holds taken to wet lab?	☑ Yes	☐ No	
13.	VOA, TOC, TOX free of headspace?	☐ 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 not within policy. See reverse side for policy)	☑ Yes 4-11-06	☑ No Temperature	
16.	Project Manager contacted concerning discrepancies? name/date (or samples outside criteria)	☐ Yes	☐ No	☑ No Discrepancies

SR-002-B

LvLI

RECEIVED
JUN 2006

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-051 K0300

DATE RECEIVED: 04/11/06 LVL LOT # :0604L738

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J11JC0						
SILVER, TOTAL	001	S	06L0255	04/09/06	04/26/06	04/26/06
SILVER, TOTAL	001 REP	S	06L0255	04/09/06	04/26/06	04/26/06
SILVER, TOTAL	001 MS	S	06L0255	04/09/06	04/26/06	04/26/06
ALUMINUM, TOTAL	001	S	06L0255	04/09/06	04/26/06	04/26/06
ALUMINUM, TOTAL	001 REP	S	06L0255	04/09/06	04/26/06	04/26/06
ALUMINUM, TOTAL	001 MS	S	06L0255	04/09/06	04/26/06	04/26/06
ARSENIC, TOTAL	001	S	06L0255	04/09/06	04/26/06	04/26/06
ARSENIC, TOTAL	001 REP	S	06L0255	04/09/06	04/26/06	04/26/06
ARSENIC, TOTAL	001 MS	S	06L0255	04/09/06	04/26/06	04/26/06
BORON, TOTAL	001	S	06L0255	04/09/06	04/26/06	04/26/06
BORON, TOTAL	001 REP	S	06L0255	04/09/06	04/26/06	04/26/06
BORON, TOTAL	001 MS	S	06L0255	04/09/06	04/26/06	04/26/06
BARIUM, TOTAL	001	S	06L0255	04/09/06	04/26/06	04/26/06
BARIUM, TOTAL	001 REP	S	06L0255	04/09/06	04/26/06	04/26/06
BARIUM, TOTAL	001 MS	S	06L0255	04/09/06	04/26/06	04/26/06
BERYLLIUM, TOTAL	001	S	06L0255	04/09/06	04/26/06	04/27/06
BERYLLIUM, TOTAL	001 REP	S	06L0255	04/09/06	04/26/06	04/27/06
BERYLLIUM, TOTAL	001 MS	S	06L0255	04/09/06	04/26/06	04/27/06
BISMUTH, TOTAL	001	S	06L0255	04/09/06	04/26/06	04/26/06
BISMUTH, TOTAL REP	001 REP	S	06L0255	04/09/06	04/26/06	04/26/06
BISMUTH, TOTAL SPIKE	001 MS	S	06L0255	04/09/06	04/26/06	04/26/06
CALCIUM, TOTAL	001	S	06L0255	04/09/06	04/26/06	04/26/06
CALCIUM, TOTAL	001 REP	S	06L0255	04/09/06	04/26/06	04/26/06
CALCIUM, TOTAL	001 MS	S	06L0255	04/09/06	04/26/06	04/26/06
CADMIUM, TOTAL	001	S	06L0255	04/09/06	04/26/06	04/26/06
CADMIUM, TOTAL	001 REP	S	06L0255	04/09/06	04/26/06	04/26/06
CADMIUM, TOTAL	001 MS	S	06L0255	04/09/06	04/26/06	04/26/06
COBALT, TOTAL	001	S	06L0255	04/09/06	04/26/06	04/26/06
COBALT, TOTAL	001 REP	S	06L0255	04/09/06	04/26/06	04/26/06
COBALT, TOTAL	001 MS	S	06L0255	04/09/06	04/26/06	04/26/06
CHROMIUM, TOTAL	001	S	06L0255	04/09/06	04/26/06	04/26/06
CHROMIUM, TOTAL	001 REP	S	06L0255	04/09/06	04/26/06	04/26/06
CHROMIUM, TOTAL	001 MS	S	06L0255	04/09/06	04/26/06	04/26/06
COPPER, TOTAL	001	S	06L0255	04/09/06	04/26/06	04/26/06
COPPER, TOTAL	001 REP	S	06L0255	04/09/06	04/26/06	04/26/06

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-051 K0300

DATE RECEIVED: 04/11/06 LVL LOT # :0604L738

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
COPPER, TOTAL	001 MS	S	06L0255	04/09/06	04/26/06	04/26/06
IRON, TOTAL	001	S	06L0255	04/09/06	04/26/06	04/26/06
IRON, TOTAL	001 REP	S	06L0255	04/09/06	04/26/06	04/26/06
IRON, TOTAL	001 MS	S	06L0255	04/09/06	04/26/06	04/26/06
POTASSIUM, TOTAL	001	S	06L0255	04/09/06	04/26/06	04/26/06
POTASSIUM, TOTAL	001 REP	S	06L0255	04/09/06	04/26/06	04/26/06
POTASSIUM, TOTAL	001 MS	S	06L0255	04/09/06	04/26/06	04/26/06
LITHIUM, TOTAL	001	S	06L0255	04/09/06	04/26/06	04/26/06
LITHIUM, TOTAL	001 REP	S	06L0255	04/09/06	04/26/06	04/26/06
LITHIUM, TOTAL	001 MS	S	06L0255	04/09/06	04/26/06	04/26/06
MAGNESIUM, TOTAL	001	S	06L0255	04/09/06	04/26/06	04/26/06
MAGNESIUM, TOTAL	001 REP	S	06L0255	04/09/06	04/26/06	04/26/06
MAGNESIUM, TOTAL	001 MS	S	06L0255	04/09/06	04/26/06	04/26/06
MANGANESE, TOTAL	001	S	06L0255	04/09/06	04/26/06	04/26/06
MANGANESE, TOTAL	001 REP	S	06L0255	04/09/06	04/26/06	04/26/06
MANGANESE, TOTAL	001 MS	S	06L0255	04/09/06	04/26/06	04/26/06
MOLYBDENUM, TOTAL	001	S	06L0255	04/09/06	04/26/06	04/26/06
MOLYBDENUM, TOTAL	001 REP	S	06L0255	04/09/06	04/26/06	04/26/06
MOLYBDENUM, TOTAL	001 MS	S	06L0255	04/09/06	04/26/06	04/26/06
SODIUM, TOTAL	001	S	06L0255	04/09/06	04/26/06	04/26/06
SODIUM, TOTAL	001 REP	S	06L0255	04/09/06	04/26/06	04/26/06
SODIUM, TOTAL	001 MS	S	06L0255	04/09/06	04/26/06	04/26/06
NICKEL, TOTAL	001	S	06L0255	04/09/06	04/26/06	04/26/06
NICKEL, TOTAL	001 REP	S	06L0255	04/09/06	04/26/06	04/26/06
NICKEL, TOTAL	001 MS	S	06L0255	04/09/06	04/26/06	04/26/06
PHOSPHORUS, TOTAL	001	S	06L0255	04/09/06	04/26/06	04/27/06
PHOSPHORUS, TOTAL	001 REP	S	06L0255	04/09/06	04/26/06	04/27/06
PHOSPHORUS, TOTAL	001 MS	S	06L0255	04/09/06	04/26/06	04/27/06
LEAD, TOTAL	001	S	06L0255	04/09/06	04/26/06	04/26/06
LEAD, TOTAL	001 REP	S	06L0255	04/09/06	04/26/06	04/26/06
LEAD, TOTAL	001 MS	S	06L0255	04/09/06	04/26/06	04/26/06
ANTIMONY, TOTAL	001	S	06L0255	04/09/06	04/26/06	04/26/06
ANTIMONY, TOTAL	001 REP	S	06L0255	04/09/06	04/26/06	04/26/06
ANTIMONY, TOTAL	001 MS	S	06L0255	04/09/06	04/26/06	04/26/06
SELENIUM, TOTAL	001	S	06L0255	04/09/06	04/26/06	04/26/06
SELENIUM, TOTAL	001 REP	S	06L0255	04/09/06	04/26/06	04/26/06
SELENIUM, TOTAL	001 MS	S	06L0255	04/09/06	04/26/06	04/26/06
SILICON, TOTAL	001	S	06L0255	04/09/06	04/26/06	04/26/06

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-051 K0300

DATE RECEIVED: 04/11/06 LVL LOT # :0604L738

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
SILICON, TOTAL	001 REP	S	06L0255	04/09/06	04/26/06	04/26/06
SILICON, TOTAL	001 MS	S	06L0255	04/09/06	04/26/06	04/26/06
TIN, TOTAL	001	S	06L0255	04/09/06	04/26/06	04/26/06
TIN, TOTAL	001 REP	S	06L0255	04/09/06	04/26/06	04/26/06
TIN, TOTAL	001 MS	S	06L0255	04/09/06	04/26/06	04/26/06
STRONTIUM, TOTAL	001	S	06L0255	04/09/06	04/26/06	04/26/06
STRONTIUM, TOTAL	001 REP	S	06L0255	04/09/06	04/26/06	04/26/06
STRONTIUM, TOTAL	001 MS	S	06L0255	04/09/06	04/26/06	04/26/06
THALLIUM, TOTAL	001	S	06L0255	04/09/06	04/26/06	04/26/06
THALLIUM, TOTAL	001 REP	S	06L0255	04/09/06	04/26/06	04/26/06
THALLIUM, TOTAL	001 MS	S	06L0255	04/09/06	04/26/06	04/26/06
URANIUM, TOTAL	001	S	06L0255	04/09/06	04/26/06	04/26/06
URANIUM, TOTAL	001 REP	S	06L0255	04/09/06	04/26/06	04/26/06
URANIUM, TOTAL	001 MS	S	06L0255	04/09/06	04/26/06	04/26/06
VANADIUM, TOTAL	001	S	06L0255	04/09/06	04/26/06	04/26/06
VANADIUM, TOTAL	001 REP	S	06L0255	04/09/06	04/26/06	04/26/06
VANADIUM, TOTAL	001 MS	S	06L0255	04/09/06	04/26/06	04/26/06
ZINC, TOTAL	001	S	06L0255	04/09/06	04/26/06	04/26/06
ZINC, TOTAL	001 REP	S	06L0255	04/09/06	04/26/06	04/26/06
ZINC, TOTAL	001 MS	S	06L0255	04/09/06	04/26/06	04/26/06
J11JD8						
SILVER, TOTAL	002	S	06L0255	04/09/06	04/26/06	04/26/06
ALUMINUM, TOTAL	002	S	06L0255	04/09/06	04/26/06	04/26/06
ARSENIC, TOTAL	002	S	06L0255	04/09/06	04/26/06	04/26/06
BORON, TOTAL	002	S	06L0255	04/09/06	04/26/06	04/26/06
BARIUM, TOTAL	002	S	06L0255	04/09/06	04/26/06	04/26/06
BERYLLIUM, TOTAL	002	S	06L0255	04/09/06	04/26/06	04/27/06
BISMUTH, TOTAL	002	S	06L0255	04/09/06	04/26/06	04/26/06
CALCIUM, TOTAL	002	S	06L0255	04/09/06	04/26/06	04/26/06
CADMIUM, TOTAL	002	S	06L0255	04/09/06	04/26/06	04/26/06
COBALT, TOTAL	002	S	06L0255	04/09/06	04/26/06	04/26/06
CHROMIUM, TOTAL	002	S	06L0255	04/09/06	04/26/06	04/26/06
COPPER, TOTAL	002	S	06L0255	04/09/06	04/26/06	04/26/06
IRON, TOTAL	002	S	06L0255	04/09/06	04/26/06	04/26/06
POTASSIUM, TOTAL	002	S	06L0255	04/09/06	04/26/06	04/26/06
LITHIUM, TOTAL	002	S	06L0255	04/09/06	04/26/06	04/26/06

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-051 K0300

DATE RECEIVED: 04/11/06 LVL LOT # :0604L738

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
MAGNESIUM, TOTAL	002	S	06L0255	04/09/06	04/26/06	04/26/06
MANGANESE, TOTAL	002	S	06L0255	04/09/06	04/26/06	04/26/06
MOLYBDENUM, TOTAL	002	S	06L0255	04/09/06	04/26/06	04/26/06
SODIUM, TOTAL	002	S	06L0255	04/09/06	04/26/06	04/26/06
NICKEL, TOTAL	002	S	06L0255	04/09/06	04/26/06	04/26/06
PHOSPHORUS, TOTAL	002	S	06L0255	04/09/06	04/26/06	04/27/06
LEAD, TOTAL	002	S	06L0255	04/09/06	04/26/06	04/26/06
ANTIMONY, TOTAL	002	S	06L0255	04/09/06	04/26/06	04/26/06
SELENIUM, TOTAL	002	S	06L0255	04/09/06	04/26/06	04/26/06
SILICON, TOTAL	002	S	06L0255	04/09/06	04/26/06	04/26/06
TIN, TOTAL	002	S	06L0255	04/09/06	04/26/06	04/26/06
STRONTIUM, TOTAL	002	S	06L0255	04/09/06	04/26/06	04/26/06
THALLIUM, TOTAL	002	S	06L0255	04/09/06	04/26/06	04/26/06
URANIUM, TOTAL	002	S	06L0255	04/09/06	04/26/06	04/26/06
VANADIUM, TOTAL	002	S	06L0255	04/09/06	04/26/06	04/26/06
ZINC, TOTAL	002	S	06L0255	04/09/06	04/26/06	04/26/06
J11JD9						
SILVER, TOTAL	003	S	06L0255	04/09/06	04/26/06	04/26/06
ALUMINUM, TOTAL	003	S	06L0255	04/09/06	04/26/06	04/26/06
ARSENIC, TOTAL	003	S	06L0255	04/09/06	04/26/06	04/26/06
BORON, TOTAL	003	S	06L0255	04/09/06	04/26/06	04/26/06
BARIUM, TOTAL	003	S	06L0255	04/09/06	04/26/06	04/26/06
BERYLLIUM, TOTAL	003	S	06L0255	04/09/06	04/26/06	04/27/06
BISMUTH, TOTAL	003	S	06L0255	04/09/06	04/26/06	04/26/06
CALCIUM, TOTAL	003	S	06L0255	04/09/06	04/26/06	04/26/06
CADMIUM, TOTAL	003	S	06L0255	04/09/06	04/26/06	04/26/06
COBALT, TOTAL	003	S	06L0255	04/09/06	04/26/06	04/26/06
CHROMIUM, TOTAL	003	S	06L0255	04/09/06	04/26/06	04/26/06
COPPER, TOTAL	003	S	06L0255	04/09/06	04/26/06	04/26/06
IRON, TOTAL	003	S	06L0255	04/09/06	04/26/06	04/26/06
POTASSIUM, TOTAL	003	S	06L0255	04/09/06	04/26/06	04/26/06
LITHIUM, TOTAL	003	S	06L0255	04/09/06	04/26/06	04/26/06
MAGNESIUM, TOTAL	003	S	06L0255	04/09/06	04/26/06	04/26/06
MANGANESE, TOTAL	003	S	06L0255	04/09/06	04/26/06	04/26/06
MOLYBDENUM, TOTAL	003	S	06L0255	04/09/06	04/26/06	04/26/06
SODIUM, TOTAL	003	S	06L0255	04/09/06	04/26/06	04/26/06

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-051 K0300

DATE RECEIVED: 04/11/06 LVL LOT # :0604L738

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
NICKEL, TOTAL	003	S	06L0255	04/09/06	04/26/06	04/26/06
PHOSPHORUS, TOTAL	003	S	06L0255	04/09/06	04/26/06	04/27/06
LEAD, TOTAL	003	S	06L0255	04/09/06	04/26/06	04/26/06
ANTIMONY, TOTAL	003	S	06L0255	04/09/06	04/26/06	04/26/06
SELENIUM, TOTAL	003	S	06L0255	04/09/06	04/26/06	04/26/06
SILICON, TOTAL	003	S	06L0255	04/09/06	04/26/06	04/26/06
TIN, TOTAL	003	S	06L0255	04/09/06	04/26/06	04/26/06
STRONTIUM, TOTAL	003	S	06L0255	04/09/06	04/26/06	04/26/06
THALLIUM, TOTAL	003	S	06L0255	04/09/06	04/26/06	04/26/06
URANIUM, TOTAL	003	S	06L0255	04/09/06	04/26/06	04/26/06
VANADIUM, TOTAL	003	S	06L0255	04/09/06	04/26/06	04/26/06
ZINC, TOTAL	003	S	06L0255	04/09/06	04/26/06	04/26/06
J11JF0						
SILVER, TOTAL	004	S	06L0255	04/09/06	04/26/06	04/26/06
ALUMINUM, TOTAL	004	S	06L0255	04/09/06	04/26/06	04/26/06
ARSENIC, TOTAL	004	S	06L0255	04/09/06	04/26/06	04/26/06
BORON, TOTAL	004	S	06L0255	04/09/06	04/26/06	04/26/06
BARIUM, TOTAL	004	S	06L0255	04/09/06	04/26/06	04/26/06
BERYLLIUM, TOTAL	004	S	06L0255	04/09/06	04/26/06	04/27/06
BISMUTH, TOTAL	004	S	06L0255	04/09/06	04/26/06	04/26/06
CALCIUM, TOTAL	004	S	06L0255	04/09/06	04/26/06	04/26/06
CADMIUM, TOTAL	004	S	06L0255	04/09/06	04/26/06	04/26/06
COBALT, TOTAL	004	S	06L0255	04/09/06	04/26/06	04/26/06
CHROMIUM, TOTAL	004	S	06L0255	04/09/06	04/26/06	04/26/06
COPPER, TOTAL	004	S	06L0255	04/09/06	04/26/06	04/26/06
IRON, TOTAL	004	S	06L0255	04/09/06	04/26/06	04/26/06
POTASSIUM, TOTAL	004	S	06L0255	04/09/06	04/26/06	04/26/06
LITHIUM, TOTAL	004	S	06L0255	04/09/06	04/26/06	04/26/06
MAGNESIUM, TOTAL	004	S	06L0255	04/09/06	04/26/06	04/26/06
MANGANESE, TOTAL	004	S	06L0255	04/09/06	04/26/06	04/26/06
MOLYBDENUM, TOTAL	004	S	06L0255	04/09/06	04/26/06	04/26/06
SODIUM, TOTAL	004	S	06L0255	04/09/06	04/26/06	04/26/06
NICKEL, TOTAL	004	S	06L0255	04/09/06	04/26/06	04/26/06
PHOSPHORUS, TOTAL	004	S	06L0255	04/09/06	04/26/06	04/27/06
LEAD, TOTAL	004	S	06L0255	04/09/06	04/26/06	04/26/06
ANTIMONY, TOTAL	004	S	06L0255	04/09/06	04/26/06	04/26/06

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-051 K0300

DATE RECEIVED: 04/11/06 LVL LOT # :0604L738

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
SELENIUM, TOTAL	004	S	06L0255	04/09/06	04/26/06	04/26/06
SILICON, TOTAL	004	S	06L0255	04/09/06	04/26/06	04/26/06
TIN, TOTAL	004	S	06L0255	04/09/06	04/26/06	04/26/06
STRONTIUM, TOTAL	004	S	06L0255	04/09/06	04/26/06	04/26/06
THALLIUM, TOTAL	004	S	06L0255	04/09/06	04/26/06	04/26/06
URANIUM, TOTAL	004	S	06L0255	04/09/06	04/26/06	04/26/06
VANADIUM, TOTAL	004	S	06L0255	04/09/06	04/26/06	04/26/06
ZINC, TOTAL	004	S	06L0255	04/09/06	04/26/06	04/26/06
J11JF1						
SILVER, TOTAL	005	S	06L0255	04/09/06	04/26/06	04/26/06
ALUMINUM, TOTAL	005	S	06L0255	04/09/06	04/26/06	04/26/06
ARSENIC, TOTAL	005	S	06L0255	04/09/06	04/26/06	04/26/06
BORON, TOTAL	005	S	06L0255	04/09/06	04/26/06	04/26/06
BARIUM, TOTAL	005	S	06L0255	04/09/06	04/26/06	04/26/06
BERYLLIUM, TOTAL	005	S	06L0255	04/09/06	04/26/06	04/27/06
BISMUTH, TOTAL	005	S	06L0255	04/09/06	04/26/06	04/26/06
CALCIUM, TOTAL	005	S	06L0255	04/09/06	04/26/06	04/26/06
CADMIUM, TOTAL	005	S	06L0255	04/09/06	04/26/06	04/26/06
COBALT, TOTAL	005	S	06L0255	04/09/06	04/26/06	04/26/06
CHROMIUM, TOTAL	005	S	06L0255	04/09/06	04/26/06	04/26/06
COPPER, TOTAL	005	S	06L0255	04/09/06	04/26/06	04/26/06
IRON, TOTAL	005	S	06L0255	04/09/06	04/26/06	04/26/06
POTASSIUM, TOTAL	005	S	06L0255	04/09/06	04/26/06	04/26/06
LITHIUM, TOTAL	005	S	06L0255	04/09/06	04/26/06	04/26/06
MAGNESIUM, TOTAL	005	S	06L0255	04/09/06	04/26/06	04/26/06
MANGANESE, TOTAL	005	S	06L0255	04/09/06	04/26/06	04/26/06
MOLYBDENUM, TOTAL	005	S	06L0255	04/09/06	04/26/06	04/26/06
SODIUM, TOTAL	005	S	06L0255	04/09/06	04/26/06	04/26/06
NICKEL, TOTAL	005	S	06L0255	04/09/06	04/26/06	04/26/06
PHOSPHORUS, TOTAL	005	S	06L0255	04/09/06	04/26/06	04/27/06
LEAD, TOTAL	005	S	06L0255	04/09/06	04/26/06	04/26/06
ANTIMONY, TOTAL	005	S	06L0255	04/09/06	04/26/06	04/26/06
SELENIUM, TOTAL	005	S	06L0255	04/09/06	04/26/06	04/26/06
SILICON, TOTAL	005	S	06L0255	04/09/06	04/26/06	04/26/06
TIN, TOTAL	005	S	06L0255	04/09/06	04/26/06	04/26/06
STRONTIUM, TOTAL	005	S	06L0255	04/09/06	04/26/06	04/26/06

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-051 K0300

DATE RECEIVED: 04/11/06 LVL LOT # :0604L738

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
THALLIUM, TOTAL	005	S	06L0255	04/09/06	04/26/06	04/26/06
URANIUM, TOTAL	005	S	06L0255	04/09/06	04/26/06	04/26/06
VANADIUM, TOTAL	005	S	06L0255	04/09/06	04/26/06	04/26/06
ZINC, TOTAL	005	S	06L0255	04/09/06	04/26/06	04/26/06
J11JR9						
SILVER, TOTAL	006	S	06L0255	04/09/06	04/26/06	04/26/06
ALUMINUM, TOTAL	006	S	06L0255	04/09/06	04/26/06	04/26/06
ARSENIC, TOTAL	006	S	06L0255	04/09/06	04/26/06	04/26/06
BORON, TOTAL	006	S	06L0255	04/09/06	04/26/06	04/26/06
BARIUM, TOTAL	006	S	06L0255	04/09/06	04/26/06	04/26/06
BERYLLIUM, TOTAL	006	S	06L0255	04/09/06	04/26/06	04/27/06
BISMUTH, TOTAL	006	S	06L0255	04/09/06	04/26/06	04/26/06
CALCIUM, TOTAL	006	S	06L0255	04/09/06	04/26/06	04/26/06
CADMIUM, TOTAL	006	S	06L0255	04/09/06	04/26/06	04/26/06
COBALT, TOTAL	006	S	06L0255	04/09/06	04/26/06	04/26/06
CHROMIUM, TOTAL	006	S	06L0255	04/09/06	04/26/06	04/26/06
COPPER, TOTAL	006	S	06L0255	04/09/06	04/26/06	04/26/06
IRON, TOTAL	006	S	06L0255	04/09/06	04/26/06	04/26/06
POTASSIUM, TOTAL	006	S	06L0255	04/09/06	04/26/06	04/26/06
LITHIUM, TOTAL	006	S	06L0255	04/09/06	04/26/06	04/26/06
MAGNESIUM, TOTAL	006	S	06L0255	04/09/06	04/26/06	04/26/06
MANGANESE, TOTAL	006	S	06L0255	04/09/06	04/26/06	04/26/06
MOLYBDENUM, TOTAL	006	S	06L0255	04/09/06	04/26/06	04/26/06
SODIUM, TOTAL	006	S	06L0255	04/09/06	04/26/06	04/26/06
NICKEL, TOTAL	006	S	06L0255	04/09/06	04/26/06	04/26/06
PHOSPHORUS, TOTAL	006	S	06L0255	04/09/06	04/26/06	04/27/06
LEAD, TOTAL	006	S	06L0255	04/09/06	04/26/06	04/26/06
ANTIMONY, TOTAL	006	S	06L0255	04/09/06	04/26/06	04/26/06
SELENIUM, TOTAL	006	S	06L0255	04/09/06	04/26/06	04/26/06
SILICON, TOTAL	006	S	06L0255	04/09/06	04/26/06	04/26/06
TIN, TOTAL	006	S	06L0255	04/09/06	04/26/06	04/26/06
STRONTIUM, TOTAL	006	S	06L0255	04/09/06	04/26/06	04/26/06
THALLIUM, TOTAL	006	S	06L0255	04/09/06	04/26/06	04/26/06
URANIUM, TOTAL	006	S	06L0255	04/09/06	04/26/06	04/26/06
VANADIUM, TOTAL	006	S	06L0255	04/09/06	04/26/06	04/26/06
ZINC, TOTAL	006	S	06L0255	04/09/06	04/26/06	04/26/06

LAB QC:

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-051 K0300

DATE RECEIVED: 04/11/06 LVL LOT # :0604L738

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
SILVER LABORATORY	LC1 BS	S	06L0255	N/A	04/26/06	04/26/06
SILVER, TOTAL	MB1	S	06L0255	N/A	04/26/06	04/26/06
ALUMINUM LABORTORY	LC1 BS	S	06L0255	N/A	04/26/06	04/26/06
ALUMINUM, TOTAL	MB1	S	06L0255	N/A	04/26/06	04/26/06
ARSENIC LABORATORY	LC1 BS	S	06L0255	N/A	04/26/06	04/26/06
ARSENIC, TOTAL	MB1	S	06L0255	N/A	04/26/06	04/26/06
BORON LABORATORY	LC1 BS	S	06L0255	N/A	04/26/06	04/26/06
BORON, TOTAL	MB1	S	06L0255	N/A	04/26/06	04/26/06
BARIUM LABORATORY	LC1 BS	S	06L0255	N/A	04/26/06	04/26/06
BARIUM, TOTAL	MB1	S	06L0255	N/A	04/26/06	04/26/06
BERYLLIUM LABORATORY	LC1 BS	S	06L0255	N/A	04/26/06	04/27/06
BERYLLIUM, TOTAL	MB1	S	06L0255	N/A	04/26/06	04/27/06
BISMUTH, LCS	LC1 BS	S	06L0255	N/A	04/26/06	04/26/06
BISMUTH, TOTAL	MB1	S	06L0255	N/A	04/26/06	04/26/06
CALCIUM LABORATORY	LC1 BS	S	06L0255	N/A	04/26/06	04/26/06
CALCIUM, TOTAL	MB1	S	06L0255	N/A	04/26/06	04/26/06
CADMIUM LABORATORY	LC1 BS	S	06L0255	N/A	04/26/06	04/26/06
CADMIUM, TOTAL	MB1	S	06L0255	N/A	04/26/06	04/26/06
COBALT LABORATORY	LC1 BS	S	06L0255	N/A	04/26/06	04/26/06
COBALT, TOTAL	MB1	S	06L0255	N/A	04/26/06	04/26/06
CHROMIUM LABORATORY	LC1 BS	S	06L0255	N/A	04/26/06	04/26/06
CHROMIUM, TOTAL	MB1	S	06L0255	N/A	04/26/06	04/26/06
COPPER LABORATORY	LC1 BS	S	06L0255	N/A	04/26/06	04/26/06
COPPER, TOTAL	MB1	S	06L0255	N/A	04/26/06	04/26/06
IRON LABORATORY	LC1 BS	S	06L0255	N/A	04/26/06	04/26/06
IRON, TOTAL	MB1	S	06L0255	N/A	04/26/06	04/26/06
POTASSIUM LABORATORY	LC1 BS	S	06L0255	N/A	04/26/06	04/26/06
POTASSIUM, TOTAL	MB1	S	06L0255	N/A	04/26/06	04/26/06
LITHIUM LABORATORY	LC1 BS	S	06L0255	N/A	04/26/06	04/26/06
LITHIUM, TOTAL	MB1	S	06L0255	N/A	04/26/06	04/26/06
MAGNESIUM LABORATORY	LC1 BS	S	06L0255	N/A	04/26/06	04/26/06
MAGNESIUM, TOTAL	MB1	S	06L0255	N/A	04/26/06	04/26/06
MANGANESE LABORATORY	LC1 BS	S	06L0255	N/A	04/26/06	04/26/06
MANGANESE, TOTAL	MB1	S	06L0255	N/A	04/26/06	04/26/06
MOLYBDENUM LABORATOR	LC1 BS	S	06L0255	N/A	04/26/06	04/26/06

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-051 K0300

DATE RECEIVED: 04/11/06 LVL LOT # :0604L738

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
MOLYBDENUM, TOTAL	MB1	S	06L0255	N/A	04/26/06	04/26/06
SODIUM LABORATORY	LC1 BS	S	06L0255	N/A	04/26/06	04/26/06
SODIUM, TOTAL	MB1	S	06L0255	N/A	04/26/06	04/26/06
NICKEL LABORATORY	LC1 BS	S	06L0255	N/A	04/26/06	04/26/06
NICKEL, TOTAL	MB1	S	06L0255	N/A	04/26/06	04/26/06
PHOSPHORUS LCS	LC1 BS	S	06L0255	N/A	04/26/06	04/27/06
PHOSPHORUS, TOTAL	MB1	S	06L0255	N/A	04/26/06	04/27/06
LEAD LABORATORY	LC1 BS	S	06L0255	N/A	04/26/06	04/26/06
LEAD, TOTAL	MB1	S	06L0255	N/A	04/26/06	04/26/06
ANTIMONY LABORATORY	LC1 BS	S	06L0255	N/A	04/26/06	04/26/06
ANTIMONY, TOTAL	MB1	S	06L0255	N/A	04/26/06	04/26/06
SELENIUM LABORATORY	LC1 BS	S	06L0255	N/A	04/26/06	04/26/06
SELENIUM, TOTAL	MB1	S	06L0255	N/A	04/26/06	04/26/06
SILICON LABORATORY	LC1 BS	S	06L0255	N/A	04/26/06	04/26/06
SILICON, TOTAL	MB1	S	06L0255	N/A	04/26/06	04/26/06
TIN LABORATORY	LC1 BS	S	06L0255	N/A	04/26/06	04/26/06
TIN, TOTAL	MB1	S	06L0255	N/A	04/26/06	04/26/06
STRONTIUM LCS STANDA	LC1 BS	S	06L0255	N/A	04/26/06	04/26/06
STRONTIUM, TOTAL	MB1	S	06L0255	N/A	04/26/06	04/26/06
THALLIUM LABORATORY	LC1 BS	S	06L0255	N/A	04/26/06	04/26/06
THALLIUM, TOTAL	MB1	S	06L0255	N/A	04/26/06	04/26/06
URANIUM LABORATORY	LC1 BS	S	06L0255	N/A	04/26/06	04/26/06
URANIUM, TOTAL	MB1	S	06L0255	N/A	04/26/06	04/26/06
VANADIUM LABORATORY	LC1 BS	S	06L0255	N/A	04/26/06	04/26/06
VANADIUM, TOTAL	MB1	S	06L0255	N/A	04/26/06	04/26/06
ZINC LABORATORY	LC1 BS	S	06L0255	N/A	04/26/06	04/26/06
ZINC, TOTAL	MB1	S	06L0255	N/A	04/26/06	04/26/06

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD RC-051
LVL#: 0604L738
SDG/SAF#: K0300/RC-051

W.O.#: 11343-606-001-9999-00
Date Received: 04-11-06

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 6 soil samples.

2. The samples were prepared and analyzed in accordance with methods checked on the attached glossary. The samples were digested in 2 gram increments in multiple beakers until all of the metals sample aliquot was digested. The resulting digestates were composited to represent each sample for analysis, and a portion of the final digestate volume was filtered for analysis. All samples, except for sample J11JR9, were reported with 3-fold dilutions due to high concentrations and sample matrix. The sample results are reported on a wet weight, 'as received' basis.

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

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

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

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

7. All preparation/method blanks (MB) were within 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.

8. 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 33 pages.

9. All laboratory control samples (LCS) were within the 80-120% control limits with the exception of Silicon at 68.4%. Refer to the Inorganics Laboratory Control Standards Report. Associated samples results may be biased low.

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

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

Sample ID	Element	PDS Concentration (ppb)	PDS % Recovery
J11JC0	Aluminum	66,000	84.2
	Iron	66,000	71.5
	Manganese	6,000	86.8
	Antimony	300	95.7
	Silicon	6,300	90.7

12. The duplicate analysis for 1 analyte was outside the 20% Relative Percent Difference (RPD) control limits. Refer to the Inorganics Precision Report.

13. 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.

14. 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.

15. 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
jjw/h04-73

5/26/06
Date

METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within t

Lot#: 0604L738

Leaching Procedure: __1310 __1311 __1312 __Other:_____

CLP 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
Aluminum	X6010B		__200.7				__99
Antimony	X6010B	__7041 [5]	__200.7	__204.2			__99
Arsenic	X6010B	__7060A [5]	__200.7	__206.2	__3113B		__99
Barium	X6010B		__200.7				__99
Beryllium	X6010B		__200.7				__99
Bismuth	X6010B [1]		__200.7 [1]			__1620	__99
Boron	X6010B		__200.7				__99
Cadmium	X6010B	__7131A [5]	__200.7	__213.2			__99
Calcium	X6010B		__200.7				__99
Chromium	X6010B	__7191 [5]	__200.7	__218.2			__SS17
Cobalt	X6010B		__200.7				__99
Copper	X6010B	__7211 [5]	__200.7	__220.2			__99
Iron	X6010B		__200.7				__99
Lead	X6010B	__7421 [5]	__200.7	__239.2	__3113B		__99
Lithium	X6010B	__7430 [4]	__200.7			__1620	__99
Magnesium	X6010B		__200.7				__99
Manganese	X6010B		__200.7				__99
Mercury	__7470A [3]	__7471A [3]	__245.1 [2]	__245.5 [2]			__99
Molybdenum	X6010B		__200.7				__99
Nickel	X6010B		__200.7				__99
Potassium	X6010B	__7610 [4]	__200.7	__258.1 [4]			__99
Rare Earths	__6010B [1]		__200.7 [1]			__1620	__99
Selenium	X6010B	__7740 [5]	__200.7	__270.2	__3113B		__99
Silicon	X6010B [1]		__200.7			__1620	__99
Silica	__6010B		__200.7			__1620	__99
Silver	X6010B	__7761 [5]	__200.7	__272.2			__99
Sodium	X6010B	__7770 [4]	__200.7	__273.1 [4]			__99
Strontium	X6010B		__200.7				__99
Thallium	X6010B	__7841 [5]	__200.7	__279.2 __200.9			__99
Tin	X6010B		__200.7				__99
Titanium	__6010B		__200.7				__99
Uranium	X6010B [1]		__200.7 [1]			__1620	__99
Vanadium	X6010B		__200.7				__99
Zinc	X6010B		__200.7				__99
Zirconium	__6010B [1]		__200.7 [1]			__1620	__99

Other: Phosphorous Method: 6010B

METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

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

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

ABBREVIATIONS

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

ANALYTICAL METAL METHODS

1. Not included in the method element list.

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

3. Flame AA.

4. Graphite Furnace AA.

L-WI-033/N-04/98

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 05/23/06

CLIENT: TNUHANFORD RC-051 K0300 LVL LOT #: 0604L738

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	J11JC0	Silver, Total	0.10 u	MG/KG	0.10	3.0
		Aluminum, Total	8650	MG/KG	4.3	3.0
		Arsenic, Total	4.6	MG/KG	0.91	3.0
		Boron, Total	0.84	MG/KG	0.36	3.0
		Barium, Total	105	MG/KG	0.03	3.0
		Beryllium, Total	0.35	MG/KG	0.03	3.0
		Bismuth, Total	0.76 u	MG/KG	0.76	3.0
		Calcium, Total	4210	MG/KG	2.4	3.0
		Cadmium, Total	0.40	MG/KG	0.10	3.0
		Cobalt, Total	7.2	MG/KG	0.21	3.0
		Chromium, Total	47.4	MG/KG	0.19	3.0
		Copper, Total	20.6	MG/KG	0.18	3.0
		Iron, Total	21300	MG/KG	5.2	3.0
		Potassium, Total	926	MG/KG	3.4	3.0
		Lithium, Total	11.1	MG/KG	0.04	3.0
		Magnesium, Total	4940	MG/KG	1.4	3.0
		Manganese, Total	381	MG/KG	0.04	3.0
		Molybdenum, Total	0.43 u	MG/KG	0.43	3.0
		Sodium, Total	162	MG/KG	1.1	3.0
		Nickel, Total	15.9	MG/KG	0.36	3.0
		Phosphorus, Total	910	MG/KG	1.3	3.0
		Lead, Total	14.6	MG/KG	0.46	3.0
		Antimony, Total	0.65 u	MG/KG	0.65	3.0
		Selenium, Total	0.70 u	MG/KG	0.70	3.0
		Silicon, Total	312	MG/KG	3.4	3.0
		Tin, Total	1.6 u	MG/KG	1.6	3.0
		Strontium, Total	26.4	MG/KG	0.01	3.0
		Thallium, Total	1.0 u	MG/KG	1.0	3.0
		Uranium, Total	1.3 u	MG/KG	1.3	3.0
		Vanadium, Total	46.3	MG/KG	0.13	3.0
		Zinc, Total	128	MG/KG	0.24	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 05/23/06

CLIENT: TNUHANFORD RC-051 K0300 LVL LOT #: 0604L738

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-002	J11JD8	Silver, Total	0.10 u	MG/KG	0.10	3.0
		Aluminum, Total	8240	MG/KG	4.3	3.0
		Arsenic, Total	4.6	MG/KG	0.91	3.0
		Boron, Total	0.36 u	MG/KG	0.36	3.0
		Barium, Total	103	MG/KG	0.03	3.0
		Beryllium, Total	0.34	MG/KG	0.03	3.0
		Bismuth, Total	0.76 u	MG/KG	0.76	3.0
		Calcium, Total	4110	MG/KG	2.4	3.0
		Cadmium, Total	0.40	MG/KG	0.10	3.0
		Cobalt, Total	6.9	MG/KG	0.21	3.0
		Chromium, Total	48.7	MG/KG	0.19	3.0
		Copper, Total	20.4	MG/KG	0.18	3.0
		Iron, Total	20000	MG/KG	5.2	3.0
		Potassium, Total	879	MG/KG	3.4	3.0
		Lithium, Total	10.6	MG/KG	0.04	3.0
		Magnesium, Total	4830	MG/KG	1.4	3.0
		Manganese, Total	378	MG/KG	0.04	3.0
		Molybdenum, Total	0.44	MG/KG	0.43	3.0
		Sodium, Total	150	MG/KG	1.1	3.0
		Nickel, Total	15.7	MG/KG	0.36	3.0
		Phosphorus, Total	872	MG/KG	1.3	3.0
		Lead, Total	14.3	MG/KG	0.46	3.0
		Antimony, Total	0.65 u	MG/KG	0.65	3.0
		Selenium, Total	0.70 u	MG/KG	0.70	3.0
		Silicon, Total	328	MG/KG	3.4	3.0
		Tin, Total	1.6 u	MG/KG	1.6	3.0
		Strontium, Total	25.9	MG/KG	0.01	3.0
		Thallium, Total	1.0 u	MG/KG	1.0	3.0
		Uranium, Total	1.3 u	MG/KG	1.3	3.0
		Vanadium, Total	42.4	MG/KG	0.13	3.0
		Zinc, Total	124	MG/KG	0.24	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 05/23/06

CLIENT: TNUHANFORD RC-051 K0300 LVL LOT #: 0604L738

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-003	J11JD9	Silver, Total	0.10 u	MG/KG	0.10	3.0
		Aluminum, Total	8070	MG/KG	4.2	3.0
		Arsenic, Total	4.3	MG/KG	0.90	3.0
		Boron, Total	0.35 u	MG/KG	0.35	3.0
		Barium, Total	101	MG/KG	0.03	3.0
		Beryllium, Total	0.33	MG/KG	0.03	3.0
		Bismuth, Total	0.75 u	MG/KG	0.75	3.0
		Calcium, Total	4000	MG/KG	2.4	3.0
		Cadmium, Total	0.39	MG/KG	0.10	3.0
		Cobalt, Total	6.8	MG/KG	0.21	3.0
		Chromium, Total	51.4	MG/KG	0.19	3.0
		Copper, Total	19.3	MG/KG	0.18	3.0
		Iron, Total	19800	MG/KG	5.1	3.0
		Potassium, Total	836	MG/KG	3.3	3.0
		Lithium, Total	10.7	MG/KG	0.04	3.0
		Magnesium, Total	4690	MG/KG	1.4	3.0
		Manganese, Total	352	MG/KG	0.04	3.0
		Molybdenum, Total	0.43 u	MG/KG	0.43	3.0
		Sodium, Total	146	MG/KG	1.1	3.0
		Nickel, Total	15.2	MG/KG	0.35	3.0
		Phosphorus, Total	859	MG/KG	1.3	3.0
		Lead, Total	14.1	MG/KG	0.46	3.0
		Antimony, Total	0.65 u	MG/KG	0.65	3.0
		Selenium, Total	0.69 u	MG/KG	0.69	3.0
		Silicon, Total	287	MG/KG	3.3	3.0
		Tin, Total	1.6 u	MG/KG	1.6	3.0
		Strontium, Total	25.0	MG/KG	0.01	3.0
		Thallium, Total	1.0 u	MG/KG	1.0	3.0
		Uranium, Total	1.3 u	MG/KG	1.3	3.0
		Vanadium, Total	42.5	MG/KG	0.13	3.0
		Zinc, Total	118	MG/KG	0.24	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 05/23/06

CLIENT: TNUHANFORD RC-051 K0300 LVL LOT #: 0604L738

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-004	J11JP0	Silver, Total	0.10 u	MG/KG	0.10	3.0
		Aluminum, Total	7930	MG/KG	4.2	3.0
		Arsenic, Total	4.5	MG/KG	0.90	3.0
		Boron, Total	0.60	MG/KG	0.35	3.0
		Barium, Total	104	MG/KG	0.03	3.0
		Beryllium, Total	0.35	MG/KG	0.03	3.0
		Bismuth, Total	0.75 u	MG/KG	0.75	3.0
		Calcium, Total	3930	MG/KG	2.4	3.0
		Cadmium, Total	0.36	MG/KG	0.10	3.0
		Cobalt, Total	6.8	MG/KG	0.21	3.0
		Chromium, Total	40.9	MG/KG	0.19	3.0
		Copper, Total	19.8	MG/KG	0.18	3.0
		Iron, Total	19700	MG/KG	5.1	3.0
		Potassium, Total	824	MG/KG	3.3	3.0
		Lithium, Total	10.4	MG/KG	0.04	3.0
		Magnesium, Total	4660	MG/KG	1.4	3.0
		Manganese, Total	369	MG/KG	0.04	3.0
		Molybdenum, Total	0.45	MG/KG	0.43	3.0
		Sodium, Total	144	MG/KG	1.1	3.0
		Nickel, Total	15.1	MG/KG	0.35	3.0
		Phosphorus, Total	882	MG/KG	1.3	3.0
		Lead, Total	13.3	MG/KG	0.46	3.0
		Antimony, Total	0.65 u	MG/KG	0.65	3.0
		Selenium, Total	0.69 u	MG/KG	0.69	3.0
		Silicon, Total	322	MG/KG	3.3	3.0
		Tin, Total	1.6 u	MG/KG	1.6	3.0
		Strontium, Total	25.2	MG/KG	0.01	3.0
		Thallium, Total	1.0 u	MG/KG	1.0	3.0
		Uranium, Total	1.3 u	MG/KG	1.3	3.0
		Vanadium, Total	41.9	MG/KG	0.13	3.0
		Zinc, Total	119	MG/KG	0.24	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 05/23/06

CLIENT: TNUHANFORD RC-051 K0300 LVL LOT #: 0604L738

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-005	J11JF1	Silver, Total	0.10 u	MG/KG	0.10	3.0
		Aluminum, Total	8220	MG/KG	4.3	3.0
		Arsenic, Total	4.3	MG/KG	0.91	3.0
		Boron, Total	0.38	MG/KG	0.36	3.0
		Barium, Total	98.0	MG/KG	0.03	3.0
		Beryllium, Total	0.34	MG/KG	0.03	3.0
		Bismuth, Total	0.76 u	MG/KG	0.76	3.0
		Calcium, Total	3970	MG/KG	2.4	3.0
		Cadmium, Total	0.35	MG/KG	0.10	3.0
		Cobalt, Total	6.7	MG/KG	0.21	3.0
		Chromium, Total	51.6	MG/KG	0.19	3.0
		Copper, Total	19.2	MG/KG	0.18	3.0
		Iron, Total	20100	MG/KG	5.2	3.0
		Potassium, Total	848	MG/KG	3.4	3.0
		Lithium, Total	10.9	MG/KG	0.04	3.0
		Magnesium, Total	4750	MG/KG	1.4	3.0
		Manganese, Total	366	MG/KG	0.04	3.0
		Molybdenum, Total	0.43 u	MG/KG	0.43	3.0
		Sodium, Total	153	MG/KG	1.1	3.0
		Nickel, Total	15.2	MG/KG	0.36	3.0
		Phosphorus, Total	891	MG/KG	1.3	3.0
		Lead, Total	14.1	MG/KG	0.46	3.0
		Antimony, Total	0.65 u	MG/KG	0.65	3.0
		Selenium, Total	0.70 u	MG/KG	0.70	3.0
		Silicon, Total	304	MG/KG	3.4	3.0
		Tin, Total	1.6 u	MG/KG	1.6	3.0
		Strontium, Total	24.9	MG/KG	0.01	3.0
		Thallium, Total	1.0 u	MG/KG	1.0	3.0
		Uranium, Total	1.3 u	MG/KG	1.3	3.0
		Vanadium, Total	42.5	MG/KG	0.13	3.0
		Zinc, Total	124	MG/KG	0.24	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 05/23/06

CLIENT: TNUHANFORD RC-051 K0300 LVL LOT #: 0604L738

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-006	J11JR9	Silver, Total	0.03 u	MG/KG	0.03	1.0
		Aluminum, Total	55.1	MG/KG	1.4	1.0
		Arsenic, Total	0.30 u	MG/KG	0.30	1.0
		Boron, Total	0.12 u	MG/KG	0.12	1.0
		Barium, Total	1.4	MG/KG	0.01	1.0
		Beryllium, Total	0.01	MG/KG	0.01	1.0
		Bismuth, Total	0.25 u	MG/KG	0.25	1.0
		Calcium, Total	18.5	MG/KG	0.81	1.0
		Cadmium, Total	0.03 u	MG/KG	0.03	1.0
		Cobalt, Total	0.07 u	MG/KG	0.07	1.0
		Chromium, Total	0.08	MG/KG	0.06	1.0
		Copper, Total	0.06 u	MG/KG	0.06	1.0
		Iron, Total	245	MG/KG	1.7	1.0
		Potassium, Total	19.9	MG/KG	1.1	1.0
		Lithium, Total	0.09	MG/KG	0.01	1.0
		Magnesium, Total	7.1	MG/KG	0.48	1.0
		Manganese, Total	6.3	MG/KG	0.01	1.0
		Molybdenum, Total	0.14 u	MG/KG	0.14	1.0
		Sodium, Total	4.9	MG/KG	0.38	1.0
		Nickel, Total	0.15	MG/KG	0.12	1.0
		Phosphorus, Total	3.7	MG/KG	0.44	1.0
		Lead, Total	0.24	MG/KG	0.15	1.0
		Antimony, Total	0.22 u	MG/KG	0.22	1.0
		Selenium, Total	0.23 u	MG/KG	0.23	1.0
		Silicon, Total	43.8	MG/KG	1.1	1.0
		Tin, Total	0.53 u	MG/KG	0.53	1.0
		Strontium, Total	0.21	MG/KG	0.005	1.0
		Thallium, Total	0.35 u	MG/KG	0.35	1.0
		Uranium, Total	0.43 u	MG/KG	0.43	1.0
		Vanadium, Total	0.1	MG/KG	0.04	1.0
		Zinc, Total	1.3	MG/KG	0.08	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 05/23/06

CLIENT: TNUHANFORD RC-051 K0300 LVL LOT #: 0604L738

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	06L0255-MB1	Silver, Total	0.04 u	MG/KG	0.04	1.0
		Aluminum, Total	1.4 u	MG/KG	1.4	1.0
		Arsenic, Total	0.30 u	MG/KG	0.30	1.0
		Boron, Total	0.12 u	MG/KG	0.12	1.0
		Barium, Total	0.01	MG/KG	0.01	1.0
		Beryllium, Total	0.01 u	MG/KG	0.01	1.0
		Bismuth, Total	0.26 u	MG/KG	0.26	1.0
		Calcium, Total	0.82 u	MG/KG	0.82	1.0
		Cadmium, Total	0.04 u	MG/KG	0.04	1.0
		Cobalt, Total	0.07 u	MG/KG	0.07	1.0
		Chromium, Total	0.06 u	MG/KG	0.06	1.0
		Copper, Total	0.06 u	MG/KG	0.06	1.0
		Iron, Total	1.7 u	MG/KG	1.7	1.0
		Potassium, Total	1.1 u	MG/KG	1.1	1.0
		Lithium, Total	0.03	MG/KG	0.02	1.0
		Magnesium, Total	0.48 u	MG/KG	0.48	1.0
		Manganese, Total	0.02 u	MG/KG	0.02	1.0
		Molybdenum, Total	0.14 u	MG/KG	0.14	1.0
		Sodium, Total	0.97	MG/KG	0.38	1.0
		Nickel, Total	0.12 u	MG/KG	0.12	1.0
		Phosphorus, Total	0.45 u	MG/KG	0.45	1.0
		Lead, Total	0.16 u	MG/KG	0.16	1.0
		Antimony, Total	0.22 u	MG/KG	0.22	1.0
		Selenium, Total	0.24 u	MG/KG	0.24	1.0
		Silicon, Total	1.1 u	MG/KG	1.1	1.0
		Tin, Total	0.54	MG/KG	0.54	1.0
		Strontium, Total	0.006	MG/KG	0.005	1.0
		Thallium, Total	0.35 u	MG/KG	0.35	1.0
		Uranium, Total	0.50	MG/KG	0.44	1.0
		Vanadium, Total	0.04 u	MG/KG	0.04	1.0
		Zinc, Total	0.08 u	MG/KG	0.08	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 05/23/06

CLIENT: TNUHANFORD RC-051 K0300 LVL LOT #: 0604L738

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-001	J11JC0	Silver, Total	2.3	0.10u	2.5	92.0	3.0
		Aluminum, Total	9120	8650	99.2	471.4*	3.0
		Arsenic, Total	97.2	4.6	99.2	93.3	3.0
		Boron, Total	46.1	0.84	49.6	91.2	3.0
		Barium, Total	202	105	99.2	97.4	3.0
		Beryllium, Total	2.7	0.35	2.5	94.0	3.0
		Bismuth, Total	50.9	0.76u	~~240~~ 49.6	~~20.5~~ 102.6	3.0
		Calcium, Total	5380	4210	1240	94.8 *	3.0
		Cadmium, Total	2.7	0.40	2.5	92.1	3.0
		Cobalt, Total	30.4	7.2	24.8	93.5	3.0
		Chromium, Total	55.9	47.4	9.9	85.9*	3.0
		Copper, Total	32.2	20.6	12.4	93.5	3.0
		Iron, Total	20300	21300	49.6	-2000. *	3.0
		Potassium, Total	2140	926	1240	97.9	3.0
		Lithium, Total	63.3	11.1	49.6	105.2	3.0
		Magnesium, Total	6050	4940	1240	89.9	3.0
		Manganese, Total	396	381	24.8	60.9*	3.0
		Molybdenum, Total	46.5	0.43u	49.6	93.8	3.0
		Sodium, Total	1400	162	1240	99.5	3.0
		Nickel, Total	39.0	15.9	24.8	93.1	3.0
		Phosphorus, Total	1130	910	248	87.6	3.0
		Lead, Total	37.3	14.6	24.8	91.5	3.0
		Antimony, Total	8.7	0.65u	24.8	35.1	3.0
		Selenium, Total	93.4	0.70u	99.2	94.2	3.0
		Silicon, Total	528	312	49.6	436.3*	3.0
		Tin, Total	44.7	1.6 u	49.6	90.1	3.0
		Strontium, Total	75.7	26.4	49.6	99.4	3.0
		Thallium, Total	94.8	1.0 u	99.2	95.6	3.0
		Uranium, Total	46.8	1.3 u	~~240~~ 49.6	~~18.9~~ 94.3 *	3.0
		Vanadium, Total	66.3	46.3	24.8	80.6	3.0
		Zinc, Total	147	128	24.8	79.0*	3.0

* corrected entries PW 5/24/06

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 05/23/06

CLIENT: TNUHANFORD RC-051 K0300 LVL LOT #: 0604L738

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

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-001REP	J11JC0	Silver, Total	0.10u	0.10u	NC	3.0
		Aluminum, Total	8650	8390	3.1	3.0
		Arsenic, Total	4.6	4.4	4.4	3.0
		Boron, Total	0.84	0.47	56.6	3.0
		Barium, Total	105	104	0.57	3.0
		Beryllium, Total	0.35	0.34	1.9	3.0
		Bismuth, Total	0.76u	0.75u	NC	3.0
		Calcium, Total	4210	4100	2.6	3.0
		Cadmium, Total	0.40	0.44	11.4	3.0
		Cobalt, Total	7.2	7.0	2.8	3.0
		Chromium, Total	47.4	45.5	4.1	3.0
		Copper, Total	20.6	19.8	4.0	3.0
		Iron, Total	21300	20400	4.5	3.0
		Potassium, Total	926	914	1.3	3.0
		Lithium, Total	11.1	10.8	2.7	3.0
		Magnesium, Total	4940	4830	2.3	3.0
		Manganese, Total	381	372	2.2	3.0
		Molybdenum, Total	0.43u	0.43u	NC	3.0
		Sodium, Total	162	154	4.7	3.0
		Nickel, Total	15.9	15.7	1.3	3.0
		Phosphorus, Total	910	883	3.0	3.0
		Lead, Total	14.6	14.3	2.1	3.0
		Antimony, Total	0.65u	0.65u	NC	3.0
		Selenium, Total	0.70u	0.69u	NC	3.0
		Silicon, Total	312	330	5.7	3.0
		Tin, Total	1.6 u	1.6 u	NC	3.0
		Strontium, Total	26.4	26.3	0.38	3.0
		Thallium, Total	1.0 u	1.0 u	NC	3.0
		Uranium, Total	1.3 u	1.3 u	NC	3.0
		Vanadium, Total	46.3	43.3	6.7	3.0
		Zinc, Total	128	129	1.0	3.0

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 05/23/06

CLIENT: TNUHANFORD RC-051 K0300 LVL LOT #: 0604L738

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	06L0255-LC1	Silver, LCS	23.7	25.0	MG/KG	94.8
		Aluminum, LCS	238	250	MG/KG	95.3
		Arsenic, LCS	452	500	MG/KG	90.4
		Boron, LCS	232	250	MG/KG	92.8
		Barium, LCS	241	250	MG/KG	96.3
		Beryllium, LCS	11.5	12.5	MG/KG	92.0
		Bismuth, LCS	50.7	50 ~~250~~ *	MG/KG	* ~~20.3~~ 101.4
		Calcium, LCS	1170	1250	MG/KG	93.6
		Cadmium, LCS	11.6	12.5	MG/KG	92.8
		Cobalt, LCS	117	125	MG/KG	93.3
		Chromium, LCS	23.6	25.0	MG/KG	94.4
		Copper, LCS	60.7	62.5	MG/KG	97.1
		Iron, LCS	238	250	MG/KG	95.4
		Potassium, LCS	1150	1250	MG/KG	91.8
		Lithium, LCS	249	250	MG/KG	99.7
		Magnesium, LCS	1150	1250	MG/KG	91.6
		Manganese, LCS	35.8	37.5	MG/KG	95.5
		Molybdenum, LCS	239	250	MG/KG	95.7
		Sodium, LCS	1140	1250	MG/KG	91.0
		Nickel, LCS	94.1	100	MG/KG	94.1
		Phosphorus, LCS	232	250	MG/KG	92.8
		Lead, LCS	116	125	MG/KG	93.0
		Antimony, LCS	139	150	MG/KG	92.9
		Selenium, LCS	440	500	MG/KG	88.0
		Silicon, LCS	171	250	MG/KG	68.4
		Tin, LCS	236	250	MG/KG	94.4
		Strontium, LCS	241	250	MG/KG	96.3
		Thallium, LCS	470	500	MG/KG	93.9
		Uranium, LCS	48.6	50 ~~250~~ *	MG/KG	* ~~19.4~~ 97.3
		Vanadium, LCS	118	125	MG/KG	94.2
		Zinc, LCS	46.2	50.0	MG/KG	92.4

* corrected entries pw 5/24/06

Lionville Laboratory Use Only

0604C738

Custody Transfer Record/Lab Work Request

Page 1 of See SRC

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TNU HANFORD SAF & RC-051

Est. Final Proj. Sampling Date:

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

Project Contact/Phone #:

Lionville Laboratory Project Manager: DJ

QC: Spec Del: Std TAT: 30 Days

Date Rec'd: 4/11/06 Date Due: 5/11/06

Refrigerator #			A-C 2	D-F 2	G	G-I 2			J-L 2		M-O 2	P-R 2	S-U 2	V		
#/Type Container	Liquid / Solid		G	G		G			G		G	G	G	G		
Volume	Liquid / Solid		309	309		309			309		309	309	309	309		
Preservatives			—	—		—			—		—	—	—	—		
ANALYSES REQUESTED →		ORGANIC: VOA	BNA	Pest/PCB	Herb	PCB			INORG: Metal	CN	IC Cl, NO3, SO4	NO2 NO3	Hex Chrom	Cyanide		
Lionville Laboratory Use Only			0625H	0608H		OPCB			METALS(1)		IC NO3	IN NO2	IC Cl			

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	0608H		OPCB			METALS(1)		IC NO3	IN NO2	IC Cl		
001	J11J C0	✓	✓	Soil	4-9-06	1030	1	1		1			3		1	1	1		
002	J11J D8	✓	✓			1125	3	1		1			1		1	1	9		
003	J11J D9	✓	✓			1230	1	3		3			1		1	1	1		
004	J11J F0	✓	✓			1320	1	1		1			1		3	3	1		
005	J11J F1					1430	1	1		1			3		1	1	3		
006	J11J R9			Soil	4-9-06	1000	1	1		1			1		1	1	1		

Special Instructions: QC-001 Met
002 BNA, Hexachrom
003 Pest, PCB
004 Anions, NO2, NO3

No % SOL

METALS(1) = HSL + Bi, B, Li, Mo, P, Si, Sr, Sn, U (No Hg)

DATE/REVISIONS:
→ 005 1. DO NOT USE EXTRA Volume for Met or Hex Chrom See
2. DRETTE or IAIN.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
[signature]	[signature]	4/11/06	0920

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
"COMPOSITE WASTE"			

ORIGINAL REWRITTEN

0000000024

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-051-71	Page 2 of 3

Collector: STANKOVICH, M.	Company Contact: JOAN KESSNER — Telephone No.: 375-4688	Project Coordinator: KESSNER, JH	Price Code: 8L — Data Turnaround: 45 Days
Project Designation: 100 & 300 Area Component of the RCBRA - Incremental So	Sampling Location: 100-D RIPARIAN #2	SAF No.: RC-051	Air Quality: ☐
Ice Chest No.	Field Logbook No.: EL-1596 — COA: BESRAS6520	Method of Shipment: FED EX	
Shipped To: EBERLINE SERVICES (LIONVILLE)	Offsite Property No.: A060151	Bill of Lading/Air Bill No.: SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

NONE

Special Handling and/or Storage

Use page 3 for original material to Corvallis for MIS preparation and aliquoting, page 1 for radioanalytical fractions to Eberline, & page 2 for chemical analytical fractions to Lionville.

SAMPLE ANALYSIS													
			Preservation	None	None	None	None	None	None	None	None	None	None
			Type of Container	G/P	G/P	aG	aG	aG	aG	G/P	G/P	^	^
			No. of Container(s)	9	9	7		7	7	7	7	0	0
			Volume	30g	30g	30g	30g	30g	30g	30g	30g	^	^
				See item (1) in Special Instructions	Chromium Hex - 7196	Semi-VOA - 8270A (TCL)	PAHs - 8310	Pesticides - 8081	PCBs - 8082	IC Anions - 300.0 (Nitrate)	NO2/NO3 - 353.2 (Nitrogen in Nitrite and Nitrate)	--	--
Sample No.	Matrix *	Sample Date	Sample Time										
J11JC0	SOIL	4-9-06	10:30	3	1	1		1	1	1	1		
J11JD8			11:25	1	3	3		1	1	1	1		
J11JD9			12:30	1	1	1		3	3	1	1		
J11JF0			13:20	1	1	1		1	1	3	3		
J11JF1			14:30	3	3	1		1	1	1	1		

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Elizabeth M Tepper		CH2M Hill	
Relinquished By/Removed From: CH2M Elizabeth M Tepper	Date/Time: 11:30 4-10-06	Received By/Stored In: Fed Ex	Date/Time: 11:30 4-10-06
Relinquished By/Removed From: Fed Ex	Date/Time: 4/11/06 0920	Received By/Stored In: [signature]	Date/Time: 4-11-06 0920
Relinquished By/Removed From: Fed Ex	Date/Time: 4/11/06 0920	Received By/Stored In: [signature]	Date/Time: 4-11-06 0920
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

* These marks indicate that unless lined out, analytes to be included with Strontium-89,90 -- Total Sr analysis fraction.

^~ These marks indicate that this is a non-analysis used to properly format COC form.

Contact Joan Kessner for any questions.

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

Matrix *
S=Soil
SE=Sediment
SO=Solid
Sl=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
Ta=Tissue
Wi=Wipe
Li=Liquid
Ve=Vegetation
X=Other

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

BHI-EE-011 (08/29/2005)

00000025

CH2M HILL Soil Sampling Bench Sheet
Spring 2006

Project ID WCH

Project # 336761.AO.ZZ

Site # 100-D RIPARIAN # 2

Sample # J11JC0

Tray # 9

Tare Wt. 1459 gm.

Total Dry Wt. 4636.0 gm.

Net Dry Wt. 3177.0 gm.

ALL SAMPLES COLLECTED BELOW CONSIST OF 50 SAMPLE INCREMENTS

Analyte	Sample Time	Grams Needed	Grams Collected	Initials
GEA	10:30	400 g	407.7 g	E.T
RAD STR		30 g	30.78 g	
ICP MET		30 g	30.39 g	
HEX CR		30 g	30.47 g	
SEMI VOA		30 g	30.60 g	
PEST		30 g	30.41 g	
PCB		30 g	30.78 g	
IC ANION		30 g	30.73 g	
NO2/NO3		30 g	30.45 g	
RAD STR MS		30 g	30.57 g	
RAD STR MSD		30 g	30.61 g	
ICP MET MS		30 g	30.58 g	
ICP MET MSD		30 g	30.42 g	

Comments:

Name (print): Elizabeth M Tepper

Signature: Elizabeth M Tepper

Sub-Sampled Date: 4-9-06

CH2M HILL Soil Sampling Bench Sheet
Spring 2006

Project ID WCH

Project # 336761.AO.ZZ

Site # 100-D RIPARIAN # 2

Sample # J11JD8

Tray # 50

Tare Wt. 1450 gm.

Total Dry Wt. 5789.1 gm.

Net Dry Wt. 4339.1 gm.

ALL SAMPLES COLLECTED BELOW CONSIST OF 50 SAMPLE INCREMENTS

Analyte	Sample Time	Grams Needed	Grams Collected	Initials
GEA	11:25	400 g	406.1	ET
RAD STR		30 g	30.47 g	
ICP MET		30 g	30.41	
HEX CR		30 g	30.86	
SEMI VOA		30 g	30.59	
PEST		30 g	30.78	
PCB		30 g	30.12	
IC ANION		30 g	30.30	
NO2/NO3		30 g	30.77	
HEX CR MS		30 g	30.76	
HEX CR MSD		30 g	30.32	
SEMI VOA MS		30 g	30.14	
SEMI VOA MSD		30 g	30.35	

Comments:

Name (print): Elizabeth M Tepper

Signature: Elizabeth M Tepper

Sub-Sampled Date: 4-9-06

CH2M HILL Soil Sampling Bench Sheet
Spring 2006

Project ID WCH

Project # 336761.AO.ZZ

Site # 100-D RIPARIAN # 2

Sample # J11JD9

Tray # 46

Tare Wt. 1460 gm.

Total Dry Wt. 4647.5 gm.

Net Dry Wt. 3187.5 gm.

ALL SAMPLES COLLECTED BELOW CONSIST OF 50 SAMPLE INCREMENTS

Analyte	Sample Time	Grams Needed	Grams Collected	Initials
GEA	12:30	400 g	402.7	ET
RAD STR		30 g	30.04	
ICP MET		30 g	30.59	
HEX CR		30 g	30.2	
SEMI VOA		30 g	30.15	
PEST		30 g	30.56	
PCB		30 g	30.96	
IC ANION		30 g	30.98	
NO2/NO3		30 g	30.12	
PEST MS		30 g	30.69	
PEST MSD		30 g	30.04	
PCB MS		30 g	30.53	
PCB MSD		30 g	30.29	

Comments:

Name (print): Elizabeth M Tepper

Signature: Elizabeth M Tepper

Sub-Sampled Date: 4-9-06

CH2M HILL Soil Sampling Bench Sheet
Spring 2006

Project ID WCH

Project # 336761.AO.ZZ

Site # 100-D RIPARIAN # 2

Sample # J11JF0

Tray # 3

Tare Wt. 1458 gm.

Total Dry Wt. 4648.9 gm.

Net Dry Wt. 3190.9 gm.

ALL SAMPLES COLLECTED BELOW CONSIST OF 50 SAMPLE INCREMENTS

Analyte	Sample Time	Grams Needed	Grams Collected	Initials
GEA	13:20	400 g	408.7	ET
RAD STR		30 g	30.43	
ICP MET		30 g	30.34	
HEX CR		30 g	30.81	
SEMI VOA		30 g	30.08	
PEST		30 g	30.21	
PCB		30 g	30.42	
IC ANION		30 g	30.44	
NO2/NO3		30 g	31.22	
IC ANION MS		30 g	30.61	
IC ANION MSD		30 g	30.84	
NO2/NO3 MS		30 g	30.86	
NO2/NO3 MSD		30 g	30.10	

Comments:

Name (print): Elizabeth M Tegpor

Signature: Elizabeth M Tegpor

Sub-Sampled Date: 4-9-06

CH2M HILL Soil Sampling Bench Sheet
Spring 2006

Project ID WCH

Project # 336761.AO.ZZ

Site # 100-D RIPARIAN # 2

Sample # J11JF1

Tray # 47

Tare Wt. 1450 gm.

Total Dry Wt. 4192.5 gm.

Net Dry Wt. 2742.5 gm.

ALL SAMPLES COLLECTED BELOW CONSIST OF 50 SAMPLE INCREMENTS

Analyte	Sample Time	Grams Needed	Grams Collected	Initials
GEA	14:30	400 g	404.1	ET
RAD STR		30 g	30.58	
ICP MET		30 g	30.23	
HEX CR		30 g	30.11	
SEMI VOA		30 g	30.37	
PEST		30 g	30.72	
PCB		30 g	30.49	
IC ANION		30 g	30.35	
NO2/NO3		30 g	30.61	
ICP MET MS		30 g	30.22	
ICP MET MSD		30 g	30.27	
HEX CR MS		30 g	30.45	
HEX CR MSD		30 g	30.48	

Comments:

Name (print): Elizabeth M Tepper

Signature: Elizabeth M Tepper

Sub-Sampled Date: 4-9-06

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-051-137	Page 2 of 2

Collector STANKOVICH, M.	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 8L Air Quality ☐	Data Turnaround 45 Days
Project Designation 100 & 300 Area Component of the RCBRA - Incremental So	Sampling Location EQUIPMENT BLANK, RIPARIAN		SAF No. RC-051		
Ice Chest No.	Field Logbook No. EL-1596-1	COA BESRAS6520	Method of Shipment FED EX		
Shipped To EBERLINE SERVICES (LIONVILLE)	Offsite Property No. A060151		Bill of Lading/Air Bill No. SEE OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS

NONE

Special Handling and/or Storage

Use page 3 for original material to Corvallis for MIS preparation and aliquoting, page 1 for radioanalytical fractions to Eberline, & page 2 for chemical analytical fractions to Lionville.

Preservation	None	None	None	None	None	None	None	None	None	None
Type of Container	G/P	G/P	aG	aG	aG	aG	G/P	G/P	^	^
No. of Container(s)	1	1	1	1	1	1	1	1	0	0
Volume	30g	30g	30g	30g	30g	30g	30g	30g	1^	1^

SAMPLE ANALYSIS

Sample No.	Matrix *	Sample Date	Sample Time	See item (1) in Special Instructions.	Chromium Hex - 7196	Semi-VOA - 8270A (TCL)	PAHs - 8310	Pesticides - 8081	PCBs - 8082	IC Anions - 300.0 (Nitrate)	NO2/NO3 - 353.2 (Nitrogen in Nitrite and Nitrate)	-	--
J11JR9	SOIL	4-9-06	10:00	1	1	1	1	1	1	1	1		

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Elizabeth M Jepper		CHZM Hill	
Elizabeth M Jepper CHZM	4-10-06 11:30	Fed Ex	4-10-06 11:30
Fed Ex	4.11.06 / 0920	D. Smith	4.11.06 / 0920

SPECIAL INSTRUCTIONS

* These marks indicate that unless lined out, analytes to be included with Strontium-89,90 -- Total Sr analysis fraction.

^~ These marks indicate that this is a non-analysis used to properly format COC form

Contact Joan Kessner for any questions.

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

Matrix *
S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solid
DL=Drum Liquid
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

BHI-EE-011 (08/29/2005)

00000031

CH2M HILL Soil Sampling Bench Sheet
Spring 2006

Project ID WCH

Project # 336761.AO.ZZ

Site # Equipment Blank Riparian

Sample # J11JR9

Tray # 62

Tare Wt. 1458 gm.

Total Dry Wt. 4033.7 gm.

Net Dry Wt. 2575.7 gm.

ALL SAMPLES COLLECTED BELOW CONSIST OF 50 SAMPLE INCREMENTS

Analyte	Sample Time	Grams Needed	Grams Collected	Initials
ICP MET	10:00	30 g	30.37 g	ET
HEX CR		30 g	30.76 g	
SEMI VOA		30 g	30.63 g	
PEST		30 g	30.09 g	
PCB		30 g	30.44 g	
IC ANION		30 g	30.03 g	
NO2/NO3		30 g	30.19 g	
PAH	10:00	30 g	31.01 g	ET

Comments:

Name (print): Elizabeth Tepper

Signature: Elizabeth M Tepper

Sub-Sampled Date: ~~4-6~~ 4-9-06

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNX HANFORD

Date: 4/11/06

Purchase Order / Project# / SAE# / SOW# / Release #: RC - 051

LvLI Batch # : 0604L738

Sample Custodian: Victor Hernandez

NOTE: EXPLAIN ALL DISCREPANCIES

1.	Samples Hand Delivered or Shipped	Carrier FED EX		Airbill# 6595 0631 3432 1 1 3443	
2.	Custody seals on coolers or shipping container intact, signed and dated?	☑ Yes	☐ No	☐ No Seals	Comments
3.	Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No		
4.	All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible?	☑ Yes	☐ No		
5.	Samples received cooled or ambient? I-R	Temp 17.7 °C		Cooler #	
6.	Custody seals on sample containers intact, signed and dated?	☐ Yes	☐ No	☑ No Seals	
7.	coc signed and dated?	☑ Yes	☐ No		
8.	Sample containers are intact?	☑ Yes	☐ No		
9.	All samples on coc received? All samples received on coc?	☑ Yes	☐ No		
10.	All sample label information matches coc?	☑ Yes	☐ No		
11.	Samples properly preserved?	☑ Yes	☐ No		
12.	Samples received within hold times? Short holds taken to wet lab?	☑ Yes	☐ No		
13.	VOA, TOC, TOX free of headspace?	☐ 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 not within policy. See reverse side for policy)	☑ Yes 4-11-06	☑ No	Temperature	
16.	Project Manager contacted concerning discrepancies? name/date (or samples outside criteria)	☐ Yes	☐ No	☑ No Discrepancies	

SR-002-B

LVLI