





30 April 2003

Joan Kessner  
Bechtel-Hanford, Inc.  
3190 Washington Way  
MSIN H9-03  
Richland, WA 99352

**Subject: Contract No. 630  
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 #	0304L207
SDG #	H2173
SAF #	B03-015
Date Received	4-17-03
# Samples	7
Matrix	Soil
Volatiles	
Semivolatiles	
Pest/PCB	X
DRO/KRO/GRO	
GC Alcohols	
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\pmjorlette\tnu-hanford\data\ab\_ltr.doc



Lionville Laboratory, Inc.  
PCB ANALYTICAL DATA PACKAGE FOR  
TNUHANFORD B03-015 H2173

DATE RECEIVED: 04/17/03

LVL LOT # :0304L207

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J00LB4	001	S	03LE0464	04/15/03	04/21/03	04/23/03
J00LB4	001 MS	S	03LE0464	04/15/03	04/21/03	04/23/03
J00LB4	001 MSD	S	03LE0464	04/15/03	04/21/03	04/23/03
J00LB5	002	S	03LE0464	04/15/03	04/21/03	04/23/03
J00LB6	003	S	03LE0464	04/15/03	04/21/03	04/23/03
J00LB7	004	S	03LE0464	04/15/03	04/21/03	04/23/03
J00LB8	005	S	03LE0464	04/15/03	04/21/03	04/23/03
J00LB9	006	S	03LE0464	04/15/03	04/21/03	04/23/03

LAB QC:

PBLKRN	MB1	S	03LE0464	N/A	04/21/03	04/23/03
PBLKRN	MB1 BS	S	03LE0464	N/A	04/21/03	04/23/03

*9/24/03*



## Analytical Report

**Client:** TNU-HANFORD B03-015  
**LVL #:** 0304L207  
**SDG/SAF #** H2173/B03-015

**W.O. #:** 11343-606-001-9999-00  
**Date Received:** 04-17-2003

### PCB

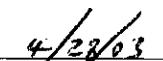
Six (6) soil samples were collected on 04-15-2003.

The samples and their associated QC samples were extracted on 04-21-2003 and analyzed according to Lionville Laboratory OPs based on SW846, 3rd Edition procedures on 04-23-2003. The extraction procedure was based on method 3540 and the extracts were analyzed based on method 8082 for Aroclors only.

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

1. All results presented in this report are derived from samples that met LvLI's sample acceptance policy.
2. The required holding time for extraction and analysis has been met.
3. Samples and their associated QC samples received a Sulfuric Acid and Sulfur cleanup.
4. The method blank was below the reporting limits for all target compounds.
5. All surrogate recoveries were within acceptance criteria.
6. The blank spike recoveries were within acceptance criteria.
7. All matrix spike recoveries were within acceptance criteria.
8. All initial calibrations associated with this data set were within acceptance criteria.
9. All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.
10. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy data package has been authorized by the laboratory Manager or a designee, as verified by the following signature.

  
Iain Daniels  
Laboratory Manager  
Lionville Laboratory Incorporated

  
Date

son\w:\group\data\pest\tnu hanford\0304-207.pcb

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 9 pages.



## GLOSSARY OF PESTICIDE/PCB 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.

### 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.
- SP** = Indicates Spiked Compound.



## GLOSSARY OF PESTICIDE/PCB DATA

- 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.

Lionville Laboratory, Inc.

PCBs by GC

Report Date: 04/24/03 14:03

RFW Batch Number: 0304L207

Client: TNUHANFORD B03-015 H2173 Work Order: 11343606001 Page: 1

Sample Information	Cust ID:	J00LB4	J00LB4	J00LB4	J00LB5	J00LB6	J00LB7
	RFW#:	001	001 MS	001 MSD	002	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:	Tetrachloro-m-xylene	75 %	80 %	80 %	85 %	85 %	75 %
	Decachlorobiphenyl	85 %	90 %	100 %	100 %	100 %	75 %
=====fl=====fl=====fl=====fl=====fl=====fl=====fl=====							
Aroclor-1016		34 U	81 %	87 %	35 U	35 U	35 U
Aroclor-1221		67 U	67 U	67 U	71 U	71 U	70 U
Aroclor-1232		34 U	34 U	34 U	35 U	35 U	35 U
Aroclor-1242		34 U	34 U	34 U	35 U	35 U	35 U
Aroclor-1248		34 U	34 U	34 U	35 U	35 U	35 U
Aroclor-1254		34 U	34 U	34 U	35 U	120	110
Aroclor-1260		34 U	80 %	86 %	35 U	35 U	35 U

Sample Information	Cust ID:	J00LB8	J00LB9	PBLKRN	PBLKRN BS
	RFW#:	005	006	03LE0464-MB1	03LE0464-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	85 %	85 %	80 %	75 %
	Decachlorobiphenyl	75 %	85 %	100 %	95 %
=====fl=====fl=====fl=====fl=====fl=====fl=====fl=====					
Aroclor-1016		35 U	35 U	33 U	83 %
Aroclor-1221		70 U	70 U	67 U	67 U
Aroclor-1232		35 U	35 U	33 U	33 U
Aroclor-1242		35 U	35 U	33 U	33 U
Aroclor-1248		35 U	35 U	33 U	33 U
Aroclor-1254		240	98	33 U	33 U
Aroclor-1260		35 U	35 U	33 U	78 %

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



Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					B03-015-57		Page 1 of 2													
Collector Doug Bowers		Company Contact Renee Nielson		Telephone No. 372-9658		Project Coordinator KESSNER, JH		Price Code 8B		Data Turnaround												
Project Designation Remaining Sites Confirmation Sampling-Soil		Sampling Location 100-K-29		SAF No. B03-015		Air Quality <input type="checkbox"/>		7 Days														
Ice Chest No. ERC 96 025		Field Logbook No. EL-1578		COA C17HXX671C		Method of Shipment Federal Express																
Shipped To TMA/RECRA		Offsite Property No. A030211			Bill of Lading/Air Bill No. SEE OSPL																	
POSSIBLE SAMPLE HAZARDS/REMARKS					Preservation	None	Cool 4C	Cool 4C														
Special Handling and/or Storage					Type of Container	aG	aG	aG														
					No. of Container(s)	1	1	1														
					Volume	60mL	120mL	120mL														
SAMPLE ANALYSIS					See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082															
Sample No.	Matrix *	Sample Date	Sample Time																			
J00LB4	SOIL	4-15-03	0840	X	X	X																
J00LB5	SOIL	4-15-03	0905	X	X	X																
J00LB6	SOIL	4-15-03	0935	X	X	X																
J00LB7	SOIL	4-15-03	0950	X	X	X																
J00LB8	SOIL	4-15-03	1010	X	X	X																
CHAIN OF POSSESSION					SPECIAL INSTRUCTIONS					Matrix *												
Relinquished By/Removed From Doug Bowers (Bowers) 4-15-03/1210		Date/Time		Received By/Stored In AFC 3728 4-15-03/1210		Date/Time		(1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV)  Personnel not available to relinquish samples from the 3728 Ref # 3con 4/16/03  Samples did not originate in radiological controlled area. No total activity associated with sample/samples.					S=Soil SE=Sediment SO=Solid SL=Sludge W = Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue WJ=Wipe L=Liquid V=Vegetation X=Other									
Relinquished By/Removed From REF 3C 41603 1100		Date/Time		Received By/Stored In SLOAN/Mele 41603 1100		Date/Time																
Relinquished By/Removed From SLOAN/Mele 41603 1100		Date/Time		Received By/Stored In FED EX		Date/Time																
Relinquished By/Removed From FED EX 4-17-03/0905		Date/Time		Received By/Stored In J. Smith 4-17-03/0905		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																
LABORATORY SECTION		Received By			Title								Date/Time									
FINAL SAMPLE DISPOSITION		Disposal Method			Disposed By								Date/Time									

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					B03-015-57		Page 2 of 2		
Collector Doug Bowers		Company Contact Renee Nielson		Telephone No. 372-9658		Project Coordinator KESSNER, JH		Price Code 8B		Data Turnaround 7 Days	
Project Designation Remaining Sites Confirmation Sampling-Soil		Sampling Location 100-K-29			SAF No. B03-015		Air Quality <input type="checkbox"/>				
Ice Chest No. <b>ERC 96 025</b>		Field Logbook No. EL-1578		COA C17HXX671C		Method of Shipment Federal Express					
Shipped To TMA RECRA		Offsite Property No. <b>A030211</b>			Bill of Lading/Air Bill No. <b>SEE OSFC</b>						
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation	None	Cool 4C	Cool 4C				
Special Handling and/or Storage				Type of Container	aG	aG	aG				
				No. of Container(s)	1	1	1				
				Volume	60mL	120mL	120mL				
SAMPLE ANALYSIS				See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082					
Sample No.	Matrix *	Sample Date	Sample Time								
J00LB9	SOIL	4-15-03	0935	X	X	X					
J00LC0	SOIL	4-15-03	0950	X							
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS			
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time		<p>(1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV)</p> <p>Do not use J00LC0 for QA/QC at lab</p> <p>Personnel not available to relinquish samples from the 3728 Ref # 3C on 4/16/02</p> <p>Samples did not originate in radiological controlled area. No total activity associated with sample/samples.</p>			
Doug Bowers		4-15-03/1100		Ref 3C 3728		4-15-03/1210					
REF 3C 3728		41603 1100		SJALES/Adh		41603 1100					
SJALES/Adh		41603 1100		FED EX							
Drew Ex		4-17-03/0905		D. Smith		4-17-03/0905					
LABORATORY SECTION		Received By		Title		Date/Time					
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By		Date/Time					

# LIONVILLE LABORATORY INCORPORATED SAMPLE RECEIPT CHECKLIST

CLIENT: TNU Hanford  
Purchase Order/Project:

DATE: 4-17-03

SAF# / SOW# / Release #: 803-015

Laboratory SDG #: 03044207

**NOTE: ALL ENTRIES MARKED "NO" MUST BE EXPLAINED IN THE COMMENT SECTION**

- |  |   |                             |   |  |
|--|---|-----------------------------|---|--|
| 1. Custody seals on coolers or shipping container intact, signed and dated?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            | <input type="checkbox"/> see Comment # |
| 2. Outside of coolers or shipping containers are free from damage?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            | <input type="checkbox"/> see Comment # |
| 3. Airbill # recorded?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            | <input type="checkbox"/> see Comment # |
| 4. All expected paperwork received (coc and other client specific: historical data, alpha/beta or other screening data as applicable)? (paperwork sealed in plastic bag and taped to inside lid) | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            | <input type="checkbox"/> see Comment # |
| 5. Sample containers are intact?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            | <input type="checkbox"/> see Comment # |
| 6. Custody seals on sample containers intact, signed and dated?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            | <input type="checkbox"/> see Comment # |
| 7. All samples on coc received?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            | <input type="checkbox"/> see Comment # |
| 8. All sample label information matches coc?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            | <input type="checkbox"/> see Comment # |
| 9. Laboratory QC samples designated on coc? (QC stickers placed on bottles?)   | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 10. Shipment meets LvLI Sample Acceptance Policy? (identify all bottles not within policy. See reverse side for policy)  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            | <input type="checkbox"/> see Comment # |
| 11. Where applicable, bar code labels are affixed to coc?  | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 12. coc signed and dated?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            | <input type="checkbox"/> see Comment # |
| 13. coc will be faxed or emailed to client?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            | <input type="checkbox"/> see Comment # |
| 14. Project Manager/Client contacted concerning discrepancies? (name/date)   | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |

Cooler # / temp (°C) and Comments:

# ERC 96-025 / 0.8°C

Laboratory Sample Custodian:



Laboratory Project Manager:

Lionville Laboratory, Inc.  
 INORGANIC ANALYTICAL DATA PACKAGE FOR  
 TNUHANFORD B03-015 H2173



DATE RECEIVED: 04/17/03

LVL LOT # :0304L207

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J00LB4						
SILVER, TOTAL	001	S	03L0217	04/15/03	04/21/03	04/22/03
SILVER, TOTAL	001 REP	S	03L0217	04/15/03	04/21/03	04/22/03
SILVER, TOTAL	001 MS	S	03L0217	04/15/03	04/21/03	04/22/03
ARSENIC, TOTAL	001	S	03L0217	04/15/03	04/21/03	04/22/03
ARSENIC, TOTAL	001 REP	S	03L0217	04/15/03	04/21/03	04/22/03
ARSENIC, TOTAL	001 MS	S	03L0217	04/15/03	04/21/03	04/22/03
BARIUM, TOTAL	001	S	03L0217	04/15/03	04/21/03	04/22/03
BARIUM, TOTAL	001 REP	S	03L0217	04/15/03	04/21/03	04/22/03
BARIUM, TOTAL	001 MS	S	03L0217	04/15/03	04/21/03	04/22/03
CADMIUM, TOTAL	001	S	03L0217	04/15/03	04/21/03	04/22/03
CADMIUM, TOTAL	001 REP	S	03L0217	04/15/03	04/21/03	04/22/03
CADMIUM, TOTAL	001 MS	S	03L0217	04/15/03	04/21/03	04/22/03
CHROMIUM, TOTAL	001	S	03L0217	04/15/03	04/21/03	04/22/03
CHROMIUM, TOTAL	001 REP	S	03L0217	04/15/03	04/21/03	04/22/03
CHROMIUM, TOTAL	001 MS	S	03L0217	04/15/03	04/21/03	04/22/03
MERCURY, TOTAL	001	S	03C0091	04/15/03	04/22/03	04/22/03
MERCURY, TOTAL	001 REP	S	03C0091	04/15/03	04/22/03	04/22/03
MERCURY, TOTAL	001 MS	S	03C0091	04/15/03	04/22/03	04/22/03
LEAD, TOTAL	001	S	03L0217	04/15/03	04/21/03	04/22/03
LEAD, TOTAL	001 REP	S	03L0217	04/15/03	04/21/03	04/22/03
LEAD, TOTAL	001 MS	S	03L0217	04/15/03	04/21/03	04/22/03
SELENIUM, TOTAL	001	S	03L0217	04/15/03	04/21/03	04/22/03
SELENIUM, TOTAL	001 REP	S	03L0217	04/15/03	04/21/03	04/22/03
SELENIUM, TOTAL	001 MS	S	03L0217	04/15/03	04/21/03	04/22/03

J00LB5

SILVER, TOTAL	002	S	03L0217	04/15/03	04/21/03	04/22/03
ARSENIC, TOTAL	002	S	03L0217	04/15/03	04/21/03	04/22/03
BARIUM, TOTAL	002	S	03L0217	04/15/03	04/21/03	04/22/03
CADMIUM, TOTAL	002	S	03L0217	04/15/03	04/21/03	04/22/03
CHROMIUM, TOTAL	002	S	03L0217	04/15/03	04/21/03	04/22/03
MERCURY, TOTAL	002	S	03C0091	04/15/03	04/22/03	04/22/03
LEAD, TOTAL	002	S	03L0217	04/15/03	04/21/03	04/22/03
SELENIUM, TOTAL	002	S	03L0217	04/15/03	04/21/03	04/22/03

Lionville Laboratory, Inc.  
 INORGANIC ANALYTICAL DATA PACKAGE FOR  
 TNUHANFORD B03-015 H2173

DATE RECEIVED: 04/17/03

LVL LOT # :0304L207

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J00LB6						
SILVER, TOTAL	003	S	03L0217	04/15/03	04/21/03	04/22/03
ARSENIC, TOTAL	003	S	03L0217	04/15/03	04/21/03	04/22/03
BARIUM, TOTAL	003	S	03L0217	04/15/03	04/21/03	04/22/03
CADMIUM, TOTAL	003	S	03L0217	04/15/03	04/21/03	04/22/03
CHROMIUM, TOTAL	003	S	03L0217	04/15/03	04/21/03	04/22/03
MERCURY, TOTAL	003	S	03C0091	04/15/03	04/22/03	04/22/03
LEAD, TOTAL	003	S	03L0217	04/15/03	04/21/03	04/22/03
SELENIUM, TOTAL	003	S	03L0217	04/15/03	04/21/03	04/22/03
J00LB7						
SILVER, TOTAL	004	S	03L0217	04/15/03	04/21/03	04/22/03
ARSENIC, TOTAL	004	S	03L0217	04/15/03	04/21/03	04/22/03
BARIUM, TOTAL	004	S	03L0217	04/15/03	04/21/03	04/22/03
CADMIUM, TOTAL	004	S	03L0217	04/15/03	04/21/03	04/22/03
CHROMIUM, TOTAL	004	S	03L0217	04/15/03	04/21/03	04/22/03
MERCURY, TOTAL	004	S	03C0091	04/15/03	04/22/03	04/22/03
LEAD, TOTAL	004	S	03L0217	04/15/03	04/21/03	04/22/03
SELENIUM, TOTAL	004	S	03L0217	04/15/03	04/21/03	04/22/03
J00LB8						
SILVER, TOTAL	005	S	03L0217	04/15/03	04/21/03	04/22/03
ARSENIC, TOTAL	005	S	03L0217	04/15/03	04/21/03	04/22/03
BARIUM, TOTAL	005	S	03L0217	04/15/03	04/21/03	04/22/03
CADMIUM, TOTAL	005	S	03L0217	04/15/03	04/21/03	04/22/03
CHROMIUM, TOTAL	005	S	03L0217	04/15/03	04/21/03	04/22/03
MERCURY, TOTAL	005	S	03C0091	04/15/03	04/22/03	04/22/03
LEAD, TOTAL	005	S	03L0217	04/15/03	04/21/03	04/22/03
SELENIUM, TOTAL	005	S	03L0217	04/15/03	04/21/03	04/22/03
J00LB9						
SILVER, TOTAL	006	S	03L0217	04/15/03	04/21/03	04/22/03
ARSENIC, TOTAL	006	S	03L0217	04/15/03	04/21/03	04/22/03

Lionville Laboratory, Inc.  
 INORGANIC ANALYTICAL DATA PACKAGE FOR  
 TNUHANFORD B03-015 H2173

DATE RECEIVED: 04/17/03

LVL LOT # :0304L207

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
BARIUM, TOTAL	006	S	03L0217	04/15/03	04/21/03	04/22/03
CADMIUM, TOTAL	006	S	03L0217	04/15/03	04/21/03	04/22/03
CHROMIUM, TOTAL	006	S	03L0217	04/15/03	04/21/03	04/22/03
MERCURY, TOTAL	006	S	03C0091	04/15/03	04/22/03	04/22/03
LEAD, TOTAL	006	S	03L0217	04/15/03	04/21/03	04/22/03
SELENIUM, TOTAL	006	S	03L0217	04/15/03	04/21/03	04/22/03

J00LC0

SILVER, TOTAL	007	S	03L0217	04/15/03	04/21/03	04/22/03
ARSENIC, TOTAL	007	S	03L0217	04/15/03	04/21/03	04/22/03
BARIUM, TOTAL	007	S	03L0217	04/15/03	04/21/03	04/22/03
CADMIUM, TOTAL	007	S	03L0217	04/15/03	04/21/03	04/22/03
CHROMIUM, TOTAL	007	S	03L0217	04/15/03	04/21/03	04/22/03
MERCURY, TOTAL	007	S	03C0091	04/15/03	04/22/03	04/22/03
LEAD, TOTAL	007	S	03L0217	04/15/03	04/21/03	04/22/03
SELENIUM, TOTAL	007	S	03L0217	04/15/03	04/21/03	04/22/03

LAB QC:

SILVER LABORATORY	LC1 BS	S	03L0217	N/A	04/21/03	04/22/03
SILVER, TOTAL	MB1	S	03L0217	N/A	04/21/03	04/22/03
ARSENIC LABORATORY	LC1 BS	S	03L0217	N/A	04/21/03	04/22/03
ARSENIC, TOTAL	MB1	S	03L0217	N/A	04/21/03	04/22/03
BARIUM LABORATORY	LC1 BS	S	03L0217	N/A	04/21/03	04/22/03
BARIUM, TOTAL	MB1	S	03L0217	N/A	04/21/03	04/22/03
CADMIUM LABORATORY	LC1 BS	S	03L0217	N/A	04/21/03	04/22/03
CADMIUM, TOTAL	MB1	S	03L0217	N/A	04/21/03	04/22/03
CHROMIUM LABORATORY	LC1 BS	S	03L0217	N/A	04/21/03	04/22/03
CHROMIUM, TOTAL	MB1	S	03L0217	N/A	04/21/03	04/22/03
MERCURY LABORATORY	LC1 BS	S	03C0091	N/A	04/22/03	04/23/03
MERCURY, TOTAL	MB1	S	03C0091	N/A	04/22/03	04/22/03
LEAD LABORATORY	LC1 BS	S	03L0217	N/A	04/21/03	04/22/03
LEAD, TOTAL	MB1	S	03L0217	N/A	04/21/03	04/22/03
SELENIUM LABORATORY	LC1 BS	S	03L0217	N/A	04/21/03	04/22/03
SELENIUM, TOTAL	MB1	S	03L0217	N/A	04/21/03	04/22/03



**Analytical Report**

**Client:** TNU-HANFORD B03-015  
**LVL#:** 0304L207  
**SDG/SAF#:** H2173/B03-015

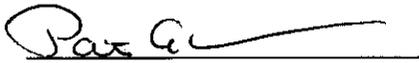
**W.O.#:** 11343-606-001-9999-00  
**Date Received:** 04-17-03

**METALS CASE NARRATIVE**

1. This narrative covers the analyses of 7 soil samples.
2. The samples were prepared and analyzed in accordance with methods checked on the attached glossary.
3. All analyses were performed within the required holding times.
4. All results presented in this report are derived from samples that met LVL'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), MB value less than 5% of the RCRA limit, 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.
9. All laboratory control samples (LCS) were within the 80-120% control limits. Refer to the Inorganics Laboratory Control Standards Report.
10. All matrix spike (MS) recoveries were within the 75-125% control limits. Refer to the Inorganics Accuracy Report.
11. The duplicate analyses for 4 analytes were outside the 20% Relative Percent Difference (RPD) control limits. Refer to the Inorganics Precision Report.

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 17 pages.

12. For the purposes of this report, the data has been reported to the Instrument Detection Limit (IDL). Values between the IDL and the Practical Quantitation Limit (PQL) are acquired in a region of less-certain quantification.
13. 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

gmb/m04-207

04-24-03

Date

## METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within this Lot#: 03042207

Leaching Procedure:  1310  1311  1312  Other: \_\_\_\_\_

CLP Metals  Digestion and  Analysis Methods:  ILM03.0  ILM04.0

Metals Digestion Methods:  3005A  3010A  3015  3020A  3050B  3051  200.7  SS17  
 Other: \_\_\_\_\_

### Metals Analysis Methods

	SW846	EPA	STD MTD	EPA OSWR	USATHAMA
Aluminum	6010B	200.7			99
Antimony	6010B 7041 <sup>5</sup>	200.7 204.2			99
Arsenic	6010B 7060A <sup>5</sup>	200.7 206.2	3113B		99
Barium	6010B	200.7			99
Beryllium	6010B	200.7			99
Bismuth	6010B <sup>1</sup>	200.7 <sup>1</sup>		1620	99
Boron	6010B	200.7			99
Cadmium	6010B 7131A <sup>5</sup>	200.7 213.2			99
Calcium	6010B	200.7			99
Chromium	6010B 7191 <sup>5</sup>	200.7 218.2			SS17
Cobalt	6010B	200.7			99
Copper	6010B 7211 <sup>5</sup>	200.7 220.2			99
Iron	6010B	200.7			99
Lead	6010B 7421 <sup>5</sup>	200.7 239.2	3113B		99
Lithium	6010B 7430 <sup>4</sup>	200.7		1620	99
Magnesium	6010B	200.7			99
Manganese	6010B	200.7			99
Mercury	7470A <sup>3</sup> 7471A <sup>3</sup>	245.1 <sup>2</sup> 245.5 <sup>2</sup>			99
Molybdenum	6010B	200.7			99
Nickel	6010B	200.7			99
Potassium	6010B 7610 <sup>4</sup>	200.7 258.1 <sup>4</sup>			99
Rare Earths	6010B <sup>1</sup>	200.7 <sup>1</sup>		1620	99
Selenium	6010B 7740 <sup>5</sup>	200.7 270.2	3113B		99
Silicon	6010B <sup>1</sup>	200.7		1620	99
Silica	6010B	200.7		1620	99
Silver	6010B 7761 <sup>5</sup>	200.7 272.2			99
Sodium	6010B 7770 <sup>4</sup>	200.7 273.1 <sup>4</sup>			99
Strontium	6010B	200.7			99
Thallium	6010B 7841 <sup>5</sup>	200.7 279.2 200.9			99
Tin	6010B	200.7			99
Titanium	6010B	200.7			99
Uranium	6010B <sup>1</sup>	200.7 <sup>1</sup>		1620	99
Vanadium	6010B	200.7			99
Zinc	6010B	200.7			99
Zirconium	6010B <sup>1</sup>	200.7 <sup>1</sup>		1620	99

Other: \_\_\_\_\_

Method: \_\_\_\_\_

# METHOD REFERENCES AND DATA QUALIFIERS

## DATA QUALIFIERS

- U = Indicates that the parameter was not detected at or above the reported limit. The associated numerical value is the sample detection limit.
- \* = Indicates that the original sample result is greater than 4x the spike amount added.

## ABBREVIATIONS

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

## ANALYTICAL METAL METHODS

1. Not included in the method element list.
2. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, approximately 0.3 grams of sample is taken to a final volume of 50 mL (including all reagents).
3. Flame AA.
4. Graphite Furnace AA.

L-WI-033/N-04/98

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 04/24/03

CLIENT: TNUHANFORD B03-015 H2173  
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0304L207

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING	DILUTION
					LIMIT	FACTOR
=====	=====	=====	=====	=====	=====	=====
-001	J00LB4	Silver, Total	0.07 u	MG/KG	0.07	1.0
		Arsenic, Total	0.43	MG/KG	0.33	1.0
		Barium, Total	5.0	MG/KG	0.009	1.0
		Cadmium, Total	0.11	MG/KG	0.04	1.0
		Chromium, Total	2.0	MG/KG	0.06	1.0
		Mercury, Total	0.02 u	MG/KG	0.02	1.0
		Lead, Total	3.2	MG/KG	0.24	1.0
		Selenium, Total	0.34 u	MG/KG	0.34	1.0
-002	J00LB5	Silver, Total	0.08 u	MG/KG	0.08	1.0
		Arsenic, Total	2.3	MG/KG	0.37	1.0
		Barium, Total	66.4	MG/KG	0.01	1.0
		Cadmium, Total	0.04 u	MG/KG	0.04	1.0
		Chromium, Total	7.0	MG/KG	0.06	1.0
		Mercury, Total	0.03	MG/KG	0.02	1.0
		Lead, Total	6.7	MG/KG	0.27	1.0
		Selenium, Total	0.38 u	MG/KG	0.38	1.0
-003	J00LB6	Silver, Total	0.08 u	MG/KG	0.08	1.0
		Arsenic, Total	1.4	MG/KG	0.35	1.0
		Barium, Total	43.7	MG/KG	0.01	1.0
		Cadmium, Total	0.07	MG/KG	0.04	1.0
		Chromium, Total	9.3	MG/KG	0.06	1.0
		Mercury, Total	0.03	MG/KG	0.02	1.0
		Lead, Total	29.8	MG/KG	0.26	1.0
		Selenium, Total	0.36 u	MG/KG	0.36	1.0
-004	J00LB7	Silver, Total	0.06 u	MG/KG	0.06	1.0
		Arsenic, Total	1.7	MG/KG	0.27	1.0
		Barium, Total	49.5	MG/KG	0.008	1.0
		Cadmium, Total	0.33	MG/KG	0.03	1.0
		Chromium, Total	26.1	MG/KG	0.05	1.0
		Mercury, Total	0.02 u	MG/KG	0.02	1.0
		Lead, Total	115	MG/KG	0.20	1.0
		Selenium, Total	0.28 u	MG/KG	0.28	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 04/24/03

CLIENT: TNUHANFORD B03-015 H2173  
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0304L207

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
=====	=====	=====	=====	=====	=====	=====
-005	J00LB8	Silver, Total	0.07	u MG/KG	0.07	1.0
		Arsenic, Total	1.5	MG/KG	0.32	1.0
		Barium, Total	50.7	MG/KG	0.009	1.0
		Cadmium, Total	0.25	MG/KG	0.04	1.0
		Chromium, Total	18.9	MG/KG	0.06	1.0
		Mercury, Total	0.02	u MG/KG	0.02	1.0
		Lead, Total	72.4	MG/KG	0.24	1.0
		Selenium, Total	0.33	u MG/KG	0.33	1.0
-006	J00LB9	Silver, Total	0.07	u MG/KG	0.07	1.0
		Arsenic, Total	1.3	MG/KG	0.31	1.0
		Barium, Total	54.1	MG/KG	0.009	1.0
		Cadmium, Total	0.13	MG/KG	0.04	1.0
		Chromium, Total	11.6	MG/KG	0.05	1.0
		Mercury, Total	0.05	MG/KG	0.02	1.0
		Lead, Total	34.3	MG/KG	0.23	1.0
		Selenium, Total	0.32	u MG/KG	0.32	1.0
-007	J00LC0	Silver, Total	0.08	u MG/KG	0.08	1.0
		Arsenic, Total	0.36	u MG/KG	0.36	1.0
		Barium, Total	0.94	MG/KG	0.01	1.0
		Cadmium, Total	0.04	u MG/KG	0.04	1.0
		Chromium, Total	0.13	MG/KG	0.06	1.0
		Mercury, Total	0.02	u MG/KG	0.02	1.0
		Lead, Total	0.27	u MG/KG	0.27	1.0
		Selenium, Total	0.37	u MG/KG	0.37	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 04/24/03

CLIENT: TNUHANFORD B03-015 H2173  
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0304L207

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	03L0217-MB1	Silver, Total	0.08 u	MG/KG	0.08	1.0
		Arsenic, Total	0.35 u	MG/KG	0.35	1.0
		Barium, Total	0.04	MG/KG	0.01	1.0
		Cadmium, Total	0.04 u	MG/KG	0.04	1.0
		Chromium, Total	0.12	MG/KG	0.06	1.0
		Lead, Total	0.26 u	MG/KG	0.26	1.0
		Selenium, Total	0.36 u	MG/KG	0.36	1.0
BLANK1	03C0091-MB1	Mercury, Total	0.02 u	MG/KG	0.02	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 04/24/03

CLIENT: TNUHANFORD B03-015 H2173  
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0304L207

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR (SPK)
-001	J00LB4	Silver, Total	4.1	0.07u	4.5	91.1	1.0
		Arsenic, Total	169	0.43	178	94.7	1.0
		Barium, Total	167	5.0	178	91.0	1.0
		Cadmium, Total	4.4	0.11	4.5	95.4	1.0
		Chromium, Total	20.2	2.0	17.8	102.2	1.0
		Mercury, Total	0.15	0.02u	0.15	100.7	1.0
		Lead, Total	45.6	3.2	44.6	95.1	1.0
		Selenium, Total	164	0.34u	178	92.0	1.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 04/24/03

CLIENT: TNUHANFORD B03-015 H2173  
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0304L207

SAMPLE	SITE ID	ANALYTE	INITIAL			DILUTION FACTOR (REP)
			RESULT	REPLICATE	RPD	
-001REP	J00LB4	Silver, Total	0.07u	0.08u	NC	1.0
		Arsenic, Total	0.43	2.1	131.8	1.0
		Barium, Total	5.0	3.3	41.0	1.0
		Cadmium, Total	0.11	0.09	13.2	1.0
		Chromium, Total	2.0	2.8	33.3	1.0
		Mercury, Total	0.02u	0.02u	NC	1.0
		Lead, Total	3.2	1.7	61.2	1.0
		Selenium, Total	0.34u	0.36u	NC	1.0

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 04/24/03

CLIENT: TNUHANFORD B03-015 H2173  
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0304L207

SAMPLE	SITE ID	ANALYTE	SPIKED		UNITS	%RECOV
			SAMPLE	AMOUNT		
LCS1	03L0217-LC1	Silver, LCS	50.5	50.0	MG/KG	101.0
		Arsenic, LCS	990	1000	MG/KG	99.0
		Barium, LCS	507	500	MG/KG	101.4
		Cadmium, LCS	25.0	25.0	MG/KG	100
		Chromium, LCS	51.5	50.0	MG/KG	103.0
		Lead, LCS	250	250	MG/KG	100
		Selenium, LCS	966	1000	MG/KG	96.6
LCS1	03C0091-LC1	Mercury, LCS	5.8	6.2	MG/KG	93.9

Lionville Laboratory Use Only

# Custody Transfer Record/Lab Work Request Page 1 of 1



0304L207

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client <u>TNU Hamford B03-015</u>	Refrigerator #	A	B	C
Est. Final Proj. Sampling Date	#/Type Container	Liquid		
Project # <u>11343-606-001-9999-00</u>		Solid	10g	10g
Project Contact/Phone #	Volume	Liquid		
Lionville Laboratory Project Manager <u>Delette Johnson</u>		Solid	120	60
QC <u>SPEC</u> Del <u>STD</u> TAT <u>7 days</u>	Preservatives		-	-
Date Rec'd <u>4.17.03</u> Date Due <u>4-24-03</u>	ANALYSES REQUESTED	ORGANIC		INORG
		VOA	BNA	Metal
		pest	PCB	CN
		Herb		Herb

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 (M)		Matrix	Date Collected	Time Collected	Lionville Laboratory Use Only							
			MS	MSD				opCB	MACRO	ICR6					
			001	J00LB4						S	4.15.03	0840			X
002	J00LB5			I		0905			X	X	X				
003	J00LB6			I		0935			X	X	X				
004	J00LB7			I		0950			X	X	X				
005	J00LB8			I		1010			X	X	X				
006	J00LB9			I		0935			X	X	X				
007	J00LC0			I		0850			X	X	X				

Special Instructions: SAF # B03-015  
Rem Matrix QC

- DATE/REVISIONS:
- \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_

Lionville Laboratory Use Only

Samples were:  1) Shipped or  Hand Delivered

Airbill # See Below

2) Ambient or  Chilled

3) Received in Good Condition  or N

4) Samples Properly Preserved  or N

5) Received Within Holding Times  or N

Tamper Resistant Seal was:  
1) Present on Outer Package  or N  
2) Unbroken on Outer Package  or N  
3) Present on Sample  or N  
4) Unbroken on Sample  or N  
COC Record Present Upon Sample Rec't  or N  
Cooler Temp. 0.8 °C

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
<u>Delette Johnson</u>	<u>D. Johnson</u>	<u>4.17.03</u>	<u>0905</u>	<b>COMPOSITE WASTE</b>	<b>ORIGINAL</b>		

Discrepancies Between Samples Labels and COC Record? Y or  N

NOTES: 70287117 2452

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					B03-015-57		Page 1 of 2			
Collector Doug Bowers		Company Contact Renee Nielson		Telephone No. 372-9658		Project Coordinator KESSNER, JH		Price Code 8B		Data Turnaround 7 Days		
Project Designation Remaining Sites Confirmation Sampling-Soil		Sampling Location 100-K-29		SAF No. B03-015		Air Quality <input type="checkbox"/>						
Ice Chest No. ERC 96 025		Field Logbook No. EL-1578		COA C17HXX671C		Method of Shipment Federal Express						
Shipped To TMA/RECRA		Offsite Property No. A030211				Bill of Lading/Air Bill No. SEE OSPL						
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation	None	Cool 4C	Cool 4C					
Special Handling and/or Storage				Type of Container	aG	aG	aG					
				No. of Container(s)	1	1	1					
				Volume	60mL	120mL	120mL					
SAMPLE ANALYSIS				See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082						
Sample No.	Matrix *	Sample Date	Sample Time									
J00LB4	SOIL	4-15-03	0840	X	X	X						
J00LB5	SOIL	4-15-03	0905	X	X	X						
J00LB6	SOIL	4-15-03	0935	X	X	X						
J00LB7	SOIL	4-15-03	0950	X	X	X						
J00LB8	SOIL	4-15-03	1010	X	X	X						
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS				Matrix *
Relinquished By/Removed From Doug Bowers		Date/Time 4-15-03/1210		Received By/Stored In Rafic 37278		Date/Time 4-15-03/1210		(1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV)  Personnel not available to relinquish samples from the 3728 Ref # 3C on 4/16/03  Samples did not originate in radiological controlled area. No total activity associated with sample/samples.				S=Soil SE=Sediment SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Truss WJ=W/pc L=Liquid V=Vegetation X=Other
Relinquished By/Removed From REF 3C		Date/Time 4/16/03 1100		Received By/Stored In SLOAN/Neil		Date/Time 4/16/03 1100						
Relinquished By/Removed From SLOAN/Neil		Date/Time 4/16/03 1100		Received By/Stored In FED EX		Date/Time						
Relinquished By/Removed From Ted Ex		Date/Time 4-17-03/0905		Received By/Stored In J. Smith		Date/Time 4-17-03/10905						
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time						
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time						
LABORATORY SECTION	Received By	Title				Date/Time						
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By				Date/Time						

<b>Bechtel Hanford Inc.</b>		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>			B03-015-57	Page 2 of 2
Collector Doug Bowers	Company Contact Renee Nielson	Telephone No. 372-9658	Project Coordinator KESSNER, JH		Price Code 8B	Data Turnaround
Project Designation Remaining Sites Confirmation Sampling-Soil		Sampling Location 100-K-29	SAF No. B03-015		Air Quality <input type="checkbox"/>	7 Days
Ice Chest No. ERC 96 025	Field Logbook No. EL-1578	COA C17HXX671C	Method of Shipment Federal Express			
Shipped To TMA/RECRA	Offsite Property No. A030211			Bill of Lading/Air Bill No. SEE OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS	Preservation	None	Cool 4C	Cool 4C						
	Type of Container	aG	aG	aG						
	No. of Container(s)	1	1	1						
	Volume	60mL	120mL	120mL						
Special Handling and/or Storage										
SAMPLE ANALYSIS		See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082						
Sample No.	Matrix *	Sample Date	Sample Time							
J00LB9	SOIL	4-15-03	0935	X	X	X				
J00LC0	SOIL	4-15-03	0850	X						

CHAIN OF POSSESSION		Sign/Print Names		SPECIAL INSTRUCTIONS		Matrix *
Relinquished By/Removed From Doug Bowers	Date/Time 4-15-03/1210	Received By/Stored In Ref 3c 3728	Date/Time 4-15-03/1210	(1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV)  Do not use J00LC0 for G.A./Q.C. at lab  Personnel not available to relinquish samples from the 3728 Ref # 3c on 4/16/02  Samples did not originate in radiological controlled area. No total activity associated with sample/samples.		S=Soil SE=Sediment SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Dram Solids DL=Dram Liquids T=Tissue WI=Wipe L=Liquid V=Vegetation X=Other
Relinquished By/Removed From REF 3c 3728	Date/Time 41603 1100	Received By/Stored In SJALES/Dal	Date/Time 41602 1100			
Relinquished By/Removed From SJALES/Dal	Date/Time 41603 1100	Received By/Stored In FED EX	Date/Time			
Relinquished By/Removed From Fed Ex	Date/Time 4.17.03/0905	Received By/Stored In D. [Signature]	Date/Time 4.17.03/0905			
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time			
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time			

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

16

# LIONVILLE LABORATORY INCORPORATED SAMPLE RECEIPT CHECKLIST

CLIENT: TNU Hartford  
Purchase Order/Project:

DATE: 4.17.03

AF# / SOW# / Release #: 803.015

Laboratory SDG #:

03044207

**NOTE: ALL ENTRIES MARKED "NO" MUST BE EXPLAINED IN THE COMMENT SECTION**

- |  |   |                             |   |  |
|--|---|-----------------------------|---|--|
| 1. Custody seals on coolers or shipping container intact, signed and dated?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            | <input type="checkbox"/> see Comment # |
| 2. Outside of coolers or shipping containers are free from damage?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            | <input type="checkbox"/> see Comment # |
| 3. Airbill # recorded?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            | <input type="checkbox"/> see Comment # |
| 4. All expected paperwork received (coc and other client specific: historical data, alpha/beta or other screening data as applicable)? (paperwork sealed in plastic bag and taped to inside lid) | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            | <input type="checkbox"/> see Comment # |
| 5. Sample containers are intact?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            | <input type="checkbox"/> see Comment # |
| 6. Custody seals on sample containers intact, signed and dated?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            | <input type="checkbox"/> see Comment # |
| 7. All samples on coc received?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            | <input type="checkbox"/> see Comment # |
| 8. All sample label information matches coc?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            | <input type="checkbox"/> see Comment # |
| 9. Laboratory QC samples designated on coc? (QC stickers placed on bottles?)   | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 10. Shipment meets LVLJ Sample Acceptance Policy? (identify all bottles not within policy. See reverse side for policy)  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            | <input type="checkbox"/> see Comment # |
| 11. Where applicable, bar code labels are affixed to coc?  | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 12. coc signed and dated?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            | <input type="checkbox"/> see Comment # |
| 13. coc will be faxed or emailed to client?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            | <input type="checkbox"/> see Comment # |
| 14. Project Manager/Client contacted concerning discrepancies? (name/date)   | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |

Cooler # / temp (°C) and Comments:

# ECC 96-025 / 0.8°C

Laboratory Sample Custodian:



Laboratory Project Manager:

MAY 2003

Lionville Laboratory, Inc.  
INORGANIC ANALYTICAL DATA PACKAGE FOR  
TNUHANFORD B03-015 H2173

DATE RECEIVED: 04/17/03

LVL LOT # :0304L207

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J00LB4						
% SOLIDS	001	S	03L%S055	04/15/03	04/21/03	04/22/03
CHROMIUM VI	001	S	03LVI025	04/15/03	04/21/03	04/21/03
J00LB5						
% SOLIDS	002	S	03L%S055	04/15/03	04/21/03	04/22/03
CHROMIUM VI	002	S	03LVI025	04/15/03	04/21/03	04/21/03
J00LB6						
% SOLIDS	003	S	03L%S055	04/15/03	04/21/03	04/22/03
CHROMIUM VI	003	S	03LVI025	04/15/03	04/21/03	04/21/03
J00LB7						
% SOLIDS	004	S	03L%S055	04/15/03	04/21/03	04/22/03
% SOLIDS	004 REP	S	03L%S055	04/15/03	04/21/03	04/22/03
CHROMIUM VI	004	S	03LVI025	04/15/03	04/21/03	04/21/03
J00LB8						
% SOLIDS	005	S	03L%S055	04/15/03	04/21/03	04/22/03
CHROMIUM VI	005	S	03LVI025	04/15/03	04/21/03	04/21/03
J00LB9						
% SOLIDS	006	S	03L%S055	04/15/03	04/21/03	04/22/03
CHROMIUM VI	006	S	03LVI025	04/15/03	04/21/03	04/21/03
CHROMIUM VI	006 REP	S	03LVI025	04/15/03	04/21/03	04/21/03
CHROMIUM VI	006 MS	S	03LVI025	04/15/03	04/21/03	04/21/03
CHROMIUM VI	006 MSD	S	03LVI025	04/15/03	04/21/03	04/21/03
J00LC0						
% SOLIDS	007	S	03L%S055	04/15/03	04/21/03	04/22/03

LAB QC:  
\_\_\_\_\_

Lionville Laboratory, Inc.  
INORGANIC ANALYTICAL DATA PACKAGE FOR  
TNUHANFORD B03-015 H2173

DATE RECEIVED: 04/17/03

LVL LOT # :0304L207

<u>CLIENT ID /ANALYSIS</u>	<u>LVL #</u>	<u>MTX</u>	<u>PREP #</u>	<u>COLLECTION</u>	<u>EXTR/PREP</u>	<u>ANALYSIS</u>
CHROMIUM VI	MB1	S	03LVI025	N/A	04/21/03	04/21/03
CHROMIUM VI	MB1 BS	S	03LVI025	N/A	04/21/03	04/21/03
CHROMIUM VI	MB1 BSD	S	03LVI025	N/A	04/21/03	04/21/03



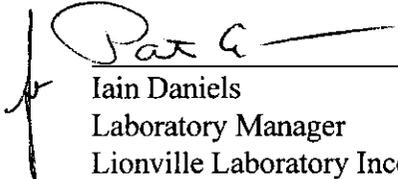
## Analytical Report

**Client:** TNU-HANFORD B03-015 H2173  
**LVL#:** 0304L207

**W.O.#:** 11343-606-001-9999-00  
**Date Received:** 04-17-03

### 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.
3. Sample holding times as required by the method and/or contract were met.
4. The results presented in this report are derived from samples that met LvLI's sample acceptance policy.
5. The method blank for Chromium VI was within the method criteria.
6. The Laboratory Control Samples (LCS) for Chromium VI were within the laboratory control limits.
7. The matrix spike (MS) recovery for Insoluble Chromium VI was within the 75-125% control limits, however MS recovery for Soluble Chromium VI was above the control limits at 126.5%.
8. The replicate analyses for Percent Solids and Chromium VI were within the 20% Relative Percent Difference (RPD) control limit.
9. Results for solid samples are reported on a dry weight basis.
10. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard copy package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

  
Iain Daniels  
Laboratory Manager  
Lionville Laboratory Incorporated

04-24-03  
Date

njpl04-207

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 13 pages.

**Lionville Laboratory Incorporated**

**WET CHEMISTRY**

**METHODS GLOSSARY FOR SOIL/SOLIDS SAMPLE ANALYSIS**

	<u>ASTM</u>	<u>SW846</u>	<u>OTHER</u>
% 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	
<b>Other:</b>	<b>Method:</b>		
<b>Other:</b>	<b>Method</b>		

## Lionville Laboratory Incorporated

### METHOD REFERENCES AND DATA QUALIFIERS

#### DATA QUALIFIERS

- U = Indicates that the parameter was not detected at or above the reported limit. The associated numerical value is the sample detection limit.
- \* = Indicates that the original sample result is greater than 4x the spike amount added.

#### ABBREVIATIONS

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

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

#### ANALYTICAL WET CHEMISTRY METHODS

1. ASTM Standard Methods.
2. USEPA Methods for Chemical Analysis of Water and Wastes (USEPA 600/4-79-020).
3. Test Methods for Evaluating Solid Waste (USEPA SW-846).
  - a. Standard Methods for the Examination of Water and Waste, 16 ed, (1983).
  - b. Standard Methods for the Examination of Water and Waste, 17 ed, (1989)/18ed (1992).
  - c. Method of Soil Analysis, Part 1, Physical and Mineralogical Methods, 2nd ed, (1986).
  - d. Method of Soil Analysis, Part 2, Chemical and Microbiological Properties, Am. Soc. Agron., Madison, WI (1965).
  - e. USEPA Contract Laboratory Program, Statement of Work for Inorganic Analysis.
  - f. Code of Federal Regulations.

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 04/22/03

CLIENT: TNUHANFORD B03-015 H2173  
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0304L207

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
=====	=====	=====	=====	=====	=====	=====
-001	J00LB4	% Solids Chromium VI	99.3 0.40 u	% MG/KG	0.01 0.40	1.0 1.0
-002	J00LB5	% Solids Chromium VI	94.0 0.43 u	% MG/KG	0.01 0.43	1.0 1.0
-003	J00LB6	% Solids Chromium VI	94.5 0.87	% MG/KG	0.01 0.42	1.0 1.0
-004	J00LB7	% Solids Chromium VI	95.2 8.4	% MG/KG	0.01 0.42	1.0 1.0
-005	J00LB8	% Solids Chromium VI	94.6 4.7	% MG/KG	0.01 0.42	1.0 1.0
-006	J00LB9	% Solids Chromium VI	94.6 3.2	% MG/KG	0.01 0.42	1.0 1.0
-007	J00LC0	% Solids	94.0	%	0.01	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 04/22/03

CLIENT: TNUHANFORD B03-015 H2173  
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0304L207

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
*****	*****	*****	*****	*****	*****	*****
BLANK10	03LVI025-MB1	Chromium VI	0.40 u	MG/KG	0.40	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 04/22/03

CLIENT: TNUHANFORD B03-015 H2173  
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0304L207

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR (SPK)
-006	J00LB9	Soluble Chromium VI	8.5	3.2	4.2	126.5	1.0
		Insoluble Chromium VI	1170	3.2	1100	106.2	100
BLANK10	03LVI025-MB1	Soluble Chromium VI	3.9	0.40u	4.0	97.8	1.0
		Insoluble Chromium VI	1100	0.40u	1040	105.0	100

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 04/22/03

CLIENT: TNUHANFORD B03-015 H2173  
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0304L207

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR (REP)
-004REP	J00LB7	‡ Solids	95.2	95.1	0.13	1.0
-006REP	J00LB9	Chromium VI	3.2	3.2	1.8	1.0



<b>Bechtel Hanford Inc.</b>		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>			B03-015-57	Page 1 of 2
Collector Doug Bowers	Company Contact Renee Nielson	Telephone No. 372-9658	Project Coordinator KESSNER, JH		Price Code <b>8B</b>	Data Turnaround <b>7 Days</b>
Project Designation Remaining Sites Confirmation Sampling-Soil		Sampling Location 100-K-29		SAF No. B03-015	Air Quality <input type="checkbox"/>	
Ice Chest No. <i>ERC 96 025</i>	Field Logbook No. EL-1578	COA C17HXX671C		Method of Shipment Federal Express		
Shipped To TMA/RECRA		Offsite Property No. <i>A030211</i>		Bill of Lading/Air Bill No. <i>SEE OSPL</i>		

POSSIBLE SAMPLE HAZARDS/REMARKS  Special Handling and/or Storage	Preservation	None	Cool 4C	Cool 4C									
	Type of Container	aG	aG	aG									
	No. of Container(s)	1	1	1									
	Volume	60mL	120mL	120mL									

SAMPLE ANALYSIS				See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082							
-----------------	--	--	--	---------------------------------------	---------------------	-------------	--	--	--	--	--	--	--

Sample No.	Matrix *	Sample Date	Sample Time										
J00LB4	SOIL	4-15-03	0840	X	X	X							
J00LB5	SOIL	4-15-03	0905	X	X	X							
J00LB6	SOIL	4-15-03	0935	X	X	X							
J00LB7	SOIL	4-15-03	0950	X	X	X							
J00LB8	SOIL	4-15-03	1010	X	X	X							

<b>CHAIN OF POSSESSION</b>				<b>SPECIAL INSTRUCTIONS</b>				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
Relinquished By/Removed From <i>Doug Bowers</i>	Date/Time <i>4-15-03/1210</i>	Received By/Stored In <i>REF 3C</i>	Date/Time <i>3728 4-15-03/1210</i>	(1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV)  Personnel not available to relinquish samples from the 3728 Ref # <u>3C</u> on <u>4/16/03</u>  Samples did not originate in radiological controlled area. No total activity associated with sample/samples.				
Relinquished By/Removed From <i>REF 3C</i>	Date/Time <i>41603 1100</i>	Received By/Stored In <i>SI OALC</i>	Date/Time <i>41603 1100</i>					
Relinquished By/Removed From <i>SI OALC</i>	Date/Time <i>41603 1100</i>	Received By/Stored In <i>FED EX</i>	Date/Time					
Relinquished By/Removed From <i>Geo E</i>	Date/Time <i>4-17-03/0905</i>	Received By/Stored In <i>[Signature]</i>	Date/Time <i>4-17-03/10905</i>					
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time					
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time					

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

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				B03-015-57		Page 2 of 2									
Collector Doug Bowers		Company Contact Renee Nielson		Telephone No. 372-9658		Project Coordinator KESSNER, JH		Price Code <b>8B</b> Data Turnaround <b>7 Days</b>									
Project Designation Remaining Sites Confirmation Sampling-Soil		Sampling Location 100-K-29		SAF No. B03-015		Air Quality <input type="checkbox"/>											
Ice Chest No. <b>ERC 96 025</b>		Field Logbook No. EL-1578		COA C17HXX671C		Method of Shipment Federal Express											
Shipped To TMA <b>RECRA</b>		Offsite Property No. <b>A030211</b>		Bill of Lading/Air Bill No. <b>SEE OSPC</b>													
POSSIBLE SAMPLE HAZARDS/REMARKS					Preservation	None	Cool 4C	Cool 4C									
Special Handling and/or Storage					Type of Container	aG	aG	aG									
					No. of Container(s)	1	1	1									
					Volume	60mL	120mL	120mL									
						See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082									
SAMPLE ANALYSIS																	
Sample No.	Matrix *	Sample Date	Sample Time														
J00LB9	SOIL	4-15-03	0935	X	X	X											
J00LC0	SOIL	4-15-03	0850	X													
CHAIN OF POSSESSION					SPECIAL INSTRUCTIONS					Matrix *							
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time		<p>(1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV)</p> <p>Do not use J00LC0 for Q.A./Q.C. at lab</p> <p>Personnel not available to relinquish samples from the 3728 Ref # 3C on 4/16/02</p> <p>Samples did not originate in radiological controlled area. No total activity associated with sample/samples.</p>					<ul style="list-style-type: none"> <li>S=Soil</li> <li>SE=Sediment</li> <li>SO=Solid</li> <li>SI=Sludge</li> <li>W = Water</li> <li>O=Oil</li> <li>A=Air</li> <li>DS=Drum Solids</li> <li>DL=Drum Liquids</li> <li>T=Tissue</li> <li>W=Wipe</li> <li>L=Liquid</li> <li>V=Vegetation</li> <li>X=Other</li> </ul>				
Doug Bowers		4-15-03/1210		Ref # 3728		4-15-03/1210											
REF 3C 3728		41603 1100		SJALES/Sol		41602 1100											
SJALES/Alk		41603 1100		FED EX													
Fed Ex		4-17-03/0905		D. Smith		4-17-03/0905											
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time											
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time											
LABORATORY SECTION		Received By		Title		Date/Time											
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By		Date/Time											

# LIONVILLE LABORATORY INCORPORATED SAMPLE RECEIPT CHECKLIST

CLIENT: TNU Hanford

Purchase Order/Project:

DATE: 4-17-03

SAF# / SOW# / Release #: 803-015

Laboratory SDG #:

03046207

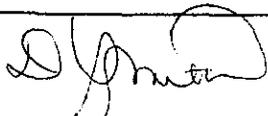
**NOTE: ALL ENTRIES MARKED "NO" MUST BE EXPLAINED IN THE COMMENT SECTION**

- |  |   |                             |   |  |
|--|---|-----------------------------|---|--|
| 1. Custody seals on coolers or shipping container intact, signed and dated?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            | <input type="checkbox"/> see Comment # |
| 2. Outside of coolers or shipping containers are free from damage?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            | <input type="checkbox"/> see Comment # |
| 3. Airbill # recorded?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            | <input type="checkbox"/> see Comment # |
| 4. All expected paperwork received (coc and other client specific: historical data, alpha/beta or other screening data as applicable)? (paperwork sealed in plastic bag and taped to inside lid) | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            | <input type="checkbox"/> see Comment # |
| 5. Sample containers are intact?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            | <input type="checkbox"/> see Comment # |
| 6. Custody seals on sample containers intact, signed and dated?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            | <input type="checkbox"/> see Comment # |
| 7. All samples on coc received?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            | <input type="checkbox"/> see Comment # |
| 8. All sample label information matches coc?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            | <input type="checkbox"/> see Comment # |
| 9. Laboratory QC samples designated on coc? (QC stickers placed on bottles?)   | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 10. Shipment meets LVL Sample Acceptance Policy? (identify all bottles not within policy. See reverse side for policy)   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            | <input type="checkbox"/> see Comment # |
| 11. Where applicable, bar code labels are affixed to coc?  | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 12. coc signed and dated?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            | <input type="checkbox"/> see Comment # |
| 13. coc will be faxed or emailed to client?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            | <input type="checkbox"/> see Comment # |
| 14. Project Manager/Client contacted concerning discrepancies? (name/date)   | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |

Cooler # / temp (°C) and Comments:

# ERCC 96-025 / 0.8°C

Laboratory Sample Custodian:



Laboratory Project Manager: