H0517- TMA/RECRA

0052431

RECRA ENVIRONMENTAL INC.

Chemical and Environmental Measurement Information

Recra LabNet Philadelphia
Analytical Report

Client : TNU-HANFORD B99-078
RFW# : 9909L008
SDG/SAF# : B99-078/H0517

W.O.# : 10985-001-001-9999-00
Date Received: 09-03-99

RECEIVED JAN 18 2000 EDMC

REVISION

METALS CASE NARRATIVE

This package has been revised to include the addition of Antimony and Thallium.

1. This narrative covers the analyses of 10 soil samples.

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

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

4. The cooler temperature has been recorded on the Chain of Custody.

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. All preparation/method blanks (MB) were within method criteria {less than the Practical Quantitation Limit (3X the IDL) or samples greater than 20X MB value}. Refer to the Inorganics Method Blank Data Summary.

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

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

10. The matrix spike (MS) recovery for Antimony was outside the 75-125% control limits. Refer to the Inorganics Accuracy Report.

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 23 pages.

208 Welsh Pool Road • Lionville, PA 19341-1333 • (610) 280-3000 • Fax (610) 280-3041

001

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 the following level:

Sample ID	Element	PDS Concentration (ppb)	PDS % Recovery
B0W9K0	Antimony	500	109.0

12. The duplicate analysis for 2 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.

Pat E

J. Michael Taylor
Vice President
Philadelphia Analytical Laboratory

11-9-99
Date

mld/m09-008r

002

METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within this Recra Lot#: 9909L008

Leaching Procedure: __1310 __1311 __1312 __Other:_____

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

Metals Digestion Methods: __3005A __3010A __3015 __3020A ✓3050A __3051 __200.7 __SS17
__Other: _____

Metals Analysis Methods

	SW846		EPA		STD MTD	EPA OSWR	USATHAMA
Aluminum	__6010B		__200.7				__99
Antimony	✓6010B	__7041 [5]	__200.7	__204.2			__99
Arsenic	✓6010B	__7060A [5]	__200.7	__206.2	__3113B		__99
Barium	✓6010B		__200.7				__99
Beryllium	✓6010B		__200.7				__99
Bismuth	__6010B [1]		__200.7 [1]			__1620	__99
Boron	__6010B		__200.7				__99
Cadmium	✓6010B	__7131A [5]	__200.7	__213.2			__99
Calcium	__6010B		__200.7				__99
Chromium	✓6010B	__7191 [5]	__200.7	__218.2			__SS17
Cobalt	__6010B		__200.7				__99
Copper	✓6010B	__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	__6010B		__200.7				__99
Manganese	__6010B		__200.7				__99
Mercury	__7470A [3]	✓7471A [3]	__245.1 [2]	__245.5 [2]			__99
Molybdenum	__6010B		__200.7				__99
Nickel	✓6010B		__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	✓6010B	__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	✓6010B		__200.7				__99
Zinc	✓6010B		__200.7				__99
Zirconium	__6010B [1]		__200.7 [1]			__1620	__99

Other:_____ Method:_____

L-WI-033/M-03/98

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, 0.1 grams of sample is taken to a final volume of 50 mL (including all reagents).

3. 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, three 0.1 gram of sample is taken to a final volume of 50 mL (including all reagents).

4. Flame AA.

5. Graphite Furnace AA.

RFW 21-21L-033/N-10/96

Recra LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 11/09/99

CLIENT: TNU-HANFORD B99-078

RECRA LOT #: 9909L008

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	B0W9K0	Silver, Total	0.10 u	MG/KG	0.10	1.0
		Arsenic, Total	2.7	MG/KG	0.34	1.0
		Barium, Total	70.3	MG/KG	0.03	1.0
		Beryllium, Total	0.32	MG/KG	0.01	1.0
		Cadmium, Total	0.19	MG/KG	0.03	1.0
		Chromium, Total	11.0	MG/KG	0.08	1.0
		Copper, Total	12.7	MG/KG	0.12	1.0
		Mercury, Total	0.02	MG/KG	0.02	1.0
		Nickel, Total	10.7	MG/KG	0.12	1.0
		Lead, Total	4.7	MG/KG	0.22	1.0
		Antimony, Total	0.26 u	MG/KG	0.26	1.0
		Selenium, Total	0.46	MG/KG	0.38	1.0
		Thallium, Total	0.92	MG/KG	0.55	1.0
		Vanadium, Total	39.1	MG/KG	0.06	1.0
		Zinc, Total	49.9	MG/KG	0.08	1.0
-002	B0W9K1	Silver, Total	0.11 u	MG/KG	0.11	1.0
		Arsenic, Total	3.3	MG/KG	0.35	1.0
		Barium, Total	75.1	MG/KG	0.03	1.0
		Beryllium, Total	0.36	MG/KG	0.01	1.0
		Cadmium, Total	0.17	MG/KG	0.03	1.0
		Chromium, Total	12.0	MG/KG	0.08	1.0
		Copper, Total	14.2	MG/KG	0.13	1.0
		Mercury, Total	0.02	MG/KG	0.02	1.0
		Nickel, Total	11.7	MG/KG	0.13	1.0
		Lead, Total	5.0	MG/KG	0.22	1.0
		Antimony, Total	0.27 u	MG/KG	0.27	1.0
		Selenium, Total	0.39 u	MG/KG	0.39	1.0
		Thallium, Total	0.56 u	MG/KG	0.56	1.0
		Vanadium, Total	40.0	MG/KG	0.06	1.0
		Zinc, Total	44.3	MG/KG	0.08	1.0

Recra LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 11/09/99

CLIENT: TNU-HANFORD B99-078 RECRA LOT #: 9909L008

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-003	B0W9K2	Silver, Total	0.11 u	MG/KG	0.11	1.0
		Arsenic, Total	2.8	MG/KG	0.36	1.0
		Barium, Total	87.0	MG/KG	0.03	1.0
		Beryllium, Total	0.35	MG/KG	0.01	1.0
		Cadmium, Total	0.10	MG/KG	0.03	1.0
		Chromium, Total	13.7	MG/KG	0.09	1.0
		Copper, Total	21.0	MG/KG	0.13	1.0
		Mercury, Total	0.03	MG/KG	0.02	1.0
		Nickel, Total	11.4	MG/KG	0.13	1.0
		Lead, Total	6.2	MG/KG	0.23	1.0
		Antimony, Total	0.27 u	MG/KG	0.27	1.0
		Selenium, Total	0.46	MG/KG	0.40	1.0
		Thallium, Total	0.95	MG/KG	0.57	1.0
		Vanadium, Total	41.3	MG/KG	0.06	1.0
		Zinc, Total	42.7	MG/KG	0.09	1.0
-004	B0W9K3	Silver, Total	0.12 u	MG/KG	0.12	1.0
		Arsenic, Total	2.9	MG/KG	0.38	1.0
		Barium, Total	127	MG/KG	0.03	1.0
		Beryllium, Total	0.37	MG/KG	0.01	1.0
		Cadmium, Total	0.06	MG/KG	0.03	1.0
		Chromium, Total	13.1	MG/KG	0.09	1.0
		Copper, Total	15.9	MG/KG	0.14	1.0
		Mercury, Total	0.02	MG/KG	0.02	1.0
		Nickel, Total	12.0	MG/KG	0.14	1.0
		Lead, Total	6.8	MG/KG	0.24	1.0
		Antimony, Total	0.29 u	MG/KG	0.29	1.0
		Selenium, Total	0.43 u	MG/KG	0.43	1.0
		Thallium, Total	0.62 u	MG/KG	0.62	1.0
		Vanadium, Total	30.0	MG/KG	0.07	1.0
		Zinc, Total	38.5	MG/KG	0.09	1.0

Recra LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 11/09/99

CLIENT: TNU-HANFORD B99-078 RECRA LOT #: 9909L008

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-005	B0W9K4	Silver, Total	0.1 u	MG/KG	0.1	1.0
		Arsenic, Total	5.5	MG/KG	0.33	1.0
		Barium, Total	107	MG/KG	0.03	1.0
		Beryllium, Total	0.51	MG/KG	0.01	1.0
		Cadmium, Total	0.08	MG/KG	0.03	1.0
		Chromium, Total	13.1	MG/KG	0.08	1.0
		Copper, Total	18.3	MG/KG	0.12	1.0
		Mercury, Total	0.02	MG/KG	0.02	1.0
		Nickel, Total	13.5	MG/KG	0.12	1.0
		Lead, Total	10.3	MG/KG	0.21	1.0
		Antimony, Total	0.25 u	MG/KG	0.25	1.0
		Selenium, Total	0.37 u	MG/KG	0.37	1.0
		Thallium, Total	0.53 u	MG/KG	0.53	1.0
		Vanadium, Total	37.2	MG/KG	0.06	1.0
		Zinc, Total	46.9	MG/KG	0.08	1.0
-006	B0W9K5	Silver, Total	0.08 u	MG/KG	0.08	1.0
		Arsenic, Total	2.5	MG/KG	0.28	1.0
		Barium, Total	66.0	MG/KG	0.03	1.0
		Beryllium, Total	0.34	MG/KG	0.008	1.0
		Cadmium, Total	0.11	MG/KG	0.03	1.0
		Chromium, Total	3.7	MG/KG	0.07	1.0
		Copper, Total	13.0	MG/KG	0.10	1.0
		Mercury, Total	0.02 u	MG/KG	0.02	1.0
		Nickel, Total	8.5	MG/KG	0.10	1.0
		Lead, Total	2.4	MG/KG	0.18	1.0
		Antimony, Total	0.21 u	MG/KG	0.21	1.0
		Selenium, Total	0.56	MG/KG	0.31	1.0
		Thallium, Total	0.48	MG/KG	0.44	1.0
		Vanadium, Total	54.5	MG/KG	0.05	1.0
		Zinc, Total	41.3	MG/KG	0.07	1.0

Recra LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 11/09/99

CLIENT: TNU-HANFORD B99-078 RECRA LOT #: 9909L008

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-007	B0W9K6	Silver, Total	0.09 u	MG/KG	0.09	1.0
		Arsenic, Total	2.8	MG/KG	0.29	1.0
		Barium, Total	64.0	MG/KG	0.03	1.0
		Beryllium, Total	0.39	MG/KG	0.009	1.0
		Cadmium, Total	0.07	MG/KG	0.03	1.0
		Chromium, Total	6.7	MG/KG	0.07	1.0
		Copper, Total	16.4	MG/KG	0.11	1.0
		Mercury, Total	0.02 u	MG/KG	0.02	1.0
		Nickel, Total	7.6	MG/KG	0.11	1.0
		Lead, Total	4.9	MG/KG	0.19	1.0
		Antimony, Total	0.22 u	MG/KG	0.22	1.0
		Selenium, Total	0.64	MG/KG	0.33	1.0
		Thallium, Total	0.47 u	MG/KG	0.47	1.0
		Vanadium, Total	36.2	MG/KG	0.05	1.0
		Zinc, Total	37.3	MG/KG	0.07	1.0
-008	B0W9K7	Silver, Total	0.10 u	MG/KG	0.10	1.0
		Arsenic, Total	3.1	MG/KG	0.34	1.0
		Barium, Total	73.7	MG/KG	0.03	1.0
		Beryllium, Total	0.33	MG/KG	0.01	1.0
		Cadmium, Total	0.09	MG/KG	0.03	1.0
		Chromium, Total	7.1	MG/KG	0.08	1.0
		Copper, Total	14.4	MG/KG	0.12	1.0
		Mercury, Total	0.02 u	MG/KG	0.02	1.0
		Nickel, Total	9.3	MG/KG	0.12	1.0
		Lead, Total	4.2	MG/KG	0.22	1.0
		Antimony, Total	0.26 u	MG/KG	0.26	1.0
		Selenium, Total	0.56	MG/KG	0.38	1.0
		Thallium, Total	0.99	MG/KG	0.55	1.0
		Vanadium, Total	53.3	MG/KG	0.06	1.0
		Zinc, Total	43.3	MG/KG	0.08	1.0

Recra LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 11/09/99

CLIENT: TNU-HANFORD B99-078

RECRA LOT #: 9909L008

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-009	B0W9K8	Silver, Total	0.08 u	MG/KG	0.08	1.0
		Arsenic, Total	3.6	MG/KG	0.27	1.0
		Barium, Total	68.2	MG/KG	0.02	1.0
		Beryllium, Total	0.33	MG/KG	0.008	1.0
		Cadmium, Total	0.03	MG/KG	0.02	1.0
		Chromium, Total	6.2	MG/KG	0.07	1.0
		Copper, Total	15.1	MG/KG	0.1	1.0
		Mercury, Total	0.02	MG/KG	0.02	1.0
		Nickel, Total	8.3	MG/KG	0.1	1.0
		Lead, Total	4.2	MG/KG	0.17	1.0
		Antimony, Total	0.20 u	MG/KG	0.20	1.0
		Selenium, Total	0.44	MG/KG	0.30	1.0
		Thallium, Total	0.67	MG/KG	0.43	1.0
		Vanadium, Total	41.4	MG/KG	0.05	1.0
		Zinc, Total	38.6	MG/KG	0.07	1.0
-010	B0W9L9	Silver, Total	0.08 u	MG/KG	0.08	1.0
		Arsenic, Total	2.7	MG/KG	0.25	1.0
		Barium, Total	58.6	MG/KG	0.02	1.0
		Beryllium, Total	0.33	MG/KG	0.008	1.0
		Cadmium, Total	0.02 u	MG/KG	0.02	1.0
		Chromium, Total	5.9	MG/KG	0.06	1.0
		Copper, Total	13.2	MG/KG	0.09	1.0
		Mercury, Total	0.02	MG/KG	0.02	1.0
		Nickel, Total	7.8	MG/KG	0.09	1.0
		Lead, Total	4.3	MG/KG	0.16	1.0
		Antimony, Total	0.19 u	MG/KG	0.19	1.0
		Selenium, Total	0.44	MG/KG	0.28	1.0
		Thallium, Total	0.56	MG/KG	0.41	1.0
		Vanadium, Total	42.3	MG/KG	0.05	1.0
		Zinc, Total	36.4	MG/KG	0.06	1.0

Recra LabNet - Lionville

INORGANICS METHOD BLANK DATA SUMMARY PAGE 11/09/99

CLIENT: TNU-HANFORD B99-078 RECRA LOT #: 9909L008

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	99L0654-MB1	Silver, Total	0.10 u	MG/KG	0.10	1.0
		Arsenic, Total	0.33 u	MG/KG	0.33	1.0
		Barium, Total	0.04	MG/KG	0.03	1.0
		Beryllium, Total	0.01 u	MG/KG	0.01	1.0
		Cadmium, Total	0.03 u	MG/KG	0.03	1.0
		Chromium, Total	0.08 u	MG/KG	0.08	1.0
		Copper, Total	0.12 u	MG/KG	0.12	1.0
		Nickel, Total	0.12 u	MG/KG	0.12	1.0
		Lead, Total	0.21 u	MG/KG	0.21	1.0
		Antimony, Total	0.25 u	MG/KG	0.25	1.0
		Selenium, Total	0.37 u	MG/KG	0.37	1.0
		Thallium, Total	0.53 u	MG/KG	0.53	1.0
		Vanadium, Total	0.06 u	MG/KG	0.06	1.0
		Zinc, Total	0.08 u	MG/KG	0.08	1.0
BLANK1	99C0278-MB1	Mercury, Total	0.02 u	MG/KG	0.02	1.0

Recra LabNet - Lionville

INORGANICS ACCURACY REPORT 11/09/99

CLIENT: TNU-HANFORD B99-078

RECRA LOT #: 9909L008

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-001	B0W9K0	Silver, Total	4.7	0.10u	5.3	88.7	1.0
		Arsenic, Total	197	2.7	212	92.0	1.0
		Barium, Total	268	70.3	212	93.6	1.0
		Beryllium, Total	5.1	0.32	5.3	90.1	1.0
		Cadmium, Total	5.0	0.19	5.3	90.7	1.0
		Chromium, Total	31.6	11.0	21.2	97.2	1.0
		Copper, Total	37.8	12.7	26.4	95.1	1.0
		Mercury, Total	0.19	0.02	0.15	109.1	1.0
		Nickel, Total	58.6	10.7	52.9	90.5	1.0
		Lead, Total	52.9	4.7	52.9	91.1	1.0
		Antimony, Total	24.6	0.26u	52.9	46.5	1.0
		Selenium, Total	190	0.46	212	89.8	1.0
		Thallium, Total	194	0.92	212	91.5	1.0
		Vanadium, Total	93.8	39.1	52.9	103.4	1.0
		Zinc, Total	98.2	49.9	52.9	91.3	1.0

Recra LabNet - Lionville

INORGANICS PRECISION REPORT 11/09/99

CLIENT: TNU-HANFORD B99-078 RECRA LOT #: 9909L008

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-001REP	B0W9K0	Silver, Total	0.10u	0.10u	NC	1.0
		Arsenic, Total	2.7	2.8	3.6	1.0
		Barium, Total	70.3	72.9	3.6	1.0
		Beryllium, Total	0.32	0.30	7.8	1.0
		Cadmium, Total	0.19	0.20	5.2	1.0
		Chromium, Total	11.0	12.5	12.8	1.0
		Copper, Total	12.7	14.2	11.2	1.0
		Mercury, Total	0.02	0.02	5.4	1.0
		Nickel, Total	10.7	11.9	10.6	1.0
		Lead, Total	4.7	5.3	12.0	1.0
		Antimony, Total	0.26u	0.26u	NC	1.0
		Selenium, Total	0.46	0.39u	~~NC~~ 200	1.0
		Thallium, Total	0.92	0.69	28.8	1.0
		Vanadium, Total	39.1	41.0	4.7	1.0
		Zinc, Total	49.9	51.2	2.6	1.0

correction 11/9/99

012

Recra LabNet - Lionville

INORGANICS LABORATORY CONTROL STANDARDS REPORT 11/09/99

CLIENT: TNU-HANFORD B99-078 RECRA LOT #: 9909L008

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	99L0654-LC1	Silver, LCS	49.0	50.0	MG/KG	98.0
		Arsenic, LCS	960	1000	MG/KG	96.0
		Barium, LCS	493	500	MG/KG	98.6
		Beryllium, LCS	24.3	25.0	MG/KG	97.2
		Cadmium, LCS	24.3	25.0	MG/KG	97.2
		Chromium, LCS	49.7	50.0	MG/KG	99.4
		Copper, LCS	123	125	MG/KG	98.6
		Nickel, LCS	195	200	MG/KG	97.6
		Lead, LCS	242	250	MG/KG	97.0
		Antimony, LCS	289	300	MG/KG	96.4
		Selenium, LCS	937	1000	MG/KG	93.7
		Thallium, LCS	984	1000	MG/KG	98.4
		Vanadium, LCS	252	250	MG/KG	100.7
		Zinc, LCS	96.0	100	MG/KG	96.0
LCS1	99C0278-LC1	Mercury, LCS	1.1	1.0	MG/KG	109.5

Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD B99-078

DATE RECEIVED: 09/03/99 RFW LOT # :9909L008

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B0W9K0						
SILVER, TOTAL	001	S	99L0654	09/01/99	09/24/99	09/29/99
SILVER, TOTAL	001 REP	S	99L0654	09/01/99	09/24/99	09/29/99
SILVER, TOTAL	001 MS	S	99L0654	09/01/99	09/24/99	09/29/99
ARSENIC, TOTAL	001	S	99L0654	09/01/99	09/24/99	09/29/99
ARSENIC, TOTAL	001 REP	S	99L0654	09/01/99	09/24/99	09/29/99
ARSENIC, TOTAL	001 MS	S	99L0654	09/01/99	09/24/99	09/29/99
BARIUM, TOTAL	001	S	99L0654	09/01/99	09/24/99	09/29/99
BARIUM, TOTAL	001 REP	S	99L0654	09/01/99	09/24/99	09/29/99
BARIUM, TOTAL	001 MS	S	99L0654	09/01/99	09/24/99	09/29/99
BERYLLIUM, TOTAL	001	S	99L0654	09/01/99	09/24/99	09/29/99
BERYLLIUM, TOTAL	001 REP	S	99L0654	09/01/99	09/24/99	09/29/99
BERYLLIUM, TOTAL	001 MS	S	99L0654	09/01/99	09/24/99	09/29/99
CADMIUM, TOTAL	001	S	99L0654	09/01/99	09/24/99	09/29/99
CADMIUM, TOTAL	001 REP	S	99L0654	09/01/99	09/24/99	09/29/99
CADMIUM, TOTAL	001 MS	S	99L0654	09/01/99	09/24/99	09/29/99
CHROMIUM, TOTAL	001	S	99L0654	09/01/99	09/24/99	09/29/99
CHROMIUM, TOTAL	001 REP	S	99L0654	09/01/99	09/24/99	09/29/99
CHROMIUM, TOTAL	001 MS	S	99L0654	09/01/99	09/24/99	09/29/99
COPPER, TOTAL	001	S	99L0654	09/01/99	09/24/99	09/29/99
COPPER, TOTAL	001 REP	S	99L0654	09/01/99	09/24/99	09/29/99
COPPER, TOTAL	001 MS	S	99L0654	09/01/99	09/24/99	09/29/99
MERCURY, TOTAL	001	S	99C0278	09/01/99	09/24/99	09/27/99
MERCURY, TOTAL	001 REP	S	99C0278	09/01/99	09/24/99	09/27/99
MERCURY, TOTAL	001 MS	S	99C0278	09/01/99	09/24/99	09/27/99
NICKEL, TOTAL	001	S	99L0654	09/01/99	09/24/99	09/29/99
NICKEL, TOTAL	001 REP	S	99L0654	09/01/99	09/24/99	09/29/99
NICKEL, TOTAL	001 MS	S	99L0654	09/01/99	09/24/99	09/29/99
LEAD, TOTAL	001	S	99L0654	09/01/99	09/24/99	09/29/99
LEAD, TOTAL	001 REP	S	99L0654	09/01/99	09/24/99	09/29/99
LEAD, TOTAL	001 MS	S	99L0654	09/01/99	09/24/99	09/29/99
ANTIMONY, TOTAL	001	S	99L0654	09/01/99	09/24/99	09/29/99
ANTIMONY, TOTAL	001 REP	S	99L0654	09/01/99	09/24/99	09/29/99
ANTIMONY, TOTAL	001 MS	S	99L0654	09/01/99	09/24/99	09/29/99
SELENIUM, TOTAL	001	S	99L0654	09/01/99	09/24/99	09/29/99
SELENIUM, TOTAL	001 REP	S	99L0654	09/01/99	09/24/99	09/29/99

Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD B99-078

DATE RECEIVED: 09/03/99 RFW LOT # :9909L008

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
SELENIUM, TOTAL	001 MS	S	99L0654	09/01/99	09/24/99	09/29/99
THALLIUM, TOTAL	001	S	99L0654	09/01/99	09/24/99	09/29/99
THALLIUM, TOTAL	001 REP	S	99L0654	09/01/99	09/24/99	09/29/99
THALLIUM, TOTAL	001 MS	S	99L0654	09/01/99	09/24/99	09/29/99
VANADIUM, TOTAL	001	S	99L0654	09/01/99	09/24/99	09/29/99
VANADIUM, TOTAL	001 REP	S	99L0654	09/01/99	09/24/99	09/29/99
VANADIUM, TOTAL	001 MS	S	99L0654	09/01/99	09/24/99	09/29/99
ZINC, TOTAL	001	S	99L0654	09/01/99	09/24/99	09/29/99
ZINC, TOTAL	001 REP	S	99L0654	09/01/99	09/24/99	09/29/99
ZINC, TOTAL	001 MS	S	99L0654	09/01/99	09/24/99	09/29/99
B0W9K1						
SILVER, TOTAL	002	S	99L0654	09/01/99	09/24/99	09/29/99
ARSENIC, TOTAL	002	S	99L0654	09/01/99	09/24/99	09/29/99
BARIUM, TOTAL	002	S	99L0654	09/01/99	09/24/99	09/29/99
BERYLLIUM, TOTAL	002	S	99L0654	09/01/99	09/24/99	09/29/99
CADMIUM, TOTAL	002	S	99L0654	09/01/99	09/24/99	09/29/99
CHROMIUM, TOTAL	002	S	99L0654	09/01/99	09/24/99	09/29/99
COPPER, TOTAL	002	S	99L0654	09/01/99	09/24/99	09/29/99
MERCURY, TOTAL	002	S	99C0278	09/01/99	09/24/99	09/27/99
NICKEL, TOTAL	002	S	99L0654	09/01/99	09/24/99	09/29/99
LEAD, TOTAL	002	S	99L0654	09/01/99	09/24/99	09/29/99
ANTIMONY, TOTAL	002	S	99L0654	09/01/99	09/24/99	09/29/99
SELENIUM, TOTAL	002	S	99L0654	09/01/99	09/24/99	09/29/99
THALLIUM, TOTAL	002	S	99L0654	09/01/99	09/24/99	09/29/99
VANADIUM, TOTAL	002	S	99L0654	09/01/99	09/24/99	09/29/99
ZINC, TOTAL	002	S	99L0654	09/01/99	09/24/99	09/29/99
B0W9K2						
SILVER, TOTAL	003	S	99L0654	09/01/99	09/24/99	09/29/99
ARSENIC, TOTAL	003	S	99L0654	09/01/99	09/24/99	09/29/99
BARIUM, TOTAL	003	S	99L0654	09/01/99	09/24/99	09/29/99
BERYLLIUM, TOTAL	003	S	99L0654	09/01/99	09/24/99	09/29/99
CADMIUM, TOTAL	003	S	99L0654	09/01/99	09/24/99	09/29/99
CHROMIUM, TOTAL	003	S	99L0654	09/01/99	09/24/99	09/29/99
COPPER, TOTAL	003	S	99L0654	09/01/99	09/24/99	09/29/99

Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD B99-078

DATE RECEIVED: 09/03/99 RFW LOT # :9909L008

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
MERCURY, TOTAL	003	S	99C0278	09/01/99	09/24/99	09/27/99
NICKEL, TOTAL	003	S	99L0654	09/01/99	09/24/99	09/29/99
LEAD, TOTAL	003	S	99L0654	09/01/99	09/24/99	09/29/99
ANTIMONY, TOTAL	003	S	99L0654	09/01/99	09/24/99	09/29/99
SELENIUM, TOTAL	003	S	99L0654	09/01/99	09/24/99	09/29/99
THALLIUM, TOTAL	003	S	99L0654	09/01/99	09/24/99	09/29/99
VANADIUM, TOTAL	003	S	99L0654	09/01/99	09/24/99	09/29/99
ZINC, TOTAL	003	S	99L0654	09/01/99	09/24/99	09/29/99
B0W9K3						
SILVER, TOTAL	004	S	99L0654	09/01/99	09/24/99	09/29/99
ARSENIC, TOTAL	004	S	99L0654	09/01/99	09/24/99	09/29/99
BARIUM, TOTAL	004	S	99L0654	09/01/99	09/24/99	09/29/99
BERYLLIUM, TOTAL	004	S	99L0654	09/01/99	09/24/99	09/29/99
CADMIUM, TOTAL	004	S	99L0654	09/01/99	09/24/99	09/29/99
CHROMIUM, TOTAL	004	S	99L0654	09/01/99	09/24/99	09/29/99
COPPER, TOTAL	004	S	99L0654	09/01/99	09/24/99	09/29/99
MERCURY, TOTAL	004	S	99C0278	09/01/99	09/24/99	09/27/99
NICKEL, TOTAL	004	S	99L0654	09/01/99	09/24/99	09/29/99
LEAD, TOTAL	004	S	99L0654	09/01/99	09/24/99	09/29/99
ANTIMONY, TOTAL	004	S	99L0654	09/01/99	09/24/99	09/29/99
SELENIUM, TOTAL	004	S	99L0654	09/01/99	09/24/99	09/29/99
THALLIUM, TOTAL	004	S	99L0654	09/01/99	09/24/99	09/29/99
VANADIUM, TOTAL	004	S	99L0654	09/01/99	09/24/99	09/29/99
ZINC, TOTAL	004	S	99L0654	09/01/99	09/24/99	09/29/99
B0W9K4						
SILVER, TOTAL	005	S	99L0654	09/01/99	09/24/99	09/29/99
ARSENIC, TOTAL	005	S	99L0654	09/01/99	09/24/99	09/29/99
BARIUM, TOTAL	005	S	99L0654	09/01/99	09/24/99	09/29/99
BERYLLIUM, TOTAL	005	S	99L0654	09/01/99	09/24/99	09/29/99
CADMIUM, TOTAL	005	S	99L0654	09/01/99	09/24/99	09/29/99
CHROMIUM, TOTAL	005	S	99L0654	09/01/99	09/24/99	09/29/99
COPPER, TOTAL	005	S	99L0654	09/01/99	09/24/99	09/29/99
MERCURY, TOTAL	005	S	99C0278	09/01/99	09/24/99	09/27/99
NICKEL, TOTAL	005	S	99L0654	09/01/99	09/24/99	09/29/99

Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD B99-078

DATE RECEIVED: 09/03/99 RFW LOT # :9909L008

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
LEAD, TOTAL	005	S	99L0654	09/01/99	09/24/99	09/29/99
ANTIMONY, TOTAL	005	S	99L0654	09/01/99	09/24/99	09/29/99
SELENIUM, TOTAL	005	S	99L0654	09/01/99	09/24/99	09/29/99
THALLIUM, TOTAL	005	S	99L0654	09/01/99	09/24/99	09/29/99
VANADIUM, TOTAL	005	S	99L0654	09/01/99	09/24/99	09/29/99
ZINC, TOTAL	005	S	99L0654	09/01/99	09/24/99	09/29/99
B0W9K5						
SILVER, TOTAL	006	S	99L0654	09/01/99	09/24/99	09/29/99
ARSENIC, TOTAL	006	S	99L0654	09/01/99	09/24/99	09/29/99
BARIUM, TOTAL	006	S	99L0654	09/01/99	09/24/99	09/29/99
BERYLLIUM, TOTAL	006	S	99L0654	09/01/99	09/24/99	09/29/99
CADMIUM, TOTAL	006	S	99L0654	09/01/99	09/24/99	09/29/99
CHROMIUM, TOTAL	006	S	99L0654	09/01/99	09/24/99	09/29/99
COPPER, TOTAL	006	S	99L0654	09/01/99	09/24/99	09/29/99
MERCURY, TOTAL	006	S	99C0278	09/01/99	09/24/99	09/27/99
NICKEL, TOTAL	006	S	99L0654	09/01/99	09/24/99	09/29/99
LEAD, TOTAL	006	S	99L0654	09/01/99	09/24/99	09/29/99
ANTIMONY, TOTAL	006	S	99L0654	09/01/99	09/24/99	09/29/99
SELENIUM, TOTAL	006	S	99L0654	09/01/99	09/24/99	09/29/99
THALLIUM, TOTAL	006	S	99L0654	09/01/99	09/24/99	09/29/99
VANADIUM, TOTAL	006	S	99L0654	09/01/99	09/24/99	09/29/99
ZINC, TOTAL	006	S	99L0654	09/01/99	09/24/99	09/29/99
B0W9K6						
SILVER, TOTAL	007	S	99L0654	09/01/99	09/24/99	09/29/99
ARSENIC, TOTAL	007	S	99L0654	09/01/99	09/24/99	09/29/99
BARIUM, TOTAL	007	S	99L0654	09/01/99	09/24/99	09/29/99
BERYLLIUM, TOTAL	007	S	99L0654	09/01/99	09/24/99	09/29/99
CADMIUM, TOTAL	007	S	99L0654	09/01/99	09/24/99	09/29/99
CHROMIUM, TOTAL	007	S	99L0654	09/01/99	09/24/99	09/29/99
COPPER, TOTAL	007	S	99L0654	09/01/99	09/24/99	09/29/99
MERCURY, TOTAL	007	S	99C0278	09/01/99	09/24/99	09/27/99
NICKEL, TOTAL	007	S	99L0654	09/01/99	09/24/99	09/29/99
LEAD, TOTAL	007	S	99L0654	09/01/99	09/24/99	09/29/99
ANTIMONY, TOTAL	007	S	99L0654	09/01/99	09/24/99	09/29/99

Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD B99-078

DATE RECEIVED: 09/03/99 RFW LOT # :9909L008

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
SELENIUM, TOTAL	007	S	99L0654	09/01/99	09/24/99	09/29/99
THALLIUM, TOTAL	007	S	99L0654	09/01/99	09/24/99	09/29/99
VANADIUM, TOTAL	007	S	99L0654	09/01/99	09/24/99	09/29/99
ZINC, TOTAL	007	S	99L0654	09/01/99	09/24/99	09/29/99
B0W9K7						
SILVER, TOTAL	008	S	99L0654	09/01/99	09/24/99	09/29/99
ARSENIC, TOTAL	008	S	99L0654	09/01/99	09/24/99	09/29/99
BARIUM, TOTAL	008	S	99L0654	09/01/99	09/24/99	09/29/99
BERYLLIUM, TOTAL	008	S	99L0654	09/01/99	09/24/99	09/29/99
CADMIUM, TOTAL	008	S	99L0654	09/01/99	09/24/99	09/29/99
CHROMIUM, TOTAL	008	S	99L0654	09/01/99	09/24/99	09/29/99
COPPER, TOTAL	008	S	99L0654	09/01/99	09/24/99	09/29/99
MERCURY, TOTAL	008	S	99C0278	09/01/99	09/24/99	09/27/99
NICKEL, TOTAL	008	S	99L0654	09/01/99	09/24/99	09/29/99
LEAD, TOTAL	008	S	99L0654	09/01/99	09/24/99	09/29/99
ANTIMONY, TOTAL	008	S	99L0654	09/01/99	09/24/99	09/29/99
SELENIUM, TOTAL	008	S	99L0654	09/01/99	09/24/99	09/29/99
THALLIUM, TOTAL	008	S	99L0654	09/01/99	09/24/99	09/29/99
VANADIUM, TOTAL	008	S	99L0654	09/01/99	09/24/99	09/29/99
ZINC, TOTAL	008	S	99L0654	09/01/99	09/24/99	09/29/99
B0W9K8						
SILVER, TOTAL	009	S	99L0654	09/01/99	09/24/99	09/29/99
ARSENIC, TOTAL	009	S	99L0654	09/01/99	09/24/99	09/29/99
BARIUM, TOTAL	009	S	99L0654	09/01/99	09/24/99	09/29/99
BERYLLIUM, TOTAL	009	S	99L0654	09/01/99	09/24/99	09/29/99
CADMIUM, TOTAL	009	S	99L0654	09/01/99	09/24/99	09/29/99
CHROMIUM, TOTAL	009	S	99L0654	09/01/99	09/24/99	09/29/99
COPPER, TOTAL	009	S	99L0654	09/01/99	09/24/99	09/29/99
MERCURY, TOTAL	009	S	99C0278	09/01/99	09/24/99	09/27/99
NICKEL, TOTAL	009	S	99L0654	09/01/99	09/24/99	09/29/99
LEAD, TOTAL	009	S	99L0654	09/01/99	09/24/99	09/29/99
ANTIMONY, TOTAL	009	S	99L0654	09/01/99	09/24/99	09/29/99
SELENIUM, TOTAL	009	S	99L0654	09/01/99	09/24/99	09/29/99
THALLIUM, TOTAL	009	S	99L0654	09/01/99	09/24/99	09/29/99

Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD B99-078

DATE RECEIVED: 09/03/99 RFW LOT # :9909L008

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
VANADIUM, TOTAL	009	S	99L0654	09/01/99	09/24/99	09/29/99
ZINC, TOTAL	009	S	99L0654	09/01/99	09/24/99	09/29/99
B0W9L9						
SILVER, TOTAL	010	S	99L0654	09/01/99	09/24/99	09/29/99
ARSENIC, TOTAL	010	S	99L0654	09/01/99	09/24/99	09/29/99
BARIUM, TOTAL	010	S	99L0654	09/01/99	09/24/99	09/29/99
BERYLLIUM, TOTAL	010	S	99L0654	09/01/99	09/24/99	09/29/99
CADMIUM, TOTAL	010	S	99L0654	09/01/99	09/24/99	09/29/99
CHROMIUM, TOTAL	010	S	99L0654	09/01/99	09/24/99	09/29/99
COPPER, TOTAL	010	S	99L0654	09/01/99	09/24/99	09/29/99
MERCURY, TOTAL	010	S	99C0278	09/01/99	09/24/99	09/27/99
NICKEL, TOTAL	010	S	99L0654	09/01/99	09/24/99	09/29/99
LEAD, TOTAL	010	S	99L0654	09/01/99	09/24/99	09/29/99
ANTIMONY, TOTAL	010	S	99L0654	09/01/99	09/24/99	09/29/99
SELENIUM, TOTAL	010	S	99L0654	09/01/99	09/24/99	09/29/99
THALLIUM, TOTAL	010	S	99L0654	09/01/99	09/24/99	09/29/99
VANADIUM, TOTAL	010	S	99L0654	09/01/99	09/24/99	09/29/99
ZINC, TOTAL	010	S	99L0654	09/01/99	09/24/99	09/29/99

LAB QC:

SILVER LABORATORY	LC1 BS	S	99L0654	N/A	09/24/99	09/29/99
SILVER, TOTAL	MB1	S	99L0654	N/A	09/24/99	09/29/99
ARSENIC LABORATORY	LC1 BS	S	99L0654	N/A	09/24/99	09/29/99
ARSENIC, TOTAL	MB1	S	99L0654	N/A	09/24/99	09/29/99
BARIUM LABORATORY	LC1 BS	S	99L0654	N/A	09/24/99	09/29/99
BARIUM, TOTAL	MB1	S	99L0654	N/A	09/24/99	09/29/99
BERYLLIUM LABORATORY	LC1 BS	S	99L0654	N/A	09/24/99	09/29/99
BERYLLIUM, TOTAL	MB1	S	99L0654	N/A	09/24/99	09/29/99
CADMIUM LABORATORY	LC1 BS	S	99L0654	N/A	09/24/99	09/29/99
CADMIUM, TOTAL	MB1	S	99L0654	N/A	09/24/99	09/29/99
CHROMIUM LABORATORY	LC1 BS	S	99L0654	N/A	09/24/99	09/29/99
CHROMIUM, TOTAL	MB1	S	99L0654	N/A	09/24/99	09/29/99
COPPER LABORATORY	LC1 BS	S	99L0654	N/A	09/24/99	09/29/99
COPPER, TOTAL	MB1	S	99L0654	N/A	09/24/99	09/29/99
MERCURY LABORATORY	LC1 BS	S	99C0278	N/A	09/24/99	09/27/99

Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD B99-078

DATE RECEIVED: 09/03/99 RFW LOT # :9909L008

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
MERCURY, TOTAL	MB1	S	99C0278	N/A	09/24/99	09/27/99
NICKEL LABORATORY	LC1 BS	S	99L0654	N/A	09/24/99	09/29/99
NICKEL, TOTAL	MB1	S	99L0654	N/A	09/24/99	09/29/99
LEAD LABORATORY	LC1 BS	S	99L0654	N/A	09/24/99	09/29/99
LEAD, TOTAL	MB1	S	99L0654	N/A	09/24/99	09/29/99
ANTIMONY LABORATORY	LC1 BS	S	99L0654	N/A	09/24/99	09/29/99
ANTIMONY, TOTAL	MB1	S	99L0654	N/A	09/24/99	09/29/99
SELENIUM LABORATORY	LC1 BS	S	99L0654	N/A	09/24/99	09/29/99
SELENIUM, TOTAL	MB1	S	99L0654	N/A	09/24/99	09/29/99
THALLIUM LABORATORY	LC1 BS	S	99L0654	N/A	09/24/99	09/29/99
THALLIUM, TOTAL	MB1	S	99L0654	N/A	09/24/99	09/29/99
VANADIUM LABORATORY	LC1 BS	S	99L0654	N/A	09/24/99	09/29/99
VANADIUM, TOTAL	MB1	S	99L0654	N/A	09/24/99	09/29/99
ZINC LABORATORY	LC1 BS	S	99L0654	N/A	09/24/99	09/29/99
ZINC, TOTAL	MB1	S	99L0654	N/A	09/24/99	09/29/99

RECRA LabNet Use Only

99091C008

Custody Transfer Record/Lab Work Request

Page 1 of 1

RECRA LabNet

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client TWU-HANFORD B99-078

Est. Final Proj. Sampling Date

Project # 01985-001-001-9999-00

Project Contact/Phone #

RECRA Project Manager O. Johnson

QC Spec Del Std TAT 30 day

Date Rec'd 9-3-99 Date Due 10-3-99

Account #

Refrigerator #											6	6				
#/Type Container	Liquid															
	Solid						1AG				1AG	1				
Volume	Liquid															
	Solid										500mL	1				
Preservatives											—					
ANALYSES REQUESTED →		ORGANIC							INORG							
		VOA	BNA	Pest/PCB	Herb				Metal	CN						
		RECRA LabNet Use Only														
											MetD	ICRG				

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	MetD	ICRG
001	BOW9K0			S	9-1-99	0710	1	✓
002	1					0710	1	
003	2					0735	1	
004	3					0756	1	
005	4					0803	1	
006	5					0821	1	
007	6					0825	1	
008	7					0832	1	
009	8					0845	1	
010	BOW 9L9					0855	1	

Special Instructions:

Saf # B99-078
11/3/99 Sb + Tl added per client

COMPOSITE WASTE

DATE/REVISIONS:

1. MetD = As, Ba, Be, Cd, Cr, Cu,
2. Pb, Ni, Se, Ag, V, Zn, Hg
3.
4.
5.
6.

RECRA LabNet Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
4235 7952 9013
2) Ambient or Chilled
3) Received in Good Condition (Y) or N
4) Labels Indicate Properly Preserved (Y) or N
5) Received Within Holding Times (Y) or N

COC Tape was:
1) Present on Outer Package (Y) or N
2) Unbroken on Outer Package (Y) or N
3) Present on Sample (Y) or N
4) Unbroken on Sample (Y) or N
COC Record Present Upon Sample Rec't (Y) or N
Cooler Temp. 4° °C

Discrepancies Between Samples Labels and COC Record? Y or (N)
NOTES:

Relinquished by	Received by	Date	Time
[signature]	[signature]	9-3-99	0930

Relinquished by	Received by	Date	Time

ORIGINAL REWRITTEN

11

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B99-078-107	Page 1 of 2

Collector: Bowers/Porter/Nielson	Company Contact: Chris Cearlock	Telephone No.: 372-9574	Project Coordinator: TRENT, SJ
Price Code: 8N	Data Turnaround: 45 Days		
Project Designation: 200 Area Source characterization - 200-CW-1 OU	Sampling Location: GP-12		SAF No.: B99-078
Ice Chest No.: ERC96-036	Field Logbook No.: EL-1511		Method of Shipment: ~~gov vehicle~~ RJN 9/2/99 Federal Express
Shipped To: TMA/RECRA	Offsite Property No.: A990240		Bill of Lading/Air Bill No.: 4235795290 13
			COA: B20 CW1 67 1C

POSSIBLE SAMPLE HAZARDS/REMARKS												
	Preservation	Cool 4C	None									
	Type of Container	aG	aG									
Special Handling and/or Storage	No. of Container(s)	1	1									
	Volume	500mL	1000mL									
SAMPLE ANALYSIS		See item (1) in Special Instructions.	See item (2) in Special Instructions.									

	Sample No.	Matrix *	Sample Date	Sample Time										
001 ✓	B0W9K0	Soil	9-1-99	0710	X		3'-4'						BOW5-8	
002 ✓	B0W9K1	Soil	9-1-99	0710	X		3'-4'						BOW5-8	
003 ✓	B0W9K2	Soil	9-1-99	0735	X		7'-8'						BOW4B7	
004 ✓	B0W9K3	Soil	9-1-99	0756	X		9.5'-10.5'						BOW5-8	
005 ✓	B0W9K4	Soil	9-1-99	0803	X		12'-13'						BOW5-8	

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: Doug Bowers	Date/Time: 9-1-99/1200	Received By: Roy B	Date/Time: 9-1-99/1200
Relinquished By: RCF #1B	Date/Time: 9/2/99 0900	Received By: Dave Nielson / R. Nielson	Date/Time: 9/2/99 0900
Relinquished By: Dave Nielson / R. Nielson	Date/Time: 9/2/99 1330	Received By: FedEx	Date/Time:
Relinquished By: Fed Ex	Date/Time: 9-3-99 0930	Received By: V. Hernandez	Date/Time: 9-3-99 0930

SPECIAL INSTRUCTIONS

See chain of custody comments on SAF B99-078.

(1) ICP Metals - 6010A (Supertrace) {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}; ICP Metals - 6010A (Supertrace Add-On) {Beryllium, Copper, Nickel, Vanadium, Zinc}; Mercury - 7471 - (CV); Chromium Hex - 7196

(2) Gamma Spec - Complete {Americium-241, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}

Sampler unavailable to relinquish samples. RJN 9/2/99

Temp 3

Matrix *: Soil, Water, Vapor, Other Solid, Other Liquid

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

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B99-078-107	Page 2 of 2
				0709-1-99

Collector Bowers/Porter/Nielson	Company Contact Chris Cearlock	Telephone No. 372-9574	Project Coordinator TRENT, SJ
Project Designation 200 Area Source characterization - 200-CW-1 OU	Sampling Location GP-12		SAF No. B99-078
Ice Chest No. ERC96-036	Field Logbook No. EL-1511		Method of Shipment ~~gov vehicle~~ RJN 9/2/99 Federal Express
Shipped To TMA/RECRA DTB 9-1-99	Offsite Property No. A990240		Bill of Lading/Air Bill No. 423579529013
			COA B20CW167K

Price Code 8N

Data Turnaround 45 Days

POSSIBLE SAMPLE HAZARDS/REMARKS	Preservation	Cool 4C	None								
	Type of Container	aG	aG								
	No. of Container(s)	1	1								
Special Handling and/or Storage	Volume	500mL	1000mL								
SAMPLE ANALYSIS		See item (1) in Special Instructions.	See item (2) in Special Instructions.								

	Sample No.	Matrix *	Sample Date	Sample Time										
006 ✓	B0W9K5	Soil	9-1-99	0821	X			13'-14'			B0W5M1			
007 ✓	B0W9K6	Soil	9-1-99	0825	X			14'-15'			B0W5L8			
008 ✓	B0W9K7	Soil	9-1-99	0832	X			17'-18'			↓			
009 ✓	B0W9K8	Soil	9-1-99	0845	X			22'-23'						
010 ✓ 9-1-99	~~B0W9K9~~ B0W9L9	Soil	9-1-99	0855	X			24'-25'			↓			

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By Doug Bowers Doug Bowers	Date/Time 9-1-99/1200	Received By Ref IB	Date/Time 9-1-99/1200
Relinquished By Ref IB	Date/Time 9/2/99 0900	Received By Renee Nielson / R. Nielson	Date/Time 9-2-99 0900
Relinquished By Renee Nielson / R. Nielson	Date/Time 9/2/99 0900	Received By Fed Ex	Date/Time
Relinquished By Fed Ex	Date/Time 9-3-99 0930	Received By V. Henry	Date/Time 9-3-99 0930

SPECIAL INSTRUCTIONS

See chain of custody comments on SAF B99-078.

(1) ICP Metals - 6010A (Supertrace) {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}; ICP Metals - 6010A (Supertrace Add-On) {Beryllium, Copper, Nickel, Vanadium, Zinc}; Mercury - 7471 - (CV); Chromium Hex - 7196

(2) Gamma Spec - Complete {Americium-241, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}

Sampler unavailable to relinquish samples. RJN 9/2/99

Matrix *
Soil
Water
Vapor
Other Solid
Other Liquid

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

022
023