0068456

SAF-RC-002
100-NR-1 TSD Sites R. A. Sampling - Soil
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Jon Fancher	X5-57	NB 1/23/06 INITIAL/DATE
Jeanette Duncan	H9-02	NB 1/23/06 INITIAL/DATE

COMMENTS:

SDG K0132 SAF-RC-002

Rad only Chem only X Rad & Chem

X Complete Partial

Waste Site: UPR-100-N-31

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FEB 07 2006
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JAN 2006

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-002 K0132

DATE RECEIVED: 11/30/05 LVL LOT # :0511L044

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J10M29						
SILVER, TOTAL	001	S	05L0709	11/16/05	12/01/05	12/02/05
SILVER, TOTAL	001 REP	S	05L0709	11/16/05	12/01/05	12/02/05
SILVER, TOTAL	001 MS	S	05L0709	11/16/05	12/01/05	12/02/05
BARIUM, TOTAL	001	S	05L0709	11/16/05	12/01/05	12/02/05
BARIUM, TOTAL	001 REP	S	05L0709	11/16/05	12/01/05	12/02/05
BARIUM, TOTAL	001 MS	S	05L0709	11/16/05	12/01/05	12/02/05
BERYLLIUM, TOTAL	001	S	05L0709	11/16/05	12/01/05	12/02/05
BERYLLIUM, TOTAL	001 REP	S	05L0709	11/16/05	12/01/05	12/02/05
BERYLLIUM, TOTAL	001 MS	S	05L0709	11/16/05	12/01/05	12/02/05
CADMIUM, TOTAL	001	S	05L0709	11/16/05	12/01/05	12/02/05
CADMIUM, TOTAL	001 REP	S	05L0709	11/16/05	12/01/05	12/02/05
CADMIUM, TOTAL	001 MS	S	05L0709	11/16/05	12/01/05	12/02/05
CHROMIUM, TOTAL	001	S	05L0709	11/16/05	12/01/05	12/02/05
CHROMIUM, TOTAL	001 REP	S	05L0709	11/16/05	12/01/05	12/02/05
CHROMIUM, TOTAL	001 MS	S	05L0709	11/16/05	12/01/05	12/02/05
COPPER, TOTAL	001	S	05L0709	11/16/05	12/01/05	12/02/05
COPPER, TOTAL	001 REP	S	05L0709	11/16/05	12/01/05	12/02/05
COPPER, TOTAL	001 MS	S	05L0709	11/16/05	12/01/05	12/02/05
MERCURY, TOTAL	001	S	05C0281	11/16/05	12/05/05	12/05/05
MERCURY, TOTAL	001 REP	S	05C0281	11/16/05	12/05/05	12/05/05
MERCURY, TOTAL	001 MS	S	05C0281	11/16/05	12/05/05	12/05/05
MAGNESIUM, TOTAL	001	S	05L0709	11/16/05	12/01/05	12/02/05
MAGNESIUM, TOTAL	001 REP	S	05L0709	11/16/05	12/01/05	12/02/05
MAGNESIUM, TOTAL	001 MS	S	05L0709	11/16/05	12/01/05	12/02/05
NICKEL, TOTAL	001	S	05L0709	11/16/05	12/01/05	12/02/05
NICKEL, TOTAL	001 REP	S	05L0709	11/16/05	12/01/05	12/02/05
NICKEL, TOTAL	001 MS	S	05L0709	11/16/05	12/01/05	12/02/05
ANTIMONY, TOTAL	001	S	05L0709	11/16/05	12/01/05	12/02/05
ANTIMONY, TOTAL	001 REP	S	05L0709	11/16/05	12/01/05	12/02/05
ANTIMONY, TOTAL	001 MS	S	05L0709	11/16/05	12/01/05	12/02/05
VANADIUM, TOTAL	001	S	05L0709	11/16/05	12/01/05	12/02/05
VANADIUM, TOTAL	001 REP	S	05L0709	11/16/05	12/01/05	12/02/05
VANADIUM, TOTAL	001 MS	S	05L0709	11/16/05	12/01/05	12/02/05
ZINC, TOTAL	001	S	05L0709	11/16/05	12/01/05	12/02/05
ZINC, TOTAL	001 REP	S	05L0709	11/16/05	12/01/05	12/02/05

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-002 K0132

DATE RECEIVED: 11/30/05 LVL LOT # :0511L844

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
ZINC, TOTAL	001 MS	S	05L0709	11/16/05	12/01/05	12/02/05
J10M30						
SILVER, TOTAL	002	S	05L0709	11/16/05	12/01/05	12/02/05
BARIUM, TOTAL	002	S	05L0709	11/16/05	12/01/05	12/02/05
BERYLLIUM, TOTAL	002	S	05L0709	11/16/05	12/01/05	12/02/05
CADMIUM, TOTAL	002	S	05L0709	11/16/05	12/01/05	12/02/05
CHROMIUM, TOTAL	002	S	05L0709	11/16/05	12/01/05	12/02/05
COPPER, TOTAL	002	S	05L0709	11/16/05	12/01/05	12/02/05
MERCURY, TOTAL	002	S	05C0281	11/16/05	12/05/05	12/05/05
MAGNESIUM, TOTAL	002	S	05L0709	11/16/05	12/01/05	12/02/05
NICKEL, TOTAL	002	S	05L0709	11/16/05	12/01/05	12/02/05
ANTIMONY, TOTAL	002	S	05L0709	11/16/05	12/01/05	12/02/05
VANADIUM, TOTAL	002	S	05L0709	11/16/05	12/01/05	12/02/05
ZINC, TOTAL	002	S	05L0709	11/16/05	12/01/05	12/02/05
J10M31						
SILVER, TOTAL	003	S	05L0709	11/16/05	12/01/05	12/02/05
BARIUM, TOTAL	003	S	05L0709	11/16/05	12/01/05	12/02/05
BERYLLIUM, TOTAL	003	S	05L0709	11/16/05	12/01/05	12/02/05
CADMIUM, TOTAL	003	S	05L0709	11/16/05	12/01/05	12/02/05
CHROMIUM, TOTAL	003	S	05L0709	11/16/05	12/01/05	12/02/05
COPPER, TOTAL	003	S	05L0709	11/16/05	12/01/05	12/02/05
MERCURY, TOTAL	003	S	05C0281	11/16/05	12/05/05	12/05/05
MAGNESIUM, TOTAL	003	S	05L0709	11/16/05	12/01/05	12/02/05
NICKEL, TOTAL	003	S	05L0709	11/16/05	12/01/05	12/02/05
ANTIMONY, TOTAL	003	S	05L0709	11/16/05	12/01/05	12/02/05
VANADIUM, TOTAL	003	S	05L0709	11/16/05	12/01/05	12/02/05
ZINC, TOTAL	003	S	05L0709	11/16/05	12/01/05	12/02/05
J10M32						
SILVER, TOTAL	004	S	05L0709	11/16/05	12/01/05	12/02/05
BARIUM, TOTAL	004	S	05L0709	11/16/05	12/01/05	12/02/05
BERYLLIUM, TOTAL	004	S	05L0709	11/16/05	12/01/05	12/02/05
CADMIUM, TOTAL	004	S	05L0709	11/16/05	12/01/05	12/02/05

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-002 K0132

DATE RECEIVED: 11/30/05 LVL LOT # :0511L844

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
CHROMIUM, TOTAL	004	S	05L0709	11/16/05	12/01/05	12/02/05
COPPER, TOTAL	004	S	05L0709	11/16/05	12/01/05	12/02/05
MERCURY, TOTAL	004	S	05C0281	11/16/05	12/05/05	12/05/05
MAGNESIUM, TOTAL	004	S	05L0709	11/16/05	12/01/05	12/02/05
NICKEL, TOTAL	004	S	05L0709	11/16/05	12/01/05	12/02/05
ANTIMONY, TOTAL	004	S	05L0709	11/16/05	12/01/05	12/02/05
VANADIUM, TOTAL	004	S	05L0709	11/16/05	12/01/05	12/02/05
ZINC, TOTAL	004	S	05L0709	11/16/05	12/01/05	12/02/05
J10M33						
SILVER, TOTAL	005	S	05L0709	11/16/05	12/01/05	12/02/05
BARIUM, TOTAL	005	S	05L0709	11/16/05	12/01/05	12/02/05
BERYLLIUM, TOTAL	005	S	05L0709	11/16/05	12/01/05	12/02/05
CADMIUM, TOTAL	005	S	05L0709	11/16/05	12/01/05	12/02/05
CHROMIUM, TOTAL	005	S	05L0709	11/16/05	12/01/05	12/02/05
COPPER, TOTAL	005	S	05L0709	11/16/05	12/01/05	12/02/05
MERCURY, TOTAL	005	S	05C0281	11/16/05	12/05/05	12/05/05
MAGNESIUM, TOTAL	005	S	05L0709	11/16/05	12/01/05	12/02/05
NICKEL, TOTAL	005	S	05L0709	11/16/05	12/01/05	12/02/05
ANTIMONY, TOTAL	005	S	05L0709	11/16/05	12/01/05	12/02/05
VANADIUM, TOTAL	005	S	05L0709	11/16/05	12/01/05	12/02/05
ZINC, TOTAL	005	S	05L0709	11/16/05	12/01/05	12/02/05
J10M34						
SILVER, TOTAL	006	S	05L0709	11/16/05	12/01/05	12/02/05
BARIUM, TOTAL	006	S	05L0709	11/16/05	12/01/05	12/02/05
BERYLLIUM, TOTAL	006	S	05L0709	11/16/05	12/01/05	12/02/05
CADMIUM, TOTAL	006	S	05L0709	11/16/05	12/01/05	12/02/05
CHROMIUM, TOTAL	006	S	05L0709	11/16/05	12/01/05	12/02/05
COPPER, TOTAL	006	S	05L0709	11/16/05	12/01/05	12/02/05
MERCURY, TOTAL	006	S	05C0281	11/16/05	12/05/05	12/05/05
MAGNESIUM, TOTAL	006	S	05L0709	11/16/05	12/01/05	12/02/05
NICKEL, TOTAL	006	S	05L0709	11/16/05	12/01/05	12/02/05
ANTIMONY, TOTAL	006	S	05L0709	11/16/05	12/01/05	12/02/05
VANADIUM, TOTAL	006	S	05L0709	11/16/05	12/01/05	12/02/05
ZINC, TOTAL	006	S	05L0709	11/16/05	12/01/05	12/02/05

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-002 K0132

DATE RECEIVED: 11/30/05 LVL LOT # :0511L844

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J10M35						
SILVER, TOTAL	007	S	05L0709	11/16/05	12/01/05	12/02/05
BARIUM, TOTAL	007	S	05L0709	11/16/05	12/01/05	12/02/05
BERYLLIUM, TOTAL	007	S	05L0709	11/16/05	12/01/05	12/02/05
CADMIUM, TOTAL	007	S	05L0709	11/16/05	12/01/05	12/02/05
CHROMIUM, TOTAL	007	S	05L0709	11/16/05	12/01/05	12/02/05
COPPER, TOTAL	007	S	05L0709	11/16/05	12/01/05	12/02/05
MERCURY, TOTAL	007	S	05C0281	11/16/05	12/05/05	12/05/05
MAGNESIUM, TOTAL	007	S	05L0709	11/16/05	12/01/05	12/02/05
NICKEL, TOTAL	007	S	05L0709	11/16/05	12/01/05	12/02/05
ANTIMONY, TOTAL	007	S	05L0709	11/16/05	12/01/05	12/02/05
VANADIUM, TOTAL	007	S	05L0709	11/16/05	12/01/05	12/02/05
ZINC, TOTAL	007	S	05L0709	11/16/05	12/01/05	12/02/05

LAB QC:

SILVER LABORATORY	LC1 BS	S	05L0709	N/A	12/01/05	12/02/05
SILVER, TOTAL	MB1	S	05L0709	N/A	12/01/05	12/02/05
BARIUM LABORATORY	LC1 BS	S	05L0709	N/A	12/01/05	12/02/05
BARIUM, TOTAL	MB1	S	05L0709	N/A	12/01/05	12/02/05
BERYLLIUM LABORATORY	LC1 BS	S	05L0709	N/A	12/01/05	12/02/05
BERYLLIUM, TOTAL	MB1	S	05L0709	N/A	12/01/05	12/02/05
CADMIUM LABORATORY	LC1 BS	S	05L0709	N/A	12/01/05	12/02/05
CADMIUM, TOTAL	MB1	S	05L0709	N/A	12/01/05	12/02/05
CHROMIUM LABORATORY	LC1 BS	S	05L0709	N/A	12/01/05	12/02/05
CHROMIUM, TOTAL	MB1	S	05L0709	N/A	12/01/05	12/02/05
COPPER LABORATORY	LC1 BS	S	05L0709	N/A	12/01/05	12/02/05
COPPER, TOTAL	MB1	S	05L0709	N/A	12/01/05	12/02/05
MERCURY LABORATORY	LC1 BS	S	05C0281	N/A	12/05/05	12/05/05
MERCURY, TOTAL	MB1	S	05C0281	N/A	12/05/05	12/05/05
MAGNESIUM LABORATORY	LC1 BS	S	05L0709	N/A	12/01/05	12/02/05
MAGNESIUM, TOTAL	MB1	S	05L0709	N/A	12/01/05	12/02/05
NICKEL LABORATORY	LC1 BS	S	05L0709	N/A	12/01/05	12/02/05
NICKEL, TOTAL	MB1	S	05L0709	N/A	12/01/05	12/02/05
ANTIMONY LABORATORY	LC1 BS	S	05L0709	N/A	12/01/05	12/02/05
ANTIMONY, TOTAL	MB1	S	05L0709	N/A	12/01/05	12/02/05

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-002 K0132

DATE RECEIVED: 11/30/05 LVL LOT # :0511L844

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
VANADIUM LABORATORY	LC1 BS	S	05L0709	N/A	12/01/05	12/02/05
VANADIUM, TOTAL	MB1	S	05L0709	N/A	12/01/05	12/02/05
ZINC LABORATORY	LC1 BS	S	05L0709	N/A	12/01/05	12/02/05
ZINC, TOTAL	MB1	S	05L0709	N/A	12/01/05	12/02/05

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD RC-002
LVL#: 0511L844
SDG/SAF#: K0132/RC-002

W.O.#: 11343-606-001-9999-00
Date Received: 11-30-05

METALS CASE NARRATIVE

1. This narrative covers the analyses of 7 soil samples.

2. The samples were prepared and analyzed in accordance with methods checked on the attached glossary. The samples were reported with 6-fold dilutions for ICP metals 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 Zinc was greater than the Practical Quantitation Limit (PQL) {3 x the (IDL) Instrument Detection Level} and sample J10M29 read less than 20 times the MB concentration. However, no corrective action criteria for MBs were provided in SW846 method 6010B. The sample results were reported herein "uncorrected" for the levels found in the MB.

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

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

10. The matrix spike (MS) recovery for 1 analyte was outside the 75-125% control limits. Refer

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 21 pages.

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to the Inorganics Accuracy Report.

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

Sample ID	Element	PDS Concentration (ppb)	PDS % Recovery
J10M29	Antimony	100	103.1

12. All duplicate analyses were within 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

12/22/05
Date

jjw/m11-844

LVLI
LIONVILLE LABORATORY, INC.

METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within th
Lot#: 0511L844

Leaching Procedure: __1310 __1311 __1312 __Other:_____

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

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

Metals Analysis Methods

	SW846		EPA		STD MTD	EPA OSWR	USATHAMA
Aluminum	__6010B		__200.7				__99
Antimony	X6010B	__7041 [5]	__200.7	__204.2			__99
Arsenic	__6010B	__7060A [5]	__200.7	__206.2	__3113B		__99
Barium	X6010B		__200.7				__99
Beryllium	X6010B		__200.7				__99
Bismuth	__6010B [1]		__200.7 [1]			__1620	__99
Boron	__6010B		__200.7				__99
Cadmium	X6010B	__7131A [5]	__200.7	__213.2			__99
Calcium	__6010B		__200.7				__99
Chromium	X6010B	__7191 [5]	__200.7	__218.2			__SS17
Cobalt	__6010B		__200.7				__99
Copper	X6010B	__7211 [5]	__200.7	__220.2			__99
Iron	__6010B		__200.7				__99
Lead	__6010B	__7421 [5]	__200.7	__239.2	__3113B		__99
Lithium	__6010B	__7430 [4]	__200.7			__1620	__99
Magnesium	X6010B		__200.7				__99
Manganese	__6010B		__200.7				__99
Mercury	__7470A [3]	X7471A [3]	__245.1 [2]	__245.5 [2]			__99
Molybdenum	__6010B		__200.7				__99
Nickel	X6010B		__200.7				__99
Potassium	__6010B	__7610 [4]	__200.7	__258.1 [4]			__99
Rare Earths	__6010B [1]		__200.7 [1]			__1620	__99
Selenium	__6010B	__7740 [5]	__200.7	__270.2	__3113B		__99
Silicon	__6010B [1]		__200.7			__1620	__99
Silica	__6010B		__200.7			__1620	__99
Silver	X6010B	__7761 [5]	__200.7	__272.2			__99
Sodium	__6010B	__7770 [4]	__200.7	__273.1 [4]			__99
Strontium	__6010B		__200.7				__99
Thallium	__6010B	__7841 [5]	__200.7	__279.2__200.9			__99
Tin	__6010B		__200.7				__99
Titanium	__6010B		__200.7				__99
Uranium	__6010B [1]		__200.7 [1]			__1620	__99
Vanadium	X6010B		__200.7				__99
Zinc	X6010B		__200.7				__99
Zirconium	__6010B [1]		__200.7 [1]			__1620	__99

Other:_____ Method:_____

L-WI-033/M-03/01

METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

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

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

ABBREVIATIONS

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

ANALYTICAL METAL METHODS

1. Not included in the method element list.

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

3. Flame AA.

4. Graphite Furnace AA.

L-WI-033/N-04/98

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 12/20/05

CLIENT: TNUHANFORD RC-002 K0132 LVL LOT #: 0511L844

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	J10M29	Silver, Total	0.83 u	MG/KG	0.83	6.0
		Barium, Total	37.1	MG/KG	0.12	6.0
		Beryllium, Total	0.42	MG/KG	0.06	6.0
		Cadmium, Total	0.42 u	MG/KG	0.42	6.0
		Chromium, Total	6.6	MG/KG	0.95	6.0
		Copper, Total	13.2	MG/KG	0.71	6.0
		Mercury, Total	0.01 u	MG/KG	0.01	1.0
		Magnesium, Total	3420	MG/KG	8.0	6.0
		Nickel, Total	8.5	MG/KG	0.77	6.0
		Antimony, Total	2.4 u	MG/KG	2.4	6.0
		Vanadium, Total	38.9	MG/KG	0.53	6.0
		Zinc, Total	34.6	MG/KG	0.30	6.0
-002	J10M30	Silver, Total	0.85 u	MG/KG	0.85	6.0
		Barium, Total	74.6	MG/KG	0.12	6.0
		Beryllium, Total	0.62	MG/KG	0.06	6.0
		Cadmium, Total	0.43 u	MG/KG	0.43	6.0
		Chromium, Total	10.7	MG/KG	0.98	6.0
		Copper, Total	12.8	MG/KG	0.73	6.0
		Mercury, Total	0.02 u	MG/KG	0.02	1.0
		Magnesium, Total	4130	MG/KG	8.2	6.0
		Nickel, Total	11.2	MG/KG	0.79	6.0
		Antimony, Total	2.4 u	MG/KG	2.4	6.0
		Vanadium, Total	44.4	MG/KG	0.55	6.0
		Zinc, Total	38.7	MG/KG	0.31	6.0
-003	J10M31	Silver, Total	0.89 u	MG/KG	0.89	6.0
		Barium, Total	92.8	MG/KG	0.13	6.0
		Beryllium, Total	0.70	MG/KG	0.06	6.0
		Cadmium, Total	0.45 u	MG/KG	0.45	6.0
		Chromium, Total	13.2	MG/KG	1.0	6.0
		Copper, Total	12.7	MG/KG	0.76	6.0
		Mercury, Total	0.02 u	MG/KG	0.02	1.0
		Magnesium, Total	4400	MG/KG	8.6	6.0
		Nickel, Total	12.4	MG/KG	0.83	6.0
		Antimony, Total	2.5 u	MG/KG	2.5	6.0
		Vanadium, Total	50.4	MG/KG	0.57	6.0
		Zinc, Total	49.8	MG/KG	0.32	6.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 12/20/05

CLIENT: TNUHANFORD RC-002 K0132 LVL LOT #: 0511L844

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-004	J10M32	Silver, Total	0.83 u	MG/KG	0.83	6.0
		Barium, Total	50.7	MG/KG	0.12	6.0
		Beryllium, Total	0.49	MG/KG	0.06	6.0
		Cadmium, Total	0.41 u	MG/KG	0.41	6.0
		Chromium, Total	13.6	MG/KG	0.94	6.0
		Copper, Total	14.9	MG/KG	0.71	6.0
		Mercury, Total	0.02 u	MG/KG	0.02	1.0
		Magnesium, Total	4250	MG/KG	8.0	6.0
		Nickel, Total	12.3	MG/KG	0.77	6.0
		Antimony, Total	2.4 u	MG/KG	2.4	6.0
		Vanadium, Total	40.2	MG/KG	0.53	6.0
		Zinc, Total	41.3	MG/KG	0.30	6.0
-005	J10M33	Silver, Total	0.86 u	MG/KG	0.86	6.0
		Barium, Total	68.6	MG/KG	0.12	6.0
		Beryllium, Total	0.56	MG/KG	0.06	6.0
		Cadmium, Total	0.43 u	MG/KG	0.43	6.0
		Chromium, Total	11.4	MG/KG	0.99	6.0
		Copper, Total	12.0	MG/KG	0.74	6.0
		Mercury, Total	0.02 u	MG/KG	0.02	1.0
		Magnesium, Total	4490	MG/KG	8.3	6.0
		Nickel, Total	10.5	MG/KG	0.80	6.0
		Antimony, Total	2.5 u	MG/KG	2.5	6.0
		Vanadium, Total	49.8	MG/KG	0.56	6.0
		Zinc, Total	42.8	MG/KG	0.31	6.0
-006	J10M34	Silver, Total	0.86 u	MG/KG	0.86	6.0
		Barium, Total	50.1	MG/KG	0.12	6.0
		Beryllium, Total	0.66	MG/KG	0.06	6.0
		Cadmium, Total	0.43 u	MG/KG	0.43	6.0
		Chromium, Total	11.3	MG/KG	0.98	6.0
		Copper, Total	16.0	MG/KG	0.74	6.0
		Mercury, Total	0.02 u	MG/KG	0.02	1.0
		Magnesium, Total	4250	MG/KG	8.3	6.0
		Nickel, Total	10.9	MG/KG	0.80	6.0
		Antimony, Total	2.5 u	MG/KG	2.5	6.0
		Vanadium, Total	50.1	MG/KG	0.55	6.0
		Zinc, Total	45.4	MG/KG	0.31	6.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 12/20/05

CLIENT: TNUHANFORD RC-002 K0132 LVL LOT #: 0511L844

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-007	J10M35	Silver, Total	0.90 u	MG/KG	0.90	6.0
		Barium, Total	49.2	MG/KG	0.13	6.0
		Beryllium, Total	0.50	MG/KG	0.06	6.0
		Cadmium, Total	0.45 u	MG/KG	0.45	6.0
		Chromium, Total	62.6	MG/KG	1.0	6.0
		Copper, Total	14.4	MG/KG	0.77	6.0
		Mercury, Total	0.09	MG/KG	0.01	1.0
		Magnesium, Total	3520	MG/KG	8.7	6.0
		Nickel, Total	11.4	MG/KG	0.84	6.0
		Antimony, Total	2.6 u	MG/KG	2.6	6.0
		Vanadium, Total	40.1	MG/KG	0.58	6.0
		Zinc, Total	72.2	MG/KG	0.32	6.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 12/20/05

CLIENT: TNUHANFORD RC-002 K0132 LVL LOT #: 0511L844

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	05L0709-MB1	Silver, Total	0.14 u	MG/KG	0.14	1.0
		Barium, Total	0.07	MG/KG	0.02	1.0
		Beryllium, Total	0.02	MG/KG	0.01	1.0
		Cadmium, Total	0.07 u	MG/KG	0.07	1.0
		Chromium, Total	0.16 u	MG/KG	0.16	1.0
		Copper, Total	0.12 u	MG/KG	0.12	1.0
		Magnesium, Total	1.4 u	MG/KG	1.4	1.0
		Nickel, Total	0.13 u	MG/KG	0.13	1.0
		Antimony, Total	0.40 u	MG/KG	0.40	1.0
		Vanadium, Total	0.09 u	MG/KG	0.09	1.0
		Zinc, Total	1.9	MG/KG	0.05	1.0
BLANK1	05C0281-MB1	Mercury, Total	0.02 u	MG/KG	0.02	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 12/20/05

CLIENT: TNUHANFORD RC-002 K0132

LVL LOT #: 0511L844

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-001	J10M29	Silver, Total	4.3	0.83u	5.0	86.0	6.0
		Barium, Total	222	37.1	200	92.9	6.0
		Beryllium, Total	5.3	0.42	5.0	97.6	6.0
		Cadmium, Total	4.9	0.42u	5.0	98.0	6.0
		Chromium, Total	28.7	6.6	20.0	110.5	6.0
		Copper, Total	36.5	13.2	24.9	93.6	6.0
		Mercury, Total	0.16	0.01u	0.15	110.0	1.0
		Magnesium, Total	6290	3420	2500	115.3	6.0
		Nickel, Total	58.1	8.5	49.9	99.4	6.0
		Antimony, Total	26.4	2.4 u	49.9	52.9	6.0
		Vanadium, Total	95.1	38.9	49.9	112.6	6.0
		Zinc, Total	85.6	34.6	49.9	102.2	6.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 12/20/05

CLIENT: TNUHANFORD RC-002 K0132 LVL LOT #: 0511L844

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

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-001REP	J10M29	Silver, Total	0.83u	0.82u	NC	6.0
		Barium, Total	37.1	39.1	5.2	6.0
		Beryllium, Total	0.42	0.41	2.3	6.0
		Cadmium, Total	0.42u	0.41u	NC	6.0
		Chromium, Total	6.6	6.8	3.0	6.0
		Copper, Total	13.2	14.0	5.9	6.0
		Mercury, Total	0.01u	0.01u	NC	1.0
		Magnesium, Total	3420	3770	9.9	6.0
		Nickel, Total	8.5	9.5	11.1	6.0
		Antimony, Total	2.4 u	2.4 u	NC	6.0
		Vanadium, Total	38.9	40.8	4.8	6.0
		Zinc, Total	34.6	36.8	6.2	6.0

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 12/20/05

CLIENT: TNUHANFORD RC-002 K0132

LVL LOT #: 0511L844

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	05L0709-LC1	Silver, LCS	49.3	50.0	MG/KG	98.6
		Barium, LCS	490	500	MG/KG	98.0
		Beryllium, LCS	25.7	25.0	MG/KG	102.8
		Cadmium, LCS	25.6	25.0	MG/KG	102.4
		Chromium, LCS	51.5	50.0	MG/KG	103.0
		Copper, LCS	127	125	MG/KG	101.6
		Magnesium, LCS	2480	2500	MG/KG	99.2
		Nickel, LCS	204	200	MG/KG	102.2
		Antimony, LCS	296	300	MG/KG	98.8
		Vanadium, LCS	252	250	MG/KG	100.7
		Zinc, LCS	101	100	MG/KG	100.7
LCS1	05C0281-LC1	Mercury, LCS	7.1	6.2	MG/KG	114.3

Lionville Laboratory Use Only

05111844

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

See SRC

Client: TNU Hanford BC-002

Est. Final Proj. Sampling Date:

Project #: 11343-666-001-9999-00

Project Contact/Phone #:

Lionville Laboratory Project Manager: Charlotte Johnson

QC: Spec Del: Std TAT: 21 Days

Date Rec'd: 11.30.05 Date Due: 12/21/05

		A		B		C		
Refrigerator #		5		5		5		
#/Type Container	Liquid							
	Solid	19		19		19		
Volume	Liquid							
	Solid	60		120		60		
Preservatives		—		—		—		
ANALYSES REQUESTED →	ORGANIC: VOA							
	ORGANIC: BNA							
	ORGANIC: Pest/PCB							
	ORGANIC: Herb							
	INORG: (1) Metal + Hg							
	INORG: CN							
	INORG: IC Anions							
	INORG: Hex Chrom							
Lionville Laboratory Use Only		METALS (1)		WETCHEM (1)		ICPLo		

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

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	METALS (1)	WETCHEM (1)	ICPLo
001	J10M29			S	11-16-05	1220	X	X	X
002	J10M30					1230	X	X	X
003	J10M31					1240	X	X	X
004	J10M32					1250	X	X	X
005	J10M33					1300	X	X	X
006	J10M34					1310	X	X	X
007	J10M35					1320	X		X

Special Instructions:

METALS (1) = Sb, Ba, Be, Cd, Cr, Cu, Mg, Ni, Ag, V, Zn, Hg

WETCHEM (1) = IC NO3, IC NO2, IC SO4, IN3N2

Run matrix QC

DATE/REVISIONS:

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

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	11.30.05	0920

Relinquished by	Received by	Date	Time

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

0000001017

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-002-026	Page 1 of 3

Collector: R. Kerkow	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 8L	Data Turnaround: 21/45	Air Quality: ☐	
Project Designation: 100-NR-1 TSD Sites R. A. Sampling - Soil	Sampling Location: UPR-100-N-31	SAF No.: RC-002	
Ice Chest No.: ERC-02-406	Field Logbook No.: EL-1524-4	COA: R1301N2F00	Method of Shipment: Fed Ex
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A060126		Bill of Lading/Air Bill No.: See DSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

Potentially radioactive

< DOT limits

Special Handling and/or Storage

~~None~~ R25 11-29-05 Cool 4°C

SAMPLE ANALYSIS	See item (1) in Special Instructions.	IC Anions - 9056 (Nitrate, Nitrite, Sulfate); NO2/NO3 - 353.2	Chromium Hex - 7196	See item (2) in Special Instructions. DAS 11/21/05							
Preservation	None	Cool 4C	Cool 4C	None							
Type of Container	G/P	G/P	G/P	G/P							
No. of Container(s)	1	1	1	1							
Volume	60mL	120mL	60mL	500mL							

Sample No.	Matrix *	Sample Date	Sample Time									TIE TO REF	
J10M29	SOIL	11-16-05	1220	X	X	X	X					J10M22	
J10M30	SOIL	11-16-05	1230	X	X	X	X					J10M23	
J10M31	SOIL	11-16-05	1240	X	X	X	X					J10M24	
J10M32	SOIL	11-16-05	1250	X	X	X	X					J10M25	
J10M33	SOIL	11-16-05	1300	X	X	X	X					J10M26	

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
RB Kerkow/RBKerkow	11/16/05 1835	REF 18, 3728 RBK	11/16/05 1835
REF 18, 3728	11-29-05 11:45	RZ Steffler R.Z. Steffler	11-29-05 11:45
RZ Steffler R.Z. Steffler	11-29-05 11:45	Fed Ex	
Fed Ex	11.30.05 1030	[illegible]	11.30.05 1030

SPECIAL INSTRUCTIONS

None

(1) ICP Metals - 6010A (TAL) {Antimony, Barium, Beryllium, Cadmium, Chromium, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ~~ICP Metals - 6010A (Add-on) {Arsenic, Lead, Selenium, Thallium}~~; Mercury - 7471 - (CV) RK 11/14/05

(2) Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on {Americium-241}; Isotopic Plutonium; ~~Americium-241;~~ Strontium-89,90 – Total Sr; Nickel-63; ~~Tritium - H3~~; Isotopic Uranium; ~~Gross Alpha; Gross Beta~~ RK 11/14/05 RK 11/16/05

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

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

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

0000018

RZS 11-2

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-002-026	Page 2 of 23

Collector: R. Kerkow	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 8L	Data Turnaround: 21/45		
Project Designation: 100-NR-1 TSD Sites R. A. Sampling - Soil	Sampling Location: UPR-100-N-31	SAF No.: RC-002	Air Quality ☐
Ice Chest No.: ERC-02-406	Field Logbook No.: EL-1524-4	COA: R1301N2P00	Method of Shipment: Fed Ex
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A060126	Bill of Lading/Air Bill No.: See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

Potentially radioactive

< DOT limits

Special Handling and/or Storage

~~None~~ RZS 11-29-05 Cool 4°C

Preservation	None	Cool 4C	Cool 4C	None							
Type of Container	G/P	G/P	G/P	G/P							
No. of Container(s)	1	1	1	1							
Volume	60mL	120mL	60mL	500mL							
SAMPLE ANALYSIS	See item (1) in Special Instructions.	IC Anions - 9056 (Nitrite, Nitrite, Sulfate); NO2/NO3 - 353.2	Chromium Hex - 7196	See item (2) in Special Instructions. DAS 11/22/05							TIE TO RCF

Sample No.	Matrix *	Sample Date	Sample Time										
J10M34	SOIL	11/16/05	1310	X	X	X	X					J10M27	
~~J10M35~~	~~SOIL~~												

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
RR Kerkow / RD Kerkow	1835 11/16/05	REF 1B, 3728 RAK	1835 11/16/05
REF 1B, 3728	11-29-05 1145	RZ Steffler RZ Steffler	1145 11-29-05
RZ Steffler RZ Steffler	11-29-05 1145	Fed Ex	
Fed Ex	11-30-05 10920	[illegible]	11-30-05 10920

SPECIAL INSTRUCTIONS

None

(1) ICP Metals - 6010A (TAL) [Antimony, Barium, Beryllium, Cadmium, Chromium, Copper, Manganese, Nickel, Silver, Vanadium, Zinc]; ~~ICP Metals - 6010A (Add-on) [Arsenic, Lead, Selenium, Thallium]~~; Mercury - 7471 - (CV) RK 11/16/05

(2) Gamma Spectroscopy (TCL List) [Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155]; Gamma Spec - Add-on [Americium-241]; Isotopic Plutonium; ~~Americium-241~~; Strontium-89,90 -- Total Sr; Nickel-63; ~~Tritium-3H~~; Isotopic Uranium; ~~Gross Alpha; Gross Beta~~ RK 11/16/05

Matrix *: S=Soil; SD=Sediment; SO=Solid; Sl=Sludge; W=Water; O=Oil; A=Air; DS=Drum Solids; DL=Drum Liquids; T=Tissue; WI=Wipe; L=Liquid; V=Vegetation; X=Other

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

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

0000000 19

R23 11-29-05 R2

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-002-026	Page 2 of 2

Collector: R. Kerkow	Company Contact: JOAN KESSNER; Telephone No.: 375-4688	Project Coordinator: KESSNER, JH	Price Code: 8L; Data Turnaround: 21/45
Project Designation: 100-NR-1 TSD Sites R. A. Sampling - Soil	Sampling Location: UPR-100-N-31	SAF No.: RC-002	Air Quality ☐
Ice Chest No.: ERC-02-406	Field Logbook No.: EL-1524-4; COA: R1301N2F00	Method of Shipment: Fed Ex	
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A060126	Bill of Lading/Air Bill No.: See DSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

Potentially radioactive

< DOT limits

Special Handling and/or Storage

~~None~~ Cool 4°C

R23 11-29-05

Preservation	None	Cool 4C	Cool 4C	None							
Type of Container	G/P	G/P	G/P	G/P							
No. of Container(s)	1	1	1	1							
Volume	60mL	120mL R23 11-29-05	60mL	~~500mL~~ 120mL							
SAMPLE ANALYSIS	See Item (1) in Special Instructions.	IC Anions - 9056 (Nitrate, Nitrite, Sulfate); NO2/NO3 - 353.2	Chromium Hex - 7196	See Item (2) in Special Instructions. DAS 11/22/05						TIE TO RGF	
Sample No.	Matrix *	Sample Date	Sample Time								
~~J10M34~~ DAS 11/16/05	~~SOIL~~										
J10M35	SOIL	11/16/05	1320	X		X	X			J10M28	

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: RB Kerkow/RB Kerkow	11/16/05 1835	Received By/Stored In: REFIB, 3728	11/16/05 1835
Relinquished By/Removed From: REFIB, 3728	11-29-05 11:45	Received By/Stored In: RZ Steffler R.Z. Steffler	11-29-05 1145
Relinquished By/Removed From: RZ Steffler R.Z. Steffler	11-29-05 1145	Received By/Stored In: Fed Ex	
Relinquished By/Removed From: Fed Ex	11.30.05 10920	Received By/Stored In: D Smith	11.30.05 10920
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

None

(1) ICP Metals - 6010A (TAL) [Antimony, Barium, Beryllium, Cadmium, Chromium, Copper, Manganese, Nickel, Silver, Vanadium, Zinc]; ~~ICP Metals - 6010A (Add-on) [Arsenic, Lead, Selenium, Thallium]; Mercury - 7471 (CA)~~ DAS 11/16/05

(2) Gamma Spectroscopy (TCL List) [Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155]; Gamma Spec - Add-on [Americium-241]; Isotopic Plutonium; ~~Americium-241;~~ DAS Strontium-89,90 -- Total Sr; Nickel-63; Tritium - H3; Isotopic Uranium; Gross Alpha; Gross Beta 11/16/05

Matrix *

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

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

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

00000020

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU Hanford **Date:** 11-30-05

Purchase Order / Project# / SAF# / SOW# / Release #: RC-002

LvLI Batch # : 05 11L844 **Sample Custodian:** D. Smith

NOTE: EXPLAIN ALL DISCREPANCIES

1.	Samples Hand Delivered or Shipped	Carrier Fed Ex		Airbill# 7925 9240 0	
2.	Custody seals on coolers or shipping container intact, signed and dated?	☑ Yes	☐ No	☐ No Seals	Comments
3.	Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No		
4.	All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible?	☑ Yes	☐ No		
5.	Samples received cooled or ambient?	Temp 2.1 °C		Cooler # ERC-02-406	
6.	Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals	
7.	coc signed and dated?	☑ Yes	☐ No		
8.	Sample containers are intact?	☑ Yes	☐ No		
9.	All samples on coc received? All samples received on coc?	☑ Yes	☐ No		
10.	All sample label information matches coc?	☑ Yes	☐ No		
11.	Samples properly preserved?	☑ Yes	☐ No		
12.	Samples received within hold times? Short holds taken to wet lab?	☑ Yes	☐ No		
13.	VOA, TOC, TOX free of headspace?	☐ Yes	☐ No	☑ N/A	
14.	QC stickers placed on bottles designated by client?	☐ Yes	☐ No	☑ N/A	
15.	Shipment meets LvLI Sample Acceptance Policy? (Identify all bottles not within policy. See reverse side for policy)	☑ Yes	☐ No		
16.	Project Manager contacted concerning discrepancies? name/date (or samples outside criteria)	☐ Yes	☐ No	☑ No Discrepancies	

SR-002-B

LvLI

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-002 K0132

RECEIVED
JAN 2006

DATE RECEIVED: 11/30/05 LVL LOT # :05L844

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J10M29						
% SOLIDS	001	S	05L%S159	11/16/05	12/03/05	12/03/05
NITRITE BY IC	001	S	06LIC001	11/16/05	01/03/06	01/03/06
NITRATE BY IC	001	S	06LIC001	11/16/05	01/03/06	01/03/06
CHROMIUM VI	001	S	05LVIZ89	11/16/05	12/06/05	12/07/05
SULFATE BY IC	001	S	06LIC001	11/16/05	01/03/06	01/03/06
NITRATE NITRITE	001	S	05LN3064	11/16/05	12/08/05	12/09/05
J10M30						
% SOLIDS	002	S	05L%S159	11/16/05	12/03/05	12/03/05
NITRITE BY IC	002	S	06LIC001	11/16/05	01/03/06	01/03/06
NITRITE BY IC	002 REP	S	06LIC001	11/16/05	01/03/06	01/03/06
NITRITE BY IC	002 MS	S	06LIC001	11/16/05	01/03/06	01/03/06
NITRATE BY IC	002	S	06LIC001	11/16/05	01/03/06	01/03/06
NITRATE BY IC	002 REP	S	06LIC001	11/16/05	01/03/06	01/03/06
NITRATE BY IC	002 MS	S	06LIC001	11/16/05	01/03/06	01/03/06
CHROMIUM VI	002	S	05LVIZ89	11/16/05	12/06/05	12/07/05
SULFATE BY IC	002	S	06LIC001	11/16/05	01/03/06	01/03/06
SULFATE BY IC	002 REP	S	06LIC001	11/16/05	01/03/06	01/03/06
SULFATE BY IC	002 MS	S	06LIC001	11/16/05	01/03/06	01/03/06
NITRATE NITRITE	002	S	05LN3064	11/16/05	12/08/05	12/09/05
NITRATE NITRITE	002 REP	S	05LN3064	11/16/05	12/08/05	12/09/05
NITRATE NITRITE	002 MS	S	05LN3064	11/16/05	12/08/05	12/09/05
J10M31						
% SOLIDS	003	S	05L%S159	11/16/05	12/03/05	12/03/05
NITRITE BY IC	003	S	06LIC001	11/16/05	01/03/06	01/03/06
NITRATE BY IC	003	S	06LIC001	11/16/05	01/03/06	01/03/06
CHROMIUM VI	003	S	05LVIZ89	11/16/05	12/06/05	12/07/05
SULFATE BY IC	003	S	06LIC001	11/16/05	01/03/06	01/03/06
NITRATE NITRITE	003	S	05LN3064	11/16/05	12/08/05	12/09/05
J10M32						
% SOLIDS	004	S	05L%S159	11/16/05	12/03/05	12/03/05

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-002 K0132

DATE RECEIVED: 11/30/05 LVL LOT # :0511L844

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
NITRITE BY IC	004	S	06LIC001	11/16/05	01/03/06	01/03/06
NITRATE BY IC	004	S	06LIC001	11/16/05	01/03/06	01/03/06
CHROMIUM VI	004	S	05LVIZ89	11/16/05	12/06/05	12/07/05
SULFATE BY IC	004	S	06LIC001	11/16/05	01/03/06	01/03/06
NITRATE NITRITE	004	S	05LN3064	11/16/05	12/08/05	12/09/05
J10M33						
% SOLIDS	005	S	05L%S159	11/16/05	12/03/05	12/03/05
NITRITE BY IC	005	S	06LIC001	11/16/05	01/03/06	01/03/06
NITRATE BY IC	005	S	06LIC001	11/16/05	01/03/06	01/03/06
CHROMIUM VI	005	S	05LVIZ89	11/16/05	12/06/05	12/07/05
SULFATE BY IC	005	S	06LIC001	11/16/05	01/03/06	01/03/06
NITRATE NITRITE	005	S	05LN3064	11/16/05	12/08/05	12/09/05
J10M34						
% SOLIDS	006	S	05L%S159	11/16/05	12/03/05	12/03/05
NITRITE BY IC	006	S	06LIC001	11/16/05	01/03/06	01/03/06
NITRATE BY IC	006	S	06LIC001	11/16/05	01/03/06	01/03/06
CHROMIUM VI	006	S	05LVIZ89	11/16/05	12/06/05	12/07/05
SULFATE BY IC	006	S	06LIC001	11/16/05	01/03/06	01/03/06
NITRATE NITRITE	006	S	05LN3064	11/16/05	12/08/05	12/09/05
J10M35						
% SOLIDS	007	S	05L%S160	11/16/05	12/06/05	12/07/05
CHROMIUM VI	007	S	05LVIZ89	11/16/05	12/06/05	12/07/05
CHROMIUM VI	007 REP	S	05LVIZ89	11/16/05	12/06/05	12/07/05
CHROMIUM VI	007 MS	S	05LVIZ89	11/16/05	12/06/05	12/07/05
CHROMIUM VI	007 MSD	S	05LVIZ89	11/16/05	12/06/05	12/07/05

LAB QC:

NITRITE BY IC	MB1	S	06LIC001	N/A	01/03/06	01/03/06
NITRITE BY IC	MB1 BS	S	06LIC001	N/A	01/03/06	01/03/06
NITRATE BY IC	MB1	S	06LIC001	N/A	01/03/06	01/03/06
NITRATE BY IC	MB1 BS	S	06LIC001	N/A	01/03/06	01/03/06

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-002 K0132

DATE RECEIVED: 11/30/05 LVL LOT # :0511L844

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
CHROMIUM VI	MB1	S	05LVIZ89	N/A	12/06/05	12/07/05
CHROMIUM VI	MB1 BS	S	05LVIZ89	N/A	12/06/05	12/07/05
CHROMIUM VI	MB1 BSD	S	05LVIZ89	N/A	12/06/05	12/07/05
SULFATE BY IC	MB1	S	06LIC001	N/A	01/03/06	01/03/06
SULFATE BY IC	MB1 BS	S	06LIC001	N/A	01/03/06	01/03/06
NITRATE NITRITE	MB1	S	05LN3064	N/A	12/08/05	12/09/05
NITRATE NITRITE	MB1 BS	S	05LN3064	N/A	12/08/05	12/09/05

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD RC-002 K0132
LVL#: 0511L844

W.O.#: 11343-606-001-9999-00
Date Received: 11-30-05

INORGANIC NARRATIVE

1. This narrative covers the analyses of 7 soil samples.

2. The samples were prepared and analyzed in accordance with the methods indicated 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 blanks were within the method criteria.

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

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

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

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

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

for Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

1/18/06
Date

njp\i11-844

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 16 pages.

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

Lionville Laboratory Incorporated

WET CHEMISTRY

METHODS GLOSSARY FOR SOIL/SOLIDS SAMPLE ANALYSIS

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

Other: Nitrite, Nitrate, Sulfate **Method:** EPA 300.0

Other: ~~Nitrate N~~ ~~NO3-N~~ Nitrate Nitrite **Method** EPA 353.2(mod.)

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 01/12/06

CLIENT: TNUHANFORD RC-002 K0132 LVL LOT #: 0511L844
WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	J10M29	% Solids	95.4	%	0.01	1.0
		Nitrite by IC	2.59 u	MG/KG	2.59	1.0
		Nitrate by IC	5.57	MG/KG	2.59	1.0
		Chromium VI	0.21 u	MG/KG	0.21	1.0
		Sulfate by IC	31.2	MG/KG	2.6	1.0
		Nitrate Nitrite	0.61	MG/KG	0.21	1.0
-002	J10M30	% Solids	92.8	%	0.01	1.0
		Nitrite by IC	2.65 u	MG/KG	2.65	1.0
		Nitrate by IC	28.2	MG/KG	2.65	1.0
		Chromium VI	0.22 u	MG/KG	0.22	1.0
		Sulfate by IC	46.6	MG/KG	2.6	1.0
		Nitrate Nitrite	6.2	MG/KG	0.22	1.0
-003	J10M31	% Solids	89.0	%	0.01	1.0
		Nitrite by IC	2.80 u	MG/KG	2.80	1.0
		Nitrate by IC	45.1	MG/KG	2.80	1.0
		Chromium VI	0.22 u	MG/KG	0.22	1.0
		Sulfate by IC	71.2	MG/KG	2.8	1.0
		Nitrate Nitrite	14.0	MG/KG	0.45	2.0
-004	J10M32	% Solids	95.0	%	0.01	1.0
		Nitrite by IC	2.62 u	MG/KG	2.62	1.0
		Nitrate by IC	98.1	MG/KG	2.62	1.0
		Chromium VI	0.21 u	MG/KG	0.21	1.0
		Sulfate by IC	28.1	MG/KG	2.6	1.0
		Nitrate Nitrite	28.3	MG/KG	1.1	5.0
-005	J10M33	% Solids	90.8	%	0.01	1.0
		Nitrite by IC	2.68 u	MG/KG	2.68	1.0
		Nitrate by IC	17.3	MG/KG	2.68	1.0
		Chromium VI	0.22 u	MG/KG	0.22	1.0
		Sulfate by IC	26.1	MG/KG	2.7	1.0
		Nitrate Nitrite	3.7	MG/KG	0.22	1.0
-006	J10M34	% Solids	91.1	%	0.01	1.0
		Nitrite by IC	2.69 u	MG/KG	2.69	1.0
		Nitrate by IC	2.69 u	MG/KG	2.69	1.0
		Chromium VI	0.22 u	MG/KG	0.22	1.0
		Sulfate by IC	3.6	MG/KG	2.7	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 01/12/06

CLIENT: TNUHANFORD RC-002 K0132 LVL LOT #: 0511L844
WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-006	J10M34	Nitrate Nitrite	0.21 u	MG/KG	0.21	1.0
-007	J10M35	% Solids	87.8	%	0.01	1.0
		Chromium VI	2.3	MG/KG	0.23	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 01/12/06

CLIENT: TNUHANFORD RC-002 K0132 LVL LOT #: 0511L844
WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK10	06LIC001-MB1	Nitrite by IC	2.50 u	MG/KG	2.50	1.0
		Nitrate by IC	2.50 u	MG/KG	2.50	1.0
		Sulfate by IC	2.5 u	MG/KG	2.5	1.0
BLANK10	05LVIZ89-MB1	Chromium VI	0.20 u	MG/KG	0.20	1.0
BLANK10	05LN3064-MB1	Nitrate Nitrite	0.20 u	MG/KG	0.20	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 01/12/06

CLIENT: TNUHANFORD RC-002 K0132 LVL LOT #: 0511L844
WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-002	J10M30	Nitrite by IC	102	2.65u	106	95.4	2.0
		Nitrate by IC	130	28.2	106	95.6	2.0
		Sulfate by IC	150	46.6	106	97.1	1.0
		Nitrate Nitrite	17.3	6.2	10.7	103.4	2.0
-007	J10M35	Soluble Chromium VI	5.9	2.3	4.6	79.0	1.0
		Insoluble Chromium VI	1440	2.3	1360	106.3	100
BLANK10	06LIC001-MB1	Nitrite by IC	51.4	2.50u	50.0	102.8	1.0
		Nitrate by IC	49.3	2.50u	50.0	98.6	1.0
		Sulfate by IC	49.5	2.5 u	50.0	99.0	1.0
BLANK10	05LVIZ89-MB1	Soluble Chromium VI	3.9	0.20u	4.0	96.8	1.0
		Insoluble Chromium VI	1440	0.20u	1370	105.3	100
BLANK10	05LN3064-MB1	Nitrate Nitrite	5.0	0.20u	5.0	99.6	1.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 01/12/06

CLIENT: TNUHANPORD RC-002 K0132 LVL LOT #: 0511L844

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

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-002REP	J10M30	Nitrite by IC	2.65u	2.52u	NC	1.0
		Nitrate by IC	28.2	26.5	6.0	1.0
		Sulfate by IC	46.6	44.7	4.1	1.0
		Nitrate Nitrite	6.2	6.4	3.3	1.0
-007REP	J10M35	Chromium VI	2.3	2.0	13.2	1.0

Lionville Laboratory Use Only

0511L844

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

See SRC

12

Client: TNU Hanford BC-002

Est. Final Proj. Sampling Date:

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

Project Contact/Phone #:

Lionville Laboratory Project Manager: Charlotte Johnson

QC: Spec Del: Std TAT: 21 Days

Date Rec'd: 11-30-05 Date Due: 12/21/05

		A	B	C
Refrigerator #		5	5	5
#/Type Container	Liquid / Solid	19	19	19
Volume	Liquid / Solid	60	120	60
Preservatives		—	—	—

ANALYSES REQUESTED →

ORGANIC				INORG			
VOA	BNA	Pest/PCB	Herb	(1) Metal + Hg	CN	IC Anions	Hex Chrom

Lionville Laboratory Use Only

MATRIX CODES:	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	METAL(1)	WET CHEM(1)	ICP/C
S - Soil, SE - Sediment, SO - Solid, SL - Sludge, W - Water, O - Oil, A - Air, DS - Drum Solids, DL - Drum Liquids, L - EP/TCLP Leachate, WI - Wipe, X - Other, F - Fish	001	J10M29			S	11-16-05	1220	X	X	X
	002	J10M30					1230	X	X	X
	003	J10M31					1240	X	X	X
	004	J10M32					1250	X	X	X
	005	J10M33					1300	X	X	X
	006	J10M34					1310	X	X	X
	007	J10M35					1320	X		X

Special Instructions:

METAL(1) = Sb, Ba, Be, Cd, Cr, Cu, Mg, Ni, Ag, V, Zn, Hg

WETCHEM(1) = IC NO3, IC NO2, IC SO4, IN3N2

Run Matrix QC

DATE/REVISIONS:

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

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	11-30-05	0920

Relinquished by	Received by	Date	Time

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

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-002-026	Page 1 of 3

Collector: R. Kerkow	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 8L	Data Turnaround: 21/45		
Project Designation: 100-NR-1 TSD Sites R. A. Sampling - Soil	Sampling Location: UPR-100-N-31		SAF No.: RC-002
Air Quality: ☐			
Ice Chest No.: ERC-02-406	Field Logbook No.: EL-1524-4	COA: R1301N2F00	Method of Shipment: Fed Ex
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A060126		Bill of Lading/Air Bill No.: See DSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

Potentially radioactive

< DOT limits

Special Handling and/or Storage

~~None~~ R25 11-29-05 Cool 4°C

Preservation	None	Cool 4C	Cool 4C	None							
Type of Container	G/P	G/P	G/P	G/P							
No. of Container(s)	1	1	1	1							
Volume	60mL	120mL	60mL	500mL							
SAMPLE ANALYSIS	See item (1) in Special Instructions.	IC Anions - 9056 (Nitrate, Nitrite, Sulfate); NO2/NO3 - 353.2	Chromium Hex - 7196	See item (2) in Special Instructions. DAS 11/22/05						TIE TO RLF	

Sample No.	Matrix *	Sample Date	Sample Time										
J10M29	SOIL	11-16-05	1220	X	X	X	X						
J10M30	SOIL	11-16-05	1230	X	X	X	X					J10M22	
J10M31	SOIL	11-16-05	1240	X	X	X	X					J10M23	
J10M32	SOIL	11-16-05	1250	X	X	X	X					J10M24	
J10M33	SOIL	11-16-05	1300	X	X	X	X					J10M25	
												J10M26	

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
RB Kerkow/RB Kerkow	11/16/05 1835	REF 1B, 3728 RBK	11/16/05 1835
REF 1B, 3728	11-29-05 11:45	RZ Steffler R.Z. Steffler	11-29-05 11:45
RZ Steffler R.Z. Steffler	11-29-05 11:45	Fed Ex	
Fed Ex	11.30.05 1020	[illegible]	11.30.05 1020

SPECIAL INSTRUCTIONS

None

(1) ICP Metals - 6010A (TAL) {Antimony, Barium, Beryllium, Cadmium, Chromium, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ~~ICP Metals - 6010A (Add-on) {Arsenic, Lead, Selenium, Thallium}~~; Mercury - 7471 - (CV)

(2) Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on {Americium-241}; Isotopic Plutonium; ~~Americium-241;~~ Strontium-89,90 -- Total Sr; Nickel-63; ~~Tritium - H3~~; Isotopic Uranium; ~~Gross Alpha; Gross Beta~~

Matrix *: S=Soil, SD=Sediment, SO=Solid, SL=Sludge, W=Water, O=Oil, A=Air, DS=Drum Solids, DL=Drum Liquids, T=Tissue, Wi=Wipe, L=Liquid, V=Vegetation, X=Other

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

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

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-002-026	Page 2 of 23

Collector: R. Kerkow	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 8L	Data Turnaround: 21/45	Air Quality ☐	
Project Designation: 100-NR-1 TSD Sites R. A. Sampling - Soil	Sampling Location: UPR-100-N-31	SAF No.: RC-002	
Ice Chest No.: ERC-02-406	Field Logbook No.: EL-1524-4	COA: R1301N2F00	Method of Shipment: FedEx
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A060126	Bill of Lading/Air Bill No.: See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

Potentially radioactive

< DOT limits

Special Handling and/or Storage

~~None~~ RES 11-29-05 Cool 4°C

Preservation	None	Cool 4C	Cool 4C	None							
Type of Container	G/P	G/P	G/P	G/P							
No. of Container(s)	1	1	1	1							
Volume	60mL	120mL	60mL	500mL							
SAMPLE ANALYSIS	See item (1) in Special Instructions.	IC Anions - 9056 (Nitrate, Nitrite, Sulfate); NO2/NO3 - 353.2	Chromium Hex - 7196	See item (2) in Special Instructions. DAS 11/22/05							TIE TO RCF

Sample No.	Matrix *	Sample Date	Sample Time										
J10M34	SOIL	11/16/05	1310	X	X	X	X					J10M37	
~~J10M35~~ RC 11/16/05	~~SOIL~~												

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
RB Kerkow / RB Kerkow	1835 11/16/05	REF 1B, 3728 RK	1835 11/16/05
REF 1B, 3728	11-29-05 1145	RZ Steffler R.Z. Steffler	1145 11-29-05
RZ Steffler R.Z. Steffler	11-29-05 1145	FedEx	
FedEx	11-30-05 1090	[illegible]	11-30-05 1090

SPECIAL INSTRUCTIONS

None

(1) ICP Metals - 6010A (TAL) [Antimony, Barium, Beryllium, Cadmium, Chromium, Copper, Manganese, Nickel, Silver, Vanadium, Zinc]; ~~ICP Metals - 6010A (Add-on) [Arsenic, Lead, Selenium, Thallium]~~; Mercury - 7471 - (CV) RC 11/16/05

(2) Gamma Spectroscopy (TCL List) [Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155]; Gamma Spec - Add-on [Americium-241]; Isotopic Plutonium; ~~Americium-241;~~ RC 11/16/05 Strontium-89,90 -- Total Sr; Nickel-63; ~~Tritium - H3~~; Isotopic Uranium; ~~Gross Alpha; Gross Beta~~ RC 11/16/05

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

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

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

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-002-026	Page 2 of 2

Collector: R. Kerkow	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 8L	Data Turnaround: 21/45	Air Quality ☐	
Project Designation: 100-NR-1 TSD Sites R. A. Sampling - Soil	Sampling Location: UPR-100-N-31	SAF No.: RC-002	
Ice Chest No.: ERC-02-406	Field Logbook No.: EL-1524-4	COA: R1301N2F00	Method of Shipment: Fed Ex
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A060126		Bill of Lading/Air Bill No.: See DSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

Potentially radioactive

< DOT limits

Special Handling and/or Storage

~~None~~ Cool 4°C

RZS 11-29-05

Preservation	None	Cool 4C	Cool 4C	None							
Type of Container	G/P	G/P	G/P	G/P							
No. of Container(s)	1	1	1	1							
Volume	60mL	120mL RZS 11-29-05	60mL	~~500mL~~ 120mL							
SAMPLE ANALYSIS	See item (1) in Special Instructions.	IC Anions - 9056 (Nitrate, Nitrite, Sulfate); NO2/NO3 - 353.2	Chromium Hex - 7196	See item (2) in Special Instructions. DAS 11/22/05						TIE TO RCF	

Sample No.	Matrix *	Sample Date	Sample Time									
~~J10M34~~ 11/16/05	~~SOIL~~											
J10M35	SOIL	11/16/05	1320	X		X	X				J10M28	

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
RB Kerkow / RB Kerkow	1835 11/16/05	REFIB, 3728 RBK	1835 11/16/05
REFIB, 3728	11-29-05 11:45	RZ Steffler RZ Steffler	1145 11-29-05
RZ Steffler RZ Steffler	1145 11-29-05	Fed Ex	
Fed Ex	11.30.05 / 0920	D Smith	11.30.05 / 0920

SPECIAL INSTRUCTIONS

None

(1) ICP Metals - 6010A (TAL) [Antimony, Barium, Beryllium, Cadmium, Chromium, Copper, Manganese, Nickel, Silver, Vanadium, Zinc]; ~~ICP Metals - 6010A (Add-on) [Arsenic, Lead, Selenium, Thallium]; Mercury - 7471 (CV)~~ RK 11/16/05

(2) Gamma Spectroscopy (TCL List) [Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155]; Gamma Spec - Add-on [Americium-241]; Isotopic Plutonium; ~~Americium-241;~~ RK 11/16/05 Strontium-89,90 -- Total Sr; Nickel-63; Tritium - H3; Isotopic Uranium; Gross Alpha; Gross Beta

Matrix *: SoSoil; SE=Sediment; SO=Solid; Sl=Sludge; W = Water; O=Oil; AirAir; DS=Drum Solids; DL=Drum Liquids; T=Tissue; Wi=Wipe; LcLiquid; V=Vegetation; X=Other

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

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

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU Hanford **Date:** 11-30-05

Purchase Order / Project# / SAF# / SOW# / Release #: RC-002

LvLI Batch # : 05 11L844 **Sample Custodian:** D. Smith

NOTE: EXPLAIN ALL DISCREPANCIES

1.	Samples Hand Delivered or Shipped	Carrier Fed Ex		Airbill# 7925 9240 06	
2.	Custody seals on coolers or shipping container intact, signed and dated?	☑ Yes	☐ No	☐ No Seals	Comments
3.	Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No		
4.	All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible?	☑ Yes	☐ No		
5.	Samples received cooled or ambient?	Temp 2.1 °C		Cooler # ERC-02-406	
6.	Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals	
7.	coc signed and dated?	☑ Yes	☐ No		
8.	Sample containers are intact?	☑ Yes	☐ No		
9.	All samples on coc received? All samples received on coc?	☑ Yes	☐ No		
10.	All sample label information matches coc?	☑ Yes	☐ No		
11.	Samples properly preserved?	☑ Yes	☐ No		
12.	Samples received within hold times? Short holds taken to wet lab?	☑ Yes	☐ No		
13.	VOA, TOC, TOX free of headspace?	☐ Yes	☐ No	☑ N/A	
14.	QC stickers placed on bottles designated by client?	☐ Yes	☐ No	☑ N/A	
15.	Shipment meets LvLI Sample Acceptance Policy? (Identify all bottles not within policy. See reverse side for policy)	☑ Yes	☐ No		
16.	Project Manager contacted concerning discrepancies? name/date (or samples outside criteria)	☐ Yes	☐ No	☑ No Discrepancies	

SR-002-B

LvLI

EBERLINE
SERVICES

RECEIVED
JAN 2006

January 4, 2006

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

Reference: **P.O. #630**
Eberline Services R5-11-260-7352, SDG K0132

Dear Ms. Kessner:

Enclosed is the data report for seven solid samples designated under SAF No. RC-002 received at Eberline Services on November 30, 2005. The samples were analyzed according to the accompanying chain-of-custody documents.

Please call if you have any questions concerning this report.

Sincerely,

Melissa Mannion

Melissa C. Mannion
Senior Program Manager

MCM/

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 K0132 was composed of seven solid (soil) samples designated under SAF No. RC-002 with a Project Designation of: 100-NR-1 TSD Sites R.A. Sampling - Soil.

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 January 3, 2006.

2.0 ANALYSIS NOTES

2.1 Gross Alpha and Gross Beta Analysis

The gross alpha LCS (67%) was less than the contract lower limit of 70%. No other problems were encountered during the course of the analyses.

2.2 Tritium Analysis

No problems were encountered during the course of the analyses.

2.3 Nickel-63 Analysis

No problems were encountered during the course of the analyses.

2.4 Total Strontium Analysis

No problems were encountered during the course of the analyses.

2.5 Isotopic Uranium Analysis

No problems were encountered during the course of the analyses.

2.6 Isotopic Plutonium Analysis

No problems were encountered during the course of the analyses.

2.7 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 Mannion

Melissa C. Mannion
Senior Program Manager

1/4/6

Date

E B E R L I N E S E R V I C E S / R I C H M O N D
SAMPLE DELIVERY GROUP K0132

SDG	7352
Contact	Melissa C. Mannion

Client	Hanford
Contract	No. 630
Case no	SDG_K0132

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

T A B L E O F C O N T E N T S

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Method Blanks	9
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Prepared by

Reviewed by

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-TOC
Version	3.06
Report date	01/03/06

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.

SDG	7352
Contact	Melissa C. Mannion

Client	Hanford
Contract	No. 630
Case no	SDG_K0132

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.

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-RG
Version	3.06
Report date	01/03/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0132

SDG 7352
Contact Melissa C. Mannion

LAB SAMPLE SUMMARY

Client Hanford
Contract No. 630
Case no SDG K0132

LAB SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAF NO	CHAIN OF CUSTODY	COLLECTED
R511260-01	J10M29	UPR-100-N-31	SOLID		RC-002	RC-002-026	11/16/05 12:20
R511260-02	J10M30	UPR-100-N-31	SOLID		RC-002	RC-002-026	11/16/05 12:30
R511260-03	J10M31	UPR-100-N-31	SOLID		RC-002	RC-002-026	11/16/05 12:40
R511260-04	J10M32	UPR-100-N-31	SOLID		RC-002	RC-002-026	11/16/05 12:50
R511260-05	J10M33	UPR-100-N-31	SOLID		RC-002	RC-002-026	11/16/05 13:00
R511260-06	J10M34	UPR-100-N-31	SOLID		RC-002	RC-002-026	11/16/05 13:10
R511260-07	J10M35	UPR-100-N-31	SOLID		RC-002	RC-002-026	11/16/05 13:20
R511260-08	Lab Control Sample		SOLID		RC-002		
R511260-09	Method Blank		SOLID		RC-002		
R511260-10	Duplicate (R511260-07)	UPR-100-N-31	SOLID		RC-002		11/16/05 13:20

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LS
Version 3.06
Report date 01/03/06

EBERLINE SERVICES/RICHMOND

SDG 7352
Contact Melissa C. Mannion

SAMPLE DELIVERY GROUP K0132

QC SUMMARY

Client Hanford
Contract No. 630
Case no SDG K0132

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% SOLIDS	SAMPLE AMOUNT	BASIS AMOUNT	DAYS SINCE RECEIVED	DAYS SINCE COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
7352	RC-002-026	J10M29	SOLID	96.3	1002 g		11/30/05	14	R511260-01	7352-001
		J10M30	SOLID	92.7	709.3 g		11/30/05	14	R511260-02	7352-002
		J10M31	SOLID	89.6	833.9 g		11/30/05	14	R511260-03	7352-003
		J10M32	SOLID	94.1	845.2 g		11/30/05	14	R511260-04	7352-004
		J10M33	SOLID	89.4	901.2 g		11/30/05	14	R511260-05	7352-005
		J10M34	SOLID	91.8	930.9 g		11/30/05	14	R511260-06	7352-006
		J10M35	SOLID	89.6	210.7 g		11/30/05	14	R511260-07	7352-007
		Method Blank	SOLID						R511260-09	7352-009
		Lab Control Sample	SOLID						R511260-08	7352-008
		Duplicate (R511260-07)	SOLID	89.6	210.7 g		11/30/05	14	R511260-10	7352-010

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-QS
Version 3.06
Report date 01/03/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0132

SDG 7352
Contact Melissa C. Mannion

PREP BATCH SUMMARY

Client Hanford
Contract No. 630
Case no SDG K0132

TEST	MATRIX	METHOD	PREPARATION BATCH	ERROR 2σ %	PLANCHETS ANALYZED CLIENT	MORE	RE	BLANK	LCS	DUP/ORIG	MS/ORIG	QUALIFIERS
Alpha Spectroscopy												
PU	SOLID	Plutonium, Isotopic in Solids	7148-172	5.0	7			1	1	1/1		
U	SOLID	Uranium, Isotopic in Solids	7148-172	5.0	7			1	1	1/1		
Beta Counting												
SR	SOLID	Total Strontium in Solids	7148-172	10.0	7			1	1	1/1		
Gas Proportional Counting												
93A	SOLID	Gross Alpha in Solids	7148-172	20.0	1			1	1	1/1		
93B	SOLID	Gross Beta in Solids	7148-172	15.0	1			1	1	1/1		
Gamma Spectroscopy												
GAM	SOLID	Gamma Scan	7148-172	15.0	7			1	1	1/1		
Liquid Scintillation Counting												
H	SOLID	Tritium in Solids	7148-172	10.0	1			1	1	1/1		
NI_L	SOLID	Nickel 63 in Solids	7148-172	10.0	7			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 01/03/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0132

SDG 7352
Contact Melissa C. Mannion

LAB WORK SUMMARY

Client Hanford
Contract No. 630
Case no SDG K0132

LAB SAMPLE COLLECTED RECEIVED	CLIENT SAMPLE ID LOCATION CUSTODY	SAF No	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
R511260-01	J10M29			7352-001	GAM		12/13/05	01/03/06	CSS	Gamma Scan
11/16/05	UPR-100-N-31		SOLID	7352-001	NI_L		12/21/05	01/03/06	MWT	Nickel 63 in Solids
11/30/05	RC-002-026	RC-002		7352-001	PU		12/20/05	01/03/06	MWT	Plutonium, Isotopic in Solids
				7352-001	SR		12/16/05	01/03/06	MWT	Total Strontium in Solids
				7352-001	U		12/16/05	01/03/06	MWT	Uranium, Isotopic in Solids
R511260-02	J10M30			7352-002	GAM		12/13/05	01/03/06	CSS	Gamma Scan
11/16/05	UPR-100-N-31		SOLID	7352-002	NI_L		12/21/05	01/03/06	MWT	Nickel 63 in Solids
11/30/05	RC-002-026	RC-002		7352-002	PU		12/20/05	01/03/06	MWT	Plutonium, Isotopic in Solids
				7352-002	SR		12/16/05	01/03/06	MWT	Total Strontium in Solids
				7352-002	U		12/16/05	01/03/06	MWT	Uranium, Isotopic in Solids
R511260-03	J10M31			7352-003	GAM		12/13/05	01/03/06	CSS	Gamma Scan
11/16/05	UPR-100-N-31		SOLID	7352-003	NI_L		12/21/05	01/03/06	MWT	Nickel 63 in Solids
11/30/05	RC-002-026	RC-002		7352-003	PU		12/20/05	01/03/06	MWT	Plutonium, Isotopic in Solids
				7352-003	SR		12/16/05	01/03/06	MWT	Total Strontium in Solids
				7352-003	U		12/16/05	01/03/06	MWT	Uranium, Isotopic in Solids
R511260-04	J10M32			7352-004	GAM		12/17/05	01/03/06	CSS	Gamma Scan
11/16/05	UPR-100-N-31		SOLID	7352-004	NI_L		12/21/05	01/03/06	MWT	Nickel 63 in Solids
11/30/05	RC-002-026	RC-002		7352-004	PU		12/20/05	01/03/06	MWT	Plutonium, Isotopic in Solids
				7352-004	SR		12/16/05	01/03/06	MWT	Total Strontium in Solids
				7352-004	U		12/16/05	01/03/06	MWT	Uranium, Isotopic in Solids
R511260-05	J10M33			7352-005	GAM		12/13/05	01/03/06	CSS	Gamma Scan
11/16/05	UPR-100-N-31		SOLID	7352-005	NI_L		12/21/05	01/03/06	MWT	Nickel 63 in Solids
11/30/05	RC-002-026	RC-002		7352-005	PU		12/20/05	01/03/06	MWT	Plutonium, Isotopic in Solids
				7352-005	SR		12/16/05	01/03/06	MWT	Total Strontium in Solids
				7352-005	U		12/16/05	01/03/06	MWT	Uranium, Isotopic in Solids
R511260-06	J10M34			7352-006	GAM		12/13/05	01/03/06	CSS	Gamma Scan
11/16/05	UPR-100-N-31		SOLID	7352-006	NI_L		12/21/05	01/03/06	MWT	Nickel 63 in Solids
11/30/05	RC-002-026	RC-002		7352-006	PU		12/20/05	01/03/06	MWT	Plutonium, Isotopic in Solids
				7352-006	SR		12/16/05	01/03/06	MWT	Total Strontium in Solids
				7352-006	U		12/16/05	01/03/06	MWT	Uranium, Isotopic in Solids

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 01/03/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0132

SDG 7352
Contact Melissa C. Mannion

WORK SUMMARY, cont.

Client Hanford
Contract No. 630
Case no SDG K0132

LAB SAMPLE COLLECTED RECEIVED	CLIENT SAMPLE ID LOCATION CUSTODY	SAF No	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
R511260-07	J10M35			7352-007	93A/93		12/22/05	01/03/06	MWT	Gross Alpha in Solids
11/16/05	UPR-100-N-31		SOLID	7352-007	93B/93		12/19/05	01/03/06	MWT	Gross Beta in Solids
11/30/05	RC-002-026	RC-002		7352-007	GAM		12/13/05	01/03/06	CSS	Gamma Scan
				7352-007	H		12/13/05	01/03/06	MWT	Tritium in Solids
				7352-007	NI_L		12/21/05	01/03/06	MWT	Nickel 63 in Solids
				7352-007	PU		12/20/05	01/03/06	MWT	Plutonium, Isotopic in Solids
				7352-007	SR		12/16/05	01/03/06	MWT	Total Strontium in Solids
				7352-007	U		12/16/05	01/03/06	MWT	Uranium, Isotopic in Solids
R511260-08	Lab Control Sample			7352-008	93A/93		12/19/05	01/03/06	MWT	Gross Alpha in Solids
			SOLID	7352-008	93B/93		12/19/05	01/03/06	MWT	Gross Beta in Solids
		RC-002		7352-008	GAM		12/13/05	01/03/06	CSS	Gamma Scan
				7352-008	H		12/15/05	01/03/06	MWT	Tritium in Solids
				7352-008	NI_L		12/21/05	01/03/06	MWT	Nickel 63 in Solids
				7352-008	PU		12/20/05	01/03/06	MWT	Plutonium, Isotopic in Solids
				7352-008	SR		12/16/05	01/03/06	MWT	Total Strontium in Solids
				7352-008	U		12/16/05	01/03/06	MWT	Uranium, Isotopic in Solids
R511260-09	Method Blank			7352-009	93A/93		12/19/05	01/03/06	MWT	Gross Alpha in Solids
			SOLID	7352-009	93B/93		12/19/05	01/03/06	MWT	Gross Beta in Solids
		RC-002		7352-009	GAM		12/13/05	01/03/06	CSS	Gamma Scan
				7352-009	H		12/12/05	01/03/06	MWT	Tritium in Solids
				7352-009	NI_L		12/21/05	01/03/06	MWT	Nickel 63 in Solids
				7352-009	PU		12/20/05	01/03/06	MWT	Plutonium, Isotopic in Solids
				7352-009	SR		12/16/05	01/03/06	MWT	Total Strontium in Solids
				7352-009	U		12/16/05	01/03/06	MWT	Uranium, Isotopic in Solids
R511260-10	Duplicate (R511260-07)			7352-010	93A/93		12/22/05	01/03/06	MWT	Gross Alpha in Solids
11/16/05	UPR-100-N-31		SOLID	7352-010	93B/93		12/19/05	01/03/06	MWT	Gross Beta in Solids
11/30/05		RC-002		7352-010	GAM		12/17/05	01/03/06	CSS	Gamma Scan
				7352-010	H		12/15/05	01/03/06	MWT	Tritium in Solids
				7352-010	NI_L		12/21/05	01/03/06	MWT	Nickel 63 in Solids
				7352-010	PU		12/20/05	01/03/06	MWT	Plutonium, Isotopic in Solids
				7352-010	SR		12/16/05	01/03/06	MWT	Total Strontium in Solids
				7352-010	U		12/16/05	01/03/06	MWT	Uranium, Isotopic in Solids

Lab id EBRLNE
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0132

SDG 7352
Contact Melissa C. Mannion

WORK SUMMARY, cont.

Client Hanford
Contract No. 630
Case no SDG K0132

COUNTS OF TESTS BY SAMPLE TYPE

TEST	SAF No	METHOD	REFERENCE	CLIENT	MORE	RE	BLANK	LCS	DUP SPIKE	TOTAL
93A/93	RC-002	Gross Alpha in Solids	900.0_ALPHABETA_GPC	1			1	1	1	4
93B/93	RC-002	Gross Beta in Solids	900.0_ALPHABETA_GPC	1			1	1	1	4
GAM	RC-002	Gamma Scan	GAMMA_GS	7			1	1	1	10
H	RC-002	Tritium in Solids	TRITIUM_COX_LSC	1			1	1	1	4
NI_L	RC-002	Nickel 63 in Solids	NI63_LSC	7			1	1	1	10
PU	RC-002	Plutonium, Isotopic in Solids	PUISO_PLATE_AEA	7			1	1	1	10
SR	RC-002	Total Strontium in Solids	SRTOT_SEP_PRECIP_GPC	7			1	1	1	10
U	RC-002	Uranium, Isotopic in Solids	UISO_PLATE_AEA	7			1	1	1	10
TOTALS				38			8	8	8	62

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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0132

7352-009 **Method Blank**

METHOD BLANK

SDG	7352	Client/Case no	Hanford	SDG_K0132	
Contact	Melissa C. Mannion	Contract	No. 630		
Lab sample id	R511260-09	Client sample id	Method Blank		
Dept sample id	7352-009	Material/Matrix		SOLID	
		SAF No	RC-002		

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	1.50	2.5	4.3	10	U	93A
Gross Beta	12587-47-2	1.99	3.7	6.0	15	U	93B
Tritium	10028-17-8	-1.85	2.1	3.6	400	U	H
Nickel 63	13981-37-8	-0.713	1.7	3.0	30	U	NI_L
Total Strontium	SR-RAD	-0.077	0.093	0.21	1.0	U	SR
Uranium 233/234	U-233/234	0	0.081	0.31	1.0	U	U
Uranium 235	15117-96-1	0	0.098	0.38	1.0	U	U
Uranium 238	U-238	0	0.081	0.31	1.0	U	U
Plutonium 238	13981-16-3	-0.018	0.036	0.14	1.0	U	PU
Plutonium 239/240	PU-239/240	0.018	0.036	0.14	1.0	U	PU
Potassium 40	13966-00-2	U		1.6		U	GAM
Cobalt 60	10198-40-0	U		0.15	0.050	U	GAM
Cesium 137	10045-97-3	U		0.15	0.10	U	GAM
Radium 226	13982-63-3	U		0.26	0.10	U	GAM
Radium 228	15262-20-1	U		0.54	0.20	U	GAM
Europium 152	14683-23-9	U		0.36	0.10	U	GAM
Europium 154	15585-10-1	U		0.47	0.10	U	GAM
Europium 155	14391-16-3	U		0.23	0.10	U	GAM
Thorium 228	14274-82-9	U		0.17		U	GAM
Thorium 232	TH-232	U		0.54		U	GAM
Uranium 235	15117-96-1	U		0.44		U	GAM
Uranium 238	U-238	U		18		U	GAM
Americium 241	14596-10-2	U		0.12		U	GAM

100-NR-1 TSD Sites R.A. Sampling

QC-BLANK #55314

Lab id	EBRLNE
Protocol	Hanford
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0132

7352-008

Lab Control Sample

LAB CONTROL SAMPLE

SDG 7352

Contact Melissa C. Mannion

Client/Case no Hanford SDG K0132

Contract No. 630

Lab sample id R511260-08

Dept sample id 7352-008

Client sample id Lab Control Sample

Material/Matrix SOLID

SAF No RC-002

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
Gross Alpha	153	15	4.1	10		93A	230	9.2	67	77-123	70-130
Gross Beta	230	11	6.0	15		93B	218	8.7	106	74-126	70-130
Tritium	901	20	6.6	400		H	940	38	96	84-116	80-120
Nickel 63	267	8.5	4.2	30		NI_L	270	11	99	83-117	80-120
Total Strontium	12.1	0.61	0.25	1.0		SR	10.9	0.44	111	80-120	80-120
Uranium 233/234	19.2	2.0	0.93	1.0		U	19.3	0.77	99	82-118	80-120
Uranium 235	16.3	1.8	0.21	1.0		U	15.7	0.63	104	80-120	80-120
Uranium 238	20.1	2.1	0.89	1.0		U	21.0	0.84	96	82-118	80-120
Plutonium 238	26.5	2.2	0.15	1.0		PU	26.2	1.0	101	84-116	80-120
Plutonium 239/240	29.8	2.5	0.15	1.0		PU	29.0	1.2	103	84-116	80-120
Cobalt 60	7.25	0.47	0.21	0.050		GAM	7.28	0.29	100	75-125	80-120
Cesium 137	8.06	0.41	0.26	0.10		GAM	7.49	0.30	108	74-126	80-120

100-NR-1 TSD Sites R.A. Sampling

QC-LCS #55313

Lab id EBRLNE

Protocol Hanford

Version Ver 1.0

Form DVD-LCS

Version 3.06

Report date 01/03/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0132

7352-010 J10M35

DUPLICATE

SDG	7352			Client/Case no	Hanford SDG K0132
Contact	Melissa C. Mannion			Contract	No. 630
DUPLICATE		ORIGINAL			
Lab sample id	R511260-10	Lab sample id	R511260-07	Client sample id	J10M35
Dept sample id	7352-010	Dept sample id	7352-007	Location/Matrix	UPR-100-N-31 SOLID
		Received	11/30/05	Collected/Weight	11/16/05 13:20 210.7 g
% solids	89.6	% solids	89.6	Custody/SAF No	RC-002-026 RC-002

ANALYTE	DUPLICATE pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST	ORIGINAL pCi/g	2σ ERR (COUNT)	MDA pCi/g	QUALI-FIERS	RPD %	3σ TOT	DER σ
Gross Alpha	647	28	3.4	10		93A	708	29	3.5		9	43	0.6
Gross Beta	79600	190	5.4	15		93B	76000	570	20		5	32	0.4
Tritium	117	3.9	2.9	400		H	123	4.0	2.9		5	22	0.7
Nickel 63	1760	53	12	30		NI_L	1740	53	12		1	22	0.2
Total Strontium	1030	6.2	0.28	1.0		SR	1020	5.7	0.27		1	21	0.1
Uranium 233/234	0.910	0.31	0.19	1.0		U	0.924	0.29	0.18		2	70	0.1
Uranium 235	0.092	0.12	0.23	1.0	U	U	0.056	0.056	0.21	U	-		0.5
Uranium 238	1.19	0.36	0.19	1.0		U	0.716	0.28	0.18		50	73	2.1
Plutonium 238	49.8	3.3	0.12	1.0		PU	50.7	3.5	0.13		2	18	0.3
Plutonium 239/240	367	21	0.12	1.0		PU	364	22	0.13		1	16	0.2
Potassium 40	U		100		U	GAM	U		40	U	-		1.1
Cobalt 60	3430	39	31	0.050		GAM	3440	16	12		0	32	0
Cesium 137	43800	100	72	0.10		GAM	42500	40	30		3	32	0.3
Radium 226	U		44	0.10	U	GAM	U		18	U	-		1.1
Radium 228	U		84	0.20	U	GAM	U		34	U	-		1.1
Europium 152	U		71	0.10	U	GAM	U		28	U	-		1.1
Europium 154	102	41	53	0.10		GAM	128	18	22		23	67	1.0
Europium 155	U		41	0.10	U	GAM	U		16	U	-		1.1
Thorium 228	U		32		U	GAM	U		13	U	-		1.1
Thorium 232	U		84		U	GAM	U		34	U	-		1.1
Uranium 235	U		65		U	GAM	U		26	U	-		1.1
Uranium 238	U		2500		U	GAM	U		1000	U	-		1.1
Americium 241	95.5	34	49			GAM	98.2	12	18		3	64	0.1

100-NR-1 TSD Sites R.A. Sampling

QC-DUP#7 55315

Lab id	EBRLNE
Protocol	Hanford
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0132

7352-001 J10M29

DATA SHEET

SDG	7352	Client/Case no	Hanford SDG K0132
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R511260-01	Client sample id	J10M29
Dept sample id	7352-001	Location/Matrix	UPR-100-N-31 SOLID
Received	11/30/05	Collected/Weight	11/16/05 12:20 1002 g
% solids	96.3	Custody/SAF No	RC-002-026 RC-002

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Nickel 63	13981-37-8	-2.25	2.0	3.6	30	U	NI_L
Total Strontium	SR-RAD	0.530	0.19	0.27	1.0		SR
Uranium 233/234	U-233/234	0.404	0.20	0.19	1.0		U
Uranium 235	15117-96-1	0.061	0.061	0.23	1.0	U	U
Uranium 238	U-238	0.606	0.26	0.19	1.0		U
Plutonium 238	13981-16-3	0.014	0.028	0.11	1.0	U	PU
Plutonium 239/240	PU-239/240	0.056	0.056	0.11	1.0	U	PU
Potassium 40	13966-00-2	8.01	1.2	0.91			GAM
Cobalt 60	10198-40-0	U		0.095	0.050	U	GAM
Cesium 137	10045-97-3	U		0.12	0.10	U	GAM
Radium 226	13982-63-3	U		0.17	0.10	U	GAM
Radium 228	15262-20-1	U		0.36	0.20	U	GAM
Europium 152	14683-23-9	U		0.16	0.10	U	GAM
Europium 154	15585-10-1	U		0.25	0.10	U	GAM
Europium 155	14391-16-3	U		0.11	0.10	U	GAM
Thorium 228	14274-82-9	0.382	0.11	0.11			GAM
Thorium 232	TH-232	U		0.36		U	GAM
Uranium 235	15117-96-1	U		0.18		U	GAM
Uranium 238	U-238	U		9.6		U	GAM
Americium 241	14596-10-2	U		0.094		U	GAM

100-NR-1 TSD Sites R.A. Sampling

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0132

7352-002 J10M30

DATA SHEET

SDG	7352	Client/Case no	Hanford	SDG_K0132	
Contact	Melissa C. Mannion	Contract	No. 630		
Lab sample id	R511260-02	Client sample id	J10M30		
Dept sample id	7352-002	Location/Matrix	UPR-100-N-31	SOLID	
Received	11/30/05	Collected/Weight	11/16/05 12:30	709.3 g	
% solids	92.7	Custody/SAF No	RC-002-026	RC-002	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Nickel 63	13981-37-8	-1.63	2.1	3.7	30	U	NI_L
Total Strontium	SR-RAD	0.086	0.12	0.22	1.0	U	SR
Uranium 233/234	U-233/234	0.506	0.23	0.18	1.0		U
Uranium 235	15117-96-1	0	0.056	0.21	1.0	U	U
Uranium 238	U-238	0.575	0.23	0.18	1.0		U
Plutonium 238	13981-16-3	0.017	0.034	0.13	1.0	U	PU
Plutonium 239/240	PU-239/240	0.050	0.067	0.13	1.0	U	PU
Potassium 40	13966-00-2	11.5	1.5	0.82			GAM
Cobalt 60	10198-40-0	0.146	0.077	0.071	0.050		GAM
Cesium 137	10045-97-3	0.154	0.065	0.079	0.10		GAM
Radium 226	13982-63-3	0.367	0.16	0.18	0.10		GAM
Radium 228	15262-20-1	0.530	0.32	0.35	0.20		GAM
Europium 152	14683-23-9	U		0.21	0.10	U	GAM
Europium 154	15585-10-1	U		0.25	0.10	U	GAM
Europium 155	14391-16-3	U		0.22	0.10	U	GAM
Thorium 228	14274-82-9	0.647	0.092	0.10			GAM
Thorium 232	TH-232	0.530	0.32	0.35			GAM
Uranium 235	15117-96-1	U		0.31		U	GAM
Uranium 238	U-238	U		9.4		U	GAM
Americium 241	14596-10-2	U		0.39		U	GAM

100-NR-1 TSD Sites R.A. Sampling

Lab id	EBRLNE
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0132

7352-003 **J10M31**

DATA SHEET

SDG	7352	Client/Case no	Hanford	SDG_K0132	
Contact	Melissa C. Mannion	Contract	No. 630		
Lab sample id	R511260-03	Client sample id	J10M31		
Dept sample id	7352-003	Location/Matrix	UPR-100-N-31	SOLID	
Received	11/30/05	Collected/Weight	11/16/05 12:40	833.9 g	
% solids	89.6	Custody/SAF No	RC-002-026	RC-002	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Nickel 63	13981-37-8	0.478	2.3	3.9	30	U	NI_L
Total Strontium	SR-RAD	2.27	0.26	0.21	1.0		SR
Uranium 233/234	U-233/234	0.370	0.20	0.19	1.0		U
Uranium 235	15117-96-1	0.030	0.060	0.23	1.0	U	U
Uranium 238	U-238	0.517	0.25	0.19	1.0		U
Plutonium 238	13981-16-3	0.152	0.13	0.17	1.0	U	PU
Plutonium 239/240	PU-239/240	1.19	0.31	0.17	1.0		PU
Potassium 40	13966-00-2	12.3	1.1	0.44			GAM
Cobalt 60	10198-40-0	3.70	0.15	0.098	0.050		GAM
Cesium 137	10045-97-3	12.5	0.20	0.12	0.10		GAM
Radium 226	13982-63-3	0.581	0.17	0.18	0.10		GAM
Radium 228	15262-20-1	0.988	0.44	0.50	0.20		GAM
Europium 152	14683-23-9	U		0.32	0.10	U	GAM
Europium 154	15585-10-1	U		0.26	0.10	U	GAM
Europium 155	14391-16-3	U		0.19	0.10	U	GAM
Thorium 228	14274-82-9	0.935	0.13	0.14			GAM
Thorium 232	TH-232	0.988	0.44	0.50			GAM
Uranium 235	15117-96-1	U		0.33		U	GAM
Uranium 238	U-238	U		15		U	GAM
Americium 241	14596-10-2	0.176	0.098	0.12			GAM

100-NR-1 TSD Sites R.A. Sampling

Lab id	EBRLNE
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0132

7352-004 J10M32

DATA SHEET

SDG	7352	Client/Case no	Hanford SDG_K0132
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R511260-04	Client sample id	J10M32
Dept sample id	7352-004	Location/Matrix	UPR-100-N-31 SOLID
Received	11/30/05	Collected/Weight	11/16/05 12:50 845.2 g
% solids	94.1	Custody/SAF No	RC-002-026 RC-002

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Nickel 63	13981-37-8	252	8.2	4.5	30		NI_L
Total Strontium	SR-RAD	102	1.6	0.19	1.0		SR
Uranium 233/234	U-233/234	0.562	0.24	0.18	1.0		U
Uranium 235	15117-96-1	0.028	0.057	0.22	1.0	U	U
Uranium 238	U-238	0.516	0.24	0.18	1.0		U
Plutonium 238	13981-16-3	5.17	0.75	0.16	1.0		PU
Plutonium 239/240	PU-239/240	36.7	3.0	0.16	1.0		PU
Potassium 40	13966-00-2	11.6	4.7	5.7			GAM
Cobalt 60	10198-40-0	664	3.9	1.7	0.050		GAM
Cesium 137	10045-97-3	275	2.5	2.1	0.10		GAM
Radium 226	13982-63-3	U		2.4	0.10	U	GAM
Radium 228	15262-20-1	U		7.9	0.20	U	GAM
Europium 152	14683-23-9	U		3.0	0.10	U	GAM
Europium 154	15585-10-1	7.29	2.8	3.5	0.10		GAM
Europium 155	14391-16-3	U		2.2	0.10	U	GAM
Thorium 228	14274-82-9	U		1.6		U	GAM
Thorium 232	TH-232	U		7.9		U	GAM
Uranium 235	15117-96-1	U		3.4		U	GAM
Uranium 238	U-238	U		230		U	GAM
Americium 241	14596-10-2	12.9	1.8	2.5			GAM

100-NR-1 TSD Sites R.A. Sampling

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0132

7352-005 J10M33

DATA SHEET

SDG	7352	Client/Case no	Hanford	SDG_K0132	
Contact	Melissa C. Mannion	Contract	No. 630		
Lab sample id	R511260-05	Client sample id	J10M33		
Dept sample id	7352-005	Location/Matrix	UPR-100-N-31	SOLID	
Received	11/30/05	Collected/Weight	11/16/05 13:00	901.2 g	
% solids	89.4	Custody/SAF No	RC-002-026	RC-002	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Nickel 63	13981-37-8	0.902	2.4	4.0	30	U	NI_L
Total Strontium	SR-RAD	1.64	0.22	0.20	1.0		SR
Uranium 233/234	U-233/234	0.362	0.22	0.21	1.0		U
Uranium 235	15117-96-1	0	0.067	0.26	1.0	U	U
Uranium 238	U-238	0.612	0.28	0.21	1.0		U
Plutonium 238	13981-16-3	0.021	0.041	0.16	1.0	U	PU
Plutonium 239/240	PU-239/240	0.248	0.12	0.16	1.0		PU
Potassium 40	13966-00-2	25.9	1.5	0.44			GAM
Cobalt 60	10198-40-0	6.27	0.13	0.060	0.050		GAM
Cesium 137	10045-97-3	15.4	0.16	0.083	0.10		GAM
Radium 226	13982-63-3	0.975	0.11	0.12	0.10		GAM
Radium 228	15262-20-1	1.67	0.25	0.28	0.20		GAM
Europium 152	14683-23-9	U		0.19	0.10	U	GAM
Europium 154	15585-10-1	U		0.17	0.10	U	GAM
Europium 155	14391-16-3	U		0.20	0.10	U	GAM
Thorium 228	14274-82-9	1.38	0.073	0.089			GAM
Thorium 232	TH-232	1.67	0.25	0.28			GAM
Uranium 235	15117-96-1	U		0.26		U	GAM
Uranium 238	U-238	U		7.6		U	GAM
Americium 241	14596-10-2	U		0.73		U	GAM

100-NR-1 TSD Sites R.A. Sampling

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	01/03/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0132

7352-006 **J10M34**

DATA SHEET

SDG	7352	Client/Case no	Hanford	SDG_K0132	
Contact	Melissa C. Mannion	Contract	No. 630		
Lab sample id	R511260-06	Client sample id	J10M34		
Dept sample id	7352-006	Location/Matrix	UPR-100-N-31	SOLID	
Received	11/30/05	Collected/Weight	11/16/05 13:10	930.9 g	
% solids	91.8	Custody/SAF No	RC-002-026	RC-002	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Nickel 63	13981-37-8	-0.537	2.3	4.0	30	U	NI_L
Total Strontium	SR-RAD	2.09	0.25	0.20	1.0		SR
Uranium 233/234	U-233/234	0.514	0.24	0.18	1.0		U
Uranium 235	15117-96-1	0	0.057	0.22	1.0	U	U
Uranium 238	U-238	0.350	0.19	0.18	1.0		U
Plutonium 238	13981-16-3	0	0.029	0.11	1.0	U	PU
Plutonium 239/240	PU-239/240	0.029	0.029	0.11	1.0	U	PU
Potassium 40	13966-00-2	8.76	1.1	0.79			GAM
Cobalt 60	10198-40-0	0.150	0.072	0.073	0.050		GAM
Cesium 137	10045-97-3	0.227	0.074	0.066	0.10		GAM
Radium 226	13982-63-3	0.390	0.14	0.13	0.10		GAM
Radium 228	15262-20-1	0.781	0.39	0.33	0.20		GAM
Europium 152	14683-23-9	U		0.12	0.10	U	GAM
Europium 154	15585-10-1	U		0.21	0.10	U	GAM
Europium 155	14391-16-3	U		0.084	0.10	U	GAM
Thorium 228	14274-82-9	0.543	0.12	0.10			GAM
Thorium 232	TH-232	0.781	0.39	0.33			GAM
Uranium 235	15117-96-1	U		0.14		U	GAM
Uranium 238	U-238	U		7.6		U	GAM
Americium 241	14596-10-2	U		0.078		U	GAM

100-NR-1 TSD Sites R.A. Sampling

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	01/03/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0132

7352-007 J10M35

DATA SHEET

SDG	7352	Client/Case no	Hanford	SDG_K0132	
Contact	Melissa C. Mannion	Contract	No. 630		
Lab sample id	R511260-07	Client sample id	J10M35		
Dept sample id	7352-007	Location/Matrix	UPR-100-N-31	SOLID	
Received	11/30/05	Collected/Weight	11/16/05 13:20	210.7 g	
% solids	89.6	Custody/SAF No	RC-002-026	RC-002	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	708	29	3.5	10		93A
Gross Beta	12587-47-2	76000	570	20	15		93B
Tritium	10028-17-8	123	4.0	2.9	400		H
Nickel 63	13981-37-8	1740	53	12	30		NI_L
Total Strontium	SR-RAD	1020	5.7	0.27	1.0		SR
Uranium 233/234	U-233/234	0.924	0.29	0.18	1.0		U
Uranium 235	15117-96-1	0.056	0.056	0.21	1.0	U	U
Uranium 238	U-238	0.716	0.28	0.18	1.0		U
Plutonium 238	13981-16-3	50.7	3.5	0.13	1.0		PU
Plutonium 239/240	PU-239/240	364	22	0.13	1.0		PU
Potassium 40	13966-00-2	U		40		U	GAM
Cobalt 60	10198-40-0	3440	16	12	0.050		GAM
Cesium 137	10045-97-3	42500	40	30	0.10		GAM
Radium 226	13982-63-3	U		18	0.10	U	GAM
Radium 228	15262-20-1	U		34	0.20	U	GAM
Europium 152	14683-23-9	U		28	0.10	U	GAM
Europium 154	15585-10-1	128	18	22	0.10		GAM
Europium 155	14391-16-3	U		16	0.10	U	GAM
Thorium 228	14274-82-9	U		13		U	GAM
Thorium 232	TH-232	U		34		U	GAM
Uranium 235	15117-96-1	U		26		U	GAM
Uranium 238	U-238	U		1000		U	GAM
Americium 241	14596-10-2	98.2	12	18			GAM

100-NR-1 TSD Sites R.A. Sampling

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	01/03/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0132

Test PU Matrix SOLID
SDG 7352
Contact Melissa C. Mannion

LAB METHOD SUMMARY

PLUTONIUM, ISOTOPIC IN SOLIDS

ALPHA SPECTROSCOPY

Client Hanford
Contract No. 630
Contract SDG K0132

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Plutonium 238	Plutonium 239/240
Preparation batch 7148-172						
R511260-01			7352-001	J10M29	U	U
R511260-02			7352-002	J10M30	U	U
R511260-03			7352-003	J10M31	U	1.19
R511260-04			7352-004	J10M32	5.17	36.7
R511260-05			7352-005	J10M33	U	0.248
R511260-06			7352-006	J10M34	U	U
R511260-07			7352-007	J10M35	50.7	364
R511260-08			7352-008	LCS (QC ID=55313)	ok	ok
R511260-09			7352-009	BLK (QC ID=55314)	U	U
R511260-10			7352-010	Duplicate (R511260-07)	ok	ok
Nominal values and limits from method 100-NR-1 TSD Sites R.A. Sampling				RDLs (pCi/g)	1.0	1.0

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MAX MDA pCi/g	ALIQ g	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7148-172			2σ prep error 5.0 %	Reference Lab Notebook #7148, pg. 172												
R511260-01			J10M29	0.11	0.500			76		245			34	12/19/05	12/20	SS-055
R511260-02			J10M30	0.13	0.500			64		245			34	12/19/05	12/20	SS-056
R511260-03			J10M31	0.17	0.500			52		246			34	12/19/05	12/20	SS-057
R511260-04			J10M32	0.16	0.500			54		246			34	12/19/05	12/20	SS-058
R511260-05			J10M33	0.16	0.500			53		244			34	12/19/05	12/20	SS-059
R511260-06			J10M34	0.11	0.500			74		245			34	12/19/05	12/20	SS-060
R511260-07			J10M35	0.13	0.500			65		245			34	12/19/05	12/20	SS-061
R511260-08			LCS (QC ID=55313)	0.15	0.500			56		245				12/19/05	12/20	SS-062
R511260-09			BLK (QC ID=55314)	0.14	0.500			61		245				12/19/05	12/20	SS-064
R511260-10			Duplicate (R511260-07) (QC ID=55315)	0.12	0.500			72		246			34	12/19/05	12/20	SS-065
Nominal values and limits from method				1.0	0.500			20-105		100	100		180			

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 01/03/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0132

Test PU	Matrix SOLID
SDG 7352	
Contact Melissa C. Mannion	

LAB METHOD SUMMARY, cont.

PLUTONIUM, ISOTOPIC IN SOLIDS

ALPHA SPECTROSCOPY

Client Hanford	
Contract No. 630	
Contract SDG K0132	

PROCEDURES	REFERENCE	PUISO_PLATE_AEA
	CP-071	Soil Dissolution, > 1.0g Aliquot, rev 5
	CP-941	Plutonium in Water and Dissolved Samples by Extraction Chromatography, rev 3
	CP-008	Heavy Element Electroplating, rev 9

AVERAGES ± 2 SD	MDA	0.14	±	0.043
FOR 10 SAMPLES	YIELD	63	±	18

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-LMS
Version	3.06
Report date	01/03/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0132

Test U Matrix SOLID
SDG 7352
Contact Melissa C. Mannion

LAB METHOD SUMMARY

URANIUM, ISOTOPIC IN SOLIDS

ALPHA SPECTROSCOPY

Client Hanford
Contract No. 630
Contract SDG K0132

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	1: Uranium 233/234	2: Uranium 235	3: Uranium 238	RESULT RATIOS (%) 1+3	2σ	2+3	2σ
Preparation batch 7148-172											
R511260-01			7352-001	J10M29	0.404	U	0.606	67	44	10	11
R511260-02			7352-002	J10M30	0.506	U	0.575	88	53	0	10
R511260-03			7352-003	J10M31	0.370	U	0.517	72	52	6	12
R511260-04			7352-004	J10M32	0.562	U	0.516	109	69	5	11
R511260-05			7352-005	J10M33	0.362	U	0.612	59	45	0	11
R511260-06			7352-006	J10M34	0.514	U	0.350	147	105	0	16
R511260-07			7352-007	J10M35	0.924	U	0.716	129	65	8	8
R511260-08			7352-008	LCS (QC ID=55313)	ok	ok	ok				
R511260-09			7352-009	BLK (QC ID=55314)	U	U	U				
R511260-10			7352-010	Duplicate (R511260-07)	ok	- U	ok	76	35	8	10
Nominal values and limits from method				RDLs (pCi/g)	1.0	1.0	1.0	100		4	
100-NR-1 TSD Sites R.A. Sampling								Averages 93		5	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MAX MDA pCi/g	ALIQ g	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7148-172			2σ prep error 5.0 %	Reference Lab Notebook #7148, pg. 172												
R511260-01			J10M29	0.23	0.500			73		139			30	12/16/05	12/16	SS-055
R511260-02			J10M30	0.21	0.500			81		139			30	12/16/05	12/16	SS-056
R511260-03			J10M31	0.23	0.500			79		139			30	12/16/05	12/16	SS-057
R511260-04			J10M32	0.22	0.500			82		139			30	12/16/05	12/16	SS-058
R511260-05			J10M33	0.26	0.500			72		138			30	12/16/05	12/16	SS-059
R511260-06			J10M34	0.22	0.500			81		138			30	12/16/05	12/16	SS-060
R511260-07			J10M35	0.21	0.500			85		138			30	12/16/05	12/16	SS-061
R511260-08			LCS (QC ID=55313)	0.93	0.500			84		138				12/16/05	12/16	SS-062
R511260-09			BLK (QC ID=55314)	0.38	0.500			55		138				12/16/05	12/16	SS-063
R511260-10			Duplicate (R511260-07) (QC ID=55315)	0.23	0.500			75		139			30	12/16/05	12/16	SS-064
Nominal values and limits from method				1.0	0.500			20-105		100	100		180			

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 01/03/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0132

Test	U
Matrix	SOLID
SDG	7352
Contact	Melissa C. Mannion

LAB METHOD SUMMARY, cont.

URANIUM, ISOTOPIC IN SOLIDS

ALPHA SPECTROSCOPY

Client	Hanford
Contract	No. 630
Contract	SDG K0132

PROCEDURES	REFERENCE	UISO_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	0.31	±	0.45
FOR 10 SAMPLES	YIELD	77	±	18

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-LMS
Version	3.06
Report date	01/03/06