



Chemical and Environmental Measurement Information



Recra LabNet Philadelphia
Analytical Report

Client : TNU-HANFORD B00-068
RFW# : 0009L548
SDG# : H1015
SAF# : B00-068

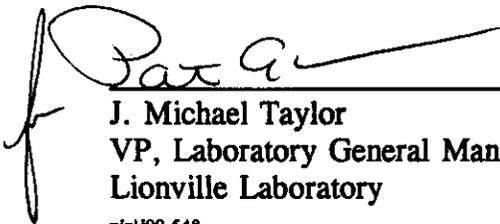
W.O. # : 10985-001-001-9999-00
Date Received: 09-09-00

RECEIVED
JAN 09 2000

INORGANIC CASE NARRATIVE

1. This narrative covers the analyses of 1 soil sample.
2. The sample was prepared and analyzed in accordance with the methods indicated on the attached glossary.
3. Sample holding times as required by the method and/or contract were met with the exception of Total Cyanide and Sulfide.
4. The cooler temperature was recorded on the chain-of-custody.
5. The method blanks were within method criteria.
6. The Laboratory Control Samples (LCS) were within the laboratory control limits.
7. The matrix spike recoveries were within the 75-125% control limits.
8. The replicate analyses 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 data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

EDMC



J. Michael Taylor
VP, Laboratory General Manager
Lionville Laboratory

10-26-00
Date

njp\009-548

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

Recra LabNet Philadelphia

WET CHEMISTRY METHODS GLOSSARY FOR SOIL/SOLIDS SAMPLE ANALYSIS

	<u>ASTM</u>	<u>SW846</u>	<u>OTHER</u>
% Ash	___ D2216-80		
% Moisture	___ D2216-80		___ ILMO4.0 (e)
% Solids	✓ D2216-80		___ ILMO4.0 (e)
% Volatile Solids	___ D2216-80		
ASTM Extraction in Water	___ D3987-81/85		
BTU	___ D240-87		
CEC		___ 9081	___ c
Chromium VI		___ 3060A/7196A	
Corrosivity ___ by coupon ___ by pH		___ 1110(mod) ___ 9045C	
Cyanide, Total		✓ 9010B 19014	___ ILMO4.0 (e)
Cyanide, Reactive		___ Section 7.3/9014	
Halides, Extractable Organic		___ 9020B	___ EPA 600/4/84-008
Halides, Total		___ 9020B	___ EPA 600/4/84-008
EP Toxicity		___ 1310A	
Flash Point		___ 1010	
Ignitability		___ 1010	
Oil & Grease		___ 9071A	
Carbon, Total Organic		___ 9060	___ Lloyd Kahn (mod)
Oxygen Bomb Prep for Anions	___ D240-87(mod)	___ 5050	
Petroleum Hydrocarbons, Total Recoverable		___ 9071	___ EPA 418.1
pH, Soil		✓ 9045C	
Sulfide, Reactive		___ Section 7.3/9030B	
Sulfide		✓ 9030B(mod)	
Specific Gravity	___ D1429-76C/	___ D5057-90	
Sulfur, Total		___ 9056	
Synthetic Preparation Leach		___ 1312	
Paint Filter		9095A	
Other: Nitrate		Method: EPA 300.0	
Other:		Method	

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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.

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INORGANICS DATA SUMMARY REPORT 10/23/00

CLIENT: TNU-HANFORD B00-068
 WORK ORDER: 10985-001-001-9999-00

RECRA LOT #: 0009L548

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	B105W1	% Solids	97.5	%	0.01	1.0
		Nitrate by IC	1.3	u MG/KG	1.3	1.0
		Cyanide, Total	0.49	u MG/KG	0.49	1.0
		pH	9.2	SOIL PH	0.01	1.0
		Sulfide	37.8	u MG/KG	37.8	1.0

Recra LabNet - Lionville

INORGANICS METHOD BLANK DATA SUMMARY PAGE 10/23/00

CLIENT: TNU-HANFORD B00-068
 WORK ORDER: 10985-001-001-9999-00

RECRA LOT #: 0009L548

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK10	00LCC058-MB1	Nitrate by IC	1.2	u MG/KG	1.2	1.0
BLANK1	00LCD85-MB1	Cyanide, Total	0.50	u MG/KG	0.50	1.0
BLANK10	00LSD034-MB1	Sulfide	1.0	u MG/KG	1.0	1.0

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INORGANICS ACCURACY REPORT 10/23/00

CLIENT: TNU-HANFORD B00-068
 WORK ORDER: 10985-001-001-9999-00

RECRA LOT #: 0009L548

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR (SPK)
-001	B105W1	Nitrate by IC	25	1.3 u	26	96.7	1.0
		Cyanide, Total	3.9	0.49u	4.2	94.1	1.0
		Sulfide	407	7.6	411	97.2	1.0
BLANK10	00LCC058-MB1	Nitrate by IC	25	1.2 u	25	100.1	1.0
BLANK10	00LSD034-MB1	Sulfide	9.2	1.0 u	10.5	87.6	1.0

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INORGANICS PRECISION REPORT 10/23/00

CLIENT: TNU-HANFORD B00-068

RECRA LOT #: 0009L548

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

SAMPLE	SITE ID	ANALYTE	INITIAL			DILUTION FACTOR (REP)
			RESULT	REPLICATE	RPD	
-001RBP	B105W1	‡ Solids	97.5	97.4	0.11	1.0
		Nitrate by IC	1.3 u	1.3 u	NC	1.0
		Cyanide, Total	0.49u	0.43u	NC	1.0
		pH	9.2	9.2	0.4	1.0
		Sulfide	37.8 u	39.5 u	NC	1.0

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INORGANICS LABORATORY CONTROL STANDARDS REPORT 10/23/00

CLIENT: TNU-HANFORD B00-068
WORK ORDER: 10985-001-001-9999-00

RECRA LOT #: 0009L548

SAMPLE	SITE ID	ANALYTE	SPIKED	SPIKED	UNITS	%RECOV
			SAMPLE	AMOUNT		
LCSS1	00LCD85-LCS1	Cyanide, Total LCS	1.8	2.0	MG/KG	90.6
LCSS2	00LCD85-LCS2	Cyanide, Total LCS	9.8	10	MG/KG	98.1

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 INORGANIC ANALYTICAL DATA PACKAGE FOR
 TNU-HANFORD B00-068

DATE RECEIVED: 09/09/00

RFW LOT # :0009L548

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B105W1						
% SOLIDS	001	S	00L&S140	09/01/00	09/11/00	09/12/00
% SOLIDS	001 REP	S	00L&S140	09/01/00	09/11/00	09/12/00
NITRATE BY IC	001	S	00LCC058	09/01/00	09/26/00	09/26/00
NITRATE BY IC	001 REP	S	00LCC058	09/01/00	09/26/00	09/26/00
NITRATE BY IC	001 MS	S	00LCC058	09/01/00	09/26/00	09/26/00
TOTAL CYANIDE	001	S	00LCD85	09/01/00	09/18/00	09/18/00
TOTAL CYANIDE	001 REP	S	00LCD85	09/01/00	09/18/00	09/18/00
TOTAL CYANIDE	001 MS	S	00LCD85	09/01/00	09/18/00	09/18/00
PH	001	S	00LPH076	09/01/00	09/11/00	09/11/00
PH	001 REP	S	00LPH076	09/01/00	09/11/00	09/11/00
SULFIDE	001	S	00LSD034	09/01/00	09/19/00	09/19/00
SULFIDE	001 REP	S	00LSD034	09/01/00	09/19/00	09/19/00
SULFIDE	001 MS	S	00LSD034	09/01/00	09/19/00	09/19/00

LAB QC:

NITRATE BY IC	MB1	S	00LCC058	N/A	09/26/00	09/26/00
NITRATE BY IC	MB1 BS	S	00LCC058	N/A	09/26/00	09/26/00
TOTAL CYANIDE	LCS L	S	00LCD85	N/A	09/18/00	09/18/00
TOTAL CYANIDE	LCS L	S	00LCD85	N/A	09/18/00	09/18/00
TOTAL CYANIDE	MB1	S	00LCD85	N/A	09/18/00	09/18/00
SULFIDE	MB1	S	00LSD034	N/A	09/19/00	09/19/00
SULFIDE	MB1 BS	S	00LSD034	N/A	09/19/00	09/19/00

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					B00-068-65		Page 1 of 1		
Collector FAHLBERG/		Company Contact Dave Weeks		Telephone No. 372-9524		Project Coordinator TRENT, SJ		Price Code 8L		Data Turnaround 21 Days	
Project Designation 200 Area Groundwater Well Drilling Waste Designation for		Sampling Location 200 West		SAF No. B00-068		Air Quality <input type="checkbox"/>					
Ice Chest No. ERC 99-070 (10R)		Field Logbook No. EL 1516		COA X-008 LMC		Method of Shipment Fed EX					
Shipped To TMA/RECRA RECRA		Offsite Property No. A000313		Bill of Lading/Air Bill No. 42357953 NA							
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation	None	Cool 4C	Cool 4C	None	None		
				Type of Container	aG	aG	aG	aG	aG		
				No. of Container(s)	1	1	1	1	1		
				Volume	120mL	250mL	250mL	250mL	250mL		
Special Handling and/or Storage				IC Anions - 300.0 (Nitrate); Sulfides - 9030; Total Cyanide - 9010	Semi-VOA - 8270A (TCL); Semi-VOA - 8270A (Add-On) (m-Cresol)	VOA - 8260A (TCL.)	ICP Metals - 6010A (Supertrace); Mercury - 7471 - (CV)	pH (Soil) - 9045			
SAMPLE ANALYSIS											
Sample No.	Matrix *	Sample Date	Sample Time								
B105W1	SOIL	9-1-00	1400	X	X	X	X	X			
CHAIN OF POSSESSION											
Relinquished By			Date/Time		Received By			Date/Time		Matrix *	
R. Fehlberg			9-1-00 1530		Stored in Ref 2-B			9-1-00 1530		S-Soil	
R. Fehlberg			9-1-00 0800		R. Thoren			9-8-00 0800		SE-Scallop	
R. Thoren			9-8-00 0800		R. Thoren			9-8-00 0800		SO-Solid	
R. Thoren			9-8-00 0800		R. Thoren			9-8-00 0800		S-Slag	
T. Keppel			9-9-00 0930		T. Keppel			9-9-00 0930		W-Water	
T. Keppel			9-9-00 0930		T. Keppel			9-9-00 0930		O-Oil	
T. Keppel			9-9-00 0930		T. Keppel			9-9-00 0930		A-Air	
T. Keppel			9-9-00 0930		T. Keppel			9-9-00 0930		DS-Drum Solids	
T. Keppel			9-9-00 0930		T. Keppel			9-9-00 0930		DL-Drum Liquids	
T. Keppel			9-9-00 0930		T. Keppel			9-9-00 0930		T-Tissue	
T. Keppel			9-9-00 0930		T. Keppel			9-9-00 0930		W1-Wipe	
T. Keppel			9-9-00 0930		T. Keppel			9-9-00 0930		L-Liquid	
T. Keppel			9-9-00 0930		T. Keppel			9-9-00 0930		V-Vegetation	
T. Keppel			9-9-00 0930		T. Keppel			9-9-00 0930		X-Other	
LABORATORY SECTION	Received By		Title					Date/Time			
FINAL SAMPLE DISPOSITION	Disposal Method		Disposed By					Date/Time			



**Recra LabNet Philadelphia
Analytical Report**

Client: TNU-HANFORD B00-068
RFW#: 0009L548
SDG/SAF#: H1015/B00-068

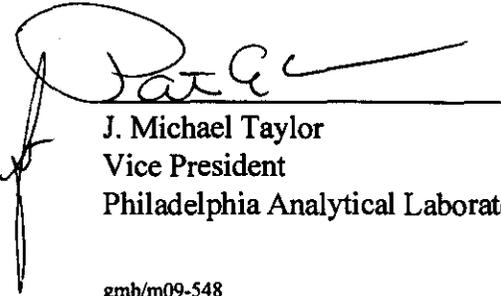
W.O.#: 10985-001-001-9999-00
Date Received: 09-09-00

METALS CASE NARRATIVE

1. This narrative covers the analyses of 1 soil sample.
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), MB value less than 5% of the RCRA limit, or samples greater than 20X MB value}. Refer to the Inorganics Method Blank Data Summary.
8. All ICP Interference Check Standards were within control limits.
9. All laboratory control samples (LCS) were within the 80-120% control limits. Refer to the Inorganics Laboratory Control Standards Report.
10. All matrix spike (MS) recoveries were within the 75-125% control limits. Refer to the Inorganics Accuracy Report.
11. The duplicate analyses for 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.

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 **13** pages.

14. 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.



J. Michael Taylor
Vice President
Philadelphia Analytical Laboratory

10-23-00
Date

gmb/m09-548



METALS METHOD GLOSSARY

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

Recra Lot#: 0009L548

Leaching Procedure: 1310 1311 1312 Other:

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

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

Metals Analysis Methods

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

Other:

Method:

METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

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

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

ABBREVIATIONS

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

ANALYTICAL METAL METHODS

1. Not included in the method element list.
2. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, 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

Recre LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 09/26/00

CLIENT: TWU-HANFORD B00-068
 WORK ORDER: 10985-001-001-9999-00

RECRA LOT #: 0009L548

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-----	-----	-----	-----	-----	-----	-----
-001	B105W1	Silver, Total	0.10 u	MG/KG	0.10	1.0
		Arsenic, Total	3.2	MG/KG	0.32	1.0
		Barium, Total	91.6	MG/KG	0.02	1.0
		Cadmium, Total	0.04	MG/KG	0.03	1.0
		Chromium, Total	9.3	MG/KG	0.08	1.0
		Mercury, Total	0.02 u	MG/KG	0.02	1.0
		Lead, Total	3.1	MG/KG	0.20	1.0
		Selenium, Total	0.40 u	MG/KG	0.40	1.0

Recre LabNet - Lionville

INORGANICS METHOD BLANK DATA SUMMARY PAGE 09/26/00

CLIENT: TRU-HANFORD B00-068
 WORK ORDER: 10985-001-001-9999-00

RECRA LOT #: 0009L548

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	99L1571-MB1	Silver, Total	0.11 u	MG/KG	0.11	1.0
		Arsenic, Total	0.34 u	MG/KG	0.34	1.0
		Barium, Total	0.03	MG/KG	0.02	1.0
		Cadmium, Total	0.03 u	MG/KG	0.03	1.0
		Chromium, Total	0.09 u	MG/KG	0.09	1.0
		Lead, Total	0.21 u	MG/KG	0.21	1.0
		Selenium, Total	0.43 u	MG/KG	0.43	1.0
BLANK1	00C0295-MB1	Mercury, Total	0.02 u	MG/KG	0.02	1.0

Recra LabNet - Lionville

INORGANICS ACCURACY REPORT 09/26/00

CLIENT: TMU-HANFORD B00-068

RECRA LOT #: 0009L548

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR (SPK)
-001	B105W1	Silver, Total	4.5	0.10u	4.7	95.7	1.0
		Arsenic, Total	179	3.2	186	94.4	1.0
		Barium, Total	254	91.6	186	87.1	1.0
		Cadmium, Total	4.4	0.04	4.7	92.8	1.0
		Chromium, Total	27.0	9.3	18.6	95.2	1.0
		Mercury, Total	0.20	0.02u	0.16	122.4	1.0
		Lead, Total	47.3	3.1	46.6	94.8	1.0
		Selenium, Total	171	0.40u	186	91.5	1.0

Recre LabNet - Lionville

INORGANICS PRECISION REPORT 09/26/00

CLIENT: TNU-HANFORD B00-068
 WORK ORDER: 10985-001-001-9999-00

RECRA LOT #: 0009L548

SAMPLE	SITE ID	ANALYTE	INITIAL			DILUTION
			RESULT	REPLICATE	RPD	FACTOR (REP)
-001REP	B105W1	Silver, Total	0.10u	0.10u	NC	1.0
		Arsenic, Total	3.2	3.4	6.1	1.0
		Barium, Total	91.6	68.0	29.6	1.0
		Cadmium, Total	0.04	0.03u	NC	1.0
		Chromium, Total	9.3	7.9	16.3	1.0
		Mercury, Total	0.02u	0.02u	NC	1.0
		Lead, Total	3.1	3.0	3.3	1.0
		Selenium, Total	0.40u	0.40u	NC	1.0

NC 000
10/23/00

Recre LabNet - Lionville

INORGANICS LABORATORY CONTROL STANDARDS REPORT 09/26/00

CLIENT: TWU-HANFORD B00-068

RECRA LOT #: 0009L548

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

SAMPLE	SITE ID	ANALYTE	SPIKED	SPIKED	UNITS	%RECOV
			SAMPLE	AMOUNT		
LCS1	99L1571-LC1	Silver, LCS	49.1	50.0	MG/KG	98.2
		Arsenic, LCS	954	1000	MG/KG	95.4
		Barium, LCS	494	500	MG/KG	98.7
		Cadmium, LCS	24.6	25.0	MG/KG	98.4
		Chromium, LCS	49.8	50.0	MG/KG	99.6
		Lead, LCS	244	250	MG/KG	97.6
		Selenium, LCS	923	1000	MG/KG	92.3
LCS1	00C0295-LC1	Mercury, LCS	0.68	0.7	MG/KG	95.4

Recra LabNet - Lionville Laboratory
 INORGANIC ANALYTICAL DATA PACKAGE FOR
 TNU-HANFORD B00-068

DATE RECEIVED: 09/09/00

RFW LOT # :0009L548

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B105W1						
SILVER, TOTAL	001	S	99L1571	09/01/00	09/21/00	09/21/00
SILVER, TOTAL	001 REP	S	99L1571	09/01/00	09/21/00	09/21/00
SILVER, TOTAL	001 MS	S	99L1571	09/01/00	09/21/00	09/21/00
ARSENIC, TOTAL	001	S	99L1571	09/01/00	09/21/00	09/21/00
ARSENIC, TOTAL	001 REP	S	99L1571	09/01/00	09/21/00	09/21/00
ARSENIC, TOTAL	001 MS	S	99L1571	09/01/00	09/21/00	09/21/00
BARIUM, TOTAL	001	S	99L1571	09/01/00	09/21/00	09/21/00
BARIUM, TOTAL	001 REP	S	99L1571	09/01/00	09/21/00	09/21/00
BARIUM, TOTAL	001 MS	S	99L1571	09/01/00	09/21/00	09/21/00
CADMIUM, TOTAL	001	S	99L1571	09/01/00	09/21/00	09/21/00
CADMIUM, TOTAL	001 REP	S	99L1571	09/01/00	09/21/00	09/21/00
CADMIUM, TOTAL	001 MS	S	99L1571	09/01/00	09/21/00	09/21/00
CHROMIUM, TOTAL	001	S	99L1571	09/01/00	09/21/00	09/21/00
CHROMIUM, TOTAL	001 REP	S	99L1571	09/01/00	09/21/00	09/21/00
CHROMIUM, TOTAL	001 MS	S	99L1571	09/01/00	09/21/00	09/21/00
MERCURY, TOTAL	001	S	00C0295	09/01/00	09/18/00	09/19/00
MERCURY, TOTAL	001 REP	S	00C0295	09/01/00	09/18/00	09/19/00
MERCURY, TOTAL	001 MS	S	00C0295	09/01/00	09/18/00	09/19/00
LEAD, TOTAL	001	S	99L1571	09/01/00	09/21/00	09/21/00
LEAD, TOTAL	001 REP	S	99L1571	09/01/00	09/21/00	09/21/00
LEAD, TOTAL	001 MS	S	99L1571	09/01/00	09/21/00	09/21/00
SELENIUM, TOTAL	001	S	99L1571	09/01/00	09/21/00	09/21/00
SELENIUM, TOTAL	001 REP	S	99L1571	09/01/00	09/21/00	09/21/00
SELENIUM, TOTAL	001 MS	S	99L1571	09/01/00	09/21/00	09/21/00

LAB QC:

SILVER LABORATORY	LC1 BS	S	99L1571	N/A	09/21/00	09/21/00
SILVER, TOTAL	MB1	S	99L1571	N/A	09/21/00	09/21/00
ARSENIC LABORATORY	LC1 BS	S	99L1571	N/A	09/21/00	09/21/00
ARSENIC, TOTAL	MB1	S	99L1571	N/A	09/21/00	09/21/00
BARIUM LABORATORY	LC1 BS	S	99L1571	N/A	09/21/00	09/21/00
BARIUM, TOTAL	MB1	S	99L1571	N/A	09/21/00	09/21/00
CADMIUM LABORATORY	LC1 BS	S	99L1571	N/A	09/21/00	09/21/00
CADMIUM, TOTAL	MB1	S	99L1571	N/A	09/21/00	09/21/00

Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD B00-068

DATE RECEIVED: 09/09/00

RFW LOT # :0009L548

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
CHROMIUM LABORATORY	LC1 BS	S	99L1571	N/A	09/21/00	09/21/00
CHROMIUM, TOTAL	MB1	S	99L1571	N/A	09/21/00	09/21/00
MERCURY LABORATORY	LC1 BS	S	00C0295	N/A	09/18/00	09/19/00
MERCURY, TOTAL	MB1	S	00C0295	N/A	09/18/00	09/19/00
LEAD LABORATORY	LC1 BS	S	99L1571	N/A	09/21/00	09/21/00
LEAD, TOTAL	MB1	S	99L1571	N/A	09/21/00	09/21/00
SELENIUM LABORATORY	LC1 BS	S	99L1571	N/A	09/21/00	09/21/00
SELENIUM, TOTAL	MB1	S	99L1571	N/A	09/21/00	09/21/00

RECRA LabNet Use Only
0009LS48

Custody Transfer Record/Lab Work Request Page 1 of 1



ALL FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client TNU-Hanford 800-068
 Est. Final Proj. Sampling Date _____
 Project # 10985-001-001-9999-00
 Project Contact/Phone # _____
 RECRA Project Manager aj
 GC SPCC Del STC TAT 21 day
 Date Rec'd 9-9-00 Date Due 9-30-00

Refrigerator #	1	3						3	3-1	3					
#Type Container	Liquid														
	Solid	1PG	1PG					1PG	1PG	1PG					
Volume	Liquid	256						250	100	256					
	Solid	120	250												
Preservatives															
ANALYSES REQUESTED →	ORGANIC						INORG								
	VOA	BNA	Pea/PCB	Herb			Metal	CN							

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 OC Chosen (S)		Matrix	Date Collected	Time Collected	RECRA LabNet Use Only													
			MS	MSD				OLE4H	OLE2X	PCATO	ICNTO	ICR03	ISFD	IPH							
								001 B105W1	✓	✓	S	9-1-00	1400	✓	✓	✓	✓	✓	✓		

Special Instructions: Saf 800-068

DATE/REVISIONS:
 1. _____
 2. _____
 3. _____
 4. _____
 5. _____
 6. _____

RECRA LabNet Use Only

Samples were:
 1) Shipped or Hand Delivered _____
 2) Ambient or Chilled
 3) Received in Good Condition or N
 4) Labels Indicate Property Preserved or N
 5) Received Within Holding Times or N

Airbill # See below

COC Tape was:
 1) Present on Outer Package or N
 2) Unbroken on Outer Package or N
 3) Present on Sample or N
 4) Unbroken on Sample or N
 COC Record Present Upon Sample Rec'd or N
 Cooler Temp 55 C

Relinquished by	Received by	Date	Time
<u>FredEx</u>	<u>TRoppel</u>	<u>9-9-00</u>	<u>0930</u>

Relinquished by _____
 Received by _____
 Date _____
 Time _____

COMPOSITE WASTE

ORIGINAL REWRITTEN

Discrepancies Between Samples Labels and COC Record? Y or N
 NOTES:
 4235 7953 8912

012

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					B00-068-65		Page 1 of 1				
Collector FAHLBERG/		Company Contact Dave Weeks		Telephone No. 372-9524		Project Coordinator TRENT, SJ		Price Code 8L		Data Turnaround 21 Days			
Project Designation 200 Area Groundwater Well Drilling Waste Designation for		Sampling Location 200 West		SAF No. B00-068		Air Quality <input type="checkbox"/>							
Ice Chest No. ERC 99-070 (10A)		Field Logbook No. EL 1516		COA K-008 LMC		Method of Shipment Fed EX							
Shipped To TMA/RECRA RECRA		Offsite Property No. A000313			Bill of Lading/Air Bill No. 42357953 NA								
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation		None	Cool 4C	Cool 4C	None	None			
				Type of Container		aG	aG	aG	aG	aG			
				No. of Container(s)		1	1	1	1	1			
				Special Handling and/or Storage		Volume	120mL	250mL	250mL	250mL	250mL		
SAMPLE ANALYSIS				IC Anions - 300.0 (Nitrate); Sulfides - 9030; Total Cyanide - 9010	Semi-VOA - 8270A (TCL); Semi-VOA - 8270A (Add-On) (m-Cresol)	VOA - 8260A (TCL)	ICP Metals - 6010A (Supertrace); Mercury - 7471 - (CV)	pH (Soil) - 9045					
Sample No.	Matrix *	Sample Date	Sample Time										
B105W1	SOIL	9-1-00	1400	X	X	X	X	X					
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS				Matrix *	
Relinquished By R. F. Ehl		Date/Time 9-1-00 1530		Received By R. B. B		Date/Time 9-1-00 1530		tie to BGY VP 4 Samples stored in Ref. # 2B at the 3728 Shipping Facility on 9/1/00. Collector not available to relinquish samples on 9/8/00 for shipment.				S-Soil SE-Sediment SO-Solid S-Sludge W-Water O-Oil A-Air DS-Drum Solids DL-Drum Liquid T-Tissue WI-Wipe L-Liquid V-Vegetation X-Other	
Relinquished By R. B. B		Date/Time 9-1-00 0800		Received By R. Thoresen		Date/Time 9-1-00 0800							
Relinquished By R. Thoresen		Date/Time 9-1-00 0900		Received By F. O. G.		Date/Time 9-1-00 0900							
Relinquished By F. O. G.		Date/Time 9-1-00 0930		Received By T. Kopp		Date/Time 9-1-00 0930							
Relinquished By		Date/Time		Received By		Date/Time							
Relinquished By		Date/Time		Received By		Date/Time							
LABORATORY SECTION	Received By	Title								Date/Time			
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By								Date/Time			

013



Client: TNU-HANFORD B00-068
RFW #: 0009L548
SDG/SAF #: H1015/B00-068

W.O. #: 10985-001-001-0000-00
Date Received: 09-09-2000

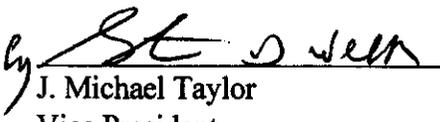
SEMIVOLATILE

One (1) soil sample was collected on 09-01-2000.

The sample and its associated QC samples were extracted on 09-14-2000 and analyzed according to criteria set forth in Recra OPs based on SW 846 Method 8270C for TCL Semivolatile target compounds on 09-16,29,30-2000.

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

1. The cooler temperature upon receipt has been recorded on the chain-of-custody.
2. The sample was extracted and analyzed within required holding times.
3. Non-target compounds were detected in the sample.
4. All surrogate recoveries were within EPA QC limits.
5. One (1) of eleven (11) blank spike recoveries was outside EPA QC limits.
6. All matrix spike recoveries were within EPA QC limits.
7. "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."


J. Michael Taylor
Vice President

10-19-00
Date

Philadelphia Analytical Laboratory

som\group\data\bna\tnu-hanford-09-548.doc
The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 11 pages.

GLOSSARY OF BNA DATA

DATA QUALIFIERS

- U** = Compound was analyzed for but not detected. The associated numerical value is the estimated sample quantitation limit which is included and corrected for dilution and percent moisture.
- J** = Indicates an estimated value. This flag is used under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. For example, if the limit of detection is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
- B** = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination. This flag is also used for a TIC as well as for a positively identified TCL compound.
- E** = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
- D** = Identifies all compounds identified in an analysis at a secondary dilution factor.
- I** = Interference.
- NQ** = Result qualitatively confirmed but not able to quantify.
- A** = Indicates that a TIC is a suspected aldol-condensation product.
- N** = Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.
- X** = This flag is used for a TIC compound which is quantified relative to a response factor generated from a daily calibration standard (rather than quantified relative to the closest internal standard).
- Y** = Additional qualifiers used as required are explained in the case narrative.



GLOSSARY OF BNA DATA

ABBREVIATIONS

- BS** = Indicates blank spike in which reagent grade water is spiked with the CLP matrix spike solutions and carried through all the steps in the method. Spike recoveries are reported.
- BSD** = Indicates blank spike duplicate.
- MS** = Indicates matrix spike.
- MSD** = Indicates matrix spike duplicate.
- DL** = Suffix added to sample number to indicate that results are from a diluted analysis.
- NA** = Not Applicable.
- DF** = Dilution Factor.
- NR** = Not Required.
- SP, Z** = Indicates Spiked Compound.



Recra LabNet - Lionville Laboratory

Semivolatiles by GC/MS, HSL List

Report Date: 10/11/00 16:07

RFW Batch Number: 0009L548

Client: TNU-HANFORD B00-068

Work Order: 10985001001

Page: 1a

Cust ID:	B105W1	B105W1	B105W1	SBLKAN	SBLKAN BS	SBLKAN BSD	
Sample Information	RFW#:	001	001 MS	001 MSD	00LE1145-MB1	00LE1145-MB1	00LE1145-MB1
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate	Nitrobenzene-d5	54 %	64 %	55 %	24 %	39 %	48 %
Recovery	2-Fluorobiphenyl	56 %	67 %	60 %	32 %	43 %	49 %
	Terphenyl-d14	75 %	80 %	74 %	62 %	57 %	58 %
	Phenol-d5	62 %	68 %	58 %	31 %	41 %	47 %
	2-Fluorophenol	70 %	76 %	67 %	31 %	43 %	48 %
	2,4,6-Tribromophenol	56 %	74 %	66 %	37 %	37 %	42 %
-----f1-----f1-----f1-----f1-----f1-----f1-----f1							
	Phenol	340 U	67 %	58 %	330 U	37 %	44 %
	bis(2-Chloroethyl) ether	340 U	340 U	340 U	330 U	330 U	330 U
	2-Chlorophenol	340 U	63 %	59 %	330 U	41 %	46 %
	1,3-Dichlorobenzene	340 U	340 U	340 U	330 U	330 U	330 U
	1,4-Dichlorobenzene	340 U	57 %	50 %	330 U	38 %	50 %
	1,2-Dichlorobenzene	340 U	340 U	340 U	330 U	330 U	330 U
	2-Methylphenol	340 U	340 U	340 U	330 U	330 U	330 U
	2,2'-oxybis(1-Chloropropane)	340 U	340 U	340 U	330 U	330 U	330 U
	3- and/or 4-Methylphenol	340 U	340 U	340 U	330 U	330 U	330 U
	N-Nitroso-di-n-propylamine	340 U	62 %	53 %	330 U	43 %	53 %
	Hexachloroethane	340 U	340 U	340 U	330 U	330 U	330 U
	Nitrobenzene	340 U	340 U	340 U	330 U	330 U	330 U
	Isophorone	340 U	340 U	340 U	330 U	330 U	330 U
	2-Nitrophenol	340 U	340 U	340 U	330 U	330 U	330 U
	2,4-Dimethylphenol	340 U	340 U	340 U	330 U	330 U	330 U
	bis(2-Chloroethoxy)methane	340 U	340 U	340 U	330 U	330 U	330 U
	2,4-Dichlorophenol	340 U	340 U	340 U	330 U	330 U	330 U
	1,2,4-Trichlorobenzene	340 U	63 %	54 %	330 U	37 * %	49 %
	Naphthalene	340 U	340 U	340 U	330 U	330 U	330 U
	4-Chloroaniline	340 U	340 U	340 U	330 U	330 U	330 U
	Hexachlorobutadiene	340 U	340 U	340 U	330 U	330 U	330 U
	4-Chloro-3-methylphenol	340 U	70 %	59 %	330 U	40 %	47 %
	2-Methylnaphthalene	340 U	340 U	340 U	330 U	330 U	330 U
	Hexachlorocyclopentadiene	340 U	340 U	340 U	330 U	330 U	330 U
	2,4,6-Trichlorophenol	340 U	340 U	340 U	330 U	330 U	330 U
	2,4,5-Trichlorophenol	850 U	850 U	850 U	830 U	830 U	830 U

*= Outside of EPA CLP QC limits.

	Cust ID:	B105W1	B105W1	B105W1	SBLKAN	SBLKAN BS	SBLKAN BSD
	RFW#:	001	001 MS	001 MSD	00LE1145-MB1	00LE1145-MB1	00LE1145-MB1
2-Chloronaphthalene		340 U	340 U	340 U	330 U	330 U	330 U
2-Nitroaniline		850 U	850 U	850 U	830 U	830 U	830 U
Dimethylphthalate		340 U	340 U	340 U	330 U	330 U	330 U
Acenaphthylene		340 U	340 U	340 U	330 U	330 U	330 U
2,6-Dinitrotoluene		340 U	340 U	340 U	330 U	330 U	330 U
3-Nitroaniline		850 U	850 U	850 U	830 U	830 U	830 U
Acenaphthene		340 U	66 %	61 %	330 U	47 %	53 %
2,4-Dinitrophenol		850 U	850 U	850 U	830 U	830 U	830 U
4-Nitrophenol		850 U	83 %	74 %	830 U	35 %	41 %
Dibenzofuran		340 U	340 U	340 U	330 U	330 U	330 U
2,4-Dinitrotoluene		340 U	63 %	56 %	330 U	44 %	52 %
Diethylphthalate		340 U	340 U	340 U	330 U	330 U	330 U
4-Chlorophenyl-phenylether		340 U	340 U	340 U	330 U	330 U	330 U
Fluorene		340 U	340 U	340 U	330 U	330 U	330 U
4-Nitroaniline		850 U	850 U	850 U	830 U	830 U	830 U
4,6-Dinitro-2-methylphenol		850 U	850 U	850 U	830 U	830 U	830 U
N-Nitrosodiphenylamine (1)		340 U	340 U	340 U	330 U	330 U	330 U
4-Bromophenyl-phenylether		340 U	340 U	340 U	330 U	330 U	330 U
Hexachlorobenzene		340 U	340 U	340 U	330 U	330 U	330 U
Pentachlorophenol		850 U	62 %	58 %	830 U	46 %	48 %
Phenanthrene		340 U	340 U	340 U	330 U	330 U	330 U
Anthracene		340 U	340 U	340 U	330 U	330 U	330 U
Carbazole		340 U	340 U	340 U	330 U	330 U	330 U
Di-n-butylphthalate		340 U	340 U	40 J	330 U	330 U	330 U
Fluoranthene		340 U	340 U	340 U	330 U	330 U	330 U
Pyrene		340 U	78 %	75 %	330 U	58 %	62 %
Butylbenzylphthalate		340 U	340 U	340 U	330 U	330 U	330 U
3,3'-Dichlorobenzidine		340 U	340 U	340 U	330 U	330 U	330 U
Benzo(a)anthracene		340 U	340 U	340 U	330 U	330 U	330 U
Chrysene		340 U	340 U	340 U	330 U	330 U	330 U
bis(2-Ethylhexyl)phthalate		43 J	43 J	37 J	330 U	330 U	330 U
Di-n-octyl phthalate		340 U	340 U	340 U	330 U	330 U	330 U
Benzo(b)fluoranthene		340 U	340 U	340 U	330 U	330 U	330 U
Benzo(k)fluoranthene		340 U	340 U	340 U	330 U	330 U	330 U
Benzo(a)pyrene		340 U	340 U	340 U	330 U	330 U	330 U
Indeno(1,2,3-cd)pyrene		340 U	340 U	340 U	330 U	330 U	330 U
Dibenz(a,h)anthracene		340 U	340 U	340 U	330 U	330 U	330 U
Benzo(g,h,i)perylene		340 U	340 U	340 U	330 U	330 U	330 U

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

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B105W1

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B00-068

Matrix: (soil/water) SOIL Lab Sample ID: 0009L548-001

Sample wt/vol: 30.1 (g/mL) G Lab File ID: A092928

Level: (low/med) LOW Date Received: 09/09/00

% Moisture: 3 decanted: (Y/N) __ Date Extracted: 09/14/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/29/00

Injection Volume: 2.0 (uL) Dilution Factor: 1.00

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

Number TICs found: 3 CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	7.36	600	JAB
2.	UNKNOWN	21.97	400	J
3.	UNKNOWN	23.20	90	J

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SBLKAN

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B00-068

Matrix: (soil/water) SOIL Lab Sample ID: 00LE1145-MB1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: A091607

Level: (low/med) LOW Date Received: 09/14/00

% Moisture: decanted: (Y/N) Date Extracted: 09/14/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/16/00

Injection Volume: 2.0 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH:

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

Number TICs found: 1

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	7.57	500	JA

Recra LabNet - Lionville Laboratory
BNA ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD B00-068

DATE RECEIVED: 09/09/00

RFW LOT # :0009L548

CLIENT ID	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B105W1	001	S	00LE1145	09/01/00	09/14/00	09/29/00
B105W1	001 MS	S	00LE1145	09/01/00	09/14/00	09/29/00
B105W1	001 MSD	S	00LE1145	09/01/00	09/14/00	09/30/00

LAB QC:

SBLKAN	MB1	S	00LE1145	N/A	09/14/00	09/16/00
SBLKAN	MB1 BS	S	00LE1145	N/A	09/14/00	09/16/00
SBLKAN	MB1 BSD	S	00LE1145	N/A	09/14/00	09/16/00

Bechtel Hanford Inc.			CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					B00-068-65		Page 1 of 1			
Collector FAHLBERG/			Company Contact Dave Weeks		Telephone No. 372-9524		Project Coordinator TRENT, SJ		Price Code 8L		Data Turnaround 21 Days		
Project Designation 200 Area Groundwater Well Drilling Waste Designation for			Sampling Location 200 West		SAF No. B00-068		Air Quality <input type="checkbox"/>						
Ice Chest No. ERC 99-070 (10A)			Field Logbook No. EL 1516		COA K-008 LMC		Method of Shipment Fed EX						
Shipped To TMA/RECRA RECRA			Offsite Property No. A000313			Bill of Lading/Air Bill No. 42357953 NA							
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation	None	Cool 4C	Cool 4C	None	None				
				Type of Container	aG	aG	aG	aG	aG				
				No. of Container(s)	1	1	1	1	1				
				Volume	120mL	250mL	250mL	250mL	250mL				
Special Handling and/or Storage													
SAMPLE ANALYSIS				IC Anions - 300.0 (Nitrate); Sulfides - 9930; Total Cyanide - 9010	Semi-VOA - 8270A (TCL); Semi-VOA - 8270A (Add-On) (m-Cresol)	VOA - 8260A (TCL)	ICP Metals - 6010A (Supertrace); Mercury - 7471 - (CV)	pH (Soil) - 9045					
Sample No.	Matrix *	Sample Date	Sample Time										
B105W1	SOIL	9-1-00	1400	X	X	X	X	X					
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS				Matrix *	
Relinquished By R. Fehlberg		Date/Time 9-1-00 1530		Received By R. Fehlberg		Date/Time 9-1-00 1530		tie to B04 VP4 Samples stored in Ref. # 2B at the 3728 Shipping Facility on 9/1/00. Collector not available to relinquish samples on 9/8/00 for shipment.				S - Soil SE - Sediment SO - Solid S - Sludge W - Water O - Oil A - Air DS - Drum Solids DL - Drum Liquid T - Tissue WI - Wipe L - Liquid V - Vegetation X - Other	
Relinquished By R. Fehlberg		Date/Time 9-1-00 0800		Received By R. Thoren		Date/Time 9-1-00 0800							
Relinquished By R. Fehlberg		Date/Time 9-1-00 0800		Received By R. Thoren		Date/Time 9-1-00 0800							
Relinquished By F. Fehlberg		Date/Time 9-1-00 0930		Received By T. Fehlberg		Date/Time 9-1-00 0930							
Relinquished By		Date/Time		Received By		Date/Time							
Relinquished By		Date/Time		Received By		Date/Time							
LABORATORY SECTION	Received By	Title						Date/Time					
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By						Date/Time					



Client: TNU-HANFORD B00-068
RFW #: 0009L548
SDG/SAF #: H1015/B00-068

W.O. #: 10985-001-001-9999-00
Date Received: 09-09-2000

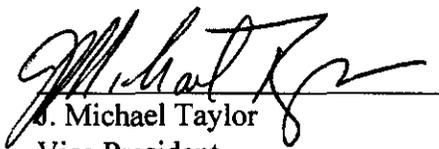
GC/MS VOLATILE

One (1) soil sample was collected on 09-01-2000.

The sample and its associated QC samples were analyzed according to criteria set forth in Recra OPs based on SW 846 Method 8260B for TCL Volatile target compounds on 09-12-2000.

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

1. The cooler temperature upon receipt has been recorded on the chain-of-custody.
2. The sample was analyzed within required holding time.
3. Non-target compounds were not detected in the samples.
4. All surrogate recoveries were within EPA QC limits.
5. All matrix spike recoveries were within EPA QC limits.
6. All blank spike recoveries were within EPA QC limits.
7. The method blank contained the common laboratory contaminants Methylene Chloride and Acetone at levels less than the CRQL.
8. "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."


J. Michael Taylor
Vice President
Philadelphia Analytical Laboratory

10/9/00
Date

som\group\data\voa\tnu-hanford-09-548.doc

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 8 pages.

GLOSSARY OF VOA DATA

DATA QUALIFIERS

- U** = Compound was analyzed for but not detected. The associated numerical value is the estimated sample quantitation limit which is included and corrected for dilution and percent moisture.
- J** = Indicates an estimated value. This flag is used under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. For example, if the limit of detection is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
- B** = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination. This flag is also used for a TIC as well as for a positively identified TCL compound.
- E** = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
- D** = Identifies all compounds identified in an analysis at a secondary dilution factor.
- I** = Interference.
- NQ** = Result qualitatively confirmed but not able to quantify.
- N** = Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.
- X** = This flag is used for a TIC compound which is quantified relative to a response factor generated from a daily calibration standard (rather than quantified relative to the closest internal standard).
- Y** = Additional qualifiers used as required are explained in the case narrative.



GLOSSARY OF VOA DATA

ABBREVIATIONS

- BS** = Indicates blank spike in which reagent grade water is spiked with the CLP matrix spike solutions and carried through all the steps in the method. Spike recoveries are reported.
- BSD** = Indicates blank spike duplicate.
- MS** = Indicates matrix spike.
- MSD** = Indicates matrix spike duplicate.
- DL** = Suffix added to sample number to indicate that results are from a diluted analysis.
- NA** = Not Applicable.
- DF** = Dilution Factor.
- NR** = Not Required.
- SP, Z** = Indicates Spiked Compound.



Recra LabNet - Lionville Laboratory

Volatiles by GC/MS, HSL List

Report Date: 10/06/00 14:50

RFW Batch Number: 0009L548

Client: TNU-HANFORD B00-068

Work Order: 10985001001 Page: 1a

	Cust ID:	B105W1	B105W1	B105W1	VBLKOZ	VBLKOZ BS
Sample Information	RFW#:	001	001 MS	001 MSD	00LVH401-MB1	00LVH401-MB1
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	1.11	1.09	1.02	1.00	1.00
	Units:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Toluene-d8		102 %	94 %	94 %	100 %	96 %
Surrogate Bromofluorobenzene		96 %	88 %	90 %	94 %	91 %
Recovery 1,2-Dichloroethane-d4		95 %	84 %	87 %	99 %	93 %
-----f1-----f1-----f1-----f1-----f1-----f1-----						
Chloromethane		11 U	11 U	10 U	10 U	10 U
Bromomethane		11 U	11 U	10 U	10 U	10 U
Vinyl Chloride		11 U	11 U	10 U	10 U	10 U
Chloroethane		11 U	11 U	10 U	10 U	10 U
Methylene Chloride		20 B	16 B	16 B	3 J	7 B
Acetone		8 JB	8 JB	10 JB	3 J	4 JB
Carbon Disulfide		6 U	6 U	5 U	5 U	5 U
1,1-Dichloroethene		6 U	88 %	82 %	5 U	75 %
1,1-Dichloroethane		6 U	6 U	5 U	5 U	5 U
1,2-Dichloroethene (total)		6 U	6 U	5 U	5 U	5 U
Chloroform		6 U	6 U	5 U	5 U	5 U
1,2-Dichloroethane		6 U	6 U	5 U	5 U	5 U
2-Butanone		11 U	11 U	10 U	10 U	10 U
1,1,1-Trichloroethane		6 U	6 U	5 U	5 U	5 U
Carbon Tetrachloride		6 U	6 U	5 U	5 U	5 U
Bromodichloromethane		6 U	6 U	5 U	5 U	5 U
1,2-Dichloropropane		6 U	6 U	5 U	5 U	5 U
cis-1,3-Dichloropropene		6 U	6 U	5 U	5 U	5 U
Trichloroethene		6 U	97 %	93 %	5 U	84 %
Dibromochloromethane		6 U	6 U	5 U	5 U	5 U
1,1,2-Trichloroethane		6 U	6 U	5 U	5 U	5 U
Benzene		6 U	108 %	104 %	5 U	97 %
Trans-1,3-Dichloropropene		6 U	6 U	5 U	5 U	5 U
Bromoform		6 U	6 U	5 U	5 U	5 U
4-Methyl-2-pentanone		11 U	11 U	10 U	10 U	10 U
2-Hexanone		11 U	11 U	10 U	10 U	10 U
Tetrachloroethene		6 U	6 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane		6 U	6 U	5 U	5 U	5 U
Toluene		6 U	113 %	109 %	5 U	103 %

*= Outside of EPA CLP QC limits.

Cust ID: B105W1 B105W1 B105W1 VBLKOZ VBLKOZ BS

RFW#: 001 001 MS 001 MSD 00LVH401-MB1 00LVH401-MB1

Chlorobenzene	6 U	112 %	109 %	5 U	102 %
Ethylbenzene	6 U	6 U	5 U	5 U	5 U
Styrene	6 U	6 U	5 U	5 U	5 U
Xylene (total)	6 U	6 U	5 U	5 U	5 U

*= Outside of EPA CLP QC limits.

Recra LabNet - Lionville Laboratory
VOA ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD B00-068

DATE RECEIVED: 09/09/00

RFW LOT # :0009L548

CLIENT ID	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B105W1	001	S	00LVH401	09/01/00	N/A	09/12/00
B105W1	00I MS	S	00LVH401	09/01/00	N/A	09/12/00
B105W1	001 MSD	S	00LVH401	09/01/00	N/A	09/12/00
LAB QC:						
VBLKOZ	MB1	S	00LVH401	N/A	N/A	09/12/00
VBLKOZ	MB1 BS	S	00LVH401	N/A	N/A	09/12/00

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					B00-068-65		Page 1 of 1						
Collector FAHLBERG/		Company Contact Dave Weeks		Telephone No. 372-9524		Project Coordinator TRENT, SJ		Price Code 8L		Data Turnaround 21 Days					
Project Designation 200 Area Groundwater Well Drilling Waste Designation for		Sampling Location 200 West		SAF No. B00-068		Air Quality <input type="checkbox"/>									
Ice Chest No. ERC 99-070 (10A)		Field Logbook No. EL 1516		COA X-008 LMC		Method of Shipment Fed EX									
Shipped To TMA/RECRA RECRA		Offsite Property No. A000313		Bill of Lading/Air Bill No. 42357953 NA											
POSSIBLE SAMPLE HAZARDS/REMARKS			Preservation		None	Cool 4C	Cool 4C	None	None						
			Type of Container		aG	aG	aG	aG	aG						
			No. of Container(s)		1	1	1	1	1						
			Special Handling and/or Storage		Volume	120mL	250mL	250mL	250mL	250mL					
SAMPLE ANALYSIS				IC Anions - 300.0 (Nitrate); Sulfides - 9030; Total Cyanide - 9010	Semi-VOA - 8270A (TCL); Semi-VOA - 8270A (Add- On) (m- Cresol)	VOA - 8260A (TCL)	ICP Metals - 6010A (Supertrace); Mercury - 7471 - (CV)	pH (Soil) - 9045							
Sample No.	Matrix *	Sample Date	Sample Time												
B105W1	SOIL	9.1.00	1700	X	X	X	X	X							
CHAIN OF POSSESSION				SPECIAL INSTRUCTIONS				Matrix *							
Relinquished By R. F. Fahlberg		Date/Time 9.1.00		Received By Stoned in R. F. Fahlberg		Date/Time 9.1.00 1530		tie to B04VP4 Samples stored in Ref. # 2B at the 3728 Shipping Facility on 9.1.100. Collector not available to relinquish samples on 9.18.100 for shipment.				S - Soil SE - Sediment SO - Solid S - Sludge W - Water O - Oil A - Air DS - Drum Solids DL - Drum Liquids T - Tissue WI - Wipe L - Liquid V - Vegetation X - Other			
Relinquished By R. F. Fahlberg		Date/Time 9.18.00		Received By R. F. Fahlberg		Date/Time 9.18.00									
Relinquished By R. F. Fahlberg		Date/Time 9.18.00		Received By R. F. Fahlberg		Date/Time 9.18.00									
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LABORATORY SECTION		Received By		Title				Date/Time							
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By				Date/Time							