H0573-TMA/Rev

RECRA ENVIRONMENTAL INC.

0052641

Chemical and Environmental Measurement Information

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

Client : TNU-HANFORD B99-078
RFW # : 9910L392
SDG/SAF #: H0573/B99-078

W.O. #: 10985-001-001-9999-00
Date Received: 10-15-99

RECEIVED FEB 28 2000 EDMC

SEMIVOLATILE

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

Seven (7) soil samples were collected on 10-13-99.

The samples and their associated QC samples were extracted on 10-19-99 and analyzed according to criteria set forth in Recra OPs based on SW 846 Method 8270B for TCL Semivolatile target compounds on 10-22,25-99.

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 temperatures upon receipt have 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. All blank spike recoveries were within EPA QC limits.
7. The samples were spectrally searched for Butylated Hydroxytoluene and Tributylphosphate; however, they were not identified in the samples.

2000 RECEIVED Data Log In

for J. Michael Taylor
Vice President
Philadelphia Analytical Laboratory

02-17-00
Date

som\gorup\data\bna\tnu10392.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 19 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: 11/20/99 10:56

RFW Batch Number: **9910L392** Client: **TNU-HANFORD B99-078** Work Order: 10985001001 Page: 1a

	Cust ID:	B0WL01		B0WL01		B0WL01		B0WL02		B0WL03		B0WL04	
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	70	%	73	%	73	%	71	%	67	%	65	%
	2-Fluorobiphenyl	72	%	70	%	70	%	70	%	70	%	67	%
	Terphenyl-d14	84	%	77	%	81	%	86	%	80	%	65	%
	Phenol-d5	69	%	63	%	77	%	72	%	65	%	56	%
	2-Fluorophenol	64	%	62	%	68	%	64	%	61	%	62	%
	2,4,6-Tribromophenol	73	%	68	%	71	%	68	%	60	%	50	%
		fl		fl		fl		fl		fl		fl	
Phenol		360	U	58	%	70	%	360	U	340	U	340	U
bis(2-Chloroethyl)ether		360	U	360	U	360	U	360	U	340	U	340	U
2-Chlorophenol		360	U	61	%	68	%	360	U	340	U	340	U
1,3-Dichlorobenzene		360	U	360	U	360	U	360	U	340	U	340	U
1,4-Dichlorobenzene		360	U	64	%	70	%	360	U	340	U	340	U
1,2-Dichlorobenzene		360	U	360	U	360	U	360	U	340	U	340	U
2-Methylphenol		360	U	360	U	360	U	360	U	340	U	340	U
2,2'-oxybis(1-Chloropropane)		360	U	360	U	360	U	360	U	340	U	340	U
4-Methylphenol		360	U	360	U	360	U	360	U	340	U	340	U
N-Nitroso-di-n-propylamine		360	U	76	%	94	%	360	U	340	U	340	U
Hexachloroethane		360	U	360	U	360	U	360	U	340	U	340	U
Nitrobenzene		360	U	360	U	360	U	360	U	340	U	340	U
Isophorone		360	U	360	U	360	U	360	U	340	U	340	U
2-Nitrophenol		360	U	360	U	360	U	360	U	340	U	340	U
2,4-Dimethylphenol		360	U	360	U	360	U	360	U	340	U	340	U
bis(2-Chloroethoxy)methane		360	U	360	U	360	U	360	U	340	U	340	U
2,4-Dichlorophenol		360	U	360	U	360	U	360	U	340	U	340	U
1,2,4-Trichlorobenzene		360	U	70	%	74	%	360	U	340	U	340	U
Naphthalene		360	U	360	U	360	U	360	U	340	U	340	U
4-Chloroaniline		360	U	360	U	360	U	360	U	340	U	340	U
Hexachlorobutadiene		360	U	360	U	360	U	360	U	340	U	340	U
4-Chloro-3-methylphenol		360	U	59	%	70	%	360	U	340	U	340	U
2-Methylnaphthalene		360	U	360	U	360	U	360	U	340	U	340	U
Hexachlorocyclopentadiene		360	U	360	U	360	U	360	U	340	U	340	U
2,4,6-Trichlorophenol		360	U	360	U	360	U	360	U	340	U	340	U
2,4,5-Trichlorophenol		900	U	900	U	900	U	900	U	850	U	860	U

*= Outside of EPA CLP QC limits.

05

Cust ID:	B0WL01		B0WL01		B0WL01		B0WL02		B0WL03		B0WL04	
RFW#:	001		001 MS		001 MSD		002		003		004	
2-Chloronaphthalene	360	U	360	U	360	U	360	U	340	U	340	U
2-Nitroaniline	900	U	900	U	900	U	900	U	850	U	860	U
Dimethylphthalate	360	U	360	U	360	U	360	U	340	U	340	U
Acenaphthylene	360	U	360	U	360	U	360	U	340	U	340	U
2,6-Dinitrotoluene	360	U	360	U	360	U	360	U	340	U	340	U
3-Nitroaniline	900	U	900	U	900	U	900	U	850	U	860	U
Acenaphthene	360	U	68	%	72	%	360	U	340	U	340	U
2,4-Dinitrophenol	900	U	900	U	900	U	900	U	850	U	860	U
4-Nitrophenol	900	U	55	%	60	%	900	U	850	U	860	U
Dibenzofuran	360	U	360	U	360	U	360	U	340	U	340	U
2,4-Dinitrotoluene	360	U	70	%	81	%	360	U	340	U	340	U
Diethylphthalate	360	U	360	U	360	U	360	U	340	U	340	U
4-Chlorophenyl-phenylether	360	U	360	U	360	U	360	U	340	U	340	U
Fluorene	360	U	360	U	360	U	360	U	340	U	340	U
4-Nitroaniline	900	U	900	U	900	U	900	U	850	U	860	U
4,6-Dinitro-2-methylphenol	900	U	900	U	900	U	900	U	850	U	860	U
N-Nitrosodiphenylamine (1)	360	U	360	U	360	U	360	U	340	U	340	U
4-Bromophenyl-phenylether	360	U	360	U	360	U	360	U	340	U	340	U
Hexachlorobenzene	360	U	360	U	360	U	360	U	340	U	340	U
Pentachlorophenol	900	U	74	%	78	%	900	U	850	U	860	U
Phenanthrene	360	U	360	U	360	U	360	U	340	U	340	U
Anthracene	360	U	360	U	360	U	360	U	340	U	340	U
Carbazole	360	U	360	U	360	U	360	U	340	U	340	U
Di-n-butylphthalate	360	U	360	U	360	U	360	U	340	U	340	U
Fluoranthene	360	U	360	U	360	U	360	U	340	U	340	U
Pyrene	360	U	76	%	87	%	360	U	340	U	340	U
Butylbenzylphthalate	360	U	360	U	360	U	360	U	340	U	340	U
3,3'-Dichlorobenzidine	360	U	360	U	360	U	360	U	340	U	340	U
Benzo(a)anthracene	360	U	360	U	360	U	360	U	340	U	340	U
Chrysene	360	U	360	U	360	U	360	U	340	U	340	U
bis(2-Ethylhexyl)phthalate	360	U	360	U	360	U	360	U	340	U	340	U
Di-n-octyl phthalate	360	U	360	U	360	U	360	U	340	U	340	U
Benzo(b)fluoranthene	360	U	360	U	360	U	360	U	340	U	340	U
Benzo(k)fluoranthene	360	U	360	U	360	U	360	U	340	U	340	U
Benzo(a)pyrene	360	U	360	U	360	U	360	U	340	U	340	U
Indeno(1,2,3-cd)pyrene	360	U	360	U	360	U	360	U	340	U	340	U
Dibenz(a,h)anthracene	360	U	360	U	360	U	360	U	340	U	340	U
Benzo(g,h,i)perylene	360	U	360	U	360	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: 11/20/99 10:56

RFW Batch Number: **9910L392** Client: **TNU-HANFORD B99-078** Work Order: 10985001001 Page: 2a

	Cust ID:	B0WL06		B0WL07		B0WL08		SBLKEU		SBLKEU BS	
Sample Information	RFW#:	005		006		007		99LE1275-MB1		99LE1275-MB1	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	D.F.:	1.00		1.00		1.00		1.00		1.00	
	Units:	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
Surrogate Recovery	Nitrobenzene-d5	67	%	65	%	65	%	80	%	76	%
	2-Fluorobiphenyl	70	%	70	%	69	%	79	%	76	%
	Terphenyl-d14	69	%	71	%	71	%	79	%	75	%
	.Phenol-d5	63	%	62	%	61	%	73	%	72	%
	2-Fluorophenol	66	%	64	%	65	%	77	%	74	%
	2,4,6-Tribromophenol	57	%	55	%	54	%	69	%	76	%
Phenol		340	U	350	U	350	U	330	U	70	%
bis(2-Chloroethyl)ether		340	U	350	U	350	U	330	U	330	U
2-Chlorophenol		340	U	350	U	350	U	330	U	73	%
1,3-Dichlorobenzene		340	U	350	U	350	U	330	U	330	U
1,4-Dichlorobenzene		340	U	350	U	350	U	330	U	72	%
1,2-Dichlorobenzene		340	U	350	U	350	U	330	U	330	U
2-Methylphenol		340	U	350	U	350	U	330	U	330	U
2,2'-oxybis(1-Chloropropane)		340	U	350	U	350	U	330	U	330	U
4-Methylphenol		340	U	350	U	350	U	330	U	330	U
N-Nitroso-di-n-propylamine		340	U	350	U	350	U	330	U	79	%
Hexachloroethane		340	U	350	U	350	U	330	U	330	U
Nitrobenzene		340	U	350	U	350	U	330	U	330	U
Isophorone		340	U	350	U	350	U	330	U	330	U
2-Nitrophenol		340	U	350	U	350	U	330	U	330	U
2,4-Dimethylphenol		340	U	350	U	350	U	330	U	330	U
bis(2-Chloroethoxy)methane		340	U	350	U	350	U	330	U	330	U
2,4-Dichlorophenol		340	U	350	U	350	U	330	U	330	U
1,2,4-Trichlorobenzene		340	U	350	U	350	U	330	U	77	%
Naphthalene		340	U	350	U	350	U	330	U	330	U
4-Chloroaniline		340	U	350	U	350	U	330	U	330	U
Hexachlorobutadiene		340	U	350	U	350	U	330	U	330	U
4-Chloro-3-methylphenol		340	U	350	U	350	U	330	U	70	%
2-Methylnaphthalene		340	U	350	U	350	U	330	U	330	U
Hexachlorocyclopentadiene		340	U	350	U	350	U	330	U	330	U
2,4,6-Trichlorophenol		340	U	350	U	350	U	330	U	330	U
2,4,5-Trichlorophenol		860	U	880	U	860	U	840	U	840	U

*= Outside of EPA CLP QC limits.

RFW Batch Number: 9910L392 Client: TNU-HANFORD B99-078 Work Order: 10985001001 Page: 2b

Cust ID:	B0WL06		B0WL07		B0WL08		SBLKEU		SBLKEU BS	
RFW#:	005		006		007		99LE1275-MB1		99LE1275-MB1	
2-Chloronaphthalene	340	U	350	U	350	U	330	U	330	U
2-Nitroaniline	860	U	880	U	860	U	840	U	840	U
Dimethylphthalate	340	U	350	U	350	U	330	U	330	U
Acenaphthylene	340	U	350	U	350	U	330	U	330	U
2,6-Dinitrotoluene	340	U	350	U	350	U	330	U	330	U
3-Nitroaniline	860	U	880	U	860	U	840	U	840	U
Acenaphthene	340	U	350	U	350	U	330	U	76	%
2,4-Dinitrophenol	860	U	880	U	860	U	840	U	840	U
4-Nitrophenol	860	U	880	U	860	U	840	U	73	%
Dibenzofuran	340	U	350	U	350	U	330	U	330	U
2,4-Dinitrotoluene	340	U	350	U	350	U	330	U	71	%
Diethylphthalate	340	U	350	U	350	U	330	U	330	U
4-Chlorophenyl-phenylether	340	U	350	U	350	U	330	U	330	U
Fluorene	340	U	350	U	350	U	330	U	330	U
4-Nitroaniline	860	U	880	U	860	U	840	U	840	U
4,6-Dinitro-2-methylphenol	860	U	880	U	860	U	840	U	840	U
N-Nitrosodiphenylamine (1)	340	U	350	U	350	U	330	U	330	U
4-Bromophenyl-phenylether	340	U	350	U	350	U	330	U	330	U
Hexachlorobenzene	340	U	350	U	350	U	330	U	330	U
Pentachlorophenol	860	U	880	U	860	U	840	U	81	%
Phenanthrene	340	U	350	U	350	U	330	U	330	U
Anthracene	340	U	350	U	350	U	330	U	330	U
Carbazole	340	U	350	U	350	U	330	U	330	U
Di-n-butylphthalate	340	U	350	U	350	U	330	U	330	U
Fluoranthene	340	U	350	U	350	U	330	U	330	U
Pyrene	340	U	350	U	350	U	330	U	75	%
Butylbenzylphthalate	340	U	350	U	350	U	330	U	330	U
3,3'-Dichlorobenzidine	340	U	350	U	350	U	330	U	330	U
Benzo(a)anthracene	340	U	350	U	350	U	330	U	330	U
Chrysene	340	U	350	U	350	U	330	U	330	U
bis(2-Ethylhexyl)phthalate	340	U	350	U	350	U	330	U	330	U
Di-n-octyl phthalate	340	U	350	U	350	U	330	U	330	U
Benzo(b)fluoranthene	340	U	350	U	350	U	330	U	330	U
Benzo(k)fluoranthene	340	U	350	U	350	U	330	U	330	U
Benzo(a)pyrene	340	U	350	U	350	U	330	U	330	U
Indeno(1,2,3-cd)pyrene	340	U	350	U	350	U	330	U	330	U
Dibenz(a,h)anthracene	340	U	350	U	350	U	330	U	330	U
Benzo(g,h,i)perylene	340	U	350	U	350	U	330	U	330	U

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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B0WL01

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-078

Matrix: (soil/water) SOIL Lab Sample ID: 9910L392-001

Sample wt/vol: 30.1 (g/mL) G Lab File ID: A102512

Level: (low/med) LOW Date Received: 10/15/99

% Moisture: 8 decanted: (Y/N) __ Date Extracted: 10/19/99

Concentrated Extract Volume: 1000(uL) Date Analyzed: 10/25/99

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/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	8.23	100	JA
2.	UNKNOWN	24.21	200	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B0WL02

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-078

Matrix: (soil/water) SOIL Lab Sample ID: 9910L392-002

Sample wt/vol: 30.4 (g/mL) G Lab File ID: A102515

Level: (low/med) LOW Date Received: 10/15/99

% Moisture: 9 decanted: (Y/N) __ Date Extracted: 10/19/99

Concentrated Extract Volume: 1000(uL) Date Analyzed: 10/25/99

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/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	8.23	100	JA
2.	UNKNOWN	24.21	200	J
3.	UNKNOWN	27.44	200	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B0WL03

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-078

Matrix: (soil/water) SOIL Lab Sample ID: 9910L392-003

Sample wt/vol: 30.3 (g/mL) G Lab File ID: A102516

Level: (low/med) LOW Date Received: 10/15/99

% Moisture: 3 decanted: (Y/N) Date Extracted: 10/19/99

Concentrated Extract Volume: 1000(uL) Date Analyzed: 10/25/99

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/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	24.21	80	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B0WL04

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-078

Matrix: (soil/water) SOIL Lab Sample ID: 9910L392-004

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D102503

Level: (low/med) LOW Date Received: 10/15/99

% Moisture: 3 decanted: (Y/N) __ Date Extracted: 10/19/99

Concentrated Extract Volume: 1000(uL) Date Analyzed: 10/25/99

Injection Volume: 2.0(uL) Dilution Factor: 1.00

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

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B0WL06

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-078

Matrix: (soil/water) SOIL Lab Sample ID: 9910L392-005

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D102504

Level: (low/med) LOW Date Received: 10/15/99

% Moisture: 3 decanted: (Y/N) __ Date Extracted: 10/19/99

Concentrated Extract Volume: 1000(uL) Date Analyzed: 10/25/99

Injection Volume: 2.0(uL) Dilution Factor: 1.00

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

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B0WL07

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-078

Matrix: (soil/water) SOIL Lab Sample ID: 9910L392-006

Sample wt/vol: 30.4 (g/mL) G Lab File ID: D102505

Level: (low/med) LOW Date Received: 10/15/99

% Moisture: 6 decanted: (Y/N) __ Date Extracted: 10/19/99

Concentrated Extract Volume: 1000(uL) Date Analyzed: 10/25/99

Injection Volume: 2.0(uL) Dilution Factor: 1.00

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

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B0WL08

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-078

Matrix: (soil/water) SOIL Lab Sample ID: 9910L392-007

Sample wt/vol: 30.7 (g/mL) G Lab File ID: D102506

Level: (low/med) LOW Date Received: 10/15/99

% Moisture: 6 decanted: (Y/N) __ Date Extracted: 10/19/99

Concentrated Extract Volume: 1000(uL) Date Analyzed: 10/25/99

Injection Volume: 2.0(uL) Dilution Factor: 1.00

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

Number TICs found: 0

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

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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SBLKEJ

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-078

Matrix: (soil/water) SOIL Lab Sample ID: 99LE1275-MB1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D102205

Level: (low/med) LOW Date Received: 10/19/99

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 10/19/99

Concentrated Extract Volume: 1000(uL) Date Analyzed: 10/22/99

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/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	27.98	80	J

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

DATE RECEIVED: 10/15/99 RFW LOT # :9910L392

CLIENT ID	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B0WL01	001	S	99LE1275	10/13/99	10/19/99	10/25/99
B0WL01	001 MS	S	99LE1275	10/13/99	10/19/99	10/25/99
B0WL01	001 MSD	S	99LE1275	10/13/99	10/19/99	10/25/99
B0WL02	002	S	99LE1275	10/13/99	10/19/99	10/25/99
B0WL03	003	S	99LE1275	10/13/99	10/19/99	10/25/99
B0WL04	004	S	99LE1275	10/13/99	10/19/99	10/25/99
B0WL06	005	S	99LE1275	10/13/99	10/19/99	10/25/99
B0WL07	006	S	99LE1275	10/13/99	10/19/99	10/25/99
B0WL08	007	S	99LE1275	10/13/99	10/19/99	10/25/99

LAB QC:

SBLKEU	MB1	S	99LE1275	N/A	10/19/99	10/22/99
SBLKEU	MB1 BS	S	99LE1275	N/A	10/19/99	10/22/99

RECRA LabNet Use Only: 9910L392

Custody Transfer Record/Lab Work Request

Page 1 of 1

RECRA LabNet

All — FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

(8) metals

Client: The Hanford B99-078

Est. Final Proj. Sampling Date:

Project #: 10985-001-001-9999-00

Project Contact/Phone #:

RECRA Project Manager: Orlette Johnson

QC: Spec Del: std TAT: 30 day

Date Rec'd: 10-15-99 Date Due: 11/14/99

Account #:

Refrigerator #		1	2	2					2	2	2	2				
#/Type Container	Liquid															
	Solid	1AG	1AG	1					1AG	1	1AG	1AG				
Volume	Liquid															
	Solid	250	500	1					500	1	250	1000				
Preservatives		—	—						—		—	—				
ANALYSES REQUESTED →		ORGANIC							INORG							
		VOA	BNA	Pest/PCB	Herb				Metal	CN	TP	Inorg				
		RECRA LabNet Use Only														
		8260 24H 8260SC	8270 25H 8270 DRO	OPCB					Metal (1)	ICNO	IPH	Ang (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	VOA	BNA	Pest/PCB	Herb				Metal	CN	TP	Inorg
001	Bow101			LWS	10-13-99	0808	✓	✓	✓					✓	✓	✓	✓
002	02					0818	✓	✓	✓					✓	✓	✓	✓
003	03					0828	✓	✓	✓					✓	✓	✓	✓
004	04					0838	✓	✓	✓					✓	✓	✓	✓
005	06					0846	✓	✓	✓					✓	✓	✓	✓
006	07					0908	✓	✓	✓					✓	✓	✓	✓
007	08					0925	✓	✓	✓					✓	✓	✓	✓

11/3/99
SB and TL added to all metals samples per client

Special Instructions:

Saf # B99-078

*425579530473 - 3.9°C
425579530462 - 4.1°C

COMPOSITE WASTE

DATE/REVISIONS:

Met (1) = As, Ba, Be, Cd, Cr, Cu, Pb, Ni
2. Se, Ag, V, Zn, Hg,
Ang (1) = 3. NH3N, ICCL, ICFL, ICSO4, ICNO2,
4. ICNO3, ICPO4, ISFD, INH3N, ICR6
5.
6. Run Matrix QC

RECRA LabNet

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

Relinquished by	Received by	Date	Time
FedEx	TMurray	10-15-99	0900

Relinquished by	Received by	Date	Time
	ORIGINAL		
	REWRITTEN		

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

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B99-078-135	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 B pond	SAF No.: B99-078	
Ice Chest No.: ERC 96-013	Field Logbook No.: EL-1511	Method of Shipment: Fed Ex	
Shipped To: TMA/RECRA 10-13-99	Offsite Property No.: A0410298	Bill of Lading/Air Bill No.: 4235795304 73	
		COA: B2CW1 67C	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None	Cool 4C	None	Cool 4C	Cool 4C	Cool 4C	None				
Type of Container	aG	aG	aG	aG	aG	aG	aG				
No. of Container(s)	1	1	1	1	1	1	1				
Volume	60mL	250mL	250mL	500mL	500mL	1000mL	1000mL				
SAMPLE ANALYSIS	Isotopic Uranium	VOA - 8260A (TCL); VOA - 8260A (Add-On) (1-Propanol, Ethanol)	pH (Soil) - 9045	See item (1) in Special Instructions	Semi-VOA - 8270A (TCL); TPH-Diesel Range - WTPH-D; PCBs - 8082	See item (2) in Special Instructions	See item (3) in Special Instructions				

	Sample No.	Matrix *	Sample Date	Sample Time										
260	BOWL01	Soil	10-13-99	0808		X	X	X	X	X				
364	BOWL02	Soil	10-13-99	0818		X	X	X	X	X				
391	BOWL03	Soil	10-13-99	0828		X	X	X	X	X				
382	BOWL04	Soil	10-13-99	0838		X	X	X	X	X				

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: Doug Bowers, Doug Bowers	Date/Time: 10-13-99 1114	Received By: BOF 1B	Date/Time: 10-13-99 1114
Relinquished By: BOF #1B	Date/Time: 10/14/99 1030	Received By: Nelson/R Nelson	Date/Time: 10/14/99 1030
Relinquished By: Nelson/R Nelson	Date/Time: 10/14/99 1430	Received By: Fed Ex	Date/Time:
Relinquished By: Fed Ex	Date/Time: 10/15/99 0900	Received By: TMurray	Date/Time: 10-15-99 0900

SPECIAL INSTRUCTIONS

See chain of custody comments on SAF B99-078.

(1) ICP Metals - 6010A (Supertrace) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); ICP Metals - 6010A (Supertrace Add-On) (Beryllium, Copper, Nickel, Vanadium, Zinc); Mercury - 7471 - (CV); Chromium Hex - 7196
(2) NO2/NO3 - 353.1; IC Anions - 300.0 (Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate); Sulfides - 9030; Ammonia - 350.3; Total Cyanide - 9010
(3) Gamma Spectroscopy (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155); Gamma Spec - Add-on (Americium-241); Strontium-89,90 -- Total Sr; Total Uranium (Uranium); Isotopic Plutonium; Isotopic Thorium (Thorium-232); Americium-241

use BOW8C1 as TA

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	B99-078-136	Page 1 of 1 RJN 10/14/99

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 B pond	SAF No.: B99-078	
Ice Chest No.: SML-418	Field Logbook No.: EL-1511	Method of Shipment: Fed Ex	
Shipped To: TMA/RECRA RJB 10-13-99	Offsite Property No.: A990298	Bill of Lading/Air Bill No.: 4235795530462	
		COA B20CW167IC	

POSSIBLE SAMPLE HAZARDS/REMARKS											
	Preservation	None	None	None	None	None	Cool 4C	None	Cool 4C	Cool 4C	Cool 4C
	Type of Container	aG	aG	aG	aG	aG	aG	aG	aG	aG	aG
	No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Special Handling and/or Storage	Volume	60mL	60mL	60mL	60mL	120mL	250mL	250mL	500mL	500mL	1000mL
SAMPLE ANALYSIS		Isotopic Uranium	Neptunium-237	Nickel-63	Technetium-99	Tritium - H3	VOA - 8260A (TCL); VOA - 8260A (Add-On) (1-Propanol, Ethanol)	pH (Soil) - 9045	See item (1) in Special Instructions.	Semi-VOA - 8270A (TCL); TPH-Diesel Range - WTPH-D; PCBs - 8082	See item (2) in Special Instructions

	Sample No.	Matrix *	Sample Date	Sample Time										
378	BOWL06	Soil	10-13-99	0846						X	X	X	X	X
379	BOWL07	Soil	10-13-99	0908						X	X	X	X	X
380	BOWL08	Soil	10-13-99	0925						X	X	X	X	X

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: Doug Bowers	Date/Time: 10-13-99/1114	Received By: RJB	Date/Time: 10-13-99/1114
Relinquished By: RJB	Date/Time: 10/14/99 1030	Received By: R. Nelson	Date/Time: 10/14/99 1030
Relinquished By: R. Nelson	Date/Time: 1430 10/14/99	Received By: Fed Ex	Date/Time:
Relinquished By: Fed Ex	Date/Time: 10-15-99 0900	Received By: TMurray	Date/Time: 10-15-99 0900

SPECIAL INSTRUCTIONS

See chain of custody comments on SAF B99-078.

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

(2) NO2/NO3 - 353.1; IC Anions - 300.0 (Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate); Sulfides - 9030; Ammonia - 350.3; Total Cyanide - 9010

use BOW8C1 as T-A.

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

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