H0534 TM1/RECRA

RECRA ENVIRONMENTAL INC.

0052710

Chemical and Environmental Measurement Information

Recra LabNet Philadelphia
Analytical Report
****REVISION****

Client : TNU-HANFORD B99-078
RFW# : 9909L129
SDG/SAF #: H0534/B99-078

W.O. #: 10985-001-001-9999-00
Date Received: 09-17-99

RECEIVED MAR 20 2000 EDMC

SEMIVOLATILE

This narrative was corrected to add the TIC search for Tributylphosphate.

Four (4) soil samples were collected on 09-14-99.

The samples and their associated QC samples were extracted on 09-20-99 and analyzed according to criteria set forth in Recra OPs based on SW 846 Methods 8270B for TCL Semivolatile target compounds on 09-28,29,30-99.

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

1. The cooler temperature upon receipt has been recorded on the chain-of-custody.
2. The required holding times for extraction and analysis were met.
3. Non-target compounds were detected in the samples.
4. All surrogate recoveries were within EPA QC limits.
5. All matrix spike recoveries were within EPA QC limits.
6. One (1) of eleven (11) blank spike recoveries was outside EPA QC limits.
7. These samples were spectrally searched for Butylated Hydroxytoluene and Tributylphosphate; however, they were not identified in the samples.

FEB 2000 RECEIVED Data Log In

By J. Michael Taylor
Vice President
Philadelphia Analytical Laboratory

01-27-00
Date

pcf\group\data\bna\tnu09129.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 15 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: 10/26/99 14:07

RFW Batch Number: **9909L129** Client: **TNU-HANFORD B99-078** Work Order: 10985001001 Page: 1a

04

	Cust ID:	B0WBR0		B0WBR0		B0WBR0		B0WBR1		B0WBR2		B0WBR4	
Sample Information	RFW#:	001		001 MS		001 MSD		002		003		004	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	D.F.:	1.00		1.00		1.00		1.00		1.00		1.00	
	Units:	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
Surrogate Recovery	Nitrobenzene-d5	76	%	79	%	76	%	81	%	88	%	88	%
	2-Fluorobiphenyl	64	%	68	%	65	%	73	%	73	%	71	%
	Terphenyl-d14	68	%	70	%	73	%	75	%	76	%	79	%
	Phenol-d5	63	%	61	%	60	%	62	%	70	%	72	%
	2-Fluorophenol	57	%	61	%	59	%	60	%	64	%	63	%
	2,4,6-Tribromophenol	56	%	58	%	55	%	56	%	58	%	61	%
			fl		fl		fl		fl		fl		fl
Phenol		370	U	57	%	57	%	360	U	340	U	340	U
bis(2-Chloroethyl)ether		370	U	370	U	370	U	360	U	340	U	340	U
2-Chlorophenol		370	U	57	%	57	%	360	U	340	U	340	U
1,3-Dichlorobenzene		370	U	370	U	370	U	360	U	340	U	340	U
1,4-Dichlorobenzene		370	U	66	%	67	%	360	U	340	U	340	U
1,2-Dichlorobenzene		370	U	370	U	370	U	360	U	340	U	340	U
2-Methylphenol		370	U	370	U	370	U	360	U	340	U	340	U
2,2'-oxybis(1-Chloropropane)		370	U	370	U	370	U	360	U	340	U	340	U
4-Methylphenol		370	U	370	U	370	U	360	U	340	U	340	U
N-Nitroso-di-n-propylamine		370	U	100	%	99	%	360	U	340	U	340	U
Hexachloroethane		370	U	370	U	370	U	360	U	340	U	340	U
Nitrobenzene		370	U	370	U	370	U	360	U	340	U	340	U
Isophorone		370	U	370	U	370	U	360	U	340	U	340	U
2-Nitrophenol		370	U	370	U	370	U	360	U	340	U	340	U
2,4-Dimethylphenol		370	U	370	U	370	U	360	U	340	U	340	U
bis(2-Chloroethoxy)methane		370	U	370	U	370	U	360	U	340	U	340	U
2,4-Dichlorophenol		370	U	370	U	370	U	360	U	340	U	340	U
1,2,4-Trichlorobenzene		370	U	72	%	73	%	360	U	340	U	340	U
Naphthalene		370	U	370	U	370	U	360	U	340	U	340	U
4-Chloroaniline		370	U	370	U	370	U	360	U	340	U	340	U
Hexachlorobutadiene		370	U	370	U	370	U	360	U	340	U	340	U
4-Chloro-3-methylphenol		370	U	61	%	62	%	360	U	340	U	340	U
2-Methylnaphthalene		370	U	370	U	370	U	360	U	340	U	340	U
Hexachlorocyclopentadiene		370	U	370	U	370	U	360	U	340	U	340	U
2,4,6-Trichlorophenol		370	U	370	U	370	U	360	U	340	U	340	U
2,4,5-Trichlorophenol		920	U	920	U	920	U	900	U	860	U	850	U

*= Outside of EPA CLP QC limits.

RFW Batch Number: 9909L129 Client: TNU-HANFORD B99-078 Work Order: 10985001001 Page: 1b

Cust ID:	B0WBR0		B0WBR0		B0WBR0		B0WBR1		B0WBR2		B0WBR4	
RFW#:	001		001 MS		001 MSD		002		003		004	
2-Chloronaphthalene	370	U	370	U	370	U	360	U	340	U	340	U
2-Nitroaniline	920	U	920	U	920	U	900	U	860	U	850	U
Dimethylphthalate	370	U	370	U	370	U	360	U	340	U	340	U
Acenaphthylene	370	U	370	U	370	U	360	U	340	U	340	U
2,6-Dinitrotoluene	370	U	370	U	370	U	360	U	340	U	340	U
3-Nitroaniline	920	U	920	U	920	U	900	U	860	U	850	U
Acenaphthene	370	U	69	%	69	%	360	U	340	U	340	U
2,4-Dinitrophenol	920	U	920	U	920	U	900	U	860	U	850	U
4-Nitrophenol	920	U	53	%	46	%	900	U	860	U	850	U
Dibenzofuran	370	U	370	U	370	U	360	U	340	U	340	U
2,4-Dinitrotoluene	370	U	78	%	74	%	360	U	340	U	340	U
Diethylphthalate	370	U	370	U	370	U	360	U	340	U	340	U
4-Chlorophenyl-phenylether	370	U	370	U	370	U	360	U	340	U	340	U
Fluorene	370	U	370	U	370	U	360	U	340	U	340	U
4-Nitroaniline	920	U	920	U	920	U	900	U	860	U	850	U
4,6-Dinitro-2-methylphenol	920	U	920	U	920	U	900	U	860	U	850	U
N-Nitrosodiphenylamine (1)	370	U	370	U	370	U	360	U	340	U	340	U
4-Bromophenyl-phenylether	370	U	370	U	370	U	360	U	340	U	340	U
Hexachlorobenzene	370	U	370	U	370	U	360	U	340	U	340	U
Pentachlorophenol	920	U	59	%	59	%	900	U	860	U	850	U
Phenanthrene	370	U	370	U	370	U	360	U	340	U	340	U
Anthracene	370	U	370	U	370	U	360	U	340	U	340	U
Carbazole	370	U	370	U	370	U	360	U	340	U	340	U
Di-n-butylphthalate	370	U	370	U	370	U	360	U	340	U	340	U
Fluoranthene	370	U	370	U	370	U	360	U	340	U	340	U
Pyrene	370	U	73	%	78	%	360	U	340	U	340	U
Butylbenzylphthalate	370	U	370	U	370	U	360	U	340	U	340	U
3,3'-Dichlorobenzidine	370	U	370	U	370	U	360	U	340	U	340	U
Benzo(a)anthracene	370	U	370	U	370	U	360	U	340	U	340	U
Chrysene	370	U	370	U	370	U	360	U	340	U	340	U
bis(2-Ethylhexyl)phthalate	370	U	370	U	370	U	360	U	340	U	340	U
Di-n-octyl phthalate	370	U	370	U	370	U	360	U	340	U	340	U
Benzo(b)fluoranthene	370	U	370	U	370	U	360	U	340	U	340	U
Benzo(k)fluoranthene	370	U	370	U	370	U	360	U	340	U	340	U
Benzo(a)pyrene	370	U	370	U	370	U	360	U	340	U	340	U
Indeno(1,2,3-cd)pyrene	370	U	370	U	370	U	360	U	340	U	340	U
Dibenz(a,h)anthracene	370	U	370	U	370	U	360	U	340	U	340	U
Benzo(g,h,i)perylene	370	U	370	U	370	U	360	U	340	U	340	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: 10/26/99 14:07

RFW Batch Number: **9909L129** Client: **TNU-HANFORD B99-078** Work Order: 10985001001 Page: 2a

	Cust ID:	**SBLKCZ**	**SBLKCZ BS**
Sample Information	RFW#:	**99LE1143-MB1**	**99LE1143-MB1**
	Matrix:	SOIL	SOIL
	D.F.:	1.00	1.00
	Units:	UG/KG	UG/KG

Surrogate Recovery	Nitrobenzene-d5	96	%	92	%
	2-Fluorobiphenyl	81	%	71	%
	Terphenyl-d14	88	%	76	%
	Phenol-d5	74	%	66	%
	2-Fluorophenol	68	%	67	%
	2,4,6-Tribromophenol	74	%	70	%

Phenol	330	U	61	%	
bis(2-Chloroethyl)ether	330	U	330	U	
2-Chlorophenol	330	U	62	%	
1,3-Dichlorobenzene	330	U	330	U	
1,4-Dichlorobenzene	330	U	75	%	
1,2-Dichlorobenzene	330	U	330	U	
2-Methylphenol	330	U	330	U	
2,2'-oxybis(1-Chloropropane)	330	U	330	U	
4-Methylphenol	330	U	330	U	
N-Nitroso-di-n-propylamine	330	U	120	%	
Hexachloroethane	330	U	330	U	
Nitrobenzene	330	U	330	U	
Isophorone	330	U	330	U	
2-Nitrophenol	330	U	330	U	
2,4-Dimethylphenol	330	U	330	U	
bis(2-Chloroethoxy)methane	330	U	330	U	
2,4-Dichlorophenol	330	U	330	U	
1,2,4-Trichlorobenzene	330	U	80	%	
Naphthalene	330	U	330	U	
4-Chloroaniline	330	U	330	U	
Hexachlorobutadiene	330	U	330	U	
4-Chloro-3-methylphenol	330	U	74	%	
2-Methylnaphthalene	330	U	330	U	
Hexachlorocyclopentadiene	330	U	330	U	
2,4,6-Trichlorophenol	330	U	330	U	
2,4,5-Trichlorophenol	840	U	840	U	

*= Outside of EPA CLP QC limits.

Cust ID:	SBLKCZ		SBLKCZ BS	
RFW#:	99LE1143-MB1		99LE1143-MB1	
2-Chloronaphthalene	330	U	330	U
2-Nitroaniline	840	U	840	U
Dimethylphthalate	330	U	330	U
Acenaphthylene	330	U	330	U
2,6-Dinitrotoluene	330	U	330	U
3-Nitroaniline	840	U	840	U
Acenaphthene	330	U	75	%
2,4-Dinitrophenol	840	U	840	U
4-Nitrophenol	840	U	74	%
Dibenzofuran	330	U	330	U
2,4-Dinitrotoluene	330	U	91 *	%
Diethylphthalate	330	U	330	U
4-Chlorophenyl-phenylether	330	U	330	U
Fluorene	330	U	330	U
4-Nitroaniline	840	U	840	U
4,6-Dinitro-2-methylphenol	840	U	840	U
N-Nitrosodiphenylamine (1)	330	U	330	U
4-Bromophenyl-phenylether	330	U	330	U
Hexachlorobenzene	330	U	330	U
Pentachlorophenol	840	U	69	%
Phenanthrene	330	U	330	U
Anthracene	330	U	330	U
Carbazole	330	U	330	U
Di-n-butylphthalate	330	U	330	U
Fluoranthene	330	U	330	U
Pyrene	330	U	79	%
Butylbenzylphthalate	330	U	330	U
3,3'-Dichlorobenzidine	330	U	330	U
Benzo(a)anthracene	330	U	330	U
Chrysene	330	U	330	U
bis(2-Ethylhexyl)phthalate	330	U	330	U
Di-n-octyl phthalate	330	U	330	U
Benzo(b)fluoranthene	330	U	330	U
Benzo(k)fluoranthene	330	U	330	U
Benzo(a)pyrene	330	U	330	U
Indeno(1,2,3-cd)pyrene	330	U	330	U
Dibenz(a,h)anthracene	330	U	330	U
Benzo(g,h,i)perylene	330	U	330	U

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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B0WBR0

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-078

Matrix: (soil/water) SOIL Lab Sample ID: 9909L129-001

Sample wt/vol: 30.0 (g/mL) G Lab File ID: A092911

Level: (low/med) LOW Date Received: 09/17/99

% Moisture: 9 decanted: (Y/N) __ Date Extracted: 09/20/99

Concentrated Extract Volume: 1000(uL) Date Analyzed: 09/29/99

Injection Volume: 2.0(uL) Dilution Factor: 1.00

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

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ETHYLHEXANOL	9.45	100	J
2.	ETHYLHEXANOIC ACID	10.81	100	J
3.	ALKANE	27.54	100	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B0WBR1

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-078

Matrix: (soil/water) SOIL Lab Sample ID: 9909L129-002

Sample wt/vol: 30.0 (g/mL) G Lab File ID: A092914

Level: (low/med) LOW Date Received: 09/17/99

% Moisture: 7 decanted: (Y/N) __ Date Extracted: 09/20/99

Concentrated Extract Volume: 1000(uL) Date Analyzed: 09/29/99

Injection Volume: 2.0(uL) Dilution Factor: 1.00

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

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ETHYLHEXANOL	9.45	400	J
2.	UNKNOWN	25.56	100	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B0WBR2

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-078

Matrix: (soil/water) SOIL Lab Sample ID: 9909L129-003

Sample wt/vol: 30.0 (g/mL) G Lab File ID: A093003

Level: (low/med) LOW Date Received: 09/17/99

% Moisture: 3 decanted: (Y/N) Date Extracted: 09/20/99

Concentrated Extract Volume: 1000(uL) Date Analyzed: 09/30/99

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH:

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	26.21	300	J

FORM 1 SV-TIC 3/90

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B0WBR4

Lab Name: Recra LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-078

Matrix: (soil/water) SOIL Lab Sample ID: 9909L129-004

Sample wt/vol: 30.0 (g/mL) G Lab File ID: A093004

Level: (low/med) LOW Date Received: 09/17/99

% Moisture: 2 decanted: (Y/N) __ Date Extracted: 09/20/99

Concentrated Extract Volume: 1000(uL) Date Analyzed: 09/30/99

Injection Volume: 2.0(uL) Dilution Factor: 1.00

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

FORM 1 SV-TIC 3/90

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SBLKCZ

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-078

Matrix: (soil/water) SOIL Lab Sample ID: 99LE1143-MB1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: A092803

Level: (low/med) LOW Date Received: 09/20/99

% Moisture: ____ decanted: (Y/N)__ Date Extracted: 09/20/99

Concentrated Extract Volume: 1000(uL) Date Analyzed: 09/28/99

Injection Volume: 2.0(uL) Dilution Factor: 1.00

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

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

DATE RECEIVED: 09/17/99 RFW LOT # :9909L129

CLIENT ID	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B0WBR0	001	S	99LE1143	09/14/99	09/20/99	09/29/99
B0WBR0	001 MS	S	99LE1143	09/14/99	09/20/99	09/29/99
B0WBR0	001 MSD	S	99LE1143	09/14/99	09/20/99	09/29/99
B0WBR1	002	S	99LE1143	09/14/99	09/20/99	09/29/99
B0WBR2	003	S	99LE1143	09/14/99	09/20/99	09/30/99
B0WBR4	004	S	99LE1143	09/14/99	09/20/99	09/30/99
LAB QC:						
SBLKCZ	MB1	S	99LE1143	N/A	09/20/99	09/28/99
SBLKCZ	MB1 BS	S	99LE1143	N/A	09/20/99	09/28/99

RECRA LabNet Use Only
9909L 129

Custody Transfer Record/Lab Work Request

Page 1 of 1

RECRA LabNet

All FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client TNU HANFORD B099-078
Est. Final Proj. Sampling Date 9/18/99
Project # 10985-001-001-9999-00
Project Contact/Phone #
RECRA Project Manager OJ
QC spec Del std TAT 30 day
Date Rec'd 9/17/99 Date Due 10/17/99
Account #

Refrigerator #		1	6						6							
#/Type Container	Liquid															
	Solid	1AG	1AG						1AG							
Volume	Liquid															
	Solid	60	29						500							
Preservatives		—	—						—							
ANALYSES REQUESTED		ORGANIC							INORG							
		VOA	BNA	~~Pest~~ PCB	TPH ~~Herb~~	WTPH-D			Metal	CN						

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

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	0624H OGCSC	0625H ODRO						Met (1)							
001	BOWBRO			S	9-14-99	1216	1	1	✓	✓	✓			✓							
002	1					1300	1	1	✓	✓	✓			✓							
003	2					1340	1	1	✓	✓	✓			✓							
004	4					1510	1	1	✓	✓	✓			✓							

9/18/99

Special Instructions:
saf# B99-078

COMPOSITE WASTE

DATE/REVISIONS:
Met (1) = As, Ba, Cd, Cr, Pb, Se, Ag, Be,
2. Cu, Ni, V, Zn, Hg, 1CR6
3.
4. OGCSC = 1-propanol + ethanol
5.
6. Run matrix QC

Relinquished by	Received by	Date	Time
[signature]	[signature]	9-17-99	2:45

Relinquished by	Received by	Date	Time
	ORIGINAL		
	REWRITTEN		

Discrepancies Between Samples Labels and COC Record? Y or (N)
NOTES:
42357952 9550

RECRA LabNet Use Only

Samples were:
1) Shipped ✓ or Hand Delivered ___
Airbill See Below
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'l (Y) or N
Cooler Temp 4.1 °C

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B99-078-119	Page 1 of 1

Collector Bowers/Trice	Company Contact Chris Cearlock Telephone No. 372-9574	Project Coordinator TRENT, SJ	Price Code 8N Data Turnaround 45 Days
Project Designation 200 Area Source characterization - 200-CW-1 OU	Sampling Location 200 Bpond (B8758) <15'	SAF No. B99-078	
Ice Chest No. ERC 96 065	Field Logbook No. EL-1511	Method of Shipment Fed Ex	
Shipped To TMA/RECRA DJB 9-14-99	Offsite Property No. A990257	Bill of Lading/Air Bill No. 1123579529550	
		COA B20CW1 671C	

POSSIBLE SAMPLE HAZARDS/REMARKS												
	Preservation	Cool 4C	Cool 4C	None	Cool 4C							
	Type of Container	aG	aG	aG	aG							
	No. of Container(s)	1	1	1	1							
Special Handling and/or Storage	Volume	60mL	250mL	250mL	500mL							
SAMPLE ANALYSIS		VOA - 8260A (TCL), VOA - 8260A (Add-On) {1-Propanol, Ethanol}	Semi-VOA - 8270A (TCL), TPH-Diesel Range - WTPH-D; PCBs - 8082	See item (1) in Special Instructions	See item (2) in Special Instructions							

Sample No.	Matrix *	Sample Date	Sample Time										
B0WBR0	Soil	9.14.99	1216	X	X		X		BOWCRO				
B0WBR1	Soil	9.14.99	13 00	X	X		X		BOWCRO				
B0WBR2	Soil	9.14.99	13 40	X	X		X		BOWCRO				
~~B0WBR3 9.14.99~~	Soil												
B0WBR4	Soil	9.14.99	15 10	X	X		X		BOWCRO				

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By Doug Bowers Doug Bowers	Date/Time 9-17-99/1700	Received By R F IB	Date/Time 9-17-99/1700
Relinquished By Refer IB	Date/Time 9/16/99 11:30	Received By Brent Porter	Date/Time 9/16/99 11:30
Relinquished By Brent Porter	Date/Time 9/16/99 11:30	Received By Fed Express	Date/Time 9/16/99 11:30
Relinquished By Fed Ex	Date/Time 9-17-99 0245	Received By Vicki Henry	Date/Time 9-17-99 0245

SPECIAL INSTRUCTIONS

See chain of custody comments on SAF B99-078. Out of Gamma Spec. bottle also analyze for Np-237, isotopic U, . Out of ICP bottle also analyze for NO2/NO3, IC anions, Sulfides, Ammonia, Total Cyanide, and pH.

(1) Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-155}; Gamma Spec - Add-on {Americium-241}; Strontium-89,90 -- Total Sr; Total Uranium {Uranium}; Isotopic Plutonium; Isotopic Thorium {Thorium-232}; Americium-241
(2) ICP Metals - 6010A (Supertrace) {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}; ICP Metals - 6010A (Supertrace Add-On) {Beryllium, Copper, Nickel, Vanadium, Zinc}; Mercury - 7471 - (CV); Chromium Hex - 7196

Collector unavailable to sign COC

Matrix *
Soil
Water
Vapor
Other Solid
Other Liquid

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

RECRA
ENVIRONMENTAL
INC.

Chemical and Environmental Measurement Information

Recra LabNet Philadelphia
Analytical Report
****REVISION****

Client : TNU-HANFORD B99-078
RFW# : 9909L127
SDG/SAF #: H0534/B99-078

W.O. #: 10985-001-001-9999-00
Date Received: 09-17-99

SEMIVOLATILE

This narrative was corrected to add the TIC search for Tributylphosphate.

Four (4) soil samples were collected on 09-15-99.

The samples and their associated QC samples were extracted on 09-20-99 and analyzed according to criteria set forth in Recra OPs based on SW 846 Methods 8270B for TCL Semivolatile target compounds on 09-28-99.

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

1. The cooler temperature upon receipt has been recorded on the chain-of-custody.

2. The required holding times for extraction and analysis were met.

3. A non-target compound was detected in sample B0WBR8.

4. All surrogate recoveries were within EPA QC limits.

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

6. One (1) of eleven (11) blank spike recoveries was outside EPA QC limits.

7. These samples were spectrally searched for Butylated Hydroxytoluene and Tributylphosphate; however, they were not identified in the samples.

by J. Michael Taylor
Vice President
Philadelphia Analytical Laboratory

01-27-00
Date

pef\group\data\bna\tnu09127.doc

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 16 pages.

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
ENVIRONMENTAL
INC.

Chemical and Environmental Measurement Information

Recra LabNet Philadelphia
Analytical Report
****REVISION****

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RFW# : 9909L127
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by J. Michael Taylor
Vice President
Philadelphia Analytical Laboratory

01-22-00
Date

pef:gorup\data\bna\tnu09127.doc

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mmz\10-94\gloss.bna

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mmz\10-94\gloss.bna

Recra LabNet - Lionville Laboratory

Semivolatiles by GC/MS, HSL List

RFW Batch Number: **9909L127** Client: **TNU-HANFORD B99-078** Work Order: 10985001001 Report Date: 10/26/99 12:36 Page: 1a

	Cust ID:	B0WBR8	B0WBR8	B0WBR8	B0WBR5	B0WBR6	B0WBR7
Sample Information	RFW#:	001	001 MS	001 MSD	002	003	004
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Surrogate Recovery	Nitrobenzene-d5	65 %	71 %	71 %	84 %	74 %	83 %
	2-Fluorobiphenyl	64 %	63 %	60 %	72 %	70 %	75 %
	Terphenyl-d14	72 %	71 %	63 %	80 %	74 %	79 %
	Phenol-d5	59 %	58 %	54 %	66 %	59 %	70 %
	2-Fluorophenol	53 %	55 %	54 %	63 %	53 %	65 %
	2,4,6-Tribromophenol	56 %	59 %	57 %	61 %	53 %	67 %
Phenol		370 U	58 %	51 %	340 U	350 U	350 U
bis(2-Chloroethyl)ether		370 U	370 U	370 U	340 U	350 U	350 U
2-Chlorophenol		370 U	53 %	53 %	340 U	350 U	350 U
1,3-Dichlorobenzene		370 U	370 U	370 U	340 U	350 U	350 U
1,4-Dichlorobenzene		370 U	63 %	60 %	340 U	350 U	350 U
1,2-Dichlorobenzene		370 U	370 U	370 U	340 U	350 U	350 U
2-Methylphenol		370 U	370 U	370 U	340 U	350 U	350 U
2,2'-oxybis(1-Chloropropane)		370 U	370 U	370 U	340 U	350 U	350 U
4-Methylphenol		370 U	370 U	370 U	340 U	350 U	350 U
N-Nitroso-di-n-propylamine		370 U	88 %	95 %	340 U	350 U	350 U
Hexachloroethane		370 U	370 U	370 U	340 U	350 U	350 U
Nitrobenzene		370 U	370 U	370 U	340 U	350 U	350 U
Isophorone		370 U	370 U	370 U	340 U	350 U	350 U
2-Nitrophenol		370 U	370 U	370 U	340 U	350 U	350 U
2,4-Dimethylphenol		370 U	370 U	370 U	340 U	350 U	350 U
bis(2-Chloroethoxy)methane		370 U	370 U	370 U	340 U	350 U	350 U
2,4-Dichlorophenol		370 U	370 U	370 U	340 U	350 U	350 U
1,2,4-Trichlorobenzene		370 U	65 %	63 %	340 U	350 U	350 U
Naphthalene		370 U	370 U	370 U	340 U	350 U	350 U
4-Chloroaniline		370 U	370 U	370 U	340 U	350 U	350 U
Hexachlorobutadiene		370 U	370 U	370 U	340 U	350 U	350 U
4-Chloro-3-methylphenol		370 U	61 %	60 %	340 U	350 U	350 U
2-Methylnaphthalene		370 U	370 U	370 U	340 U	350 U	350 U
Hexachlorocyclopentadiene		370 U	370 U	370 U	340 U	350 U	350 U
2,4,6-Trichlorophenol		370 U	370 U	370 U	340 U	350 U	350 U
2,4,5-Trichlorophenol		920 U	920 U	920 U	850 U	880 U	870 U

*= Outside of EPA CLP QC limits.

RFW Batch Number: 9909L127 Client: TNU-HANFORD B99-078 Work Order: 10985001001 Page: 1b

Cust ID:	B0WBR8		B0WBR8		B0WBR8		B0WBR5		B0WBR6		B0WBR7	
RFW#:	001		001 MS		001 MSD		002		003		004	
2-Chloronaphthalene	370	U	370	U	370	U	340	U	350	U	350	U
2-Nitroaniline	920	U	920	U	920	U	850	U	880	U	870	U
Dimethylphthalate	370	U	370	U	370	U	340	U	350	U	350	U
Acenaphthylene	370	U	370	U	370	U	340	U	350	U	350	U
2,6-Dinitrotoluene	370	U	370	U	370	U	340	U	350	U	350	U
3-Nitroaniline	920	U	920	U	920	U	850	U	880	U	870	U
Acenaphthene	370	U	65	%	64	%	340	U	350	U	350	U
2,4-Dinitrophenol	920	U	920	U	920	U	850	U	880	U	870	U
4-Nitrophenol	920	U	48	%	57	%	850	U	880	U	870	U
Dibenzofuran	370	U	370	U	370	U	340	U	350	U	350	U
2,4-Dinitrotoluene	370	U	71	%	76	%	340	U	350	U	350	U
Diethylphthalate	370	U	370	U	370	U	340	U	350	U	350	U
4-Chlorophenyl-phenylether	370	U	370	U	370	U	340	U	350	U	350	U
Fluorene	370	U	370	U	370	U	340	U	350	U	350	U
4-Nitroaniline	920	U	920	U	920	U	850	U	880	U	870	U
4,6-Dinitro-2-methylphenol	920	U	920	U	920	U	850	U	880	U	870	U
N-Nitrosodiphenylamine (1)	370	U	370	U	370	U	340	U	350	U	350	U
4-Bromophenyl-phenylether	370	U	370	U	370	U	340	U	350	U	350	U
Hexachlorobenzene	370	U	370	U	370	U	340	U	350	U	350	U
Pentachlorophenol	920	U	56	%	55	%	850	U	880	U	870	U
Phenanthrene	370	U	370	U	370	U	340	U	350	U	350	U
Anthracene	370	U	370	U	370	U	340	U	350	U	350	U
Carbazole	370	U	370	U	370	U	340	U	350	U	350	U
Di-n-butylphthalate	370	U	370	U	370	U	18	J	350	U	350	U
Fluoranthene	370	U	370	U	370	U	340	U	350	U	350	U
Pyrene	370	U	76	%	66	%	340	U	350	U	350	U
Butylbenzylphthalate	370	U	370	U	370	U	340	U	350	U	350	U
3,3'-Dichlorobenzidine	370	U	370	U	370	U	340	U	350	U	350	U
Benzo(a)anthracene	370	U	370	U	370	U	340	U	350	U	350	U
Chrysene	370	U	370	U	370	U	340	U	350	U	350	U
bis(2-Ethylhexyl)phthalate	370	U	370	U	370	U	340	U	350	U	350	U
Di-n-octyl phthalate	370	U	370	U	370	U	340	U	350	U	350	U
Benzo(b)fluoranthene	370	U	370	U	370	U	340	U	350	U	350	U
Benzo(k)fluoranthene	370	U	370	U	370	U	340	U	350	U	350	U
Benzo(a)pyrene	370	U	370	U	370	U	340	U	350	U	350	U
Indeno(1,2,3-cd)pyrene	370	U	370	U	370	U	340	U	350	U	350	U
Dibenz(a,h)anthracene	370	U	370	U	370	U	340	U	350	U	350	U
Benzo(g,h,i)perylene	370	U	370	U	370	U	340	U	350	U	350	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: 10/26/99 12:36

RFW Batch Number: **9909L127** Client: **TNU-HANFORD B99-078** Work Order: 10985001001 Page: 2a

	Cust ID:	**SBLKCZ**		**SBLKCZ BS**	
Sample Information	RFW#:	**99LE1143-MB1**		**99LE1143-MB1**	
	Matrix:	SOIL		SOIL	
	D.F.:	1.00		1.00	
	Units:	UG/KG		UG/KG	
Surrogate Recovery	Nitrobenzene-d5	96	%	92	%
	2-Fluorobiphenyl	81	%	71	%
	Terphenyl-d14	88	%	76	%
	Phenol-d5	74	%	66	%
	2-Fluorophenol	68	%	67	%
	2,4,6-Tribromophenol	74	%	70	%
Phenol		330	U	61	%
bis(2-Chloroethyl)ether		330	U	330	U
2-Chlorophenol		330	U	62	%
1,3-Dichlorobenzene		330	U	330	U
1,4-Dichlorobenzene		330	U	75	%
1,2-Dichlorobenzene		330	U	330	U
2-Methylphenol		330	U	330	U
2,2'-oxybis(1-Chloropropane)		330	U	330	U
4-Methylphenol		330	U	330	U
N-Nitroso-di-n-propylamine		330	U	120	%
Hexachloroethane		330	U	330	U
Nitrobenzene		330	U	330	U
Isophorone		330	U	330	U
2-Nitrophenol		330	U	330	U
2,4-Dimethylphenol		330	U	330	U
bis(2-Chloroethoxy)methane		330	U	330	U
2,4-Dichlorophenol		330	U	330	U
1,2,4-Trichlorobenzene		330	U	80	%
Naphthalene		330	U	330	U
4-Chloroaniline		330	U	330	U
Hexachlorobutadiene		330	U	330	U
4-Chloro-3-methylphenol		330	U	74	%
2-Methylnaphthalene		330	U	330	U
Hexachlorocyclopentadiene		330	U	330	U
2,4,6-Trichlorophenol		330	U	330	U
2,4,5-Trichlorophenol		840	U	840	U

*= Outside of EPA CLP QC limits.

	Cust ID: SBLKCZ		SBLKCZ BS	
	RFW#: 99LE1143-MB1		99LE1143-MB1	
2-Chloronaphthalene	330	U	330	U
2-Nitroaniline	840	U	840	U
Dimethylphthalate	330	U	330	U
Acenaphthylene	330	U	330	U
2,6-Dinitrotoluene	330	U	330	U
3-Nitroaniline	840	U	840	U
Acenaphthene	330	U	75	%
2,4-Dinitrophenol	840	U	840	U
4-Nitrophenol	840	U	74	%
Dibenzofuran	330	U	330	U
2,4-Dinitrotoluene	330	U	91 *	%
Diethylphthalate	330	U	330	U
4-Chlorophenyl-phenylether	330	U	330	U
Fluorene	330	U	330	U
4-Nitroaniline	840	U	840	U
4,6-Dinitro-2-methylphenol	840	U	840	U
N-Nitrosodiphenylamine (1)	330	U	330	U
4-Bromophenyl-phenylether	330	U	330	U
Hexachlorobenzene	330	U	330	U
Pentachlorophenol	840	U	69	%
Phenanthrene	330	U	330	U
Anthracene	330	U	330	U
Carbazole	330	U	330	U
Di-n-butylphthalate	330	U	330	U
Fluoranthene	330	U	330	U
Pyrene	330	U	79	%
Butylbenzylphthalate	330	U	330	U
3,3'-Dichlorobenzidine	330	U	330	U
Benzo(a)anthracene	330	U	330	U
Chrysene	330	U	330	U
bis(2-Ethylhexyl)phthalate	330	U	330	U
Di-n-octyl phthalate	330	U	330	U
Benzo(b)fluoranthene	330	U	330	U
Benzo(k)fluoranthene	330	U	330	U
Benzo(a)pyrene	330	U	330	U
Indeno(1,2,3-cd)pyrene	330	U	330	U
Dibenz(a,h)anthracene	330	U	330	U
Benzo(g,h,i)perylene	330	U	330	U

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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B0WBR8

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-078

Matrix: (soil/water) SOIL Lab Sample ID: 9909L127-001

Sample wt/vol: 30.0 (g/mL) G Lab File ID: A092810

Level: (low/med) LOW Date Received: 09/17/99

% Moisture: 9 decanted: (Y/N) __ Date Extracted: 09/20/99

Concentrated Extract Volume: 1000(uL) Date Analyzed: 09/28/99

Injection Volume: 2.0(uL) Dilution Factor: 1.00

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	26.38	70	J

FORM 1 SV-TIC RFW (v3.3)

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B0WBR5

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-078

Matrix: (soil/water) SOIL Lab Sample ID: 9909L127-002

Sample wt/vol: 30.0 (g/mL) G Lab File ID: A092813

Level: (low/med) LOW Date Received: 09/17/99

% Moisture: 2 decanted: (Y/N) __ Date Extracted: 09/20/99

Concentrated Extract Volume: 1000(uL) Date Analyzed: 09/28/99

Injection Volume: 2.0(uL) Dilution Factor: 1.00

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

FORM 1 SV-TIC RFW (v3.3)

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B0WBR6

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-078

Matrix: (soil/water) SOIL Lab Sample ID: 9909L127-003

Sample wt/vol: 30.0 (g/mL) G Lab File ID: A092814

Level: (low/med) LOW Date Received: 09/17/99

% Moisture: 5 decanted: (Y/N) __ Date Extracted: 09/20/99

Concentrated Extract Volume: 1000(uL) Date Analyzed: 09/28/99

Injection Volume: 2.0(uL) Dilution Factor: 1.00

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

FORM 1 SV-TIC RFW (v3.3)

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B0WBR7

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-078

Matrix: (soil/water) SOIL Lab Sample ID: 9909L127-004

Sample wt/vol: 30.1 (g/mL) G Lab File ID: A092815

Level: (low/med) LOW Date Received: 09/17/99

% Moisture: 4 decanted: (Y/N) __ Date Extracted: 09/20/99

Concentrated Extract Volume: 1000(uL) Date Analyzed: 09/28/99

Injection Volume: 2.0(uL) Dilution Factor: 1.00

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

FORM 1 SV-TIC RFW (v3.3)

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SBLKCZ

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-078

Matrix: (soil/water) SOIL Lab Sample ID: 99LE1143-MB1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: A092803

Level: (low/med) LOW Date Received: 09/20/99

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 09/20/99

Concentrated Extract Volume: 1000(uL) Date Analyzed: 09/28/99

Injection Volume: 2.0(uL) Dilution Factor: 1.00

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

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

DATE RECEIVED: 09/17/99 RFW LOT # :9909L127

CLIENT ID	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B0WBR8	001	S	99LE1143	09/15/99	09/20/99	09/28/99
B0WBR8	001 MS	S	99LE1143	09/15/99	09/20/99	09/28/99
B0WBR8	001 MSD	S	99LE1143	09/15/99	09/20/99	09/28/99
B0WBR5	002	S	99LE1143	09/15/99	09/20/99	09/28/99
B0WBR6	003	S	99LE1143	09/15/99	09/20/99	09/28/99
B0WBR7	004	S	99LE1143	09/15/99	09/20/99	09/28/99

LAB QC:

SBLKCZ	MB1	S	99LE1143	N/A	09/20/99	09/28/99
SBLKCZ	MB1 BS	S	99LE1143	N/A	09/20/99	09/28/99

RECRA LabNet Use Only: 9909L127

Custody Transfer Record/Lab Work Request

Page 1 of 1

RECRA LabNet

All FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

(8) PCB wetchem perrone

Client: TRU Hanford B99-078
Est. Final Proj. Sampling Date:
Project #: 10985-001-001-9999-00
Project Contact/Phone #:
RECRA Project Manager: CJ
QC: spec Del: std TAT: 30 day
Date Rec'd: 9-17-99 Date Due: 10/17/99
Account #:

Refrigerator #		1	6	6				6	6								
#/Type Container	Liquid																
	Solid	1AG	1AG						1AG								
Volume	Liquid																
	Solid	60mL	250						500								
Preservatives																	
ANALYSES REQUESTED →		ORGANIC							INORG								
		VOA	BNA	Pest/PCB	Herb				Metal	CN							
		RECRA LabNet Use Only															
		8240 H 8260SC	8270 H 8270 D	8082				1CR6	Met Q	1CNTC	1N3N3 1SFD	1NH3N 1PH	1CN02 1CN03	1CP04 1CS04 1CFL			

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	8240 H	8270 H	8082				1CR6	Met Q	1CNTC	1N3N3 1SFD	1NH3N 1PH	1CN02 1CN03	1CP04 1CS04 1CFL			
001	BOWBR8			S	9-15-99	0945	✓	✓	✓				✓	✓	✓	✓	✓	✓	✓			
002	BOWBR5					0739	✓	✓					✓	✓								
003	BOWBR10					0834	✓	✓					✓	✓								
004	BOWBR7						✓	✓					✓	✓								

Special Instructions:

saf # B99-078
sdg with 9909L129

COMPOSITE WASTE

DATE/REVISIONS:

1. Run matrix QC
Met (1) = As, Ba, Cd, Cr, Pb, Se, Ag, Be,
3. Cu, Ni, V, Zn, Hg
9/23/99 4. tests added per Client coc
5. OGCSC = 1-propanol + Ethanol
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. 4.1 C

Discrepancies Between Samples Labels and COC Record? Y or (N)
NOTES:
*4235795295 01

Relinquished by	Received by	Date	Time
FedEx	TMurray	9-17-99	1020

Relinquished by	Received by	Date	Time
	ORIGINAL		
	REWRITTEN		

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B99-078-121	Page 1 of 1 ~~91~~ 10 CT 9/15/

Collector: Bowers/Trice	Company Contact: Chris Cearlock	Telephone No.: 372-9574	Project Coordinator: TRENT, SJ
Project Designation: 200 Area Source characterization - 200-CW-1 OU	Sampling Location: 200 B pond (B8758) >15'		SAF No.: B99-078
Ice Chest No.: ERC 96 024	Field Logbook No.: EL-1511		Method of Shipment: Fed Ex
Shipped To: TMA/RECRA	Offsite Property No.: A990259		Bill of Lading/Air Bill No.: 423579529561
BTB 9-15-99			COA: B20CW167K

Price Code: 8N

Data Turnaround: 45 Days

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation			Cool 4C	Cool 4C	None	Cool 4C						
Type of Container			aG	aG	aG	aG						
No. of Container(s)			1	1	1	1						
Volume			60mL	250mL	250mL	500mL						
SAMPLE ANALYSIS			VOA - 8260A (TCL), VOA - 8260A (Add-On) (1-Propanol, Ethanol)	Semi-VOA - 8270A (TCL); TPH-Diesel Range - WTPH-D; PCBs - 8082	See item (1) in Special Instructions	See item (2) in Special Instructions						
Sample No.	Matrix *	Sample Date	Sample Time									
B0WBR8	Soil	9.15.99	0945	X	X		X			B0WCA1		
~~B0WBR9~~	~~Soil~~		9/15/9									
~~B0WBT0~~	~~Soil~~		9/15/99									
~~B0WBT1~~	~~Soil~~		CT 9/15/99									

CHAIN OF POSSESSION

Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
C Chris	9/15/99 1530	Ref 1B	9/15/99 1530
Ref 1B	9/16/99 1300	SJGALE SJGale	9/16/99 1300
SJGALE SJGale	9/16/99 1300	FED EX	
Fed Ex	9-17-99 1020	T Murray	9-17-99 1020

SPECIAL INSTRUCTIONS

See chain of custody comments on SAF B99-078. Out of Gamma Spec. bottle also analyze for Np-237, isotopic U, Ni-63, Tech-99, Tritium, . Out of ICP bottle also analyze for NO2/NO3, IC anions, Sulfides, Ammonia, Total Cyanide, and pH.

(1) Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-155}; Gamma Spec - Add-on {Americium-241}; Strontium-89,90 -- Total Sr; Total Uranium {Uranium}; Isotopic Plutonium; Isotopic Thorium {Thorium-232}; Americium-241
(2) ICP Metals - 6010A (Supertrace) {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}; ICP Metals - 6010A (Supertrace Add-On) {Beryllium, Copper, Nickel, Vanadium, Zinc}; Mercury - 7471 - (CV); Chromium Hex - 7196

COLLECTOR UNAVAILABLE TO SIGN COC

Matrix *
Soil
Water
Vapor
Other Solid
Other Liquid

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

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B99-078-120	Page 1 of 2

Collector: Bowers/Trice	Company Contact: Chris Cearlock	Telephone No.: 372-9574	Project Coordinator: TRENT, SJ
Price Code: 8N	Data Turnaround: 45 Days		
Project Designation: 200 Area Source characterization - 200-CW-1 OU	Sampling Location: 200 Bpond (B8758) <15'		SAF No.: B99-078
Ice Chest No.: ERC 96 024	Field Logbook No.: EL-1511		Method of Shipment: Fed Ex
Shipped To: TMA/RECRA DJB 9-15-99	Offsite Property No.: A990259		Bill of Lading/Air Bill No.: 4235795295 61
			COA: B20CW1 671C

POSSIBLE SAMPLE HAZARDS/REMARKS												
	Preservation	Cool 4C	Cool 4C	None	Cool 4C	None						
	Type of Container	aG	aG	aG	aG	p						
Special Handling and/or Storage	No. of Container(s) / Volume	1 / 60mL	1 / 250mL	1 / 250mL	1 / 500mL	1 / plastic bag						
SAMPLE ANALYSIS		VOA - 8260A (TCL), VOA - 8260A (Add-On) {1-Propanol, Ethanol}	Semi-VOA - 8270A (TCL), TPH-Diesel Range - WTPH-D, PCBs - 8082	See item (1) in Special Instructions	See item (2) in Special Instructions	particle size						

	Sample No.	Matrix *	Sample Date	Sample Time										
1	~~B0WBR4~~ DJB 9-15-99	Soil												
2	B0WBR5	Soil	9.15.99 CK 9-15.99	0739	X	X		X				BOWCR1		
3	B0WBR6	Soil	9-15.99	0834	X	X		X	X 9/16/99			BOWCR1		
4	B0WBR7	Soil	9.15.99	0834	X	X		X				BOWCR1		

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: C Bowers	Date/Time: 9/15/99 1530	Received By: Ref IB	Date/Time: 9/15/99 1530
Relinquished By: REF IB	Date/Time: 91699 1300	Received By: S Gale	Date/Time: 91699 1300
Relinquished By: S Gale	Date/Time: 91699 1300	Received By: FED EX	Date/Time:
Relinquished By: Fed Ex	Date/Time: 9-17-99 1020	Received By: T Murray	Date/Time: 9-17-99 1020

SPECIAL INSTRUCTIONS

See chain of custody comments on SAF B99-078. Out of Gamma Spec. bottle also analyze for Np-237, isotopic U, . Out of ICP bottle also analyze for NO2/NO3, IC anions, Sulfides, Ammonia, Total Cyanide, and pH.

(1) Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-155}; Gamma Spec - Add-on {Americium-241}; Strontium-89,90 -- Total Sr; Total Uranium {Uranium}; Isotopic Plutonium; Isotopic Thorium {Thorium-232}; Americium-241
(2) ICP Metals - 6010A (Supertrace) {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}; ICP Metals - 6010A (Supertrace Add-On) {Beryllium, Copper, Nickel, Vanadium, Zinc}; Mercury - 7471 - (CV); Chromium Hex - 7196

COLLECTOR UNAVAILABLE TO SIGN COC

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

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