

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

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.

RECEIVED
MAR 2000
EDMC

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FEB 2000

J. Michael Taylor
J. Michael Taylor
Vice President
Philadelphia Analytical Laboratory

01-27-00
Date

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The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 9 pages.

GLOSSARY OF 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

004

	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
	Nitrobenzene-d5	72 %	89 %	77 %	80 %	75 %
Surrogate	2-Fluorobiphenyl	75 %	87 %	76 %	79 %	73 %
Recovery	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 %
=====fl=====fl=====fl=====fl=====fl=====fl=====fl=====						
	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.

	Cust ID:	BOW9P1	BOW9P1	BOW9P1	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.

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1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

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

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

Number TICs found: 2

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
BOW9P1	002	W	99LE1093	09/01/99	09/08/99	09/14/99
BOW9P1	002 MS	W	99LE1093	09/01/99	09/08/99	09/14/99
BOW9P1	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

00003



Custody Transfer Record/Lab Work Request Page 1 of 1

RECRA LabNet Use Only
9909L006

all FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

metals dia.

Client <u>TNU - HANFORD</u> <u>B99-085</u>	Refrigerator #	1	6							6	6	6	6					
Est. Final Proj. Sampling Date	#/Type Container	Liquid	3A62A6							IPC	IPC	IPC	IPC					
Project # <u>10985-001-001-9999-00</u>		Solid																
Project Contact/Phone #	Volume	Liquid	40 950							90	90	IL	IL					
RECRA Project Manager <u>OT</u>		Solid																
QC Spec <u>Del STD</u> TAT <u>30 Day</u>	Preservatives	HCL -								HNO3	HNO3	-	H2SO4					
Date Rec'd <u>9-3-99</u> Date Due <u>10-3-99</u>	ANALYSES REQUESTED →	ORGANIC					INORG											
Account #		VOA	BNA	Pes/PCB	Herb	Metal	CN											

MATRIX CODES: S - Soil SE - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Air DS - Drum Solids DL - Drum Liquids L - EP/TCLP Leachate WI - Wipe X - Other F - Fish	Lab ID	Client ID/Description	Matrix QC Chosen (✓)		Matrix	Date Collected	Time Collected	RECRA LabNet Use Only													
			MS	MSD				0624H	0625C	0625H											
			ME	TO				IS	FD	IN	3UR	IN	3HN								
	001	B0619P0			W	7-1-99	0500	3													
	002	L 1			L	L	0630	3	2												

Special Instructions: ref # B99-085

DATE/REVISIONS:
 → 1. PH, ICNO2, ICNO3, ICPO4 taken to lab
 0625C = 1. Propanol, Ethanol Ag 11/13/99
 METO = 3. AS, BA, CD, CR, CW, Pb, Ni, SE, DF, V, ZN
 INOP = 4. IPH, ICCL, ICFL, ICNO2, ICNO3, ICPO4,
 5. IC504
 9/9/99 6. added B1 to 002 per PM

COMPOSITE WASTE

RECRA LabNet Use Only	
Samples were: 1) Shipped <input checked="" type="checkbox"/> or Held <input type="checkbox"/> 4235 7952 9057 A. 2) Ambient or Filled <input checked="" type="checkbox"/> 3) Received in Good Condition <input checked="" type="checkbox"/> or N 4) Labels Indicate Property Preserved <input checked="" type="checkbox"/> or N 5) Received Within Holding Times <input checked="" type="checkbox"/> or N	COC Tape was: 1) Present on Outer Package <input checked="" type="checkbox"/> or N 2) Unbroken on Outer Package <input checked="" type="checkbox"/> or N 3) Present on Sample <input checked="" type="checkbox"/> or N 4) Unbroken on Sample <input checked="" type="checkbox"/> or N COC Record Present Upon Sample Rec'l <input checked="" type="checkbox"/> or N Cooler Temp. <u>2.0</u> °C

Relinquished by	Received by	Date	Time
FedEx	TD Murray	9-3-99	0930

Relinquished by **ORIGINAL** Received by **ORIGINAL** Date Time

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 2
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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 15-10		SAF No. B99-085		
Ice Chest No. ELC06-035	Field Logbook No. EL-1511	Method of Shipment Federal Express			
Shipped To TMA/RECRA 9/29 9-1-99	Offsite Property No. A990243	Bill of Lading/Air Bill No. 423570529057			

COA B20CW1671C

POSSIBLE SAMPLE HAZARDS/REMARKS	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	GP	aGs*	P			
		No. of Container(s)	1	1	1	2	2	3	3			
Special Handling and/or Storage	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						
BOW9P0	Water	9-1-99	0500						X
BOW9P1	Water	9-1-99	0630	X	X	X	X		X

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS See Chain of Custody comments on SAF for special instructions.	Matrix *
Relinquished By <i>Doug Bowers</i> Date/Time <i>9-1-99/1200</i>	Received By <i>R. F. IA</i> Date/Time <i>9-1-99/1200</i>	(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) <i>collector unavailable to relinquish samples.</i> <i>From non Red area</i>	Soil Water Vapor Other Solid Other Liquid
Relinquished By <i>R. F. IA</i> Date/Time <i>9/2/99 1230</i>	Received By <i>R. Nelson</i> Date/Time <i>9/2/99</i>		
Relinquished By <i>R. Nelson</i> Date/Time <i>9/2/99</i>	Received By <i>FedEx</i> Date/Time		
Relinquished By <i>FedEx</i> Date/Time <i>9399 0930</i>	Received By <i>T. Murray</i> Date/Time <i>9399 0930</i>		
LABORATORY SECTION	Received By _____ Title _____		Date/Time _____
FINAL SAMPLE DISPOSITION	Disposal Method _____	Disposed By _____	Date/Time _____