H0670-TMA/RECRA

RECRA ENVIRONMENTAL INC.

Chemical and Environmental Measurement Information

Recra LabNet Philadelphia
Analytical Report

Client: TNU-HANFORD B99-093
RFW #: 9912L895
SDG/SAF #: H0670/B99-093

W.O. #: 10985-001-001-9999-00
Date Received: 12-03-99

RECEIVED
APR 11 2000
EDMC

GC/MS VOLATILE

Eight (8) solid (charcoal) samples were collected on 11-29-99.

The samples and their associated QC samples were analyzed according to criteria set forth in Recra OPs based on SW 846 Method 8260A for the client specified Volatile target compounds on 12-08,09-99.

The following is a summary of the QC results accompanying these 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. All samples were analyzed within required holding time.

3. A non-target compound was detected in sample B0X466.

4. These samples required a medium level analysis (4g extracted with 10mL Methanol) with additional 50 to 100-fold instrument dilutions due to high levels of target compounds.

5. Fifteen (15) of thirty (30) obtainable surrogate recoveries were outside EPA QC limits. All samples were diluted, reanalyzed and reported. The out of limit recoveries were probably due to a charcoal-matrix effect.

6. All matrix spike recoveries were within EPA QC limits; however, the matrix spike was added to the methanol extract prior to purging.

7. The method blanks contained the common laboratory contaminants Methylene Chloride, Acetone at levels less than 2x the CRQL and the target compound 2-Butanone at levels less than the CRQL. The method blank 99LVN983-MB1 also contained the target compound Chloromethane at a level less than the CRQL.

MAR 2000
RECEIVED
Data
Log In

J. Michael Taylor
Vice President
Philadelphia Analytical Laboratory

03-01-00
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 2 6 pages.

208 Welsh Pool Road • Lionville, PA 19341-1333 • (610) 280-3000 • Fax (610) 280-3041

GLOSSARY OF VOA 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.

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.

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GLOSSARY OF VOA 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.

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Recra LabNet - Lionville Laboratory

Volatiles by GC/MS, HSL List

Report Date: 02/28/00 12:00

RFW Batch Number: **9912L895** Client: **TNU-HANFORD B99-093** Work Order: 10985001001 Page: 1a

	Cust ID:	B0X466	B0X466	B0X466	B0X466	B0X467	B0X467
Sample Information	RFW#:	001	001 DL	001 MS	001 MSD	002	002 DL
	Matrix:	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
	D.F.:	0.952	95.2	47.6	47.6	1.00	50.0
	Units:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
	Level:	MED	MED	MED	MED	MED	MED
Surrogate Recovery	Toluene-d8	59 * %	D %	D %	D %	74 * %	D %
	Bromofluorobenzene	18 * %	D %	D %	D %	33 * %	D %
	1,2-Dichloroethane-d4	92 %	D %	D %	D %	87 %	D %
Chloromethane		2400 U	NA	120000 U	120000 U	560 JB	NA
Bromomethane		2400 U	NA	120000 U	120000 U	2600 U	NA
Vinyl Chloride		2400 U	NA	120000 U	120000 U	2600 U	NA
Chloroethane		2400 U	NA	120000 U	120000 U	2600 U	NA
Methylene Chloride		2700 B	NA	60000 U	60000 U	2800 B	NA
Acetone		3700 B	NA	120000 U	120000 U	1700 JB	NA
Carbon Disulfide		1200 U	NA	60000 U	60000 U	1300 U	NA
1,1-Dichloroethene		1200 U	NA	90 %	87 %	1300 U	NA
1,1-Dichloroethane		1200 U	NA	60000 U	60000 U	1300 U	NA
1,2-Dichloroethene (total)		1200 U	NA	60000 U	60000 U	1300 U	NA
Chloroform		11000	63000 J	17000 J	25000 J	11000	42000 J
1,2-Dichloroethane		1200 U	NA	60000 U	60000 U	1300 U	NA
2-Butanone		600 JB	NA	17000 BJ	120000 U	2600 U	NA
1,1,1-Trichloroethane		1200 U	NA	60000 U	60000 U	1300 U	NA
Carbon Tetrachloride		E	3700000	1000000	1600000	E	1900000
Bromodichloromethane		1200 U	NA	60000 U	60000 U	1300 U	NA
1,2-Dichloropropane		1200 U	NA	60000 U	60000 U	1300 U	NA
cis-1,3-Dichloropropene		1200 U	NA	60000 U	60000 U	1300 U	NA
Trichloroethene		2700	NA	96 %	97 %	2400	NA
Dibromochloromethane		1200 U	NA	60000 U	60000 U	1300 U	NA
1,1,2-Trichloroethane		1200 U	NA	60000 U	60000 U	1300 U	NA
Benzene		1200 U	NA	97 %	99 %	1300 U	NA
Trans-1,3-Dichloropropene		1200 U	NA	60000 U	60000 U	1300 U	NA
Bromoform		1200 U	NA	60000 U	60000 U	1300 U	NA
4-Methyl-2-pentanone		2400 U	NA	120000 U	120000 U	2600 U	NA
2-Hexanone		2400 U	NA	120000 U	120000 U	2600 U	NA
Tetrachloroethene		3700	NA	60000 U	60000 U	980 J	NA
1,1,2,2-Tetrachloroethane		1200 U	NA	60000 U	60000 U	1300 U	NA
Toluene		1200 U	NA	97 %	97 %	1300 U	NA

*= Outside of EPA CLP QC limits.

Cust ID:	B0X466		B0X466	B0X466		B0X466		B0X467		B0X467
RFW#:	001		001 DL	001 MS		001 MSD		002		002 DL
Level:	MED		MED	MED		MED		MED		MED
Chlorobenzene	1200	U	NA	97	%	98	%	1300	U	NA
Ethylbenzene	1200	U	NA	60000	U	60000	U	1300	U	NA
Styrene	1200	U	NA	60000	U	60000	U	1300	U	NA
Xylene (total)	1200	U	NA	60000	U	60000	U	1300	U	NA

*= Outside of EPA CLP QC limits.

Recra LabNet - Lionville Laboratory

Volatiles by GC/MS, HSL List

Report Date: 02/28/00 12:00

RFW Batch Number: **9912L895** Client: **TNU-HANFORD B99-093** Work Order: 10985001001 Page: 2a

	Cust ID:	B0X468	B0X468	B0X461	B0X461	B0X462	B0X462
Sample Information	RFW#:	003	003 DL	004	004 DL	005	005 DL
	Matrix:	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
	D.F.:	1.05	105	1.11	55.6	55.6	222
	Units:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
	Level:	MED	MED	MED	MED	MED	MED
Surrogate Recovery	Toluene-d8	86 %	D %	52 * %	D %	47 * %	D %
	Bromofluorobenzene	39 * %	D %	12 * %	D %	12 * %	D %
	1,2-Dichloroethane-d4	95 %	D %	114 %	D %	111 %	D %
Chloromethane		440 JB	NA	410 JB	NA	25000 BJ	NA
Bromomethane		2600 U	NA	1700 U	NA	88000 U	NA
Vinyl Chloride		2600 U	NA	1700 U	NA	88000 U	NA
Chloroethane		2600 U	NA	1700 U	NA	88000 U	NA
Methylene Chloride		2800 B	NA	2200 B	NA	89000 B	NA
Acetone		2200 JB	NA	1200 JB	NA	52000 BJ	NA
Carbon Disulfide		1300 U	NA	850 U	NA	44000 U	NA
1,1-Dichloroethene		1300 U	NA	850 U	NA	44000 U	NA
1,1-Dichloroethane		1300 U	NA	850 U	NA	44000 U	NA
1,2-Dichloroethene (total)		1300 U	NA	850 U	NA	44000 U	NA
Chloroform		5800	51000 J	6900	14000 J	350000	NA
1,2-Dichloroethane		1300 U	NA	850 U	NA	44000 U	NA
2-Butanone		550 JB	NA	360 JB	NA	15000 BJ	NA
1,1,1-Trichloroethane		1300 U	NA	850 U	NA	44000 U	NA
Carbon Tetrachloride		E	3400000	E	1200000	E	1700000
Bromodichloromethane		1300 U	NA	850 U	NA	44000 U	NA
1,2-Dichloropropane		1300 U	NA	850 U	NA	44000 U	NA
cis-1,3-Dichloropropene		1300 U	NA	850 U	NA	44000 U	NA
Trichloroethene		510 J	NA	850 U	NA	44000 U	NA
Dibromochloromethane		1300 U	NA	850 U	NA	44000 U	NA
1,1,2-Trichloroethane		1300 U	NA	850 U	NA	44000 U	NA
Benzene		1300 U	NA	850 U	NA	44000 U	NA
Trans-1,3-Dichloropropene		1300 U	NA	850 U	NA	44000 U	NA
Bromoform		1300 U	NA	850 U	NA	44000 U	NA
4-Methyl-2-pentanone		2600 U	NA	1700 U	NA	88000 U	NA
2-Hexanone		2600 U	NA	1700 U	NA	88000 U	NA
Tetrachloroethene		430 J	NA	850 U	NA	44000 U	NA
1,1,2,2-Tetrachloroethane		1300 U	NA	850 U	NA	44000 U	NA
Toluene		1300 U	NA	850 U	NA	44000 U	NA

*= Outside of EPA CLP QC limits.

RFW Batch Number: **9912L895** Client: **TNU-HANFORD B99-093** Work Order: 10985001001 Page: 2b

Cust ID:	B0X468		B0X468		B0X461		B0X461		B0X462		B0X462
RFW#:	003		003 DL		004		004 DL		005		005 DL
Level:	MED		MED		MED		MED		MED		MED
Chlorobenzene	1300	U	NA		850	U	NA		44000	U	NA
Ethylbenzene	1300	U	NA		850	U	NA		44000	U	NA
Styrene	1300	U	NA		850	U	NA		44000	U	NA
Xylene (total)	1300	U	NA		850	U	NA		44000	U	NA

*= Outside of EPA CLP QC limits.

Recra LabNet - Lionville Laboratory

Volatiles by GC/MS, HSL List

Report Date: 02/28/00 12:00

RFW Batch Number: **9912L895** Client: **TNU-HANFORD B99-093** Work Order: 10985001001 Page: 3a

	Cust ID:	B0X463	B0X463	B0X464	B0X464	B0X465	B0X465
Sample Information	RFW#:	006	006 DL	007	007 DL	008	008 DL
	Matrix:	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
	D.F.:	0.952	47.6	1.00	200	0.930	46.5
	Units:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
	Level:	MED	MED	MED	MED	MED	MED
Surrogate Recovery	Toluene-d8	70 * %	D %	75 * %	D %	97 %	D %
	Bromofluorobenzene	26 * %	D %	24 * %	D %	62 * %	D %
	1,2-Dichloroethane-d4	93 %	D %	131 * %	D %	101 %	D %

Chloromethane	560	JB	NA		420	JB	NA		530	JB	NA	
Bromomethane	2500	U	NA		1500	U	NA		2400	U	NA	
Vinyl Chloride	2500	U	NA		1500	U	NA		2400	U	NA	
Chloroethane	2500	U	NA		1500	U	NA		2400	U	NA	
Methylene Chloride	2500	B	NA		1900	B	NA		2600	B	NA	
Acetone	1200	JB	NA		1000	JB	NA		1300	JB	NA	
Carbon Disulfide	1300	U	NA		770	U	NA		1200	U	NA	
1,1-Dichloroethene	1300	U	NA		770	U	NA		1200	U	NA	
1,1-Dichloroethane	1300	U	NA		770	U	NA		1200	U	NA	
1,2-Dichloroethene (total)	1300	U	NA		770	U	NA		1200	U	NA	
Chloroform	4600		36000	J	9400		32000	J	2100		22000	J
1,2-Dichloroethane	1300	U	NA		770	U	NA		1200	U	NA	
2-Butanone	300	JB	NA		250	JB	NA		2400	U	NA	
1,1,1-Trichloroethane	1300	U	NA		770	U	NA		1200	U	NA	
Carbon Tetrachloride		E	2100000			E	2900000			E	1300000	
Bromodichloromethane	1300	U	NA		770	U	NA		1200	U	NA	
1,2-Dichloropropane	1300	U	NA		770	U	NA		1200	U	NA	
cis-1,3-Dichloropropene	1300	U	NA		770	U	NA		1200	U	NA	
Trichloroethene	730	J	NA		420	J	NA		1200	U	NA	
Dibromochloromethane	1300	U	NA		770	U	NA		1200	U	NA	
1,1,2-Trichloroethane	1300	U	NA		770	U	NA		1200	U	NA	
Benzene	1300	U	NA		770	U	NA		1200	U	NA	
Trans-1,3-Dichloropropene	1300	U	NA		770	U	NA		1200	U	NA	
Bromoform	1300	U	NA		770	U	NA		1200	U	NA	
4-Methyl-2-pentanone	2500	U	NA		1500	U	NA		2400	U	NA	
2-Hexanone	2500	U	NA		1500	U	NA		2400	U	NA	
Tetrachloroethene	1100	J	NA		300	J	NA		1200	U	NA	
1,1,2,2-Tetrachloroethane	1300	U	NA		770	U	NA		1200	U	NA	
Toluene	1300	U	NA		770	U	NA		1200	U	NA	

*= Outside of EPA CLP QC limits.

RFW Batch Number: **9912L895** Client: **TNU-HANFORD B99-093** Work Order: 10985001001 Page: 3b

Cust ID:	B0X463		B0X463		B0X464		B0X464		B0X465		B0X465
RFW#:	006		006 DL		007		007 DL		008		008 DL
Level:	MED		MED		MED		MED		MED		MED
Chlorobenzene	1300	U	NA		770	U	NA		1200	U	NA
Ethylbenzene	1300	U	NA		770	U	NA		1200	U	NA
Styrene	1300	U	NA		770	U	NA		1200	U	NA
Xylene (total)	1300	U	NA		770	U	NA		1200	U	NA

*= Outside of EPA CLP QC limits.

Recra LabNet - Lionville Laboratory

Volatiles by GC/MS, HSL List

Report Date: 02/28/00 12:00

RFW Batch Number: **9912L895** Client: **TNU-HANFORD B99-093** Work Order: 10985001001 Page: 4a

	Cust ID:	**VBLKMI**	**VBLKMJ**
Sample Information	RFW#:	**99LVN983-MB1**	**99LVN484-MB1**
	Matrix:	SOIL	SOIL
	D.F.:	1.00	1.00
	Units:	UG/KG	UG/KG
	Level:	MED	MED

Surrogate Recovery	Toluene-d8	99	%	102 %
	Bromofluorobenzene	83	%	83 %
	1,2-Dichloroethane-d4	95	%	94 %

Chloromethane	120	J	1200	U
Bromomethane	1200	U	1200	U
Vinyl Chloride	1200	U	1200	U
Chloroethane	1200	U	1200	U
Methylene Chloride	980		630	
Acetone	600	J	710	J
Carbon Disulfide	620	U	620	U
1,1-Dichloroethene	620	U	620	U
1,1-Dichloroethane	620	U	620	U
1,2-Dichloroethene (total)	620	U	620	U
Chloroform	620	U	620	U
1,2-Dichloroethane	620	U	620	U
2-Butanone	150	J	200	J
1,1,1-Trichloroethane	620	U	620	U
Carbon Tetrachloride	620	U	620	U
Bromodichloromethane	620	U	620	U
1,2-Dichloropropane	620	U	620	U
cis-1,3-Dichloropropene	620	U	620	U
Trichloroethene	620	U	620	U
Dibromochloromethane	620	U	620	U
1,1,2-Trichloroethane	620	U	620	U
Benzene	620	U	620	U
Trans-1,3-Dichloropropene	620	U	620	U
Bromoform	620	U	620	U
4-Methyl-2-pentanone	1200	U	1200	U
2-Hexanone	1200	U	1200	U
Tetrachloroethene	620	U	620	U
1,1,2,2-Tetrachloroethane	620	U	620	U
Toluene	620	U	620	U

*= Outside of EPA CLP QC limits.

Cust ID:	VBLKMI		VBLKMJ	
RFW#:	99LVN983-MB1		99LVN484-MB1	
Level:	MED		MED	
Chlorobenzene	620	U	620	U
Ethylbenzene	620	U	620	U
Styrene	620	U	620	U
Xylene (total)	620	U	620	U

*= Outside of EPA CLP QC limits.

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B0X466

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-093

Matrix: SOLID Lab Sample ID: 9912L895-001

Sample wt/vol: 4.20 (g/mL) G Lab File ID: n120807

Level: (low/med) MED Date Received: 12/03/99

% Moisture: not dec. 50 Date Analyzed: 12/08/99

Column: (pack/cap) CAP Dilution Factor: 0.952

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 67721	ETHANE, HEXACHLORO-	24.039	2000	NJ

FORM 1 VOA-TIC 12/88 Rev.

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B0X467

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-093

Matrix: SOLID Lab Sample ID: 9912L895-002

Sample wt/vol: 4.00 (g/mL) G Lab File ID: n120808

Level: (low/med) MED Date Received: 12/03/99

% Moisture: not dec. 52 Date Analyzed: 12/08/99

Column: (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 0

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

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

FORM 1 VOA-TIC 12/88 Rev.

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B0X468

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-093

Matrix: SOLID Lab Sample ID: 9912L895-003

Sample wt/vol: 3.80 (g/mL) G Lab File ID: n120809

Level: (low/med) MED Date Received: 12/03/99

% Moisture: not dec. 49 Date Analyzed: 12/08/99

Column: (pack/cap) CAP Dilution Factor: 1.05

Number TICs found: 0

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

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

FORM 1 VOA-TIC 12/88 Rev.

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B0X461

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-093

Matrix: SOLID Lab Sample ID: 9912L895-004

Sample wt/vol: 3.60 (g/mL) G Lab File ID: n120810

Level: (low/med) MED Date Received: 12/03/99

% Moisture: not dec. 18 Date Analyzed: 12/08/99

Column: (pack/cap) CAP Dilution Factor: 1.11

Number TICs found: 0

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

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

FORM 1 VOA-TIC 12/88 Rev.

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B0X462

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-093

Matrix: SOLID Lab Sample ID: 9912L895-005

Sample wt/vol: 3.60 (g/mL) G Lab File ID: n120811

Level: (low/med) MED Date Received: 12/03/99

% Moisture: not dec. 21 Date Analyzed: 12/08/99

Column: (pack/cap) CAP Dilution Factor: 55.6

Number TICs found: 0

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

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

FORM 1 VOA-TIC 12/88 Rev.

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B0X463

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-093

Matrix: SOLID Lab Sample ID: 9912L895-006

Sample wt/vol: 4.20 (g/mL) G Lab File ID: n120812

Level: (low/med) MED Date Received: 12/03/99

% Moisture: not dec. 53 Date Analyzed: 12/08/99

Column: (pack/cap) CAP Dilution Factor: 0.952

Number TICs found: 0

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

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

FORM 1 VOA-TIC 12/88 Rev.

1E
VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B0X464

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-093

Matrix: SOLID Lab Sample ID: 9912L895-007

Sample wt/vol: 4.00 (g/mL) G Lab File ID: n120813

Level: (low/med) MED Date Received: 12/03/99

% Moisture: not dec. 19 Date Analyzed: 12/08/99

Column: (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 0

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

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

FORM 1 VOA-TIC 12/88 Rev.

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B0X465

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-093

Matrix: SOLID Lab Sample ID: 9912L895-008

Sample wt/vol: 4.30 (g/mL) G Lab File ID: n120814

Level: (low/med) MED Date Received: 12/03/99

% Moisture: not dec. 52 Date Analyzed: 12/08/99

Column: (pack/cap) CAP Dilution Factor: 0.930

Number TICs found: 0

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

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

FORM 1 VOA-TIC 12/88 Rev.

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

VBLKMI

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-093

Matrix: SOIL Lab Sample ID: 99LVN983-MB1

Sample wt/vol: 4.00 (g/mL) G Lab File ID: n120805

Level: (low/med) MED Date Received: 12/08/00

% Moisture: not dec. 0 Date Analyzed: 12/08/99

Column: (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 0

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

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

FORM 1 VOA-TIC 12/88 Rev.

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

VBLKMJ

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNU-HANFORD B99-093

Matrix: SOIL Lab Sample ID: 99LVN484-MB1

Sample wt/vol: 4.00 (g/mL) G Lab File ID: n120825

Level: (low/med) MED Date Received: 12/08/99

% Moisture: not dec. 0 Date Analyzed: 12/08/99

Column: (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 0

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

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

FORM 1 VOA-TIC 12/88 Rev.

Recra LabNet - Lionville Laboratory
VOA ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD B99-093

DATE RECEIVED: 12/03/99 RFW LOT # :9912L895

CLIENT ID	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B0X466	001 M1	SO	99LVN983	11/29/99	N/A	12/08/99
B0X466	001 M2	SO	99LVN484	11/29/99	N/A	12/09/99
B0X466	001 MS M1	SO	99LVN983	11/29/99	N/A	12/08/99
B0X466	001 MSD M1	SO	99LVN983	11/29/99	N/A	12/08/99
B0X467	002 M1	SO	99LVN983	11/29/99	N/A	12/08/99
B0X467	002 M2	SO	99LVN484	11/29/99	N/A	12/08/99
B0X468	003 M1	SO	99LVN983	11/29/99	N/A	12/08/99
B0X468	003 M2	SO	99LVN484	11/29/99	N/A	12/09/99
B0X461	004 M1	SO	99LVN983	11/29/99	N/A	12/08/99
B0X461	004 M2	SO	99LVN484	11/29/99	N/A	12/08/99
B0X462	005 M1	SO	99LVN983	11/29/99	N/A	12/08/99
B0X462	005 M2	SO	99LVN484	11/29/99	N/A	12/09/99
B0X463	006 M1	SO	99LVN983	11/29/99	N/A	12/08/99
B0X463	006 M2	SO	99LVN484	11/29/99	N/A	12/09/99
B0X464	007 M1	SO	99LVN983	11/29/99	N/A	12/08/99
B0X464	007 M2	SO	99LVN484	11/29/99	N/A	12/09/99
B0X465	008 M1	SO	99LVN983	11/29/99	N/A	12/08/99
B0X465	008 M2	SO	99LVN484	11/29/99	N/A	12/09/99

LAB QC:

VBLKMI	MB1	S	99LVN983	N/A	N/A	12/08/99
VBLKMJ	MB1	S	99LVN484	N/A	N/A	12/08/99

RECRA LabNet Use Only
9912L895

Custody Transfer Record/Lab Work Request

Page 1 of 2

All FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

(8) Gems wet Perrone

RECRA LabNet

Client: TDU Hanford B99-093
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: 12-3-99 Date Due: 1/2/00
Account #:

Refrigerator #		1									3					
#/Type Container	Liquid															
	Solid	1AG									1AG					
Volume	Liquid															
	Solid	250									60					
Preservatives		–									–					
ANALYSES REQUESTED →		ORGANIC: VOA	BNA	Pest/PCB	Herb				INORG: Metal	CN	Cl	Bomb				

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							1BOMB	1CCL				
001	BOX 466			SO	112999	1305	✓							✓					
002	7					1315	✓							✓					
003	8					1326	✓							✓					
004	1					1230	✓							✓					
005	2					1237	✓							✓					
006	3					1242	✓							✓					
007	4					1252	✓							✓					
008	5					1256	✓							✓					
009	6 Bomb of 001			W	*	–									✓				
010	7	2		W		–									✓				

Special Instructions:
Sub # B99-093

COMPOSITE WASTE

DATE/REVISIONS:
* 1. see labchron
2-8-00 2. 001-008 VOA relogged to 0002L392
2-8-00 3. IBOMB + ICCL cancelled on all samples
4.
5.
6. Run matrix QC

RECRA LabNet Use Only

Samples were:
1) Shipped ✓ or Hand Delivered
Airbill # 423579532351
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. 3.9 °C

Relinquished by	Received by	Date	Time
Fed Ex	TKeppel	12399	0920

Relinquished by	Received by	Date	Time
	ORIGINAL		
	REWRITTEN		

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

RECRA LabNet Use Only
99121845

Custody Transfer Record/Lab Work Request

RECRA LabNet

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TNU

Est. Final Proj. Sampling Date:

Project #:

Project Contact/Phone #:

RECRA Project Manager:

QC: Del: TAT:

Date Rec'd: Date Due:

Account #:

Refrigerator #:

#/Type Container: Liquid / Solid

Volume: Liquid / Solid

Preservatives:

ANALYSES REQUESTED → ORGANIC: VOA, BNA, Pest/PCB, Herb; INORG: Metal, CN

RECRA LabNet Use Only

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 | | |

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B99-093-05	Page 2 of 2

Collector: R Nielson	Company Contact: Virginia Rohay — Telephone No.: 372-9098	Project Coordinator: TRENT, SJ	Price Code: 9N — Data Turnaround: 45 Days
Project Designation: 200-ZP-2 Passive Soil Vapor Extraction - Other Solid	Sampling Location: 200-ZP-2 200 West	SAF No.: B99-093	Air Quality:
Ice Chest No.: SML 398	Field Logbook No.: 11/29/99 EL ~~1435~~ RN EL-1381-3 — COA: R20ZP2DP60	Method of Shipment: Federal Express	
Shipped To: TMA/RECRA	Offsite Property No.: A000049	Bill of Lading/Air Bill No.: 42357953 2351	

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POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	Cool 4C	Cool 4C									
Type of Container	aG	aG									
No. of Container(s)	1	1									
Volume	60mL	250mL									
SAMPLE ANALYSIS	Total Chloride by Bomb Combustion	VOA - 8260A (TCL)									

Sample No.	Matrix *	Sample Date	Sample Time									
B0X466	Other Solid	11/29/99	1305	X	X						B0WV42	
B0X467	Other Solid	11/29/99	1315	X	X						B0WV38	
B0X468	Other Solid	11/29/99	1326	X	X						B0WV38	

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS	Matrix *
Relinquished By: R Nielson — Date/Time: 1430 R Nielson 11/29/99	Received By: Ref #2A — Date/Time:		S=Soil, SE=Sediment, SO=Solid, S=Sludge, W=Water, O=Oil, A=Air, DS=Drum Solids, DL=Drum Liquids, T=Tissue, WI=Wipe, L=Liquid, V=Vegetation, X=Other
Relinquished By: Ref 2A — Date/Time: 12.01.99/0730	Received By: Rikki Thoren R Thoren — Date/Time: 12.01.99 ~~12.30.99~~/0730		
Relinquished By: Rikki Thoren R. Thoren — Date/Time: 12.01.99/1430	Received By: FED EX — Date/Time: 12.01.99		
Relinquished By: Fed Ex — Date/Time: 12-3-99 0920	Received By: Treppel — Date/Time: 12-3-99 0920		
Relinquished By: — Date/Time:	Received By: — Date/Time:		
Relinquished By: — Date/Time:	Received By: — Date/Time:		

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

BHI-EE-011 (10/99)

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		B99-093-05	Page 1 of 2
Collector: R. Nielson	Company Contact: Virginia Rohay	Telephone No.: 372-9098	Project Coordinator: TRENT, SJ	Price Code: 9N; Air Quality; Data Turnaround: 45 Days
Project Designation: 200-ZP-2 Passive Soil Vapor Extraction - Other Solid	Sampling Location: 200-ZP-2 200 West		SAF No.: B99-093	
Ice Chest No.: SML 398	Field Logbook No.: 11/29/99 ~~EE-1435~~ RNEU381-3	COA: R20ZP2DP60	Method of Shipment: Federal Express	
Shipped To: TMA/RECRA	Offsite Property No.: A000449		Bill of Lading/Air Bill No.: 4235795323 51	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	Cool 4C	Cool 4C									
Type of Container	aG	aG									
No. of Container(s)	1	1									
Volume	60mL	250mL									
SAMPLE ANALYSIS	Total Chloride by Bomb Combustion	VOA - 8260A (TCL)									

Sample No.	Matrix *	Sample Date	Sample Time										
B0X461	Other Solid	11/29/99	1230	X	X							BØW	V39
B0X462	Other Solid	11/29/99	1237	X	X							BØW	V43
B0X463	Other Solid	11/29/99	1242	X	X							BØW	V40
B0X464	Other Solid	11/29/99	1252	X	X							BØW	V41
B0X465	Other Solid	11/29/99	1256	X	X							BØW	V37

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
R. Nielson / R. Nielson	11/29/99 1430	Ref #2A	
Ref 2A	12.01.99/0730	R. Thoren / Rikki Thoren	12.01.99/0730
R. Thoren / Rikki Thoren	12.01.99/1430	FED EX	
Fed Ex	12-3-99 0920	Treppel	12-3-99 0920

SPECIAL INSTRUCTIONS

Matrix *: S=Soil, SE=Sediment, SO=Solid, S=Sludge, W=Water, O=Oil, A=Air, DS=Drum Solids, DL=Drum Liquids, T=Tissue, WI=Wipe, L=Liquid, V=Vegetation, X=Other

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

BHI-EE-011 (10/99)