



28 March 2006



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

Subject: Analytical Data Package

Dear Ms. Kessner:

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

LvLI Batch #	0602L308
SDG #	K0923-232 OSJ
SAF #	RC-047
Date Received	2/22/06
# Samples	4
Matrix	OTHER SOLID
Volatiles	
Semivolatiles	X
Pest/PCB	X
PAH	
DRO/KRO/GRO	X
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\p\m\orlette\tnu-hanford\data\b_ltrs.doc

Lionville Laboratory, Inc.
 PCB ANALYTICAL DATA PACKAGE FOR
 TNUHANFORD RC-047 K0232

DATE RECEIVED: 02/22/06

LVL LOT # :0602L308

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J11737	001	SO	06LE0149	02/19/06	02/28/06	03/10/06
J11738	002	SO	06LE0149	02/19/06	02/28/06	03/10/06
J11739	003	SO	06LE0149	02/19/06	02/28/06	03/10/06
J11740	004	SO	06LE0149	02/19/06	02/28/06	03/10/06
J11740	004 MS	SO	06LE0149	02/19/06	02/28/06	03/10/06
J11740	004 MSD	SO	06LE0149	02/19/06	02/28/06	03/10/06

LAB QC:

PBLKCL	MB1	S	06LE0149	N/A	02/28/06	03/09/06
PBLKCL	MB1 BS	S	06LE0149	N/A	02/28/06	03/09/06

0602L308
 02/22/06
 10:00 AM

Handwritten signature/initials
 2/22/06



Case Narrative

Client: TNU-HANFORD RC-047
LVL #: 0602L308
SDG/SAF # K0232/RC-047

W.O. #: 11343-606-001-9999-00
Date Received: 02-22-2006

PCB

Four (4) solid samples were collected on 02-19-2006.

The samples and their associated QC samples were extracted on 02-28-2006 and analyzed according to Lionville Laboratory SOPs based on SW846, 3rd Edition procedures on 03-09,10-2006. The extraction procedure was based on method 3540C and the extracts were analyzed based on method 8082.

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

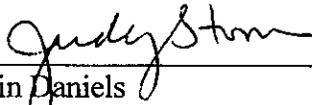
1. All results presented in this report are derived from samples that met LVL's sample acceptance policy.
2. Samples were extracted and analyzed within required holding time.
3. The samples and their associated QC samples received Copper-Sulfur and Sulfuric Acid cleanups according to Lionville Laboratory SOPs based on SW846 methods 3660A and 3665A respectively.
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. 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 11 pages.

00000002

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.



f Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

kim\group\data\pest\tnu hanford\0602-308.pcb

4/17/06
Date



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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.

Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				RC-047-113		Page 1 of 1	
Collector TILLER	JAMES BERNHARD	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH		Price Code 9N		Data Turnaround 45 Days	
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti		Sample Location U 4. SEDIMENT		SAF No. RC-047		Air Quality <input type="checkbox"/>			
Ice Chest No. ERC-99-061		Field Logbook No. EL-1597	COA BESRAS6520		Method of Shipment FED EX				
Shipped To EBERLINE SERVICES <u>LIONVILLE</u>		Offsite Property No. A060291			Bill of Lading/Air Bill No. SEE OSPC				

POSSIBLE SAMPLE HAZARDS/REMARKS POTENTIAL RADIOACTIVE <DOT LIMITS Special Handling and/or Storage COOL 4C	Preservation	None	None	Cool 4C							
	Type of Container	G/P	G/P	G/P	aG	aG	aG	G	G		
	No. of Container(s)	1	1	1	1	1	1	1	1		
	Volume	750g	5g	15g	50g	50g	50g	50g	50g		

SAMPLE ANALYSIS				Gamma Spec - (Full List)	Strontium- 89,90 - Total Sr; Isotopic Thorium; Isotopic Uranium	ICP Metals - 6010 (Full List); Mercury - 7471 - (CV)	Pesticides - 8081	PCBs - 8082	Semi-VOA - 8270A (TCL)	TPH (Total) - 418.1	TPH-Diesel Range - WTPH-D - Add On; TPH- Gasoline Range - WTPH-G	
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Sample No.	Matrix *	Sample Date	Sample Time								
J11737	OTHER SOLID	2-19-06	1500			X	X	X	X	X	X

CHAIN OF POSSESSION			Sign/Print Names			SPECIAL INSTRUCTIONS						Matrix *
Relinquished By/Removed From JAMES BERNHARD	Date/Time 2-19-06	1800	Received By/Stored In EAS LOCKED STORAGE	Date/Time 2-19-06	1800							Se=Soil SE=Soilment SO=Soil Sl=Sludge W = Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue W=Wipe L=Liquid V=Vegetation X=Other
Relinquished By/Removed From EAS LOCKED STORAGE	Date/Time 2-21-06	0900	Received By/Stored In <i>RZ Steffler RZ Steffler</i>	Date/Time 2-21-06	0900							
Relinquished By/Removed From <i>RZ Steffler RZ Steffler</i>	Date/Time 2-21-06	1600	Received By/Stored In Fed Ex	Date/Time								
Relinquished By/Removed From Fed Ex	Date/Time 2-22-06	0910	Received By/Stored In <i>VN Kennedy</i>	Date/Time 2-22-06	0910							
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

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Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				RC-047-114		Page 1 of 1	
Collector TILLER	JAMES BERNHARD	Company Contact JOAN KESSNER	Telephone No. 375-4688		Project Coordinator KESSNER, JH	Price Code 9N		Data Turnaround	
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti		Sampling Location U ⁹ . SEDIMENT			SAF No. RC-047	Air Quality <input type="checkbox"/>		45 Days	
Ice Chest No. ERC-99-061		Field Logbook No. EL-1597	COA BESRAS6520		Method of Shipment FED EX				
Shipped To EBERLINE SERVICES / <u>CLONVILLE</u>		Offsite Property No. A060291			Bill of Lading/Air Bill No. SEE OSCP				

POSSIBLE SAMPLE HAZARDS/REMARKS POTENTIAL RADIOACTIVE <DOT LIMITS Special Handling and/or Storage COOLAC	Preservation	None	None	Cool 4C							
	Type of Container	G/P	G/P	G/P	aG	aG	aG	G	G		
	No. of Container(s)	1	1	1	1	1	1	1	1		
	Volume	750g	5g	15g	50g	50g	50g	50g	50g		

SAMPLE ANALYSIS				Gamma Spec - (Full List)	Strontium- 89,90 - Total Sr; Isotopic Thorium; Isotopic Uranium	ICP Metals - 6010 (Full List); Mercury - 747J - (CV)	Pesticides - 8061	PCBs - 8082	Semi-VOA - 8270A (TCL)	TPH (Total) - 418.1	TPH-Diesel Range - WTPH-D - Add On; TPH- Gasoline Range - WTPH-G	
Sample No.	Matrix *	Sample Date	Sample Time									
J11738	OTHER SOLID	2-19-06	1600				X	X	X	X	X	

CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS				Matrix * S=Soil SB=Soil/Stone SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue W=Wipe L=Liquid V=Vegetation X=Other
Relinquished By/Removed From JAMES BERNHARD	Date/Time 2-19-06	Received By/Stored In EAS LOCKED STORAGE	Date/Time 2-19-06									
Relinquished By/Removed From EAS LOCKED STORAGE	Date/Time 2-21-06	Received By/Stored In R2 Steffler R. J. Steffler	Date/Time 2-21-06									
Relinquished By/Removed From R2 Steffler R. J. Steffler	Date/Time 2-21-06	Received By/Stored In Fed Ex	Date/Time									
Relinquished By/Removed From Fed Ex	Date/Time 2-22-06	Received By/Stored In D. Hernandez	Date/Time 2-22-06									
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

Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					RC-047-115		Page 1 of 1				
Collector TILLER JAMES BERNHARD		Company Contact JOAN KESSNER		Telephone No. 375-4688		Project Coordinator KESSNER, JH		Price Code 9N		Data Turnaround			
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti		Sampling Location U/c. SEDIMENT		SAF No. RC-047		Air Quality <input type="checkbox"/>		45 Days					
Ice Chest No. ERC-99-061		Field Logbook No. EL-1597		COA BESRAS6520		Method of Shipment FED EX							
Shipped To EBERLINE SERVICES (LIONVILLE)		Offsite Property No. A060291			Bill of Lading/Air Bill No. SEE OSPC								
POSSIBLE SAMPLE HAZARDS/REMARKS POTENTIAL RADIOACTIVE <DOT LIMITS				Preservation	None	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	
Special Handling and/or Storage COOL 4C				Type of Container	G/P	G/P	G/P	aG	aG	aG	G	G	
				No. of Container(s)	1	1	1	1	1	1	1	1	1
				Volume	750g	5g	15g	50g	50g	50g	50g	50g	50g
SAMPLE ANALYSIS				Gamma Spec - (Full List)	Strontium-89,90 - Total Sr; Isotopic Thorium; Isotopic Uranium	ICP Metals - 6010 (Full List); Mercury - 7471 - (CV)	Pesticides - 8081	PCBs - 8082	Semi-VOA - 8270A (TCL)	TPH (Total) - 418.1	TPH-Diesel Range - WTPH-D - Add On; TPH-Gasoline Range - WTPH-G		
Sample No.	Matrix *	Sample Date	Sample Time										
J11739	OTHER SOLID	2-19-06	1640			X	X	X	X	X	X		
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS				Matrix *	
Relinquished By/Removed From JAMES BERNHARD		Date/Time 2-19-06 1500		Received By/Stored In EAS LOCKED STORAGE		Date/Time 2-19-06 1800						S=Soil SB=Soil on SO=Soil SL=Sludge W=Water O=Oil A=Air DS=Dry Solids DL=Dry Liquid T=Tissue Wt=Wipe L=Liquid V=Vegetation X=Other	
Relinquished By/Removed From EAS LOCKED STORAGE		Date/Time 2-21-06 0900		Received By/Stored In RZ Steffe RZ Steffe		Date/Time 2-21-06 0900							
Relinquished By/Removed From RZ Steffe RZ Steffe		Date/Time 2-21-06 1600		Received By/Stored In Fed Ex		Date/Time							
Relinquished By/Removed From Fed Ex		Date/Time 2-22-06 0910		Received By/Stored In H. Newman		Date/Time 2-22-06 0910							
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						

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Collector TILLER JAMES BERNHARD	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 9N	Data Turnaround 45 Days
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti	Sampling Location U, SEDIMENT 300--1	SAF No. RC-047	Air Quality <input type="checkbox"/>		

Ice Chest No. ERC-99-061	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment FED EX		
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Shipped To EBERLINE SERVICES LIONVILLE	Offsite Property No. A060291	Bill of Lading/Air Bill No. SEE OSPC
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POSSIBLE SAMPLE HAZARDS/REMARKS POTENTIAL RADIOACTIVE <DOT LIMITS Special Handling and/or Storage COOL 4C	Preservation	None	None	Cool 4C						
	Type of Container	G/P	G/P	G/P	aG	aG	aG	G	G	
	No. of Container(s)	1	1	1	1	1	1	1	1	
	Volume	750g	5g	15g	50g	50g	50g	50g	50g	

SAMPLE ANALYSIS	Gamma Spec - (Full List)	Strontium-89,90 -- Total Sr; Isotopic Thorium; Isotopic Uranium	ICP Metals - 6010 (Full List); Mercury - 7471 - (CV)	Pesticides - 8081	PCBs - 8082	Semi-VOA - 8270A (TCL)	TPH (Total) - 418.1	TPH-Diesel Range - WTPH-D - Add On; TPH-Gasoline Range - WTPH-G		
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Sample No.	Matrix *	Sample Date	Sample Time								
J11740	OTHER SOLID	2-19-06	1400			X	X	X	X	X	X

CHAIN OF POSSESSION				SPECIAL INSTRUCTIONS				Matrix * S=Soil SS=Sludiment SO=Solid SL=Sludge W=Water OW=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Trash WJ=Wipe L=Liquid V=Vegetation X=Other
Relinquished By/Removed From JAMES BERNHARD	Date/Time 2-19-06 1800	Received By/Stored In EAS LOCKED STORAGE	Date/Time 2-19-06 1800					
Relinquished By/Removed From EAS LOCKED STORAGE	Date/Time 2-21-06 0900	Received By/Stored In RZ Staff	Date/Time 2-21-06 0910					
Relinquished By/Removed From RZ Staff	Date/Time 2-21-06 1600	Received By/Stored In Fed Ex	Date/Time					
Relinquished By/Removed From Fed Ex	Date/Time 2-22-06 0910	Received By/Stored In V. Hernandez	Date/Time 2-22-06 0910					
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

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**Lionville Laboratory Incorporated
SAMPLE RECEIPT CHECKLIST (SRC)**

CLIENT: *TNU - HANFORD*

Date: *2-22-06*

Purchase Order / Project# /

SAF# / SOW# / Release #: *RC-047*

LvLI Batch #:

0602L308

Sample Custodian:

P. Hernandez

NOTE: EXPLAIN ALL DISCREPANCIES

- | | | |
|---|---|--|
| 1. Samples Hand Delivered or <u>Shipped</u> | Carrier <i>Fed Ex</i> | Airbill# <i>79186742/689</i> |
| 2. Custody seals on coolers or shipping container intact, signed and dated? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals Comments |
| 3. Outside of coolers or shipping containers are free from damage? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 4. All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 5. Samples received cooled or ambient? | Temp <i>2-5</i> °C | Cooler # <i>ERC-99-061</i> |
| 6. Custody seals on sample containers intact, signed and dated? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals |
| 7. coc signed and dated? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 8. Sample containers are intact? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 9. All samples on coc received? All samples received on coc? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 10. All sample label information matches coc? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 11. Samples properly preserved? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 12. Samples received within hold times? Short holds taken to wet lab? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 13. VOA, TOC, TOX free of headspace? | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A |
| 14. QC stickers placed on bottles designated by client? | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A |
| 15. 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 | |
| 16. Project Manager contacted concerning discrepancies? name/date (or samples outside criteria) | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input checked="" type="checkbox"/> No Discrepancies |

SR-002-B



000000011



28 March 2006

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



Subject: Analytical Data Package

Dear Ms. Kessner:

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

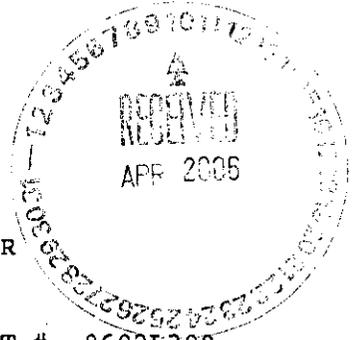
LvLI Batch #	0602L308
SDG #	K0323-232 osj
SAF #	RC-047
Date Received	2/22/06
# Samples	4
Matrix	OTHER SOLID
Volatiles	
Semivolatiles	X ✓
Pest/PCB	X ✓
PAH	
DRO/KRO/GRO	X ✓✓
GC Alcohols	
Herbicides	
Metals	X
Inorganics	X ✓

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

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Lionville Laboratory, Inc.
BNA ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-047 K0232

DATE RECEIVED: 02/22/06

LVL LOT # :0602L308

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J11737	001	SO	06LE0145	02/19/06	02/27/06	03/03/06
J11738	002	SO	06LE0145	02/19/06	02/27/06	03/03/06
J11739	003	SO	06LE0145	02/19/06	02/27/06	03/03/06
J11740	004	SO	06LE0145	02/19/06	02/27/06	03/03/06
J11740	004 MS	SO	06LE0145	02/19/06	02/27/06	03/06/06
J11740	004 MSD	SO	06LE0145	02/19/06	02/27/06	03/03/06

LAB QC:

SBLKUE	MB1	S	06LE0145	N/A	02/27/06	02/28/06
SBLKUE	MB1 BS	S	06LE0145	N/A	02/27/06	02/28/06



Case Narrative

Client: TNU-HANFORD RC-047
LVL #: 0602L308
SDG/SAF # K0232/RC-047

W.O. #: 11343-606-001-9999-00
Date Received: 02-22-2006

SEMIVOLATILE

Four (4) solid samples were collected on 02-19-2006.

The samples and their associated QC samples were extracted according to Lionville Laboratory SOPs based on SW 846 method 3540C on 02-27-2006 and analyzed according to criteria set forth in Lionville Laboratory SOPs based on SW 846 Method 8270C for TCL Semivolatile target compounds on 02-28-2006 and 03-03,06-2006.

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. Samples were extracted and analyzed within required holding time.
3. Non-target compounds were detected in the samples.
4. All surrogate recoveries were within acceptance criteria.
5. Two (2) of one hundred twenty-eight (128) matrix spike recoveries were outside acceptance criteria.

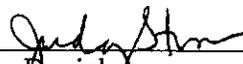
Three (3) of sixty-four (64) blank spike recoveries were outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR) has been enclosed.

6. The method blank contained the common laboratory contaminant Bis (2-Ethylhexyl) phthalate at a level less than the CRQL.
7. Internal standard area and retention time criteria were met.

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 2 3 pages.



8. Manual integrations are performed according to SOP QA-125 to produce quality data with the utmost integrity. All manual integrations are required to be technically valid and properly documented. Appropriate technical flags are defined in the Glossary ("Technical Flags For Manual Integration").
9. LvLI is NELAP accredited by the state of Pennsylvania and holds over 20 additional state accreditations. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.
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
som\group\data\bna\tnu-hanford\0602-308.doc

3/14/06
Date

Lionville Laboratory Sample Discrepancy Report (SDR)

SDR #: 06MS076

Initiator: Robert Carden
 Date: 3/7/06
 Client: TNU Hartford (RCAD)

Batch: 06022309
 Samples: BS/MS/MSD
 Method: SVB4/MCAWW/CLP/

Parameter: 0025 H
 Matrix: Solid
 Prep Batch: 06LE0145

1. Reason for SDR

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

b. General Discrepancy

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

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

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

MS - 124 Trichlorobenzene spike recovery low 55% (60-120%)
 MSD
 BS - 2,4-Dimethylphenol spike recovery outside QC limits 47% (50-120%)
 4-chloro-3-methylphenol 58% (60-120%)
 2,4-Dichlorophenol 19% (20-120%)
 All other spikes (over spikes)
 within QSA limits
 Rec 3/7/06 NA
 within QSA limits

2. Known or Probable Causes(s)

phenolic acidic compounds are subject to erratic chromatographic behavior especially if the GC system is contaminated with high boiling material

3. Discussion and Proposed Action

Other Description:

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

None

4. Project Manager Instructions...signature/date: _____

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

5. Final Action...signature/date: Sam 2/14/06

Other Explanation:

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

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

Route Distribution of Completed SDR
 Initiator
 Lab General Manager: M. Taylor
 Project Mgr: Stone/Johnson
 Data Management: Stiwell
 Sample Prep: Beegle/Kiger

Route Distribution of Completed SDR
 Metals: Beegle
 Inorganic: Perrone
 GC/LC: Kiger
 MS: Rychlak/Daley
 Log-in: Perry
 Admin: _____
 Other: _____

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.

LVL-21-21-035A-08/93



000000007

Lionville Laboratory, Inc.

Semivolatiles by GC/MS, HSL List

Report Date: 03/09/06 10:56

RFW Batch Number: 0602L308

Client: TNUHANFORD RC-047 K0232

Work Order: 11343606001

Page: 1a

	Cust ID:	J11737	J11738	J11739	J11740	J11740	J11740
Sample	RFW#:	001	002	003	004	004 MS	004 MSD
Information	Matrix:	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
	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
	Nitrobenzene-d5	72 %	60 %	71 %	56 %	49 %	47 %
Surrogate	2-Fluorobiphenyl	75 %	68 %	72 %	65 %	63 %	65 %
Recovery	Terphenyl-d14	95 %	86 %	99 %	88 %	72 %	86 %
	Phenol-d5	73 %	65 %	76 %	64 %	64 %	66 %
	2-Fluorophenol	71 %	56 %	75 %	52 %	56 %	58 %
	2,4,6-Tribromophenol	71 %	73 %	82 %	75 %	70 %	74 %
=====fl=====fl=====fl=====fl=====fl=====fl=====fl=====							
	Phenol	400 U	450 U	390 U	400 U	80 %	84 %
	bis(2-Chloroethyl) ether	400 U	450 U	390 U	400 U	81 %	78 %
	2-Chlorophenol	400 U	450 U	390 U	400 U	70 %	76 %
	1,3-Dichlorobenzene	400 U	450 U	390 U	400 U	57 %	68 %
	1,4-Dichlorobenzene	400 U	450 U	390 U	400 U	57 %	67 %
	1,2-Dichlorobenzene	400 U	450 U	390 U	400 U	62 %	72 %
	2-Methylphenol	400 U	450 U	390 U	400 U	77 %	84 %
	2,2'-oxybis(1-Chloropropane)	400 U	450 U	390 U	400 U	80 %	77 %
	4-Methylphenol	400 U	450 U	390 U	400 U	74 %	83 %
	N-Nitroso-di-n-propylamine	400 U	450 U	390 U	400 U	84 %	85 %
	Hexachloroethane	400 U	450 U	390 U	400 U	56 %	65 %
	Nitrobenzene	400 U	450 U	390 U	400 U	60 %	59 %
	Isophorone	400 U	450 U	390 U	400 U	71 %	68 %
	2-Nitrophenol	400 U	450 U	390 U	400 U	53 %	65 %
	2,4-Dimethylphenol	400 U	450 U	390 U	400 U	55 %	59 %
	bis(2-Chloroethoxy)methane	400 U	450 U	390 U	400 U	66 %	65 %
	2,4-Dichlorophenol	400 U	450 U	390 U	400 U	62 %	66 %
	1,2,4-Trichlorobenzene	400 U	450 U	390 U	400 U	55 * %	58 * %
	Naphthalene	400 U	450 U	390 U	400 U	55 %	58 %
	4-Chloroaniline	400 U	450 U	390 U	400 U	61 %	75 %
	Hexachlorobutadiene	400 U	450 U	390 U	400 U	57 %	62 %
	4-Chloro-3-methylphenol	400 U	450 U	390 U	400 U	64 %	68 %
	2-Methylnaphthalene	400 U	450 U	390 U	400 U	62 %	65 %
	Hexachlorocyclopentadiene	400 U	450 U	390 U	400 U	46 %	56 %
	2,4,6-Trichlorophenol	400 U	450 U	390 U	400 U	76 %	90 %
	2,4,5-Trichlorophenol	1000 U	1100 U	970 U	1000 U	78 %	92 %

*= Outside of EPA CLP QC limits.

000000008

	Cust ID: J11737		J11738		J11739		J11740		J11740		J11740	
RFW#:	001		002		003		004		004 MS		004 MSD	
2-Chloronaphthalene	400 U		450 U		390 U		400 U		74 %		83 %	
2-Nitroaniline	1000 U		1100 U		970 U		1000 U		82 %		91 %	
Dimethylphthalate	400 U		450 U		390 U		400 U		76 %		89 %	
Acenaphthylene	400 U		450 U		390 U		400 U		75 %		84 %	
2,6-Dinitrotoluene	400 U		450 U		390 U		400 U		79 %		89 %	
3-Nitroaniline	1000 U		1100 U		970 U		1000 U		87 %		102 %	
Acenaphthene	400 U		450 U		390 U		400 U		75 %		83 %	
2,4-Dinitrophenol	1000 U		1100 U		970 U		1000 U		69 %		108 %	
4-Nitrophenol	1000 U		1100 U		970 U		1000 U		87 %		62 %	
Dibenzofuran	400 U		450 U		390 U		400 U		78 %		86 %	
2,4-Dinitrotoluene	400 U		450 U		390 U		400 U		80 %		97 %	
Diethylphthalate	400 U		450 U		390 U		400 U		78 %		87 %	
4-Chlorophenyl-phenylether	400 U		450 U		390 U		400 U		77 %		87 %	
Fluorene	400 U		450 U		390 U		400 U		77 %		84 %	
4-Nitroaniline	1000 U		1100 U		970 U		1000 U		79 %		91 %	
4,6-Dinitro-2-methylphenol	1000 U		1100 U		970 U		1000 U		78 %		100 %	
N-Nitrosodiphenylamine (1)	400 U		450 U		390 U		400 U		70 %		71 %	
4-Bromophenyl-phenylether	400 U		450 U		390 U		400 U		69 %		74 %	
Hexachlorobenzene	400 U		450 U		390 U		400 U		80 %		84 %	
Pentachlorophenol	1000 U		1100 U		970 U		1000 U		89 %		102 %	
Phenanthrene	400 U		450 U		390 U		400 U		80 %		87 %	
Anthracene	400 U		450 U		390 U		400 U		79 %		86 %	
Carbazole	400 U		450 U		390 U		400 U		83 %		84 %	
Di-n-butylphthalate	400 U		450 U		33 J		22 J		83 %		85 %	
Fluoranthene	400 U		450 U		390 U		400 U		84 %		83 %	
Pyrene	400 U		450 U		390 U		400 U		77 %		100 %	
Butylbenzylphthalate	400 U		450 U		390 U		400 U		80 %		106 %	
3,3'-Dichlorobenzidine	400 U		450 U		390 U		400 U		75 %		75 %	
Benzo(a)anthracene	400 U		450 U		390 U		400 U		80 %		89 %	
Chrysene	400 U		450 U		390 U		400 U		80 %		89 %	
bis(2-Ethylhexyl)phthalate	56 JB		84 JB		49 JB		95 JB		86 %		102 %	
Di-n-octyl phthalate	400 U		450 U		390 U		400 U		85 %		102 %	
Benzo(b)fluoranthene	400 U		450 U		390 U		400 U		82 %		85 %	
Benzo(k)fluoranthene	400 U		450 U		390 U		400 U		72 %		81 %	
Benzo(a)pyrene	400 U		450 U		390 U		400 U		80 %		84 %	
Indeno(1,2,3-cd)pyrene	400 U		450 U		390 U		400 U		85 %		91 %	
Dibenz(a,h)anthracene	400 U		450 U		390 U		400 U		88 %		94 %	
Benzo(g,h,i)perylene	400 U		450 U		390 U		400 U		82 %		89 %	

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

000000009

Cust ID: SBLKUE

SBLKUE BS

RFW#: 06LE0145-MB1 06LE0145-MB1

2-Chloronaphthalene	330	U	84	%
2-Nitroaniline	830	U	84	%
Dimethylphthalate	330	U	88	%
Acenaphthylene	330	U	81	%
2,6-Dinitrotoluene	330	U	86	%
3-Nitroaniline	830	U	92	%
Acenaphthene	330	U	82	%
2,4-Dinitrophenol	830	U	19	*%
4-Nitrophenol	830	U	66	%
Dibenzofuran	330	U	81	%
2,4-Dinitrotoluene	330	U	86	%
Diethylphthalate	330	U	87	%
4-Chlorophenyl-phenylether	330	U	82	%
Fluorene	330	U	79	%
4-Nitroaniline	830	U	81	%
4,6-Dinitro-2-methylphenol	830	U	66	%
N-Nitrosodiphenylamine (1)	330	U	69	%
4-Bromophenyl-phenylether	330	U	78	%
Hexachlorobenzene	330	U	89	%
Pentachlorophenol	830	U	69	%
Phenanthrene	330	U	84	%
Anthracene	330	U	85	%
Carbazole	330	U	84	%
Di-n-butylphthalate	330	U	89	%
Fluoranthene	330	U	87	%
Pyrene	330	U	84	%
Butylbenzylphthalate	330	U	94	%
3,3'-Dichlorobenzidine	330	U	102	%
Benzo(a)anthracene	330	U	88	%
Chrysene	330	U	86	%
bis(2-Ethylhexyl)phthalate	33	J	100	%
Di-n-octyl phthalate	330	U	103	%
Benzo(b)fluoranthene	330	U	85	%
Benzo(k)fluoranthene	330	U	90	%
Benzo(a)pyrene	330	U	86	%
Indeno(1,2,3-cd)pyrene	330	U	99	%
Dibenz(a,h)anthracene	330	U	93	%
Benzo(g,h,i)perylene	330	U	95	%

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

00000011

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J11737

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

Client: TNUHANFORD RC-047 K0232

Matrix: (soil/water) SOLID

Lab Sample ID: 0602L308-001

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

Lab File ID: N030312

Level: (low/med) LOW

Date Received: 02/22/06

% Moisture: 16 decanted: (Y/N) __

Date Extracted: 02/27/06

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 03/03/06

Injection Volume: 2.0 (uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: _____

CONCENTRATION UNITS:

Number TICs found: 5

(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	8.990	100	J
2.	ALKANE	25.261	200	J
3.	UNKNOWN	26.724	200	J
4.	ALKANE	27.299	500	J
5.	ALKANE	30.219	500	J

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J11738

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

Client: TNUHANFORD RC-047 K0232

Matrix: (soil/water) SOLID

Lab Sample ID: 0602L308-002

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

Lab File ID: N030313

Level: (low/med) LOW

Date Received: 02/22/06

% Moisture: 25 decanted: (Y/N)

Date Extracted: 02/27/06

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 03/03/06

Injection Volume: 2.0 (uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH:

CONCENTRATION UNITS:

Number TICs found: 5

(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	16.117	2000	J
2.	ALKANE	25.263	800	J
3.	UNKNOWN	26.748	800	J
4.	ALKANE	27.310	2000	J
5.	ALKANE	30.220	2000	J

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J11739

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

Client: TNUHANFORD RC-047 K0232

Matrix: (soil/water) SOLID

Lab Sample ID: 0602L308-003

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

Lab File ID: D030318

Level: (low/med) LOW

Date Received: 02/22/06

% Moisture: 14 decanted: (Y/N) __

Date Extracted: 02/27/06

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 03/03/06

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: _____

CONCENTRATION UNITS:

Number TICs found: 4

(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.870	100	J
2.	UNKNOWN	25.111	90	J
3.	ALKANE	25.516	100	J
4.	ALKANE	27.712	90	J

1F
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J11740

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

Client: TNUHANFORD RC-047 K0232

Matrix: (soil/water) SOLID

Lab Sample ID: 0602L308-004

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

Lab File ID: D030315

Level: (low/med) LOW

Date Received: 02/22/06

% Moisture: 17 decanted: (Y/N) __

Date Extracted: 02/27/06

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 03/03/06

Injection Volume: 2.0 (uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: _____

CONCENTRATION UNITS:

Number TICs found: 5

(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ORGANIC ACID	19.944	300	J
2.	ALKANE	23.966	400	J
3.	ALKANE	25.516	2000	J
4.	ALKANE	27.712	900	J
5.	UNKNOWN	34.516	300	J

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SBLKUE

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

Client: TNUHANFORD RC-047 K0232

Matrix: (soil/water) SOIL

Lab Sample ID: 06LE0145-MB1

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

Lab File ID: D022813

Level: (low/med) LOW

Date Received: 02/27/06

% Moisture: decanted: (Y/N)

Date Extracted: 02/27/06

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 02/28/06

Injection Volume: 2.0 (uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH:

CONCENTRATION UNITS:

Number TICs found: 0

(ug/L or ug/Kg) ug/Kg

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

Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						RC-047-113		Page 1 of 1			
Collector TILLER JAMES BERNHARD		Company Contact JOAN KESSNER		Telephone No. 375-4688		Project Coordinator KESSNER, JH		Price Code 9N		Data Turnaround 45 Days			
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Tl		Sampling Location U 4, SEDIMENT		SAF No. RC-047		Air Quality <input type="checkbox"/>							
Ice Chest No. ERC-99-061		Field Logbook No. EL-1597		COA BESRAS6520		Method of Shipment FED EX							
Shipped To EBERLINE SERVICES LIONVILLE		Offsite Property No. A060291				Bill of Lading/Air Bill No. SEE OSPC							
POSSIBLE SAMPLE HAZARDS/REMARKS POTENTIAL RADIOACTIVE <DOT LIMITS				Preservation	None	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C
Special Handling and/or Storage COOL 4C				Type of Container	G/P	G/P	G/P	aG	aG	aG	G	G	
				No. of Container(s)	1	1	1	1	1	1	1	1	
				Volume	750g	5g	15g	50g	50g	50g	50g	50g	
SAMPLE ANALYSIS				Gamma Spec - (Full List)	Strontium- 89,90 -- Total Sr, Isotopic Thorium, Isotopic Uranium	ICP Metals - 6010 (Full List); Mercury - 7471 - (CV)	Pesticides - 8081	PCBs - 8082	Semi-VOA - 8270A (TCL)	TPH (Total) - 418.1	TPH-Diesel Range - WTPH-D - Add On; TPH- Gasoline Range - WTPH-G		
Sample No.	Matrix *	Sample Date	Sample Time										
J11737	OTHER SOLID	2-19-06	1500			X	X	X	X	X	X		
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS					
Relinquished By/Removed From JAMES BERNHARD		Date/Time 2-19-06		Received By/Stored In EAS LOCKED STORAGE		Date/Time 2-19-06							
Relinquished By/Removed From EAS LOCKED STORAGE		Date/Time 2-21-06		Received By/Stored In <i>RZ Steffler RZ Steffler</i>		Date/Time 2-21-06							
Relinquished By/Removed From <i>RZ Steffler RZ Steffler</i>		Date/Time 2-21-06		Received By/Stored In Fed Ex		Date/Time							
Relinquished By/Removed From Fed Ex		Date/Time 2-22-06 0910		Received By/Stored In <i>ON Edwards</i>		Date/Time 2-22-06 0910							
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						

000000019

Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					RC-047-114		Page 1 of 1					
Collector TILLER JAMES BERNHARD		Company Contact JOAN KESSNER		Telephone No. 375-4688		Project Coordinator KESSNER, JH		Price Code 9N		Data Turnaround				
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti		Sampling Location U 9, SEDIMENT		SAF No. RC-047		Air Quality <input type="checkbox"/>		45 Days						
Ice Chest No. ERC-99-061		Field Logbook No. EL-1597		COA BESRAS6520		Method of Shipment FED EX								
Shipped To EBERLINE SERVICES / LIONVILLE		Offsite Property No. A060291			Bill of Lading/Air Bill No. SEE OSCP									
POSSIBLE SAMPLE HAZARDS/REMARKS POTENTIAL RADIOACTIVE <DOT LIMITS Special Handling and/or Storage COOL 4C				Preservation		None	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	
				Type of Container		G/P	G/P	G/P	aG	aG	aG	G	G	
				No. of Container(s)		1	1	1	1	1	1	1	1	
				Volume		750g	5g	15g	50g	50g	50g	50g	50g	
SAMPLE ANALYSIS				Gamma Spec - (Full List)	Strontium-89,90 - Total Sr; Isotopic Thorium; Isotopic Uranium	ICP Metals - 6010 (Full List); Mercury - 7471 - (CV)	Pesticides - 8081	PCBs - 8082	Semi-VOA - 8270A (TCL)	TPH (Total) - 418.1	TPH-Diesel Range - WTPH-D-Add On; TPH-Gasoline Range - WTPH-G			
				Sample No.	Matrix *	Sample Date	Sample Time							
J11738	OTHER SOLID	2-19-06	1600			X	X	X	X	X	X			
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS				Matrix *		
Relinquished By/Removed From JAMES BERNHARD		Date/Time 2-19-06 1800		Received By/Stored In EAS LOCKED STORAGE		Date/Time 2-19-06 1800						S=Soil SG=Soil/Gas SO=Soil SL=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Issue W=Wipe L=Liquid V=Vegetation X=Other		
Relinquished By/Removed From EAS LOCKED STORAGE		Date/Time 2-21-06 0900		Received By/Stored In R2 Stellar R2 Stellar		Date/Time 2-21-06 0910								
Relinquished By/Removed From R2 Stellar R2 Stellar		Date/Time 2-21-06 1600		Received By/Stored In Fed Ex		Date/Time								
Relinquished By/Removed From Fed Ex		Date/Time 2-22-06 0910		Received By/Stored In V. Hernandez		Date/Time 2-22-06 0910								
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							

Washington Closure Hanford			CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST							RC-047-115		Page 1 of 1		
Collector TILLER JAMES BERNHARD			Company Contact JOAN KESSNER			Telephone No. 375-4688		Project Coordinator KESSNER, JH		Price Code 9N		Data Turnaround 45 Days		
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti			Sampling Location U & SEDIMENT			SAF No. RC-047		Air Quality <input type="checkbox"/>						
Ice Chest No. ERC-99-061			Field Logbook No. EL-1597		COA RESRAS6520		Method of Shipment FED EX							
Shipped To EBERLINE SERVICES LIONVILLE			Offsite Property No. A060291				Bill of Lading/Air Bill No. SEE OSPC							
POSSIBLE SAMPLE HAZARDS/REMARKS POTENTIAL RADIOACTIVE <DOT LIMITS Special Handling and/or Storage COOL 4C			Preservation		None	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C		
			Type of Container		G/P	G/P	G/P	aG	aG	aG	G	G		
			No. of Container(s)		1	1	1	1	1	1	1	1	1	
			Volume		750g	5g	15g	50g	50g	50g	50g	50g	50g	
SAMPLE ANALYSIS				Gamma Spec - (Full List)	Strontium- 89,90 -- Total Sr; Isotopic Thorium; Isotopic Uranium	ICP Metals - 6010 (Full List); Mercury - 7471 - (CV)	Pesticides - 8081	PCBs - 8082	Semi-VOA - 8270A (TCL)	TPH (Total) - 418.1	TPH-Diesel Range - WTPH-D - Add On; TPH- Gasoline Range - WTPH-G			
				Sample No.	Matrix *	Sample Date	Sample Time							
J11739	OTHER SOLID	2-19-06	1640			X	X	X	X	X	X			
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS				Matrix *		
Relinquished By/Removed From JAMES BERNHARD		Date/Time 2-19-06		Received By/Stored In EAS LOCKED STORAGE		Date/Time 2-19-06						S=Soil SD=Sediment SO=Solid SI=Sludge W=Water O=Oil A=Air DS=Drum Solids PL=Drum Liquids T=Tissue Wt=Wipe L=Liquid V=Vegetation X=Other		
Relinquished By/Removed From EAS LOCKED STORAGE		Date/Time 2-21-06		Received By/Stored In RZ Steffe RZ Steffe		Date/Time 2-21-06								
Relinquished By/Removed From RZ Steffe RZ Steffe		Date/Time 2-21-06		Received By/Stored In Fed Ex		Date/Time								
Relinquished By/Removed From Fed Ex		Date/Time 2-22-06		Received By/Stored In J. Bernhardt		Date/Time 2-22-06								
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						

Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				RC-047-116		Page 1 of 1	
Collector TILLER JAMES BERNHARD		Company Contact JOAN KESSNER		Telephone No. 375-4688		Project Coordinator KESSNER, JH		Price Code 9N Data Turnaround	
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti		Sampling Location U, SEDIMENT 300-1		SAF No. RC-047		Air Quality <input type="checkbox"/>		45 Days	
Ice Chest No. ERC-99-061		Field Logbook No. EL-1597		COA BESRAS6520		Method of Shipment FED EX			
Shipped To EBERLINE SERVICES LIONVILLE		Offsite Property No. A060291		Bill of Lading/Air Bill No. SEE OSPC					

POSSIBLE SAMPLE HAZARDS/REMARKS POTENTIAL RADIOACTIVE <DOT LIMITS Special Handling and/or Storage COOL 4C	Preservation	None	None	Cool 4C							
	Type of Container	G/P	G/P	G/P	aG	aG	aG	G	G		
	No. of Container(s)	1	1	1	1	1	1	1	1		
	Volume	750g	5g	15g	50g	50g	50g	50g	50g		

SAMPLE ANALYSIS				Gamma Spec (Full List)	Strontium-89,90 - Total Sr; Isotopic Thorium; Isotopic Uranium	ICP Metals - 6010 (Full List); Mercury - 7471 - (CV)	Pesticides - 8081	PCBs - 8082	Semi-VOA - 8270A (TCL)	TPH (Total) - 418.1	TPH-Diesel Range - WTPH-D - Add On; TPH-Gasoline Range - WTPH-G
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Sample No.	Matrix *	Sample Date	Sample Time								
J11740	OTHER SOLID	2-19-06	1400			X	X	X	X	X	X

CHAIN OF POSSESSION		Sign/Print Names		SPECIAL INSTRUCTIONS						Matrix *
Relinquished By/Removed From JAMES BERNHARD	Date/Time 2-19-06 1800	Received By/Stored In EAS LOCKED STORAGE	Date/Time 2-19-06 1800							S=Soil SE=Sediment SO=Solid SH=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue WI=Wipe L=Liquid VE=Vegetation X=Other
Relinquished By/Removed From EAS LOCKED STORAGE	Date/Time 2-21-06 0900	Received By/Stored In R2 Staffer R. J. Staffer	Date/Time 2-21-06 0910							
Relinquished By/Removed From R2 Staffer R. J. Staffer	Date/Time 2-21-06 1600	Received By/Stored In Fed Ex	Date/Time							
Relinquished By/Removed From Fed Ex	Date/Time 2-22-06 0910	Received By/Stored In J. Bernhardt	Date/Time 2-22-06 0910							
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

000000022

Lionville Laboratory Incorporated
SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: *TULL-HANFORD*

Date: *2-22-06*

Purchase Order / Project# /
 SAF# / SOW# / Release #: *RC-047*

LvLI Batch #: *0602L308*

Sample Custodian: *P. Hernandez*

NOTE: EXPLAIN ALL DISCREPANCIES

- | | | |
|---|---|--|
| 1. Samples Hand Delivered or <u>Shipped</u> | Carrier <i>Fed Ex</i> | Airbill# <i>791867421689</i> |
| 2. Custody seals on coolers or shipping container intact, signed and dated? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals Comments |
| 3. Outside of coolers or shipping containers are free from damage? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 4. All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 5. Samples received cooled or ambient? | Temp <i>2-5</i> °C | Cooler # <i>ERC-99-061</i> |
| 6. Custody seals on sample containers intact, signed and dated? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals |
| 7. coc signed and dated? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 8. Sample containers are intact? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 9. All samples on coc received? All samples received on coc? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 10. All sample label information matches coc? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 11. Samples properly preserved? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 12. Samples received within hold times? Short holds taken to wet lab? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 13. VOA, TOC, TOX free of headspace? | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A |
| 14. QC stickers placed on bottles designated by client? | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A |
| 15. 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 | |
| 16. Project Manager contacted concerning discrepancies? name/date (or samples outside criteria) | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input checked="" type="checkbox"/> No Discrepancies |

SR-002-B





Lionville Laboratory, Inc.
PEST/PCB ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-047 K0232

DATE RECEIVED: 02/22/06

LVL LOT # :0602L308

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J11737	001	SO	06LE0149	02/19/06	02/28/06	03/10/06
J11738	002	SO	06LE0149	02/19/06	02/28/06	03/10/06
J11739	003	SO	06LE0149	02/19/06	02/28/06	03/10/06
J11739	003 MS	SO	06LE0149	02/19/06	02/28/06	03/10/06
J11739	003 MSD	SO	06LE0149	02/19/06	02/28/06	03/10/06
J11740	004	SO	06LE0149	02/19/06	02/28/06	03/10/06

LAB QC:

PBLKCL	MB1	S	06LE0149	N/A	02/28/06	03/09/06
PBLKCL	MB1 BS	S	06LE0149	N/A	02/28/06	03/09/06

Handwritten signature



Case Narrative

Client: TNU-HANFORD RC-047
LVL #: 0602L308
SDG/SAF # K0232/RC-047

W.O. #: 11343-606-001-9999-00
Date Received: 02-22-2006

CHLORINATED PESTICIDES

Four (4) solid samples were collected on 02-19-2006.

The samples and their associated QC samples were extracted on 02-28-2006 and analyzed according to Lionville Laboratory SOPs based on SW846, 3rd Edition procedures on 03-09,10-2006. The extraction procedure was based on method 3540C and the extracts were analyzed based on method 8081A.

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

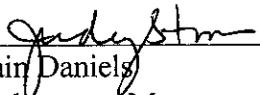
1. All results presented in this report are derived from samples that met LVL's sample acceptance.
2. Samples were extracted and analyzed within required holding time.
3. The samples and their associated QC samples received a Copper-Sulfur cleanup according to Lionville Laboratory SOPs based on SW846 method 3660A.
4. The method blank was below the reporting limits for all target compounds.
5. All obtainable surrogate recoveries were within acceptance criteria.
6. All blank spike recoveries were within acceptance criteria.
7. All matrix spike recoveries were within acceptance criteria.
8. All samples required a 4-fold instrument dilution due to the nature of the sample matrix. The reporting limits were adjusted to reflect the necessary dilution.
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.

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 10 pages.



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

4/4/06
Date

som\vr\group\data\pest\tnu hanford\0602-308s.pst



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.

Collector TILLER JAMES BERNHARD	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code . 9N	Data Turnaround 45 Days
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti	Sampling Location U 4, SEDIMENT	SAF No. RC-047	Air Quality <input type="checkbox"/>		
Ice Chest No. ERC-99-061	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment FED EX		
Shipped To EBERLINE SERVICES LIONVILLE	Offsite Property No. A060291	Bill of Lading/Air Bill No. SEE OSPC			

POSSIBLE SAMPLE HAZARDS/REMARKS POTENTIAL RADIOACTIVE <DOT LIMITS Special Handling and/or Storage COOL 4C	Preservation	None	None	Cool 4C							
	Type of Container	G/P	G/P	G/P	aG	aG	aG	G	G		
	No. of Container(s)	1	1	1	1	1	1	1	1		
	Volume	750g	5g	15g	50g	50g	50g	50g	50g		

SAMPLE ANALYSIS	Gamma Spec - (Full List)	Strontium-89,90 -- Total Sr; Isotopic Thorium; Isotopic Uranium	KCP Metals - 6010 (Full List); Mercury - 7471 - (CV)	Pesticides - 8081	PCBs - 8082	Semi-VOA - 8270A (TCL)	TPH (Total) - 418.1	TPH-Diesel Range - WTPH-D - Add On; TPH-Gasoline Range - WTPH-G		
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Sample No.	Matrix *	Sample Date	Sample Time								
J11737	OTHER SOLID	2-19-06	1500			X	X	X	X	X	X

CHAIN OF POSSESSION		Sign/Print Names		SPECIAL INSTRUCTIONS	Matrix * S=Soil SE=Sediment SO=Solid St=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 JAMES BERNHARD	Date/Time 2-19-06	Received By/Stored In EAS LOCKED STORAGE	Date/Time 2-19-06		
Relinquished By/Removed From EAS LOCKED STORAGE	Date/Time 2-21-06	Received By/Stored In <i>RZ Steffie RZ Steffie</i>	Date/Time 2-21-06		
Relinquished By/Removed From <i>RZ Steffie R.Z. Steffie</i>	Date/Time 2-21-06	Received By/Stored In <i>Fed Ex</i>	Date/Time		
Relinquished By/Removed From <i>Fed Ex</i>	Date/Time 2-22-06 0910	Received By/Stored In <i>ON Kennedy</i>	Date/Time 2-22-06 0910		
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

Collector TILLER JAMES BERNHARD	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 9N	Data Turnaround 45 Days
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti	Sampling Location U9, SEDIMENT	SAF No. RC-047	Air Quality <input type="checkbox"/>		
Ice Chest No. ERC-99-061	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment FED EX		
Shipped To EBERLINE SERVICES (LIONVILLE)	Offsite Property No. A060291	Bill of Lading/Air Bill No. SEE OSPC			

POSSIBLE SAMPLE HAZARDS/REMARKS POTENTIAL RADIOACTIVE <DOT LIMITS Special Handling and/or Storage COOL 4C	Preservation	None	None	Cool 4C							
	Type of Container	G/P	G/P	G/P	aG	aG	aG	G	G		
	No. of Container(s)	1	1	1	1	1	1	1	1		
	Volume	750g	5g	15g	50g	50g	50g	50g	50g		

SAMPLE ANALYSIS	Gamma Spec - (Full List)	Strontium-89,90 -- Total Sr; Isotopic Thorium; Isotopic Uranium	ICP Metals - 6010 (Full List); Mercury - 7471 - (CV)	Pesticides - 8081	PCBs - 8082	Semi-VOA - 8270A (TCL)	TPH (Total) - 418.1	TPH-Diesel Range - WTPH-D - Add On: TPH-Gasoline Range - WTPH-G		
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Sample No.	Matrix *	Sample Date	Sample Time								
J11738	OTHER SOLID	2-19-06	1600		X	X	X	X	X	X	

CHAIN OF POSSESSION		Sign/Print Names		SPECIAL INSTRUCTIONS						Matrix * S=Soil SE=Soil SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue W=Wipe L=Liquid V=Vegetation X=Other
Relinquished By/Removed From JAMES BERNHARD	Date/Time 2-19-06 1800	Received By/Stored In EAS LOCKED STORAGE	Date/Time 2-19-06 1800							
Relinquished By/Removed From EAS LOCKED STORAGE	Date/Time 2-21-06 0900	Received By/Stored In R2 Stiller R2 Stiller	Date/Time 2-21-06 0910							
Relinquished By/Removed From R2 Stiller R2 Stiller	Date/Time 2-21-06 1600	Received By/Stored In Fed Ex	Date/Time							
Relinquished By/Removed From F2022	Date/Time 2-22-06 0910	Received By/Stored In V. Wickens	Date/Time 2-22-06 0910							
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

Collector **TILLER JAMES BERNHARD** Company Contact **JOAN KESSNER** Telephone No. **375-4688** Project Coordinator **KESSNER, JH** Price Code **9N** Data Turnaround **45 Days**
 Project Designation **100 & 300 Area Component of the RCBRA Sediment and TI** Sampling Location **U/c, SEDIMENT** SAF No. **RC-047** Air Quality

Ice Chest No. **ERC-99-061** Field Logbook No. **EL-1597** COA **BESRAS6520** Method of Shipment **FED EX**

Shipped To **EBERLINE SERVICES (LIONVILLE)** Offsite Property No. **A060291** Bill of Lading/Air Bill No. **SEE OSPC**

POSSIBLE SAMPLE HAZARDS/REMARKS POTENTIAL RADIOACTIVE <DOT LIMITS Special Handling and/or Storage COOL 4C	Preservation	None	None	Cool 4C							
	Type of Container	G/P	G/P	G/P	aG	aG	aG	G	G		
	No. of Container(s)	1	1	1	1	1	1	1	1		
	Volume	750g	5g	15g	50g	50g	50g	50g	50g		

SAMPLE ANALYSIS	Gamma Spec - (Full List)	Strontium-89,90 -- Total Sr; Isotopic Thorium; Isotopic Uranium	ICP Metals - 6010 (Full List); Mercury - 7471 - (CV)	Pesticides - 8081	PCBs - 8082	Semi-VOA - 8270A (TCL)	TPH (Total) - 418.1	TPH-Diesel Range - WTPH-D - Add On; TPH-Gasoline Range - WTPH-G		
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Sample No.	Matrix *	Sample Date	Sample Time	Gamma Spec	Strontium	ICP Metals	Pesticides	PCBs	Semi-VOA	TPH (Total)	TPH-Diesel	TPH-Gasoline
J11739	OTHER SOLID	2-19-06	1640			X	X	X	X	X	X	

CHAIN OF POSSESSION		Sign/Print Names		SPECIAL INSTRUCTIONS	Matrix *		
Relinquished By/Removed From JAMES BERNHARD	Date/Time 2-19-06 1600	Received By/Stored In EAS LOCKED STORAGE	Date/Time 2-19-06 1800				
Relinquished By/Removed From EAS LOCKED STORAGE	Date/Time 2-21-06 0900	Received By/Stored In RZ Steffen RZ Steffen	Date/Time 2-21-06 0900				
Relinquished By/Removed From RZ Steffen RZ Steffen	Date/Time 2-21-06 1600	Received By/Stored In Fed Ex	Date/Time				
Relinquished By/Removed From Fed Ex	Date/Time 2-22-06 0910	Received By/Stored In J. Bernhardt	Date/Time 2-22-06 0910				
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

0000001A

Collector TILLER JAMES BERNHARD	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 9N	Data Turnaround 45 Days
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti	Sampling Location U, SEDIMENT 300-1	SAF No. RC-047	Air Quality <input type="checkbox"/>		
Ice Chest No. ERC-99-061	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment FED EX		
Shipped To EBERLINE SERVICES (LIONVILLE)	Offsite Property No. A060291	Bill of Lading/Air Bill No. SEE OSPC			

POSSIBLE SAMPLE HAZARDS/REMARKS POTENTIAL RADIOACTIVE <DOT LIMITS Special Handling and/or Storage COOL 4C	Preservation	None	None	Cool 4C						
	Type of Container	G/P	G/P	G/P	aG	aG	aG	G	G	
	No. of Container(s)	1	1	1	1	1	1	1	1	
	Volume	750g	5g	15g	50g	50g	50g	50g	50g	

SAMPLE ANALYSIS	Gamma Spec - (Full List)	Strontium-89,90 -- Total Sr; Isotopic Thorium; Isotopic Uranium	ICP Metals - 6010 (Full List); Mercury - 7471 - (CV)	Pesticides - 8081	PCBs - 8082	Semi-VOA - 827DA (TCL)	TPH (Total) - 418.1	TPH-Diesel Range - WTPH-D - Add On; TPH-Gasoline Range - WTPH-G		
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Sample No.	Matrix *	Sample Date	Sample Time								
J11740	OTHER SOLID	2-19-06	1400			X	X	X	X	X	X

CHAIN OF POSSESSION		Sign/Print Names		SPECIAL INSTRUCTIONS						Matrix *
Relinquished By/Removed From JAMES BERNHARD	Date/Time 2-19-06 1800	Received By/Stored In EAS LOCKED STORAGE	Date/Time 2-19-06 1800							S=Soil SE=Soil/mud SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Clean Solids DL=Drum Liquids T=Tissue W=Wipe L=Liquid V=Vegetative X=Other
Relinquished By/Removed From EAS LOCKED STORAGE	Date/Time 2-21-06 0900	Received By/Stored In R2 Staff	Date/Time 2-21-06 0910							
Relinquished By/Removed From R2 Staff	Date/Time 2-21-06 1600	Received By/Stored In Fed Ex	Date/Time							
Relinquished By/Removed From Fed Ex	Date/Time 2-22-06 0910	Received By/Stored In J. Bernhardt	Date/Time 2-22-06 0910							
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 (SRC)

CLIENT: TNU - HANFORD

Date: 2-22-06

Purchase Order / Project# /
 SAF# / SOW# / Release #: RC-047

LvLI Batch #: 0602L308

Sample Custodian: P. Hernandez

NOTE: EXPLAIN ALL DISCREPANCIES

- | | | |
|---|---|--|
| 1. Samples Hand Delivered or <u>Shipped</u> | Carrier <u>Fed Ex</u> | Airbill# <u>79186742168</u> |
| 2. Custody seals on coolers or shipping container intact, signed and dated? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals Comments |
| 3. Outside of coolers or shipping containers are free from damage? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 4. All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 5. Samples received cooled or ambient? | Temp <u>2-5</u> °C | Cooler # <u>ERC-99-061</u> |
| 6. Custody seals on sample containers intact, signed and dated? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals |
| 7. coc signed and dated? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 8. Sample containers are intact? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 9. All samples on coc received? All samples received on coc? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 10. All sample label information matches coc? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 11. Samples properly preserved? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 12. Samples received within hold times? Short holds taken to wet lab? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 13. VOA, TOC, TOX free of headspace? | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A |
| 14. QC stickers placed on bottles designated by client? | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A |
| 15. 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 | |
| 16. Project Manager contacted concerning discrepancies? name/date (or samples outside criteria) | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input checked="" type="checkbox"/> No Discrepancies |

SR-002-B



000000012



Lionville Laboratory, Inc.
GRO ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-047 K0232

DATE RECEIVED: 02/22/06

LVL LOT # :0602L308

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J11737	001	SO	06LVJ302	02/19/06	N/A	03/02/06
J11738	002	SO	06LVJ302	02/19/06	N/A	03/02/06
J11739	003	SO	06LVJ302	02/19/06	N/A	03/02/06
J11740	004	SO	06LVJ302	02/19/06	N/A	03/02/06

LAB QC:

TBLKYR	MB1	S	06LVJ302	N/A	N/A	03/02/06
TBLKYR	MB1 BS	S	06LVJ302	N/A	N/A	03/02/06
TBLKYR	MB1 BSD	S	06LVJ302	N/A	N/A	03/02/06



Case Narrative

Client: TNU-HANFORD RC-047
LVL #: 0602L308
SDG/SAF # K0232/RC-047

W.O. #: 11343-606-001-9999-00
Date Received: 02-22-2006

GRO

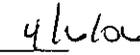
Four (4) solid samples were collected on 02-19-2006.

The samples and their associated QC samples were analyzed according to Lionville Laboratory SOPs based on SW 846 method 8015B for Gasoline Range Organics (GRO) on 03-02-2006.

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

1. All results presented in this report are derived from samples that met LVL's sample acceptance policy.
2. Samples were analyzed within the holding time.
3. The method blank was below the reporting limits for the target compound.
4. All surrogate recoveries were within acceptance criteria.
5. The blank spike recoveries were within acceptance criteria.
6. Matrix spike QC was not performed on any samples in this data set. However, the blank spike QC was performed with these samples to demonstrate that systems were in control.
7. The initial calibrations associated with this data set were within acceptance criteria.
8. The continuing calibration standards analyzed prior to sample extracts were outside the acceptance criteria.
9. LVL is NELAP accredited by the state of Pennsylvania and holds over 20 additional state accreditations. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.
10. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy data package has been authorized by the laboratory Manager or a designee, as verified by the following signature.


Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated


Date

son\group\data\gro\tnu-hanford\0602-308s.doc

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



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.

GAS RANGE ORGANICS

Report Date: 04/05/06 14:06

RFW Batch Number: 0602L308

Client: TNUHANFORD RC-047 K0232 Work Order: 11343606001 Page: 1

	Cust ID:	J11737	J11738	J11739	J11740	TBLKYR	TBLKYR BS
Sample Information	RFW#:	001	002	003	004	06LVJ302-MB1	06LVJ302-MB1
	Matrix:	SOLID	SOLID	SOLID	SOLID	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
	Fluorobenzene	42 %	42 %	72 %	65 %	93 %	98 %
	Gasoline Range Organics (GRO)	36 U	6.6 J	33 U	36 U	30 U	108 %

Cust ID: TBLKYR BSD

Sample Information	RFW#:	06LVJ302-MB1
	Matrix:	SOIL
	D.F.:	1.00
	Units:	UG/KG

	Fluorobenzene	97 %
	Gasoline Range Organics (GRO)	112 %

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

SP 4/5/6

Washington Closure Hanford			CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST								RC-047-113		Page 1 of 1		
Collector TILLER JAMES BERNHARD			Company Contact JOAN KESSNER			Telephone No. 375-4688			Project Coordinator KESSNER, JH			Price Code 9N		Data Turnaround 45 Days	
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti			Sampling Location U4, SEDIMENT			SAF No. RC-047			Air Quality <input type="checkbox"/>						
Ice Chest No. ERC-99-061			Field Logbook No. EL-1597			COA BESRAS6520			Method of Shipment FED EX						
Shipped To EBERLINE SERVICES LIONVILLE			Offsite Property No. A060291			Bill of Lading/Air Bill No. SEE OSPC									
POSSIBLE SAMPLE HAZARDS/REMARKS POTENTIAL RADIOACTIVE <DOT LIMITS				Preservation	None	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C			
Special Handling and/or Storage COOL 4C				Type of Container	G/P	G/P	G/P	aG	aG	aG	G	G			
				No. of Container(s)	1	1	1	1	1	1	1	1			
				Volume	750g	5g	15g	50g	50g	50g	50g	50g			
SAMPLE ANALYSIS				Gamma Spec - (Full List)	Strontium - 89,90 -- Total Sr; Isotopic Thorium; Isotopic Uranium	ICP Metals - 6010 (Full List); Mercury - 7471 - (CV)	Pesticides - 8081	PCBs - 8082	Semi-VOA - 8270A (TCL)	TPH (Total) - 418.1	TPH-Diesel Range - WTPH-D- Add On; TPH- Gasoline Range - WTPH-G				
Sample No.	Matrix *	Sample Date	Sample Time												
J11737	OTHER SOLID	2-19-06	1500				X	X	X	X	X	X			
CHAIN OF POSSESSION						SPECIAL INSTRUCTIONS						Matrix *			
Relinquished By/Removed From JAMES BERNHARD			Date/Time 1800 2-19-06			Received By/Stored In EAS LOCKED STORAGE			Date/Time 1800 2-19-06			<ul style="list-style-type: none"> 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 EAS LOCKED STORAGE			Date/Time 0900 2-21-06			Received By/Stored In <i>RZ Staffie RZ Staffie</i>			Date/Time 0900 2-21-06						
Relinquished By/Removed From <i>RZ Staffie R.Z. Staffie</i>			Date/Time 1600 2-21-06			Received By/Stored In <i>Fed Ex</i>			Date/Time						
Relinquished By/Removed From <i>Fed Ex</i>			Date/Time 0910 2-22-06			Received By/Stored In <i>V.N. Kennedy</i>			Date/Time 0910 2-22-06						
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		

Washington Closure Hanford			CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST								RC-047-114		Page 1 of 1						
Collector TILLER JAMES BERNHARD			Company Contact JOAN KESSNER			Telephone No. 375-4688			Project Coordinator KESSNER, JH			Price Code 9N		Data Turnaround 45 Days					
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti			Sampling Location U 9, SEDIMENT			SAF No. RC-047			Air Quality <input type="checkbox"/>										
Ice Chest No. ERC-99-061			Field Logbook No. EL-1597			COA BESRAS6520			Method of Shipment FED EX										
Shipped To EBERLINE SERVICES / LIONVILLE			Offsite Property No. A060291			Bill of Lading/Air Bill No. SEE OSPC													
POSSIBLE SAMPLE HAZARDS/REMARKS POTENTIAL RADIOACTIVE <DOT LIMITS Special Handling and/or Storage COOL 4C				Preservation		None	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C						
				Type of Container		G/P	G/P	G/P	aG	aG	aG	G	G						
				No. of Container(s)		1	1	1	1	1	1	1	1						
				Volume		750g	5g	15g	50g	50g	50g	50g	50g						
SAMPLE ANALYSIS				Gamma Spec - (Full List)		Strontium-89,90 -- Total Sr; Isotopic Thorium; Isotopic Uranium		ICP Metals - 6010 (Full List); Mercury - 7471 - (CV)		Pesticides - 8081		PCBs - 8082		Semi-VOA - 8270A (TCL)		TPH (Total) - 418.1		TPH-Diesel Range - WTPH-D - Add On; TPH-Gasoline Range - WTPH-G	
				Sample No.		Matrix *		Sample Date		Sample Time									
J11738		OTHER SOLID		2-19-06		1600				X	X	X	X	X	X				
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS								Matrix *			
Relinquished By/Removed From JAMES BERNHARD				Date/Time 2-19-06 1800				Received By/Stored In EAS LOCKED STORAGE				Date/Time 2-19-06 1800				S=Soil SE=Sediment SO=Solid SL=Sludge W = Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue Wt=Wipe L=Liquid V=Vegetation X=Other			
Relinquished By/Removed From EAS LOCKED STORAGE				Date/Time 2-21-06 0900				Received By/Stored In <i>RZ Steffler R. J. Steffler</i>				Date/Time 2-21-06 0900							
Relinquished By/Removed From <i>RZ Steffler R. J. Steffler</i>				Date/Time 2-21-06 1600				Received By/Stored In <i>Fed Ex</i>				Date/Time							
Relinquished By/Removed From <i>EAS</i>				Date/Time 2-22-06 0910				Received By/Stored In <i>V. J. [Signature]</i>				Date/Time 2-22-06 0910							
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											

Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					RC-047-115		Page 1 of 1					
Collector TILLER JAMES BERNHARD		Company Contact JOAN KESSNER		Telephone No. 375-4688		Project Coordinator KESSNER, JH		Price Code 9N		Data Turnaround				
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti		Sampling Location U & SEDIMENT		SAF No. RC-047		Air Quality <input type="checkbox"/>		45 Days						
Ice Chest No. ERC-99-061		Field Logbook No. EL-1597		COA BESRAS6520		Method of Shipment FED EX								
Shipped To EBERLINE SERVICES (LIONVILLE)		Offsite Property No. A060291			Bill of Lading/Air Bill No. SEE OSPC									
POSSIBLE SAMPLE HAZARDS/REMARKS POTENTIAL RADIOACTIVE <DOT LIMITS				Preservation	None	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C			
Special Handling and/or Storage COOL 4C				Type of Container	G/P	G/P	G/P	aG	aG	aG	G	G		
				No. of Container(s)	1	1	1	1	1	1	1	1		
				Volume	750g	5g	15g	50g	50g	50g	50g	50g		
				SAMPLE ANALYSIS	Gamma Spec - (Full List)	Strontium-89,90 - Total Sr; Isotopic Thorium; Isotopic Uranium	ICP Metals - 6010 (Full List); Mercury - 7471 - (CV)	Pesticides - 8081	PCBs - 8082	Semi-VOA - 8270A (TCL)	TPH (Total) - 418.1	TPH-Diesel Range - WTPH-D - Add On; TPH-Gasoline Range - WTPH-G		
Sample No.	Matrix *	Sample Date	Sample Time											
J11739	OTHER SOLID	2-19-06	1640			X	X	X	X	X	X			
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS				Matrix *		
Relinquished By/Removed From JAMES BERNHARD		Date/Time 2-19-06		Received By/Stored In EAS LOCKED STORAGE		Date/Time 2-19-06						S=Soil SE=Sediment SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue WL=Wipe L=Liquid V=Vegetation X=Other		
Relinquished By/Removed From EAS LOCKED STORAGE		Date/Time 2-21-06		Received By/Stored In R2 Stiller R2 Stiller		Date/Time 2-21-06								
Relinquished By/Removed From R2 Stiller R2 Stiller		Date/Time 2-21-06		Received By/Stored In Fed Ex		Date/Time								
Relinquished By/Removed From Fed Ex		Date/Time 2-22-06		Received By/Stored In V. Hernandez		Date/Time 2-22-06								
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						

Washington Closure Hanford			CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST							RC-047-116		Page 1 of 1			
Collector TILLER JAMES BERNHARD			Company Contact JOAN KESSNER		Telephone No. 375-4688		Project Coordinator KESSNER, JH		Price Code 9N		Data Turnaround 45 Days				
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti			Sampling Location U, SEDIMENT 300-1			SAF No. RC-047		Air Quality <input type="checkbox"/>							
Ice Chest No. ERC-99-061			Field Logbook No. EL-1597		COA BESRAS6520		Method of Shipment FED EX								
Shipped To EBERLINE SERVICES LIONVILLE			Offsite Property No. A060291				Bill of Lading/Air Bill No. SEE OSPC								
POSSIBLE SAMPLE HAZARDS/REMARKS POTENTIAL RADIOACTIVE <DOT LIMITS				Preservation	None	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C			
Special Handling and/or Storage COOL 4C				Type of Container	G/P	G/P	G/P	aG	aG	aG	G	G			
				No. of Container(s)	1	1	1	1	1	1	1	1			
				Volume	750g	5g	15g	50g	50g	50g	50g	50g			
SAMPLE ANALYSIS					Gamma Spec - (Full List)	Strontium- 89,90 -- Total Sr; Isotopic Thorium; Isotopic Uranium	ICP Metals - 6010 (Full List); Mercury - 7471 - (CV)	Pesticides - 8081	PCBs - 8082	Semi-VOA - 8270A (TCL)	TPH (Total) - 418.1	TPH-Diesel Range - WTPH-D - Add On; TPH- Gasoline Range - WTPH-G			
Sample No.	Matrix *	Sample Date	Sample Time												
J11740	OTHER SOLID	2-19-06	1400				X	X	X	X	X	X			
CHAIN OF POSSESSION					SPECIAL INSTRUCTIONS					Matrix *					
Relinquished By/Removed From JAMES BERNHARD		Date/Time 2-19-06 1800	Received By/Stored In EAS LOCKED STORAGE		Date/Time 2-19-06 1800									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 EAS LOCKED STORAGE		Date/Time 7-21-06 0900	Received By/Stored In R2 Staff		Date/Time 2-21-06 0910										
Relinquished By/Removed From R2 Staff		Date/Time 2-21-06 1600	Received By/Stored In Fed Ex		Date/Time 2-21-06 1600										
Relinquished By/Removed From Fed Ex		Date/Time 2-22-06 0910	Received By/Stored In J. Bernhardt		Date/Time 2-22-06 0910										
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 (SRC)

CLIENT: *TULL-HANFORD*

Date: *2-22-06*

Purchase Order / Project# /
 SAF# / SOW# / Release #: *RC-047*

LvLI Batch #: *0602L308*

Sample Custodian: *P. Hernandez*

NOTE: EXPLAIN ALL DISCREPANCIES

- | | | |
|---|---|--|
| 1. Samples Hand Delivered or <u>Shipped</u> | Carrier <i>Fed Ex</i> | Airbill# <i>791867421689</i> |
| 2. Custody seals on coolers or shipping container intact, signed and dated? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals Comments |
| 3. Outside of coolers or shipping containers are free from damage? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 4. All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 5. Samples received cooled or ambient? | Temp <i>2-5</i> °C | Cooler # <i>ERC-99-061</i> |
| 6. Custody seals on sample containers intact, signed and dated? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals |
| 7. coc signed and dated? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 8. Sample containers are intact? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 9. All samples on coc received? All samples received on coc? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 10. All sample label information matches coc? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 11. Samples properly preserved? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 12. Samples received within hold times? Short holds taken to wet lab? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 13. VOA, TOC, TOX free of headspace? | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A |
| 14. QC stickers placed on bottles designated by client? | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A |
| 15. 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 | |
| 16. Project Manager contacted concerning discrepancies? name/date (or samples outside criteria) | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input checked="" type="checkbox"/> No Discrepancies |

SR-002-B





Case Narrative

Client: TNU-HANFORD RC-047

LVL #: 0602L308

SDG/SAF # K0232/RC-047

W.O. #: 11343-606-001-9999-00

Date Received: 02-22-2006

DIESEL RANGE ORGANICS

Four (4) solid samples were collected on 02-19-2006.

The samples and their associated QC samples were extracted on 02-27-2006 and analyzed according to Lionville Laboratory SOPs based on SW846, 3rd Edition procedure on 03-04,05-2006. The analysis was based on method 8015B. The analysis met the intent of method WTPH-D.

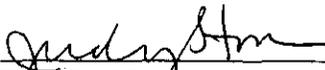
The following is a summary of the QC results accompanying the sample results and a description of any problems encountered during their analyses:

1. All results presented in this report are derived from samples that met LvLI's sample acceptance policy.
2. Samples were extracted and analyzed within required holding time.
3. The method blank was below the reporting limit for the target compound.
4. All surrogate recoveries were within acceptance criteria.
5. The blank spike recovery was within acceptance criteria.
6. The matrix spike recoveries were within acceptance criteria.
7. All initial calibrations associated with this data set were within acceptance criteria.
8. The continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.
9. LvLI is NELAP accredited by the state of Pennsylvania and holds over 20 additional state accreditations. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 1 1 pages.



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.


Ian Daniels
Laboratory Manager
Lionville Laboratory Incorporated
kim\vr\group\data\dro\tnu hanford\0602-308.doc

3/21/06
Date



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.

DIESEL RANGE ORGANICS BY GC

Report Date: 03/31/06 11:03

RFW Batch Number: 0602L308

Client: TNUHANFORD RC-047 K0232 Work Order: 11343606001 Page: 1

000000005

Sample Information	Cust ID:	J11737	J11737	J11737	J11738	J11739	J11740
RFW#:	001	001 MS	001 MSD	002	003	004	
Matrix:	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
D.F.:	1.00	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	ug/kg

p-Terphenyl	109 %	101 %	93 %	93 %	93 %	101 %
Diesel Range Organics	11000 B	73 %	65 %	25000 B	3200 J	18000 B

Sample Information	Cust ID:	BLK	BLK BS
RFW#:	06LE0146-MB1	06LE0146-MB1	
Matrix:	SOIL	SOIL	
D.F.:	1.00	1.00	
Units:	ug/kg	ug/kg	

p-Terphenyl	104 %	78 %
Diesel Range Organics	1800 J	67 %

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

Handwritten signature
 3/31/06

Collector **JAMES BERNHARD** TILLER
 Company Contact **JOAN KESSNER** Telephone No. 375-4688
 Project Coordinator **KESSNER, JH**
 Project Designation 100 & 300 Area Component of the RCBRA Sediment and T1
 Sampling Location **U 4, SEDIMENT**
 SAF No. RC-047
 Price Code **9N** Data Turnaround **45 Days**
 Air Quality

Ice Chest No. **ERC-99-061**
 Field Logbook No. EL-1597
 COA **BESRAS6520**
 Method of Shipment **FED EX**
 Shipped To **EBERLINE SERVICES (LIONVILLE)**
 Offsite Property No. **A060291**
 Bill of Lading/Air Bill No. **SEE OSPC**

POSSIBLE SAMPLE HAZARDS/REMARKS POTENTIAL RADIOACTIVE <DOT LIMITS Special Handling and/or Storage COOL 4C	Preservation	None	None	Cool 4C							
	Type of Container	G/P	G/P	G/P	aG	aG	aG	G	G		
	No. of Container(s)	1	1	1	1	1	1	1	1		
	Volume	750g	5g	15g	50g	50g	50g	50g	50g		

SAMPLE ANALYSIS	Gamma Spec - (Full List)	Strontium-89,90 - Total Sr, Isotopic Thorium; Isotopic Uranium	ICP Metals - 6010 (Full List); Mercury - 7471 - (CV)	Pesticides - 8081	PCBs - 8082	Semi-VOA - 8270A (TCL)	TPH (Total) - 418.1	TPH-Diesel Range - WTPH-D - Add On; TPH-Gasoline Range - WTPH-G		
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Sample No.	Matrix *	Sample Date	Sample Time								
J11737	OTHER SOLID	2-19-06	1500		X	X	X	X	X	X	

CHAIN OF POSSESSION		Sign/Print Names		SPECIAL INSTRUCTIONS	Matrix *		
Relinquished By/Removed From JAMES BERNHARD	Date/Time 2-19-06 1500	Received By/Stored In EAS LOCKED STORAGE	Date/Time 2-19-06 1800				
Relinquished By/Removed From EAS LOCKED STORAGE	Date/Time 2-21-06 0900	Received By/Stored In <i>RZ Steffler RZ Steffler</i>	Date/Time 2-21-06 0911				
Relinquished By/Removed From <i>RZ Steffler R.Z. Steffler</i>	Date/Time 2-21-06 1600	Received By/Stored In Fed Ex	Date/Time				
Relinquished By/Removed From Fed Ex	Date/Time 2-22-06 0910	Received By/Stored In <i>W. Kennedy</i>	Date/Time 2-22-06 0910				
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

000000007

Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						RC-047-114		Page 1 of 1		
Collector TILLER JAMES BERNHARD		Company Contact JOAN KESSNER		Telephone No. 375-4688		Project Coordinator KESSNER, JH		Price Code 9N		Data Turnaround 45 Days		
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti		Sampling Location U⁹, SEDIMENT		SAF No. RC-047		Air Quality <input type="checkbox"/>						
Ice Chest No. ERC-99-061		Field Logbook No. EL-1597		COA BESRAS6520		Method of Shipment FED EX						
Shipped To EBERLINE SERVICES (LIONVILLE)		Offsite Property No. A060291				Bill of Lading/Air Bill No. SEE OSCP						
POSSIBLE SAMPLE HAZARDS/REMARKS POTENTIAL RADIOACTIVE <DOT LIMITS Special Handling and/or Storage COOL 4C			Preservation	None	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	
			Type of Container	G/P	G/P	G/P	aG	aG	aG	G	G	
			No. of Container(s)	1	1	1	1	1	1	1	1	
			Volume	750g	5g	15g	50g	50g	50g	50g	50g	
SAMPLE ANALYSIS			Gamma Spec - (Full List)	Strontium-89,90 -- Total Sr; Isotopic Thorium; Isotopic Uranium	KCP Metals - 6010 (Full List); Mercury - 7471 - (CV)	Pesticides - 8081	PCBs - 8082	Semi-VOA - 8270A (TCL)	TPH (Total) - 418.1	TPH-Diesel Range - WTPH-D-Add On; TPH-Gasoline Range - WTPH-G		
			Sample No.	Matrix *	Sample Date	Sample Time						
J11738	OTHER SOLID	2-19-06	1600			X	X	X	X	X	X	
CHAIN OF POSSESSION						SPECIAL INSTRUCTIONS					Matrix *	
Relinquished By/Removed From JAMES BERNHARD		Date/Time 2-19-06 1800		Received By/Stored In EAS LOCKED STORAGE		Date/Time 2-19-06 1800						S=Soil SE=Sediment SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue W=Wipe L=Liquid V=Vegetation X=Other
Relinquished By/Removed From EAS LOCKED STORAGE		Date/Time 2-21-06 2900		Received By/Stored In R2 Staffer R2 Staffer		Date/Time 2-21-06 0910						
Relinquished By/Removed From R2 Staffer R2 Staffer		Date/Time 2-21-06 1600		Received By/Stored In Fed Ex		Date/Time						
Relinquished By/Removed From Fed Ex		Date/Time 2-22-06 0910		Received By/Stored In V. Hernandez		Date/Time 2-22-06 0910						
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				

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Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						RC-047-115		Page 1 of 1		
Collector TILLER JAMES BERNHARD		Company Contact JOAN KESSNER		Telephone No. 375-4688		Project Coordinator KESSNER, JH		Price Code 9N		Data Turnaround 45 Days		
Project Designation 100 & 300 Area Component of the RCBRA Sediment and TI		Sampling Location U & SEDIMENT		SAF No. RC-047		Air Quality <input type="checkbox"/>						
Ice Chest No. ERC-99-061		Field Logbook No. EL-1597		COA BESRAS6520		Method of Shipment FED EX						
Shipped To EBERLINE SERVICES (LIONVILLE)		Offsite Property No. A060291				Bill of Lading/Air Bill No. SEE OSPC						
POSSIBLE SAMPLE HAZARDS/REMARKS POTENTIAL RADIOACTIVE <DOT LIMITS Special Handling and/or Storage COOL 4C			Preservation	None	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	
			Type of Container	G/P	G/P	G/P	gG	gG	gG	G	G	
			No. of Container(s)	1	1	1	1	1	1	1	1	
			Volume	750g	5g	15g	50g	50g	50g	50g	50g	
SAMPLE ANALYSIS			Gamma Spec - (Full List)	Strontium- 89,90 -- Total Sr; Isotopic Thorium; Isotopic Uranium	ICP Metals - 6010 (Full List); Mercury - 7471 - (CV)	Pesticides - 8081	PCBs - 8082	Semi-VOA - 8270A (TCL)	TPH (Total) - 418.1	TPH-Diesel Range - WTPH-D - Add On; TPH- Gasoline Range - WTPH-G		
Sample No.	Matrix *	Sample Date	Sample Time									
J11739	OTHER SOLID	2-19-06	1640			X	X	X	X	X		
CHAIN OF POSSESSION					SPECIAL INSTRUCTIONS					Matrix *		
Relinquished By/Removed From JAMES BERNHARD		Date/Time 2-19-06		Received By/Stored In EAS LOCKED STORAGE		Date/Time 2-19-06					S=Soil SE=Settlement SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Lixiph T=Tissue Wt=Wipe L=Liquid V=Vegetation X=Other	
Relinquished By/Removed From EAS LOCKED STORAGE		Date/Time 2-21-06		Received By/Stored In RZ Steffler RZ Steffler		Date/Time 2-21-06						
Relinquished By/Removed From RZ Steffler RZ Steffler		Date/Time 2-21-06		Received By/Stored In Fed Ex		Date/Time						
Relinquished By/Removed From Fed Ex		Date/Time 2-22-06		Received By/Stored In V. Kessner		Date/Time 2-22-06						
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			

00000009

Washington Closure Hanford			CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						RC-047-116		Page 1 of 1			
Collector TILLER JAMES BERNHARD			Company Contact JOAN KESSNER			Telephone No. 375-4688			Project Coordinator KESSNER, JH		Price Code 9N		Data Turnaround 45 Days	
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti			Sampling Location U SEDIMENT 300-1			SAF No. RC-047			Air Quality <input type="checkbox"/>					
Ice Chest No. ERC-99-061			Field Logbook No. EL-1597			COA BESRAS6520			Method of Shipment FED EX					
Shipped To EBERLINE SERVICES (LIONVILLE)			Offsite Property No. A060291			Bill of Lading/Air Bill No. SEE OSPC								
POSSIBLE SAMPLE HAZARDS/REMARKS POTENTIAL RADIOACTIVE <DOT LIMITS				Preservation	None	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C		
Special Handling and/or Storage COOL 4C				Type of Container	G/P	G/P	G/P	aG	aG	aG	G	G		
				No. of Container(s)	1	1	1	1	1	1	1	1		
				Volume	750g	5g	15g	50g	50g	50g	50g	50g		
SAMPLE ANALYSIS				Cadmium Spec - (Full List)	Strontium-89,90 -- Total Sr; Isotopic Thorium; Isotopic Uranium	ICP Metals - 6010 (Full List); Mercury - 7471 - (CV)	Pesticides - 8061	PCBs - 8082	Semi-VOA - #270A (TCL)	TPH (Total) - 418.1	TPH-Diesel Range - WTPH-D - Add On; TPH-Gasoline Range - WTPH-G			
Sample No.	Matrix *	Sample Date	Sample Time											
J11740	OTHER SOLID	2-19-06	1400			X	X	X	X	X	X			
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS				Matrix *		
Relinquished By/Removed From JAMES BERNHARD		Date/Time 2-19-06 1800		Received By/Stored In EAS LOCKED STORAGE		Date/Time 2-19-06 1800						<ul style="list-style-type: none"> S=Soil SE=Soilmen SO=Solid SL=Sludge W=Water CO=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue W=Wipe L=Liquid V=Vegetal X=Other 		
Relinquished By/Removed From EAS LOCKED STORAGE		Date/Time 7-21-06 0900		Received By/Stored In R2 Staff		Date/Time 2-21-06 0910								
Relinquished By/Removed From R2 Staff		Date/Time 2-21-06 1600		Received By/Stored In Fed Ex		Date/Time								
Relinquished By/Removed From Fed Ex		Date/Time 2-22-06 0910		Received By/Stored In J. Bernhardt		Date/Time 2-22-06 0910								
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							

000000010

Lionville Laboratory Incorporated
SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: *TNU - HANFORD*

Date: *2-22-06*

Purchase Order / Project# /
 SAF# / SOW# / Release #: *RC-047*

LvLI Batch #: *0602L308*

Sample Custodian: *D. Neumann*

NOTE: EXPLAIN ALL DISCREPANCIES

- | | | |
|---|---|--|
| 1. Samples Hand Delivered or <u>Shipped</u> | Carrier <i>Fed Ex</i> | Airbill# <i>791867421689</i> |
| 2. Custody seals on coolers or shipping container intact, signed and dated? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals Comments |
| 3. Outside of coolers or shipping containers are free from damage? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 4. All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 5. Samples received cooled or ambient? | Temp <i>2-5</i> °C | Cooler # <i>ERC-99-061</i> |
| 6. Custody seals on sample containers intact, signed and dated? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals |
| 7. coc signed and dated? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 8. Sample containers are intact? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 9. All samples on coc received? All samples received on coc? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 10. All sample label information matches coc? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 11. Samples properly preserved? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 12. Samples received within hold times? Short holds taken to wet lab? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 13. VOA, TOC, TOX free of headspace? | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A |
| 14. QC stickers placed on bottles designated by client? | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A |
| 15. 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 | |
| 16. Project Manager contacted concerning discrepancies? name/date (or samples outside criteria) | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input checked="" type="checkbox"/> No Discrepancies |

SR-002-B



000000011

Lionville Laboratory, Inc.
 INORGANIC ANALYTICAL DATA PACKAGE FOR
 TNUHANFORD RC-047 K0232

DATE RECEIVED: 02/22/06

LVL LOT # :0602L308

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
COPPER, TOTAL	001 MS	SO	06L0131	02/19/06	02/28/06	03/08/06
IRON, TOTAL	001	SO	06L0131	02/19/06	02/28/06	03/08/06
IRON, TOTAL	001 REP	SO	06L0131	02/19/06	02/28/06	03/08/06
IRON, TOTAL	001 MS	SO	06L0131	02/19/06	02/28/06	03/08/06
MERCURY, TOTAL	001	SO	06C0033	02/19/06	02/27/06	02/28/06
MERCURY, TOTAL	001 REP	SO	06C0033	02/19/06	02/27/06	02/28/06
MERCURY, TOTAL	001 MS	SO	06C0033	02/19/06	02/27/06	02/28/06
POTASSIUM, TOTAL	001	SO	06L0131	02/19/06	02/28/06	03/07/06
POTASSIUM, TOTAL	001 REP	SO	06L0131	02/19/06	02/28/06	03/07/06
POTASSIUM, TOTAL	001 MS	SO	06L0131	02/19/06	02/28/06	03/07/06
LITHIUM, TOTAL	001	SO	06L0131	02/19/06	02/28/06	03/08/06
LITHIUM, TOTAL	001 REP	SO	06L0131	02/19/06	02/28/06	03/08/06
LITHIUM, TOTAL	001 MS	SO	06L0131	02/19/06	02/28/06	03/08/06
MAGNESIUM, TOTAL	001	SO	06L0131	02/19/06	02/28/06	03/08/06
MAGNESIUM, TOTAL	001 REP	SO	06L0131	02/19/06	02/28/06	03/08/06
MAGNESIUM, TOTAL	001 MS	SO	06L0131	02/19/06	02/28/06	03/08/06
MANGANESE, TOTAL	001	SO	06L0131	02/19/06	02/28/06	03/08/06
MANGANESE, TOTAL	001 REP	SO	06L0131	02/19/06	02/28/06	03/08/06
MANGANESE, TOTAL	001 MS	SO	06L0131	02/19/06	02/28/06	03/08/06
MOLYBDENUM, TOTAL	001	SO	06L0131	02/19/06	02/28/06	03/08/06
MOLYBDENUM, TOTAL	001 REP	SO	06L0131	02/19/06	02/28/06	03/08/06
MOLYBDENUM, TOTAL	001 MS	SO	06L0131	02/19/06	02/28/06	03/08/06
SODIUM, TOTAL	001	SO	06L0131	02/19/06	02/28/06	03/07/06
SODIUM, TOTAL	001 REP	SO	06L0131	02/19/06	02/28/06	03/07/06
SODIUM, TOTAL	001 MS	SO	06L0131	02/19/06	02/28/06	03/07/06
NICKEL, TOTAL	001	SO	06L0131	02/19/06	02/28/06	03/08/06
NICKEL, TOTAL	001 REP	SO	06L0131	02/19/06	02/28/06	03/08/06
NICKEL, TOTAL	001 MS	SO	06L0131	02/19/06	02/28/06	03/08/06
PHOSPHORUS, TOTAL	001	SO	06L0131	02/19/06	02/28/06	03/13/06
PHOSPHORUS, TOTAL	001 REP	SO	06L0131	02/19/06	02/28/06	03/13/06
PHOSPHORUS, TOTAL	001 MS	SO	06L0131	02/19/06	02/28/06	03/13/06
LEAD, TOTAL	001	SO	06L0131	02/19/06	02/28/06	03/08/06
LEAD, TOTAL	001 REP	SO	06L0131	02/19/06	02/28/06	03/08/06
LEAD, TOTAL	001 MS	SO	06L0131	02/19/06	02/28/06	03/08/06
ANTIMONY, TOTAL	001	SO	06L0131	02/19/06	02/28/06	03/08/06
ANTIMONY, TOTAL	001 REP	SO	06L0131	02/19/06	02/28/06	03/08/06
ANTIMONY, TOTAL	001 MS	SO	06L0131	02/19/06	02/28/06	03/08/06
SELENIUM, TOTAL	001	SO	06L0131	02/19/06	02/28/06	03/07/06

Lionville Laboratory, Inc.
 INORGANIC ANALYTICAL DATA PACKAGE FOR
 TNUHANFORD RC-047 K0232

DATE RECEIVED: 02/22/06

LVL LOT # :0602L308

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
SELENIUM, TOTAL	001 REP	SO	06L0131	02/19/06	02/28/06	03/07/06
SELENIUM, TOTAL	001 MS	SO	06L0131	02/19/06	02/28/06	03/07/06
SILICON, TOTAL	001	SO	06L0131	02/19/06	02/28/06	03/08/06
SILICON, TOTAL	001 REP	SO	06L0131	02/19/06	02/28/06	03/08/06
SILICON, TOTAL	001 MS	SO	06L0131	02/19/06	02/28/06	03/08/06
TIN, TOTAL	001	SO	06L0131	02/19/06	02/28/06	03/08/06
TIN, TOTAL	001 REP	SO	06L0131	02/19/06	02/28/06	03/08/06
TIN, TOTAL	001 MS	SO	06L0131	02/19/06	02/28/06	03/08/06
TITANIUM, TOTAL	001	SO	06L0131	02/19/06	02/28/06	03/08/06
TITANIUM, TOTAL	001 REP	SO	06L0131	02/19/06	02/28/06	03/08/06
TITANIUM, TOTAL	001 MS	SO	06L0131	02/19/06	02/28/06	03/08/06
THALLIUM, TOTAL	001	SO	06L0131	02/19/06	02/28/06	03/08/06
THALLIUM, TOTAL	001 REP	SO	06L0131	02/19/06	02/28/06	03/08/06
THALLIUM, TOTAL	001 MS	SO	06L0131	02/19/06	02/28/06	03/08/06
URANIUM, TOTAL	001	SO	06L0131	02/19/06	02/28/06	03/08/06
URANIUM, TOTAL	001 REP	SO	06L0131	02/19/06	02/28/06	03/08/06
URANIUM, TOTAL	001 MS	SO	06L0131	02/19/06	02/28/06	03/08/06
VANADIUM, TOTAL	001	SO	06L0131	02/19/06	02/28/06	03/08/06
VANADIUM, TOTAL	001 REP	SO	06L0131	02/19/06	02/28/06	03/08/06
VANADIUM, TOTAL	001 MS	SO	06L0131	02/19/06	02/28/06	03/08/06
ZINC, TOTAL	001	SO	06L0131	02/19/06	02/28/06	03/08/06
ZINC, TOTAL	001 REP	SO	06L0131	02/19/06	02/28/06	03/08/06
ZINC, TOTAL	001 MS	SO	06L0131	02/19/06	02/28/06	03/08/06
ZIRCONIUM, TOTAL	001	SO	06L0131	02/19/06	02/28/06	03/08/06
ZIRCONIUM, TOTAL	001 REP	SO	06L0131	02/19/06	02/28/06	03/08/06
ZIRCONIUM, TOTAL	001 MS	SO	06L0131	02/19/06	02/28/06	03/08/06

J11738

SILVER, TOTAL	002	SO	06L0131	02/19/06	02/28/06	03/08/06
ALUMINUM, TOTAL	002	SO	06L0131	02/19/06	02/28/06	03/08/06
ARSENIC, TOTAL	002	SO	06L0131	02/19/06	02/28/06	03/08/06
BORON, TOTAL	002	SO	06L0131	02/19/06	02/28/06	03/08/06
BARIUM, TOTAL	002	SO	06L0131	02/19/06	02/28/06	03/08/06
BERYLLIUM, TOTAL	002	SO	06L0131	02/19/06	02/28/06	03/08/06
BISMUTH, TOTAL	002	SO	06L0131	02/19/06	02/28/06	03/08/06
CALCIUM, TOTAL	002	SO	06L0131	02/19/06	02/28/06	03/08/06
CADMIUM, TOTAL	002	SO	06L0131	02/19/06	02/28/06	03/08/06

Lionville Laboratory, Inc.
 INORGANIC ANALYTICAL DATA PACKAGE FOR
 TNUHANFORD RC-047 K0232

DATE RECEIVED: 02/22/06

LVL LOT # :0602L308

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
COBALT, TOTAL	002	SO	06L0131	02/19/06	02/28/06	03/08/06
CHROMIUM, TOTAL	002	SO	06L0131	02/19/06	02/28/06	03/08/06
COPPER, TOTAL	002	SO	06L0131	02/19/06	02/28/06	03/08/06
IRON, TOTAL	002	SO	06L0131	02/19/06	02/28/06	03/08/06
MERCURY, TOTAL	002	SO	06C0033	02/19/06	02/27/06	02/28/06
POTASSIUM, TOTAL	002	SO	06L0131	02/19/06	02/28/06	03/07/06
LITHIUM, TOTAL	002	SO	06L0131	02/19/06	02/28/06	03/08/06
MAGNESIUM, TOTAL	002	SO	06L0131	02/19/06	02/28/06	03/08/06
MANGANESE, TOTAL	002	SO	06L0131	02/19/06	02/28/06	03/08/06
MOLYBDENUM, TOTAL	002	SO	06L0131	02/19/06	02/28/06	03/08/06
SODIUM, TOTAL	002	SO	06L0131	02/19/06	02/28/06	03/07/06
NICKEL, TOTAL	002	SO	06L0131	02/19/06	02/28/06	03/08/06
PHOSPHORUS, TOTAL	002	SO	06L0131	02/19/06	02/28/06	03/13/06
LEAD, TOTAL	002	SO	06L0131	02/19/06	02/28/06	03/08/06
ANTIMONY, TOTAL	002	SO	06L0131	02/19/06	02/28/06	03/08/06
SELENIUM, TOTAL	002	SO	06L0131	02/19/06	02/28/06	03/07/06
SILICON, TOTAL	002	SO	06L0131	02/19/06	02/28/06	03/08/06
TIN, TOTAL	002	SO	06L0131	02/19/06	02/28/06	03/08/06
TITANIUM, TOTAL	002	SO	06L0131	02/19/06	02/28/06	03/08/06
THALLIUM, TOTAL	002	SO	06L0131	02/19/06	02/28/06	03/08/06
URANIUM, TOTAL	002	SO	06L0131	02/19/06	02/28/06	03/08/06
VANADIUM, TOTAL	002	SO	06L0131	02/19/06	02/28/06	03/08/06
ZINC, TOTAL	002	SO	06L0131	02/19/06	02/28/06	03/08/06
ZIRCONIUM, TOTAL	002	SO	06L0131	02/19/06	02/28/06	03/08/06

J11739

SILVER, TOTAL	003	SO	06L0131	02/19/06	02/28/06	03/08/06
ALUMINUM, TOTAL	003	SO	06L0131	02/19/06	02/28/06	03/08/06
ARSENIC, TOTAL	003	SO	06L0131	02/19/06	02/28/06	03/08/06
BORON, TOTAL	003	SO	06L0131	02/19/06	02/28/06	03/08/06
BARIUM, TOTAL	003	SO	06L0131	02/19/06	02/28/06	03/08/06
BERYLLIUM, TOTAL	003	SO	06L0131	02/19/06	02/28/06	03/08/06
BISMUTH, TOTAL	003	SO	06L0131	02/19/06	02/28/06	03/08/06
CALCIUM, TOTAL	003	SO	06L0131	02/19/06	02/28/06	03/08/06
CADMIUM, TOTAL	003	SO	06L0131	02/19/06	02/28/06	03/08/06
COBALT, TOTAL	003	SO	06L0131	02/19/06	02/28/06	03/08/06
CHROMIUM, TOTAL	003	SO	06L0131	02/19/06	02/28/06	03/08/06

Lionville Laboratory, Inc.
 INORGANIC ANALYTICAL DATA PACKAGE FOR
 TNUHANFORD RC-047 K0232

DATE RECEIVED: 02/22/06

LVL LOT # :0602L308

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
COPPER, TOTAL	003	SO	06L0131	02/19/06	02/28/06	03/08/06
IRON, TOTAL	003	SO	06L0131	02/19/06	02/28/06	03/08/06
MERCURY, TOTAL	003	SO	06C0033	02/19/06	02/27/06	02/28/06
POTASSIUM, TOTAL	003	SO	06L0131	02/19/06	02/28/06	03/07/06
LITHIUM, TOTAL	003	SO	06L0131	02/19/06	02/28/06	03/08/06
MAGNESIUM, TOTAL	003	SO	06L0131	02/19/06	02/28/06	03/08/06
MANGANESE, TOTAL	003	SO	06L0131	02/19/06	02/28/06	03/08/06
MOLYBDENUM, TOTAL	003	SO	06L0131	02/19/06	02/28/06	03/08/06
SODIUM, TOTAL	003	SO	06L0131	02/19/06	02/28/06	03/07/06
NICKEL, TOTAL	003	SO	06L0131	02/19/06	02/28/06	03/08/06
PHOSPHORUS, TOTAL	003	SO	06L0131	02/19/06	02/28/06	03/13/06
LEAD, TOTAL	003	SO	06L0131	02/19/06	02/28/06	03/08/06
ANTIMONY, TOTAL	003	SO	06L0131	02/19/06	02/28/06	03/08/06
SELENIUM, TOTAL	003	SO	06L0131	02/19/06	02/28/06	03/07/06
SILICON, TOTAL	003	SO	06L0131	02/19/06	02/28/06	03/08/06
TIN, TOTAL	003	SO	06L0131	02/19/06	02/28/06	03/08/06
TITANIUM, TOTAL	003	SO	06L0131	02/19/06	02/28/06	03/08/06
THALLIUM, TOTAL	003	SO	06L0131	02/19/06	02/28/06	03/08/06
URANIUM, TOTAL	003	SO	06L0131	02/19/06	02/28/06	03/08/06
VANADIUM, TOTAL	003	SO	06L0131	02/19/06	02/28/06	03/08/06
ZINC, TOTAL	003	SO	06L0131	02/19/06	02/28/06	03/08/06
ZIRCONIUM, TOTAL	003	SO	06L0131	02/19/06	02/28/06	03/08/06

J11740

SILVER, TOTAL	004	SO	06L0131	02/19/06	02/28/06	03/08/06
ALUMINUM, TOTAL	004	SO	06L0131	02/19/06	02/28/06	03/08/06
ARSENIC, TOTAL	004	SO	06L0131	02/19/06	02/28/06	03/08/06
BORON, TOTAL	004	SO	06L0131	02/19/06	02/28/06	03/08/06
BARIUM, TOTAL	004	SO	06L0131	02/19/06	02/28/06	03/08/06
BERYLLIUM, TOTAL	004	SO	06L0131	02/19/06	02/28/06	03/08/06
BISMUTH, TOTAL	004	SO	06L0131	02/19/06	02/28/06	03/08/06
CALCIUM, TOTAL	004	SO	06L0131	02/19/06	02/28/06	03/08/06
CADMIUM, TOTAL	004	SO	06L0131	02/19/06	02/28/06	03/08/06
COBALT, TOTAL	004	SO	06L0131	02/19/06	02/28/06	03/08/06
CHROMIUM, TOTAL	004	SO	06L0131	02/19/06	02/28/06	03/08/06
COPPER, TOTAL	004	SO	06L0131	02/19/06	02/28/06	03/08/06
IRON, TOTAL	004	SO	06L0131	02/19/06	02/28/06	03/08/06

Lionville Laboratory, Inc.
 INORGANIC ANALYTICAL DATA PACKAGE FOR
 TNUHANFORD RC-047 K0232

DATE RECEIVED: 02/22/06

LVL LOT # :0602L308

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
MERCURY, TOTAL	004	SO	06C0033	02/19/06	02/27/06	02/28/06
POTASSIUM, TOTAL	004	SO	06L0131	02/19/06	02/28/06	03/07/06
LITHIUM, TOTAL	004	SO	06L0131	02/19/06	02/28/06	03/08/06
MAGNESIUM, TOTAL	004	SO	06L0131	02/19/06	02/28/06	03/08/06
MANGANESE, TOTAL	004	SO	06L0131	02/19/06	02/28/06	03/08/06
MOLYBDENUM, TOTAL	004	SO	06L0131	02/19/06	02/28/06	03/08/06
SODIUM, TOTAL	004	SO	06L0131	02/19/06	02/28/06	03/07/06
NICKEL, TOTAL	004	SO	06L0131	02/19/06	02/28/06	03/08/06
PHOSPHORUS, TOTAL	004	SO	06L0131	02/19/06	02/28/06	03/13/06
LEAD, TOTAL	004	SO	06L0131	02/19/06	02/28/06	03/08/06
ANTIMONY, TOTAL	004	SO	06L0131	02/19/06	02/28/06	03/08/06
SELENIUM, TOTAL	004	SO	06L0131	02/19/06	02/28/06	03/07/06
SILICON, TOTAL	004	SO	06L0131	02/19/06	02/28/06	03/08/06
TIN, TOTAL	004	SO	06L0131	02/19/06	02/28/06	03/08/06
TITANIUM, TOTAL	004	SO	06L0131	02/19/06	02/28/06	03/08/06
THALLIUM, TOTAL	004	SO	06L0131	02/19/06	02/28/06	03/08/06
URANIUM, TOTAL	004	SO	06L0131	02/19/06	02/28/06	03/08/06
VANADIUM, TOTAL	004	SO	06L0131	02/19/06	02/28/06	03/08/06
ZINC, TOTAL	004	SO	06L0131	02/19/06	02/28/06	03/08/06
ZIRCONIUM, TOTAL	004	SO	06L0131	02/19/06	02/28/06	03/08/06

LAB QC:

SILVER LABORATORY	LC1 BS	S	06L0131	N/A	02/28/06	03/04/06
SILVER, TOTAL	MB1	S	06L0131	N/A	02/28/06	03/04/06
ALUMINUM LABORTORY	LC1 BS	S	06L0131	N/A	02/28/06	03/04/06
ALUMINUM, TOTAL	MB1	S	06L0131	N/A	02/28/06	03/04/06
ARSENIC LABORATORY	LC1 BS	S	06L0131	N/A	02/28/06	03/04/06
ARSENIC, TOTAL	MB1	S	06L0131	N/A	02/28/06	03/04/06
BORON LABORATORY	LC1 BS	S	06L0131	N/A	02/28/06	03/04/06
BORON, TOTAL	MB1	S	06L0131	N/A	02/28/06	03/04/06
BARIUM LABORATORY	LC1 BS	S	06L0131	N/A	02/28/06	03/04/06
BARIUM, TOTAL	MB1	S	06L0131	N/A	02/28/06	03/04/06
BERYLLIUM LABORATORY	LC1 BS	S	06L0131	N/A	02/28/06	03/04/06
BERYLLIUM, TOTAL	MB1	S	06L0131	N/A	02/28/06	03/04/06
BISMUTH, LCS	LC1 BS	S	06L0131	N/A	02/28/06	03/04/06
BISMUTH, TOTAL	MB1	S	06L0131	N/A	02/28/06	03/04/06
CALCIUM LABORATORY	LC1 BS	S	06L0131	N/A	02/28/06	03/04/06

Lionville Laboratory, Inc.
 INORGANIC ANALYTICAL DATA PACKAGE FOR
 TNUHANFORD RC-047 K0232

DATE RECEIVED: 02/22/06

LVL LOT # :0602L308

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
CALCIUM, TOTAL	MB1	S	06L0131	N/A	02/28/06	03/04/06
CADMIUM LABORATORY	LC1 BS	S	06L0131	N/A	02/28/06	03/04/06
CADMIUM, TOTAL	MB1	S	06L0131	N/A	02/28/06	03/04/06
COBALT LABORATORY	LC1 BS	S	06L0131	N/A	02/28/06	03/04/06
COBALT, TOTAL	MB1	S	06L0131	N/A	02/28/06	03/04/06
CHROMIUM LABORATORY	LC1 BS	S	06L0131	N/A	02/28/06	03/04/06
CHROMIUM, TOTAL	MB1	S	06L0131	N/A	02/28/06	03/04/06
COPPER LABORATORY	LC1 BS	S	06L0131	N/A	02/28/06	03/04/06
COPPER, TOTAL	MB1	S	06L0131	N/A	02/28/06	03/04/06
IRON LABORATORY	LC1 BS	S	06L0131	N/A	02/28/06	03/04/06
IRON, TOTAL	MB1	S	06L0131	N/A	02/28/06	03/04/06
MERCURY LABORATORY	LC1 BS	S	06C0033	N/A	02/27/06	02/28/06
MERCURY, TOTAL	MB1	S	06C0033	N/A	02/27/06	02/28/06
POTASSIUM LABORATORY	LC1 BS	S	06L0131	N/A	02/28/06	03/07/06
POTASSIUM, TOTAL	MB1	S	06L0131	N/A	02/28/06	03/07/06
LITHIUM LABORATORY	LC1 BS	S	06L0131	N/A	02/28/06	03/04/06
LITHIUM, TOTAL	MB1	S	06L0131	N/A	02/28/06	03/04/06
MAGNESIUM LABORATORY	LC1 BS	S	06L0131	N/A	02/28/06	03/04/06
MAGNESIUM, TOTAL	MB1	S	06L0131	N/A	02/28/06	03/04/06
MANGANESE LABORATORY	LC1 BS	S	06L0131	N/A	02/28/06	03/04/06
MANGANESE, TOTAL	MB1	S	06L0131	N/A	02/28/06	03/04/06
MOLYBDENUM LABORATOR	LC1 BS	S	06L0131	N/A	02/28/06	03/04/06
MOLYBDENUM, TOTAL	MB1	S	06L0131	N/A	02/28/06	03/04/06
SODIUM LABORATORY	LC1 BS	S	06L0131	N/A	02/28/06	03/07/06
SODIUM, TOTAL	MB1	S	06L0131	N/A	02/28/06	03/07/06
NICKEL LABORATORY	LC1 BS	S	06L0131	N/A	02/28/06	03/04/06
NICKEL, TOTAL	MB1	S	06L0131	N/A	02/28/06	03/04/06
PHOSPHORUS LCS	LC1 BS	S	06L0131	N/A	02/28/06	03/13/06
PHOSPHORUS, TOTAL	MB1	S	06L0131	N/A	02/28/06	03/13/06
LEAD LABORATORY	LC1 BS	S	06L0131	N/A	02/28/06	03/04/06
LEAD, TOTAL	MB1	S	06L0131	N/A	02/28/06	03/04/06
ANTIMONY LABORATORY	LC1 BS	S	06L0131	N/A	02/28/06	03/04/06
ANTIMONY, TOTAL	MB1	S	06L0131	N/A	02/28/06	03/04/06
SELENIUM LABORATORY	LC1 BS	S	06L0131	N/A	02/28/06	03/07/06
SELENIUM, TOTAL	MB1	S	06L0131	N/A	02/28/06	03/07/06
SILICON LABORATORY	LC1 BS	S	06L0131	N/A	02/28/06	03/04/06
SILICON, TOTAL	MB1	S	06L0131	N/A	02/28/06	03/04/06
TIN LABORATORY	LC1 BS	S	06L0131	N/A	02/28/06	03/04/06

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-047 K0232

DATE RECEIVED: 02/22/06

LVL LOT # :0602L308

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
TIN, TOTAL	MB1	S	06L0131	N/A	02/28/06	03/04/06
TITANIUM LABORATORY	LC1 BS	S	06L0131	N/A	02/28/06	03/04/06
TITANIUM, TOTAL	MB1	S	06L0131	N/A	02/28/06	03/04/06
THALLIUM LABORATORY	LC1 BS	S	06L0131	N/A	02/28/06	03/04/06
THALLIUM, TOTAL	MB1	S	06L0131	N/A	02/28/06	03/04/06
URANIUM LABORATORY	LC1 BS	S	06L0131	N/A	02/28/06	03/04/06
URANIUM, TOTAL	MB1	S	06L0131	N/A	02/28/06	03/04/06
VANADIUM LABORATORY	LC1 BS	S	06L0131	N/A	02/28/06	03/04/06
VANADIUM, TOTAL	MB1	S	06L0131	N/A	02/28/06	03/04/06
ZINC LABORATORY	LC1 BS	S	06L0131	N/A	02/28/06	03/04/06
ZINC, TOTAL	MB1	S	06L0131	N/A	02/28/06	03/04/06
ZIRCONIUM LABORATORY	LC1 BS	S	06L0131	N/A	02/28/06	03/04/06
ZIRCONIUM, TOTAL	MB1	S	06L0131	N/A	02/28/06	03/04/06

METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within the Lot#: 06072308

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

Other: Arsoxyphorubs

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



Analytical Report

Client: TNU-HANFORD RC-047
LVL#: 0603L308
SDG/SAF#: K0232/RC-047

W.O.#: 11343-606-001-9999-00
Date Received: 02-22-06

METALS CASE NARRATIVE

1. This narrative covers the analyses of 4 solid samples.
2. The samples were prepared and analyzed in accordance with methods checked on the attached glossary. Sample results for Potassium, Sodium, Selenium, and Phosphorous were reported from a different instrument due to sample matrix.
3. All analyses were performed within the required holding times.
4. All results presented in this report are derived from samples that met LvLI's sample acceptance policy.
5. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within the 90-110% control limits (80-120% for Mercury).
6. All Initial and Continuing Calibration Blanks (ICB/CCBs) were within control limits (less than the PQL).
7. The preparation/method blank for 1 analyte was outside method criteria. {less than the Practical Quantitation Limit (3X the IDL), or samples greater than 20X MB value}. Refer to the Inorganics Method Blank Data Summary.
 - a). The MB result for Tin was greater than the Practical Quantitation Limit (PQL) {3 x the (IDL) Instrument Detection Level} and all samples read less than 20 times the MB concentration. However, no corrective action criteria for MBs were provided in SW846 method 6010B. The sample results were reported herein "uncorrected" for the levels found in the MB.
8. All ICP Interference Check Standards were within control limits.
9. All laboratory control samples (LCS) were within the 80-120% control limits with the exception of Silicon at 59.4%. Refer to the Inorganics Laboratory Control Standards Report. Associated sample results may be biased low.

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 26 pages.

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:

<u>Sample ID</u>	<u>Element</u>	<u>PDS</u>	
		<u>Concentration (ppb)</u>	<u>% Recovery</u>
J11737	Aluminum	22,000	102.1
	Iron	22,000	102.3
	Manganese	2,000	105.0
	Antimony	100	93.6
	Silicon	2,100	88.2

12. The duplicate analyses for 4 analytes were 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

3/27/06

 Date

jjw/m02-308



Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 03/13/06

CLIENT: INUHANFORD RC-047 K0232

LVL LOT #: 0602L308

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	J11737	Silver, Total	0.08	u MG/KG	0.08	1.0
		Aluminum, Total	5670	MG/KG	3.3	1.0
		Arsenic, Total	5.3	MG/KG	0.69	1.0
		Boron, Total	1.4	MG/KG	0.27	1.0
		Barium, Total	75.7	MG/KG	0.02	1.0
		Beryllium, Total	0.72	MG/KG	0.02	1.0
		Bismuth, Total	0.58	u MG/KG	0.58	1.0
		Calcium, Total	3460	MG/KG	1.9	1.0
		Cadmium, Total	1.2	MG/KG	0.08	1.0
		Cobalt, Total	5.3	MG/KG	0.16	1.0
		Chromium, Total	12.9	MG/KG	0.15	1.0
		Copper, Total	14.6	MG/KG	0.14	1.0
		Iron, Total	16900	MG/KG	3.9	1.0
		Mercury, Total	0.04	MG/KG	0.02	1.0
		Potassium, Total	852	MG/KG	87.1	1.0
		Lithium, Total	7.3	MG/KG	0.03	1.0
		Magnesium, Total	3730	MG/KG	1.1	1.0
		Manganese, Total	366	MG/KG	0.03	1.0
		Molybdenum, Total	0.54	MG/KG	0.33	1.0
		Sodium, Total	91.3	MG/KG	2.8	1.0
		Nickel, Total	12.3	MG/KG	0.27	1.0
		Phosphorus, Total	748	MG/KG	1.0	1.0
		Lead, Total	22.6	MG/KG	0.35	1.0
		Antimony, Total	0.50	u MG/KG	0.50	1.0
		Selenium, Total	4.3	MG/KG	4.1	1.0
		Silicon, Total	620	MG/KG	2.6	1.0
		Tin, Total	1.5	MG/KG	1.2	1.0
		Titanium, Total	951	MG/KG	0.03	1.0
		Thallium, Total	0.79	u MG/KG	0.79	1.0
		Uranium, Total	3.7	MG/KG	0.99	1.0
		Vanadium, Total	37.4	MG/KG	0.10	1.0
		Zinc, Total	192	MG/KG	0.18	1.0
		Zirconium, Total	7.7	MG/KG	0.36	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 03/13/06

CLIENT: TNUHANFORD RC-047 K0232

LVL LOT #: 0602L308

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-002	J11738	Silver, Total	0.09	u MG/KG	0.09	1.0
		Aluminum, Total	8920	MG/KG	3.6	1.0
		Arsenic, Total	7.5	MG/KG	0.77	1.0
		Boron, Total	2.5	MG/KG	0.30	1.0
		Barium, Total	112	MG/KG	0.03	1.0
		Beryllium, Total	0.79	MG/KG	0.03	1.0
		Bismuth, Total	0.65	u MG/KG	0.65	1.0
		Calcium, Total	5350	MG/KG	2.1	1.0
		Cadmium, Total	1.7	MG/KG	0.09	1.0
		Cobalt, Total	7.4	MG/KG	0.18	1.0
		Chromium, Total	21.1	MG/KG	0.16	1.0
		Copper, Total	29.7	MG/KG	0.15	1.0
		Iron, Total	19900	MG/KG	4.4	1.0
		Mercury, Total	0.07	MG/KG	0.02	1.0
		Potassium, Total	1280	MG/KG	97.5	1.0
		Lithium, Total	11.4	MG/KG	0.04	1.0
		Magnesium, Total	5110	MG/KG	1.2	1.0
		Manganese, Total	520	MG/KG	0.04	1.0
		Molybdenum, Total	0.81	MG/KG	0.37	1.0
		Sodium, Total	131	MG/KG	3.2	1.0
		Nickel, Total	21.5	MG/KG	0.30	1.0
		Phosphorus, Total	942	MG/KG	1.1	1.0
		Lead, Total	35.4	MG/KG	0.39	1.0
		Antimony, Total	0.56	u MG/KG	0.56	1.0
		Selenium, Total	4.6	u MG/KG	4.6	1.0
		Silicon, Total	682	MG/KG	2.9	1.0
		Tin, Total	2.1	MG/KG	1.4	1.0
		Titanium, Total	847	MG/KG	0.04	1.0
		Thallium, Total	0.89	u MG/KG	0.89	1.0
		Uranium, Total	1.8	MG/KG	1.1	1.0
		Vanadium, Total	39.2	MG/KG	0.11	1.0
		Zinc, Total	278	MG/KG	0.20	1.0
		Zirconium, Total	7.5	MG/KG	0.40	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 03/13/06

CLIENT: TNUHANFORD RC-047 K0232

LVL LOT #: 0602L308

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-003	J11739	Silver, Total	0.08	u MG/KG	0.08	1.0
		Aluminum, Total	8380	MG/KG	3.1	1.0
		Arsenic, Total	10.2	MG/KG	0.66	1.0
		Boron, Total	1.4	MG/KG	0.26	1.0
		Barium, Total	94.3	MG/KG	0.02	1.0
		Beryllium, Total	0.75	MG/KG	0.02	1.0
		Bismuth, Total	0.55	u MG/KG	0.55	1.0
		Calcium, Total	4000	MG/KG	1.8	1.0
		Cadmium, Total	2.4	MG/KG	0.08	1.0
		Cobalt, Total	7.1	MG/KG	0.15	1.0
		Chromium, Total	19.6	MG/KG	0.14	1.0
		Copper, Total	27.4	MG/KG	0.13	1.0
		Iron, Total	19500	MG/KG	3.8	1.0
		Mercury, Total	0.05	MG/KG	0.02	1.0
		Potassium, Total	1280	MG/KG	83.5	1.0
		Lithium, Total	11.1	MG/KG	0.03	1.0
		Magnesium, Total	4880	MG/KG	1.1	1.0
		Manganese, Total	256	MG/KG	0.03	1.0
		Molybdenum, Total	0.50	MG/KG	0.31	1.0
		Sodium, Total	132	MG/KG	2.7	1.0
		Nickel, Total	17.2	MG/KG	0.26	1.0
		Phosphorus, Total	851	MG/KG	0.97	1.0
		Lead, Total	48.7	MG/KG	0.34	1.0
		Antimony, Total	0.48	u MG/KG	0.48	1.0
		Selenium, Total	4.0	u MG/KG	4.0	1.0
		Silicon, Total	787	MG/KG	2.5	1.0
		Tin, Total	1.7	MG/KG	1.2	1.0
		Titanium, Total	878	MG/KG	0.03	1.0
		Thallium, Total	0.76	u MG/KG	0.76	1.0
		Uranium, Total	0.95	u MG/KG	0.95	1.0
		Vanadium, Total	38.8	MG/KG	0.1	1.0
		Zinc, Total	310	MG/KG	0.17	1.0
		Zirconium, Total	8.2	MG/KG	0.35	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 03/13/06

CLIENT: TNUHANFORD RC-047 K0232

LVL LOT #: 0602L308

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-004	J11740	Silver, Total	0.08	u MG/KG	0.08	1.0
		Aluminum, Total	7480	MG/KG	3.3	1.0
		Arsenic, Total	10.2	MG/KG	0.69	1.0
		Boron, Total	1.9	MG/KG	0.27	1.0
		Barium, Total	91.5	MG/KG	0.02	1.0
		Beryllium, Total	0.71	MG/KG	0.02	1.0
		Bismuth, Total	0.58	u MG/KG	0.58	1.0
		Calcium, Total	4360	MG/KG	1.9	1.0
		Cadmium, Total	2.2	MG/KG	0.08	1.0
		Cobalt, Total	6.7	MG/KG	0.16	1.0
		Chromium, Total	18.5	MG/KG	0.15	1.0
		Copper, Total	24.5	MG/KG	0.14	1.0
		Iron, Total	19000	MG/KG	3.9	1.0
		Mercury, Total	0.08	MG/KG	0.02	1.0
		Potassium, Total	1450	MG/KG	87.2	1.0
		Lithium, Total	9.6	MG/KG	0.03	1.0
		Magnesium, Total	4490	MG/KG	1.1	1.0
		Manganese, Total	375	MG/KG	0.03	1.0
		Molybdenum, Total	0.65	MG/KG	0.33	1.0
		Sodium, Total	123	MG/KG	2.8	1.0
		Nickel, Total	16.8	MG/KG	0.27	1.0
		Phosphorus, Total	864	MG/KG	1.0	1.0
		Lead, Total	63.7	MG/KG	0.35	1.0
		Antimony, Total	0.50	u MG/KG	0.50	1.0
		Selenium, Total	4.1	u MG/KG	4.1	1.0
		Silicon, Total	604	MG/KG	2.6	1.0
		Tin, Total	1.3	MG/KG	1.2	1.0
		Titanium, Total	828	MG/KG	0.03	1.0
		Thallium, Total	0.79	u MG/KG	0.79	1.0
		Uranium, Total	1.0	u MG/KG	1.0	1.0
		Vanadium, Total	38.5	MG/KG	0.10	1.0
		Zinc, Total	358	MG/KG	0.18	1.0
		Zirconium, Total	7.7	MG/KG	0.36	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 03/13/06

CLIENT: TNUHANFORD RC-047 K0232

LVL LOT #: 0602L308

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	06L0131-MB1	Silver, Total	0.14	u MG/KG	0.14	1.0
		Aluminum, Total	1.8	u MG/KG	1.8	1.0
		Arsenic, Total	0.34	u MG/KG	0.34	1.0
		Boron, Total	0.27	u MG/KG	0.27	1.0
		Barium, Total	0.02	u MG/KG	0.02	1.0
		Beryllium, Total	0.01	u MG/KG	0.01	1.0
		Bismuth, Total	0.61	u MG/KG	0.61	1.0
		Calcium, Total	1.7	u MG/KG	1.2	1.0
		Cadmium, Total	0.07	u MG/KG	0.07	1.0
		Cobalt, Total	0.12	u MG/KG	0.12	1.0
		Chromium, Total	0.16	u MG/KG	0.16	1.0
		Copper, Total	0.12	u MG/KG	0.12	1.0
		Iron, Total	3.2	u MG/KG	3.2	1.0
		Potassium, Total	77.1	u MG/KG	77.1	1.0
		Lithium, Total	0.03	u MG/KG	0.03	1.0
		Magnesium, Total	1.4	u MG/KG	1.4	1.0
		Manganese, Total	0.02	u MG/KG	0.02	1.0
		Molybdenum, Total	0.13	u MG/KG	0.13	1.0
		Sodium, Total	2.5	u MG/KG	2.5	1.0
		Nickel, Total	0.13	u MG/KG	0.13	1.0
		Phosphorus, Total	0.90	u MG/KG	0.90	1.0
		Lead, Total	0.50	u MG/KG	0.31	1.0
		Antimony, Total	0.40	u MG/KG	0.40	1.0
		Selenium, Total	3.6	u MG/KG	3.6	1.0
		Silicon, Total	0.82	u MG/KG	0.82	1.0
		Tin, Total	2.5	u MG/KG	0.52	1.0
		Titanium, Total	0.04	u MG/KG	0.04	1.0
		Thallium, Total	0.64	u MG/KG	0.64	1.0
		Uranium, Total	2.1	u MG/KG	2.1	1.0
		Vanadium, Total	0.09	u MG/KG	0.09	1.0
		Zinc, Total	0.05	u MG/KG	0.05	1.0
		Zirconium, Total	0.54	u MG/KG	0.54	1.0
BLANK1	06C0033-MB1	Mercury, Total	0.02	u MG/KG	0.02	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 03/13/06

CLIENT: TNUHANFORD RC-047 K0232

LVL LOT #: 0602L308

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

SAMPLE	SITE ID	ANALYTE	SPIKED	INITIAL	SPIKED	%RECOV	DILUTION
			SAMPLE	RESULT	AMOUNT		
-001	J11737	Silver, Total	4.9	0.08u	5.6	87.5	1.0
		Aluminum, Total	7480	5670	224	810.5*	1.0
		Arsenic, Total	196	5.3	224	85.4	1.0
		Boron, Total	96.0	1.4	112	84.5	1.0
		Barium, Total	282	75.7	224	92.3	1.0
		Beryllium, Total	6.1	0.72	5.6	96.0	1.0
		Bismuth, Total	500	0.58u	560	89.3	1.0
		Calcium, Total	6420	3460	2800	105.7	1.0
		Cadmium, Total	6.3	1.2	5.6	91.1	1.0
		Cobalt, Total	57.8	5.3	55.9	93.9	1.0
		Chromium, Total	37.0	12.9	22.4	107.6	1.0
		Copper, Total	42.5	14.6	28.0	99.6	1.0
		Iron, Total	18200	16900	112	1103 *	1.0
		Mercury, Total	0.27	0.04	0.20	112.5	1.0
		Potassium, Total	3220	852	2800	85.2	1.0
		Lithium, Total	121	7.3	112	101.4	1.0
		Magnesium, Total	6550	3730	2800	100.8	1.0
		Manganese, Total	440	366	55.9	134.0*	1.0
		Molybdenum, Total	105	0.54	112	93.3	1.0
		Sodium, Total	2520	91.3	2800	86.7	1.0
		Nickel, Total	64.6	12.3	55.9	93.6	1.0
		Phosphorus, Total	1220	748	560	84.0	1.0
		Lead, Total	73.2	22.6	55.9	90.5	1.0
		Antimony, Total	33.2	0.50u	55.9	59.4	1.0
		Selenium, Total	196	4.3	224	85.9	1.0
		Silicon, Total	670	620	112	44.7*	1.0
		Tin, Total	104	1.5	112	91.4	1.0
		Titanium, Total	1080	951	112	111.3*	1.0
		Thallium, Total	192	0.79u	224	85.8	1.0
		Uranium, Total	250	3.7	560 ²⁸⁰	44.7 ^{85.2}	1.0
		Vanadium, Total	93.2	37.4	55.9	99.8	1.0
		Zinc, Total	251	192	55.9	105.7	1.0
		Zirconium, Total	486	7.7	560	85.4	1.0

corrected entry per 3/13/06

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 03/13/06

CLIENT: TNUHANFORD RC-047 K0232
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0602L308

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR (REP)
-001REP	J11737	Silver, Total	0.08u	0.08u	NC	1.0
		Aluminum, Total	5670	5870	3.5	1.0
		Arsenic, Total	5.3	4.3	20.8	1.0
		Boron, Total	1.4	1.3	7.4	1.0
		Barium, Total	75.7	79.7	5.1	1.0
		Beryllium, Total	0.72	0.71	2.2	1.0
		Bismuth, Total	0.58u	0.58u	NC	1.0
		Calcium, Total	3460	3480	0.63	1.0
		Cadmium, Total	1.2	1.3	8.0	1.0
		Cobalt, Total	5.3	5.3	0.00	1.0
		Chromium, Total	12.9	13.7	6.0	1.0
		Copper, Total	14.6	15.0	2.7	1.0
		Iron, Total	16900	17000	0.21	1.0
		Mercury, Total	0.04	0.04	2.4	1.0
		Potassium, Total	852	894	4.7	1.0
		Lithium, Total	7.3	7.6	4.0	1.0
		Magnesium, Total	3730	3740	0.43	1.0
		Manganese, Total	366	393	4.6	1.0
		Molybdenum, Total	0.54	0.56	3.1	1.0
		Sodium, Total	91.3	95.2	4.2	1.0
		Nickel, Total	12.3	12.7	3.2	1.0
		Phosphorus, Total	748	715	4.6	1.0
		Lead, Total	22.6	22.6	0.00	1.0
		Antimony, Total	0.50u	0.50u	NC	1.0
		Selenium, Total	4.3	4.1 u	NC	1.0
		Silicon, Total	620	554	11.3	1.0
		Tin, Total	1.5	1.2 u	NC	1.0
		Titanium, Total	951	918	3.5	1.0
		Thallium, Total	0.79u	0.79u	NC	1.0
		Uranium, Total	3.7	5.1	31.8	1.0
		Vanadium, Total	37.4	38.3	2.4	1.0
		Zinc, Total	192	191	0.47	1.0
		Zirconium, Total	7.7	7.6	1.3	1.0

Handwritten notes:
 - 200 NW 3/13/06
 - 200 NW 3/13/06

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 03/13/06

CLIENT: TNUHANFORD RC-047 K0232
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0602L308

SAMPLE	SITE ID	ANALYTE	SPIKED	SPIKED	UNITS	%RECOV
			SAMPLE	AMOUNT		
LCS1	06L0131-LC1	Silver, LCS	48.9	50.0	MG/KG	97.8
		Aluminum, LCS	484	500	MG/KG	96.7
		Arsenic, LCS	884	1000	MG/KG	88.4
		Boron, LCS	459	500	MG/KG	91.8
		Barium, LCS	484	500	MG/KG	96.9
		Beryllium, LCS	25.0	25.0	MG/KG	100
		Bismuth, LCS	484	500	MG/KG	96.8
		Calcium, LCS	2430	2500	MG/KG	97.0
		Cadmium, LCS	24.0	25.0	MG/KG	96.0
		Cobalt, LCS	245	250	MG/KG	97.9
		Chromium, LCS	51.0	50.0	MG/KG	102.0
		Copper, LCS	125	125	MG/KG	99.7
		Iron, LCS	503	500	MG/KG	100.6
		Potassium, LCS	2220	2500	MG/KG	89.0
		Lithium, LCS	500	500	MG/KG	99.9
		Magnesium, LCS	2340	2500	MG/KG	93.7
		Manganese, LCS	78.7	75.0	MG/KG	104.9
		Molybdenum, LCS	508	500	MG/KG	101.6
		Sodium, LCS	2310	2500	MG/KG	92.3
		Nickel, LCS	192	200	MG/KG	96.2
		Phosphorus, LCS	464	500	MG/KG	92.7
		Lead, LCS	234	250	MG/KG	93.5
		Antimony, LCS	281	300	MG/KG	93.6
		Selenium, LCS	926	1000	MG/KG	92.6
		Silicon, LCS	297	500	MG/KG	59.4
		Tin, LCS	488	500	MG/KG	97.6
		Titanium, LCS	502	500	MG/KG	100.3
		Thallium, LCS	923	1000	MG/KG	92.3
		Uranium, LCS	238	250	MG/KG	92.3 95.2
		Vanadium, LCS	254	250	MG/KG	101.5
		Zinc, LCS	93.7	100	MG/KG	93.7
		Zirconium, LCS	499	500	MG/KG	99.8
LCS1	06C0033-LC1	Mercury, LCS	6.8	6.2	MG/KG	109.3

** corrected entry
 JW 3/24/06*



See SRC

000000021

0602L308

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client TNU - HANFORD SAF# RC-047
 Est. Final Proj. Sampling Date _____
 Project # 11343-6060-001-9999-00
 Project Contact/Phone # _____
 Lionville Laboratory Project Manager OJ
 QC Spec Del Std TAT 30 Days
 Date Rec'd 2/22/06 Date Due 3/24/06

Refrigerator #		A	B	C		D	E	F		
#/Type Container	Liquid	G	G	G		G	G	G		
	Solid									
Volume	Liquid									
	Solid	50	50	50		50	250	50		
Preservatives		-	-	-		-	-	-		
ANALYSES REQUESTED →	ORGANIC				INORG					
	VOA	BNA	Pres/Pres	Herb	TPH	Metal	CN	TPH		

MATRIX CODES:	Lab ID	Client ID/Description	Matrix QC Chosen		Matrix	Date Collected	Time Collected	Lionville Laboratory Use Only														
			MS	MSD				CLASH	CLASH	OPAS	TPAC	METALS	MSRC	CLRD								
S - Soil	001	T 11737			Solid	2-19-06	1500															
SE - Sediment	002	T 11738			I	I	1600															
SO - Solid	003	T 11739			I	I	1640															
SL - Sludge	004	T 11740			I	I	1400															
W - Water																						
O - Oil																						
A - Air																						
DS - Drum Solids																						
DL - Drum Liquids																						
L - EPTCLP Leachate																						
WI - Wipe																						
X - Other																						
F - Fish																						

Special Instructions: METALS = HSL + B, Li, Mo, Si, Sm, Ti, U, P, Zr + Bi

DATE/REVISIONS:
2/23/06 1. Add Bi to METALS; per OJ
 2. _____
 3. _____
 4. _____
 5. _____
 6. _____

LUN MATRIX QC

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
<u>ED</u>	<u>V. Hernandez</u>	<u>2/22/06</u>	<u>0910</u>					"COMPOSITE WASTE"			

ORIGINAL REWRITTEN

Washington Closure Hanford			CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST							RC-047-113		Page 1 of 1							
Collector TILLER JAMES BERNHARD			Company Contact JOAN KESSNER		Telephone No. 375-4688		Project Coordinator KESSNER, JH		Price Code 9N		Data Turnaround 45 Days								
Project Designation 100 & 300 Area Component of the RCBRA Sediment and T1			Sampling Location U 4, SEDIMENT			SAF No. RC-047			Air Quality <input type="checkbox"/>										
Ice Chest No. ERC-99-061			Field Logbook No. EL-1597		COA BESRAS6520		Method of Shipment FED EX												
Shipped To EBERLINE SERVICES LIONVILLE			Offsite Property No. A060291			Bill of Lading/Air Bill No. SEE OSCP													
POSSIBLE SAMPLE HAZARDS/REMARKS POTENTIAL RADIOACTIVE <DOT LIMITS Special Handling and/or Storage COOL 4C				Preservation		None	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C							
				Type of Container		G/P	G/P	G/P	aG	aG	aG	G	G						
				No. of Container(s)		1	1	1	1	1	1	1	1						
				Volume		750g	5g	15g	50g	50g	50g	50g	50g						
SAMPLE ANALYSIS				Gamma Spec - (Full List)		Strontium- 89,90 -- Total Sr; Isotopic Thorium; Isotopic Uranium		ICP Metals - 6010 (Full List); Mercury - 7471 - (CV)		Pesticides - 8081		PCBs - 8082		Semi-VOA - 8270A (TCL)		TPH (Total) - 418.1		TPH-Diesel Range - WTPH-D - Add On; TPH- Gasoline Range - WTPH-G	
				Sample No.		Matrix *		Sample Date		Sample Time									
J11737		OTHER SOLID		2-19-06		1500				X	X	X	X	X	X				
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS						Matrix *					
Relinquished By/Removed From JAMES BERNHARD		Date/Time 2-19-06		Received By/Stored In EAS LOCKED STORAGE		Date/Time 2-19-06								S=Soil SE=Sediment SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue WF=Wipe L=Liquid V=Vegetation X=Other					
Relinquished By/Removed From EAS LOCKED STORAGE		Date/Time 2-21-06		Received By/Stored In <i>RZ Steffler RZ Steffler</i>		Date/Time 2-21-06													
Relinquished By/Removed From <i>RZ Steffler R. J. Steffler</i>		Date/Time 2-21-06		Received By/Stored In <i>Fed Ex</i>		Date/Time													
Relinquished By/Removed From <i>Fed Ex</i>		Date/Time 2-22-06 0910		Received By/Stored In <i>ON Kennedy</i>		Date/Time 2-22-06 0910													
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											

000000002

Collector TTLER JAMES BERNHARD	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 9N	Data Turnaround 45 Days
Project Designation 100 & 300 Area Component of the RC/BRA Sediment and Ti	Sample Location U ⁹ SEDIMENT	SAF No. RC-047	Air Quality <input type="checkbox"/>		
Ice Chest No. ERC-99-061	Field Logbook No. EL-1597	COA RESRAS6520	Method of Shipment FED EX		
Shipped To EBERLINE SERVICES / LIONVILLE	Offsite Property No. A060291	Bill of Lading/Air Bill No. SEE OSPC			

POSSIBLE SAMPLE HAZARDS/REMARKS POTENTIAL RADIOACTIVE <DOT LIMITS Special Handling and/or Storage COOL 4C	Preservation	None	None	Cool 4C							
	Type of Container	G/P	G/P	G/P	aG	aG	aG	G	G		
	No. of Container(s)	1	1	1	1	1	1	1	1		
	Volume	750g	5g	15g	50g	50g	50g	50g	50g		

SAMPLE ANALYSIS				Gamma Spec - (Full List)	Strontium-89,90 -- Total Sr; Isotopic Thorium; Isotopic Uranium	ICP Metals - 6010 (Full List); Mercury - 7471 - (CV)	Pesticides - 8081	PCBs - 8082	Semi-VOA - 8270A (TCL)	TPH (Total) - 418.1	TPH-Diesel Range - WTPH-D - Add On; TPH-Gasoline Range - WTPH-G
------------------------	--	--	--	--------------------------	---	--	-------------------	-------------	------------------------	---------------------	---

Sample No.	Matrix *	Sample Date	Sample Time								
J11738	OTHER SOLID	2-19-06	1600			X	X	X	X	X	X

CHAIN OF POSSESSION			Sign/Print Names			SPECIAL INSTRUCTIONS					Matrix * S=Soil SE=Sediment SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue W=Wipe L=Liquid V=Vegetation X=Other
Relinquished By/Removed From JAMES BERNHARD	Date/Time 2-19-06	1800	Received By/Stored In EAS LOCKED STORAGE	Date/Time 2-19-06	1800						
Relinquished By/Removed From EAS LOCKED STORAGE	Date/Time 2-21-06	0900	Received By/Stored In RZ Steffler RZ Steffler	Date/Time 2-21-06	0900						
Relinquished By/Removed From RZ Steffler RZ Steffler	Date/Time 2-21-06	1600	Received By/Stored In FED EX	Date/Time							
Relinquished By/Removed From FED EX	Date/Time 2-22-06	0910	Received By/Stored In V. Hernandez	Date/Time 2-22-06	0910						
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

Collector TILLER JAMES BERNHARD	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 9N	Data Turnaround 45 Days
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti	Sampling Location U/a SEDIMENT	SAF No. RC-047	Air Quality <input type="checkbox"/>		
Ice Chest No. ERC-99-061	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment FED EX		
Shipped To EBERLINE SERVICES LIONVILLE	Offsite Property No. A060291	Bill of Lading/Air Bill No. SEE OSPC			

POSSIBLE SAMPLE HAZARDS/REMARKS POTENTIAL RADIOACTIVE <DOT LIMITS Special Handling and/or Storage COOL 4C	Preservation	None	None	Cool 4C							
	Type of Container	G/P	G/P	G/P	uG	aG	uG	G	G		
	No. of Container(s)	1	1	1	1	1	1	1	1		
	Volume	750g	5g	15g	50g	50g	50g	50g	50g		

SAMPLE ANALYSIS				Gamma Spec - (Full List)	Strontium-89/90 - Total Sr, Isotopic Thorium, Isotopic Uranium	JCP Metals - 6010 (Full List); Mercury - 7471 - (CV)	Pesticides - 8081	PCBs - 8082	Semi-VOA - 8270A (TCL)	TPH (Total) - 418.1	TPH-Diesel Range - WTPH-D - Add On; TPH-Gasoline Range - WTPH-G		
				Sample No.	Matrix *	Sample Date	Sample Time						
J11739	OTHER SOLID	2-19-06	1640			X	X	X	X	X	X		

CHAIN OF POSSESSION				SPECIAL INSTRUCTIONS				Matrix * S=Soil SE=Soilment SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Drum Solid DL=Drum Liquid T=Tissue WJ=Wipe L=Liquid V=Vegetation X=Other
Relinquished By/Removed From JAMES BERNHARD	Date/Time 2-19-06	Received By/Stored In EAS LOCKED STORAGE	Date/Time 2-19-06					
Relinquished By/Removed From EAS LOCKED STORAGE	Date/Time 2-21-06	Received By/Stored In R2 Staff	Date/Time 2-21-06					
Relinquished By/Removed From R2 Staff	Date/Time 2-21-06	Received By/Stored In Fed Ex	Date/Time					
Relinquished By/Removed From Fed Ex	Date/Time 2-22-06	Received By/Stored In V. K...	Date/Time 2-22-06					
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

Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					RC-047-116		Page 1 of 1				
Collector TILLER	JAMES BERNHARD	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH		Price Code 9N		Data Turnaround 45 Days					
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti		Sampling Location U, SEDIMENT 300-1		SAF No. RC-047		Air Quality <input type="checkbox"/>							
Ice Chest No. ERC-99-061		Field Logbook No. EL-1597		COA BESRAS6520		Method of Shipment FED EX							
Shipped To EBERLINE SERVICES (LIONVILLE)		Offsite Property No. A060291			Bill of Lading/Air Bill No. SEE OSCP								
POSSIBLE SAMPLE HAZARDS/REMARKS POTENTIAL RADIOACTIVE <DOT LIMITS				Preservation	None	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C
Special Handling and/or Storage COOL 4C				Type of Container	G/P	G/P	G/P	aG	aG	aG	G	G	
				No. of Container(s)	1	1	1	1	1	1	1	1	
				Volume	750g	5g	15g	50g	50g	50g	50g	50g	
SAMPLE ANALYSIS				Gamma Spec - (Full List)	Sr-90 - Total Sr; Isotopic Thorium; Isotopic Uranium	ICP Metals - 6010 (Full List); Mercury - 7471 - (CV)	Pesticides - 8081	PCBs - 8082	Semi-VOA - 8270A (TCL)	TPH (Total) - 418.1	TPH - Diesel Range - WTPH-D - Add On; TPH- Gasoline Range - WTPH-G		
Sample No.	Matrix *	Sample Date	Sample Time										
J11740	OTHER SOLID	2-19-06	1400			X	X	X	X	X	X		
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS				Matrix *	
Relinquished By/Removed From JAMES BERNHARD		Date/Time 2-19-06 1800	Received By/Stored In EAS LOCKED STORAGE		Date/Time 2-19-06 1800								
Relinquished By/Removed From EAS LOCKED STORAGE		Date/Time 2-21-06 0900	Received By/Stored In R2 Staffer R. J. Staffer		Date/Time 2-21-06 0910								
Relinquished By/Removed From R2 Staffer R. J. Staffer		Date/Time 2-21-06 1600	Received By/Stored In Fed Ex		Date/Time								
Relinquished By/Removed From Fed Ex		Date/Time 2-22-06 0910	Received By/Stored In J. Bernhardt		Date/Time 2-22-06 0910								
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							

000000025

Lionville Laboratory Incorporated
SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: *TNU-HANFORD*

Date: *2-22-06*

Purchase Order / Project# /
 SAF# / SOW# / Release #: *RC-047*

LvLI Batch #: *0602L308*

Sample Custodian: *P. Hernandez*

NOTE: EXPLAIN ALL DISCREPANCIES

- | | | |
|---|---|--|
| 1. Samples Hand Delivered or <u>Shipped</u> | Carrier <i>Fed Ex</i> | Airbill# <i>791867421684</i> |
| 2. Custody seals on coolers or shipping container intact, signed and dated? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals Comments |
| 3. Outside of coolers or shipping containers are free from damage? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 4. All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 5. Samples received cooled or ambient? | Temp <i>2-5</i> °C | Cooler # <i>ERC-99-061</i> |
| 6. Custody seals on sample containers intact, signed and dated? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals |
| 7. coc signed and dated? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 8. Sample containers are intact? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 9. All samples on coc received? All samples received on coc? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 10. All sample label information matches coc? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 11. Samples properly preserved? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 12. Samples received within hold times? Short holds taken to wet lab? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 13. VOA, TOC, TOX free of headspace? | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A |
| 14. QC stickers placed on bottles designated by client? | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A |
| 15. 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 | |
| 16. Project Manager contacted concerning discrepancies? name/date (or samples outside criteria) | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input checked="" type="checkbox"/> No Discrepancies |

SR-002-B





Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-047 K0232

DATE RECEIVED: 02/22/06

LVL LOT # :0602L308

CLIENT ID /ANALYSIS LVL # MTX PREP # COLLECTION EXTR/PREP ANALYSIS

J11737

% SOLIDS	001		SO 06L&S015	02/19/06	02/25/06	02/25/06
PETROLEUM HYDROCARBO	001		SO 06LHC021	02/19/06	03/08/06	03/10/06
PETROLEUM HYDROCARBO	001	REP	SO 06LHC021	02/19/06	03/08/06	03/10/06
PETROLEUM HYDROCARBO	001	MS	SO 06LHC021	02/19/06	03/08/06	03/10/06

J11738

% SOLIDS	002		SO 06L&S015	02/19/06	02/25/06	02/25/06
PETROLEUM HYDROCARBO	002		SO 06LHC021	02/19/06	03/08/06	03/10/06

J11739

% SOLIDS	003		SO 06L&S015	02/19/06	02/25/06	02/25/06
PETROLEUM HYDROCARBO	003		SO 06LHC021	02/19/06	03/08/06	03/10/06

J11740

% SOLIDS	004		SO 06L&S015	02/19/06	02/25/06	02/25/06
PETROLEUM HYDROCARBO	004		SO 06LHC021	02/19/06	03/08/06	03/10/06

LAB QC:

PETROLEUM HYDROCARBO	MB1		S 06LHC021	N/A	03/08/06	03/10/06
PETROLEUM HYDROCARBO	MB1	BS	S 06LHC021	N/A	03/08/06	03/10/06



Analytical Report

Client: TNU-HANFORD RC-047 K0232
LVL#: 0602L308

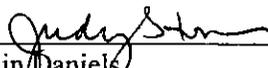
W.O.#: 11343-606-001-9999-00
Date Received: 02-22-06

INORGANIC NARRATIVE

1. This narrative covers the analyses of 4 solid samples.
2. The samples were prepared and analyzed in accordance with the methods checked on the attached glossary.

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

3. Sample holding times as required by the method and/or contract were met.
4. The results presented in this report are derived from samples that met LvLI's sample acceptance policy.
5. The method blank for Petroleum Hydrocarbons (PHC) was within the method criteria.
6. The Laboratory Control Sample (LCS) for PHC was within the laboratory control limits.
7. The matrix spike recovery for PHC was within the 75-125% control limits.
8. The replicate analyses for PHC and Percent Solids 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

3/24/06
Date

njpl02-308

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 14 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(mod.)	✓ ___ EPA 418.1(mod.)
pH, Soil		___ 9045C	
Sulfide, Reactive		___ Section 7.3/9030B	
Sulfide		___ 9030B(mod)	
Specific Gravity	___ D1429-76C/	___ D5057-90	
Sulfur, Total		___ 9056	
Synthetic Preparation Leach		___ 1312	
Paint Filter		___ 9095A	
Other:	Method:		
Other:	Method		

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 03/15/06

CLIENT: TNUHANFORD RC-047 K0232
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0602L308

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-----	-----	-----	-----	-----	-----	-----
-001	J11737	% Solids	83.5	%	0.01	1.0
		Petroleum Hydrocarbons	159	u MG/KG	159	1.0
-002	J11738	% Solids	74.6	%	0.01	1.0
		Petroleum Hydrocarbons	178	u MG/KG	178	1.0
-003	J11739	% Solids	86.3	%	0.01	1.0
		Petroleum Hydrocarbons	154	u MG/KG	154	1.0
-004	J11740	% Solids	82.6	%	0.01	1.0
		Petroleum Hydrocarbons	160	u MG/KG	160	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 03/15/06

CLIENT: TNUHANFORD RC-047 K0232
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0602L308

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK10	06LHC021-MB1	Petroleum Hydrocarbons	133	u MG/KG	133	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 03/15/06

CLIENT: TNUHANFORD RC-047 K0232
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0602L308

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR (SPK)
=====	=====	=====	=====	=====	=====	=====	=====
-001	J11737	Petroleum Hydrocarbons	711	59.0	668	97.6	1.0
BLANK10	06LHC021-MB1	Petroleum Hydrocarbons	595	133 u	560	106.2	1.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 03/15/06

CLIENT: TNUHANFORD RC-047 K0232
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0602L308

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR (REP)
-001REP	J11737	Petroleum Hydrocarbons	159 u	158 u	NC	1.0

Collector TILLER JAMES BERNHARD	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 9N	Data Turnaround 45 Days
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti	Sampling Location U4, SEDIMENT	SAF No. RC-047	Air Quality <input type="checkbox"/>		
Ice Chest No. ERC-99-061	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment FED EX		
Shipped To EBERLINE SERVICES (LIONVILLE)	Offsite Property No. A060291	Bill of Lading/Air Bill No. SEE OSPC			

POSSIBLE SAMPLE HAZARDS/REMARKS POTENTIAL RADIOACTIVE <DOT LIMITS Special Handling and/or Storage COOL 4C	Preservation	None	None	Cool 4C							
	Type of Container	G/P	G/P	G/P	aG	aG	aG	G	G		
	No. of Container(s)	1	1	1	1	1	1	1	1		
	Volume	750g	5g	15g	50g	50g	50g	50g	50g		

SAMPLE ANALYSIS	Gamma Spec - (Full List)	Strontium - 89,90 -- Total Sr; Isotopic Thorium; Isotopic Uranium	ICP Metals - 6010 (Full List); Mercury - 7471 - (CV)	Pesticides - 8081	PCBs - 8082	Semi-VOA - 8270A (TCL)	TPH (Total) - 418.1	TPH-Diesel Range - WTPH-D-Add On; TPH-Gasoline Range - WTPH-G		
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Sample No.	Matrix *	Sample Date	Sample Time								
J11737	OTHER SOLID	2-19-06	1500		X	X	X	X	X	X	

CHAIN OF POSSESSION		Sign/Print Names		SPECIAL INSTRUCTIONS						Matrix *
Relinquished By/Removed From JAMES BERNHARD	Date/Time 2-19-06 1800	Received By/Stored In EAS LOCKED STORAGE	Date/Time 2-19-06 1800							S=Soil SB=Subsoil SO=Sludg SL=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue WL=Wipe L=Liquid V=Vegetation X=Other
Relinquished By/Removed From EAS LOCKED STORAGE	Date/Time 2-21-06 0900	Received By/Stored In RZ Steffler RZ Steffler	Date/Time 2-21-06 0900							
Relinquished By/Removed From RZ Steffler R.Z. Steffler	Date/Time 2-21-06 1600	Received By/Stored In Fed Ex	Date/Time							
Relinquished By/Removed From Fed Ex	Date/Time 2-22-06 0910	Received By/Stored In ON Edwards	Date/Time 2-22-06 0910							
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

Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					RC-047-114		Page 1 of 1					
Collector TILLER JAMES BERNHARD		Company Contact JOAN KESSNER		Telephone No. 375-4688		Project Coordinator KESSNER, JH		Price Code 9N		Data Turnaround				
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti		Sampling Location U ⁹ SEDIMENT			SAF No. RC-047		Air Quality <input type="checkbox"/>		45 Days					
Ice Chest No. ERC-99-061		Field Logbook No. EL-1597		COA DESRA56520		Method of Shipment FED EX								
Shipped To EBERLINE SERVICES ALIONVILLE		Offsite Property No. A060291			Bill of Lading/Air Bill No. SER OSPC									
POSSIBLE SAMPLE HAZARDS/REMARKS POTENTIAL RADIOACTIVE <DOT LIMITS Special Handling and/or Storage COOL 4C				Preservation	None	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C		
				Type of Container	G/P	G/P	G/P	aG	aG	aG	G	G		
				No. of Container(s)	1	1	1	1	1	1	1	1		
				Volume	750g	5g	15g	50g	50g	50g	50g	50g		
SAMPLE ANALYSIS				Gamma Spec - (Full List)	Strontium- 89,90 - Total Sr; Isotopic Thorium; Isotopic Uranium	ICP Metals - 6010 (Full List); Mercury - 7471 - (CV)	Pesticides - 8081	PCBs - 8082	Semi-VOA - 8270A (TCL)	TPH (Total) - 418.1	TPH-Diesel Range - WTPH-D- Add On; TPH- Gasoline Range - WTPH-G			
				Sample No.	Matrix *	Sample Date	Sample Time							
J11738	OTHER SOLID	2-19-06	1600			X	X	X	X	X	X			
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS				Matrix *		
Relinquished By/Removed From JAMES BERNHARD		Date/Time 2-19-06 1800		Received By/Stored In EAS LOCKED STORAGE		Date/Time 2-19-06 1800						S=Soil SE=Sediment SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Truss WI=Wipe L=Liquid V=Vegetation X=Other		
Relinquished By/Removed From EAS LOCKED STORAGE		Date/Time 2-21-06 0900		Received By/Stored In R2 Stiller R. J. Stiller		Date/Time 2-21-06 0900								
Relinquished By/Removed From R2 Stiller R. J. Stiller		Date/Time 2-21-06 1600		Received By/Stored In Fed Ex		Date/Time								
Relinquished By/Removed From Fed Ex		Date/Time 2-22-06 0910		Received By/Stored In V. J. Kennedy		Date/Time 2-22-06 0910								
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							

Washington Closure Hanford			CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						RC-047-115		Page 1 of 1		
Collector TILLER JAMES BERNHARD			Company Contact JOAN KESSNER		Telephone No. 375-4688		Project Coordinator KESSNER, JH		Price Code 9N		Data Turnaround 45 Days		
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti			Sampling Location U /c. SEDIMENT			SAF No. RC-047		Air Quality <input type="checkbox"/>					
Ice Chest No. ERC-99-061			Field Logbook No. EL-1597		COA BESRAS6520		Method of Shipment FED EX						
Shipped To EBERLINE SERVICES (LIONVILLE)			Offsite Property No. A060291				Bill of Lading/Air Bill No. SEE OSPC						
POSSIBLE SAMPLE HAZARDS/REMARKS POTENTIAL RADIOACTIVE <DOT LIMITS Special Handling and/or Storage COOL 4C				Preservation	None	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	
				Type of Container	G/P	G/P	G/P	uG	aG	aG	G	G	
				No. of Container(s)	1	1	1	1	1	1	1	1	
				Volume	750g	5g	15g	50g	50g	50g	50g	50g	
SAMPLE ANALYSIS				Gamma Spec - (Full List)	Strontium- 89,90 -- Total Sr; Isotopic Thorium; Isotopic Uranium	ICP Metals - 6010 (Full List); Mercury - 7471 - (CV)	Pesticides - 8081	PCBs - 8082	Semi-VOA - 8270A (TCL)	TPH (Total) - 418.1	TPH-Diesel Range - WTPH-D - Add On; TPH- Gasoline Range - WTPH-G		
Sample No.	Matrix *	Sample Date	Sample Time										
J11739	OTHER SOLID	2-19-06	1640			X	X	X	X	X	X		
CHAIN OF POSSESSION						SPECIAL INSTRUCTIONS						Matrix *	
Relinquished By/Removed From JAMES BERNHARD 271-06			Date/Time 1800			Received By/Stored In EAS LOCKED STORAGE 2-19-06			Date/Time 1800			S=Soil SB=Sediment SO=Solid SL=Sludge W = Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue WL=Wipe L=Liquid V=Vegetation X=Other	
Relinquished By/Removed From EAS LOCKED STORAGE 260			Date/Time 0900			Received By/Stored In R2 Still R2 Still 2-21-06			Date/Time 0910				
Relinquished By/Removed From R2 Still R2 Still 2-21-06			Date/Time 1600			Received By/Stored In Fed Ex			Date/Time				
Relinquished By/Removed From Fed Ex 2-22-06			Date/Time 0910			Received By/Stored In N. Newberry			Date/Time 2-22-06 0910				
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					

Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					RC-047-116		Page 1 of 1										
Collector TILLER	JAMES BERNHARD	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH		Price Code	9N	Data Turnaround 45 Days											
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti		Sampling Location U, SEDIMENT 300-1		SAF No. RC-047		Air Quality <input type="checkbox"/>													
Ice Chest No. ERC-99-061		Field Logbook No. EL-1597		COA BESRAS6520		Method of Shipment FED EX													
Shipped To EBERLINE SERVICES (LIONVILLE)		Offsite Property No. A060291			Bill of Lading/Air Bill No. SEE OSPC														
POSSIBLE SAMPLE HAZARDS/REMARKS POTENTIAL RADIOACTIVE <DOT LIMITS				Preservation		None	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C						
Special Handling and/or Storage COOL 4C				Type of Container		G/P	G/P	G/P	aG	aG	aG	G	G						
				No. of Container(s)		1	1	1	1	1	1	1	1						
				Volume		750g	5g	15g	50g	50g	50g	50g	50g						
SAMPLE ANALYSIS				Gamma Spec - (Full List)		Strontium-89,90 -- Total Sr, Isotopic Thorium, Isotopic Uranium		ICP Metals - 6010 (Full List); Mercury - 7471 - (CV)		Pesticides - 8081		PCBs - 8082		Semi-VOA - 8270A (TCL)		TPH (Total) - 418.1		TPH-Diesel Range - WTPH-D - Add On; TPH-Gasoline Range - WTPH-G	
Sample No.	Matrix *	Sample Date	Sample Time																
J11740	OTHER SOLID	2-19-06	1400				X	X	X	X	X	X	X						
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS						Matrix *					
Relinquished By/Removed From JAMES BERNHARD		Date/Time 2-19-06 1800		Received By/Stored In EAS LOCKED STORAGE		Date/Time 2-19-06 1800								S=Soil SE=Sediment SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Trace Wf=Wipe L=Liquid V=Vegetation X=Other					
Relinquished By/Removed From EAS LOCKED STORAGE		Date/Time 7-21-06 0700		Received By/Stored In RE Staffer R. J. Staffer		Date/Time 2-21-06 0910													
Relinquished By/Removed From RE Staffer R. J. Staffer		Date/Time 2-21-06 1600		Received By/Stored In Fed Ex		Date/Time													
Relinquished By/Removed From Fed Ex		Date/Time 2-22-06 0910		Received By/Stored In J. Bernhardt		Date/Time 2-22-06 0910													
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 (SRC)

CLIENT: *TNU - HANFORD*

Date: *2-22-06*

Purchase Order / Project# /

SAF# / SOW# / Release #: *RC-047*

LvLI Batch #:

0602L308

Sample Custodian:

P. Hernandez

NOTE: EXPLAIN ALL DISCREPANCIES

- | | | |
|---|---|--|
| 1. Samples Hand Delivered or <u>Shipped</u> | Carrier <i>Fed Ex</i> | Airbill# <i>791867421689</i> |
| 2. Custody seals on coolers or shipping container intact, signed and dated? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals Comments |
| 3. Outside of coolers or shipping containers are free from damage? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 4. All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 5. Samples received cooled or ambient? | Temp <i>2-5</i> °C | Cooler # <i>ERC-99-061</i> |
| 6. Custody seals on sample containers intact, signed and dated? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals |
| 7. coc signed and dated? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 8. Sample containers are intact? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 9. All samples on coc received? All samples received on coc? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 10. All sample label information matches coc? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 11. Samples properly preserved? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 12. Samples received within hold times? Short holds taken to wet lab? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 13. VOA, TOC, TOX free of headspace? | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A |
| 14. QC stickers placed on bottles designated by client? | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A |
| 15. 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 | |
| 16. Project Manager contacted concerning discrepancies? name/date (or samples outside criteria) | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input checked="" type="checkbox"/> No Discrepancies |

SR-002-B





EBERLINE
SERVICES



April 14, 2006

Ms. Joan Kessner
Washington Closure Hanford
3190 George Washington Way
MSIN H9-02
Richland, WA 99352

Reference: **P.O. #630**
Eberline Services R6-02-153-7392, SDG K0232

Dear Ms. Kessner:

Enclosed is the data report for four solid (other solid) samples designated under SAF No. RC-047 received at Eberline Services on February 22, 2006. The samples were analyzed according to the accompanying chain-of-custody documents.

Please call if you have any questions concerning this report.

Sincerely,

Melissa C. Mannion
Senior Program Manager

MCM/njv

Enclosure: Data Package

Analytical Services
2030 Wright Avenue
P.O. Box 4040
Richmond, California 94804-0040
(510) 235-2633 Fax (510) 235-0438
Toll Free (800) 841-5487
www.eberlineservices.com

1.0 GENERAL

Washington Closure Hanford (WCH) Sample Delivery Group K0232 was composed of four solid (other solid) samples designated under SAF No. RC-047 with a Project Designation of: 100 & 300 Area Component of the RCBRA Sediment and Ti.

The samples were received as stated on the Chain-of-Custody documents. Any discrepancies are noted on the Eberline Services Sample Receipt Checklist. The results were transmitted to WCH via e-mail on April 5, 2006.

2.0 ANALYSIS NOTES

2.1 Total Strontium Analysis

No problems were encountered during the course of the analyses.

2.2 Isotopic Thorium Analysis

No problems were encountered during the course of the analyses.

2.3 Isotopic Uranium Analysis

Uranium-233/234 at 0.493 ± 0.24 pCi/g and U-238 at 0.377 ± 0.23 pCi/g were detected in the QC blank greater than the individual MDA's, but less than the RDL of 1.0 pCi/g.

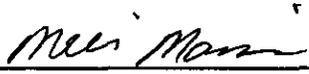
No other problems were encountered during the course of the analyses.

2.4 Gamma Spectroscopy

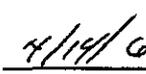
No problems were encountered during the course of the analyses.

Case Narrative Certification Statement

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



Melissa C. Mannion
Senior Program Manager



Date

EBRLINE SERVICES / RICHMOND
SAMPLE DELIVERY GROUP K0232

SDG 7392
Contact Melissa C. Mannion

Client Hanford
Contract No. 630
Case no SDG_K0232

S U M M A R Y D A T A S E C T I O N

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Melissa Mannion
Prepared by

Melissa Mannion
Reviewed by

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-TOC
Version 3.06
Report date 04/05/06

EBERLINE SERVICES / RICHMOND

SAMPLE DELIVERY GROUP K0232

SDG 7392
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG_K0232

ABOUT THE DATA SUMMARY SECTION

The Data Summary Section of a Data Package has all data, in several useful orders, necessary for first level, routine review of the data package for a Sample Delivery Group (SDG). This section follows the Data Package Narrative, which has an overview of the data package and a discussion of special problems. It is followed by the Raw Data Section, which has full details.

The Data Summary Section has several groups of reports:

SAMPLE SUMMARIES

The Sample and QC Summary Reports show all samples, including QC samples, reported in one SDG. These reports cross-reference client and lab sample identifiers.

PREPARATION BATCH SUMMARY

The Preparation Batch Summary Report shows all preparation batches (lab groupings reflecting how work was organized) relevant to the reported SDG with information necessary to check the completeness and consistency of the SDG.

WORK SUMMARY

The Work Summary Report shows all samples and work done on them relevant to the reported SDG.

METHOD BLANKS

The Method Blank Reports, one for each Method Blank relevant to the SDG, show all results and primary supporting information for the blanks.

LAB CONTROL SAMPLES

The Lab Control Sample Reports, one for each Lab Control Sample relevant to the SDG, show all results, recoveries and primary supporting information for these QC samples.

REPORT GUIDES

Page 1

SUMMARY DATA SECTION

Page 1

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 04/05/06

EBERLINE SERVICES / RICHMOND

SAMPLE DELIVERY GROUP K0232

SDG 7392
Contact Melissa C. Mannion

GUIDE, cont.

Client Hanford
Contract No. 630
Case no SDG K0232

ABOUT THE DATA SUMMARY SECTION

DUPLICATES

The Duplicate Reports, one for each Duplicate and Original sample pair relevant to the SDG, show all results, differences and primary supporting information for these QC samples.

MATRIX SPIKES

The Matrix Spike Reports, one for each Spiked and Original sample pair relevant to the SDG, show all results, recoveries and primary supporting information for these QC samples.

DATA SHEETS

The Data Sheet Reports, one for each client sample in the SDG, show all results and primary supporting information for these samples.

METHOD SUMMARIES

The Method Summary Reports, one for each test used in the SDG, show all results, QC and method performance data for one analyte on one or two pages. (A test is a short code for the method used to do certain work to the client's specification.)

REPORT GUIDES

The Report Guides, one for each of the above groups of reports, have documentation on how to read the associated reports.

REPORT GUIDES

Page 2

SUMMARY DATA SECTION

Page 2

Lab id EBRLNE
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0232

SDG 7392
 Contact Melissa C. Mannion

LAB SAMPLE SUMMARY

Client Hanford
 Contract No. 630
 Case no SDG K0232

LAB	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAF NO	CHAIN OF CUSTODY	COLLECTED
R602153-01	J11737	U4, Sediment	SOLID		RC-047	RC-047-113	02/19/06 15:00
R602153-02	J11738	U9, Sediment	SOLID		RC-047	RC-047-114	02/19/06 16:00
R602153-03	J11739	U10, Sediment	SOLID		RC-047	RC-047-115	02/19/06 16:40
R602153-04	J11740	Sediment 300-1	SOLID		RC-047	RC-047-116	02/19/06 14:00
R602153-05	Lab Control Sample		SOLID		RC-047		
R602153-06	Method Blank		SOLID		RC-047		
R602153-07	Duplicate (R602153-04)	Sediment 300-1	SOLID		RC-047		02/19/06 14:00

Lab id EBRLNE
 Protocol Hanford
 Version Ver 1.0
 Form DVD-LS
 Version 3.06
 Report date 04/05/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0232

SDG 7392
 Contact Melissa C. Mannion

QC SUMMARY

Client Hanford
 Contract No. 630
 Case no SDG K0232

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% SOLIDS	SAMPLE AMOUNT	BASIS AMOUNT	DAYS SINCE RECEIVED	LAB COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
7392	RC-047-113	J11737	SOLID	100.0	595.7 g		02/22/06	3	R602153-01	7392-001
	RC-047-114	J11738	SOLID	100.0	421.0 g		02/22/06	3	R602153-02	7392-002
	RC-047-115	J11739	SOLID	100.0	518.7 g		02/22/06	3	R602153-03	7392-003
	RC-047-116	J11740	SOLID	100.0	573.3 g		02/22/06	3	R602153-04	7392-004
		Method Blank	SOLID						R602153-06	7392-006
		Lab Control Sample	SOLID						R602153-05	7392-005
		Duplicate (R602153-04)	SOLID	100.0	573.3 g		02/22/06	3	R602153-07	7392-007

QC SUMMARY

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SUMMARY DATA SECTION

Page 4

Lab id EBRLNE
 Protocol Hanford
 Version Ver 1.0
 Form DVD-QS
 Version 3.06
 Report date 04/05/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0232

SDG 7392
Contact Melissa C. Mannion

PREP BATCH SUMMARY

Client Hanford
Contract No. 630
Case no SDG K0232

TEST	MATRIX	METHOD	PREPARATION ERROR		PLANCHETS ANALYZED				QUALI-	
			BATCH	2σ %	CLIENT	MORE	RE BLANK	LCS		DUP/ORIG MS/ORIG
Alpha Spectroscopy										
TH	SOLID	Thorium, Isotopic in Solids	7169-177	5.0	4		1	1	1/1	
U	SOLID	Uranium, Isotopic in Solids	7169-177	5.0	4		1	1	1/1	
Beta Counting										
SR	SOLID	Total Strontium in Solids	7169-177	10.0	4		1	1	1/1	
Gamma Spectroscopy										
GAM	SOLID	Gamma Scan	7169-177	15.0	4		1	1	1/1	

Duplicates and Matrix Spikes are those with original (Client) sample in this Sample Delivery Group.
Blank and LCS planchets are those in the same preparation batch as some Client, Duplicate or Spike sample.

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-PBS
Version 3.06
Report date 04/05/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0232

LAB WORK SUMMARY

SDG 7392
Contact Melissa C. Mannion

Client Hanford
Contract No. 630
Case no SDG K0232

LAB SAMPLE COLLECTED RECEIVED	CLIENT SAMPLE ID LOCATION CUSTODY	SAF No	MATRIX	PLANCHET	TEST	SUF- FIX	ANALYZED	REVIEWED	BY	METHOD
R602153-01 02/19/06 02/22/06	J11737 U4, Sediment RC-047-113	RC-047	SOLID	7392-001 7392-001 7392-001 7392-001	GAM SR TH U		03/24/06 03/23/06 03/29/06 03/24/06	03/28/06 04/04/06 04/05/06 04/05/06	CSS MWT MWT MWT	Gamma Scan Total Strontium in Solids Thorium, Isotopic in Solids Uranium, Isotopic in Solids
R602153-02 02/19/06 02/22/06	J11738 U9, Sediment RC-047-114	RC-047	SOLID	7392-002 7392-002 7392-002 7392-002	GAM SR TH U		03/27/06 03/23/06 03/29/06 03/24/06	03/28/06 04/04/06 04/05/06 04/05/06	CSS MWT MWT MWT	Gamma Scan Total Strontium in Solids Thorium, Isotopic in Solids Uranium, Isotopic in Solids
R602153-03 02/19/06 02/22/06	J11739 U10, Sediment RC-047-115	RC-047	SOLID	7392-003 7392-003 7392-003 7392-003	GAM SR TH U		03/27/06 03/23/06 03/29/06 03/24/06	03/28/06 04/04/06 04/05/06 04/05/06	CSS MWT MWT MWT	Gamma Scan Total Strontium in Solids Thorium, Isotopic in Solids Uranium, Isotopic in Solids
R602153-04 02/19/06 02/22/06	J11740 Sediment 300-1 RC-047-116	RC-047	SOLID	7392-004 7392-004 7392-004 7392-004	GAM SR TH U		03/27/06 03/23/06 03/29/06 03/24/06	03/28/06 04/04/06 04/05/06 04/05/06	CSS MWT MWT MWT	Gamma Scan Total Strontium in Solids Thorium, Isotopic in Solids Uranium, Isotopic in Solids
R602153-05 02/19/06 02/22/06	Lab Control Sample RC-047	RC-047	SOLID	7392-005 7392-005 7392-005 7392-005	GAM SR TH U		03/27/06 03/23/06 03/29/06 03/24/06	03/28/06 04/04/06 04/05/06 04/05/06	CSS MWT MWT MWT	Gamma Scan Total Strontium in Solids Thorium, Isotopic in Solids Uranium, Isotopic in Solids
R602153-06 02/19/06 02/22/06	Method Blank RC-047	RC-047	SOLID	7392-006 7392-006 7392-006 7392-006	GAM SR TH U		03/25/06 03/23/06 04/03/06 03/24/06	03/28/06 04/04/06 04/05/06 04/05/06	CSS MWT MWT MWT	Gamma Scan Total Strontium in Solids Thorium, Isotopic in Solids Uranium, Isotopic in Solids
R602153-07 02/19/06 02/22/06	Duplicate (R602153-04) Sediment 300-1 RC-047	RC-047	SOLID	7392-007 7392-007 7392-007 7392-007	GAM SR TH U		03/28/06 03/23/06 04/03/06 03/24/06	03/28/06 04/04/06 04/05/06 04/05/06	CSS MWT MWT MWT	Gamma Scan Total Strontium in Solids Thorium, Isotopic in Solids Uranium, Isotopic in Solids

WORK SUMMARY

Page 1

SUMMARY DATA SECTION

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Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 04/05/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0232

SDG 7392
 Contact Melissa C. Mannion

WORK SUMMARY, cont.

Client Hanford
 Contract No. 630
 Case no SDG K0232

COUNTS OF TESTS BY SAMPLE TYPE

TEST	SAF No	METHOD	REFERENCE	CLIENT	MORE	RE	BLANK	LCS	DUP SPIKE	TOTAL
GAM	RC-047	Gamma Scan	GAMMA_GS	4			1	1	1	7
SR	RC-047	Total Strontium in Solids	SRTOT_SEP_PRECIP_GPC	4			1	1	1	7
TH	RC-047	Thorium, Isotopic in Solids	THISO_IE_PLATE_AEA	4			1	1	1	7
U	RC-047	Uranium, Isotopic in Solids	UIISO_PLATE_AEA	4			1	1	1	7
TOTALS				16			4	4	4	28

WORK SUMMARY

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SUMMARY DATA SECTION

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Lab id EBRLNE
 Protocol Hanford
 Version Ver 1.0
 Form DVD-LWS
 Version 3.06
 Report date 04/05/06

EBERLINE SERVICES / RICHMOND
SAMPLE DELIVERY GROUP K0232

7392-006

Method Blank

METHOD BLANK

<u>SDG 7392</u>	<u>Client/Case no Hanford</u>	<u>SDG K0232</u>
<u>Contact Melissa C. Mannion</u>	<u>Contract No. 630</u>	
<u>Lab sample id R602153-06</u>	<u>Client sample id Method Blank</u>	
<u>Dept sample id 7392-006</u>	<u>Material/Matrix</u>	<u>SOLID</u>
	<u>SAF No RC-047</u>	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Total Strontium	SR-RAD	0.027	0.16	0.29	1.0	U	SR
Thorium 228	14274-82-9	0.040	0.16	0.30	1.0	U	TH
Thorium 230	14269-63-7	0.157	0.24	0.30	1.0	U	TH
Thorium 232	TH-232	-0.039	0.079	0.30	1.0	U	TH
Uranium 233/234	U-233/234	<u>0.493</u>	0.24	0.22	1.0		U
Uranium 235	15117-96-1	0.035	0.070	0.27	1.0	U	U
Uranium 238	U-238	<u>0.377</u>	0.23	0.22	1.0		U
Potassium 40	13966-00-2	U		0.46		U	GAM
Cobalt 60	10198-40-0	U		0.020	0.050	U	GAM
Cesium 137	10045-97-3	U		0.018	0.10	U	GAM
Radium 226	13982-63-3	U		0.033	0.10	U	GAM
Radium 228	15262-20-1	U		0.075	0.20	U	GAM
Europium 152	14683-23-9	U		0.040	0.10	U	GAM
Europium 154	15585-10-1	U		0.051	0.10	U	GAM
Europium 155	14391-16-3	U		0.039	0.10	U	GAM
Thorium 228	14274-82-9	U		0.022		U	GAM
Thorium 232	TH-232	U		0.075		U	GAM
Uranium 235	15117-96-1	U		0.060		U	GAM
Uranium 238	U-238	U		2.0		U	GAM
Americium 241	14596-10-2	U		0.053		U	GAM
Beryllium 7	13966-02-4	U		0.11		U	GAM
Ruthenium 106	13967-48-1	U		0.13		U	GAM
Antimony 125	14234-35-6	U		0.037		U	GAM
Cesium 134	13967-70-9	U		0.021		U	GAM

100&300Area Compnt RCBRA Sediment&Ti

QC-BLANK #56243

Lab id <u>EBRLNE</u>
Protocol <u>Hanford</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>04/05/06</u>

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0232

7392-005

Lab Control Sample

LAB CONTROL SAMPLE

SDG <u>7392</u> Contact <u>Melissa C. Mannion</u> Lab sample id <u>R602153-05</u> Dept sample id <u>7392-005</u>	Client/Case no <u>Hanford</u> SDG <u>K0232</u> Contract No. <u>630</u> Client sample id <u>Lab Control Sample</u> Material/Matrix _____ SOLID SAF No <u>RC-047</u>
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ANALYTE	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS TEST	ADDED pCi/g	2σ ERR pCi/g	REC %	3σ LMTS (TOTAL)	PROTOCOL LIMITS
Total Strontium	9.65	0.65	0.32	1.0	SR	9.83	0.39	98	81-119	80-120
Thorium 230	37.9	4.5	0.39	1.0	TH	40.4	1.6	94	81-119	80-120
Uranium 233/234	17.9	2.1	0.98	1.0	U	19.3	0.77	93	81-119	80-120
Uranium 235	15.2	1.9	0.25	1.0	U	15.7	0.63	97	80-120	80-120
Uranium 238	19.2	2.2	0.93	1.0	U	21.0	0.84	91	82-118	80-120
Cobalt 60	0.748	0.034	0.018	0.050	GAM	0.735	0.029	102	75-125	80-120
Cesium 137	0.801	0.029	0.021	0.10	GAM	0.753	0.030	106	75-125	80-120

100&300Area Compnt RCBRA Sediment&Ti

QC-LCS #56242

Lab id EBRLNE
 Protocol Hanford
 Version Ver 1.0
 Form DVD-LCS
 Version 3.06
 Report date 04/05/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0232

7392-007

J11740

DUPLICATE

SDG <u>7392</u>	Client/Case no <u>Hanford</u>	SDG <u>K0232</u>
Contact <u>Melissa C. Mannion</u>	Contract No. <u>630</u>	
DUPLICATE	ORIGINAL	
Lab sample id <u>R602153-07</u>	Lab sample id <u>R602153-04</u>	Client sample id <u>J11740</u>
Dept sample id <u>7392-007</u>	Dept sample id <u>7392-004</u>	Location/Matrix <u>Sediment 300-1</u> <u>SOLID</u>
	Received <u>02/22/06</u>	Collected/Weight <u>02/19/06 14:00</u> <u>573.3 g</u>
% solids <u>100.0</u>	% solids <u>100.0</u>	Custody/SAF No <u>RC-047-116</u> <u>RC-047</u>

ANALYTE	DUPLICATE		2σ ERR		MDA		RDL		QUALI-		ORIGINAL		2σ ERR		MDA		QUALI-		RPD		3σ		DER	
	pCi/g	(COUNT)	pCi/g	(COUNT)	pCi/g	(COUNT)	pCi/g	(COUNT)	FIERS	TEST	pCi/g	(COUNT)	pCi/g	(COUNT)	FIERS	TEST	%	TOT	σ	σ	σ	σ	σ	σ
Total Strontium	0.018	0.19	0.32	1.0	U	SR	0.112	0.17	0.32	U	-	0.7												
Thorium 228	0.478	0.38	0.46	1.0	U	TH	0.800	0.41	0.38	U	50	132	1.1											
Thorium 230	0.332	0.29	0.36	1.0	U	TH	0.350	0.30	0.38	U	-	0.1												
Thorium 232	0.854	0.39	0.36	1.0	U	TH	0.749	0.41	0.38	U	13	106	0.4											
Uranium 233/234	0.813	0.31	0.23	1.0	B	U	0.960	0.38	0.24	B	17	84	0.6											
Uranium 235	0.073	0.073	0.28	1.0	U	U	0.075	0.075	0.29	U	-	0												
Uranium 238	0.783	0.31	0.23	1.0	B	U	0.774	0.32	0.24	B	1	86	0											
Potassium 40	10.9	0.47	0.23			GAM	11.1	0.29	0.13		2	33	0.2											
Cobalt 60	U		0.036	0.050	U	GAM	0.046	0.018	0.019		24	151	0.5											
Cesium 137	0.557	0.037	0.035	0.10		GAM	0.566	0.021	0.019		2	34	0.1											
Radium 226	0.769	0.060	0.056	0.10		GAM	0.737	0.033	0.031		4	35	0.4											
Radium 228	0.888	0.11	0.11	0.20		GAM	0.845	0.065	0.065		5	39	0.4											
Europium 152	0.582	0.051	0.063	0.10		GAM	0.598	0.030	0.036		3	35	0.2											
Europium 154	U		<u>0.14</u>	0.10	U	GAM	U		0.088	U	-	0.6												
Europium 155	U		0.085	0.10	U	GAM	U		0.087	U	-	0												
Thorium 228	0.852	0.034	0.035			GAM	0.775	0.019	0.018		9	33	0.9											
Thorium 232	0.888	0.11	0.11			GAM	0.845	0.065	0.065		5	39	0.4											
Uranium 235	U		0.12		U	GAM	U		0.068	U	-	0.7												
Uranium 238	U		3.3		U	GAM	U		1.9	U	-	0.7												
Americium 241	U		0.21		U	GAM	U		0.13	U	-	0.6												
Beryllium 7	U		0.29		U	GAM	U		0.17	U	-	0.7												
Ruthenium 106	U		0.21		U	GAM	U		0.12	U	-	0.7												
Antimony 125	U		0.060		U	GAM	U		0.036	U	-	0.7												
Cesium 134	U		0.034		U	GAM	U		0.019	U	-	0.8												

100&300Area Compnt RCBRA Sediment&Ti

QC-DUP#4 56244

Lab id <u>EBRLNE</u>
Protocol <u>Hanford</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DUP</u>
Version <u>3.06</u>
Report date <u>04/05/06</u>

EBERLINE SERVICES / RICHMOND
SAMPLE DELIVERY GROUP K0232

7392-001

J11737

DATA SHEET

SDG <u>7392</u>	Client/Case no <u>Hanford</u>	SDG <u>K0232</u>
Contact <u>Melissa C. Mannion</u>	Contract No. <u>630</u>	
Lab sample id <u>R602153-01</u>	Client sample id <u>J11737</u>	
Dept sample id <u>7392-001</u>	Location/Matrix <u>U4, Sediment</u>	<u>SOLID</u>
Received <u>02/22/06</u>	Collected/Weight <u>02/19/06 15:00</u>	<u>595.7 g</u>
% solids <u>100.0</u>	Custody/SAF No <u>RC-047-113</u>	<u>RC-047</u>

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Total Strontium	SR-RAD	0.154	0.15	0.28	1.0	U	SR
Thorium 228	14274-82-9	0.787	0.36	0.27	1.0		TH
Thorium 230	14269-63-7	0.322	0.29	0.27	1.0		TH
Thorium 232	TH-232	0.893	0.36	0.27	1.0		TH
Uranium 233/234	U-233/234	4.31	0.56	0.14	1.0	B	U
Uranium 235	15117-96-1	0.252	0.14	0.14	1.0		U
Uranium 238	U-238	5.12	0.64	0.11	1.0	B	U
Potassium 40	13966-00-2	12.0	0.41	0.21			GAM
Cobalt 60	10198-40-0	U		0.021	0.050	U	GAM
Cesium 137	10045-97-3	0.257	0.023	0.024	0.10		GAM
Radium 226	13982-63-3	0.622	0.037	0.034	0.10		GAM
Radium 228	15262-20-1	0.832	0.096	0.093	0.20		GAM
Europium 152	14683-23-9	0.085	0.031	0.047	0.10		GAM
Europium 154	15585-10-1	U		0.070	0.10	U	GAM
Europium 155	14391-16-3	U		0.082	0.10	U	GAM
Thorium 228	14274-82-9	0.766	0.027	0.026			GAM
Thorium 232	TH-232	0.832	0.096	0.093			GAM
Uranium 235	15117-96-1	U		0.13		U	GAM
Uranium 238	U-238	U		2.6		U	GAM
Americium 241	14596-10-2	U		0.17		U	GAM
Beryllium 7	13966-02-4	U		0.20		U	GAM
Ruthenium 106	13967-48-1	U		0.15		U	GAM
Antimony 125	14234-35-6	U		0.044		U	GAM
Cesium 134	13967-70-9	U		0.026		U	GAM

100&300Area Compnt RCBRA Sediment&Ti

Lab id <u>EBRLNE</u>
Protocol <u>Hanford</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>04/05/06</u>

EBERLINE SERVICES / RICHMOND
SAMPLE DELIVERY GROUP K0232

7392-002

J11738

DATA SHEET

SDG <u>7392</u>	Client/Case no <u>Hanford</u>	SDG <u>K0232</u>
Contact <u>Melissa C. Mannion</u>	Contract No. <u>630</u>	
Lab sample id <u>R602153-02</u>	Client sample id <u>J11738</u>	
Dept sample id <u>7392-002</u>	Location/Matrix <u>U9, Sediment</u>	<u>SOLID</u>
Received <u>02/22/06</u>	Collected/Weight <u>02/19/06 16:00 421.0 g</u>	
% solids <u>100.0</u>	Custody/SAF No <u>RC-047-114</u>	<u>RC-047</u>

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Total Strontium	SR-RAD	-0.045	0.13	0.28	1.0	U	SR
Thorium 228	14274-82-9	1.05	0.41	0.31	1.0		TH
Thorium 230	14269-63-7	0.522	0.32	0.31	1.0		TH
Thorium 232	TH-232	0.482	0.32	0.31	1.0		TH
Uranium 233/234	U-233/234	1.57	0.36	0.13	1.0	B	U
Uranium 235	15117-96-1	0.042	0.042	0.16	1.0	U	U
Uranium 238	U-238	1.07	0.28	0.13	1.0	B	U
Potassium 40	13966-00-2	21.2	2.1	0.42			GAM
Cobalt 60	10198-40-0	U		0.039	0.050	U	GAM
Cesium 137	10045-97-3	0.701	0.053	0.048	0.10		GAM
Radium 226	13982-63-3	1.14	0.088	0.065	0.10		GAM
Radium 228	15262-20-1	1.35	0.21	0.19	0.20		GAM
Europium 152	14683-23-9	0.261	0.076	0.10	0.10		GAM
Europium 154	15585-10-1	U		0.12	0.10	U	GAM
Europium 155	14391-16-3	U		0.13	0.10	U	GAM
Thorium 228	14274-82-9	1.43	0.068	0.053			GAM
Thorium 232	TH-232	1.35	0.21	0.19			GAM
Uranium 235	15117-96-1	U		0.17		U	GAM
Uranium 238	U-238	U		12		U	GAM
Americium 241	14596-10-2	U		0.36		U	GAM
Beryllium 7	13966-02-4	U		0.43		U	GAM
Ruthenium 106	13967-48-1	U		0.30		U	GAM
Antimony 125	14234-35-6	U		0.086		U	GAM
Cesium 134	13967-70-9	U		0.050		U	GAM

100&300Area Compnt RCBRA Sediment&Ti

DATA SHEETS

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Lab id <u>EBRLNE</u>
Protocol <u>Hanford</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>04/05/06</u>

EBERLINE SERVICES / RICHMOND
SAMPLE DELIVERY GROUP K0232

7392-003

J11739

DATA SHEET

SDG <u>7392</u>	Client/Case no <u>Hanford</u>	SDG <u>K0232</u>
Contact <u>Melissa C. Mannion</u>	Contract No. <u>630</u>	
Lab sample id <u>R602153-03</u>	Client sample id <u>J11739</u>	
Dept sample id <u>7392-003</u>	Location/Matrix <u>U10, Sediment</u>	<u>SOLID</u>
Received <u>02/22/06</u>	Collected/Weight <u>02/19/06 16:40 518.7 g</u>	
% solids <u>100.0</u>	Custody/SAF No <u>RC-047-115</u>	<u>RC-047</u>

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALIFIERS	TEST
Total Strontium	SR-RAD	0.128	0.17	0.32	1.0	U	SR
Thorium 228	14274-82-9	0.722	0.49	0.58	1.0		TH
Thorium 230	14269-63-7	0.541	0.48	0.46	1.0		TH
Thorium 232	TH-232	1.02	0.49	0.46	1.0		TH
Uranium 233/234	U-233/234	0.624	0.27	0.25	1.0	B	U
Uranium 235	15117-96-1	0.040	0.080	0.30	1.0	U	U
Uranium 238	U-238	0.624	0.27	0.25	1.0	B	U
Potassium 40	13966-00-2	14.6	0.62	0.21			GAM
Cobalt 60	10198-40-0	U		0.029	0.050	U	GAM
Cesium 137	10045-97-3	0.775	0.031	0.026	0.10		GAM
Radium 226	13982-63-3	0.738	0.046	0.041	0.10		GAM
Radium 228	15262-20-1	0.844	0.092	0.088	0.20		GAM
Europium 152	14683-23-9	0.541	0.037	0.046	0.10		GAM
Europium 154	15585-10-1	0.083	0.060	0.069	0.10		GAM
Europium 155	14391-16-3	0.043	0.042	0.065	0.10	U	GAM
Thorium 228	14274-82-9	0.727	0.028	0.025			GAM
Thorium 232	TH-232	0.844	0.092	0.088			GAM
Uranium 235	15117-96-1	U		0.075		U	GAM
Uranium 238	U-238	U		2.5		U	GAM
Americium 241	14596-10-2	U		0.11		U	GAM
Beryllium 7	13966-02-4	U		0.21		U	GAM
Ruthenium 106	13967-48-1	U		0.16		U	GAM
Antimony 125	14234-35-6	U		0.050		U	GAM
Cesium 134	13967-70-9	U		0.028		U	GAM

100&300Area Compnt RCBRA Sediment&Ti

Lab id <u>EBRLNE</u>
Protocol <u>Hanford</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>04/05/06</u>

EBERLINE SERVICES / RICHMOND
SAMPLE DELIVERY GROUP K0232

7392-004

J11740

DATA SHEET

SDG <u>7392</u>	Client/Case no <u>Hanford</u>	SDG <u>K0232</u>
Contact <u>Melissa C. Mannion</u>	Contract No. <u>630</u>	
Lab sample id <u>R602153-04</u>	Client sample id <u>J11740</u>	
Dept sample id <u>7392-004</u>	Location/Matrix <u>Sediment 300-1</u>	<u>SOLID</u>
Received <u>02/22/06</u>	Collected/Weight <u>02/19/06 14:00</u>	<u>573.3 g</u>
% solids <u>100.0</u>	Custody/SAF No <u>RC-047-116</u>	<u>RC-047</u>

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Total Strontium	SR-RAD	0.112	0.17	0.32	1.0	U	SR
Thorium 228	14274-82-9	0.800	0.41	0.38	1.0		TH
Thorium 230	14269-63-7	0.350	0.30	0.38	1.0	U	TH
Thorium 232	TH-232	0.749	0.41	0.38	1.0		TH
Uranium 233/234	U-233/234	0.960	0.38	0.24	1.0	B	U
Uranium 235	15117-96-1	0.075	0.075	0.29	1.0	U	U
Uranium 238	U-238	0.774	0.32	0.24	1.0	B	U
Potassium 40	13966-00-2	11.1	0.29	0.13			GAM
Cobalt 60	10198-40-0	0.046	0.018	0.019	0.050		GAM
Cesium 137	10045-97-3	0.566	0.021	0.019	0.10		GAM
Radium 226	13982-63-3	0.737	0.033	0.031	0.10		GAM
Radium 228	15262-20-1	0.845	0.065	0.065	0.20		GAM
Europium 152	14683-23-9	0.598	0.030	0.036	0.10		GAM
Europium 154	15585-10-1	U		0.088	0.10	U	GAM
Europium 155	14391-16-3	U		0.087	0.10	U	GAM
Thorium 228	14274-82-9	0.775	0.019	0.018			GAM
Thorium 232	TH-232	0.845	0.065	0.065			GAM
Uranium 235	15117-96-1	U		0.068		U	GAM
Uranium 238	U-238	U		1.9		U	GAM
Americium 241	14596-10-2	U		0.13		U	GAM
Beryllium 7	13966-02-4	U		0.17		U	GAM
Ruthenium 106	13967-48-1	U		0.12		U	GAM
Antimony 125	14234-35-6	U		0.036		U	GAM
Cesium 134	13967-70-9	U		0.019		U	GAM

100&300Area Compnt RCBRA Sediment&Ti

DATA SHEETS

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SUMMARY DATA SECTION

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Lab id <u>EBRLNE</u>
Protocol <u>Hanford</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>04/05/06</u>

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0232

Test TH Matrix SOLID
 SDG 7392
 Contact Melissa C. Mannion

LAB METHOD SUMMARY

THORIUM, ISOTOPIC IN SOLIDS
 ALPHA SPECTROSCOPY

Client Hanford
 Contract No. 630
 Contract SDG K0232

RESULTS

LAB RAW SUF-
 SAMPLE ID TEST FIX PLANCHET CLIENT SAMPLE ID Thorium 230

Preparation batch 7169-177

R602153-01		7392-001	J11737	0.322
R602153-02		7392-002	J11738	0.522
R602153-03		7392-003	J11739	0.541
R602153-04		7392-004	J11740	U
R602153-05		7392-005	LCS (QC ID=56242)	ok
R602153-06		7392-006	BLK (QC ID=56243)	U
R602153-07		7392-007	Duplicate (R602153-04)	- U

Nominal values and limits from method RDLs (pCi/g) 1.0
 100&300Area Compnt RCBRA Sediment&Ti

METHOD PERFORMANCE

LAB RAW SUF- MAX MDA ALIQ PREP DILU- YIELD EFF COUNT FWHM DRIFT DAYS ANAL-
 SAMPLE ID TEST FIX CLIENT SAMPLE ID pCi/g g FAC TION % % min keV KeV HELD PREPARED YZED DETECTOR

Preparation batch 7169-177 2σ prep error 5.0 % Reference Lab Notebook No. 7169 pg.177

R602153-01		J11737	0.27	0.250	81	156	38	03/29/06	03/29	SS-037
R602153-02		J11738	0.31	0.250	72	156	38	03/29/06	03/29	SS-038
R602153-03		J11739	0.58	0.250	57	157	38	03/29/06	03/29	SS-039
R602153-04		J11740	0.38	0.250	77	157	38	03/29/06	03/29	SS-040
R602153-05		LCS (QC ID=56242)	0.39	0.250	65	157		03/29/06	03/29	SS-042
R602153-06		BLK (QC ID=56243)	0.30	0.250	79	166		03/29/06	04/03	SS-033
R602153-07		Duplicate (R602153-04) (QC ID=56244)	0.46	0.250	68	166	43	03/29/06	04/03	SS-034

Nominal values and limits from method 1.0 0.250 20-105 150 180

PROCEDURES REFERENCE THISO_IE_PLATE_AEA
 SPP-071 Soil Dissolution, > 1.0g Aliquot, rev 5
 CP-900 Thorium in Water and Dissolved Solid Samples by
 Extraction Chromatography, rev 1
 CP-008 Heavy Element Electroplating, rev 9

AVERAGES ± 2 SD MDA 0.38 ± 0.22
 FOR 7 SAMPLES YIELD 71 ± 17

Lab id EBRLNE
 Protocol Hanford
 Version Ver 1.0
 Form DVD-LMS
 Version 3.06
 Report date 04/05/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0232

Test U Matrix SOLID
 SDG 7392
 Contact Melissa C. Mannion

LAB METHOD SUMMARY

URANIUM, ISOTOPIC IN SOLIDS

ALPHA SPECTROSCOPY

Client Hanford
 Contract No. 630
 Contract SDG K0232

RESULTS

LAB	RAW	SUF-		1: Uranium	2: Uranium	3: Uranium	RESULT RATIOS (%)			
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	233/234	235	238	1+3	2σ	2+3	2σ
Preparation batch 7169-177										
R602153-01			7392-001 J11737	4.31	0.252	5.12	<u>84</u>	15	5	3
R602153-02			7392-002 J11738	1.57	U	1.07	147	51	4	4
R602153-03			7392-003 J11739	0.624	U	0.624	100	61	6	13
R602153-04			7392-004 J11740	0.960	U	0.774	124	71	10	10
R602153-05			7392-005 LCS (QC ID=56242)	ok	ok	ok				
R602153-06			7392-006 BLK (QC ID=56243)	<u>0.493</u>	U	<u>0.377</u>				
R602153-07			7392-007 Duplicate (R602153-04)	ok	- U	ok	104	57	9	10

Nominal values and limits from method RDLs (pCi/g) 1.0 1.0 1.0 100 4
 100&300Area Compnt RCBRA Sediment&Ti Averages 112 7

METHOD PERFORMANCE

LAB	RAW	SUF-	MAX MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-		
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/g	g	FAC	TION	%	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 7169-177 2σ prep error 5.0 % Reference Lab Notebook No. 7169 pg.177															
R602153-01		J11737	0.14	0.500			101		203			33	03/23/06	03/24	SS-063
R602153-02		J11738	0.16	0.500			77		203			33	03/23/06	03/24	SS-065
R602153-03		J11739	0.30	0.500			75		101			33	03/23/06	03/24	SS-028
R602153-04		J11740	0.29	0.500			84		101			33	03/23/06	03/24	SS-031
R602153-05		LCS (QC ID=56242)	0.98	0.500			94		101				03/23/06	03/24	SS-032
R602153-06		BLK (QC ID=56243)	0.27	0.500			87		101				03/23/06	03/24	SS-033
R602153-07		Duplicate (R602153-04)	0.28	0.500			89		102				03/23/06	03/24	SS-034
		(QC ID=56244)													

Nominal values and limits from method 1.0 0.500 20-105 100 100 180

PROCEDURES	REFERENCE	UIISO_PLATE_AEA
CP-071	Soil Dissolution, > 1.0g Aliquot, rev 5	
CP-921	Uranium in Water and Dissolved Samples by Extraction Chromatography, rev 1	
CP-008	Heavy Element Electroplating, rev 9	

AVERAGES ± 2 SD	MDA <u>0.35</u> ± <u>0.57</u>
FOR 7 SAMPLES	YIELD <u>87</u> ± <u>18</u>

METHOD SUMMARIES

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SUMMARY DATA SECTION

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Lab id EBRLNE
 Protocol Hanford
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 Form DVD-LMS
 Version 3.06
 Report date 04/05/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0232

LAB METHOD SUMMARY

TOTAL STRONTIUM IN SOLIDS
BETA COUNTING

Test SR Matrix SOLID
SDG 7392
Contact Melissa C. Mannion

Client Hanford
Contract No. 630
Contract SDG K0232

RESULTS

LAB	RAW	SUF-		Total
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Strontium
Preparation batch 7169-177				
R602153-01		7392-001	J11737	U
R602153-02		7392-002	J11738	U
R602153-03		7392-003	J11739	U
R602153-04		7392-004	J11740	U
R602153-05		7392-005	LCS (QC ID=56242)	ok
R602153-06		7392-006	BLK (QC ID=56243)	U
R602153-07		7392-007	Duplicate (R602153-04)	- U

Nominal values and limits from method RDLs (pCi/g) 1.0
100&300Area Compnt RCBRA Sediment&Ti

METHOD PERFORMANCE

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-			
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/g	g	FAC	TION	%	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR	
Preparation batch 7169-177 2σ prep error 10.0 % Reference Lab Notebook No. 7169 pg.177																
R602153-01		J11737	0.28	1.00			96		100			32	03/23/06	03/23	GRB-222	
R602153-02		J11738	0.28	1.00			97		100			32	03/23/06	03/23	GRB-224	
R602153-03		J11739	0.32	1.00			96		100			32	03/23/06	03/23	GRB-229	
R602153-04		J11740	0.32	1.00			96		100			32	03/23/06	03/23	GRB-231	
R602153-05		LCS (QC ID=56242)	0.32	1.00			91		100				03/23/06	03/23	GRB-232	
R602153-06		BLK (QC ID=56243)	0.29	1.00			92		129				03/23/06	03/23	GRB-225	
R602153-07		Duplicate (R602153-04)	0.32	1.00			94		129				32	03/23/06	03/23	GRB-226
		(QC ID=56244)														

Nominal values and limits from method 1.0 1.00 30-105 100 180

PROCEDURES REFERENCE SRTOT_SEP_PRECIP_GPC
CP-071 Soil Dissolution, > 1.0g Aliquot, rev 5
CP-383 Strontium in Dissolved Solid of < 5.0g Aliquot,
rev 1

AVERAGES ± 2 SD MDA 0.30 ± 0.040
FOR 7 SAMPLES YIELD 95 ± 5

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 04/05/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0232

LAB METHOD SUMMARY

GAMMA SCAN
GAMMA SPECTROSCOPY

Test GAM Matrix SOLID
SDG 7392
Contact Melissa C. Mannion

Client Hanford
Contract No. 630
Contract SDG K0232

RESULTS

LAB	RAW	SUF-				
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Cobalt 60	Cesium 137	
Preparation batch 7169-177						
R602153-01		7392-001	J11737	U	0.257	
R602153-02		7392-002	J11738	U	0.701	
R602153-03		7392-003	J11739	U	0.775	
R602153-04		7392-004	J11740	0.046	0.566	
R602153-05		7392-005	LCS (QC ID=56242)	ok	ok	
R602153-06		7392-006	BLK (QC ID=56243)	U	U	
R602153-07		7392-007	Duplicate (R602153-04)	ok U	ok	

Nominal values and limits from method RDLs (pCi/g) 0.050 0.10
100&300Area Compnt RCBRA Sediment&Ti

METHOD PERFORMANCE

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-		
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/g	g	FAC	TION	%	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 7169-177 2σ prep error 15.0 % Reference Lab Notebook No. 7169 pg.177															
R602153-01		J11737	<u>4.1</u>	520						628		33	03/17/06	03/24	MB,05,00
R602153-02		J11738	<u>8.8</u>	392						410		36	03/17/06	03/27	02,02,00
R602153-03		J11739	<u>4.5</u>	479						410		36	03/17/06	03/27	MB,08,00
R602153-04		J11740	<u>3.2</u>	536						1144		36	03/17/06	03/27	MB,05,00
R602153-05		LCS (QC ID=56242)	0.018	392						1144			03/17/06	03/27	01,03,00
R602153-06		BLK (QC ID=56243)	<u>4.3</u>	392						431			03/17/06	03/25	JR,08,00
R602153-07		Duplicate (R602153-04)	<u>5.2</u>	536						403		37	03/17/06	03/28	MB,05,00
		(QC ID=56244)													

Nominal values and limits from method 0.050 392 100 180

PROCEDURES REFERENCE GAMMA_GS
SPP-100 Ge(Li) Preparation for Commercial Samples, rev 7

AVERAGES ± 2 SD MDA 4.3 ± 5.2
FOR 7 SAMPLES YIELD _____ ± _____

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Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
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EBERLINE SERVICES / RICHMOND

SAMPLE DELIVERY GROUP K0232

SDG 7392
 Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
 Contract No. 630
 Case no SDG_K0232

SAMPLE SUMMARY

The Sample and QC Summary Reports show all samples, including QC samples, reported in one Sample Delivery Group (SDG).

The Sample Summary Report fully identifies client samples and gives the corresponding lab sample identification. The QC Summary Report shows at the sample level how the lab organized the samples into batches and generated QC samples. The Preparation Batch and Method Summary Reports show this at the analysis level.

The following notes apply to these reports:

- * LAB SAMPLE ID is the lab's primary identification for a sample.
- * DEPARTMENT SAMPLE ID is an alternate lab id, for example one assigned by a radiochemistry department in a lab.
- * CLIENT SAMPLE ID is the client's primary identification for a sample. It includes any sample preparation done by the client that is necessary to identify the sample.
- * QC BATCH is a lab assigned code that groups samples to be processed and QCed together. These samples should have similar matrices.

QC BATCH is not necessarily the same as SDG, which reflects samples received and reported together.

- * All Lab Control Samples, Method Blanks, Duplicates and Matrix Spikes are shown that QC any of the samples. Due to possible reanalyses, not all results for all these QC samples may be relevant to the SDG. The Lab Control Sample, Method Blank, Duplicate, Matrix Spike and Method Summary Reports detail these relationships.

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SUMMARY DATA SECTION

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SAMPLE DELIVERY GROUP K0232

SDG 7392
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG K0232

PREPARATION BATCH SUMMARY

The Preparation Batch Summary Report shows all preparation batches in one Sample Delivery Group (SDG) with information necessary to check the completeness and consistency of the SDG.

The following notes apply to this report:

- * The preparation batches are shown in the same order as the Method Summary Reports are printed.
- * Only analyses of planchets relevant to the SDG are included.
- * Each preparation batch should have at least one Method Blank and LCS in it to validate client sample results.
- * The QUALIFIERS shown are all qualifiers other than U, J, B, L and H that occur on any analysis in the preparation batch. The Method Summary Report has these qualifiers on a per sample basis.

These qualifiers should be reviewed as follows:

- X Some data has been manually entered or modified. Transcription errors are possible.
- P One or more results are 'preliminary'. The data is not ready for final reporting.
- 2 There were two or more results for one analyte on one planchet imported at one time. The results in DVD may not be the same as on the raw data sheets.

Other lab defined qualifiers may occur. In general, these should be addressed in the SDG narrative.

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SAMPLE DELIVERY GROUP K0232

SDG 7392
 Contact Melissa C. Mannion

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 Case no SDG K0232

WORK SUMMARY

The Work Summary Report shows all samples, including QC samples, and all relevant analyses in one Sample Delivery Group (SDG). This report is often useful as supporting documentation for an invoice.

The following notes apply to this report:

- * TEST is a code for the method used to measure associated analytes. Results and related information for each analyte are on the Data Sheet Report. In special cases, a test code used in the summary data section is not the same as in associated raw data. In this case, both codes are shown on the Work Summary.
- * SUFFIX is the lab's code to distinguish multiple analyses (recounts, reworks, reanalyses) of a fraction of the sample. The suffix indicates which result is being reported. An empty suffix normally identifies the first attempt to analyze the sample.
- * The LAB SAMPLE ID, TEST and SUFFIX uniquely identify all supporting data for a result. The Method Summary Report for each TEST has method performance data, such as yield, for each lab sample id and suffix and procedures used in the method.
- * PLANCHET is an alternate lab identifier for work done for one test. It, combined with the TEST and SUFFIX, may be the best link to raw data.
- * For QC samples, only analyses that directly QC some regular sample are shown. The Lab Control Sample, Method Blank, Duplicate, Matrix Spike and Method Summary Reports detail these relationships.
- * The SAS (Special Analytical Services) Number is a client or lab assigned code that reflects special processing for samples, such as rapid turn around. Counts of tests done are lists by SAS number since it is likely to affect prices.

REPORT GUIDES

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SUMMARY DATA SECTION

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SAMPLE DELIVERY GROUP K0232

SDG 7392
 Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
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 Case no SDG K0232

DATA SHEET

The Data Sheet Report shows all results and primary supporting information for one client sample or Method Blank. This report corresponds to both the CLP Inorganics and Organics Data Sheet.

The following notes apply to this report:

- * TEST is a code for the method used to measure an analyte. If the TEST is empty, no data is available; the analyte was not analyzed for.
- * The LAB SAMPLE ID and TEST uniquely identify work within the Summary Data Section of a Data Package. The Work Summary and Method Summary Reports further identify raw data that underlies this work.

The Method Summary Report for each TEST has method performance data, such as yield, for each Lab Sample ID and a list of procedures used in the method.

- * ERRORS can be labeled TOTAL or COUNT. TOTAL implies a preparation (non-counting method) error has been added, as square root of sum of squares, to the counting error denoted by COUNT. The preparation errors, which may vary by preparation batch, are shown on the Method Summary Report.
- * A RESULT can be 'N.R.' (Not Reported). This means the lab did this work but chooses not to report it now, possibly because it was reported at another time.
- * When reporting a Method Blank, a RESULT can be 'N.A.' (Not Applicable). This means there is no reported client sample work in the same preparation batch as the Blank's result. This is likely to occur when the Method Blank is associated with reanalyses of selected work for a few samples in the SDG.

The following qualifiers are defined by the DVD system:

- U The RESULT is less than the MDA (Minimum Detectable Activity).

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SUMMARY DATA SECTION

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GUIDE , cont .

DATA SHEET

If the MDA is blank, the ERROR is used as the limit.

- J The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.
- B A Method Blank associated with this sample had a result without a U flag and, after correcting for possibly different aliquots, that result is greater than or equal to the MDA for this sample.

Normally, B is not assigned if U is. When method blank subtraction is shown on this report, B flags are assigned based on the unsubtracted values while U's are assigned based on the subtracted ones. Both flags can be assigned in this case.

For each sample result, all Method Blank results in the same preparation batch are compared. The Method Summary Report documents this and other QC relationships.

- L Some Lab Control Sample that QC's this sample had a low recovery. The lab can disable assignment of this qualifier.
- H Similar to 'L' except the recovery was high.
- P The RESULT is 'preliminary'.
- X Some data necessary to compute the RESULT, ERROR or MDA was manually entered or modified.
- 2 There were two or more results available for this analyte. The reported result may not be the same as in the raw data.

Other qualifiers are lab defined. Definitions should be in the SDG narrative.

The following values are underlined to indicate possible problems:

- * An MDA is underlined if it is bigger than its RDL.

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 Contact Melissa C. Mannion

GUIDE, cont.

Client Hanford
 Contract No. 630
 Case no SDG K0232

DATA SHEET

- * An ERROR is underlined if the 1.645 sigma counting error is bigger than both the MDA and the RESULT, implying that the MDA may not be a good estimate of the 'real' minimum detectable activity.
- * A negative RESULT is underlined if it is less than the negative of its 2 sigma counting ERROR.
- * When reporting a Method Blank, a RESULT is underlined if greater than its MDA. If the MDA is blank, the 2 sigma counting error is used in the comparison.

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LAB CONTROL SAMPLE

The Lab Control Sample Report shows all results, recoveries and primary supporting information for one Lab Control Sample.

The following notes apply to this report:

- * All fields in common with the Data Sheet Report have similar usage. Refer to its Report Guide for details.
- * An amount ADDED is the lab's value for the actual amount spiked into this sample with its ERROR an estimate of the error of this amount.

An amount added is underlined if its ratio to the corresponding RDL is outside protocol specified limits.

- * REC (Recovery) is RESULT divided by ADDED expressed as a percent.
- * The first, computed limits for the recovery reflect:
 1. The error of RESULT, including that introduced by rounding the result prior to printing.

If the limits are labeled (TOTAL), they include preparation error in the result. If labeled (COUNT), they do not.
 2. The error of ADDED.
 3. A lab specified, per analyte bias. The bias changes the center of the computed limits.
- * The second limits are protocol defined upper and lower QC limits for the recovery.
- * The recovery is underlined if it is outside either of these ranges.

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DUPLICATE

The Duplicate Report shows all results, differences and primary supporting information for one Duplicate and associated Original sample.

The following notes apply to this report:

- * All fields in common with the Data Sheet Report have similar usage. This applies both to the Duplicate and Original sample data. Refer to the Data Sheet Report Guide for details.

If the Duplicate has data for a TEST and the lab did not do this test to the Original, the Original's RESULTS are underlined.

- * The RPD (Relative Percent Difference) is the absolute value of the difference of the RESULTS divided by their average expressed as a percent.

If both RESULTS are less than their MDAs, no RPD is computed and a '-' is printed.

For an analyte, if the lab did work for both samples but has data for only one, the MDA from the sample with data is used as the other's result in the RPD.

- * The first, computed limit is the sum, as square root of sum of squares, of the errors of the results divided by the average result as a percent, hence the relative error of the difference rather than the error of the relative difference. The errors include those introduced by rounding the RESULTS prior to printing.

If this limit is labeled TOT, it includes the preparation error in the RESULTS. If labeled CNT, it does not.

This value reported for this limit is at most 999.

- * The second limit for the RPD is the larger of:
 1. A fixed percentage specified in the protocol.

REPORT GUIDES

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SUMMARY DATA SECTION

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SAMPLE DELIVERY GROUP K0232

SDG 7392
Contact Melissa C. Mannion

GUIDE, cont.

Client Hanford
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Case no SDG K0232

DUPLICATE

2. A protocol factor (typically 2) times the average MDA as a percent of the average result. This limit applies when the results are close to the MDAs.

- * The RPD is underlined if it is greater than either limit.
- * If specified by the lab, the second limit column is replaced by the Difference Error Ratio (DER), which is the absolute value of the difference of the results divided by the quadratic sum of their one sigma errors, the same errors as used in the first limit.

Except for differences due to rounding, the DER is the same as the RPD divided by the first RPD limit with the limit scaled to 1 sigma.

- * The DER is underlined if it is greater than the sigma factor, typically 2 or 3, shown in the header for the first RPD limit.

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SDG 7392
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REPORT GUIDE

Client Hanford
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MATRIX SPIKE

The Matrix Spike Report shows all results, recoveries and primary supporting information for one Matrix Spike and associated Original sample.

The following notes apply to this report:

- * All fields in common with the Data Sheet Report have similar usage. This applies both to the Spiked and Original sample data. Refer to the Data Sheet Report Guide for details.

If the Spike has data for a TEST and the lab did not do this test to the Original, the Original's RESULTS are underlined.

- * An amount ADDED is the lab's value for the actual amount spiked into the Spike sample with its ERROR an estimate of the error of this amount.

An amount is underlined if its ratio to the corresponding RDL is outside protocol specified limits.

- * REC (Recovery) is the Spike RESULT minus the Original RESULT divided by ADDED expressed as a percent.

- * The first, computed limits for the recovery reflect:

1. The errors of the two RESULTS, including those introduced by rounding them prior to printing.

If the limits are labeled (TOTAL), they include preparation error in the result. If labeled (COUNT), they do not.

2. The error of ADDED.

3. A lab specified, per analyte bias. The bias changes the center of the computed limits.

- * The second limits are protocol defined upper and lower QC limits

REPORT GUIDES

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SUMMARY DATA SECTION

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SDG 7392
Contact Melissa C. Mannion

GUIDE, cont.

Client Hanford
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Case no SDG K0232

MATRIX SPIKE

for the recovery.

These limits are left blank if the Original RESULT is more than a protocol defined factor (typically 4) times ADDED. This is a way of accounting for that when the spike is small compared to the amount in the original sample, the recovery is unreliable.

* The recovery is underlined (out of spec) if it is outside either of these ranges.

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REPORT GUIDE

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METHOD SUMMARY

The Method Summary Report has two tables. One shows up to five results measured using one method. The other has performance data for the method. There is one report for each TEST, as used on the Data Sheet Report.

The following notes apply to this report:

- * Each table is subdivided into sections, one for each preparation batch. A preparation batch is a group of aliquots prepared at roughly the same time in one work area of the lab using the same method.

There should be Lab Control Sample and Method Blank results in each preparation batch since this close correspondence makes the QC meaningful. Depending on lab policy, Duplicates need not occur in each batch since they QC sample dependencies such as matrix effects.

- * The RAW TEST column shows the test code used in the raw data to identify a particular analysis if it is different than the test code in the header of the report. This occurs in special cases due to method specific details about how the lab labels work.

The Lab Sample or Planchet ID combined with the (Raw) Test Code and Suffix uniquely identify the raw data for each analysis.

- * If a result is less than both its MDA and RDL, it is replaced by just 'U' on this report. If it is greater than or equal to the RDL but less than the MDA, the result is shown with a 'U' flag.

The J and X flags are as on the data sheet.

- * Non-U results for Method Blanks are underlined to indicate possible contamination of other samples in the preparation batch. The Method Blank Report has supporting data.
- * Lab Control Sample and Matrix Spike results are shown as: ok, No data, LOW or HIGH, with the last two underlined. 'No data'

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SUMMARY DATA SECTION

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Lab id EBRLNE
 Protocol Hanford
 Version Ver 1.0
 Form DVD-RG
 Version 3.06
 Report date 04/05/06

EBERLINE SERVICES / RICHMOND

SAMPLE DELIVERY GROUP K0232

SDG 7392
 Contact Melissa C. Mannion

GUIDE, cont.

Client Hanford
 Contract No. 630
 Case no SDG K0232

METHOD SUMMARY

means no amount ADDED was specified. 'LOW' and 'HIGH' correspond to when the recovery is underlined on the Lab Control Sample or Matrix Spike Report. See these reports for supporting data.

- * Duplicate sample results are shown as: ok, No data, or OUT, with the last two underlined. 'No data' means there was no original sample data found for this duplicate. 'OUT' corresponds to when the RPD is underlined on the Duplicate Report. See this report for supporting data.
- * If the MDA column is labeled 'MAX MDA', there was more than one result measured by the reported method and the MDA shown is the largest MDA. If not all these results have the same RDL, the MAX MDA reflects only those results with RDL equal to the smallest one.

MDAs are underlined if greater than the printed RDL.

- * Aliquots are underlined if less than the nominal value specified for the method.
- * Preparation factors are underlined if greater than the nominal value specified for the method.
- * Dilution factors are underlined if greater than the nominal value specified for the method.
- * Residues are underlined if outside the range specified for the method. Residues are not printed if yields are.
- * Yields, which may be gravimetric, radiometric or some type of recovery depending on the method, are underlined if outside the range specified for the method.
- * Efficiencies are underlined if outside the range specified for the method. Efficiencies are detector and geometry dependent so this test is only approximate.

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SUMMARY DATA SECTION

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Lab id EBRLNE
 Protocol Hanford
 Version Ver 1.0
 Form DVD-RG
 Version 3.06
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EBERLINE SERVICES / RICHMOND

SAMPLE DELIVERY GROUP K0232

SDG 7392
 Contact Melissa C. Mannion

GUIDE, cont.

Client Hanford
 Contract No. 630
 Case no SDG K0232

METHOD SUMMARY

- * Count times are underlined if less than the nominal value specified for the method.
- * Resolutions (as FWHM; Full Width at Half Max) are underlined if greater than the method specified limit.
- * Tracer drifts are underlined if their absolute values are greater than the method specified limit. Tracer drifts are not printed if percent moistures are.
- * Days Held are underlined if greater than the holding time specified in the protocol.
- * Analysis dates are underlined if before their planchet's preparation date or, if a limit is specified, too far after it.

For some methods, ratios as percentages and error estimates for them are computed for pairs of results. A ratio column header like '1+3' means the ratio of the first result column and the third result column.

Ratios are not computed for Lab Control Sample, Method Blank or Matrix Spike results since their matrices are not necessarily similar to client samples'.

The error estimate for a ratio of results from one planchet reflects only counting errors since other errors should be correlated. For a ratio involving different planchets, if QC limits are computed based on total errors, the error for the ratio allows for the preparation errors for the planchets.

The ratio is underlined (out of spec) if the absolute value of its difference from the nominal value is greater than its error estimate. If no nominal value is specified, this test is not done.

For Gross Alpha or Gross Beta results, there may be a column showing the sum of other Alpha or Beta emitters. This sum includes all relevant

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SUMMARY DATA SECTION

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EBERLINE SERVICES / RICHMOND

SAMPLE DELIVERY GROUP K0232

SDG 7392
Contact Melissa C. Mannion

GUIDE, cont.

Client Hanford
Contract No. 630
Case no SDG K0232

METHOD SUMMARY

results in the DVD database, whether reported or not. Results in the sum are weighted by a particles/decay value specified by the lab for each relevant analyte. Results less than their MDA are not included. No sums are computed for Lab Control, Method Blank or Matrix Spike samples since their various planchets may not be physically related.

If a ratio of total isotopic to Gross Alpha or Beta is shown, the error for the ratio reflects both the error in the Gross result and the sum, as square root of sum of squares, of the errors in the isotopic results.

For total elemental uranium or thorium results, there may be a column showing the total weight computed from associated isotopic results. Ignoring results less than their MDAs, this is a weighted sum of the isotopic results. The weights depend on the molecular weight and half-life of each isotope so as to convert activities (decays) to weight (atoms).

If a ratio of total computed to measured elemental uranium or thorium is shown, the error for the ratio reflects the errors in all the measurements.

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SUMMARY DATA SECTION

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Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 04/05/06

Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				RC-047-113		Page 1 of 1	
Collector TILLER JAMES BERNHARD		Company Contact JOAN KESSNER		Telephone No. 375-4688		Project Coordinator KESSNER, JH		Price Code 9N Data Turnaround	
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti		Sampling Location U 4, SEDIMENT K0232 (7392)		SAF No. RC-047		Air Quality <input type="checkbox"/>		45 Days	
Ice Chest No. ERC-03-105		Field Logbook No. EL-1597		COA BESRAS6520		Method of Shipment FED EX			
Shipped To BERLINE SERVICES LIONVILLE		Offsite Property No. A060305		Bill of Lading/Air Bill No. SEE OSPC					

POSSIBLE SAMPLE HAZARDS/REMARKS POTENTIAL RADIOACTIVE <DOT LIMITS Special Handling and/or Storage COOL 4E R2S Alone 2-21-06	Preservation	None	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C		
	Type of Container	G/P	G/P	G/P	aG	aG	aG	G	G		
	No. of Container(s)	1	1	1	1	1	1	1	1		
	Volume	750g	5g	15g	50g	50g	50g	50g	50g		
SAMPLE ANALYSIS		Gamma Spec - (Full List)	Strontium- 89,90 -- Total Sr; Isotopic Thorium; Isotopic Uranium	ICP Metals - 6010 (Full List); Mercury - 7471 - (CV)	Pesticides - 8081	PCBs - 8082	Semi-VOA - 8270A (TCL)	TPH (Total) - 418.1	TPH-Diesel Range - WTPH-D - Add On; TPH- Gasoline Range - WTPH-G		
Sample No.	Matrix *	Sample Date	Sample Time								
J11737	OTHER SOLID	2-19-06	1500	X	X						

CHAIN OF POSSESSION		Sign/Print Names		SPECIAL INSTRUCTIONS				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 JAMES BERNHARD	Date/Time 2-19-06	Received By/Stored In EAS LOCKED STORAGE	Date/Time 2-19-06	gamma - Sb125, Be7, Co134, K4106 MCM 3/23/06				
Relinquished By/Removed From EAS LOCKED STORAGE	Date/Time 2-21-06	Received By/Stored In R2 Steffler R. J. Steffler	Date/Time 2-21-06					
Relinquished By/Removed From R2 Steffler R. J. Steffler	Date/Time 2-21-06	Received By/Stored In Fed Ex	Date/Time					
Relinquished By/Removed From FEDEX	Date/Time	Received By/Stored In Alex Kleeber	Date/Time 2/22/06 10:00					
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

Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						RC-047-114		Page 1 of 1				
Collector TILLER JAMES BERNHARD		Company Contact JOAN KESSNER		Telephone No. 375-4688		Project Coordinator KESSNER, JH		Price Code 9N		Data Turnaround 45 Days				
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti		Sampling Location U 9. SEDIMENT K0232 (7392)		SAF No. RC-047		Air Quality <input type="checkbox"/>								
Ice Chest No. ERC-03-105		Field Logbook No. EL-1597		COA BESRAS6520		Method of Shipment FED EX								
Shipped To EBERLINE SERVICES LIONVILLE		Offsite Property No. A060305		Bill of Lading/Air Bill No. SEE OSPC										
POSSIBLE SAMPLE HAZARDS/REMARKS POTENTIAL RADIOACTIVE <DOT LIMITS				Preservation	None	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C		
Special Handling and/or Storage COOL 4C RES 2-21-06 None				Type of Container	G/P	G/P	G/P	aG	aG	aG	G	G		
				No. of Container(s)	1	1	1	1	1	1	1	1		
				Volume	750g	5g	15g	50g	50g	50g	50g	50g		
SAMPLE ANALYSIS				Gamma Spec - (Full List)	Strontium- 89,90 -- Total Sr; Isotopic Thorium; Isotopic Uranium	ICP Metals - 6010 (Full List); Mercury - 7471 - (CV)	Pesticides - 8081	PCBs - 8082	Semi-VOA - 8270A (TCL)	TPH (Total) - 418.1	TPH-Diesel Range - WTPH-D - Add On; TPH- Gasoline Range - WTPH-G			
Sample No.	Matrix *	Sample Date	Sample Time											
J11738	OTHER SOLID	2-19-06	1600	X	X									
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS				Matrix *		
Relinquished By/Removed From JAMES BERNHARD		Date/Time 2-19-06		Received By/Stored In EAS LOCKED STORAGE		Date/Time 2-19-06		gamma - S6125, B27, C0134, R0106 MCM 3/23/06				S=Soil SE=Sediment SO=Solid Sl=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue Wl=Wipe L=Liquid V=Vegetation X=Other		
Relinquished By/Removed From EAS LOCKED STORAGE		Date/Time 2-21-06		Received By/Stored In RE Steffler R. J. Steffler		Date/Time 2-21-06								
Relinquished By/Removed From RE Steffler R. J. Steffler		Date/Time 1600 WH 2-21-06		Received By/Stored In FED EX		Date/Time								
Relinquished By/Removed From FED EX		Date/Time		Received By/Stored In Alex Kessner		Date/Time 2/22/06 1000P								
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						

Washington Closure Hanford			CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST							RC-047-115		Page 1 of 1		
Collector TILLER JAMES BERNHARD			Company Contact JOAN KESSNER			Telephone No. 375-4688		Project Coordinator KESSNER, JH		Price Code 9N		Data Turnaround 45 Days		
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti			Sampling Location U10 SEDIMENT K0232 (7392)			SAF No. RC-047		Air Quality <input type="checkbox"/>						
Ice Chest No. ERC-03-105			Field Logbook No. EL-1597		COA BESRAS6520		Method of Shipment FED EX							
Shipped To EBERLINE SERVICES/ LIONVILLE			Offsite Property No. A060305			Bill of Lading/Air Bill No. SEE OSCP								
POSSIBLE SAMPLE HAZARDS/REMARKS POTENTIAL RADIOACTIVE <DOT LIMITS Special Handling and/or Storage COOL 4C R2S None 2-21-06				Preservation	None	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C		
				Type of Container	G/P	G/P	G/P	aG	aG	aG	G	G		
				No. of Container(s)	1	1	1	1	1	1	1	1		
				Volume	750g	5g	15g	50g	50g	50g	50g	50g		
SAMPLE ANALYSIS				Gamma Spec - (Full List)	Strontium-89,90 -- Total Sr; Isotopic Thorium; Isotopic Uranium	ICP Metals - 6010 (Full List); Mercury - 7471 - (CV)	Pesticides - 8081	PCBs - 8082	Semi-VOA - 8270A (TCL)	TPH (Total) - 418.1	TPH-Diesel Range - WTPH-D - Add On; TPH-Gasoline Range - WTPH-G			
				Sample No.	Matrix *	Sample Date	Sample Time							
J11739	OTHER SOLID	2-19-06	1640	X	X									
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS gamma - S6125, B27, C0134, R0106 MUM 3/23/06					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 JAMES BERNHARD		Date/Time 1500 2-19-06		Received By/Stored In EAS LOCKED STORAGE		Date/Time 1800 2-19-06								
Relinquished By/Removed From EAS LOCKED STORAGE		Date/Time 0900 2-21-06		Received By/Stored In R2 Staff		Date/Time 0900 2-21-06								
Relinquished By/Removed From R2 Staff		Date/Time 1600 2-21-06		Received By/Stored In FED EX		Date/Time								
Relinquished By/Removed From FED EX		Date/Time		Received By/Stored In Alex K...		Date/Time 2/22/06 10:00								
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		

Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					RC-047-116		Page 1 of 1				
Collector TILLER JAMES BERNHARD		Company Contact JOAN KESSNER		Telephone No. 375-4688		Project Coordinator KESSNER, JH		Price Code 9N		Data Turnaround			
Project Designation 100 & 300 Area Component of the RCBRA Sediment and Ti		Sampling Location K0232 (7392) SEDIMENT 300-1 FEB 2-19-06		SAF No. RC-047		Air Quality <input type="checkbox"/>		45 Days					
Ice Chest No. ERC-03-105		Field Logbook No. EL-1597		COA BESRAS6520		Method of Shipment FED EX							
Shipped To EBERLINE SERVICES LIONVILLE		Offsite Property No. A060305		Bill of Lading/Air Bill No. SEE OSPC									
POSSIBLE SAMPLE HAZARDS/REMARKS POTENTIAL RADIOACTIVE <DOT LIMITS Special Handling and/or Storage COOL 4C RJS None 2-21-06			Preservation	None	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C			
			Type of Container	G/P	G/P	G/P	aG	aG	aG	G	G		
			No. of Container(s)	1	1	1	1	1	1	1	1		
			Volume	750g	5g	15g	50g	50g	50g	50g	50g		
SAMPLE ANALYSIS			Gamma Spec - (Full List)	Strontium-89,90 -- Total Sr; Isotopic Thorium; Isotopic Uranium	ICP Metals - 6010 (Full List); Mercury - 7471 - (CV)	Pesticides - 8081	PCBs - 8082	Semi-VOA - 8270A (TCL)	TPH (Total) - 418.1	TPH-Diesel Range - WTPH-D - Add On; TPH-Gasoline Range - WTPH-G			
			Sample No.	Matrix *	Sample Date	Sample Time							
J11740	OTHER SOLID	2-19-06	1400	X	X								
CHAIN OF POSSESSION			Sign/Print Names			SPECIAL INSTRUCTIONS					Matrix *		
Relinquished By/Removed From JAMES BERNHARD		Date/Time 2-19-06 1500	Received By/Stored In EAS LOCKED STORAGE		Date/Time 2-19-06 1500	gamma - Sb125, Be7, C134, Ru106 MCM 3/23/06					S=Soil SE=Sediment SO=Solid Sl=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue Wl=Wipe L=Liquid V=Vegetation X=Other		
Relinquished By/Removed From EAS LOCKED STORAGE		Date/Time 2-21-06 0900	Received By/Stored In R2 Steffler R.J. Steffler		Date/Time 2-21-06 0900								
Relinquished By/Removed From R2 Steffler R.J. Steffler		Date/Time 2-21-06 1600	Received By/Stored In Fed Ex		Date/Time								
Relinquished By/Removed From FED EX		Date/Time	Received By/Stored In Steve Keenan		Date/Time 2/22/06 10:00								
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							



RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: WC HANFORD City RICHLAND State WA
 Date/Time received 2/22/06 10:00 CoC No. RC-047-113-116
 Container I.D. No. ERC-03-105 Requested TAT (Days) 45 P.O. Received Yes [] No []

INSPECTION

1. Custody seals on shipping container intact? Yes [] No [] N/A []
2. Custody seals on shipping container dated & signed? Yes [] No [] N/A []
3. Custody seals on sample containers intact? Yes [] No [] N/A []
4. Custody seals on sample containers dated & signed? Yes [] No [] N/A []
5. Packing material is: 2/22/06 AK Wet [] Dry []
6. Number of samples in shipping container: 4 Sample Matrix OTHER SOLID
7. Number of containers per sample: 2 (Or see CoC _____)
8. Samples are in correct container Yes [] No []
9. Paperwork agrees with samples? Yes [] No []
10. Samples have: Tape [] Hazard labels [] Rad labels [] Appropriate sample labels []
11. Samples are: In good condition [] Leaking [] Broken Container [] Missing []
12. Samples are: Preserved [] Not preserved [] pH _____ Preservative _____
13. Describe any anomalies:

14. Was P.M. notified of any anomalies? Yes [] No [] Date _____
15. Inspected by AK Date: 2/22/06 Time: 12:20

Customer Sample No.	cpm	mR/hr	Wipe	Customer Sample No.	cpm	mR/hr	wipe

Ion Chamber Ser. No. _____ Calibration date _____
 Alpha Meter Ser. No. _____ Calibration date _____
 Beta/Gamma Meter Ser. No. _____ Calibration date _____