H0926

RECRA ENVIRONMENTAL INC.

0054009

Chemical and Environmental Measurement Information

Recra LabNet Philadelphia
Analytical Report

Client: TNU-HANFORD B00-063
RFW #: 0007L960
SDG/SAF #: H0926/B00-063

W.O. #: 10985-001-001-9999-00
Date Received: 07-25-2000

RECEIVED DEC 01 2000 EDMC

GC/MS VOLATILE

Seven (7) water samples were collected on 07-17-2000.

The samples and their associated QC samples were analyzed according to criteria set forth in Recra OPs based on SW 846 Method 8260B for client specified Volatile target compounds on 07-27-2000.

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 temperatures upon receipt have been recorded on the chain-of-custody.
2. The samples were 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 contaminant Methylene Chloride at a level less than the CRQL.
8. The pH of most of the samples exceeded 2.0 indicating that these samples may not have been properly preserved. A copy of the Sample Discrepancy Report (SDR) has been enclosed.
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."

SEP 2000 RECEIVED

by J. Michael Taylor
Vice President
Philadelphia Analytical Laboratory

09-14-00
Date

som\group\data\voa\tnu-hanford-07-960.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 2 5 pages.

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

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.

mmz\10-94\gloss.voa

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.

mmz\10-94\gloss.voa

Recra LabNet Philadelphia **Sample Discrepancy Report (SDR)** SDR #: 00VT137

Initiator: Jodie Larsen Batch: 0007L960 Parameter: 0624 HG
Date: 7-27-00 Samples: 002-005, 007 Matrix: Water
Client: TNU Method: SW846/MCAWW/CLP/ 8260A Prep Batch: _____

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)

The above samples were all pH=8, eventhough they contained HCL as per client chain & vial label.

2. Known or Probable Causes(s)

07-27-00

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)

4. Project Manager Instructions...signature/date: Greta Johnson 7/27/00

__ 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: Beth Rubrow 9/11/00 Other Explanation:

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

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

Route	Distribution of Completed SDR	Route	Distribution of Completed SDR
__	X Initiator	__	__ Metals: Doughty
__	X Lab Manager: M. Taylor	__	__ Inorganic: Perrone
__	X Project Mgr: Stone/Carey/Johnson	__	__ GC/LC: Pastor
__	X Section Mgr: Wesson/Daniels	__	__ MS: Durke/Rycklak
__	X QA (file): Racioppi	__	__ Log-in: Keppel
__	__ Data Management: Feldman	__	__ Admin: Soos
__	__ Sample Prep: Doughty/Kauffman	__	__ Other: _____

L-WI-006/E-02/00

Recra LabNet - Lionville Laboratory

Volatiles by GC/MS, HSL List

Report Date: 09/11/00 22:18

RFW Batch Number: **0007L960** Client: **TNU-HANFORD B00-063** Work Order: 10985001001 Page: 1a

	Cust ID:	B0YNX1		B0YNX2		B0YNX3		B0YNX5		B0YNX5		B0YNX5	
Sample Information	RFW#:	001		002		003		004		004 MS		004 MSD	
	Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	D.F.:	1.00		1.00		1.00		1.00		1.00		1.00	
	Units:	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
Surrogate Recovery	Toluene-d8	97	%	95	%	95	%	95	%	94	%	95	%
	Bromofluorobenzene	99	%	99	%	96	%	98	%	97	%	100	%
	1,2-Dichloroethane-d4	89	%	90	%	92	%	92	%	92	%	96	%
			fl		fl		fl		fl		fl		fl
Chloromethane		10	U	10	U	10	U	10	U	10	U	10	U
Bromomethane		10	U	10	U	10	U	10	U	10	U	10	U
Vinyl Chloride		10	U	10	U	10	U	10	U	10	U	10	U
Chloroethane		10	U	10	U	10	U	10	U	10	U	10	U
Methylene Chloride		4	JB	4	JB	3	JB	3	JB	3	JB	2	JB
Acetone		10	U	10	U	10	U	10	U	10	U	10	U
Carbon Disulfide		5	U	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethene		5	U	5	U	5	U	5	U	74	%	74	%
1,1-Dichloroethane		5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichloroethene (total)		5	U	5	U	5	U	5	U	5	U	5	U
Chloroform		5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichloroethane		5	U	5	U	5	U	5	U	5	U	5	U
2-Butanone		10	U	10	U	10	U	10	U	10	U	10	U
1,1,1-Trichloroethane		5	U	5	U	5	U	5	U	5	U	5	U
Carbon Tetrachloride		5	U	5	U	5	U	5	U	5	U	5	U
Bromodichloromethane		5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichloropropane		5	U	5	U	5	U	5	U	5	U	5	U
cis-1,3-Dichloropropene		5	U	5	U	5	U	5	U	5	U	5	U
Trichloroethene		5	U	5	U	5	U	5	U	91	%	94	%
Dibromochloromethane		5	U	5	U	5	U	5	U	5	U	5	U
1,1,2-Trichloroethane		5	U	5	U	5	U	5	U	5	U	5	U
Benzene		5	U	5	U	5	U	5	U	90	%	92	%
Trans-1,3-Dichloropropene		5	U	5	U	5	U	5	U	5	U	5	U
Bromoform		5	U	5	U	5	U	5	U	5	U	5	U
4-Methyl-2-pentanone		10	U	10	U	10	U	10	U	10	U	10	U
2-Hexanone		10	U	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene		5	U	5	U	5	U	5	U	5	U	5	U
1,1,2,2-Tetrachloroethane		5	U	5	U	5	U	5	U	5	U	5	U
Toluene		5	U	5	U	5	U	5	U	92	%	93	%

*= Outside of EPA CLP QC limits.

RFW Batch Number: **0007L960** Client: **TNU-HANFORD B00-063** Work Order: 10985001001 Page: 1b

Cust ID:	B0YNX1	B0YNX2	B0YNX3	B0YNX5	B0YNX5	B0YNX5
RFW#:	001	002	003	004	004 MS	004 MSD
Chlorobenzene	5 U	5 U	5 U	5 U	95 %	98 %
Ethylbenzene	5 U	5 U	5 U	5 U	5 U	5 U
Styrene	5 U	5 U	5 U	5 U	5 U	5 U
Xylene (total)	5 U	5 U	5 U	5 U	5 U	5 U

*= Outside of EPA CLP QC limits.

Recra LabNet - Lionville Laboratory

Volatiles by GC/MS, HSL List

Report Date: 09/11/00 22:18

RFW Batch Number: **0007L960** Client: **TNU-HANFORD B00-063** Work Order: 10985001001 Page: 2a

	Cust ID:	B0YNX6		B0YNX7		B0YNX4		VBLKOE		VBLKOE BS	
Sample Information	RFW#:	005		006		007		00LVX166-MB1		00LVX166-MB1	
	Matrix:	WATER		WATER		WATER		WATER		WATER	
	D.F.:	1.00		1.00		1.00		1.00		1.00	
	Units:	UG/L		UG/L		UG/L		UG/L		UG/L	
Surrogate Recovery	Toluene-d8	100	%	93	%	100	%	92	%	92	%
	Bromofluorobenzene	97	%	96	%	103	%	97	%	95	%
	1,2-Dichloroethane-d4	95	%	91	%	101	%	92	%	90	%
Chloromethane		10	U	10	U	10	U	10	U	10	U
Bromomethane		10	U	10	U	10	U	10	U	10	U
Vinyl Chloride		10	U	10	U	10	U	10	U	10	U
Chloroethane		10	U	10	U	10	U	10	U	10	U
Methylene Chloride		2	JB	3	JB	3	JB	3	J	6	B
Acetone		10	U	10	U	10	U	10	U	10	U
Carbon Disulfide		5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethene		5	U	5	U	5	U	5	U	76	%
1,1-Dichloroethane		5	U	5	U	5	U	5	U	5	U
1,2-Dichloroethene (total)		5	U	5	U	5	U	5	U	5	U
Chloroform		5	U	5	U	5	U	5	U	5	U
1,2-Dichloroethane		5	U	5	U	5	U	5	U	5	U
2-Butanone		10	U	10	U	10	U	10	U	10	U
1,1,1-Trichloroethane		5	U	5	U	5	U	5	U	5	U
Carbon Tetrachloride		5	U	5	U	5	U	5	U	5	U
Bromodichloromethane		5	U	5	U	5	U	5	U	5	U
1,2-Dichloropropane		5	U	5	U	5	U	5	U	5	U
cis-1,3-Dichloropropene		5	U	5	U	5	U	5	U	5	U
Trichloroethene		5	U	5	U	5	U	5	U	90	%
Dibromochloromethane		5	U	5	U	5	U	5	U	5	U
1,1,2-Trichloroethane		5	U	5	U	5	U	5	U	5	U
Benzene		5	U	5	U	5	U	5	U	91	%
Trans-1,3-Dichloropropene		5	U	5	U	5	U	5	U	5	U
Bromoform		5	U	5	U	5	U	5	U	5	U
4-Methyl-2-pentanone		10	U	10	U	10	U	10	U	10	U
2-Hexanone		10	U	10	U	10	U	10	U	10	U
Tetrachloroethene		5	U	5	U	5	U	5	U	5	U
1,1,2,2-Tetrachloroethane		5	U	5	U	5	U	5	U	5	U
Toluene		5	U	5	U	5	U	5	U	93	%

*= Outside of EPA CLP QC limits.

RFW Batch Number: **0007L960** Client: **TNU-HANFORD B00-063** Work Order: 10985001001 Page: 2b

Cust ID:	B0YNX6	B0YNX7	B0YNX4	VBLKOE	VBLKOE BS
RFW#:	005	006	007	00LVX166-MB1	00LVX166-MB1
Chlorobenzene	5 U	5 U	5 U	5 U	97 %
Ethylbenzene	5 U	5 U	5 U	5 U	5 U
Styrene	5 U	5 U	5 U	5 U	5 U
Xylene (total)	5 U	5 U	5 U	5 U	5 U

*= Outside of EPA CLP QC limits.

Recra LabNet - Lionville Laboratory
VOA ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD B00-063

DATE RECEIVED: 07/25/00 RFW LOT # :0007L960

CLIENT ID	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B0YNX1	001	W	00LVX166	07/17/00	N/A	07/27/00
B0YNX2	002	W	00LVX166	07/17/00	N/A	07/27/00
B0YNX3	003	W	00LVX166	07/17/00	N/A	07/27/00
B0YNX5	004	W	00LVX166	07/17/00	N/A	07/27/00
B0YNX5	004 MS	W	00LVX166	07/17/00	N/A	07/27/00
B0YNX5	004 MSD	W	00LVX166	07/17/00	N/A	07/27/00
B0YNX6	005	W	00LVX166	07/17/00	N/A	07/27/00
B0YNX7	006	W	00LVX166	07/17/00	N/A	07/27/00
B0YNX4	007	W	00LVX166	07/17/00	N/A	07/27/00

LAB QC:

VBLKOE	MB1	W	00LVX166	N/A	N/A	07/27/00
VBLKOE	MB1 BS	W	00LVX166	N/A	N/A	07/27/00

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RECRA LabNet Use Only
00071960

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

(9) Met Dig

RECRA LabNet

Client: TNU - Hanford B00-063
Est. Final Proj. Sampling Date:
Project #: 10985-001-001-9999-00
Project Contact/Phone #:
RECRA Project Manager: OJ
QC: Spec Del: Std TAT: 30 day
Date Rec'd: 7-25-00 Date Due: 8-24-00
Account #:

Refrigerator #		1	2	2	1				2						
#/Type Container	Liquid	3ag	2ag	4ag	1				1ag						
	Solid														
Volume	Liquid	40	950	950	1				500						
	Solid														
Preservatives		HCL	—	—	—				HNO3						
ANALYSES REQUESTED →		ORGANIC							INORG						
		VOA	BNA	Pest/~~PCB~~	Herb				ICP Metal Merc	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 (✓) MS	MSD	Matrix	Date Collected	Time Collected	0624H	0625H	0608H	OHBGX	Met (1)
001	BOYNX1			W	7/17/00	0630	X				
002	2					1050	X	X	X	X	X
003	3					1212	X	X	X	X	X
004	5					1233	X	X	X	X	X
005	6					1050	X	X	X	X	X
006	7					0910	X	X	X	X	X
007	4					1220	X	X	X	X	X

Special Instructions: Saf B00-063

4235 7953 7456 / 4.3°C *
7478 / 6.0°C *
7445 / 4.7°C *
7467 / 3.8°C *

DATE/REVISIONS:
1. Run Matrix QC
Met (1) 2. Al, Ag, Ba, Be, Ca, Cd, Co, Cr, Fe, K, Mg,
1 3. Mn, Na, Ni, Sb, V, Zn, Hg, Cu
8-1-00 4. Cu added to metals
5.
6.

RECRA LabNet Use Only

Samples were:
1) Shipped ✓ or Hand Delivered ___
Airbill # *
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

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

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

Relinquished by	Received by	Date	Time
Ted Ex	D. Smith	7/25/00	0915

Relinquished by	Received by	Date	Time
COMPOSITE WASTE	ORIGINAL REWRITTEN		

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B00-063-01	Page 1 of 1
Collector: BOWERS/JOHANSEN	Company Contact: W Thompson; Telephone No.: 372-9597	Project Coordinator: SHEA, DW	Price Code: 7N; Data Turnaround: 45 Days
Project Designation: MODU TANK - Annual Sampling of Purgewater	Sampling Location: 200 EAST	SAF No.: B00-063	Air Quality ☐
Ice Chest No.: ERC 96021 SOF7	Field Logbook No.: EL 1517; COA: HGWLTM3510	Method of Shipment: Fed EX	
Shipped To: TMA/RECRA B20 7-19-00	Offsite Property No.: A000242	Bill of Lading/Air Bill No.: 92357953 7478	

POSSIBLE SAMPLE HAZARDS/REMARKS: None

Special Handling and/or Storage

Preservation	HNO3 to pH <2	Cool 4C	HCl to pH <2 Cool 4C	Cool 4C							
Type of Container	aG	aG	aGs*	aG							
No. of Container(s)	1	2	3	4							
Volume	500mL	1000mL	40mL	1000mL							
SAMPLE ANALYSIS	ICP Metals - 6010A (TAL); Mercury - 7470 - (CV)	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	Pesticides - 8081; Herbicides - 8150A						TIR	TO

	Sample No.	Matrix *	Sample Date	Sample Time										
1.	B0YNX1	WATER	7-17-00	0630			X							
2	B0YNX2	WATER	7-17-00	1050	X	X	X	X					B0YNX8	
3	B0YNX3	WATER	7-17-00	1212	X	X	X	X					B0YNX5	
RT 7-24-00	~~B0YNX4~~	~~WATER~~	~~7-17-00~~	~~1220~~	~~X~~	~~X~~	~~X~~	~~X~~					B0YNX6	
													~~B0YNX9~~	

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: [illegible]	Date/Time: 7/17/00 1515	Received By: R. Thorson	Date/Time: 7.17.00 1515
Relinquished By: R Thorson	Date/Time: 7.24.00 1430	Received By: FED EX	Date/Time:
Relinquished By: Fed Ex	Date/Time: 7.25.00 0915	Received By: D. [illegible]	Date/Time: 7.25.00 0915
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

SPECIAL INSTRUCTIONS

** Laboratory is to perform at least one matrix spike/matrix spike duplicate set per analytical method for each SDG.

** Laboratory is to note that listed waste codes for these samples include: F001, F002, F003, F004, and F005.

3.8°

Matrix *

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

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

BHI-EE-011 (10/99)

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B00-063-02	Page 1 of 1

Collector BOWERS/JOHANSEN	Company Contact W Thompson	Telephone No. 372-9597	Project Coordinator SHEA, DW
Project Designation MODU TANK - Annual Sampling of Purgewater	Sampling Location 200 EAST		SAF No. B00-063
Ice Chest No. ERC 96 026 4 of 7	Field Logbook No. EL 1517	COA HGWLTM3510	Method of Shipment Fed EX
Shipped To TMA/RECRA 678 7-17-00	Offsite Property No. A0000242		Bill of Lading/Air Bill No. 42357953 7467

Price Code 7N

Air Quality ☐

Data Turnaround 45 Days

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Preservation	HNO3 to pH <2	Cool 4C	HCl to pH <2 Cool 4C	Cool 4C						
Type of Container	aG	aG	aGs*	aG						
No. of Container(s)	1	2	3	4						
Volume	500mL	1000mL	40mL	1000mL						
SAMPLE ANALYSIS	ICP Metals - 6010A (TAL); Mercury - 7470 - (CV)	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	Pesticides - 8081; Herbicides - 8150A					TIR	TO

Sample No.	Matrix *	Sample Date	Sample Time										
4 - B0YNX5	WATER	7-17-00	1233	X	X	X	X				B0YNX1		
~~B0YNX6~~	~~WATER~~	~~7-17-00~~	~~1050~~	~~X~~	~~X~~	~~X~~	~~X~~				~~B0YNX6~~		
~~B0YNX7~~	~~WATER~~	~~7-17-00~~	~~0910~~	~~X~~	~~X~~	~~X~~	~~X~~				~~B0YNX6~~		

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
[illegible]	7/17/00 1515	R. Thoren	7.17.00 / 1515
R. Thoren	7.24.00 1430	FED EX	
FED EX	7.25.00/0915	D. Smith	7.25.0915

SPECIAL INSTRUCTIONS

** Laboratory is to perform at least one matrix spike/matrix spike duplicate set per analytical method for each SDG.

** Laboratory is to note that listed waste codes for these samples include: F001, F002, F003, F004, and F005.

6°C

Matrix *

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

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

BHI-EE-011 (10/99)

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		B00-063-02	Page 1 of 1
Collector BOWERS/JOHANSEN	Company Contact W Thompson	Telephone No. 372-9597	Project Coordinator SHEA, DW	Price Code 7N Air Quality
Project Designation MODU TANK - Annual Sampling of Purgewater	Sampling Location 200 EAST		SAF No. B00-063	Data Turnaround 45 Days
Ice Chest No. ERA 99.065 2OF7	Field Logbook No. EL 1517	COA HGWLTM3510	Method of Shipment Fed EX	
Shipped To TMA/RECRA b7B 7-17-00	Offsite Property No. A000242		Bill of Lading/Air Bill No. 42357953 7445	

POSSIBLE SAMPLE HAZARDS/REMARKS

wowe

Special Handling and/or Storage

Preservation	HNO3 to pH <2	Cool 4C	HCl to pH <2 Cool 4C	Cool 4C						
Type of Container	aG	aG	aGs*	aG						
No. of Container(s)	1	2	3	4						
Volume	500mL	1000mL	40mL	1000mL						
SAMPLE ANALYSIS	ICP Metals - 6010A (TAL); Mercury - 7470 - (CV)	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	Pesticides - 8081; Herbicides - 8150A					Tie	TO

Sample No.	Matrix *	Sample Date	Sample Time										
~~B0YNX5~~	~~WATER~~	~~7-17-00~~	~~1233~~	~~X~~	~~X~~	~~X~~	~~X~~				~~DoyNX1~~		
B0YNX6	WATER	7-17-00	1050	X	X	X	X				DoyNX8		
~~B0YNX7~~	~~WATER~~	~~7-17-00~~	~~0910~~	~~X~~	~~X~~	~~X~~	~~X~~				~~DoyNX8~~		

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By	Date/Time	Received By	Date/Time
[signature]	7/17/00 1515	R. Thoren R. Thoren	7.17.00 / 1515
Relinquished By	Date/Time	Received By	Date/Time
R. Thoren	7.24.00 1430	FED EX	
Relinquished By	Date/Time	Received By	Date/Time
Fed Ex	7.25.00 / 0915	[signature]	7.25.00 / 0915
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

** Laboratory is to perform at least one matrix spike/matrix spike duplicate set per analytical method for each SDG.

** Laboratory is to note that listed waste codes for these samples include: F001, F002, F003, F004, and F005.

4.7a

Matrix *

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

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Dr. ed By	Date/Time

BHI-EE-011 (10/99)

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		B00-063-02	Page 1 of 1
Collector: BOWERS/JOHANSEN	Company Contact: W Thompson	Telephone No.: 372-9597	Project Coordinator: SHEA, DW	Price Code: 7N; Data Turnaround: 45 Days
Project Designation: MODU TANK - Annual Sampling of Purgewater	Sampling Location: 200 EAST		SAF No.: B00-063	Air Quality: [ ]
Ice Chest No.: GWS103 3OF7	Field Logbook No.: EL 1517	COA: HGWLTM3510	Method of Shipment: Fed EX	
Shipped To: ~~TMA~~/RECRA 6/28 7-17-00	Offsite Property No.: A000242		Bill of Lading/Air Bill No.: 42357953 7456	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Preservation	HNO3 to pH <2	Cool 4C	HCl to pH <2 Cool 4C	Cool 4C						
Type of Container	aG	aG	aGs*	aG						
No. of Container(s)	1	2	3	4						
Volume	500mL	1000mL	40mL	1000mL						
SAMPLE ANALYSIS	ICP Metals - 6010A (TAL); Mercury - 7470 - (CV)	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	Pesticides - 8081; Herbicides - 8150A					Tie	TO

Sample No.	Matrix *	Sample Date	Sample Time										
~~B0YNX5~~ 7-24-00	~~WATER~~	~~7-17-00~~	~~1233~~	X	X	X	X				B0YNX1		
~~B0YNX6~~ 7-24-00	~~WATER~~	~~7-17-00~~	~~1030~~	X	X	X	X				~~B0YNX8~~		
B0YNX7	WATER	7-17-00	0910	X	X	X	X				B0YNX8		

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By: [signature]	Date/Time: 7/17/00 1515	Received By: R. Thoren R. Thoren	Date/Time: 7.17.00 / 1515
Relinquished By: R. Thoren R. Thoren	Date/Time: 7.24.00 1430	Received By: FED EX	Date/Time:
Relinquished By: Fed Ex	Date/Time: 7.25.00 / 0915	Received By: D. [signature]	Date/Time: 7.25.00 / 0915
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

SPECIAL INSTRUCTIONS

** Laboratory is to perform at least one matrix spike/matrix spike duplicate set per analytical method for each SDG.

** Laboratory is to note that listed waste codes for these samples include: F001, F002, F003, F004, and F005.

4.3°C

Matrix *

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

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

BHI-EE-011 (10/99)

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B00-063-01	Page 1 of 1

Collector: BOWERS/JOHANSEN	Company Contact: W Thompson	Telephone No.: 372-9597	Project Coordinator: SHEA, DW
Project Designation: MODU TANK - Annual Sampling of Purgewater	Sampling Location: 200 EAST		SAF No.: B00-063
Ice Chest No.: Sml 348 (1 of 1	Field Logbook No.: EL 1517	COA: HGWLTM3510	Method of Shipment: Fed EX
Shipped To: TMA/RECRA 7-17-00	Offsite Property No.: A000242		Bill of Lading/Air Bill No.: 4235 7953 - 7434

Price Code: 7N

Air Quality: ☐

Data Turnaround: 45 Days

POSSIBLE SAMPLE HAZARDS/REMARKS: None

Special Handling and/or Storage

SAMPLE ANALYSIS													
Preservation				HNO3 to pH <2	Cool 4C	HCl to pH <2 Cool 4C	Cool 4C						
Type of Container				aG	aG	aGs*	aG						
No. of Container(s)				1	2	3	4						
Volume				500mL	1000mL	40mL	1000mL						
				ICP Metals - 6010A (TAL); Mercury - 7470 - (CV)	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	Pesticides - 8081; Herbicides - 8150A					TIR	TO
Sample No.	Matrix *	Sample Date	Sample Time										
~~B0YNX1~~	WATER	~~7-17-00~~	~~0630~~										
~~B0YNX2~~	WATER	~~7-17-00~~	~~1050~~	X	X	X	X					B0YNX8	
~~B0YNX3~~	WATER	~~7-17-00~~	~~1272~~	X	X	X	X					B0YNX5	
B0YNX4	WATER	7-17-00	1220	X	X	X	X					B0YNX9	
												B0YNY0	

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: [illegible]	Date/Time: 7/17/00 1515	Received By: R. Thorsen	Date/Time: 7-17-00 1515
Relinquished By: R. Thorsen	Date/Time: 7-24-00 1430	Received By: FEDEX	Date/Time:
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

** Laboratory is to perform at least one matrix spike/matrix spike duplicate set per analytical method for each SDG.

** Laboratory is to note that listed waste codes for these samples include: F001, F002, F003, F004, and F005.

Matrix *

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

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

BHI-EE-011 (10/99)

RECRA
ENVIRONMENTAL
INC.

Chemical and Environmental Measurement Information

SEP 2000
RECEIVED

Recra LabNet Philadelphia
Analytical Report

Client: TNU-HANFORD B00-063
RFW#: 0007L960
SDG/SAF #: H0926/B00-063

W.O. #: 10985-001-001-9999-00
Date Received: 07-25-2000

SEMIVOLATILE

Six (6) water samples were collected on 07-17-2000.

The samples and their associated QC samples were extracted on 07-31-2000 and analyzed according to criteria set forth in Recra OPs based on SW 846 Method 8270C for TCL Semivolatile target compounds on 08-09,17,18-2000.

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 temperatures upon receipt have been recorded on the chain-of-custody.

2. All samples were extracted within 6-days from sample receipt and analyzed within required holding time.

3. Non-target compounds were detected in the samples.

4. Six (6) of sixty (60) surrogate recoveries were outside EPA QC limits. However, EPA CLP surrogate recovery criteria are met [i.e., no more than one outlier per fraction (acid and base neutral) and no recoveries less than 10%].

5. All blank spike recoveries were within EPA QC limits.

6. All matrix spike recoveries were within EPA QC limits.

7. The method blank contained the common laboratory contaminants Di-n-butylphthalate, Bis(2-Ethylhexyl)phthalate, Diethylphthalate and the target compound Phenol 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."

by _____ 09-11-00
J. Michael Taylor — Date
Vice President
Philadelphia Analytical Laboratory

som\group\data\bna\tnu-hanford-07-960.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 2 1 pages.

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

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.

mmz\10-94\gloss.bna

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.

mmz\10-94\gloss.bna

Recra LabNet - Lionville Laboratory

Semivolatiles by GC/MS, HSL List

Report Date: 08/24/00 11:50

RFW Batch Number: **0007L960** Client: **TNU-HANFORD B00-063** Work Order: 10985001001 Page: 1a

	Cust ID:	B0YNX2	B0YNX2	B0YNX2	B0YNX3	B0YNX5	B0YNX6
Sample Information	RFW#:	002	002 MS	002 MSD	003	004	005
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
Surrogate Recovery	Nitrobenzene-d5	37 %	62 %	71 %	44 %	59 %	57 %
	2-Fluorobiphenyl	35 * %	62 %	64 %	42 * %	49 %	45 %
	Terphenyl-d14	54 %	31 * %	51 %	51 %	51 %	30 * %
	Phenol-d5	36 %	48 %	70 %	42 %	58 %	52 %
	2-Fluorophenol	30 %	46 %	60 %	36 %	49 %	47 %
	2,4,6-Tribromophenol	59 %	64 %	76 %	59 %	74 %	69 %
		fl	fl	fl	fl	fl	fl
Phenol		10 U	53 %	59 %	10 U	10 U	10 U
bis(2-Chloroethyl)ether		10 U	21 U	10 U	10 U	10 U	10 U
2-Chlorophenol		10 U	51 %	64 %	10 U	10 U	10 U
1,3-Dichlorobenzene		10 U	21 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene		10 U	43 %	57 %	10 U	10 U	10 U
1,2-Dichlorobenzene		10 U	21 U	10 U	10 U	10 U	10 U
2-Methylphenol		10 U	21 U	10 U	10 U	10 U	10 U
2,2'-oxybis(1-Chloropropane)		10 U	21 U	10 U	10 U	10 U	10 U
4-Methylphenol		10 U	21 U	10 U	10 U	10 U	10 U
N-Nitroso-di-n-propylamine		10 U	60 %	72 %	10 U	10 U	10 U
Hexachloroethane		10 U	21 U	10 U	10 U	10 U	10 U
Nitrobenzene		10 U	21 U	10 U	10 U	10 U	10 U
Isophorone		10 U	21 U	10 U	10 U	10 U	10 U
2-Nitrophenol		10 U	21 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol		10 U	21 U	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane		10 U	21 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol		10 U	21 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene		10 U	47 %	59 %	10 U	10 U	10 U
Naphthalene		10 U	21 U	10 U	10 U	10 U	10 U
4-Chloroaniline		10 U	21 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene		10 U	21 U	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol		10 U	59 %	65 %	10 U	10 U	10 U
2-Methylnaphthalene		10 U	21 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene		10 U	21 U	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol		10 U	21 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol		26 U	52 U	26 U	26 U	26 U	26 U

*= Outside of EPA CLP QC limits.

RFW Batch Number: 0007L960 Client: TNU-HANFORD B00-063 Work Order: 10985001001 Page: 1b

Cust ID:	B0YNX2		B0YNX2		B0YNX2		B0YNX3		B0YNX5		B0YNX6	
RFW#:	002		002 MS		002 MSD		003		004		005	
2-Chloronaphthalene	10	U	21	U	10	U	10	U	10	U	10	U
2-Nitroaniline	26	U	52	U	26	U	26	U	26	U	26	U
Dimethylphthalate	10	U	21	U	10	U	10	U	10	U	10	U
Acenaphthylene	10	U	21	U	10	U	10	U	10	U	10	U
2,6-Dinitrotoluene	10	U	21	U	10	U	10	U	10	U	10	U
3-Nitroaniline	26	U	52	U	26	U	26	U	26	U	26	U
Acenaphthene	10	U	64	%	61	%	10	U	10	U	10	U
2,4-Dinitrophenol	26	U	52	U	26	U	26	U	26	U	26	U
4-Nitrophenol	26	U	59	%	67	%	26	U	26	U	26	U
Dibenzofuran	10	U	21	U	10	U	10	U	10	U	10	U
2,4-Dinitrotoluene	10	U	74	%	73	%	10	U	10	U	10	U
Diethylphthalate	10	U	3	JB	1	JB	10	U	0.6	JB	10	U
4-Chlorophenyl-phenylether	10	U	21	U	10	U	10	U	10	U	10	U
Fluorene	10	U	21	U	10	U	10	U	10	U	10	U
4-Nitroaniline	26	U	52	U	26	U	26	U	26	U	26	U
4,6-Dinitro-2-methylphenol	26	U	52	U	26	U	26	U	26	U	26	U
N-Nitrosodiphenylamine (1)	10	U	21	U	10	U	10	U	10	U	10	U
4-Bromophenyl-phenylether	10	U	21	U	10	U	10	U	10	U	10	U
Hexachlorobenzene	10	U	21	U	10	U	10	U	10	U	10	U
Pentachlorophenol	26	U	45	%	67	%	26	U	26	U	26	U
Phenanthrene	10	U	21	U	10	U	10	U	10	U	10	U
Anthracene	10	U	21	U	10	U	10	U	10	U	10	U
Carbazole	10	U	21	U	10	U	10	U	10	U	10	U
Di-n-butylphthalate	10	U	3	JB	1	JB	1	JB	0.8	JB	1	JB
Fluoranthene	10	U	21	U	10	U	10	U	10	U	10	U
Pyrene	10	U	68	%	59	%	10	U	10	U	10	U
Butylbenzylphthalate	10	U	3	J	10	U	10	U	10	U	10	U
3,3'-Dichlorobenzidine	10	U	21	U	10	U	10	U	10	U	10	U
Benzo(a)anthracene	10	U	21	U	10	U	10	U	10	U	10	U
Chrysene	10	U	21	U	10	U	10	U	10	U	10	U
bis(2-Ethylhexyl)phthalate	3	JB	21	U	5	JB	3	JB	5	JB	4	JB
Di-n-octyl phthalate	10	U	21	U	10	U	10	U	10	U	10	U
Benzo(b)fluoranthene	10	U	21	U	10	U	10	U	10	U	10	U
Benzo(k)fluoranthene	10	U	21	U	10	U	10	U	10	U	10	U
Benzo(a)pyrene	10	U	21	U	10	U	10	U	10	U	10	U
Indeno(1,2,3-cd)pyrene	10	U	21	U	10	U	10	U	10	U	10	U
Dibenz(a,h)anthracene	10	U	21	U	10	U	10	U	10	U	10	U
Benzo(g,h,i)perylene	10	U	21	U	10	U	10	U	10	U	10	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: 08/24/00 11:50

RFW Batch Number: **0007L960** Client: **TNU-HANFORD B00-063** Work Order: 10985001001 Page: 2a

	Cust ID:	B0YNX7	B0YNX4	SBLKWG	SBLKWG BS
Sample Information	RFW#:	006	007	00LE0868-MB1	00LE0868-MB1
	Matrix:	WATER	WATER	WATER	WATER
	D.F.:	1.00	1.00	1.00	1.00
	Units:	UG/L	UG/L	UG/L	UG/L
Surrogate Recovery	Nitrobenzene-d5	39 %	58 %	57 %	59 %
	2-Fluorobiphenyl	36 * %	53 %	55 %	65 %
	Terphenyl-d14	59 %	27 * %	92 %	106 %
	Phenol-d5	34 %	53 %	54 %	38 %
	2-Fluorophenol	32 %	46 %	51 %	53 %
	2,4,6-Tribromophenol	49 %	73 %	67 %	89 %
Phenol		0.7 JB	10 U	0.5 J	56 %
bis(2-Chloroethyl)ether		10 U	10 U	10 U	10 U
2-Chlorophenol		10 U	10 U	10 U	57 %
1,3-Dichlorobenzene		10 U	10 U	10 U	10 U
1,4-Dichlorobenzene		10 U	10 U	10 U	50 %
1,2-Dichlorobenzene		10 U	10 U	10 U	10 U
2-Methylphenol		10 U	10 U	10 U	10 U
2,2'-oxybis(1-Chloropropane)		10 U	10 U	10 U	10 U
4-Methylphenol		10 U	10 U	10 U	10 U
N-Nitroso-di-n-propylamine		10 U	10 U	10 U	58 %
Hexachloroethane		10 U	10 U	10 U	10 U
Nitrobenzene		10 U	10 U	10 U	10 U
Isophorone		10 U	10 U	10 U	10 U
2-Nitrophenol		10 U	10 U	10 U	10 U
2,4-Dimethylphenol		10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane		10 U	10 U	10 U	10 U
2,4-Dichlorophenol		10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene		10 U	10 U	10 U	58 %
Naphthalene		10 U	10 U	10 U	10 U
4-Chloroaniline		10 U	10 U	10 U	10 U
Hexachlorobutadiene		10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol		10 U	10 U	10 U	53 %
2-Methylnaphthalene		10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene		10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol		10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol		26 U	26 U	25 U	25 U

*= Outside of EPA CLP QC limits.

Cust ID:	B0YNX7		B0YNX4		SBLKWG		SBLKWG BS	
RFW#:	006		007		00LE0868-MB1		00LE0868-MB1	
2-Chloronaphthalene	10	U	10	U	10	U	10	U
2-Nitroaniline	26	U	26	U	25	U	25	U
Dimethylphthalate	10	U	10	U	10	U	10	U
Acenaphthylene	10	U	10	U	10	U	10	U
2,6-Dinitrotoluene	10	U	10	U	10	U	10	U
3-Nitroaniline	26	U	26	U	25	U	25	U
Acenaphthene	10	U	10	U	10	U	66	%
2,4-Dinitrophenol	26	U	26	U	25	U	25	U
4-Nitrophenol	26	U	26	U	25	U	58	%
Dibenzofuran	10	U	10	U	10	U	10	U
2,4-Dinitrotoluene	10	U	10	U	10	U	71	%
Diethylphthalate	1	JB	0.9	JB	0.7	J	0.5	JB
4-Chlorophenyl-phenylether	10	U	10	U	10	U	10	U
Fluorene	10	U	10	U	10	U	10	U
4-Nitroaniline	26	U	26	U	25	U	25	U
4,6-Dinitro-2-methylphenol	26	U	26	U	25	U	25	U
N-Nitrosodiphenylamine (1)	10	U	10	U	10	U	10	U
4-Bromophenyl-phenylether	10	U	10	U	10	U	10	U
Hexachlorobenzene	10	U	10	U	10	U	10	U
Pentachlorophenol	26	U	26	U	25	U	76	%
Phenanthrene	10	U	10	U	10	U	10	U
Anthracene	10	U	10	U	10	U	10	U
Carbazole	10	U	10	U	10	U	10	U
Di-n-butylphthalate	2	JB	0.8	JB	1	J	0.9	JB
Fluoranthene	10	U	10	U	10	U	10	U
Pyrene	10	U	10	U	10	U	83	%
Butylbenzylphthalate	10	U	10	U	10	U	10	U
3,3'-Dichlorobenzidine	10	U	10	U	10	U	10	U
Benzo(a)anthracene	10	U	10	U	10	U	10	U
Chrysene	10	U	10	U	10	U	10	U
bis(2-Ethylhexyl)phthalate	4	JB	3	JB	4	J	7	JB
Di-n-octyl phthalate	10	U	10	U	10	U	10	U
Benzo(b)fluoranthene	10	U	10	U	10	U	10	U
Benzo(k)fluoranthene	10	U	10	U	10	U	10	U
Benzo(a)pyrene	10	U	10	U	10	U	10	U
Indeno(1,2,3-cd)pyrene	10	U	10	U	10	U	10	U
Dibenz(a,h)anthracene	10	U	10	U	10	U	10	U
Benzo(g,h,i)perylene	10	U	10	U	10	U	10	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.

B0YNX2

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B00-063

Matrix: (soil/water) WATER Lab Sample ID: 0007L960-002

Sample wt/vol: 970 (g/mL) ML Lab File ID: D081708

Level: (low/med) LOW Date Received: 07/25/00

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 07/31/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/17/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

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

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ETHYLHEXANOIC ACID	10.626	2	J
2.	DICHLOROISOCYANATOBENZENE	13.981	3	J
3.	UNKNOWN	19.065	5	J
4.	HEXANOIC ACID	20.691	3	J
5.	UNKNOWN	21.821	3	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B0YNX3

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B00-063

Matrix: (soil/water) WATER Lab Sample ID: 0007L960-003

Sample wt/vol: 970 (g/mL) ML Lab File ID: D081711

Level: (low/med) LOW Date Received: 07/25/00

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 07/31/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/17/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

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

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	DICHLOROISOCYANATOBENZENE	13.974	3	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B0YNX5

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B00-063

Matrix: (soil/water) WATER Lab Sample ID: 0007L960-004

Sample wt/vol: 970 (g/mL) ML Lab File ID: D081712

Level: (low/med) LOW Date Received: 07/25/00

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 07/31/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/17/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

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

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.583	3	J
2.	DIETHYLCARBAMIC ACID,C2ESTER	7.782	3	J
3.	UNKNOWN	9.260	2	J
4.	UNKNOWN	10.303	2	J
5.	DICHLOROISOCYANATOBENZENE	13.971	3	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B0YNX6

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B00-063

Matrix: (soil/water) WATER Lab Sample ID: 0007L960-005

Sample wt/vol: 970 (g/mL) ML Lab File ID: D081803

Level: (low/med) LOW Date Received: 07/25/00

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 07/31/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/18/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

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

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	8.664	4	J
2.	DICHLOROISOCYANATOBENZENE	13.400	7	J
3.	UNKNOWN	20.179	5	J
4.	ORGANIC ACID	20.275	8	J
5.	UNKNOWN	21.422	10	J

11

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B0YNX7

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B00-063

Matrix: (soil/water) WATER Lab Sample ID: 0007L960-006

Sample wt/vol: 970 (g/mL) ML Lab File ID: D081804

Level: (low/med) LOW Date Received: 07/25/00

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 07/31/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/18/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

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

Number TICs found: 3

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.477	2	J
2.	UNKNOWN	7.051	4	J
3.	DIETHYLCARBAMIC ACID,C1ESTER	7.268	3	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B0YNX4

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B00-063

Matrix: (soil/water) WATER Lab Sample ID: 0007L960-007

Sample wt/vol: 970 (g/mL) ML Lab File ID: D081805

Level: (low/med) LOW Date Received: 07/25/00

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 07/31/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/18/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

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

Number TICs found: 4

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.058	3	J
2.	UNKNOWN	7.667	2	J
3.	UNKNOWN	9.787	4	J
4.	DICHLOROISOCYANATOBENZENE	13.403	7	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SBLKWG

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B00-063

Matrix: (soil/water) WATER Lab Sample ID: 00LE0868-MB1

Sample wt/vol: 1000 (g/mL) ML Lab File ID: A080904

Level: (low/med) LOW Date Received: 07/31/00

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 07/31/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/09/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

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

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	22.32	5	J
2.	UNKNOWN	22.85	4	J

Recra LabNet - Lionville Laboratory
BNA ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD B00-063

DATE RECEIVED: 07/25/00 RFW LOT # :0007L960

CLIENT ID	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B0YNX2	002	W	00LE0868	07/17/00	07/31/00	08/17/00
B0YNX2	002 MS	W	00LE0868	07/17/00	07/31/00	08/17/00
B0YNX2	002 MSD	W	00LE0868	07/17/00	07/31/00	08/17/00
B0YNX3	003	W	00LE0868	07/17/00	07/31/00	08/17/00
B0YNX5	004	W	00LE0868	07/17/00	07/31/00	08/17/00
B0YNX6	005	W	00LE0868	07/17/00	07/31/00	08/18/00
B0YNX7	006	W	00LE0868	07/17/00	07/31/00	08/18/00
B0YNX4	007	W	00LE0868	07/17/00	07/31/00	08/18/00

LAB QC:

SBLKWG	MB1	W	00LE0868	N/A	07/31/00	08/09/00
SBLKWG	MB1 BS	W	00LE0868	N/A	07/31/00	08/09/00

RECRA LabNet Use Only
00071960

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

(9) Met Dig

RECRA LabNet

Client: TNU - Hanford B00-063
Est. Final Proj. Sampling Date:
Project #: 10985-001-001-9999-00
Project Contact/Phone #:
RECRA Project Manager: OJ
QC: Spec Del: Std TAT: 30 day
Date Rec'd: 7-25-00 Date Due: 8-24-00
Account #:

Refrigerator #		1	2	2	1				2							
#/Type Container	Liquid	3ag	2ag	4ag	1				1ag							
	Solid															
Volume	Liquid	40	950	950	1				500							
	Solid															
Preservatives		HCL	—	—	—				HNO3							
ANALYSES REQUESTED →		ORGANIC							INORG							
		VOA	BNA	Pest/PCB	Herb				ICP Metal Merc	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 (✓) MS	MSD	Matrix	Date Collected	Time Collected	0624H	0625H	0608H	OHBGX	Met ①
001	BOYNX1			W	7/17/00	0630	X				
002	2					1050	X	X	X	X	X
003	3					1212	X	X	X	X	X
004	5					1233	X	X	X	X	X
005	6					1050	X	X	X	X	X
006	7					0910	X	X	X	X	X
007	4					1220	X	X	X	X	X

Special Instructions: Saf B00-063

4235 7953 7456 / 4.3°C *
7478 / 6.0°C *
7445 / 4.7°C *
7467 / 3.8°C *

DATE/REVISIONS:
1. Run Matrix QC
Met ① 2. Al, Ag, Ba, Be, Ca, Cd, Co, Cr, Fe, K, Mg,
1 3. Mn, Na, Ni, Sb, V, Zn, Hg, Cu
8 1 00 4. Cu added to metals
5.
6.

Relinquished by	Received by	Date	Time
Fed Ex	D. Smith	7/25/00	0915

Relinquished by	Received by	Date	Time
COMPOSITE WASTE	ORIGINAL REWRITTEN		

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

RECRA LabNet Use Only

Samples were:
1) Shipped ✓ or Hand Delivered ___
Airbill # *
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

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

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B00-063-01	Page 1 of 1

Collector: BOWERS/JOHANSEN	Company Contact: W Thompson	Telephone No.: 372-9597	Project Coordinator: SHEA, DW
Project Designation: MODU TANK - Annual Sampling of Purgewater	Sampling Location: 200 EAST		SAF No.: B00-063
Ice Chest No.: ERC 96021 SOF7	Field Logbook No.: EL 1517	COA: HGWLTM3510	Method of Shipment: Fed EX
Shipped To: TMA/RECRA B00 7-17-00	Offsite Property No.: A000242		Bill of Lading/Air Bill No.: 12357953 7478

Price Code: 7N

Data Turnaround: 45 Days

Air Quality ☐

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Preservation	HNO3 to pH <2	Cool 4C	HCl to pH <2 Cool 4C	Cool 4C								
Type of Container	aG	aG	aGs*	aG								
No. of Container(s)	1	2	3	4								
Volume	500mL	1000mL	40mL	1000mL								
SAMPLE ANALYSIS	ICP Metals - 6010A (TAL); Mercury - 7470 - (CV)	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	Pesticides - 8081; Herbicides - 8150A							Tir	To

	Sample No.	Matrix *	Sample Date	Sample Time											
1.	B0YNX1	WATER	7-17-00	0630			X								
2	B0YNX2	WATER	7-17-00	1050	X	X	X	X						B0YNX8	
3	B0YNX3	WATER	7-17-00	1212	X	X	X	X						B0YNX5	
RT 7-24-00	~~B0YNX4~~	~~WATER~~	~~7-17-00~~	~~1220~~	~~X~~	~~X~~	~~X~~	~~X~~						B0YNX6	
														~~B0YNX0~~	

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
[illegible]	7/17/00 1515	R. Thorson	7.17.00 1515
R Thorson	7.24.00 1430	FED EX	
Fed Ex	7.25.00 0915	D. [illegible]	7.25.00 0915

SPECIAL INSTRUCTIONS

** Laboratory is to perform at least one matrix spike/matrix spike duplicate set per analytical method for each SDG.

** Laboratory is to note that listed waste codes for these samples include: F001, F002, F003, F004, and F005.

3.8°

Matrix *

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

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

BHI-EE-011 (10/99)

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			B00-063-02	Page 1 of 1
Collector BOWERS/JOHANSEN	Company Contact W Thompson	Telephone No. 372-9597	Project Coordinator SHEA, DW	Price Code 7N	Data Turnaround 45 Days
Project Designation MODU TANK - Annual Sampling of Purgewater	Sampling Location 200 EAST		SAF No. B00-063	Air Quality ☐	
Ice Chest No. ERC 96 026 40F7	Field Logbook No. EL 1517	COA HGWLTM3510	Method of Shipment Fed EX		
Shipped To TMA/RECRA 6 FB 7-17-00	Offsite Property No. A000242		Bill of Lading/Air Bill No. 42357953 7467		

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Preservation	HNO3 to pH <2	Cool 4C	HCl to pH <2 Cool 4C	Cool 4C							
Type of Container	aG	aG	aGs*	aG							
No. of Container(s)	1	2	3	4							
Volume	500mL	1000mL	40mL	1000mL							
SAMPLE ANALYSIS	ICP Metals - 6010A (TAL); Mercury - 7470 - (CV)	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	Pesticides - 8081; Herbicides - 8150A						Tie	TO

Sample No.	Matrix *	Sample Date	Sample Time										
4- B0YNX5	WATER	7-17-00	1233	X	X	X	X				B0YNX1		
RT 1.24 ~~B0YNX6~~	~~WATER~~	~~7-17-00~~	~~1050~~	~~X~~	~~X~~	~~X~~	~~X~~				~~B0YNX8~~		
~~B0YNX7~~	~~WATER~~	~~7-17-00~~	~~0910~~	~~X~~	~~X~~	~~X~~	~~X~~				~~B0YNX8~~		
RT 7.24.00													

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By [signature]	Date/Time 7/17/00 1515	Received By R. Thoren	Date/Time R. Thoren 7.17.00 / 1515
Relinquished By R. Thoren	Date/Time R. Thoren 7.24.00 1430	Received By FED EX	Date/Time
Relinquished By Fed Ex	Date/Time 7.25.00/0915	Received By D. [signature]	Date/Time 7.25.0915
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

** Laboratory is to perform at least one matrix spike/matrix spike duplicate set per analytical method for each SDG.

** Laboratory is to note that listed waste codes for these samples include: F001, F002, F003, F004, and F005.

6"

Matrix *

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

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

BHI-EE-011 (10/99)

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			B00-063-02	Page 1 of 1
Collector BOWERS/JOHANSEN	Company Contact W Thompson	Telephone No. 372-9597	Project Coordinator SHEA, DW	Price Code 7N	Data Turnaround 45 Days
Project Designation MODU TANK - Annual Sampling of Purgewater	Sampling Location 200 EAST		SAF No. B00-063	Air Quality	
Ice Chest No. ERA 99.065 2OF7	Field Logbook No. EL 1517	COA HGWLTM3510	Method of Shipment Fed EX		
Shipped To TMA/RECRA 6 28 7-17-00	Offsite Property No. A000242		Bill of Lading/Air Bill No. 42357953 7445		

POSSIBLE SAMPLE HAZARDS/REMARKS

none

Special Handling and/or Storage

Preservation	HNO3 to pH <2	Cool 4C	HCl to pH <2 Cool 4C	Cool 4C							
Type of Container	aG	aG	aGs*	aG							
No. of Container(s)	1	2	3	4							
Volume	500mL	1000mL	40mL	1000mL							
SAMPLE ANALYSIS	ICP Metals - 6010A (TAL); Mercury - 7470 - (CV)	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	Pesticides - 8081; Herbicides - 8150A							

Sample No.	Matrix *	Sample Date	Sample Time									Tie	TO
~~B0YNX5~~	~~WATER~~	~~7-17-00~~	~~1233~~	~~X~~	~~X~~	~~X~~	~~X~~				~~DoyNy1~~		
B0YNX6	WATER	7-17-00	1050	X	X	X	X				DoyNx8		
~~B0YNX7~~	~~WATER~~	~~7-17-00~~	~~0910~~	~~X~~	~~X~~	~~X~~	~~X~~				~~DoyNx8~~		

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By Johansen/Johansen	Date/Time 7/17/00 1515	Received By R. Thoren R. Thoren	Date/Time 7.17.00 / 1515
Relinquished By R. Thoren	Date/Time 7.24.00 1430	Received By FED EX	Date/Time
Relinquished By Fed Ex	Date/Time 7.25.00 / 0915	Received By D. [illegible]	Date/Time 7.25.00 / 0915
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

** Laboratory is to perform at least one matrix spike/matrix spike duplicate set per analytical method for each SDG.

** Laboratory is to note that listed waste codes for these samples include: F001, F002, F003, F004, and F005.

4.7°

Matrix *

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

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Dr. ed By	Date/Time

BHI-EE-011 (10/99)

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B00-063-02	Page 1 of 1

Collector BOWERS/JOHANSEN	Company Contact W Thompson	Telephone No. 372-9597	Project Coordinator SHEA, DW
Project Designation MODU TANK - Annual Sampling of Purgewater	Sampling Location 200 EAST		SAF No. B00-063
Ice Chest No. GWS103 3OF7	Field Logbook No. EL 1517	COA HGWLTM3510	Method of Shipment Fed EX
Shipped To TMA/RECRA 678 7-17-00	Offsite Property No. A00024Z		Bill of Lading/Air Bill No. 4235795374 56

Price Code 7N

Air Quality

Data Turnaround 45 Days

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Preservation	HNO3 to pH <2	Cool 4C	HCl to pH <2 Cool 4C	Cool 4C							
Type of Container	aG	aG	aGs*	aG							
No. of Container(s)	1	2	3	4							
Volume	500mL	1000mL	40mL	1000mL							
SAMPLE ANALYSIS	ICP Metals - 6010A (TAL); Mercury - 7470 - (CV)	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	Pesticides - 8081; Herbicides - 8150A							

Sample No.	Matrix *	Sample Date	Sample Time										
~~B0YNX5~~	WATER	7-17-00	1273	X	X	X	X					TIR TO	
~~B0YNX6~~	WATER	7-17-00	1076	X	X	X	X				B0YNY1		
B0YNX7	WATER	7-17-00	0910	X	X	X	X				~~B0YNX8~~ B0YNX8		

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
[illegible]	7/17/00 1515	R. Thoren	7-17-00 / 1515
R. Thoren	7-24-00 1430	FED EX	
Fed Ex	7-25-00 / 0915	D. [illegible]	7-25-00 / 0915

SPECIAL INSTRUCTIONS

** Laboratory is to perform at least one matrix spike/matrix spike duplicate set per analytical method for each SDG.

** Laboratory is to note that listed waste codes for these samples include: F001, F002, F003, F004, and F005.

4.3°C

Matrix *

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

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

BHI-EE-011 (10/99)

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B00-063-01	Page 1 of 1

Collector: BOWERS/JOHANSEN	Company Contact: W Thompson	Telephone No.: 372-9597	Project Coordinator: SHEA, DW
Project Designation: MODU TANK - Annual Sampling of Purgewater	Sampling Location: 200 EAST		SAF No.: B00-063
Ice Chest No.: SM1 348 (1 of 1)	Field Logbook No.: EL 1517	COA: HGWLTM3510	Method of Shipment: Fed EX
Shipped To: TMA/RECRA 7-17-00	Offsite Property No.: A00024C		Bill of Lading/Air Bill No.: 4238 7953 - 7434

Price Code: 7N

Data Turnaround: 45 Days

Air Quality: [ ]

POSSIBLE SAMPLE HAZARDS/REMARKS: None

Special Handling and/or Storage:

SAMPLE ANALYSIS														
Preservation				HNO3 to pH <2	Cool 4C	HCl to pH <2 Cool 4C	Cool 4C							
Type of Container				aG	aG	aGs*	aG							
No. of Container(s)				1	2	3	4							
Volume				500mL	1000mL	40mL	1000mL							
				ICP Metals - 6010A (TAL); Mercury - 7470 - (CV)	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	Pesticides - 8081; Herbicides - 8150A							
Sample No.	Matrix *	Sample Date	Sample Time										Tir	To
B0YNX1	WATER	7-17-00	0830			X							B0YNX8	
B0YNX2	WATER	7-17-00	1050	X	X	X	X						B0YNX5	
B0YNX3	WATER	7-17-00	1212	X	X	X	X						B0YNX6	
B0YNX4	WATER	7-17-00	1220	X	X	X	X						B0YNY0	

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: [signature]	Date/Time: 7/17/00 1515	Received By: R. Thorson	Date/Time: 7-17-00 1515
Relinquished By: R. Thorson	Date/Time: 7-24-00 1430	Received By: FEDEX	Date/Time:
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

** Laboratory is to perform at least one matrix spike/matrix spike duplicate set per analytical method for each SDG.

** Laboratory is to note that listed waste codes for these samples include: F001, F002, F003, F004, and F005.

Matrix *

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

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

BHI-EE-011 (10/99)

RECRA
ENVIRONMENTAL
INC.

Chemical and Environmental Measurement Information

SEP 2000
RECEIVED

Recra LabNet Philadelphia
Analytical Report

Client : TNU-HANFORD B00-063
RFW# : 0007L960
SDG/SAF# : H0926/B00-063

W.O.# : 10985-001-001-9999-00
Date Received: 07-25-00

METALS CASE NARRATIVE

1. This narrative covers the analyses of 6 water samples.

2. The samples were prepared and analyzed in accordance with methods checked on the attached glossary. All samples except B0YNX7 were received with a pH of approximately 7 to 8. Aliquots were preserved prior to digestion and analysis. Potassium and Sodium were rerun and reported with ten fold dilutions for all samples except B0YNX7. The dilutions were performed due to the high concentration of these analytes.

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

4. All cooler temperatures have been recorded on the Recra 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. The preparation/method blank for 1 analyte was outside method criteria. {less than the Practical Quantitation Limit (3X the IDL) or samples greater than 20X MB value}. Refer to the Inorganics Method Blank Data Summary.

   a.) The MB result for Calcium was greater than the Practical Quantitation Limit (PQL) {3X the (IDL) Instrument Detection Level} and sample B0YNX7 read less than 20 times the MB concentration. However, no corrective action criteria for MBs were provided in SW846 method 6010B. The sample result was reported herein "uncorrected" for the levels found in the MB.

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

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 26 pages.

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

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

10. The matrix spike (MS) recoveries for 3 analytes were outside the 75-125% control limits. Refer to the Inorganics Accuracy Report.

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

Sample ID	Element	PDS Concentration (ppb)	PDS % Recovery
B0YNX2	Iron	10,000	97.3
	Potassium (10X)	100,000	74.0
	Sodium (10X)	100,000	87.6

12. The duplicate analyses for 4 analytes were outside the 20% Relative Percent Difference (RPD) control limits. Refer to the Inorganics Precision Report.

13. For the purposes of this report, the data has been reported to the Instrument Detection Limit (IDL). Values between the IDL and the Practical Quantitation Limit (PQL) are acquired in a region of less-certain quantification.

14. 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

09-07-00
Date

mld/m07-960

METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within this Recra Lot#: 0007L960

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	✓6010B		__200.7				__99
Antimony	✓6010B	__7041 [5]	__200.7	__204.2			__99
Arsenic	__6010B	__7060A [5]	__200.7	__206.2	__3113B		__99
Barium	✓6010B		__200.7				__99
Beryllium	✓6010B		__200.7				__99
Bismuth	__6010B [1]		__200.7 [1]			__1620	__99
Boron	__6010B		__200.7				__99
Cadmium	✓6010B	__7131A [5]	__200.7	__213.2			__99
Calcium	✓6010B		__200.7				__99
Chromium	✓6010B	__7191 [5]	__200.7	__218.2			__SS17
Cobalt	✓6010B		__200.7				__99
Copper	✓6010B	__7211 [5]	__200.7	__220.2			__99
Iron	✓6010B		__200.7				__99
Lead	__6010B	__7421 [5]	__200.7	__239.2	__3113B		__99
Lithium	__6010B	__7430 [4]	__200.7			__1620	__99
Magnesium	✓6010B		__200.7				__99
Manganese	✓6010B		__200.7				__99
Mercury	✓7470A [3]	__7471A [3]	__245.1 [2]	__245.5 [2]			__99
Molybdenum	__6010B		__200.7				__99
Nickel	✓6010B		__200.7				__99
Potassium	✓6010B	__7610 [4]	__200.7	__258.1 [4]			__99
Rare Earths	__6010B [1]		__200.7 [1]			__1620	__99
Selenium	__6010B	__7740 [5]	__200.7	__270.2	__3113B		__99
Silicon	__6010B [1]		__200.7			__1620	__99
Silica	__6010B		__200.7			__1620	__99
Silver	✓6010B	__7761 [5]	__200.7	__272.2			__99
Sodium	✓6010B	__7770 [4]	__200.7	__273.1 [4]			__99
Strontium	__6010B		__200.7				__99
Thallium	__6010B	__7841 [5]	__200.7	__279.2__200.9			__99
Tin	__6010B		__200.7				__99
Titanium	__6010B		__200.7				__99
Uranium	__6010B [1]		__200.7 [1]			__1620	__99
Vanadium	✓6010B		__200.7				__99
Zinc	✓6010B		__200.7				__99
Zirconium	__6010B [1]		__200.7 [1]			__1620	__99

Other:_____ Method:_____

L-WI-033/M-11/99

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.

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INORGANICS DATA SUMMARY REPORT 09/07/00

CLIENT: TNU-HANFORD B00-063 RECRA LOT #: 0007L960

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-002	B0YNX2	Silver, Total	2.6	u	UG/L	2.6	1.0
		Aluminum, Total	288		UG/L	17.8	1.0
		Barium, Total	11.7		UG/L	2.5	1.0
		Beryllium, Total	0.14		UG/L	0.10	1.0
		Calcium, Total	3490		UG/L	11.0	1.0
		Cadmium, Total	4.8	u	UG/L	4.8	1.0
		Cobalt, Total	3.4		UG/L	3.4	1.0
		Chromium, Total	8.4		UG/L	3.5	1.0
		Copper, Total	5.1		UG/L	2.9	1.0
		Iron, Total	591		UG/L	5.3	1.0
		Mercury, Total	0.10	u	UG/L	0.10	1.0
		Potassium, Total	3130000		UG/L	3520	10.0
		Magnesium, Total	14200		UG/L	38.5	1.0
		Manganese, Total	24.0		UG/L	1.2	1.0
		Sodium, Total	942000		UG/L	272	10.0
		Nickel, Total	46.3		UG/L	14.0	1.0
		Antimony, Total	26.9	u	UG/L	26.9	1.0
		Vanadium, Total	5.9		UG/L	3.8	1.0
		Zinc, Total	12.4		UG/L	2.4	1.0

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INORGANICS DATA SUMMARY REPORT 09/07/00

CLIENT: TNU-HANFORD B00-063 RECRA LOT #: 0007L960

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-003	B0YNX3	Silver, Total	2.6	u	UG/L	2.6	1.0
		Aluminum, Total	39.7		UG/L	17.8	1.0
		Barium, Total	5.7		UG/L	2.5	1.0
		Beryllium, Total	0.10	u	UG/L	0.10	1.0
		Calcium, Total	3190		UG/L	11.0	1.0
		Cadmium, Total	4.8	u	UG/L	4.8	1.0
		Cobalt, Total	3.4	u	UG/L	3.4	1.0
		Chromium, Total	5.2		UG/L	3.5	1.0
		Copper, Total	5.5		UG/L	2.9	1.0
		Iron, Total	96.2		UG/L	5.3	1.0
		Mercury, Total	0.10	u	UG/L	0.10	1.0
		Potassium, Total	2970000		UG/L	3520	10.0
		Magnesium, Total	14400		UG/L	38.5	1.0
		Manganese, Total	6.7		UG/L	1.2	1.0
		Sodium, Total	893000		UG/L	272	10.0
		Nickel, Total	50.5		UG/L	14.0	1.0
		Antimony, Total	26.9	u	UG/L	26.9	1.0
		Vanadium, Total	6.7		UG/L	3.8	1.0
		Zinc, Total	8.7		UG/L	2.4	1.0

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INORGANICS DATA SUMMARY REPORT 09/07/00

CLIENT: TNU-HANFORD B00-063 RECRA LOT #: 0007L960

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-004	B0YNX5	Silver, Total	2.6	u	UG/L	2.6	1.0
		Aluminum, Total	61.8		UG/L	17.8	1.0
		Barium, Total	5.4		UG/L	2.5	1.0
		Beryllium, Total	0.15		UG/L	0.10	1.0
		Calcium, Total	3250		UG/L	11.0	1.0
		Cadmium, Total	4.8	u	UG/L	4.8	1.0
		Cobalt, Total	3.4	u	UG/L	3.4	1.0
		Chromium, Total	5.6		UG/L	3.5	1.0
		Copper, Total	3.8		UG/L	2.9	1.0
		Iron, Total	127		UG/L	5.3	1.0
		Mercury, Total	0.11		UG/L	0.10	1.0
		Potassium, Total	2840000		UG/L	3520	10.0
		Magnesium, Total	13900		UG/L	38.5	1.0
		Manganese, Total	8.7		UG/L	1.2	1.0
		Sodium, Total	858000		UG/L	272	10.0
		Nickel, Total	38.7		UG/L	14.0	1.0
		Antimony, Total	26.9	u	UG/L	26.9	1.0
		Vanadium, Total	4.8		UG/L	3.8	1.0
		Zinc, Total	9.3		UG/L	2.4	1.0

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INORGANICS DATA SUMMARY REPORT 09/07/00

CLIENT: TNU-HANFORD B00-063 RECRA LOT #: 0007L960

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-005	B0YNX6	Silver, Total	2.6	u	UG/L	2.6	1.0
		Aluminum, Total	148		UG/L	17.8	1.0
		Barium, Total	10.0		UG/L	2.5	1.0
		Beryllium, Total	0.10		UG/L	0.10	1.0
		Calcium, Total	3580		UG/L	11.0	1.0
		Cadmium, Total	4.8	u	UG/L	4.8	1.0
		Cobalt, Total	4.6		UG/L	3.4	1.0
		Chromium, Total	6.9		UG/L	3.5	1.0
		Copper, Total	4.8		UG/L	2.9	1.0
		Iron, Total	378		UG/L	5.3	1.0
		Mercury, Total	0.19		UG/L	0.10	1.0
		Potassium, Total	2880000		UG/L	3520	10.0
		Magnesium, Total	13900		UG/L	38.5	1.0
		Manganese, Total	21.8		UG/L	1.2	1.0
		Sodium, Total	875000		UG/L	272	10.0
		Nickel, Total	44.0		UG/L	14.0	1.0
		Antimony, Total	26.9	u	UG/L	26.9	1.0
		Vanadium, Total	6.2		UG/L	3.8	1.0
		Zinc, Total	10.6		UG/L	2.4	1.0

Recra LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 09/07/00

CLIENT: TNU-HANFORD B00-063 RECRA LOT #: 0007L960

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-006	B0YNX7	Silver, Total	2.6	u	UG/L	2.6	1.0
		Aluminum, Total	17.8	u	UG/L	17.8	1.0
		Barium, Total	2.5	u	UG/L	2.5	1.0
		Beryllium, Total	0.10	u	UG/L	0.10	1.0
		Calcium, Total	42.5		UG/L	11.0	1.0
		Cadmium, Total	4.8	u	UG/L	4.8	1.0
		Cobalt, Total	3.4	u	UG/L	3.4	1.0
		Chromium, Total	3.5	u	UG/L	3.5	1.0
		Copper, Total	2.9	u	UG/L	2.9	1.0
		Iron, Total	12.5		UG/L	5.3	1.0
		Mercury, Total	0.10	u	UG/L	0.10	1.0
		Potassium, Total	352	u	UG/L	352	1.0
		Magnesium, Total	38.5	u	UG/L	38.5	1.0
		Manganese, Total	1.2	u	UG/L	1.2	1.0
		Sodium, Total	301		UG/L	27.2	1.0
		Nickel, Total	14.8		UG/L	14.0	1.0
		Antimony, Total	26.9	u	UG/L	26.9	1.0
		Vanadium, Total	3.8	u	UG/L	3.8	1.0
		Zinc, Total	2.4	u	UG/L	2.4	1.0

Recra LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 09/07/00

CLIENT: TNU-HANFORD B00-063 RECRA LOT #: 0007L960

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-007	B0YNX4	Silver, Total	2.6	u	UG/L	2.6	1.0
		Aluminum, Total	27.8		UG/L	17.8	1.0
		Barium, Total	5.9		UG/L	2.5	1.0
		Beryllium, Total	0.10	u	UG/L	0.10	1.0
		Calcium, Total	3200		UG/L	11.0	1.0
		Cadmium, Total	4.8	u	UG/L	4.8	1.0
		Cobalt, Total	3.4	u	UG/L	3.4	1.0
		Chromium, Total	5.2		UG/L	3.5	1.0
		Copper, Total	5.8		UG/L	2.9	1.0
		Iron, Total	50.3		UG/L	5.3	1.0
		Mercury, Total	0.21		UG/L	0.10	1.0
		Potassium, Total	2970000		UG/L	3520	10.0
		Magnesium, Total	14100		UG/L	38.5	1.0
		Manganese, Total	7.0		UG/L	1.2	1.0
		Sodium, Total	907000		UG/L	272	10.0
		Nickel, Total	47.3		UG/L	14.0	1.0
		Antimony, Total	26.9	u	UG/L	26.9	1.0
		Vanadium, Total	5.5		UG/L	3.8	1.0
		Zinc, Total	10.3		UG/L	2.4	1.0

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INORGANICS METHOD BLANK DATA SUMMARY PAGE 09/07/00

CLIENT: TNU-HANFORD B00-063 RECRA LOT #: 0007L960

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	99L1482-MB1	Silver, Total	2.6	u	UG/L	2.6	1.0
		Aluminum, Total	17.8	u	UG/L	17.8	1.0
		Barium, Total	2.5	u	UG/L	2.5	1.0
		Beryllium, Total	0.10	u	UG/L	0.10	1.0
		Calcium, Total	59.3		UG/L	11.0	1.0
		Cadmium, Total	4.8	u	UG/L	4.8	1.0
		Cobalt, Total	3.4	u	UG/L	3.4	1.0
		Chromium, Total	3.5	u	UG/L	3.5	1.0
		Copper, Total	2.9	u	UG/L	2.9	1.0
		Iron, Total	5.4		UG/L	5.3	1.0
		Potassium, Total	352	u	UG/L	352	1.0
		Magnesium, Total	76.9		UG/L	38.5	1.0
		Manganese, Total	1.2	u	UG/L	1.2	1.0
		Sodium, Total	58.0		UG/L	27.2	1.0
		Nickel, Total	14.0	u	UG/L	14.0	1.0
		Antimony, Total	26.9	u	UG/L	26.9	1.0
		Vanadium, Total	3.8	u	UG/L	3.8	1.0
		Zinc, Total	2.4	u	UG/L	2.4	1.0
BLANK1	00C0252-MB1	Mercury, Total	0.10	u	UG/L	0.10	1.0

Recra LabNet - Lionville

INORGANICS ACCURACY REPORT 09/07/00

CLIENT: TNU-HANFORD B00-063 RECRA LOT #: 0007L960

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-002	B0YNX2	Silver, Total	40.6	2.6 u	50.0	81.2	1.0
		Aluminum, Total	1820	288	2000	76.8	1.0
		Barium, Total	1550	11.7	2000	76.8	1.0
		Beryllium, Total	39.7	0.14	50.0	79.1	1.0
		Calcium, Total	27700	3490	25000	96.9	1.0
		Cadmium, Total	46.0	4.8 u	50.0	92.0	1.0
		Cobalt, Total	418	3.4	500	83.0	1.0
		Chromium, Total	172	8.4	200	81.7	1.0
		Copper, Total	204	5.1	250	79.4	1.0
		Iron, Total	1270	591	1000	67.7	1.0
		Mercury, Total	1.2	0.10u	1.0	116.2	1.0
		Potassium, Total	3000000	3130000	25000	-540. *	10.0
		Magnesium, Total	37000	14200	25000	91.0	1.0
		Manganese, Total	430	24.0	500	81.2	1.0
		Sodium, Total	914000	942000	25000	-110. *	10.0
		Nickel, Total	458	46.3	500	82.3	1.0
		Antimony, Total	492	26.9 u	500	98.4	1.0
		Vanadium, Total	404	5.9	500	79.7	1.0
		Zinc, Total	440	12.4	500	85.5	1.0

Recra LabNet - Lionville

INORGANICS PRECISION REPORT 09/07/00

CLIENT: TNU-HANFORD B00-063 RECRA LOT #: 0007L960

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

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-002REP	B0YNX2	Silver, Total	2.6 u	2.6 u	NC	1.0
		Aluminum, Total	288	218	27.5	1.0
		Barium, Total	11.7	10.8	8.0	1.0
		Beryllium, Total	0.14	0.10u	~~NC~~ 200	1.0
		Calcium, Total	3490	3510	0.60	1.0
		Cadmium, Total	4.8 u	4.8 u	NC	1.0
		Cobalt, Total	3.4	3.4 u	~~NC~~ 200	1.0
		Chromium, Total	8.4	6.9	19.6	1.0
		Copper, Total	5.1	4.8	6.1	1.0
		Iron, Total	591	523	12.2	1.0
		Mercury, Total	0.10u	0.10u	NC	1.0
		Potassium, Total	3130000	3070000	2.0	10.0
		Magnesium, Total	14200	14300	0.73	1.0
		Manganese, Total	24.0	23.7	1.3	1.0
		Sodium, Total	942000	920000	2.4	10.0
		Nickel, Total	46.3	49.4	6.5	1.0
		Antimony, Total	26.9 u	26.9 u	NC	1.0
		Vanadium, Total	5.9	4.7	22.6	1.0
		Zinc, Total	12.4	12.1	2.4	1.0

Corrections
AD 9/7/00

Recra LabNet - Lionville

INORGANICS LABORATORY CONTROL STANDARDS REPORT 09/07/00

CLIENT: TNU-HANFORD B00-063

RECRA LOT #: 0007L960

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	99L1482-LC1	Silver, LCS	483	500	UG/L	96.6
		Aluminum, LCS	4890	5000	UG/L	97.7
		Barium, LCS	4760	5000	UG/L	95.1
		Beryllium, LCS	241	250	UG/L	96.4
		Calcium, LCS	24100	25000	UG/L	96.5
		Cadmium, LCS	238	250	UG/L	95.2
		Cobalt, LCS	2490	2500	UG/L	99.5
		Chromium, LCS	493	500	UG/L	98.7
		Copper, LCS	1190	1250	UG/L	95.5
		Iron, LCS	4950	5000	UG/L	99.0
		Potassium, LCS	24200	25000	UG/L	96.9
		Magnesium, LCS	24300	25000	UG/L	97.1
		Manganese, LCS	732	750	UG/L	97.6
		Sodium, LCS	23600	25000	UG/L	94.4
		Nickel, LCS	1970	2000	UG/L	98.6
		Antimony, LCS	2870	3000	UG/L	95.8
		Vanadium, LCS	2370	2500	UG/L	94.8
		Zinc, LCS	985	1000	UG/L	98.5
LCS1	00C0252-LC1	Mercury, LCS	5.2	5.0	UG/L	104.0

Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD B00-063

DATE RECEIVED: 07/25/00 RFW LOT # :0007L960

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B0YNX2						
SILVER, TOTAL	002	W	99L1482	07/17/00	08/17/00	08/18/00
SILVER, TOTAL	002 REP	W	99L1482	07/17/00	08/17/00	08/18/00
SILVER, TOTAL	002 MS	W	99L1482	07/17/00	08/17/00	08/18/00
ALUMINUM, TOTAL	002	W	99L1482	07/17/00	08/17/00	08/18/00
ALUMINUM, TOTAL	002 REP	W	99L1482	07/17/00	08/17/00	08/18/00
ALUMINUM, TOTAL	002 MS	W	99L1482	07/17/00	08/17/00	08/18/00
BARIUM, TOTAL	002	W	99L1482	07/17/00	08/17/00	08/18/00
BARIUM, TOTAL	002 REP	W	99L1482	07/17/00	08/17/00	08/18/00
BARIUM, TOTAL	002 MS	W	99L1482	07/17/00	08/17/00	08/18/00
BERYLLIUM, TOTAL	002	W	99L1482	07/17/00	08/17/00	08/18/00
BERYLLIUM, TOTAL	002 REP	W	99L1482	07/17/00	08/17/00	08/18/00
BERYLLIUM, TOTAL	002 MS	W	99L1482	07/17/00	08/17/00	08/18/00
CALCIUM, TOTAL	002	W	99L1482	07/17/00	08/17/00	08/18/00
CALCIUM, TOTAL	002 REP	W	99L1482	07/17/00	08/17/00	08/18/00
CALCIUM, TOTAL	002 MS	W	99L1482	07/17/00	08/17/00	08/18/00
CADMIUM, TOTAL	002	W	99L1482	07/17/00	08/17/00	08/18/00
CADMIUM, TOTAL	002 REP	W	99L1482	07/17/00	08/17/00	08/18/00
CADMIUM, TOTAL	002 MS	W	99L1482	07/17/00	08/17/00	08/18/00
COBALT, TOTAL	002	W	99L1482	07/17/00	08/17/00	08/18/00
COBALT, TOTAL	002 REP	W	99L1482	07/17/00	08/17/00	08/18/00
COBALT, TOTAL	002 MS	W	99L1482	07/17/00	08/17/00	08/18/00
CHROMIUM, TOTAL	002	W	99L1482	07/17/00	08/17/00	08/18/00
CHROMIUM, TOTAL	002 REP	W	99L1482	07/17/00	08/17/00	08/18/00
CHROMIUM, TOTAL	002 MS	W	99L1482	07/17/00	08/17/00	08/18/00
COPPER, TOTAL	002	W	99L1482	07/17/00	08/17/00	08/18/00
COPPER, TOTAL	002 REP	W	99L1482	07/17/00	08/17/00	08/18/00
COPPER, TOTAL	002 MS	W	99L1482	07/17/00	08/17/00	08/18/00
IRON, TOTAL	002	W	99L1482	07/17/00	08/17/00	08/18/00
IRON, TOTAL	002 REP	W	99L1482	07/17/00	08/17/00	08/18/00
IRON, TOTAL	002 MS	W	99L1482	07/17/00	08/17/00	08/18/00
MERCURY, TOTAL	002	W	00C0252	07/17/00	08/14/00	08/14/00
MERCURY, TOTAL	002 REP	W	00C0252	07/17/00	08/14/00	08/14/00
MERCURY, TOTAL	002 MS	W	00C0252	07/17/00	08/14/00	08/14/00
POTASSIUM, TOTAL	002	W	99L1482	07/17/00	08/17/00	08/18/00
POTASSIUM, TOTAL	002 REP	W	99L1482	07/17/00	08/17/00	08/18/00

Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD B00-063

DATE RECEIVED: 07/25/00 RFW LOT # :0007L960

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
POTASSIUM, TOTAL	002 MS	W	99L1482	07/17/00	08/17/00	08/18/00
MAGNESIUM, TOTAL	002	W	99L1482	07/17/00	08/17/00	08/18/00
MAGNESIUM, TOTAL	002 REP	W	99L1482	07/17/00	08/17/00	08/18/00
MAGNESIUM, TOTAL	002 MS	W	99L1482	07/17/00	08/17/00	08/18/00
MANGANESE, TOTAL	002	W	99L1482	07/17/00	08/17/00	08/18/00
MANGANESE, TOTAL	002 REP	W	99L1482	07/17/00	08/17/00	08/18/00
MANGANESE, TOTAL	002 MS	W	99L1482	07/17/00	08/17/00	08/18/00
SODIUM, TOTAL	002	W	99L1482	07/17/00	08/17/00	08/18/00
SODIUM, TOTAL	002 REP	W	99L1482	07/17/00	08/17/00	08/18/00
SODIUM, TOTAL	002 MS	W	99L1482	07/17/00	08/17/00	08/18/00
NICKEL, TOTAL	002	W	99L1482	07/17/00	08/17/00	08/18/00
NICKEL, TOTAL	002 REP	W	99L1482	07/17/00	08/17/00	08/18/00
NICKEL, TOTAL	002 MS	W	99L1482	07/17/00	08/17/00	08/18/00
ANTIMONY, TOTAL	002	W	99L1482	07/17/00	08/17/00	08/18/00
ANTIMONY, TOTAL	002 REP	W	99L1482	07/17/00	08/17/00	08/18/00
ANTIMONY, TOTAL	002 MS	W	99L1482	07/17/00	08/17/00	08/18/00
VANADIUM, TOTAL	002	W	99L1482	07/17/00	08/17/00	08/18/00
VANADIUM, TOTAL	002 REP	W	99L1482	07/17/00	08/17/00	08/18/00
VANADIUM, TOTAL	002 MS	W	99L1482	07/17/00	08/17/00	08/18/00
ZINC, TOTAL	002	W	99L1482	07/17/00	08/17/00	08/18/00
ZINC, TOTAL	002 REP	W	99L1482	07/17/00	08/17/00	08/18/00
ZINC, TOTAL	002 MS	W	99L1482	07/17/00	08/17/00	08/18/00
B0YNX3						
SILVER, TOTAL	003	W	99L1482	07/17/00	08/17/00	08/18/00
ALUMINUM, TOTAL	003	W	99L1482	07/17/00	08/17/00	08/18/00
BARIUM, TOTAL	003	W	99L1482	07/17/00	08/17/00	08/18/00
BERYLLIUM, TOTAL	003	W	99L1482	07/17/00	08/17/00	08/18/00
CALCIUM, TOTAL	003	W	99L1482	07/17/00	08/17/00	08/18/00
CADMIUM, TOTAL	003	W	99L1482	07/17/00	08/17/00	08/18/00
COBALT, TOTAL	003	W	99L1482	07/17/00	08/17/00	08/18/00
CHROMIUM, TOTAL	003	W	99L1482	07/17/00	08/17/00	08/18/00
COPPER, TOTAL	003	W	99L1482	07/17/00	08/17/00	08/18/00
IRON, TOTAL	003	W	99L1482	07/17/00	08/17/00	08/18/00
MERCURY, TOTAL	003	W	00C0252	07/17/00	08/14/00	08/14/00
POTASSIUM, TOTAL	003	W	99L1482	07/17/00	08/17/00	08/18/00
MAGNESIUM, TOTAL	003	W	99L1482	07/17/00	08/17/00	08/18/00

Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD B00-063

DATE RECEIVED: 07/25/00 RFW LOT # :0007L960

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
MANGANESE, TOTAL	003	W	99L1482	07/17/00	08/17/00	08/18/00
SODIUM, TOTAL	003	W	99L1482	07/17/00	08/17/00	08/18/00
NICKEL, TOTAL	003	W	99L1482	07/17/00	08/17/00	08/18/00
ANTIMONY, TOTAL	003	W	99L1482	07/17/00	08/17/00	08/18/00
VANADIUM, TOTAL	003	W	99L1482	07/17/00	08/17/00	08/18/00
ZINC, TOTAL	003	W	99L1482	07/17/00	08/17/00	08/18/00
B0YNX5						
SILVER, TOTAL	004	W	99L1482	07/17/00	08/17/00	08/18/00
ALUMINUM, TOTAL	004	W	99L1482	07/17/00	08/17/00	08/18/00
BARIUM, TOTAL	004	W	99L1482	07/17/00	08/17/00	08/18/00
BERYLLIUM, TOTAL	004	W	99L1482	07/17/00	08/17/00	08/18/00
CALCIUM, TOTAL	004	W	99L1482	07/17/00	08/17/00	08/18/00
CADMIUM, TOTAL	004	W	99L1482	07/17/00	08/17/00	08/18/00
COBALT, TOTAL	004	W	99L1482	07/17/00	08/17/00	08/18/00
CHROMIUM, TOTAL	004	W	99L1482	07/17/00	08/17/00	08/18/00
COPPER, TOTAL	004	W	99L1482	07/17/00	08/17/00	08/18/00
IRON, TOTAL	004	W	99L1482	07/17/00	08/17/00	08/18/00
MERCURY, TOTAL	004	W	00C0252	07/17/00	08/14/00	08/14/00
POTASSIUM, TOTAL	004	W	99L1482	07/17/00	08/17/00	08/18/00
MAGNESIUM, TOTAL	004	W	99L1482	07/17/00	08/17/00	08/18/00
MANGANESE, TOTAL	004	W	99L1482	07/17/00	08/17/00	08/18/00
SODIUM, TOTAL	004	W	99L1482	07/17/00	08/17/00	08/18/00
NICKEL, TOTAL	004	W	99L1482	07/17/00	08/17/00	08/18/00
ANTIMONY, TOTAL	004	W	99L1482	07/17/00	08/17/00	08/18/00
VANADIUM, TOTAL	004	W	99L1482	07/17/00	08/17/00	08/18/00
ZINC, TOTAL	004	W	99L1482	07/17/00	08/17/00	08/18/00
B0YNX6						
SILVER, TOTAL	005	W	99L1482	07/17/00	08/17/00	08/18/00
ALUMINUM, TOTAL	005	W	99L1482	07/17/00	08/17/00	08/18/00
BARIUM, TOTAL	005	W	99L1482	07/17/00	08/17/00	08/18/00
BERYLLIUM, TOTAL	005	W	99L1482	07/17/00	08/17/00	08/18/00
CALCIUM, TOTAL	005	W	99L1482	07/17/00	08/17/00	08/18/00
CADMIUM, TOTAL	005	W	99L1482	07/17/00	08/17/00	08/18/00
COBALT, TOTAL	005	W	99L1482	07/17/00	08/17/00	08/18/00

Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD B00-063

DATE RECEIVED: 07/25/00 RFW LOT # :0007L960

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
CHROMIUM, TOTAL	005	W	99L1482	07/17/00	08/17/00	08/18/00
COPPER, TOTAL	005	W	99L1482	07/17/00	08/17/00	08/18/00
IRON, TOTAL	005	W	99L1482	07/17/00	08/17/00	08/18/00
MERCURY, TOTAL	005	W	00C0252	07/17/00	08/14/00	08/14/00
POTASSIUM, TOTAL	005	W	99L1482	07/17/00	08/17/00	08/18/00
MAGNESIUM, TOTAL	005	W	99L1482	07/17/00	08/17/00	08/18/00
MANGANESE, TOTAL	005	W	99L1482	07/17/00	08/17/00	08/18/00
SODIUM, TOTAL	005	W	99L1482	07/17/00	08/17/00	08/18/00
NICKEL, TOTAL	005	W	99L1482	07/17/00	08/17/00	08/18/00
ANTIMONY, TOTAL	005	W	99L1482	07/17/00	08/17/00	08/18/00
VANADIUM, TOTAL	005	W	99L1482	07/17/00	08/17/00	08/18/00
ZINC, TOTAL	005	W	99L1482	07/17/00	08/17/00	08/18/00
B0YNX7						
SILVER, TOTAL	006	W	99L1482	07/17/00	08/17/00	08/18/00
ALUMINUM, TOTAL	006	W	99L1482	07/17/00	08/17/00	08/18/00
BARIUM, TOTAL	006	W	99L1482	07/17/00	08/17/00	08/18/00
BERYLLIUM, TOTAL	006	W	99L1482	07/17/00	08/17/00	08/18/00
CALCIUM, TOTAL	006	W	99L1482	07/17/00	08/17/00	08/18/00
CADMIUM, TOTAL	006	W	99L1482	07/17/00	08/17/00	08/18/00
COBALT, TOTAL	006	W	99L1482	07/17/00	08/17/00	08/18/00
CHROMIUM, TOTAL	006	W	99L1482	07/17/00	08/17/00	08/18/00
COPPER, TOTAL	006	W	99L1482	07/17/00	08/17/00	08/18/00
IRON, TOTAL	006	W	99L1482	07/17/00	08/17/00	08/18/00
MERCURY, TOTAL	006	W	00C0252	07/17/00	08/14/00	08/14/00
POTASSIUM, TOTAL	006	W	99L1482	07/17/00	08/17/00	08/18/00
MAGNESIUM, TOTAL	006	W	99L1482	07/17/00	08/17/00	08/18/00
MANGANESE, TOTAL	006	W	99L1482	07/17/00	08/17/00	08/18/00
SODIUM, TOTAL	006	W	99L1482	07/17/00	08/17/00	08/18/00
NICKEL, TOTAL	006	W	99L1482	07/17/00	08/17/00	08/18/00
ANTIMONY, TOTAL	006	W	99L1482	07/17/00	08/17/00	08/18/00
VANADIUM, TOTAL	006	W	99L1482	07/17/00	08/17/00	08/18/00
ZINC, TOTAL	006	W	99L1482	07/17/00	08/17/00	08/18/00
B0YNX4						
SILVER, TOTAL	007	W	99L1482	07/17/00	08/17/00	08/18/00

Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD B00-063

DATE RECEIVED: 07/25/00 RFW LOT # :0007L960

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
ALUMINUM, TOTAL	007	W	99L1482	07/17/00	08/17/00	08/18/00
BARIUM, TOTAL	007	W	99L1482	07/17/00	08/17/00	08/18/00
BERYLLIUM, TOTAL	007	W	99L1482	07/17/00	08/17/00	08/18/00
CALCIUM, TOTAL	007	W	99L1482	07/17/00	08/17/00	08/18/00
CADMIUM, TOTAL	007	W	99L1482	07/17/00	08/17/00	08/18/00
COBALT, TOTAL	007	W	99L1482	07/17/00	08/17/00	08/18/00
CHROMIUM, TOTAL	007	W	99L1482	07/17/00	08/17/00	08/18/00
COPPER, TOTAL	007	W	99L1482	07/17/00	08/17/00	08/18/00
IRON, TOTAL	007	W	99L1482	07/17/00	08/17/00	08/18/00
MERCURY, TOTAL	007	W	00C0252	07/17/00	08/14/00	08/14/00
POTASSIUM, TOTAL	007	W	99L1482	07/17/00	08/17/00	08/18/00
MAGNESIUM, TOTAL	007	W	99L1482	07/17/00	08/17/00	08/18/00
MANGANESE, TOTAL	007	W	99L1482	07/17/00	08/17/00	08/18/00
SODIUM, TOTAL	007	W	99L1482	07/17/00	08/17/00	08/18/00
NICKEL, TOTAL	007	W	99L1482	07/17/00	08/17/00	08/18/00
ANTIMONY, TOTAL	007	W	99L1482	07/17/00	08/17/00	08/18/00
VANADIUM, TOTAL	007	W	99L1482	07/17/00	08/17/00	08/18/00
ZINC, TOTAL	007	W	99L1482	07/17/00	08/17/00	08/18/00

LAB QC:

SILVER LABORATORY	LC1 BS	W	99L1482	N/A	08/17/00	08/18/00
SILVER, TOTAL	MB1	W	99L1482	N/A	08/17/00	08/18/00
ALUMINUM LABORTORY	LC1 BS	W	99L1482	N/A	08/17/00	08/18/00
ALUMINUM, TOTAL	MB1	W	99L1482	N/A	08/17/00	08/18/00
BARIUM LABORATORY	LC1 BS	W	99L1482	N/A	08/17/00	08/18/00
BARIUM, TOTAL	MB1	W	99L1482	N/A	08/17/00	08/18/00
BERYLLIUM LABORATORY	LC1 BS	W	99L1482	N/A	08/17/00	08/18/00
BERYLLIUM, TOTAL	MB1	W	99L1482	N/A	08/17/00	08/18/00
CALCIUM LABORATORY	LC1 BS	W	99L1482	N/A	08/17/00	08/18/00
CALCIUM, TOTAL	MB1	W	99L1482	N/A	08/17/00	08/18/00
CADMIUM LABORATORY	LC1 BS	W	99L1482	N/A	08/17/00	08/18/00
CADMIUM, TOTAL	MB1	W	99L1482	N/A	08/17/00	08/18/00
COBALT LABORATORY	LC1 BS	W	99L1482	N/A	08/17/00	08/18/00
COBALT, TOTAL	MB1	W	99L1482	N/A	08/17/00	08/18/00
CHROMIUM LABORATORY	LC1 BS	W	99L1482	N/A	08/17/00	08/18/00
CHROMIUM, TOTAL	MB1	W	99L1482	N/A	08/17/00	08/18/00
COPPER LABORATORY	LC1 BS	W	99L1482	N/A	08/17/00	08/18/00

Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD B00-063

DATE RECEIVED: 07/25/00 RFW LOT # :0007L960

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
COPPER, TOTAL	MB1	W	99L1482	N/A	08/17/00	08/18/00
IRON LABORATORY	LC1 BS	W	99L1482	N/A	08/17/00	08/18/00
IRON, TOTAL	MB1	W	99L1482	N/A	08/17/00	08/18/00
MERCURY LABORATORY	LC1 BS	W	00C0252	N/A	08/14/00	08/14/00
MERCURY, TOTAL	MB1	W	00C0252	N/A	08/14/00	08/14/00
POTASSIUM LABORATORY	LC1 BS	W	99L1482	N/A	08/17/00	08/18/00
POTASSIUM, TOTAL	MB1	W	99L1482	N/A	08/17/00	08/18/00
MAGNESIUM LABORATORY	LC1 BS	W	99L1482	N/A	08/17/00	08/18/00
MAGNESIUM, TOTAL	MB1	W	99L1482	N/A	08/17/00	08/18/00
MANGANESE LABORATORY	LC1 BS	W	99L1482	N/A	08/17/00	08/18/00
MANGANESE, TOTAL	MB1	W	99L1482	N/A	08/17/00	08/18/00
SODIUM LABORATORY	LC1 BS	W	99L1482	N/A	08/17/00	08/18/00
SODIUM, TOTAL	MB1	W	99L1482	N/A	08/17/00	08/18/00
NICKEL LABORATORY	LC1 BS	W	99L1482	N/A	08/17/00	08/18/00
NICKEL, TOTAL	MB1	W	99L1482	N/A	08/17/00	08/18/00
ANTIMONY LABORATORY	LC1 BS	W	99L1482	N/A	08/17/00	08/18/00
ANTIMONY, TOTAL	MB1	W	99L1482	N/A	08/17/00	08/18/00
VANADIUM LABORATORY	LC1 BS	W	99L1482	N/A	08/17/00	08/18/00
VANADIUM, TOTAL	MB1	W	99L1482	N/A	08/17/00	08/18/00
ZINC LABORATORY	LC1 BS	W	99L1482	N/A	08/17/00	08/18/00
ZINC, TOTAL	MB1	W	99L1482	N/A	08/17/00	08/18/00

RECRA LabNet Use Only

00071960

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

(9) met Dig

RECRA LabNet

Client: TNU - Hanford B00-063
Est. Final Proj. Sampling Date:
Project #: 10985-001-001-9999-00
Project Contact/Phone #:
RECRA Project Manager: OJ
QC: Spec Del: Std TAT: 30 day
Date Rec'd: 7-25-00 Date Due: 8-24-00
Account #:

Refrigerator #		1	2	2	1				2							
#/Type Container	Liquid	3oz	2oz	4oz	1				1oz							
	Solid	J	J	J					J							
Volume	Liquid	40	950	950	1				500							
	Solid															
Preservatives		HCL	—	—	—				HNO_3							
ANALYSES REQUESTED →		ORGANIC							INORG							
		VOA	BNA	Pest/PCB	Herb				ICP Metal Merc	CN						
		RECRA LabNet Use Only														
		OC24H	OC25H	OC08H	OHBGX				Met(1)							

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

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	OC24H	OC25H	OC08H	OHBGX				Met(1)							
001	BOYNX1			W	7/21/00	0630	X														
002	2					1050	X	X	X	X				X							
003	3					1212	X	X	X	X				X							
004	5					1233	X	X	X	X				X							
005	6					1050	X	X	X	X				X							
006	7					0910	X	X	X	X				X							
007	4					1220	X	X	X	X				X							

Special Instructions: Saf B00-063

4235 7953 7456 / 4.3°C *
7478 / 6.0°C *
7445 / 4.7°C *
7467 / 3.8°C *

DATE/REVISIONS:
1. Run Matrix QC
Met(1) 2. Al, Ag, Ba, Be, Ca, Cd, Co, Cr, Fe, K, Mg,
1 3. Mn, Na, Ni, Sb, V, Zn, Hg, Cu
8-1-00 4. Cu added to metals
5.
6.

RECRA LabNet Use Only

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

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

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

Relinquished by	Received by	Date	Time
Fed Ex	D. Smith	7/25/00	0915

Relinquished by	Received by	Date	Time
COMPOSITE WASTE	ORIGINAL REWRITTEN		

Bechtel Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

B00-063-01

Collector: BOWERS/JOHANSEN	Company Contact: W Thompson	Telephone No.: 372-9597	Project Coordinator: SHEA, DW
Project Designation: MODU TANK - Annual Sampling of Purgewater	Sampling Location: 200 EAST		SAF No.: B00-063
Ice Chest No.: ERC 96021 SOF7	Field Logbook No.: EL 1517	COA: HGWLTM3510	Method of Shipment: Fed EX
Shipped To: TMA/RECRA 7-17-00	Offsite Property No.: A000242		Bill of Lading/Air Bill No.: 12357953 7478

Price Code: 7N

Air Quality ☐

Data Turnaround: 45 Days

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Preservation	HNO3 to pH <2	Cool 4C	HCl to pH <2 Cool 4C	Cool 4C							
Type of Container	aG	aG	aGs*	aG							
No. of Container(s)	1	2	3	4							
Volume	500mL	1000mL	40mL	1000mL							
SAMPLE ANALYSIS	ICP Metals - 6010A (TAL); Mercury - 7470 - (CV)	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	Pesticides - 8081; Herbicides - 8150A							

	Sample No.	Matrix *	Sample Date	Sample Time										TIR	TO
1.	B0YNX1	WATER	7-17-00	0630			X								
2	B0YNX2	WATER	7-17-00	1050	X	X	X	X						B0YNX8	
3	B0YNX3	WATER	7-17-00	1212	X	X	X	X						B0YNX9	
RT 7-24-00	~~B0YNX4~~	~~WATER~~	~~7-17-00~~	~~1220~~	~~X~~	~~X~~	~~X~~	~~X~~						B0YNY0	

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
[illegible]	7/17/00 1515	R. Thorson	7.17.00 1515
R. Thorson	7.24.00 1430	FED EX	
Fed Ex	7.25.00 0915	D. [illegible]	7.25.00 0915

SPECIAL INSTRUCTIONS

** Laboratory is to perform at least one matrix spike/matrix spike duplicate set per analytical method for each SDG.

** Laboratory is to note that listed waste codes for these samples include: F001, F002, F003, F004, and F005.

3.8°C

Matrix *

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

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

BHI-EE-011 (10/99)

022

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		B00-063-02	Page 1 of 1
Collector: BOWERS/JOHANSEN	Company Contact: W Thompson	Telephone No.: 372-9597	Project Coordinator: SHEA, DW	Price Code: 7N; Data Turnaround: 45 Days
Project Designation: MODU TANK - Annual Sampling of Purgewater	Sampling Location: 200 EAST		SAF No.: B00-063	Air Quality ☐
Ice Chest No.: ERC 96 026 40F7	Field Logbook No.: EL 1517	COA: HGWLTM3510	Method of Shipment: Fed EX	
Shipped To: ~~TMA~~/RECRA 6 28 7-17-00	Offsite Property No.: A000242		Bill of Lading/Air Bill No.: 42357953 7467	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Preservation	HNO3 to pH <2	Cool 4C	HCl to pH <2 Cool 4C	Cool 4C						
Type of Container	aG	aG	aGs*	aG						
No. of Container(s)	1	2	3	4						
Volume	500mL	1000mL	40mL	1000mL						
SAMPLE ANALYSIS	ICP Metals - 6010A (TAL); Mercury - 7470 - (CV)	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	Pesticides - 8081; Herbicides - 8150A					Tie	TO

Sample No.	Matrix *	Sample Date	Sample Time										
4 - B0YNX5	WATER	7-17-00	1233	X	X	X	X				B0YNX1		
RT 7.24 ~~B0YNX6~~	~~WATER~~	~~7-17-00~~	~~1050~~	~~X~~	~~X~~	~~X~~	~~X~~				~~B0YNX8~~		
RT 7.24.00 ~~B0YNX7~~	~~WATER~~	~~7-17-00~~	~~0910~~	~~X~~	~~X~~	~~X~~	~~X~~				~~B0YNX8~~		

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By: [signature]	Date/Time: 7/17/00 1515	Received By: R. Thoren R. Thoren	Date/Time: 7.17.00 / 1515
Relinquished By: R. Thoren R. Thoren	Date/Time: 7.24.00 1430	Received By: FED EX	Date/Time:
Relinquished By: Fed Ex	Date/Time: 7.25.00/0915	Received By: D. Smith	Date/Time: 7.25.0915
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

** Laboratory is to perform at least one matrix spike/matrix spike duplicate set per analytical method for each SDG.

** Laboratory is to note that listed waste codes for these samples include: F001, F002, F003, F004, and F005.

6"

Matrix *

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

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

BHI-EE-011 (10/99)

023

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		B00-063-02	Page 1 of 1
Collector: BOWERS/JOHANSEN	Company Contact: W Thompson	Telephone No.: 372-9597	Project Coordinator: SHEA, DW	Price Code: 7N; Data Turnaround: 45 Days
Project Designation: MODU TANK - Annual Sampling of Purgewater	Sampling Location: 200 EAST		SAF No.: B00-063	Air Quality
Ice Chest No.: ERA 99.065 2OF7	Field Logbook No.: EL 1517	COA: HGWLTM3510	Method of Shipment: Fed EX	
Shipped To: TMA/RECRA	Offsite Property No.: A000242		Bill of Lading/Air Bill No.: 42357953 7445	

6 28 7-17-00

POSSIBLE SAMPLE HAZARDS/REMARKS

NONE

Special Handling and/or Storage

Preservation	HNO3 to pH <2	Cool 4C	HCl to pH <2 Cool 4C	Cool 4C						
Type of Container	aG	aG	aGs*	aG						
No. of Container(s)	1	2	3	4						
Volume	500mL	1000mL	40mL	1000mL						
SAMPLE ANALYSIS	ICP Metals - 6010A (TAL); Mercury - 7470 - (CV)	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	Pesticides - 8081; Herbicides - 8150A					Tie	TO

Sample No.	Matrix *	Sample Date	Sample Time										
~~B0YNX5~~	~~WATER~~	~~7-17-00~~	~~1273~~	~~X~~	~~X~~	~~X~~	~~X~~				~~B0YNX1~~		
B0YNX6	WATER	7-17-00	1050	X	X	X	X				B0YNX8		
~~B0YNX7~~	~~WATER~~	~~7-17-00~~	~~0910~~	~~X~~	~~X~~	~~X~~	~~X~~				~~B0YNX8~~		

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By	Date/Time	Received By	Date/Time
[signature]	7/17/00 1515	R. Thoren R. Thoren	7.17.00 / 1515
R. Thoren	7.24.00 1430	FED EX	
Fed Ex	7.25.00 / 0915	[signature]	7.25.00 / 0915

SPECIAL INSTRUCTIONS

** Laboratory is to perform at least one matrix spike/matrix spike duplicate set per analytical method for each SDG.

** Laboratory is to note that listed waste codes for these samples include: F001, F002, F003, F004, and F005.

4.7°

Matrix *

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

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Di[illegible]ed By	Date/Time

024

BHI-EE-011 (10/99)

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		B00-063-02	Page 1 of 1
Collector: BOWERS/JOHANSEN	Company Contact: W Thompson	Telephone No.: 372-9597	Project Coordinator: SHEA, DW	Price Code: 7N
Project Designation: MODU TANK - Annual Sampling of Purgewater	Sampling Location: 200 EAST		SAF No.: B00-063	Air Quality: ☐
Ice Chest No.: GWS103 3OF7	Field Logbook No.: EL 1517	COA: HGWLTM3510	Method of Shipment: Fed EX	Data Turnaround: 45 Days
Shipped To: TMA/RECRA 678 7-17-00	Offsite Property No.: A00024Z		Bill of Lading/Air Bill No.: 4235795 3 7456	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Preservation	HNO3 to pH <2	Cool 4C	HCl to pH <2 Cool 4C	Cool 4C						
Type of Container	aG	aG	aGs*	aG						
No. of Container(s)	1	2	3	4						
Volume	500mL	1000mL	40mL	1000mL						
SAMPLE ANALYSIS	ICP Metals - 6010A (TAL); Mercury - 7470 - (CV)	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	Pesticides - 8081; Herbicides - 8150A					TIR	TO

Sample No.	Matrix *	Sample Date	Sample Time										
~~B0YNX5~~	WATER	7-17-00	1233	X	X	X	X				B0YNX1		
~~B0YNX6~~	WATER	7-17-00	1070	X	X	X	X				~~B0YNX8~~		
B0YNX7	WATER	7-17-00	0910	X	X	X	X				B0YNX8		

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
[illegible]	7/17/00 1515	R. Thoren	7.17.00 / 1515
R. Thoren	7.24.00 1430	FED EX	
FED EX	7.25.00 / 0915	D. [illegible]	7.25.00 / 0915

SPECIAL INSTRUCTIONS

** Laboratory is to perform at least one matrix spike/matrix spike duplicate set per analytical method for each SDG.

** Laboratory is to note that listed waste codes for these samples include: F001, F002, F003, F004, and F005.

4.3°C

Matrix *

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

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

BHI-EE-011 (10/99)

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B00-063-01	Page 1 of 1

Collector: BOWERS/JOHANSEN	Company Contact: W Thompson	Telephone No.: 372-9597	Project Coordinator: SHEA, DW
Price Code: 7N	Data Turnaround: 45 Days	Air Quality: ☐	
Project Designation: MODU TANK - Annual Sampling of Purgewater	Sampling Location: 200 EAST	SAF No.: B00-063	
Ice Chest No.: SM1 348 (1 OF 1)	Field Logbook No.: EL 1517	COA: HGWLTM3510	Method of Shipment: Fed EX
Shipped To: TMA/RECRA	Offsite Property No.: A00024C	Bill of Lading/Air Bill No.: 4238 7953 - 7434	

B30 7-17-00

POSSIBLE SAMPLE HAZARDS/REMARKS: None

Special Handling and/or Storage

Preservation	HNO3 to pH <2	Cool 4C	HCl to pH <2 Cool 4C	Cool 4C						
Type of Container	aG	aG	aGs*	aG						
No. of Container(s)	1	2	3	4						
Volume	500mL	1000mL	40mL	1000mL						
SAMPLE ANALYSIS	ICP Metals - 6010A (TAL); Mercury - 7470 - (CV)	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	Pesticides - 8081; Herbicides - 8150A					Tir	To

Sample No.	Matrix *	Sample Date	Sample Time										
~~B0YNX1~~	WATER	7-17-00	0830			X						B0YNX8	
~~B0YNX2~~	WATER	7-17-00	1050	X	X	X	X					B0YNX5	
~~B0YNX3~~	WATER	7-17-00	1212	X	X	X	X					B0YNX6	
B0YNX4	WATER	7-17-00	1220	X	X	X	X					B0YNX0	

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: [illegible]	Date/Time: 7/17/00 1515	Received By: R. Thorlin	Date/Time: 7-17-00 1515
Relinquished By: R. Thorlin	Date/Time: 7-24-00 1430	Received By: FEDEX	Date/Time:
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

** Laboratory is to perform at least one matrix spike/matrix spike duplicate set per analytical method for each SDG.

** Laboratory is to note that listed waste codes for these samples include: F001, F002, F003, F004, and F005.

Matrix *

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

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

BHI-EE-011 (10/99)