

0054704 H1182



Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B00-068 H1182

DATE RECEIVED: 12/08/00

RFW LOT # :0012L535

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B10F91						
% SOLIDS	001	S	00L&S199	12/04/00	12/13/00	12/14/00
% SOLIDS	001 REP	S	00L&S199	12/04/00	12/13/00	12/14/00
NITRATE BY IC	001	S	00LXC080	12/04/00	12/15/00	12/15/00
NITRATE BY IC	001 REP	S	00LXC080	12/04/00	12/15/00	12/15/00
NITRATE BY IC	001 MS	S	00LXC080	12/04/00	12/15/00	12/15/00
TOTAL CYANIDE	001	S	00LC130	12/04/00	12/15/00	12/15/00
TOTAL CYANIDE	001 REP	S	00LC130	12/04/00	12/15/00	12/15/00
TOTAL CYANIDE	001 MS	S	00LC130	12/04/00	12/15/00	12/15/00
PH	001	S	00LPH101	12/04/00	12/13/00	12/13/00
SULFIDE	001	S	00LSD059	12/04/00	12/11/00	12/11/00
SULFIDE	001 REP	S	00LSD059	12/04/00	12/11/00	12/11/00
SULFIDE	001 MS	S	00LSD059	12/04/00	12/11/00	12/11/00

LAB QC:

NITRATE BY IC	MB1	S	00LXC080	N/A	12/15/00	12/15/00
NITRATE BY IC	MB1 BS	S	00LXC080	N/A	12/15/00	12/15/00
TOTAL CYANIDE	LCS L	S	00LC130	N/A	12/15/00	12/15/00
TOTAL CYANIDE	LCS L	S	00LC130	N/A	12/15/00	12/15/00
TOTAL CYANIDE	MB1	S	00LC130	N/A	12/15/00	12/15/00
SULFIDE	MB1	S	00LSD059	N/A	12/11/00	12/11/00
SULFIDE	MB1 BS	S	00LSD059	N/A	12/11/00	12/11/00
SULFIDE	MB1 BSD	S	00LSD059	N/A	12/11/00	12/11/00

RECEIVED
APR 02 2001
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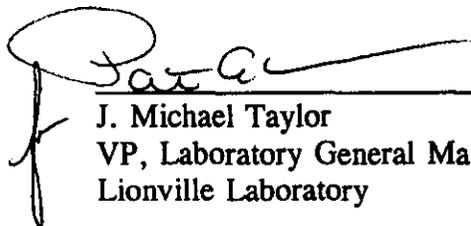
**Recra LabNet Philadelphia
Analytical Report**

**Client : TNU-HANFORD B00-068 H1182
RFW# : 0012L535**

**W.O. # : 10985-001-001-9999-00
Date Received: 12-08-00**

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 checked on the attached glossary.
3. Sample holding times as required by the method and/or contract were met.
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. The duplicate LCS for Sulfide was within the 20% Relative Percent Difference (RPD) control limit.
7. The matrix spike recoveries were within the 75-125% control limits.
8. The replicate analyses were within the 20% 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.



J. Michael Taylor
VP, Laboratory General Manager
Lionville Laboratory

01-22-01
Date

njpl12-535

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 12 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/9014	___ 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: <i>titrate</i>		Method: <i>EPA 3020 (mod.)</i>	
Other:		Method	

Recra LabNet Philadelphia
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.

L-WI-034/D-6/99

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INORGANICS DATA SUMMARY REPORT 01/22/01

CLIENT: TNUHANFORD B00-068 H1182
 WORK ORDER: 10985-001-001-9999-00

RECRA LOT #: 0012L535

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	B10F91	% Solids	78.4	%	0.01	1.0
		Nitrate by IC	1.6	u MG/KG	1.6	1.0
		Cyanide, Total	0.60	u MG/KG	0.60	1.0
		pH	8.9	SOIL PH	0.01	1.0
		Sulfide	46.8	u MG/KG	46.8	1.0

Recra LabNet - Lionville

INORGANICS METHOD BLANK DATA SUMMARY PAGE 01/22/01

CLIENT: TNUHANFORD B00-068 H1182
 WORK ORDER: 10985-001-001-9999-00

RECRA LOT #: 0012L535

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK10	00LXC080-MB1	Nitrate by IC	1.2	u MG/KG	1.2	1.0
BLANK1	00LC130-MB1	Cyanide, Total	0.50	u MG/KG	0.50	1.0
BLANK10	00LSD059-MB1	Sulfide	40.0	u MG/KG	40.0	1.0

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INORGANICS ACCURACY REPORT 01/22/01

CLIENT: TNUHANFORD B00-068 H1182
 WORK ORDER: 10985-001-001-9999-00

RECRA LOT #: 0012L535

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR (SPK)
-001	B10F91	Nitrate by IC	31	1.6 u	32	96.1	1.0
		Cyanide, Total	5.5	0.60u	5.5	99.2	1.0
		Sulfide	456	4.7	520	86.8	1.0
BLANK10	00LXC080-MB1	Nitrate by IC	24	1.2 u	25	96.8	1.0
BLANK10	00LSD059-MB1	Sulfide	437	40.0 u	457	95.6	1.0
		Sulfide MSD	433	40.0 u	457	94.7	1.0

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INORGANICS DUPLICATE SPIKE REPORT 01/22/01

CLIENT: TNUHANFORD B00-068 H1182
WORK ORDER: 10985-001-001-9999-00

RECRA LOT #: 0012L535

SAMPLE	SITE ID	ANALYTE	SPIKE#1	SPIKE#2	%DIFF
			%RECOV	%RECOV	
BLANK10	00LSD059-MB1	Sulfide	95.6	94.7	0.92

Recra LabNet - Lionville

INORGANICS PRECISION REPORT 01/22/01

CLIENT: TNUHANFORD B00-068 H1182
 WORK ORDER: 10985-001-001-9999-00

RECRA LOT #: 0012L535

SAMPLE	SITE ID	ANALYTE	INITIAL			DILUTION FACTOR (REP)
			RESULT	REPLICATE	RPD	
-001RBP	B10F91	‡ Solids	78.4	78.8	0.55	1.0
		Nitrate by IC	1.6 u	1.6 u	NC	1.0
		Cyanide, Total	0.60u	0.62u	NC	1.0
		pH	8.9	8.8	1.8	1.0
		Sulfide	46.8 u	43.1 u	NC	1.0

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INORGANICS LABORATORY CONTROL STANDARDS REPORT 01/22/01

CLIENT: TNUHANFORD B00-068 H1182
 WORK ORDER: 10985-001-001-9999-00

RECRA LOT #: 0012L535

SAMPLE	SITE ID	ANALYTE	SPIKED	SPIKED	UNITS	%RECOV
			SAMPLE	AMOUNT		
LCSS1	00LC130-LCS1	Cyanide, Total LCS	1.8	2.0	MG/KG	90.7
LCSS2	00LC130-LCS2	Cyanide, Total LCS	9.4	10	MG/KG	94.3



0012L535

ALL FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client <u>Tnu-Hanford 800-068</u>	Refrigerator #	A	B	C	D	E	
Est. Final Proj. Sampling Date _____	#/Type Container	Liquid					
Project # <u>10985-001-001-9999-00</u>		Solid	1PG	1PG	1PG	1PG	
Project Contact/Phone # _____	Volume	Liquid					
RECRA Project Manager <u>OJ</u>		Solid	250	250	250	250	
QC <u>Spec</u> Del <u>Std</u> TAT <u>21 day</u>	Preservatives		-	-	-	-	
Date Rec'd <u>12-8-00</u> Date Due <u>12-29-00</u>	ANALYSES REQUESTED →	ORGANIC				INORG	
Account # _____		VOA	BNA	Pest/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 WT - Wipe X - Other F - Fish	Lab ID	Client ID/Description	Matrix OC Chosen (✓)		Matrix	Date Collected	Time Collected	RECRA LabNet Use Only										
			MS	MSD				H2024H	H2025H									
								PCNATO	ICNTO	ISFD	ICN03	IPH						
	001	B10F91	✓	✓	S	12-4-00	0918	✓	✓	✓	✓	✓						

Special Instructions: Saf 800-068

DATE/REVISIONS:

- _____
- _____
- _____
- _____
- _____
- _____

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 Properly 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'l or N
 Cooler Temp. 5 °C

Relinquished by	Received by	Date	Time
<u>Felix</u>	<u>J. Boppel</u>	<u>12-8-00</u>	<u>1000</u>

Relinquished by	Received by	Date	Time
COMPOSITE		ORIGINAL REWRITTEN	

Discrepancies Between Samples Labels and COC Record? Y or N

NOTES:

4235 7954 1161

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					B00-068-86		Page 1 of 1		
Collector <u>Thomas</u>		Company Contact D 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. <u>ERC 100 (100's lost)</u>		Field Logbook No. EL - 1518		COA JRCRA03200		Method of Shipment Fed-EX					
Shipped To TMA/RECRA		Offsite Property No. <u>AQ10035</u>			Bill of Lading/Air Bill No. <u>423579531161</u>						
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation	Cool 4C	Cool 4C	None	None	None		
				Type of Container	aG	aG	aG	aG	aG		
				No. of Container(s)	1	1	1	1	1		
				Volume	250mL	250mL	250mL	250mL	250mL		
Special Handling and/or Storage											
SAMPLE ANALYSIS				Semi-VOA - 8270A (TCL), Semi-VOA -- 8270A (Add-On) (m-Cresol)	VOA - 8260A (TCL)	IC Anions - 300 0 (Nitrate); Sulfides - 9030; Total Cyanide - 9010	ICP Metals - 6010A (Supertrace); Mercury - 7471 - (CV)	pH (Soil) - 9045			
Sample No.	Matrix *	Sample Date	Sample Time								
B10F91	SOIL	12/4/00	0918	X	X	X	X	X	300dpm	200W-00-0206	
CHAIN OF POSSESSION				SPECIAL INSTRUCTIONS				Matrix *			
Relinquished By <u>Chris Thomas</u> Date/Time <u>12/4/00 1715</u>		Received By <u>PT 12/4/00</u> Date/Time <u>12/4/00 1715</u>		<p>TIE TO: BOYW22</p> <p>Samples stored in Ref.# 3B at the 3728 Shipping Facility on 12/14/00</p> <p>Collector not available to relinquish samples on 12/7/00 for shipment.</p> <p>PT 12.7.00</p>				<ul style="list-style-type: none"> S-Soil SE-Sediment SO-Solid S-Sludge W-Water O-Other A-Air DS-Drum Solids DL-Drum Liquids T-Tissue W-Wipe L-Liquid V-Vegetation X-Other 			
Relinquished By <u>PT 12.7.00</u> Date/Time <u>12.7.00</u>		Received By <u>PT 12.7.00</u> Date/Time <u>12.7.00</u>									
Relinquished By <u>PT 12.7.00</u> Date/Time <u>12.7.00</u>		Received By <u>FED EX</u> Date/Time <u>12.7.00</u>									
Relinquished By <u>Fed Ex</u> Date/Time <u>12.8.00 1000</u>		Received By <u>Thompson</u> Date/Time <u>12.8.00 1000</u>									
Relinquished By		Received By									
Relinquished By		Received By									
LABORATORY SECTION	Received By	Title				Date/Time					
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By				Date/Time					



Recra LabNet - Lionville Laboratory
 INORGANIC ANALYTICAL DATA PACKAGE FOR
 TNUHANFORD B00-068 H1182

DATE RECEIVED: 12/08/00

RFW LOT # :0012L535

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B10F91						
SILVER, TOTAL	001	S	99L1813	12/04/00	12/14/00	12/19/00
SILVER, TOTAL	001 REP	S	99L1813	12/04/00	12/14/00	12/19/00
SILVER, TOTAL	001 MS	S	99L1813	12/04/00	12/14/00	12/19/00
ARSENIC, TOTAL	001	S	99L1813	12/04/00	12/14/00	12/19/00
ARSENIC, TOTAL	001 REP	S	99L1813	12/04/00	12/14/00	12/19/00
ARSENIC, TOTAL	001 MS	S	99L1813	12/04/00	12/14/00	12/19/00
BARIUM, TOTAL	001	S	99L1813	12/04/00	12/14/00	12/19/00
BARIUM, TOTAL	001 REP	S	99L1813	12/04/00	12/14/00	12/19/00
BARIUM, TOTAL	001 MS	S	99L1813	12/04/00	12/14/00	12/19/00
CADMIUM, TOTAL	001	S	99L1813	12/04/00	12/14/00	12/19/00
CADMIUM, TOTAL	001 REP	S	99L1813	12/04/00	12/14/00	12/19/00
CADMIUM, TOTAL	001 MS	S	99L1813	12/04/00	12/14/00	12/19/00
CHROMIUM, TOTAL	001	S	99L1813	12/04/00	12/14/00	12/19/00
CHROMIUM, TOTAL	001 REP	S	99L1813	12/04/00	12/14/00	12/19/00
CHROMIUM, TOTAL	001 MS	S	99L1813	12/04/00	12/14/00	12/19/00
MERCURY, TOTAL	001	S	00C0438	12/04/00	12/18/00	12/19/00
MERCURY, TOTAL	001 REP	S	00C0438	12/04/00	12/18/00	12/19/00
MERCURY, TOTAL	001 MS	S	00C0438	12/04/00	12/18/00	12/19/00
LEAD, TOTAL	001	S	99L1813	12/04/00	12/14/00	12/19/00
LEAD, TOTAL	001 REP	S	99L1813	12/04/00	12/14/00	12/19/00
LEAD, TOTAL	001 MS	S	99L1813	12/04/00	12/14/00	12/19/00
SELENIUM, TOTAL	001	S	99L1813	12/04/00	12/14/00	12/19/00
SELENIUM, TOTAL	001 REP	S	99L1813	12/04/00	12/14/00	12/19/00
SELENIUM, TOTAL	001 MS	S	99L1813	12/04/00	12/14/00	12/19/00

LAB QC:

SILVER LABORATORY	LC1 BS	S	99L1813	N/A	12/14/00	12/19/00
SILVER, TOTAL	MB1	S	99L1813	N/A	12/14/00	12/19/00
ARSENIC LABORATORY	LC1 BS	S	99L1813	N/A	12/14/00	12/19/00
ARSENIC, TOTAL	MB1	S	99L1813	N/A	12/14/00	12/19/00
BARIUM LABORATORY	LC1 BS	S	99L1813	N/A	12/14/00	12/19/00
BARIUM, TOTAL	MB1	S	99L1813	N/A	12/14/00	12/19/00
CADMIUM LABORATORY	LC1 BS	S	99L1813	N/A	12/14/00	12/19/00
CADMIUM, TOTAL	MB1	S	99L1813	N/A	12/14/00	12/19/00

Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B00-068 H1182

DATE RECEIVED: 12/08/00

RFW LOT # :0012L535

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
CHROMIUM LABORATORY	LC1 BS	S	99L1813	N/A	12/14/00	12/19/00
CHROMIUM, TOTAL	MB1	S	99L1813	N/A	12/14/00	12/19/00
MERCURY LABORATORY	LC1 BS	S	00C0438	N/A	12/18/00	12/19/00
MERCURY, TOTAL	MB1	S	00C0438	N/A	12/18/00	12/19/00
LEAD LABORATORY	LC1 BS	S	99L1813	N/A	12/14/00	12/19/00
LEAD, TOTAL	MB1	S	99L1813	N/A	12/14/00	12/19/00
SELENIUM LABORATORY	LC1 BS	S	99L1813	N/A	12/14/00	12/19/00
SELENIUM, TOTAL	MB1	S	99L1813	N/A	12/14/00	12/19/00

**Recra LabNet Philadelphia
Analytical Report**

Client: TNU-HANFORD B00-068
RFW#: 0012L535
SDG/SAF#: H1182/B00-068

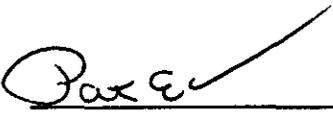
W.O.#: 10985-001-001-9999-00
Date Received: 12-08-00

METALS CASE NARRATIVE

1. This narrative covers the analyses of 1 soil sample.
2. The sample was 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) with the exception of the final CCV for Silver. There is no significant impact to the data as all samples are surrounded by CCVs that were in control.
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 form 7.
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.

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.

12. For the purposes of this report, the data has been reported to the Instrument Detection Limit (IDL). Values between the IDL and the Practical Quantitation Limit (PQL) are acquired in a region of less-certain quantification.
13. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.



J. Michael Taylor
VP, Laboratory General Manager
Lionville Laboratory
gmb/m12-535

01-09-01
Date



METALS METHOD GLOSSARY

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

Recra Lot#: 0012LS35

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	<u> </u> 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 01/02/01

CLIENT: TNUHANFORD B00-068 H1182
 WORK ORDER: 10985-001-001-9999-00

RECRA LOT #: 0012L535

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	B10F91	Silver, Total	0.12 u	MG/KG	0.12	1.0
		Arsenic, Total	2.2	MG/KG	0.27	1.0
		Barium, Total	53.2	MG/KG	0.02	1.0
		Cadmium, Total	0.03 u	MG/KG	0.03	1.0
		Chromium, Total	26.6	MG/KG	0.07	1.0
		Mercury, Total	0.02 u	MG/KG	0.02	1.0
		Lead, Total	2.8	MG/KG	0.23	1.0
		Selenium, Total	0.37 u	MG/KG	0.37	1.0

Recra LabNet - Lionville

INORGANICS METHOD BLANK DATA SUMMARY PAGE 01/02/01

CLIENT: TNUHANFORD B00-068 H1182
 WORK ORDER: 10985-001-001-9999-00

RECRA LOT #: 0012L535

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-----	-----	-----	-----	-----	-----	-----
BLANK1	99L1813-MB1	Silver, Total	0.11 u	MG/KG	0.11	1.0
		Arsenic, Total	0.24 u	MG/KG	0.24	1.0
		Barium, Total	0.02	MG/KG	0.02	1.0
		Cadmium, Total	0.03 u	MG/KG	0.03	1.0
		Chromium, Total	0.09	MG/KG	0.06	1.0
		Lead, Total	0.21 u	MG/KG	0.21	1.0
		Selenium, Total	0.33 u	MG/KG	0.33	1.0
BLANK1	00C0438-MB1	Mercury, Total	0.02 u	MG/KG	0.02	1.0

Recra LabNet - Lionville

INORGANICS ACCURACY REPORT 01/02/01

CLIENT: TNUHANFORD B00-068 H1182
 WORK ORDER: 10985-001-001-9999-00

RECRA LOT #: 0012L535

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR (SPK)
-001	B10F91	Silver, Total	5.1	0.12u	5.6	91.1	1.0
		Arsenic, Total	224	2.2	224	99.1	1.0
		Barium, Total	260	53.2	224	92.3	1.0
		Cadmium, Total	5.6	0.03u	5.6	100	1.0
		Chromium, Total	52.9	26.6	22.4	117.4	1.0
		Mercury, Total	0.21	0.02u	0.18	116.4	1.0
		Lead, Total	58.8	2.8	55.9	100.2	1.0
		Selenium, Total	218	0.37u	224	97.3	1.0

Recra LabNet - Lionville

INORGANICS PRECISION REPORT 01/02/01

CLIENT: TNUHANFORD B00-068 H1182

RECRA LOT #: 0012L535

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

SAMPLE	SITE ID	ANALYTE	INITIAL			DILUTION FACTOR (REP)
			RESULT	REPLICATE RPD		
-001REP	B10P91	Silver, Total	0.12u	0.12u	NC	1.0
		Arsenic, Total	2.2	1.5	37.8	1.0
		Barium, Total	53.2	75.0	34.0	1.0
		Cadmium, Total	0.03u	0.03u	NC	1.0
		Chromium, Total	28.6	24.2	9.4	1.0
		Mercury, Total	0.02u	0.02u	NC	1.0
		Lead, Total	2.8	2.9	3.5	1.0
		Selenium, Total	0.37u	0.37u	NC	1.0

Recra LabNet - Lionville

INORGANICS LABORATORY CONTROL STANDARDS REPORT 01/02/01

CLIENT: TNUHANFORD B00-068 H1182
 WORK ORDER: 10985-001-001-9999-00

RECRA LOT #: 0012L535

SAMPLE	SITE ID	ANALYTE	SPIKED		UNITS	%RECOV
			SAMPLE	AMOUNT		
LCS1	99L1813-LC1	Silver, LCS	48.8	50.0	MG/KG	97.6
		Arsenic, LCS	959	1000	MG/KG	95.9
		Barium, LCS	488	500	MG/KG	97.6
		Cadmium, LCS	24.6	25.0	MG/KG	98.4
		Chromium, LCS	49.8	50.0	MG/KG	99.6
		Lead, LCS	242	250	MG/KG	97.0
		Selenium, LCS	945	1000	MG/KG	94.5
LCS1	00C0438-LC1	Mercury, LCS	0.64	0.7	MG/KG	89.9

RECRA LabNet Use Only
0012L535

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS



ALL

Client: <u>TNU-Hanford 300-068</u>	Refrigerator #	A	B			C	D-1	E		
Est. Final Proj. Sampling Date	#/Type Container	Liquid								
Project # <u>10985-001-001-9999-00</u>	Solid	1PG	1PG			1PG	1PG	1PG		
Project Contact/Phone #	Volume	Liquid								
RECRA Project Manager <u>OJ</u>	Solid	250	250			250	250	250		
QC <u>SPRC</u> Del <u>Std</u> TAT <u>21 day</u>	Preservatives	-	-			-	-	-		
Date Rec'd <u>12-8-00</u> Date Due <u>12-29-00</u>	ANALYSES REQUESTED	ORGANIC				INORG				
Account #		VOA	BNA	Pes/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 QC Chosen (✓)		Matrix	Date Collected	Time Collected	RECRA LabNet Use Only											
			MS	MSD				H207H	H207SH										
			PCPATO	ICNTO				ISFD	ICNO3	IPH									
	001	BIOF91	✓	✓	S	12/4/00	0918	✓	✓			✓	✓						

Special Instructions: Saf 300-068

DATE/REVISIONS:

- _____
- _____
- _____
- _____
- _____
- _____

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. 5 °C

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
<u>Felix</u>	<u>Thoppel</u>	<u>12-8-00</u>	<u>1000</u>				

ORIGINAL REWRITTEN

COMPOSITE

Discrepancies Between Samples Labels and COC Record? Y or N

NOTES:

4235 7954 1161

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Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					B00-068-86		Page 1 of 1		
Collector Thomas		Company Contact D Weckes		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 REC-1115 (off)		Field Logbook No. EL - 1518		COA JRCRA03200		Method of Shipment Fed-EX					
Shipped To TMA/RECRA		Offsite Property No. A010035			Bill of Lading/Air Bill No. 42557953-1161						
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation	Cool 4C	Cool 4C	None	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	250mL	250mL	250mL	250mL	250mL		
SAMPLE ANALYSIS				Semi-VDA - 8270A (TCL), Semi-VDA - 8170A (Add-On) (m-Cresol)	VOA - 8260A (TCL)	IC Anions - 3000 (Nitrate), Sulfides - 9030, Total Cyanide - 9010	ICP Metals - 6010A (Supertrace), Mercury - 7471 - (CV)	pH (Soil) - 9045			
Sample No.	Matrix *	Sample Date	Sample Time								
B10F91	SOIL	12/4/00	0918	X	X	X	X	X	300dpm	200W-00-0206	
CHAIN OF POSSESSION				SPECIAL INSTRUCTIONS				Matrix *			
Relinquished By Thomas		Date/Time 12/4/00 1715		Received By Stored in Ref 3B		Date/Time 12/4/00 1715		<p>TIE TO: B0YW22</p> <p>Samples stored in Ref. # 3B at the 3728 Shipping Facility on 12/4/00</p> <p>Collector not available to relinquish samples on 12/10/00 for shipment.</p> <p>PT 12.7.00</p>			
Relinquished By R. J. Thoren		Date/Time 12.7.00 0800		Received By R. J. Thoren		Date/Time 12.7.00 0800					
Relinquished By R. J. Thoren		Date/Time 12.7.00 0800		Received By FED EX		Date/Time					
Relinquished By Fed Ex		Date/Time 12800 1000		Received By Thoren		Date/Time 12800 1000					
Relinquished By		Date/Time		Received By		Date/Time					
LABORATORY SECTION		Received By		Title		Date/Time					
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By		Date/Time					

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Recra LabNet - Lionville Laboratory
VOA ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B00-068 H1182

DATE RECEIVED: 12/08/00

RFW LOT # :0012L535

CLIENT ID	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B10F91	001	S	00LVH540	12/04/00	N/A	12/13/00
B10F91	001 MS	S	00LVH540	12/04/00	N/A	12/13/00
B10F91	001 MSD	S	00LVH540	12/04/00	N/A	12/13/00

LAB QC:

VBLKFR	MB1	S	00LVH540	N/A	N/A	12/13/00
VBLKFR	MB1 BS	S	00LVH540	N/A	N/A	12/13/00



Chemical and Environmental Measurement Information
Recra LabNet Philadelphia
Analytical Report

Client: TNU-HANFORD B00-068
RFW #: 0012L535
SDG/SAF #: H1182/B00-068

W.O. #: 10985-001-001-9999-00
Date Received: 12-08-2000

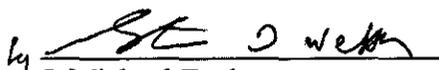
GC/MS VOLATILE

One (1) soil sample was collected on 12-04-2000.

The sample and its associated QC samples were analyzed according to criteria set forth in Recra OPs based on SW 846 Method 8260A for client specified Volatile target compounds on 12-13-2000.

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 sample.
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 contaminant Methylene Chloride at a level less than 2x the CRQL.
8. Internal standard area and retention time criteria were met.
9. "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."

by 
J. Michael Taylor
V.P./Laboratory General Manager
Lionville Laboratory

07-19-01
Date

som\group\data\voa\tnu-hanford-0012-535.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 9 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.



TECHNICAL FLAGS FOR MANUAL INTEGRATION

Manual quan modifications or integrations are performed routinely to improve the data quality for a variety of technical reasons. Documentation of these modifications should be clear and concise. The following "flags" are used to indicate the technical reasons for quan modifications:

- MP** - Missed Peak: manually added peak not found by automatic quan program.
- PA** - Peak Assignment: quan report was changed to reflect correct peak assignment.
- RI** - Routine Integration: routine integrations are performed for some analytes that are consistently integrated improperly by the automatic integration programs. Examples are the dichlorobenzene isomers on the VOA packed column and benzo(b)fluoranthene/benzo(k)fluoranthene which are poorly resolved on the BNA column.
- SP** - Split Peak: the automatic integration improperly split the peak; a manual integration was performed to get the correct area.
- CB** - Coelution/Background: peak was manually integrated to eliminate contribution from coeluting compounds, background signal, or other interference.
- PI** - Proper Integration: a peak with poor or inconsistent integration (e.g., excessive tail) was properly integrated manually.

Cust ID:	B10F91	B10F91	B10F91	VBLKFR	VBLKFR BS
RPW#:	001	001 MS	001 MSD	00LVH540-MB1	00LVH540-MB1

Chlorobenzene	5 U	95 %	95 %	5 U	97 %
Ethylbenzene	5 U	6 U	6 U	5 U	5 U
Styrene	5 U	6 U	6 U	5 U	5 U
Xylene (total)	5 U	6 U	6 U	5 U	5 U

*= Outside of EPA CLP QC limits.

0012L535

Custody Transfer Record/Lab Work Request



ALL FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client <u>TNU-Hanford 800-068</u>	Refrigerator #	A	B	C	D	E	
Est. Final Proj. Sampling Date	#/Type Container	Liquid					
Project # <u>10985-001-001-9999-00</u>		Solid	IPG	IPG	IPG	IPG	
Project Contact/Phone #	Volume	Liquid					
RECRA Project Manager <u>OJ</u>		Solid	250	250	250	250	
QC <u>SPCC</u> Del <u>Std</u> TAT <u>21 day</u>	Preservatives		-	-	-	-	
Date Rec'd <u>12/8/00</u> Date Due <u>12/29/00</u>	ANALYSES REQUESTED	ORGANIC				INORG	
Account #		VOA	BNA	Pest/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 (✓)		Matrix	Date Collected	Time Collected	RECRA LabNet Use Only									
			MS	MSD				VOA	BNA	Pest/PCB	Herb	Metal	CN	ICP	IPH		
	001	B10F91	✓	✓	S	12/4/00	0918	✓	✓			✓	✓				

Special Instructions: Saf 800-068

DATE/REVISIONS:

-
-
-
-
-
-

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 Properly 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 5 °C

Relinquished by	Received by	Date	Time
<u>Fre/Ex</u>	<u>T. Keppel</u>	<u>12/8/00</u>	<u>1000</u>

Relinquished by	Received by	Date	Time
COMPOSITE		ORIGINAL REWRITTEN	

Discrepancies Between Samples Labels and COC Record? Y or N

NOTES:

4235 7954 1161

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						B00-068-86		Page 1 of 1	
Collector <i>Thomas</i>		Company Contact D Weekes		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					
Ice Chest No. <i>EPC 801-705 (off)</i>		Field Logbook No. EL - 1518		COA JRCRA03200		Method of Shipment Fed-EX					
Shipped To TMA/RECRA		Offsite Property No. <i>A010035</i>		Bill of Lading/Air Bill No. <i>423579531161</i>							
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation	Cool 4C	Cool 4C	None	None	None		
Special Handling and/or Storage				Type of Container	aG	aG	aG	aG	aG		
				No. of Container(s)	1	1	1	1	1		
				Volume	250ml.	250ml.	250ml.	250ml.	250ml.		
SAMPLE ANALYSIS				Semi-VOA - 8270A (TCL), Semi-VOA - 8270A (Add-On) (m-Cresol)	VOA - 8260A (TCL)	IC Anions - 300 U (Nitrate), Sulfides - 9030, Total Cyanide - 9010	IC P Metals - 6010A (Supertrace), Mercury - 7471 - (CV)	pH (Soil) - 9045			
									<i>RET survey</i>	<i>Drum</i>	
Sample No.	Matrix *	Sample Date	Sample Time								
B10F91	SOIL	12/1/00	0918	X	X	X	X	X	300dpm	200W-00-0206	
CHAIN OF POSSESSION				SPECIAL INSTRUCTIONS				Matrix *			
Relinquished By <i>Thomas</i>		Date/Time 12/4/00 1715		Received By <i>stored in Ref 3B</i>		Date/Time 12/4/00 1715		<p>TIE TO: BOYW22</p> <p>Samples stored in Ref. # 3B at the 3728 Shipping Facility on 12/14/00</p> <p>Collector not available to relinquish samples on 12/14/00 for shipment.</p> <p><i>PTD</i> 12.7.00</p>			
Relinquished By <i>REMOVED FROM</i>		Date/Time 12.7.00		Received By <i>R. F. Thoren</i>		Date/Time 12.7.00					
Relinquished By <i>R. F. Thoren</i>		Date/Time 12.7.00		Received By <i>FED EX</i>		Date/Time					
Relinquished By <i>Fed Ex</i>		Date/Time 12.8.00 1000		Received By <i>Thoren</i>		Date/Time 12.8.00 1000					
Relinquished By		Date/Time		Received By		Date/Time					
Relinquished By		Date/Time		Received By		Date/Time		<p>S=Soil SE=Settlement SD=Solid S=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Trace WI=Wipe L=Liquid V=Vegetation X=Other</p>			
LABORATORY SECTION		Received By		Title				Date/Time			
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By				Date/Time			

Recra LabNet - Lionville Laboratory
 BNA ANALYTICAL DATA PACKAGE FOR
 TNUHANFORD B00-068 H1182

DATE RECEIVED: 12/08/00

RFW LOT # :0012L535

CLIENT ID	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B10F91	001	S	00LE1624	12/04/00	12/11/00	12/28/00
B10F91	001 R1	S	01LE0007	12/04/00	01/04/01	01/12/01
B10F91	001 MS	S	00LE1624	12/04/00	12/11/00	12/29/00
B10F91	001 MS R1	S	01LE0007	12/04/00	01/04/01	01/12/01
B10F91	001 MSD	S	00LE1624	12/04/00	12/11/00	12/29/00
B10F91	001 MSD R1	S	01LE0007	12/04/00	01/04/01	01/12/01

LAB QC:

SBLKJY	MB1	S	00LE1624	N/A	12/11/00	12/28/00
SBLKJY	MB1 BS	S	00LE1624	N/A	12/11/00	12/28/00
SBLKLR	MB1	S	01LE0007	N/A	01/04/01	01/12/01
SBLKLR	MB1 BS	S	01LE0007	N/A	01/04/01	01/12/01
SBLKLR	MB1 BSD	S	01LE0007	N/A	01/04/01	01/12/01



Client: TNU-HANFORD B00-068
RFW #: 0012L535
SDG/SAF #: H1182/B00-068

W.O. #: 10985-001-001-9999-00
Date Received: 12-08-2000

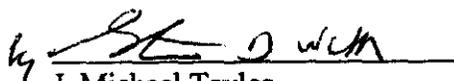
SEMIVOLATILE

One (1) soil sample was collected on 12-04-2000.

The sample and its associated QC samples were extracted on 12-11-2000, 01-04-2001 and analyzed according to criteria set forth in Recra OPs based on SW 846 Method 8270C for TCL Semivolatile target compounds on 12-28,29-2000 and 01-12-2001.

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 initially extracted and analyzed within required holding times; however, the sample was re-extracted outside of holding time. See item 4.
3. Non-target compounds were detected in the sample.
4. Ten (10) of sixty-six (66) surrogate recoveries were outside acceptance criteria. The sample and its associated matrix spike samples were re-extracted on 01-04-2001, reanalyzed on 01-12-2001 and reported. A copy of the Sample Discrepancy Report (SDR) has been enclosed.
5. All blank spike recoveries were within EPA QC limits.
6. Twenty-two (22) of forty-four (44) matrix spike recoveries were outside EPA QC limits. It appears that the re-extract matrix spike duplicate of sample B10F91 was not spiked with the matrix compounds. A copy of the Sample Discrepancy Report (SDR) has been enclosed.
7. The analysis of the method blank 00LE1624-MB1 yielded levels of all spike compounds below the reporting limits. These compounds were not detected in the sample analyses. There was no compound detected in the re-extracted method blank. A copy of the Sample Discrepancy Report (SDR) has been enclosed.
8. Internal standard area criteria were not met for sample B10F91 MS RE. The GC/MS instrument was inspected for possible malfunction and was judged to be functioning properly.
9. "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
V.P./Laboratory General Manager
Lionville Laboratory

01-24-01
Date

som\group\data\bna\tnu-hanford-12-535.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 16 pages.

RECRA

Sample Discrepancy Report (SDR)

SDR #: 00M5425

Initiator: John W. Smith Batch: 00126535 Parameter: BWA
Date: 12/29/00 Samples: 001 & 001MS BUK Matrix: soil
Client: TWJ Hanford Method: SWB46MCAWWW/CLPI Prep Batch: 00L21624
600-068 #1182

1. Reason for SDR

- a. COC Discrepancy Tech Profile Error Client Request Sampler Error on C-O-C
Transcription Error Wrong Test Code Other
b. General Discrepancy Missing Sample/Extract Container Broken Wrong Sample Pulled Label ID's Illegible
Hold Time Exceeded Insufficient Sample Preservation Wrong Received Past Hold
Improper Bottle Type Not Amenable to Analysis

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

c. QC Problem (Include all relevant specific results; attach data if necessary)
1) Sample -wi has 4 surrogates out low. 2) MS fails criteria for all spikes + surrogates
3) BUK contaminated w/ spike solution. All values are "J". Min impact on data.

2. Known or Probable Causes(s) (To be used for trend analysis)

- Lack of Organization Other (Please explain):
Lack of Training
Lack of Discipline
Lack of Resources
Lack of Time
Lack of Management Support

3. Discussion and Proposed Action

Other Description:

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

Handwritten signature and notes for section 3.

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

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

5. Final Action...signature/date: 00126535 1/4/01 5/1/01, Other Explanation:

- Verified re-[log][leach][extract][digest][analysis] (circle)
Included in Case Narrative
Hard Copy COC Revised
Electronic COC Revised
EDD Corrections Completed
Batch 00E007

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

Route/Distribution of SDR

Route

Distribution of Completed SDR

- Initiator
Lab Manager: M. Taylor
Project Mgr: Stone/Carey/Johnson
Section Mgr: Wesson/Daniels
QA (file): Schrenkel
Data Management: Feldman
Sample Prep: Bickel/Kauffman

- Metals: Doughty
Inorganic: Perrone
GC/LC: Pastor
MS: Layman/Rycklak
Log-in: Keppel
Admin: Soos
Other:

RECRA

Sample Discrepancy Report (SDR)

SDR #: 01M5033

Initiator: Slayman Batch: 00126535 Parameter: BWA
 Date: 1-15-01 Samples: 001 Matrix: Soil
 Client: TNU Hartford Method: SW846/MCAVW/CLP1 Prep Batch: 01LE0007

1. Reason for SDR

- a. COC Discrepancy Tech Profile Error Client Request Sampler Error on C-O-C
 Transcription Error Wrong Test Code Other _____
- b. General Discrepancy
 Missing Sample/Extract Container Broken Wrong Sample Pulled Label ID's Illegible
 Hold Time Exceeded Insufficient Sample Preservation Wrong Received Past Hold
 Improper Bottle Type Not Amenable to Analysis

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

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

MSD Re not spiked @ matrix spike sol'n

2. Known or Probable Causes(s) (To be used for trend analysis)

- Lack of Organization Other (Please explain):
 Lack of Training
 Lack of Discipline
 Lack of Resources
 Lack of Time
 Lack of Management Support

3. Discussion and Proposed Action

Other Description:

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

narrative - MS OK, all surv
recoversies OK

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

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

[Signature] 1/16/01

5. Final Action...signature/date:

Other Explanation:

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

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

Route/Distribution of SDR

Route

Distribution of Completed SDR

- Initiator
 Lab Manager: M. Taylor
 Project Mgr: Stone/Carey/Johnson
 Section Mgr: Wesson/Daniels
 QA (file): Schrenkel
 Data Management: Feldman
 Sample Prep: Bickel/Kauffman

- Metals: Doughty
 Inorganic: Perrone
 GC/LC: Pastor
 MS: Layman/Rycklak
 Log-in: Keppel
 Admin: Soos
 Other: _____

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: 01/17/01 09:02

RFW Batch Number: 0012L535

Client: TNUHANFORD B00-068 H1182

Work Order: 10985001001

Page: 1a

Sample Information	Cust ID:	B10F91	B10F91	B10F91	B10F91	B10F91	B10F91
	RFW#:	001	001	001 MS	001 MS	001 MSD	001 MSD
	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
			REPREP		REPREP		REPREP
Surrogate	Nitrobenzene-d5	20 * %	70 %	3 * %	90 %	50 %	85 %
Recovery	2-Fluorobiphenyl	21 * %	79 %	5 * %	90 %	55 %	90 %
	Terphenyl-d14	26 %	97 %	8 * %	98 %	80 %	92 %
	Phenol-d5	20 * %	73 %	4 * %	93 %	55 %	87 %
	2-Flucrophenol	19 * %	67 %	2 * %	87 %	50 %	82 %
	2,4,6-Tribromophenol	22 %	89 %	7 * %	92 %	83 %	85 %
=====f l=====f l=====f l=====f l=====f l=====f l=====f l=====							
	Phenol	410 U	390 U	3 * %	77 %	49 %	0 * %
	bis(2-Chloroethyl) ether	410 U	390 U	400 U	430 U	410 U	420 U
	2-Chlorophenol	410 U	390 U	3 * %	78 %	59 %	0 * %
	1,3-Dichlorobenzene	410 U	390 U	400 U	430 U	410 U	420 U
	1,4-Dichlorobenzene	410 U	390 U	3 * %	70 %	54 %	0 * %
	1,2-Dichlorobenzene	410 U	390 U	400 U	430 U	410 U	420 U
	2-Methylphenol	410 U	390 U	400 U	430 U	410 U	420 U
	2,2'-oxybis(1-Chloropropane)	410 U	390 U	400 U	430 U	410 U	420 U
	3- and/or 4-Methylphenol	410 U	390 U	400 U	430 U	410 U	420 U
	N-Nitroso-di-n-propylamine	410 U	390 U	5 * %	88 %	62 %	0 * %
	Hexachloroethane	410 U	390 U	400 U	430 U	410 U	420 U
	Nitrobenzene	410 U	390 U	400 U	430 U	410 U	420 U
	Isophorone	410 U	390 U	400 U	430 U	410 U	420 U
	2-Nitrophenol	410 U	390 U	400 U	430 U	410 U	420 U
	2,4-Dimethylphenol	410 U	390 U	400 U	430 U	410 U	420 U
	bis(2-Chloroethoxy) methane	410 U	390 U	400 U	430 U	410 U	420 U
	2,4-Dichlorophenol	410 U	390 U	400 U	430 U	410 U	420 U
	1,2,4-Trichlorobenzene	410 U	390 U	4 * %	74 %	49 %	0 * %
	Naphthalene	410 U	390 U	400 U	430 U	410 U	420 U
	4-Chloroaniline	410 U	390 U	400 U	430 U	410 U	420 U
	Hexachlorobutadiene	410 U	390 U	400 U	430 U	410 U	420 U
	4-Chloro-3-methylphenol	410 U	390 U	6 * %	75 %	63 %	0 * %
	2-Methylnaphthalene	410 U	390 U	400 U	430 U	410 U	420 U
	Hexachlorocyclopentadiene	410 U	390 U	400 U	430 U	410 U	420 U
	2,4,6-Trichlorophenol	410 U	390 U	400 U	430 U	410 U	420 U
	2,4,5-Trichlorophenol	1000 U	980 U	1000 U	1100 U	1000 U	1100 U

*= Outside of EPA CLP QC limits.



	Cust ID:	B10F91	B10F91	B10F91	B10F91	B10F91	B10F91
RFW#:	001	001	001 MS	001 MS	001 MSD	001 MSD	001 MSD
		REPREP		REPREP		REPREP	REPREP
2-Chloronaphthalene	410 U	390 U	400 U	430 U	410 U	420 U	420 U
2-Nitroaniline	1000 U	980 U	1000 U	1100 U	1000 U	1100 U	1100 U
Dimethylphthalate	410 U	390 U	400 U	430 U	410 U	420 U	420 U
Acenaphthylene	410 U	390 U	400 U	430 U	410 U	420 U	420 U
2,6-Dinitrotoluene	410 U	390 U	400 U	430 U	410 U	420 U	420 U
3-Nitroaniline	1000 U	980 U	1000 U	1100 U	1000 U	1100 U	1100 U
Acenaphthene	410 U	390 U	6 * %	79 %	67 %	0 * %	0 * %
2,4-Dinitrophenol	1000 U	980 U	1000 U	1100 U	1000 U	1100 U	1100 U
4-Nitrophenol	1000 U	980 U	4 * %	74 %	81 %	0 * %	0 * %
Dibenzofuran	410 U	390 U	400 U	430 U	410 U	420 U	420 U
2,4-Dinitrotoluene	410 U	390 U	6 * %	83 %	80 %	0 * %	0 * %
Diethylphthalate	410 U	390 U	400 U	430 U	410 U	420 U	420 U
4-Chlorophenyl-phenylether	410 U	390 U	400 U	430 U	410 U	420 U	420 U
Fluorene	410 U	390 U	400 U	430 U	410 U	420 U	420 U
4-Nitroaniline	1000 U	980 U	1000 U	1100 U	1000 U	1100 U	1100 U
4,6-Dinitro-2-methylphenol	1000 U	980 U	1000 U	1100 U	1000 U	1100 U	1100 U
N-Nitrosodiphenylamine (1)	410 U	390 U	400 U	430 U	410 U	420 U	420 U
4-Bromophenyl-phenylether	410 U	390 U	400 U	430 U	410 U	420 U	420 U
Hexachlorobenzene	410 U	390 U	400 U	430 U	410 U	420 U	420 U
Pentachlorophenol	1000 U	980 U	5 * %	78 %	83 %	0 * %	0 * %
Phenanthrene	410 U	390 U	400 U	430 U	410 U	420 U	420 U
Anthracene	410 U	390 U	400 U	430 U	410 U	420 U	420 U
Carbazole	410 U	390 U	400 U	430 U	410 U	420 U	420 U
Di-n-butylphthalate	410 U	390 U	400 U	430 U	410 U	420 U	420 U
Fluoranthene	410 U	390 U	400 U	430 U	410 U	420 U	420 U
Pyrene	410 U	390 U	7 * %	90 %	63 %	0 * %	0 * %
Butylbenzylphthalate	410 U	390 U	400 U	430 U	410 U	420 U	420 U
3,3'-Dichlorobenzidine	410 U	390 U	400 U	430 U	410 U	420 U	420 U
Benzo(a)anthracene	410 U	390 U	400 U	430 U	410 U	420 U	420 U
Chrysene	410 U	390 U	400 U	430 U	410 U	420 U	420 U
bis(2-Ethylhexyl)phthalate	41 JB	100 J	400 U	85 J	100 JB	92 J	92 J
Di-n-octyl phthalate	410 U	390 U	400 U	430 U	410 U	420 U	420 U
Benzo(b)fluoranthene	410 U	390 U	400 U	430 U	410 U	420 U	420 U
Benzo(k)fluoranthene	410 U	390 U	400 U	430 U	410 U	420 U	420 U
Benzo(a)pyrene	410 U	390 U	400 U	430 U	410 U	420 U	420 U
Indeno(1,2,3-cd)pyrene	410 U	390 U	400 U	430 U	410 U	420 U	420 U
Dibenz(a,h)anthracene	410 U	390 U	400 U	430 U	410 U	420 U	420 U
Benzo(g,h,i)perylene	410 U	390 U	400 U	430 U	410 U	420 U	420 U

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

Recra LabNet - Lionville Laboratory

Semivolatiles by GC/MS, HSL List

Report Date: 01/17/01 09:02

RFW Batch Number: 0012L535

Client: TNUHANFORD B00-068 H1182

Work Order: 10985001001

Page: 2a

Sample Information	RFW#:	00LE1624-MB1	00LE1624-MB1	01LE0007-MB1	01LE0007-MB1	01LE0007-MB1
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	1.00	1.00	1.00	1.00	1.00
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
	Nitrobenzene-d5	49 %	59 %	92 %	89 %	94 %
Surrogate	2-Fluorobiphenyl	50 %	58 %	95 %	96 %	103 %
Recovery	Terphenyl-d14	85 %	83 %	103 %	102 %	110 %
	Phenol-d5	53 %	61 %	99 %	92 %	96 %
	2-Fluorophenol	46 %	57 %	96 %	94 %	98 %
	2,4,6-Tribromophenol	71 %	75 %	95 %	92 %	96 %
=====fl=====fl=====fl=====fl=====fl=====fl=====fl=====						
Phenol		53 J	52 %	330 U	78 %	82 %
bis(2-Chloroethyl) ether		330 U				
2-Chlorophenol		45 J	63 %	330 U	78 %	83 %
1,3-Dichlorobenzene		330 U				
1,4-Dichlorobenzene		31 J	59 %	330 U	74 %	78 %
1,2-Dichlorobenzene		330 U				
2-Methylphenol		330 U				
2,2'-oxybis(1-Chloropropane)		330 U				
3- and/or 4-Methylphenol		330 U				
N-Nitroso-di-n-propylamine		330 U	63 %	330 U	75 %	84 %
Hexachloroethane		330 U				
Nitrobenzene		330 U				
Isophorone		330 U				
2-Nitrophenol		330 U				
2,4-Dimethylphenol		330 U				
bis(2-Chloroethoxy) methane		330 U				
2,4-Dichlorophenol		330 U				
1,2,4-Trichlorobenzene		27 J	53 %	330 U	78 %	80 %
Naphthalene		330 U				
4-Chloroaniline		330 U				
Hexachlorobutadiene		330 U				
4-Chloro-3-methylphenol		31 J	62 %	330 U	75 %	77 %
2-Methylnaphthalene		330 U				
Hexachlorocyclopentadiene		330 U				
2,4,6-Trichlorophenol		330 U				
2,4,5-Trichlorophenol		830 U				

*= Outside of EPA CLP QC limits.

10

Cust ID: SBLKJY SBLKJY BS SBLKLR SBLKLR BS SBLKLR BSD

RFW#: 00LE1624-MB1 00LE1624-MB1 01LE0007-MB1 01LE0007-MB1 01LE0007-MB1

2-Chloronaphthalene	330 U				
2-Nitroaniline	830 U				
Dimethylphthalate	330 U				
Acenaphthylene	330 U				
2,6-Dinitrotoluene	330 U				
3-Nitroaniline	830 U				
Acenaphthene	34 J	64 %	330 U	80 %	85 %
2,4-Dinitrophenol	830 U				
4-Nitrophenol	830 U	62 %	830 U	65 %	71 %
Dibenzofuran	330 U				
2,4-Dinitrotoluene	20 J	73 %	330 U	82 %	87 %
Diethylphthalate	330 U				
4-Chlorophenyl-phenylether	330 U				
Fluorene	330 U				
4-Nitroaniline	830 U				
4,6-Dinitro-2-methylphenol	830 U				
N-Nitrosodiphenylamine (1)	330 U				
4-Bromophenyl-phenylether	330 U				
Hexachlorobenzene	330 U				
Pentachlorophenol	36 J	68 %	830 U	67 %	74 %
Phenanthrene	330 U				
Anthracene	330 U				
Carbazole	330 U				
Di-n-butylphthalate	330 U				
Fluoranthene	330 U				
Pyrene	38 J	65 %	330 U	87 %	96 %
Butylbenzylphthalate	330 U				
3,3'-Dichlorobenzidine	330 U				
Benzo (a) anthracene	330 U				
Chrysene	330 U				
bis (2-Ethylhexyl) phthalate	51 J	30 JB	330 U	330 U	330 U
Di-n-octyl phthalate	330 U				
Benzo (b) fluoranthene	330 U				
Benzo (k) fluoranthene	330 U				
Benzo (a) pyrene	330 U				
Indeno (1,2,3-cd) pyrene	330 U				
Dibenz (a,h) anthracene	330 U				
Benzo (g,h,i) perylene	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.

B10F91

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNUHANFORD B00-068 H1182

Matrix: (soil/water) SOIL

Lab Sample ID: 0012L535-001

Sample wt/vol: 30.9 (g/mL) G

Lab File ID: A122810

Level: (low/med) LOW

Date Received: 12/08/00

% Moisture: 22 decanted: (Y/N) __

Date Extracted: 12/11/00

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 12/28/00

Injection Volume: 2.0 (uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CONCENTRATION UNITS:

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	5.394	200	JB

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B10F91RE

Lab Name: Recra, LabNet Work Order: 10985001001

Client: TNUHANFORD B00-068 H1182

Matrix: (soil/water) SOIL

Lab Sample ID: 0012L535-001

Sample wt/vol: 32.4 (g/mL) G

Lab File ID: D011213

Level: (low/med) LOW

Date Received: 12/08/00

% Moisture: 22 decanted: (Y/N)

Date Extracted: 01/04/01

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 01/12/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: 7.0

CONCENTRATION UNITS:

Number TICs found: 3

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.214	1000	JB
2.	UNKNOWN	25.005	100	J
3.	UNKNOWN	25.144	100	J

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SBLKJY

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNUHANFORD B00-068 H1182

Matrix: (soil/water) SOIL

Lab Sample ID: 00LE1624-MB1

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

Lab File ID: A122808

Level: (low/med) LOW

Date Received: 12/11/00

% Moisture: decanted: (Y/N)

Date Extracted: 12/11/00

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 12/28/00

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: 7.0

CONCENTRATION UNITS:

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	5.40	500	J

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SBLKLR

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNUHANFORD B00-068 H1182

Matrix: (soil/water) SOIL Lab Sample ID: 01LE0007-MB1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D011208

Level: (low/med) LOW Date Received: 01/04/01

% Moisture: decanted: (Y/N) Date Extracted: 01/04/01

Concentrated Extract Volume: 1000(uL) Date Analyzed: 01/12/01

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CONCENTRATION UNITS:

Number TICs found: 2 (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.213	1000	J
2.	UNKNOWN	8.517	80	J

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Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					B00-068-86		Page 1 of 1			
Collector <i>Thomas</i>		Company Contact D Weckes		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. <i>ERC Box 1045 (lost)</i>		Field Logbook No. EL - 151B		COA JRCRA03200		Method of Shipment Fed-EX						
Shipped To TMA/RECRA		OnSite Property No. <i>A010035</i>			Bill of Lading/Air Bill No. <i>42357953-1161</i>							
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation	Cool 4C	Cool 4C	None	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	250mL	250mL	250mL	250mL	250mL		
SAMPLE ANALYSIS				Semi-VOA - 8270A (TCL), Semi-VOA - 8270A (Add-On) (m-Cresol)	VOA - 8260A (TCL)	IC Anions - 3000 (Nitrate); Sulfides - 9030; Total Cyanide - 9010	ICP Metals - 6010A (Supertrace), Mercury - 7471 - (CV)	pH (Soil) - 9045				
Sample No.	Matrix *	Sample Date	Sample Time									
B10F91	SOIL	12/4/00	0918	X	X	X	X	X	300dpm	200W-00-02.06		
CHAIN OF POSSESSION				SPECIAL INSTRUCTIONS				Matrix *				
Relinquished By <i>Dee Thomas</i>		Date/Time <i>12/4/00 1715</i>		Received By <i>R. F. Thoren</i>		Date/Time <i>12/4/00 1715</i>		TIE TO: BOYW22 Samples stored in Ref.# 3B at the 3728 Shipping Facility on 12/4/00 Collector not available to relinquish samples on 12/7/00 for shipment.				S-Soil SE-Sediment SO-Solid S-Slag W-Water O-Oil A-Air DS-Drum Solids DL-Drum Liquid T-Tissue WS-Wipe L-Liquid V-Vegetation X-Other
Relinquished By <i>R. F. Thoren</i>		Date/Time <i>12.7.00</i>		Received By <i>FED EX</i>		Date/Time <i>12.7.00</i>						
Relinquished By <i>Fed Ex</i>		Date/Time <i>12.8.00 1000</i>		Received By <i>Thoren</i>		Date/Time <i>12.8.00 1000</i>						
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									

PT 12.7.00

PT 12.7.00