H0515- TMA/RECRA

RECRA ENVIRONMENTAL INC.

0052698

Chemical and Environmental Measurement Information

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

Client : TNU-HANFORD B99-085
RFW# : 9909L006
SDG/SAF #: H0515/B99-085

W.O. #: 10985-001-001-9999-00
Date Received: 09-03-99

RECEIVED MAR 2 0 2000 EDMC

SEMIVOLATILE

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

One (1) water sample was collected on 09-01-99.

The sample and its associated QC samples were extracted on 09-08-99 and analyzed according to criteria set forth in Recra OPs based on SW 846 Method 8270B for TCL Semivolatile target compounds on 09-14-99.

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. These samples were spectrally searched for Butylated Hydroxytoluene and Tributylphosphate; however, they were not identified in the samples.
5. All surrogate recoveries were within EPA QC limits.
6. All matrix spike recoveries were within EPA QC limits.
7. All blank spike recoveries were within EPA QC limits.
8. The laboratory blank contained Diethylphthalate, Di-n-butylphthalate, bis(2-Ethylhexyl)phthalate, di-n-octylphthalate, benzo(b)fluoranthene at levels less than the CRQL.

FEB 2000

St D Welsh

J. Michael Taylor
Vice President
Philadelphia Analytical Laboratory

01-27-00
Date

pef\group\data\bna\tnu09006.doc

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.

GLOSSARY OF BNA DATA

ABBREVIATIONS

BS = Indicates blank spike in which reagent grade water is spiked with the CLP matrix spike solutions and carried through all the steps in the method. Spike recoveries are reported.

BSD = Indicates blank spike duplicate.

MS = Indicates matrix spike.

MSD = Indicates matrix spike duplicate.

DL = Suffix added to sample number to indicate that results are from a diluted analysis.

NA = Not Applicable.

DF = Dilution Factor.

NR = Not Required.

SP, Z = Indicates Spiked Compound.

Recra LabNet - Lionville Laboratory

Semivolatiles by GC/MS, HSL List — Report Date: 10/05/99 17:57

RFW Batch Number: **9909L006** Client: **TNU-HANFORD B99-085** Work Order: 10985001001 Page: 1a

	Cust ID:	B0W9P1	B0W9P1	B0W9P1	SBLKCO	SBLKCO BS
Sample Information	RFW#:	002	002 MS	002 MSD	99LE1093-MB1	99LE1093-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	Nitrobenzene-d5	72 %	89 %	77 %	80 %	75 %
	2-Fluorobiphenyl	75 %	87 %	76 %	79 %	73 %
	Terphenyl-d14	97 %	104 %	102 %	106 %	95 %
	Phenol-d5	68 %	83 %	73 %	52 %	69 %
	2-Fluorophenol	67 %	88 %	81 %	80 %	78 %
	2,4,6-Tribromophenol	66 %	89 %	92 %	90 %	84 %
Phenol		0.6 J	73 %	66 %	10 U	68 %
bis(2-Chloroethyl)ether		10 U	20 U	20 U	10 U	10 U
2-Chlorophenol		10 U	82 %	74 %	10 U	75 %
1,3-Dichlorobenzene		10 U	20 U	20 U	10 U	10 U
1,4-Dichlorobenzene		10 U	73 %	54 %	10 U	65 %
1,2-Dichlorobenzene		10 U	20 U	20 U	10 U	10 U
2-Methylphenol		10 U	20 U	20 U	10 U	10 U
2,2'-oxybis(1-Chloropropane)		10 U	20 U	20 U	10 U	10 U
4-Methylphenol		10 U	20 U	20 U	10 U	10 U
N-Nitroso-di-n-propylamine		10 U	87 %	76 %	10 U	78 %
Hexachloroethane		10 U	20 U	20 U	10 U	10 U
Nitrobenzene		10 U	20 U	20 U	10 U	10 U
Isophorone		10 U	20 U	20 U	10 U	10 U
2-Nitrophenol		10 U	20 U	20 U	10 U	10 U
2,4-Dimethylphenol		10 U	20 U	20 U	10 U	10 U
bis(2-Chloroethoxy)methane		10 U	20 U	20 U	10 U	10 U
2,4-Dichlorophenol		10 U	20 U	20 U	10 U	10 U
1,2,4-Trichlorobenzene		10 U	73 %	55 %	10 U	68 %
Naphthalene		10 U	20 U	20 U	10 U	10 U
4-Chloroaniline		10 U	20 U	20 U	10 U	10 U
Hexachlorobutadiene		10 U	20 U	20 U	10 U	10 U
4-Chloro-3-methylphenol		10 U	80 %	76 %	10 U	76 %
2-Methylnaphthalene		10 U	20 U	20 U	10 U	10 U
Hexachlorocyclopentadiene		10 U	20 U	20 U	10 U	10 U
2,4,6-Trichlorophenol		10 U	20 U	20 U	10 U	10 U
2,4,5-Trichlorophenol		25 U	50 U	50 U	25 U	25 U

*= Outside of EPA CLP QC limits.

500

Cust ID:	B0W9P1	B0W9P1	B0W9P1	SBLKCO	SBLKCO BS
RFW#:	002	002 MS	002 MSD	99LE1093-MB1	99LE1093-MB1
2-Chloronaphthalene	10 U	20 U	20 U	10 U	10 U
2-Nitroaniline	25 U	50 U	50 U	25 U	25 U
Dimethylphthalate	10 U	20 U	20 U	10 U	10 U
Acenaphthylene	10 U	20 U	20 U	10 U	10 U
2,6-Dinitrotoluene	10 U	20 U	20 U	10 U	10 U
3-Nitroaniline	25 U	50 U	50 U	25 U	25 U
Acenaphthene	10 U	85 %	76 %	10 U	82 %
2,4-Dinitrophenol	25 U	50 U	50 U	25 U	25 U
4-Nitrophenol	25 U	55 %	46 %	25 U	61 %
Dibenzofuran	10 U	20 U	20 U	10 U	10 U
2,4-Dinitrotoluene	10 U	90 %	82 %	10 U	85 %
Diethylphthalate	0.5 JB	20 U	20 U	0.5 J	10 U
4-Chlorophenyl-phenylether	10 U	20 U	20 U	10 U	10 U
Fluorene	10 U	20 U	20 U	10 U	10 U
4-Nitroaniline	25 U	50 U	50 U	25 U	25 U
4,6-Dinitro-2-methylphenol	25 U	50 U	50 U	25 U	25 U
N-Nitrosodiphenylamine (1)	10 U	20 U	20 U	10 U	10 U
4-Bromophenyl-phenylether	10 U	20 U	20 U	10 U	10 U
Hexachlorobenzene	10 U	20 U	20 U	10 U	10 U
Pentachlorophenol	25 U	74 %	82 %	25 U	87 %
Phenanthrene	10 U	20 U	20 U	10 U	10 U
Anthracene	10 U	20 U	20 U	10 U	10 U
Carbazole	10 U	20 U	20 U	10 U	10 U
Di-n-butylphthalate	0.7 JB	1 JB	20 U	0.8 J	0.8 JB
Fluoranthene	10 U	20 U	20 U	10 U	10 U
Pyrene	10 U	101 %	96 %	10 U	101 %
Butylbenzylphthalate	10 U	20 U	20 U	10 U	10 U
3,3'-Dichlorobenzidine	10 U	20 U	20 U	10 U	10 U
Benzo(a)anthracene	10 U	20 U	20 U	10 U	10 U
Chrysene	10 U	20 U	20 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	2 JB	14 JB	3 JB	4 J	5 JB
Di-n-octyl phthalate	10 U	20 U	20 U	0.5 J	10 U
Benzo(b)fluoranthene	10 U	20 U	20 U	0.6 J	10 U
Benzo(k)fluoranthene	10 U	20 U	20 U	10 U	10 U
Benzo(a)pyrene	10 U	20 U	20 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	20 U	20 U	10 U	10 U
Dibenz(a,h)anthracene	10 U	20 U	20 U	10 U	10 U
Benzo(g,h,i)perylene	10 U	20 U	20 U	10 U	10 U

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

1F

CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B0W9P1

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-085

Matrix: (soil/water) WATER Lab Sample ID: 9909L006-002

Sample wt/vol: 1000 (g/mL) ML Lab File ID: D091405

Level: (low/med) LOW Date Received: 09/03/99

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 09/08/99

Concentrated Extract Volume: 1000(uL) Date Analyzed: 09/14/99

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/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	5.92	2	J
2.		UNKNOWN	21.80	2	J

Recra LabNet - Lionville Laboratory
BNA ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD B99-085

DATE RECEIVED: 09/03/99 RFW LOT # :9909L006

CLIENT ID	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B0W9P1	002	W	99LE1093	09/01/99	09/08/99	09/14/99
B0W9P1	002 MS	W	99LE1093	09/01/99	09/08/99	09/14/99
B0W9P1	002 MSD	W	99LE1093	09/01/99	09/08/99	09/14/99
LAB QC:						
SBLKCO	MB1	W	99LE1093	N/A	09/08/99	09/14/99
SBLKCO	MB1 BS	W	99LE1093	N/A	09/08/99	09/14/99

008

RECRA LabNet Use Only
9909L006

Custody Transfer Record/Lab Work Request

RECRA LabNet

all **FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS** (8) metals dig.

Client TNU- HANFORD B99-085
Est. Final Proj. Sampling Date
Project # 10985-001-001-9999-00
Project Contact/Phone #
RECRA Project Manager OJ.
QC Spec Del STD TAT 30Day

Date Rec'd 9-3-99 Date Due 10-3-99
Account #

		VOA	BNA	Pest/PCB	Herb				Metal	CN						
Refrigerator #		1	6						6		6	6	6			
#/Type Container	Liquid	3AG	2AG						1PL		1PL	1P	1P			
	Solid															
Volume	Liquid	40	950						500		500	1L	1L			
	Solid															
Preservatives		HCL	—						HNO3		ZnAC NAOH	—	H2SO4			
ANALYSES REQUESTED		ORGANIC							INORG							

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

RECRA LabNet Use Only

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	0624H OGCSC	0625H						MET①		ISFD	INO④	IN3N2 / NH3N			
001	B0W9P0			W	9-1-99	0500	3														
002	⊥ 1			⊥	⊥	0630	3	2						1		1	1	1			

Special Instructions:
saf # B99-085

COMPOSITE WASTE

DATE/REVISIONS:
→ 1. PH, ICNO2, ICNO3, ICPO4 taken to lab
OGCSC 2. = 1-Propanol, Ethanol
MET① = 3. AS, BA, CD, CR, CU, Pb, Ni, SE, ~~Ag~~ Ag 9-3-99, V, ZN
INO④ 4. IPH, ICCL, ICFL, ICNO2, ICNO3, ICPO4,
5. ICSO4
9/9/99 6. added Be to 002 per PM

RECRA LabNet Use Only
Samples were:
1) Shipped ✓ or Hand Delivered
4235 7952 9057
A.
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. 2.0 °C

Relinquished by	Received by	Date	Time
Fed Ex	T Murray	9-3-99	0930

Relinquished by	Received by	Date	Time

ORIGINAL REWRITTEN

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

Bechtel Hanford Inc.	0010	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B99-085-03	Page 1 of 009

Collector Doug Bowers/Brent Porter	**Company Contact** Chris Cearlock **Telephone No.** 372-9574	**Project Coordinator** TRENT, SJ	**Price Code** 7N **Data Turnaround** 45 Days
Project Designation 200 Area Source characterization - 200-CW-1 OU - QC Sa	**Sampling Location** 200 East 200 CW1 GP# 12 9-1-99	**SAF No.** B99-085	
Ice Chest No. ERC96-035	**Field Logbook No.** EL-1511	**Method of Shipment** Federal Express	
Shipped To TMA/RECRA 671 9-1-99	**Offsite Property No.** A990243	**Bill of Lading/Air Bill No.** 423570529057	
		COA B20CW1 671C	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

	Preservation	ZnAc+NaOH to pH >9 Cool	Cool 4C	H2SO4 to pH <2 Cool 4C	Cool 4C	HNO3 to pH <2	HCl to pH <2 Cool 4C	HNO3 to pH <2			
	Type of Container	P	P	P	aG	G/P	aGs*	P			
	No. of Container(s)	1	1	1	2	2	3	3			
	Volume	500mL	1000mL	1000mL	1000mL	1000mL	40mL	500mL			
SAMPLE ANALYSIS		Sulfides - 9030	See item (1) in Special Instructions.	NO2/NO3 - 353.1; Ammonia - 350.3	Semi-VOA - 8270A (TCL)	Gross Alpha; Gross Beta	VOA - 8260A (TCL); VOA - 8260A (Add-On) (1-Propanol, Ethanol)	See item (2) in Special Instructions.			
Sample No.	Matrix *	Sample Date	Sample Time								
B0W9P0	Water	9-1-99	0500					X			
B0W9P1	Water	9-1-99	0630	X	X	X	X	X	X	X	

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

Relinquished By	Date/Time	Received By	Date/Time
Doug Bowers	9-1-99/1200	Ref 1A	9-1-99/1200
Ref #1A	9/2/99 1230	Renee Nielsen/R. Nielsen	9/2/99 1230
Renee Nielsen/R. Nielsen	9/2/99 1330	FedEx	
FedEx	9-3-99 0930	TMurray	9-3-99 0930

SPECIAL INSTRUCTIONS

See Chain of Custody comments on SAF for special instructions.

(1) IC Anions - 300.0 (Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate); pH (Water) - 9040
(2) ICP Metals - 6010A (Supertrace) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); ICP Metals - 6010A (Supertrace Add-On) (Copper, Nickel, Vanadium, Zinc)

Collector unavailable to relinquish samples.

From non Red area

Matrix *

Soil
Water
Vapor
Other Solid
Other Liquid

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