



0052713

Chemical and Environmental Measurement Information

Recra LabNet Philadelphia
Analytical Report
REVISION

Client : TNU-HANFORD B99-078
RFW# : 9909L157
SDG/SAF #: H0539/B99-078

W.O. #: 10985-001-001-9999-00
Date Received: 09-22-99

SEMIVOLATILE



EDMC

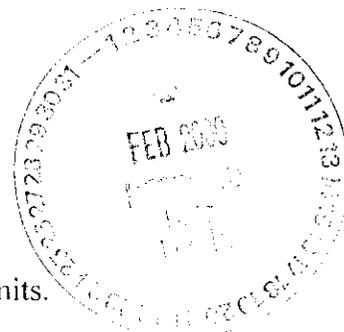
This narrative was corrected to add the TIC search for Tributylphosphate.

Two (2) soil samples were collected on 09-20-99.

The samples and their associated QC samples were extracted on 10-04-99 and analyzed according to criteria set forth in Recra OPs based on SW 846 Method 8270B for TCL Semivolatile target compounds on 10-05-99.

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



by 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 11 pages.

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.



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.



Recra LabNet - Lionville Laboratory

Semivolatiles by GC/MS, HSL List

Report Date: 10/27/99 16:15

RFW Batch Number: 9909L157

Client: TNU-HANFORD B99-078

Work Order: 10985001001

Page: 1a

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	Cust ID:	BOWBT2	BOWBT2	BOWBT2	BOWBT1	SBLKDQ	SBLKDQ BS
Sample Information	RFW#:	001	001 MS	001 MSD	002	99LE1196-MB1	99LE1196-MB1
	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	Nitrobenzene-d5	91 %	85 %	78 %	77 %	78 %	92 %
Recovery	2-Fluorobiphenyl	80 %	79 %	66 %	73 %	78 %	94 %
	Terphenyl-d14	83 %	83 %	72 %	74 %	92 %	104 %
	Phenol-d5	82 %	72 %	69 %	60 %	81 %	94 %
	2-Fluorophenol	68 %	66 %	64 %	56 %	77 %	92 %
	2,4,6-Tribromophenol	66 %	64 %	57 %	50 %	75 %	96 %
=====fl=====fl=====fl=====fl=====fl=====fl=====fl=====							
	Phenol	350 U	67 %	68 %	350 U	330 U	90 %
	bis(2-Chloroethyl)ether	350 U	350 U	350 U	350 U	330 U	330 U
	2-Chlorophenol	350 U	60 %	58 %	350 U	330 U	90 %
	1,3-Dichlorobenzene	350 U	350 U	350 U	350 U	330 U	330 U
	1,4-Dichlorobenzene	350 U	67 %	57 %	350 U	330 U	89 %
	1,2-Dichlorobenzene	350 U	350 U	350 U	350 U	330 U	330 U
	2-Methylphenol	350 U	350 U	350 U	350 U	330 U	330 U
	2,2'-oxybis(1-Chloropropane)	350 U	350 U	350 U	350 U	330 U	330 U
	4-Methylphenol	350 U	350 U	350 U	350 U	330 U	330 U
	N-Nitroso-di-n-propylamine	350 U	85 %	89 %	350 U	330 U	99 %
	Hexachloroethane	350 U	350 U	350 U	350 U	330 U	330 U
	Nitrobenzene	350 U	350 U	350 U	350 U	330 U	330 U
	Isophorone	350 U	350 U	350 U	350 U	330 U	330 U
	2-Nitrophenol	350 U	350 U	350 U	350 U	330 U	330 U
	2,4-Dimethylphenol	350 U	350 U	350 U	350 U	330 U	330 U
	bis(2-Chloroethoxy)methane	350 U	350 U	350 U	350 U	330 U	330 U
	2,4-Dichlorophenol	350 U	350 U	350 U	350 U	330 U	330 U
	1,2,4-Trichlorobenzene	350 U	84 %	72 %	350 U	330 U	93 %
	Naphthalene	350 U	350 U	350 U	350 U	330 U	330 U
	4-Chloroaniline	350 U	350 U	350 U	350 U	330 U	330 U
	Hexachlorobutadiene	350 U	350 U	350 U	350 U	330 U	330 U
	4-Chloro-3-methylphenol	350 U	78 %	66 %	350 U	330 U	92 %
	2-Methylnaphthalene	350 U	350 U	350 U	350 U	330 U	330 U
	Hexachlorocyclopentadiene	350 U	350 U	350 U	350 U	330 U	330 U
	2,4,6-Trichlorophenol	350 U	350 U	350 U	350 U	330 U	330 U
	2,4,5-Trichlorophenol	870 U	870 U	870 U	870 U	840 U	840 U

*= Outside of EPA CLP QC limits.

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	Cust ID:	BOWBT2	BOWBT2	BOWBT2	BOWBT1	SBLKDQ	SBLKDQ BS
RFW#:	001	001 MS	001 MSD	002	99LE1196-MB1	99LE1196-MB1	
2-Chloronaphthalene	350 U	350 U	350 U	350 U	330 U	330 U	
2-Nitroaniline	870 U	870 U	870 U	870 U	840 U	840 U	
Dimethylphthalate	350 U	350 U	350 U	350 U	330 U	330 U	
Acenaphthylene	350 U	350 U	350 U	350 U	330 U	330 U	
2,6-Dinitrotoluene	350 U	350 U	350 U	350 U	330 U	330 U	
3-Nitroaniline	870 U	870 U	870 U	870 U	840 U	840 U	
Acenaphthene	350 U	74 %	64 %	350 U	330 U	97 %	
2,4-Dinitrophenol	870 U	870 U	870 U	870 U	840 U	840 U	
4-Nitrophenol	870 U	78 %	65 %	870 U	840 U	87 %	
Dibenzofuran	350 U	350 U	350 U	350 U	330 U	330 U	
2,4-Dinitrotoluene	350 U	89 %	75 %	350 U	330 U	98 *	%
Diethylphthalate	350 U	350 U	350 U	350 U	330 U	330 U	
4-Chlorophenyl-phenylether	350 U	350 U	350 U	350 U	330 U	330 U	
Fluorene	350 U	350 U	350 U	350 U	330 U	330 U	
4-Nitroaniline	870 U	870 U	870 U	870 U	840 U	840 U	
4,6-Dinitro-2-methylphenol	870 U	870 U	870 U	870 U	840 U	840 U	
N-Nitrosodiphenylamine (1)	350 U	350 U	350 U	350 U	330 U	330 U	
4-Bromophenyl-phenylether	350 U	350 U	350 U	350 U	330 U	330 U	
Hexachlorobenzene	350 U	350 U	350 U	350 U	330 U	330 U	
Pentachlorophenol	870 U	72 %	63 %	870 U	840 U	94 %	
Phenanthrene	350 U	350 U	350 U	350 U	330 U	330 U	
Anthracene	350 U	350 U	350 U	350 U	330 U	330 U	
Carbazole	350 U	350 U	350 U	350 U	330 U	330 U	
Di-n-butylphthalate	350 U	350 U	350 U	350 U	330 U	330 U	
Fluoranthene	350 U	350 U	350 U	350 U	330 U	330 U	
Pyrene	350 U	93 %	80 %	350 U	330 U	104 %	
Butylbenzylphthalate	350 U	350 U	350 U	350 U	330 U	330 U	
3,3'-Dichlorobenzidine	350 U	350 U	350 U	350 U	330 U	330 U	
Benzo(a)anthracene	350 U	350 U	350 U	350 U	330 U	330 U	
Chrysene	350 U	350 U	350 U	350 U	330 U	330 U	
bis(2-Ethylhexyl)phthalate	350 U	350 U	350 U	350 U	330 U	330 U	
Di-n-octyl phthalate	350 U	350 U	350 U	350 U	330 U	330 U	
Benzo(b)fluoranthene	350 U	350 U	350 U	350 U	330 U	330 U	
Benzo(k)fluoranthene	350 U	350 U	350 U	350 U	330 U	330 U	
Benzo(a)pyrene	350 U	350 U	350 U	350 U	330 U	330 U	
Indeno(1,2,3-cd)pyrene	350 U	350 U	350 U	350 U	330 U	330 U	
Dibenz(a,h)anthracene	350 U	350 U	350 U	350 U	330 U	330 U	
Benzo(g,h,i)perylene	350 U	350 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.

BOWBT2

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-078

Matrix: (soil/water) SOIL Lab Sample ID: 9909L157-001

Sample wt/vol: 30.0 (g/mL) G Lab File ID: A100503

Level: (low/med) LOW Date Received: 09/22/99

% Moisture: 4 decanted: (Y/N) Date Extracted: 10/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/05/99

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.	UNKNOWN	7.24	90	JB
2.	UNKNOWN	7.57	90	J

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

BOWBT1

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-078

Matrix: (soil/water) SOIL Lab Sample ID: 9909L157-002

Sample wt/vol: 30.0 (g/mL) G Lab File ID: A100506

Level: (low/med) LOW Date Received: 09/22/99

% Moisture: 4 decanted: (Y/N) Date Extracted: 10/04/99

Concentrated Extract Volume: 1000(uL) Date Analyzed: 10/05/99

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH:

Number TICs found: 4 CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.23	70	JB
2.	UNKNOWN	23.76	200	J
3.	UNKNOWN	25.15	90	J
4.	UNKNOWN	25.29	100	J

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SBLKDQ

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD E99-078

Matrix: (soil/water) SOIL Lab Sample ID: 99LE1196-MB1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D100505

Level: (low/med) LOW Date Received: 10/04/99

% Moisture: decanted: (Y/N) Date Extracted: 10/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/05/99

Injection Volume: 2.0 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH:

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

Number TICs found: 1

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	8.48	80	J

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

DATE RECEIVED: 09/22/99

RFW LOT # :9909L157

CLIENT ID	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
BOWBT2	001	S	99LE1196	09/20/99	10/04/99	10/05/99
BOWET2	001 MS	S	99LE1196	09/20/99	10/04/99	10/05/99
BOWBT2	001 MSD	S	99LE1196	09/20/99	10/04/99	10/05/99
BOWBT1	002	S	99LE1196	09/20/99	10/04/99	10/05/99

LAB QC:

SBLKDQ	MB1	S	99LE1196	N/A	10/04/99	10/05/99
SBLKDQ	MB1 BS	S	99LE1196	N/A	10/04/99	10/05/99

Bechtel Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

B99-018-122

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 (B8758) >15'	SAF No. 1099-078			
Ice Chest No. SML 510	Field Logbook No. EL-1511	Method of Shipment Fed Ex			
Shipped To TMA/RECRA RECRA 870 9-20-99	Offsite Property No. A990263	Bill of Lading/Air Bill No. 4235 7952 4620 9610 COA B20CW1671C			

POSSIBLE SAMPLE HAZARDS/REMARKS	Preservation	Cool 4C	Cool 4C	None	Cool 4C						
	Special Handling and/or Storage	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) (I-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							
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Sample No.	Matrix *	Sample Date	Sample Time								
BOWBT2	Soil	9-20-99	1140	X	X		X				BOWCA1
BOWBT1	Soil	9-20-99	0950	X	X		X				BOWCA1
BOWBT3	Soil										
BOWBT5	Soil										

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS	Matrix *
Relinquished By Doug Bowers 9-20-99/1600	Received By R-F IB 9-20-99/1600	<p>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.</p> <p>(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</p> <p>(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</p> <p>COLLECTOR UNAVAILABLE TO SIGN COX 99094L157</p>	<p>Soil Water Vapor Other Solid Other Liquid</p>
Relinquished By RFB 9-21-99 0830	Received By Chris 9-21-99 0830		
Relinquished By Chris 9-21-99 1400	Received By FEDEX 9-21-99 1400		
Relinquished By Fed Ex 9-22-99/0945	Received By D. J. Smith 9-22-99/0945		
LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time