2 2 0222 16652

ENVIRONMENTAL TESTING & CONSULTING, INC.
2924 Walnut Grove Road • Memphis, TN 38111 • (901) 327-2750 • FAX (901) 327-6334
Founded 1972

December 2, 1994

DEC 05 1994

Ms. Paula McClaren
Roy F. Weston, Inc.
1575 Northside Dr. N.W.
Suite 325
Atlanta, GA 30318

Ref: Analytical Testing
ETC Order # 9411602
Project Description Saad

The above referenced project has been analyzed per your instructions. The analyses were performed in our laboratory in accordance with Standard Methods 17th Edition; The Solid Waste Manual SW-846; EPA Methods for the Analysis of Water and Wastes and/or 40 CFR part 136. The results are shown on the attached analysis sheet(s).

Within the attached report, some analyte data may be reported as "Qualified" data indicated by a "Data Flag" next to the result. The following summarizes the possible "Data Flags" that may be associated with this data :

- Q - Surrogate recovery outside QC Limits.
- j - Estimated Value. Presence of the compound was confirmed but less than the sample quanititation limit but greater than zero.
- E - Concentration exceeds the established method calibration range.
- B - Analyte detected in blank.
- S - Associated Surrogate Recovery outside QC Limits
- N - Non-Compliance Report associated with this sample or project indicating standard protocol was not followed. Please refer to attached report.

Please do not hesitate to contact our office if you have any questions.

Sincerely,

Randall H. Thomas
Vice-President
General Manager

rt

Attachment

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

ORGANIC ANALYSIS DATA SHEET

Client Name **Roy F. Weston, Inc.**

1575 Northside Dr. N.W.
Suite 325
Atlanta, GA 30318

Site ID Saad

Project #
FID #

Date Arrived 11/22/94
ETC Order Number 9411602

ETC Lab ID **9411602-01**
Sample ID: SS-01

Matrix :SOIL
Sample Date :11/16/94

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Pesticide/PCBs							8080A
				11/23/94	11/29/94	DC	
Alpha-BHC	ND	ug/Kg	20.0				
Beta-BHC	ND	ug/Kg	20.0				
Delta-BHC	ND	ug/Kg	20.0				
Gamma-BHC (Lindane)	ND	ug/Kg	20.0				
Heptachlor	ND	ug/Kg	20.0				
ldrin	ND	ug/Kg	20.0				
ptachlor Epoxide	ND	ug/Kg	20.0				
ndosulfan I	ND	ug/Kg	20.0				
Dieldrin	ND	ug/Kg	20.0				
4,4'-DDE	ND	ug/Kg	20.0				
Endrin	ND	ug/Kg	20.0				
Endosulfan II	ND	ug/Kg	20.0				
4,4'-DDD	ND	ug/Kg	20.0				
Endosulfan Sulfate	ND	ug/Kg	20.0				
4,4'-DDT	ND	ug/Kg	20.0				
Endrin Aldehyde	ND	ug/Kg	20.0				
Methoxychlor	ND	ug/Kg	150				
Chlordane	ND	ug/Kg	350				
Toxaphene	ND	ug/Kg	1650				
PCB-1016	ND	ug/Kg	350				
PCB-1221	ND	ug/Kg	350				
PCB-1232	ND	ug/Kg	350				
PCB-1242	ND	ug/Kg	350				
PCB-1248	ND	ug/Kg	350				
PCB-1254	ND	ug/Kg	350				
PCB-1260	ND	ug/Kg	350				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibutyl Chlorendate	72	25	125
S2 - Tetrachloro-m-xylene	69	25	125

ND - Not Detected

LABORATORY MANAGER

2 2 0224

ENVIRONMENTAL TESTING & CONSULTING, INC.

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ORGANIC ANALYSIS DATA SHEET

Client Name Roy F. Weston, Inc.

1575 Northside Dr. N.W.
Suite 325
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Site ID Saad

Project #
FID #

Date Arrived 11/22/94
ETC Order Number 9411602

ETC Lab ID 9411602-01
Sample ID: SS-01

Matrix :SOIL
Sample Date :11/16/94

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Base/Neutral & Acid Ext				11/23/94	12/01/94	DC	8270
Fluoranthene	ND	ug/Kg	18800				
Fluorene	ND	ug/Kg	18800				
Hexachlorobenzene	ND	ug/Kg	18800				
Hexachlorobutadiene	ND	ug/Kg	18800				
Indeno(1,2,3-cd)pyrene	ND	ug/Kg	18800				
Isophorone	ND	ug/Kg	18800				
1-Methylnaphthalene	16,400j	ug/Kg	18800				
2-Methylphenol (o-cresol)	ND	ug/Kg	18800				
3&4-Methylphenol (m&p-cresol)	ND	ug/Kg	18800				
Naphthalene	20,300	ug/Kg	18800				
Nitrobenzene	ND	ug/Kg	18800				
2-Nitroaniline	ND	ug/Kg	18800				
3-Nitroaniline	ND	ug/Kg	18800				
4-Nitroaniline	ND	ug/Kg	18800				
2-Nitrophenol	ND	ug/Kg	18800				
4-Nitrophenol	ND	ug/Kg	18800				
N-Nitrosodimethylamine	ND	ug/Kg	18800				
N-Nitrosodiphenylamine	ND	ug/Kg	18800				
N-Nitrosodipropylamine	ND	ug/Kg	18800				
Pentachlorophenol	ND	ug/Kg	18800				
Phenanthrene	10,100j	ug/Kg	18800				
Phenol	ND	ug/Kg	18800				
Pyrene	ND	ug/Kg	18800				
1,2,4-Trichlorobenzene	ND	ug/Kg	18800				
2,4,5-Trichlorophenol	ND	ug/Kg	18800				
2,4,6-Trichlorophenol	ND	ug/Kg	18800				
Hexachloroethane	ND	ug/Kg	18800				
Hexachlorocyclopentadiene	ND	ug/Kg	18800				
1,2-Diphenylhydrazine	ND	ug/Kg	18800				

Surrogate Standard	% Recovery		QC Limits	
S1 - Nitrobenzene-d5	110		23	120
S2 - 2-Fluorobiphenyl	133	Q	30	115
S3 - 4-Terphenyl-d14	96		18	137
S4 - Phenol-d6	97		24	113
S5 - 2,4,6-Tribromophenol	120		19	122
S6 - 2-Fluorophenol	98		25	121

ND - Not Detected

LABORATORY MANAGER

ENVIRONMENTAL TESTING & CONSULTING, INC.

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ORGANIC ANALYSIS DATA SHEET

Client Name Roy F. Weston, Inc.

1575 Northside Dr. N.W.
Suite 325
Atlanta, GA 30318

Site ID Saad

Project #
FID #

Date Arrived 11/30/94
ETC Order Number 9411731

ETC Lab ID 9411731-01
Sample ID: SS-01

Matrix :SOLID
Sample Date :11/16/94

TEST	RESULT UNITS: (mg/L)	DL	REGULATORY LEVEL: (mg/L)	DATE ANALYZED	BY	METHOD
Arsenic - TCLP	<0.500	0.500	5.0	12/02/94	AA	6010A
Barium - TCLP	0.740	0.020	100	12/02/94	AA	6010A
Cadmium - TCLP	<0.020	0.040	1.0	12/02/94	AA	6010A
Chromium - TCLP	<0.070	0.070	5.0	12/02/94	AA	6010A
Lead - TCLP	<0.450	0.450	5.0	12/02/94	AA	6010A
Mercury - TCLP	<0.001	0.001	0.2	12/02/94	JF	7470
Selenium - TCLP	<0.750	0.750	1.0	12/02/94	AA	6010A
Silver - TCLP	<0.070	0.070	5.0	12/02/94	AA	6010A
TCLP Extraction	Leachate			11/30/94	TL	1311

DL - Detection Limit

LABORATORY MANAGER

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ORGANIC ANALYSIS DATA SHEET

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Project #
FID #

Site ID Saad

Date Arrived 11/30/94
ETC Order Number 9411731

ETC Lab ID 9411731-01
Sample ID: SS-01

Matrix :SOLID
Sample Date :11/16/94

TEST	RESULT UNITS: (mg/L)	DL	REGULATORY LEVEL: (mg/L)	DATE ANALYZED	BY	METHOD
TCLP Extraction Organics	Leachate			12/01/94	TL	1311
TCLP Herbicides						6640-B
2,4-D	ND	0.080	10.0	12/02/94	DC	
Silvex	ND	0.008	5.00	12/02/94	DC	

Surrogate Standard	% Recovery	QC Limits	
- 2,4,5-T	57	25	125

ND - Not Detected DL - Detection Limit

LABORATORY MANAGER

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ETC Lab ID 9411731-01
Sample ID: SS-01

Matrix :SOLID
Sample Date :11/16/94

TEST	RESULT UNITS: (mg/L)	DL	REGULATORY LEVEL: (mg/L)	DATE ANALYZED	BY	METHOD
TCLP Extraction Organics	Leachate			12/01/94	TL	1311
TCLP Pesticides						8080A
Chlordane	ND	0.001	0.03	12/02/94	DC	
Heptachlor	ND	0.0001	0.008	12/02/94	DC	
Lindane	ND	0.0001	0.40	12/02/94	DC	
Endrin	ND	0.0001	0.02	12/02/94	DC	
Methoxychlor	ND	0.004	10.0	12/02/94	DC	
Toxaphene	ND	0.010	0.50	12/02/94	DC	

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibutyl Chlorendate	105	25	125
S2 - Tetrachloro-m-xylene	88	25	125

ND - Not Detected DL - Detection Limit

LABORATORY MANAGER

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ETC Lab ID 9411731-01
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Matrix :SOLID
Sample Date :11/16/94

TEST	RESULT UNITS: (mg/L)	DL	REGULATORY LEVEL: (mg/L)	DATE ANALYZED	BY	METHOD
TCLP Zero Headspace	Leachate			11/30/94	TL	1311
TCLP Volatile Organics						8240
Benzene	ND	0.050	0.50	12/01/94	DG	
Carbon Tetrachloride	ND	0.050	0.50	12/01/94	DG	
Chlorobenzene	ND	0.050	100	12/01/94	DG	
Chloroform	ND	0.500	6.00	12/01/94	DG	
1,4-Dichlorobenzene	ND	0.050	7.50	12/01/94	DG	
1,2-Dichloroethane	ND	0.050	0.50	12/01/94	DG	
1,1-Dichloroethene	ND	0.050	0.70	12/01/94	DG	
Methyl Ethyl Ketone	ND	0.500	200	12/01/94	DG	
Tetrachloroethene	0.046j	0.050	0.70	12/01/94	DG	
Trichloroethene	0.251	0.050	0.50	12/01/94	DG	
Vinyl Chloride	0.029j	0.050	0.20	12/01/94	DG	

Surrogate Standard	% Recovery	QC Limits	
S1 - 1,2-Dichloroethane-d4	103	76	114
S2 - Toluene-d8	102	88	110
S3 - 4-Bromofluorobenzene	99	86	115

ND - Not Detected DL - Detection Limit

LABORATORY MANAGER

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Client Name Roy F. Weston, Inc.

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Project #
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Date Arrived 11/30/94
ETC Order Number 9411731

ETC Lab ID 9411731-01
Sample ID: SS-01

Matrix :SOLID
Sample Date :11/16/94

TEST	RESULT UNITS: (mg/L)	DL	REGULATORY LEVEL: (mg/L)	DATE ANALYZED	BY	METHOD
TCLP Zero Headspace	Leachate			11/30/94		1311
TCLP TPH V Volatile Range	29.0	1.00	10.0	12/02/94	RO	8015M/5030
TCLP TPH E Extractable Range	1.64	1.00	10.0	12/01/94	RR	8015M/3510

ND - Not Detected DL - Detection Limit

LABORATORY MANAGER

2 2 0230

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

ORGANIC ANALYSIS DATA SHEET

Client Name Roy F. Weston, Inc.

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Site ID Saad

Project #
FID #

Date Arrived 11/30/94
ETC Order Number 9411731

ETC Lab ID 9411731-01
Sample ID: SS-01

Matrix :SOLID
Sample Date :11/16/94

TEST	RESULT UNITS: (mg/L)	DL	REGULATORY LEVEL: (mg/L)	DATE ANALYZED	BY	METHOD
TCLP Extraction Organics	Leachate			12/01/94	TL	1311
TCLP Semivolatiles						8270
2,4-Dinitrotoluene	ND	0.050	0.13	12/05/94	SB	
Hexachlorobenzene	ND	0.050	0.13	12/05/94	SB	
Hexachlorobutadiene	ND	0.050	0.50	12/05/94	SB	
Hexachloroethane	ND	0.050	3.00	12/05/94	SB	
1-Methylphenol	0.118	0.050	200	12/05/94	SB	
3&4-Methylphenol	0.055	0.050	200	12/05/94	SB	
Nitrobenzene	ND	0.050	2.00	12/05/94	SB	
Pentachlorophenol	ND	0.050	100	12/05/94	SB	
2,4,5-Trichlorophenol	ND	0.050	400	12/05/94	SB	
2,4,6-Trichlorophenol	ND	0.050	2.00	12/05/94	SB	
Pyridine	ND	0.050	5.00	12/05/94	SB	

Surrogate Standard	% Recovery	QC Limits	
S1 - Nitrobenzene-d5	67	34	114
S2 - 2-Fluorobiphenyl	64	43	116
S3 - 4-Terphenyl-d14	76	33	141
S4 - Phenol-d6	46	10	94
S5 - 2,4,6-Tribromophenol	79	10	123
S6 - 2-Fluorophenol	45	21	100

ND - Not Detected DL - Detection Limit

LABORATORY MANAGER

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

ORGANIC ANALYSIS DATA SHEET

Client Name Roy F. Weston, Inc.

1575 Northside Dr. N.W.
Suite 325
Atlanta, GA 30318

Site ID Saad

Project #
FID #

Date Arrived 11/22/94
ETC Order Number 9411602

ETC Lab ID 9411602-01
Sample ID: SS-01

Matrix :SOIL
Sample Date :11/16/94

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Base/Neutral & Acid Ext							8270
				11/23/94	12/01/94	DC	
Acenaphthene	ND	ug/Kg	18800				
Acenaphthylene	ND	ug/Kg	18800				
Aniline	ND	ug/Kg	18800				
Anthracene	ND	ug/Kg	18800				
Benzo(a)anthracene	ND	ug/Kg	18800				
Benzo(b)fluoranthene	ND	ug/Kg	18800				
enzo(k)fluoranthene	ND	ug/Kg	18800				
enzo(g,h,i)perylene	ND	ug/Kg	18800				
Benzo(a)pyrene	ND	ug/Kg	18800				
Benzoic Acid	ND	ug/Kg	18800				
Benzidine	ND	ug/Kg	18800				
Benzyl Alcohol	ND	ug/Kg	18800				
Bis(2-chloroethoxy)methane	ND	ug/Kg	18800				
Bis(2-chloroethyl)ether	ND	ug/Kg	18800				
Bis(2-chloroisopropyl)ether	ND	ug/Kg	18800				
Bis(2-ethylhexyl) phthalate	12,400j	ug/Kg	18800				
4-Bromophenyl phenyl ether	ND	ug/Kg	18800				
Butyl benzyl phthalate	ND	ug/Kg	18800				
4-Chloroaniline	ND	ug/Kg	18800				
2-Chloronaphthalene	ND	ug/Kg	18800				
4-Chloro-3-methylphenol	ND	ug/Kg	18800				
2-Chlorophenol	ND	ug/Kg	18800				
4-Chlorophenyl phenyl ether	ND	ug/Kg	18800				
Chrysene	ND	ug/Kg	18800				
Dibenzo(a,h)anthracene	ND	ug/Kg	18800				
Dibenzofuran	ND	ug/Kg	18800				
Di-n-butyl phthalate	ND	ug/Kg	18800				
1,2-Dichlorobenzene	ND	ug/Kg	18800				
1,3-Dichlorobenzene	ND	ug/Kg	18800				
1,4-Dichlorobenzene	ND	ug/Kg	18800				
3,3'-Dichlorobenzidine	ND	ug/Kg	18800				
2,4-Dichlorophenol	ND	ug/Kg	18800				
Diethyl phthalate	ND	ug/Kg	18800				
2,4-Dimethylphenol	ND	ug/Kg	18800				
Dimethyl phthalate	ND	ug/Kg	18800				
4,6-Dinitro-2-methylphenol	ND	ug/Kg	18800				
2,4-Dinitrophenol	ND	ug/Kg	18800				
,4-Dinitrotoluene	ND	ug/Kg	18800				
,6-Dinitrotoluene	ND	ug/Kg	18800				
Di-n-octyl phthalate	ND	ug/Kg	18800				

ND - Not Detected

LABORATORY MANAGER

CHAIN OF CUSTODY RECORD

REGION 4 TAT

ENVIRONMENTAL SERVICES DIVISION
COLLEGE STATION ROAD
ATHENS, GEORGIA 30613

PLEASE KEEP COMPOSITE FROM TRAZLOF. ADD REC 2

P. McLEAN 11/17/94

PROJ. NO.	PROJECT NAME: Saad Site
SAMPLERS (Signature): Fred Stroud	

Water/Wastewater | Soil/Sed/Sldg | Waste | Misc

STA NO	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	(Gal G (ext org, Pest) (EP) (herb)	40 ml vial (VOA)	250 ml G (TOX)	P (Bod, TSS, Cl, Fl, Sol, etc)	1LG (pheno) (O&G) (pest)	1LP (met, hard) (Toc, COD, N, P, etc)	0.5-1LP (S")	½ gal or 1LP (CN)	8 oz G (ext org, pest, herb) (met) (EP)	4 oz G (VOA)	P or G (CN, S", N, P, COD, etc)	8 oz G (ext org, pest, herb, VOA)	8 oz G (EP) (met, CN, S", FP) (FP, BTU)	8oz G VOA	8oz G + 12 oz G - All Metals, Semivolatiles, Cyanide, Phenols & Pesticides, PCBs TPH (Mod. Method 8015)						REMARKS/TAG NUMBERS
SS-01	11/16/94	1200		✓	Excavation	3														1	2							10702, 10703, 10701

Relinquished by (Signature)	Date/Time	Received by (Signature)	Relinquished by (Signature)	Date/Time	Received by (Signature)
Leonna Mayo	11/21/94 1730	Fed Ex			
Relinquished by (Signature)	Date/Time	Received by (Signature)	Relinquished by (Signature)	Date/Time	Received by (Signature)
	11/22/94 0900	S. Herrman			

Remarks
Please homogenize the 8oz + 12oz samples for analysis other than VOA

ETC, Inc.
2924 Walnut Grove Rd.
Memphis, TN
38111

Airbill # 2192071884

T4-2896

DISTRIBUTION Original and Pink copies accompany sample shipment to laboratory. Pink copy retained by laboratory. Yellow copy retained by samplers. Blue copy extra copy as needed

SAMPLE REPORTS

Quality Control Data
Inorganics

- [x] Case Narrative
- [x] QC Summary Report

LB 12/2/94
QC Coordinator

ENVIRONMENTAL TESTING AND CONSULTING, INC.
MEMPHIS, TN
CASE NARRATIVE
INORGANICS

Client Name : Roy F. Weston
Project Name : SAAD

ETC Order # : 9411-602

HOLDING TIMES

Sample Analysis : All samples analyzed within Method Specified Holding Times.

CALIBRATION

Initial Calibration : All criteria met.
Continuing Calibration : All criteria met.

QUALITY CONTROL

Matrix Spike
Spike Recovery : All analytes within QC limits

Duplicates
RPD : All analytes within QC Limits

Method Blank
No Target Analytes detected above Detection Limit.

Laboratory Manager

ENVIRONMENTAL TESTING AND CONSULTING, INC.
Memphis, TN
Inorganic
QC Data Summary

Client Name : Roy F. Weston, Inc. Matrix : _Soil

Laboratory Order Number : 9411-602
File Name : 9411-602.F

Daily Check Standard

Analysis	Date Analyzed	Check Standard Concentration (mg/L)	Check Standard Found (mg/L)	% Difference
Ignitability	11/28/94	27°C	28°C	4
Total Cyanide	11/28/94	0.200	0.198	1

Method Blank

Analysis	Date Analyzed	Blank Concentration (mg/L)
Ignitability	11/28/94	>96°C
Total Cyanide	11/28/94	<0.005

Matrix Spike

Sample ID	Analysis	Spike Added mg/L	Sample Conc mg/L	MS Conc mg/L	MS % Rec	QC Limits
9411-666-01	Total Cyanide	0.200	<0.005	0.195	98	66-113
9411-666-01	Total Cyanide	0.200	<0.005	0.191	96	66-113

Duplicates

Sample ID	Analysis	Sample Result mg/Kg	Duplicate Result mg/Kg	RPD <20%
9411-602-01	Ignitability	>96°C	>96°C	0
9411-602-01	Reactive Sulfide	5.46	6.09	11
9411-602-01	Reactive Cyanide	<0.125	<0.125	0

LABORATORY MANAGER

Quality Control Data
Metals

- [x] Case Narrative
- [x] Method Blank
- [x] Matrix Spike/Matrix Spike Duplicate
- [x] Laboratory Control Sample

LB 12/2/94
QC Coordinator

ENVIRONMENTAL TESTING AND CONSULTING, INC.
MEMPHIS, TN
CASE NARRATIVE
METALS

Client Name : Roy F. Weston
Project Name : SAAD

ETC Order # : 9411-602

HOLDING TIMES

Sample Analysis : All samples digested and analyzed within 180 days of collection.
Mercury Analysis : All samples analyzed within 28 days of collection.

CALIBRATION

Initial Calibration : All criteria met.
Continuing Calibration : All criteria met.

SAMPLE ANALYSIS

Instrumentation : Jarrel Ash Enviro-I ICP
Perkin Elmer 603 (Cold Vapor)
Dilutions Required : No dilutions required.*
*

Sample ID	Dilution
9411-602-1	1:5

Sample was diluted due to high levels of Iron and Calcium.

QUALITY CONTROL

Matrix Spike / Matrix Spike Dup - ICP Metals
9411-602-1 MS/MSD RPD : All analytes within QC limits.*
Spike Recovery : All analytes within QC limits.*
*
Due to levels of Calcium and Magnesium present in the samples, the MS/MSD data was considered invalid. The reported RPDs are based on the MS/MSD found.

Due to the nature of the sample matrix, obtaining interlab homogeneous splits for QC samples was difficult.

The following Post Digestion Spikes were performed on this sample :

Metal	Spike	Found	Recovery
Cadmium	0.566	0.581	103
Chromium	1.12	1.08	96
Sodium	1.50	1.40	93
Nickel	0.712	0.700	98
Vanadium	0.544	0.535	98

See Laboratory Control Samples for system verification.

Matrix Spike / Matrix Spike Dup - Hg
9411-602-1 MS/MSD RPD : All analytes within QC limits.
Spike Recovery : All analytes within QC limits.

See Laboratory Control Samples for system verification.

ENVIRONMENTAL TESTING AND CONSULTING, INC.
MEMPHIS, TN
CASE NARRATIVE
METALS

Client Name : _Roy F. Weston
Project Name : _SAAD

ETC Order # : _9411-602

Method Blank
No Target Analytes detected above Detection Limit.*
*
Barium detected in the blank at 0.350 mg/Kg.
Iron detected in the blank at 4.40 mg/Kg.
Calcium detected in the blank at 11.3 mg/Kg.
Sodium detected in the blank at 13.7 mg/Kg.

Please note that these metals were detected in the sample at significantly higher levels than present in the blank indicating that the sample results were not affected.

Laboratory Control Sample(s)
All criteria met.

Laboratory Manager

ENVIRONMENTAL TESTING AND CONSULTING, INC.
Memphis, TN
Inorganic Analysis Data Sheet

Client Name : Roy F. Weston, Inc.

Sample ID : Method Blank Matrix : _Soil____

Date Sample Collected : N/A
Date Sample Received : N/A

Contract Laboratory Sample Number (ICP Metals) : 1122-11
Contract Laboratory Sample Number (Hg) : 11/28/94
File Name : 9411-602.A

Element	Results Units:(mg/Kg)	DL	Date Analyzed	Method	Analyst
Aluminum	<4.50	4.50	11/29/94	6010A	AA
Antimony	<7.00	7.00	11/29/94	6010A	AA
Arsenic	<5.00	5.00	11/29/94	6010A	AA
Barium	0.350	0.200	11/29/94	6010A	AA
Beryllium	<0.100	0.100	11/29/94	6010A	AA
Cadmium	<0.400	0.400	11/29/94	6010A	AA
Calcium	11.3	1.00	11/29/94	6010A	AA
Chromium	<0.700	0.700	11/29/94	6010A	AA
Cobalt	<0.700	0.700	11/29/94	6010A	AA
Copper	<0.600	0.600	11/29/94	6010A	AA
Iron	4.40	0.700	11/29/94	6010A	AA
Lead	<4.500	4.50	11/29/94	6010A	AA
Magnesium	<3.00	3.00	11/29/94	6010A	AA
Manganese	<0.200	0.200	11/29/94	6010A	AA
Mercury	<0.020	0.020	11/29/94	7471	JF
Nickel	<1.50	1.50	11/29/94	6010A	AA
Potassium	20.0	20.0	11/29/94	6010A	AA
Selenium	<7.50	7.50	11/29/94	6010A	AA
Silver	<0.700	0.700	11/29/94	6010A	AA
Sodium	13.7	3.00	11/29/94	6010A	AA
Thallium	<4.00	4.00	11/29/94	6010A	AA
Vanadium	<0.800	0.800	11/29/94	6010A	AA
Zinc	<0.500	0.500	11/29/94	6010A	AA

DL - Detection Limit

Laboratory Manager

2 2 0241

SOIL MATRIX SPIKE
ATOMIC ABSORPTION/ICP METALS

Lab Name Environmental Testing and Consulting, Inc

Laboratory ID MS ICP Metals 9411-602-01
Laboratory ID MS Hg 9411-602-01

Date Sample Prepared 11/22/94 ICP Metals
11/28/94 Hg

Metals	SPIKE Added mg/Kg	SAMPLE Conc mg/Kg	MS Conc mg/Kg	RPD <20% #	MS % Rec #	QC Limits	
Aluminum @	49.0	10200	8530	13	NA	80	120
Antimony	49.0	69.7	111	13	84	80	120
Arsenic	49.0	ND	46.9	10	96	80	120
Barium @	49.0	259	213	25 *	NA	80	120
Beryllium	49.0	ND	40.1	1	82	80	120
Cadmium	49.0	16.0	52.9	22 *	75 *	80	120
Calcium @	49.0	39400	55200	26 *	NA	80	120
Chromium @	49.0	150	140	35 *	NA	80	120
Cobalt	49.0	6.44	45.8	1	80	80	120
Copper @	49.0	163	130	50 *	NA	80	120
Iron @	49.0	15000	11400	18	NA	80	120
Lead @	49.0	510	362	32 *	NA	80	120
Magnesium @	49.0	2640	2740	31 *	NA	80	120
Manganese @	49.0	620	372	53 *	NA	80	120
Mercury	0.209	0.102	0.295	1	92	85	115
Nickel	49.0	51.0	81.4	65 *	62 *	80	120
Potassium @	49.0	971	1180	7	NA	80	120
Selenium	49.0	ND	28.6	24 *	58 *	80	120
Silver	49.0	ND	46.6	11	95	80	120
Sodium @	49.0	240	238	17	NA	80	120
Thallium	49.0	ND	55.9	3	114	80	120
Vanadium	49.0	10.5	48.7	5	78 *	80	120
Zinc @	49.0	620	479	39 *	NA	80	120

@ RPD based on MS/MSD found
# Column to be used to flag recovery values with an asterisk
* Values outside of QC limits ND - Not Detected

9411-602.QC1
000016

FORM V - IN

SOIL MATRIX SPIKE DUPLICATE
ATOMIC ABSORPTION/ICP METALS

Lab Name Environmental Testing and Consulting, Inc

Laboratory ID MS ICP Metals 9411-602-01
Laboratory ID MS Hg 9411-602-01

Date Sample Prepared 11/22/94 ICP Metals
11/28/94 Hg

Metals	SPIKE Added mg/Kg	SAMPLE Conc mg/Kg	MSD Conc mg/Kg		MSD % Rec #	QC Limits	
Aluminum	47.4	10200	9760		NA	80	120
Antimony	47.4	69.7	115		96	80	120
Arsenic	47.4	ND	41.2		87	80	120
Barium	47.4	259	273		NA	80	120
Beryllium	47.4	ND	39.0		82	80	120
Cadmium	47.4	16.0	60.7		94	80	120
Calcium	47.4	39400	71400		NA	80	120
Chromium	47.4	150	200		NA	80	120
Cobalt	47.4	6.44	45.0		81	80	120
Copper	47.4	163	216		NA	80	120
Iron	47.4	15000	13700		NA	80	120
Lead	47.4	510	498		NA	80	120
Magnesium	47.4	2640	3740		NA	80	120
Mangenese	47.4	620	640		NA	80	120
Mercury	0.225	0.102	0.311		93	85	115
Nickel	47.4	51.0	109		122	80	120
Potassium	47.4	971	1260		NA	80	120
Selenium	47.4	ND	21.8		46	80	120
Silver	47.4	ND	50.2		106	80	120
Sodium	47.4	240	283		NA	80	120
Thallium	47.4	ND	55.5		117	80	120
Vanadium	47.4	10.5	49.3		82	80	120
Zinc	47.4	620	711		NA	80	120

Column to be used to flag recovery values with an asterisk
* Values outside of QC limits ND - Not Detected

WATER LABORATORY CONTROL SAMPLE
ATOMIC ABSORPTION/ICP METALS

Lab Name: Environmental Testing and Consulting, Inc

Laboratory Control ID: 1122-11 ICP Metals; 11/29/94 Hg

Date Prepared: 11/22/94 ICP Metals; 11/28/94 Hg

Metals	Spike Added mg/L	Found mg/L	% R #	QC Limits	
Aluminum	1.00	0.947	95	80	120
Antimony	1.00	1.08	108	80	120
Arsenic	1.00	0.905	91	80	120
Barium	1.00	0.905	91	80	120
Beryllium	1.00	0.902	90	80	120
Cadmium	1.00	0.936	94	80	120
Calcium	1.00	1.15	115	80	120
Chromium	1.00	0.968	97	80	120
Cobalt	1.00	0.917	92	80	120
Copper	1.00	0.848	85	80	120
Iron	1.00	1.05	105	80	120
Lead	1.00	0.904	90	80	120
Magnesium	1.00	1.00	100	80	120
Manganese	1.00	0.940	94	80	120
Mercury	0.0050	0.0052	104	85	115
Nickel	1.00	0.933	93	80	120
Potassium	10.0	8.94	89	80	120
Selenium	1.00	0.914	91	80	120
Silver	1.00	0.940	94	80	120
Sodium	10.0	9.60	96	80	120
Thallium	1.00	1.00	100	80	120
Vanadium	1.00	0.937	94	80	120
Zinc	1.00	0.893	89	80	120

Column to be used to flag recovery values with an asterisk
* Values outside of QC limits

Quality Control Data
Method 8020/8015M Volatile

- [x] Case Narrative
- [x] Analytical Sequence
- [x] Initial Calibration
- [x] Continuing Calibration
- [x] Method Blank
- [x] Matrix Spike/Matrix Spike Duplicate
- [x] Laboratory Control Sample
- [x] Surrogate Recovery Summary Report
- [x] Dilution Factor Summary Report

LB 12/12/94
QC Coordinator

ENVIRONMENTAL TESTING AND CONSULTING, INC.
MEMPHIS, TN
CASE NARRATIVE
TOTAL PETROLEUM HYDROCARBONS
VOLATILE FRACTION

Client Name : Roy F. Weston
Project Name : SAAD

ETC Order # : 9411-602
Method (SW-846) : 8015M Volatile Fraction

HOLDING TIMES

Sample Analysis : All volatile samples analyzed within 14 days of collection.

CALIBRATION

Initial Calibration : All criteria met.
Daily Calibration : All criteria met.

TPH Volatile

Date Analyzed	Sequence ID
11/25/94	111251

SAMPLE ANALYSIS

TPH Volatile Instrumentation : HP 5890 Series II GC
Dilutions Required : No dilutions required.*
*

Sample ID	Dilution Factor
9411-602-1	1:10 1:100

Dilutions required to bring Target Analytes within calibration range.

QUALITY CONTROL

TPH Volatile
Matrix Spike / Matrix Spike Dup
9411-602-1 MS/MSD RPD : All compounds within QC Limits
Spike Recovery : All compounds within QC Limits*
*
Due to high levels of TPH present in the samples, the MS/MSD data was considered invalid for this analyte.

See Laboratory Control Samples for system verification.

Method Blank
No Target Analytes detected above Practical Quantitation Limit.

Laboratory Control Sample
All criteria met.

System Monitoring Compounds
Surrogate recoveries within QC limits.

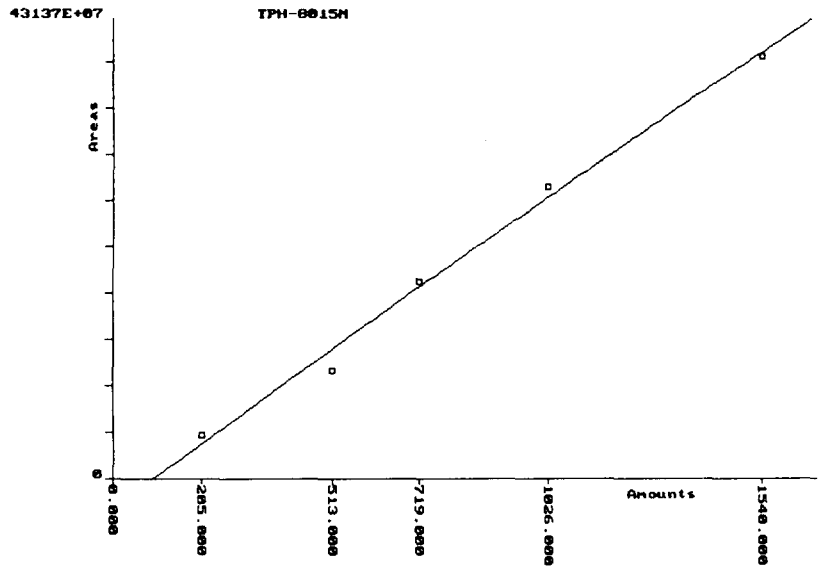
Laboratory Manager

Sequence file C:\CP\DATA1\111251.SEQ Date = 11-28-1994 Time = 09:49:06

#	DATA FILE	SAMPLE NAME	METHOD	SAMPLE WEIGHT	AMOUNT INJECTED	DILUTION FACTOR	INTERNAL STD AMT	CAL
	'1251.01R	SYSTEM BLK	C:\CP\DATA1\1-P	1.000	1.000	1.000	1.000	0
_	.11251.02R	SYSTEM BLK	C:\CP\DATA1\1-P	1.000	1.000	1.000	1.000	0
3	111251.03R	DCS 1 INIT.	C:\CP\DATA1\1-P	1.000	1.000	1.000	1.000	0
4	111251.04R	DI	C:\CP\DATA1\1-P	1.000	1.000	1.000	1.000	0
5	111251.05R	GAS STD. 1000	C:\CP\DATA1\1-P	1.000	1.000	1.000	1.000	0
6	111251.06R	1123-BLK	C:\CP\DATA1\1-P	5.000	1.000	0.500	1.000	0
7	111251.07R	9411-602-01(1:100)	C:\CP\DATA1\1-P	5.000	1.000	50.000	1.000	0
8	111251.08R	1123-LCS(1)1	C:\CP\DATA1\1-P	1.000	1.000	1.000	1.000	0
9	111251.09R	1123-LCS(1)2	C:\CP\DATA1\1-P	1.000	1.000	1.000	1.000	0
10	111251.10R	9411-602-01(1:10)	C:\CP\DATA1\1-P	5.000	1.000	5.000	1.000	0
11	111251.11R	DI	C:\CP\DATA1\1-P	1.000	1.000	1.000	1.000	0
12	111251.12R	GAS STD. 1000	C:\CP\DATA1\1-P	1.000	1.000	1.000	1.000	0
13	111251.13R	9411-536-05(1:100)	C:\CP\DATA1\1-P	5.000	1.000	50.000	1.000	0
14	111251.14R	9411-536-02(1:10)	C:\CP\DATA1\1-P	5.300	1.000	5.000	1.000	0
15	111251.15R	9411-536-06(1:10)	C:\CP\DATA1\1-P	5.700	1.000	5.000	1.000	0
16	111251.16R	DI	C:\CP\DATA1\1-P	1.000	1.000	1.000	1.000	0
17	111251.17R	CC 2 50 SRN#5A-6-18	C:\CP\DATA1\1-P	1.000	1.000	1.000	1.000	0
18	111251.18R	9411-536-07(1:10)	C:\CP\DATA1\1-P	5.300	1.000	5.000	1.000	0
19	111251.19R	9411-536-08(1:10)	C:\CP\DATA1\1-P	5.100	1.000	5.000	1.000	0
20	111251.20R	9411-604-01	C:\CP\DATA1\1-P	5.700	1.000	0.500	1.000	0
21	111251.21R	DI	C:\CP\DATA1\1-P	1.000	1.000	1.000	1.000	0
22	111251.22R	9411-591-02	C:\CP\DATA1\1-P	1.000	1.000	1.000	1.000	0
23	111251.23R	9411-586-01 1:10D	C:\CP\DATA1\1-P	1.000	1.000	10.000	1.000	0
24	111251.24R	9411-586-01	C:\CP\DATA1\1-P	1.000	1.000	1.000	1.000	0
25	111251.25R	9411-591-01 1:100D	C:\CP\DATA1\1-P	1.000	1.000	100.000	1.000	0
2'	'11251.26R	9411-591-01 1:10D	C:\CP\DATA1\1-P	1.000	1.000	10.000	1.000	0
	.1251.27R	DI	C:\CP\DATA1\1-P	1.000	1.000	1.000	1.000	0
28	111251.28R	DI	C:\CP\DATA1\1-P	1.000	1.000	1.000	1.000	0
29	111251.29R	9411-536-06(1:10)	C:\CP\DATA1\1-P	5.700	1.000	5.000	1.000	0
30	111251.30R	DI	C:\CP\DATA1\1-P	1.000	1.000	1.000	1.000	0
31	111251.31R	CC END 50 SRN#5A-6-18	C:\CP\DATA1\1-P	1.000	1.000	1.000	1.000	0

Cal file = C:\CP\DATA1\110282C.CAL Version number = 2
Cal file date = 10-28-1994 11:34:23
ernal standard calibration.
Default injection volume = 0 Area reject = 1000
Reference peak area reject = 1000 Sample units = ppb

1 **TPH-8015M** Ret time= 10.058 min. Search window= 20.000 min.
No reference peak for this compound.
No internal standard for this compound.
High Alarm amount = 2000 Low Alarm amount = 200
Component constant = 10980.19
Quantitation will be by peak area.



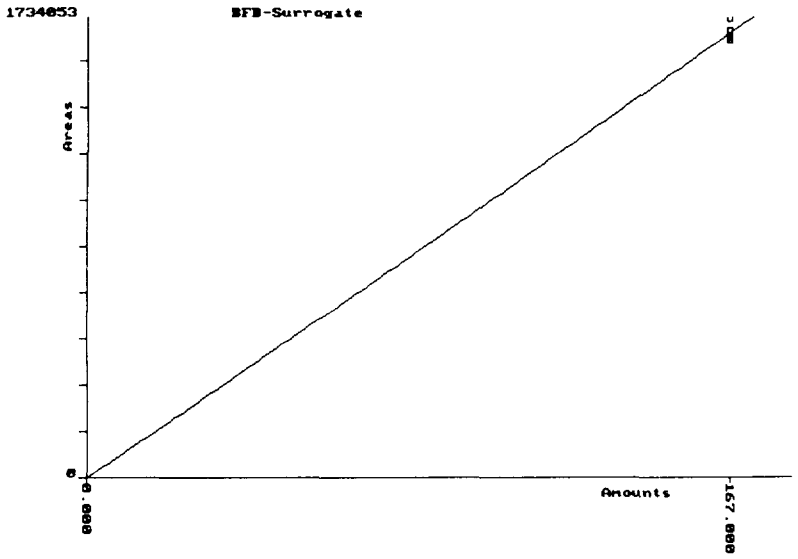
LEVEL	AMOUNT	AREA	Source	Date Updated
1	205.00000	1756373	Manual	10-28-1994 08:26
2	513.00000	4290913	Manual	10-28-1994 11:31
3	719.00000	7841536	Manual	10-28-1994 11:31
4	1026.00000	11673370	Manual	10-28-1994 11:32
5	1540.00000	16915460	Manual	10-28-1994 11:32

Fit type = Quadratic with equal weighting
Coef of determination= .9920493 Ave error=9.7111%
Area = -11.729e05 +12.592e03*X^1 -48.563e-02*X^2
Average CF (EPA method 8000) = 10039.9629 with %RSD = 14.439%

10/28/94
Randle Ross 10/28/94

Cal file = C:\CP\DATA1\110281S.CAL Version number = 2
Cal file date = 10-28-1994 09:41:15
F ernal standard calibration.
L ault injection volume = 0 Area reject = 10000
Reference peak area reject = 1000 Sample units = ppb

1 **BFB-Surrogate** Ret time= 15.480 min. Search window= 0.200 min.
No reference peak for this compound.
No internal standard for this compound.
High Alarm amount = 200 Low Alarm amount = 2.5
Component constant = 0
Quantitation will be by peak area.



LEVEL	AMOUNT	AREA	Source	Date Updated
1	167.00000	1655374	Manual	10-28-1994 09:30
2	167.00000	1725768	Manual	10-28-1994 09:30
3	167.00000	1679506	Manual	10-28-1994 09:31
4	167.00000	1652968	Manual	10-28-1994 09:31
5	167.00000	1658418	Manual	10-28-1994 09:31
6	167.00000	1642920	Manual	10-28-1994 09:31

Fit type = Linear with equal weighting, forced through zero
Coef of determination= 0 Ave error=1.3256%
Area = +99.95e02*X^1
Average CF (EPA method 8000) = 9994.9639 with %RSD = 1.811%

Ray L Dolph 10/28/94
Randle Ross 10/28/94

Environmental Testing and Consulting, Inc. *****
UST Method 8015M - CDHS

2 2 0249

Day's Date : 11-28-1994 Date Analyzed :Nov 26, 1994 11:34:00
Analyst :RR

Sample ID :GAS STD. 1000 INT.
Data File :C:\CP\DATA1\111251B.05R
Method File :C:\CP\DATA1\1-8015.MET
Method File Version: 5
Cal File :C:\CP\DATA1\110282C.CAL
Cal File Version : 2
Cal File Date :10/28/94 11:34:22
Instrument ID :SYS-1--DET 1B

Integration Report

Method CC % Difference Max = 25 Dilution Factor : 1
Sample Weight : 1

Peak #	Ret Time (min)	Peak Name	Peak Area	TPH as 8015M (ppm/ppb)	TPH CC % Difference	Surrogate Recovery
20	9.933	TPH-8015M	4547	906.8983	-9.3102	56

. peaks were found.

Total Area : 9957912
Total Height : 2018885

Analyst (Sign and Date) : Ray L Oldfather 11/28/94
Supervisor (Sign and Date) : [illegible] 11/23/94

Environmental Testing and Consulting, Inc. *****
UST Method 8015M - CDHS

2 2 0250.

. ıay's Date : 11-28-1994 Date Analyzed :Nov 26, 1994 15:07:12
Analyst :RR

Sample ID :GAS STD. 1000 END
Data File :C:\CP\DATA1\111251B.12R
Method File :C:\CP\DATA1\1-8015.MET
Method File Version: 5
Cal File :C:\CP\DATA1\110282C.CAL
Cal File Version : 2
Cal File Date :10/28/94 11:34:22
Instrument ID :SYS-1--DET 1B

Integration Report

Method CC % Difference Max = 25 Dilution Factor : 1
Sample Weight : 1

Peak #	Ret Time (min)	Peak Name	Peak Area	TPH as 8015M (ppm/ppb)	TPH CC % Difference	Surrogate Recovery
20	9.933	TPH-8015M	4439	884.8842	-11.5116	56

. peaks were found.

Total Area : 9716193
Total Height : 1965242

Analyst (Sign and Date) : Ray L Wolfe 11/28/94
Supervisor (Sign and Date) : Randy Ross 11/23/94

ENVIRONMENTAL TESTING AND CONSULTING, INC.
Memphis, TN
Total Petroleum Hydrocarbons
Organics Analysis Data Sheet

Client Name : Roy F. Weston, Inc.

Sample ID : Method Blank Matrix : _Soil____

Analytical Method : 8015M
Analyst TPH Volatile : RR

Date Sample Collected : N/A
Date Sample Received : N/A

Laboratory Sample Number TPH Volatile : 1123-BLK
File Name : 9411-602.C

Analyte	Results Units:(mg/Kg)	PQL Units:(mg/Kg)	Date Prepared	Date Analyzed
TPH Volatile	ND	10.0	11/23/94	11/26/94

PQL - Practical Quantitation Limit

LABORATORY MANAGER

3A
SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY
METHOD 8015M

Lab Name: Environmental Testing and Consulting, Inc
System ID: HP 5890-1

Matrix Spike ID: 9411-602-1MS
MS Date Analyzed: 12/02/94
MS Data File ID: 112021B.06

COMPOUND	SPIKE Added (mg/kg)	SAMPLE Conc (mg/kg)	MS Conc (mg/kg)	RPD % Diff	MS % Rec #	QC Limits	
TPH (Volatile)	91.8	2520	2549	4	32 *	50	150

Matrix Spike Dup ID: 9411-602-1MSD
MSD Date Analyzed: 12/02/94
MSD Data File ID: 112021B.07

COMPOUND	SPIKE Added (mgkg)	SAMPLE Conc (mg/kg)	MS Conc (mg/kg)		MS % Rec #	QC Limits	
TPH (Volatile)	91.8	2520	2548		31 *	50	150

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

COMMENTS:

Ray Odoff 12-2-9

FORM III VOA

R. M. Ross 12/2/94

3B
VOLATILE LABORATORY CONTROL SAMPLE
METHOD 8020/8015M

Lab Name Environmental Testing and Consulting, Inc.
System ID HP 5890-1

LCS Date Analyzed 11/26/94
Data File ID 1111251.1

Compound	LCS Level ug/L	LCS Found ug/L	LCS % Rec #	RPD <20%	% Recovery Low ug/L	High ug/L
TPH (Volatile)	1033	1150	111	10	50	150

LCS Duplicate Date Analyzed 11/26/94
Data File ID 111251.09

Compound	LCSD Level ug/L	LCSD Found ug/L	LCSD % Rec #		% Recovery Low ug/L	High ug/L
TPH (Volatile)	1033	1040	101		50	150

Ray L Wilsyth 11/28/94
Nelle Ross 11/28/94

Column to be used to flag LCS/LCSD % recovery with an asterisk
* Value outside Q-Table Limits

FORM III VOA-LCS

SURROGATE RECOVERY SUMMARY REPORT
TPH

Lab Name: Environmental Testing and Consulting, Inc

ETC, Inc. Order #: 9411-602

Surrogate: BFB

QC Limits: 50 150

ETC, Inc. Sample ID	% Recovery	#
1123-BLK	76	
9411-602-01 1:100D	74	
9411-602-01 1:10D	88	
9411-602-01MS 1:10D	123	
9411-602-01MSD 1:10D	99	

Column used to flag values outside QC Limits

DILUTION FACTOR SUMMARY REPORT
TPH

Lab Name: Environmental Testing and Consulting, Inc

ETC, Inc. Order #: 9411-602

ETC, Inc. Sample ID	Dilution Factor
1123-BLK	1
9411-602-01	10
9411-602-01	100

Quality Control Data
Method 8015M Extractable

- [x] Case Narrative
- [x] Analytical Sequence
- [x] Initial Calibration
- [x] Continuing Calibration
- [x] Method Blank
- [x] Matrix Spike/Matrix Spike Duplicate
- [x] Laboratory Control Sample
- [x] Surrogate Recovery Summary Report
- [x] Dilution Factor Summary Report

LB 12/2/94

QC Coordinator

ENVIRONMENTAL TESTING AND CONSULTING, INC.
MEMPHIS, TN
CASE NARRATIVE
TOTAL PETROLEUM HYDROCARBONS
EXTRACTABLE FRACTION

2 2 0257

Client Name : Roy F. Weston
Project Name : SAAD

ETC Order # : 9411-602
Method (SW-846) : 8015M Extractable Fraction

HOLDING TIMES

Sample Extraction : All soils extracted within 14 days of collection.
Sample Analysis : All extractable samples analyzed within 40 days of extraction.

CALIBRATION

Initial Calibration : All criteria met.
Daily Calibration : All criteria met.

TPH Extractable

Date Analyzed	Sequence ID
11/28/94	3112801

SAMPLE ANALYSIS

TPH Extractable Instrumentation : HP 5890 Series II GC
Dilutions Required : No dilutions required.*
*
Refer to Dilution Factor Summary Report 9411602.DFT

Dilutions required to bring analytes within calibration range.

QUALITY CONTROL

TPH Extractable
Matrix Spike / Matrix Spike Dup
9411-602-1 MS/MSD RPD : All compounds within QC Limits*
Spike Recovery : All compounds within QC Limits*

Due to high levels of TPH present in the samples, the MS/MSD data was considered invalid for this analyte. The reported RPD is based on the MS/MSD found.

Due to the nature of the sample matrix, obtaining interlab homogeneous splits for QC samples was difficult.

See Laboratory Control Samples for system verification.

Method Blank
No Target Analytes detected above Practical Quantitation Limit.

Laboratory Control Sample
All criteria met.

System Monitoring Compounds
Surrogate recoveries within QC limits.
*
Refer to Surrogate Recovery Summary Report 9411602.DFB

Laboratory Manager

Sequence file C:\DIRECT\DATA1\3112801.SEQ Date = 11-29-1994 Time = 08:41:35

#	DATA FILE	SAMPLE NAME	METHOD	SAMPLE WEIGHT	AMT INJ	DIL FAC	INT STD AMT	CAL
1	3112801.01R	MECL2	DRO-3	1.00	1.00	1.00	1.00	0
	3112801.02R	DCS DROWS3 01-3-11-19	DRO-3	1.00	1.00	1.00	1.00	0
3	3112801.03R	1123-BLK1	DRO-3	30.00	1.00	1.00	1.00	0
4	3112801.04R	1123-LCS(1)1	DRO-3	30.00	1.00	1.00	1.00	0
5	3112801.05R	1123-LCS(1)2	DRO-3	30.00	1.00	1.00	1.00	0
6	3112801.06R	9411-602-01 1:50	DRO-3	30.80	1.00	250.00	1.00	0
7	3112801.07R	9411-602-01MS 1:50	DRO-3	30.10	1.00	250.00	1.00	0
8	3112801.08R	9411-602-01MSD 1:50	DRO-3	30.70	1.00	250.00	1.00	0
9	3112801.09R	MECL2	DRO-3	1.00	1.00	1.00	1.00	0
10	3112801.10R	1123-BLK3	DRO-3	%1000.00	1.00	1.00	1.00	0
11	3112801.11R	1123-LCS3(1)	DRO-3	%1000.00	1.00	1.00	1.00	0
12	3112801.12R	1123-LCS3(2)	DRO-3	%1000.00	1.00	1.00	1.00	0
13	3112801.13R	9411-586-01 1:100	DRO-3	%1025.00	1.00	100.00	1.00	0
14	3112801.14R	MECL2	DRO-3	1.00	1.00	1.00	1.00	0
15	3112801.15R	CC1 DROWS3 01-3-11-19	DRO-3	1.00	1.00	1.00	1.00	0
16	3112801.16R	CC1 DROWS3 01-3-11-19	DRO-3	1.00	1.00	1.00	1.00	0
17	3112801.17R	9411-603-01 1:10	DRO-3	%1040.00	1.00	10.00	1.00	0
18	3112801.18R	9411-603-02 1:10	DRO-3	%1050.00	1.00	10.00	1.00	0
19	3112801.19R	9411-586-01 1:10	DRO-3	%1025.00	1.00	10.00	1.00	0
20	3112801.20R	9411-603-01	DRO-3	%1040.00	1.00	1.00	1.00	0
21	3112801.21R	9411-603-02	DRO-3	%1050.00	1.00	1.00	1.00	0
22	3112801.22R	MECL2	DRO-3	1.00	1.00	1.00	1.00	0
23	3112801.23R	ECS DROWS3 01-3-11-19	DRO-3	1.00	1.00	1.00	1.00	0
24	3112801.24R	ECS DROWS3 01-3-11-19	DRO-3	1.00	1.00	1.00	1.00	0

Cal file = C:\DIRECT\DATA1\30923DRO.CAL Version number = 2
Cal file date = 09-26-1994 10:23:51
External standard calibration.
Default injection volume = 1 Area reject = 100
Reference peak area reject = 0 Sample units = ng/ul
Default component for unknowns = DRO

1 **DRO** Ret time= 15.800 min. Search window= 2.000 min.
No reference peak for this compound.
No internal standard for this compound.
High Alarm amount = 1962 Low Alarm amount = 151
Component constant = 4356.84
Quantitation will be by peak area.

LEVEL	AMOUNT	AREA	AREA /Amt	Source	Date Updated
1	150.00000	705182	47012.1E-01	Manual	09-26-1994 10:22
2	302.00000	1192055	39472.0E-01	Manual	09-26-1994 10:22
3	603.00000	2698143	44745.3E-01	Manual	09-26-1994 10:22
4	900.00000	4282600	47584.4E-01	Manual	09-26-1994 10:22
5	1200.00000	4703411	39195.1E-01	Manual	09-26-1994 10:22
6	1950.00000	8463272	43401.4E-01	Manual	09-26-1994 10:22

Fit type = Average CF with equal weighting, forced through zero
Coef of determination= .9964537 Ave error=5.7594%
Area = +43.568e02*X^1
Average CF (EPA method 8000) = 4356.8398 with %RSD = 8.295% ✓

2 **OTP** Ret time= 24.090 min. Search window= 0.400 min.
No reference peak for this compound.
No internal standard for this compound.
High Alarm amount = .1 Low Alarm amount = .01
Component constant = 14831.71
Quantitation will be by peak area.

LEVEL	AMOUNT	AREA	AREA /Amt	Source	Date Updated
1	5.00000	79372	15874.4E+00	Manual	09-26-1994 10:22
2	10.00000	133707	13370.7E+00	Manual	09-26-1994 10:22
3	15.00000	232034	15468.9E+00	Manual	09-26-1994 10:22
4	20.00000	340165	17008.3E+00	Manual	09-26-1994 10:22
5	25.00000	315039	12601.6E+00	Manual	09-26-1994 10:22
6	50.00000	733322	14666.4E+00	Manual	09-26-1994 10:22

Fit type = Average CF with equal weighting, forced through zero
Coef of determination= .9934953 Ave error=7.6051%
Area = +14.832e03*X^1
Average CF (EPA method 8000) = 14831.7139 with %RSD = 11.024% ✓

Connie Cook 9/26/94
MM 9/26/94

Environmental Testing and Consulting, Inc.
System #3
DIESEL RANGE ORGANICS

Today's Date : 11-28-1994
Date Analyzed : Nov 28, 1994 09:24:5
Analyst : CC
Sample ID : DCS DROWS3 01-3-11-19
Data File : C:\DIRECT\DATA3\3112801.02R
Method File : C:\DIRECT\DATA1\DRO-3.MET
Method File Version : 14
Cal File : C:\DIRECT\DATA1\30923DRO.CAL
Cal File Version : 3
Cal File Date : 10/13/94 15:57:50
Instrument ID : DRO-3--DET 3A

Dilution Factor : 1
Sample Weight : 1

OTP %REC : 71
OTP %DIFF : -19

DRO PPM : 626.467
DRO ng/uL : 626.467

DRO % DIFF : -4

Method DRO %Difference Max =25

INTERGRATION REPORT

PEAK #	Ret Time (min)	Peak Area	Peak Height	Peak Name	Amount
76	15.779	5771	2072	DRO	1.3246
148	24.118	264235	112420	OTP	17.8156

SLICE REPORT

#	Start Time	Stop Time	Amount	Amount%	Area	Area%
1	6.00	23.50	579.38446	71.36850%	252.4287E+04	67.7918%
2	24.50	30.00	47.08183	5.79953%	205.1280E+03	5.5089%

Total slice amount = 626.4663 Total slice area = 2729415
Total slice amount% = 77.16804 Total slice area% = 73.30063

Analyst Connie Cook 11/29/94 Date _____

Supervisor RK 11/29/94 Date _____

Environmental Testing and Consulting, Inc.
System #3
DIESEL RANGE ORGANICS

2 2 0261

Today's Date : 11-29-1994
Date Analyzed : Nov 28, 1994 19:00:2
Analyst : CC
Sample ID : CC1 DROWS3 01-3-11-19
Data File : C:\DIRECT\DATA3\3112801.15R
Method File : C:\DIRECT\DATA1\DRO-3.MET
Method File Version : 14
Cal File : C:\DIRECT\DATA1\30923DRO.CAL
Cal File Version : 3
Cal File Date : 10/13/94 15:57:50
Instrument ID : DRO-3--DET 3A

Dilution Factor : 1
Sample Weight : 1

OTP %REC : 68
OTP %DIFF : -14

DRO PPM : 588.454
DRO ng/uL : 588.454

DRO % DIFF : 2

Method DRO %Difference Max =25

INTERGRATION REPORT

PEAK #	Ret Time (min)	Peak Area	Peak Height	Peak Name	Amount
73	15.770	5509	1852	DRO	1.2645
141	24.109	253983	106295	OTP	17.1243

SLICE REPORT

#	Start Time	Stop Time	Amount	Amount%	Area	Area%
1	6.00	23.50	557.32788	73.10040%	242.8188E+04	69.3552%
2	24.50	30.00	31.12637	4.08261%	135.6126E+03	3.8734%

Total slice amount = 588.4542 Total slice area = 2563801
Total slice amount% = 77.18301 Total slice area% = 73.22859

Analyst Corinna Cook 11/29/94 Date _____

Supervisor DR 11/29/94 Date _____

Environmental Testing and Consulting, Inc.
System #3
DIESEL RANGE ORGANICS

2 2 0262

Today's Date : 11-29-1994
Date Analyzed : Nov 29, 1994 00:22:3
Analyst : CC
Sample ID : ECS DROWS3 01-3-11-19
Data File : C:\DIRECT\DATA3\3112801.24R
Method File : C:\DIRECT\DATA1\DRO-3.MET
Method File Version : 14
Cal File : C:\DIRECT\DATA1\30923DRO.CAL
Cal File Version : 3
Cal File Date : 10/13/94 15:57:50
Instrument ID : DRO-3--DET 3A

Dilution Factor : 1
Sample Weight : 1

OTP %REC : 66
OTP %DIFF : -10

DRO PPM : 569.940
DRO ng/uL : 569.940

DRO % DIFF : 5

Method DRO %Difference Max =25

INTERGRATION REPORT

PEAK #	Ret Time (min)	Peak Area	Peak Height	Peak Name	Amount
80	15.763	5161	1817	DRO	1.1845
148	24.103	245749	103694	OTP	16.5692

SLICE REPORT

#	Start Time	Stop Time	Amount	Amount%	Area	Area%
1	6.00	23.50	540.21796	72.89236%	235.3644E+04	69.1741%
2	24.50	30.00	29.72159	4.01038%	129.4922E+03	3.8058%

Total slice amount = 569.9396 Total slice area = 2483136
Total slice amount% = 76.90274 Total slice area% = 72.97996

Analyst Connie Cook 11/29/94 Date _____

Supervisor AR 11/29/94 Date _____

ENVIRONMENTAL TESTING AND CONSULTING, INC.
Memphis, TN
Total Petroleum Hydrocarbons
Organics Analysis Data Sheet

2 2 0263

Client Name : Roy F. Weston, Inc.

Sample ID : Method Blank Matrix : _Soil_____

Analytical Method : 8015M
Analyst TPH Extractable : CC

Date Sample Collected : N/A
Date Sample Received : N/A

Laboratory Sample Number TPH Extractable : 1123-BLK(1)
File Name : 9411-602.C

Analyte	Results Units:(mg/Kg)	PQL Units:(mg/Kg)	Date Prepared	Date Analyzed
TPH Extractable	ND	10.0	11/23/94	11/28/94

PQL - Practical Quantitation Limit

LABORATORY MANAGER

SOIL MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY
METHOD DRO

2 2 0264

Lab Name: Environmental Testing and Consulting, Inc
System ID: HP 5890-3

Matrix Spike ID: 9411-602-01MS
MS Date Analyzed: 11/28/94
Data File ID: 3112801.07R

COMPOUND	SPIKE Added (ppm)	SAMPLE Conc (ppm)	MS Conc (ppm)	RPD % Diff	#
DRO	34.4	3702.0	5040.0	36	

Matrix Spike Duplicate ID: 9411-602-01MSD
MSD Date Analyzed: 11/28/94
Data File ID: 3112801.08R

COMPOUND	SPIKE Added (ppm)	SAMPLE Conc (ppm)	MSD Conc (ppm)	
DRO	34.4	3702.0	4205.0	

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

Randle Ross 12/2/94

COMMENTS: MS/MSD used as duplicate samples.

9411-602.MSD

SOIL LABORATORY CONTROL SAMPLE
METHOD DRO

Lab Name: Environmental Testing and Consulting, Inc
System ID: HP 5890-3

Laboratory Control 1 ID: 1123D-LCS(1)1
LCS-1 Date Analyzed: 11/28/94
Data File ID: 3112801.04R

COMPOUND	SPIKE Added (ppm)	SAMPLE Conc (ppm)	MS Conc (ppm)	RPD % Diff #	MS % Rec #	QC Limits	
DRO	28.7	BDL	24.3	1	85	50	125

Laboratory Control 2 ID: 1123D-LCS(1)2
LCS-2 Date Analyzed: 11/28/94
Data File ID: 3112801.05R

COMPOUND	SPIKE Added (ppm)	SAMPLE Conc (ppm)	MSD Conc (ppm)		MSD % Rec #	QC Limits	
DRO	28.7	BDL	24.6		86	50	125

		LCS-1	LCS-2
UCL	125		
UWL	84	<==	<==
AVE	54		
LWL	50		
LCL	26		

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

COMMENTS: Connie Cook 11/22/94

Randy Ross 11/29/94

1123D-L1.LCS

SURROGATE RECOVERY SUMMARY REPORT
8015M-DRO

Lab Name: Environmental Testing and Consulting, Inc

ETC, Inc. Order #: 9411-602

Surrogate: OTP

QC Limits: 50 150

ETC, Inc. Sample ID	% Recovery	#
1123D-BLK1	88	
1123D-LCS1(1)	86	
1123D-LCS1(2)	82	
9411-601-01	ND	
9411-602-01MS	ND	
9411-602-01MSD	ND	

ND - Not detected due to sample dilution.

Column used to flag values outside QC Limits

DILUTION FACTOR SUMMARY REPORT
8015M-DRO

2 2 0267

Lab Name Environmental Testing and Consulting, Inc

ETC, Inc. Order # 9411-602

ETC, Inc. Sample ID	Dilution Factor
1123D-BLK1	1
1123D-LCS1(1)	1
1123D-LCS1(2)	1
9411-602-01	250
9411-602-01MS	250
9411-602-01MSD	250

Quality Control Data
GC/MS VOC

- [x] Case Narrative
- [x] BFB Tune Report
- [x] Initial Calibration
- [x] Continuing Calibration
- [x] Method Blank
- [x] Matrix Spike/Matrix Spike Duplicate
- [x] Laboratory Control Sample
- [x] Surrogate Recovery Summary Report
- [x] Internal Standard Summary Report

LB 12/2/94
QC Coordinator

ENVIRONMENTAL TESTING AND CONSULTING, INC.
MEMPHIS, TN
CASE NARRATIVE
VOLATILE COMPOUNDS

2 2 0269

Client Name : Roy F. Weston
Project Name : SAAD

ETC Order # : 9411-602
Method (SW-846) : 8240

HOLDING TIMES

Sample Analysis : All samples analyzed within 14 days of collection.

CALIBRATION

BFB Daily 12 Hour Tune : All criteria met.
Initial Calibration : All criteria met.
Daily Calibration : All criteria met.

Date Analyzed	Sequence ID
11/22/94	V1112201
11/23/94	V1112302

Analytes flagged "#" indicating % Differences greater than 25%. These analytes will be reported as "C - Estimated Value" if identified within any sample associated with this DCS.

Please note that Method 8240 sets specific % Difference criteria for only the CCC compounds.

No flagged Target Analytes were identified within this sample.

SAMPLE ANALYSIS

Instrumentation : HP 5890 Series II GC, 5971MSD
Dilutions Required : No dilutions required.*
*

Sample ID	Dilution		
9411-602-1	1:5	1:200	1:500

Dilutions required to bring Target Analytes within calibration range.

QUALITY CONTROL

Matrix Spike / Matrix Spike Dup
9411-529-11 MS/MSD RPD : All analytes within QC limits.
Spike Recovery : All analytes within QC limits.

Matrix Spike / Matrix Spike Dup
9411-602-1 MS/MSD RPD : All analytes within QC limits.*
Spike Recovery : All analytes within QC limits.*
*
Due to high levels of Trichlorethene and Toluene present in the samples MS/MSD data was considered invalid for these analytes.

See Laboratory Control Samples for system verification.

Method Blank
No Target Analytes detected above Practical Quantitation Limit.

ENVIRONMENTAL TESTING AND CONSULTING, INC.
MEMPHIS, TN
CASE NARRATIVE
VOLATILE COMPOUNDS

2 2 0270

Client Name : Roy F. Weston
Project Name : SAAD

ETC Order # : 9411-602
Method (SW-846) : 8240

Laboratory Control Sample
All criteria met.

System Monitoring Compounds
Surrogate recoveries within QC limits.*
*
Refer to Surrogate Summary Report V1112201.SO2

Volatile Internal Standard Area and RT
Internal Standard Areas and Retention Times within QC limits.
Refer to Internal Standard Summary report V1112201.IST

Laboratory Manager

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

2 2 0271

Lab Name: Environmental Testing and Consulting, Inc
Method Name: V11007V.M
System ID: V1

BFB Date/Time Analyzed: 11/22/94 12:10 PM
Data File Path/Sequence ID: C:\HPCHEM\1\DATA\V1112201\
Data File ID: 0101001.D

GC Column 502.2 ID 0.32 (mm) Heated Purge (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	19.7	
75	30.0 - 60.0% of mass 95	45.7	
95	Base peak, 100% relative abundance	100.0	
96	5.0 - 9.0% of mass 95	7.2	
173	Less than 2.0% of mass 174	0.0	1
174	>50.0% of mass 95	59.0	
175	5.0 - 9.0% of mass 174	7.9	1
176	95.0 - 101.0% of mass 174	98.9	1
177	5.0 - 9.0% of mass 176	7.5	2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

	ETC SAMPLE ID	LAB FILE ID	DATE / TIME ANALYZED
1	DCS L1 B1	0201002.D	11/22/94 12:49 PM
2	DCS624 L1 B1	0302004.D	11/22/94 02:53 PM
3	BLANK B1 L1	0401004.D	11/22/94 02:07 PM
4	9411-529-5 SO S	0501005.D	11/22/94 03:33 PM
5	9411-529-9 SO S	0601006.D	11/22/94 04:11 PM
6	9411-529-8 SO S	0701007.D	11/22/94 04:51 PM
7	9411-529-11 QC	0801008.D	11/22/94 05:29 PM
8	9411-529-11 MS	0901009.D	11/22/94 06:07 PM
9	9411-529-11 MSD	1001010.D	11/22/94 06:47 PM
10	9411-496-1 SO	1101011.D	11/22/94 07:26 PM
11	9411-602-1 SO	1201012.D	11/22/94 08:06 PM
12			
13			
14			
15			
16			
17			
18			
19			
20			

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

2 2 0272

Lab Name	Environmental Testing and Consulting, Inc
Method Name	V11007V.M
System ID	V1
BFB Date/Time Analyzed	11/23/94 01:54 PM
Data File Path/Sequence ID	C:\HPCHEM\1\DATA\V1112302\
Data File ID	0101001.D

GC Column 502.2 ID 0.32 (mm) Heated Purge (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	17.2	
75	30.0 - 60.0% of mass 95	47.9	
95	Base peak, 100% relative abundance	100.0	
96	5.0 - 9.0% of mass 95	8.1	
173	Less than 2.0% of mass 174	0.0	1
174	>50.0% of mass 95	65.2	
175	5.0 - 9.0% of mass 174	8.6	1
176	95.0 - 101.0% of mass 174	98.1	1
177	5.0 - 9.0% of mass 176	7.6	2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

	ETC SAMPLE ID	LAB FILE ID	DATE / TIME ANALYZED
1	DCS L1 B1	0201006.D	11/23/94 05:45 PM
2	DCS624 L1 B1	0301003.D	11/23/94 03:49 PM
3	BLANK B1 L1	0401004.D	11/23/94 04:27 PM
4	MEOH BLANK B2	0501005.D	11/23/94 05:06 PM
5	9411-602-1 SO S	0601007.D	11/23/94 06:24 PM
6	9411-602-1 QC S	0701008.D	11/23/94 07:03 PM
7	9411-602-1 MS S	0801009.D	11/23/94 07:43 PM
8	9411-602-1 MSD	0901010.D	11/23/94 08:22 PM
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

Response Factor Report VOC 1

Method : C:\HPCHEM\1\METHODS\V11007V.M
Title : System #1 VOC TOTAL LIST
Last Update : Fri Oct 07 15:30:25 1994
Response via : Initial Calibration

2 2 0273

Calibration Files
1 =0301003.D 2 =0601006.D 3 =0701007.D
4 =0801008.D 5 =0901009.D

		Compound	1	2	3	4	5	Avg	%RSD
1)	I	Bromochloromethane ISTD1	----------	----------	ISTD	----------	----------	----------	
2)		Dichlorodifluromethane	1.313	0.983	0.863	0.794	0.702	0.931	25.47
3)	T	Chloromethane SPCC	0.880	0.734	0.642	0.565	0.524	0.669	21.33
4)	T	Vinyl Chloride CCC	0.925	0.867	0.785	0.679	0.576	0.766	18.38
5)	T	Bromomethane	1.414	1.191	1.064	0.943	0.810	1.085	21.40
6)	T	Chloroethane	0.702	0.605	0.530	0.496	0.416	0.550	19.84
7)	T	Trichlorofluoromethane	2.245	1.990	1.795	1.736	1.585	1.870	13.63
8)	T	Acrolien	0.070	0.082	0.066	0.069	0.057	0.069	13.08
9)		Acetone	0.035	0.058	0.046	0.044	0.039	0.044	19.84
10)	TM	1,1-Dichloroethene CCC	2.393	2.117	1.960	1.856	1.723	2.010	12.85
11)		Iodomethane	3.657	3.339	3.119	2.986	2.607	3.141	12.48
12)		Carbon Disulfide	3.527	3.467	3.078	2.998	2.755	3.165	10.31
13)	T	Methylene Chloride	2.320	1.679	1.515	1.403	1.317	1.647	24.28
14)	T	Acrylonitrile	0.137	0.160	0.143	0.146	0.145	0.146	5.69
15)	T	trans-1,2-Dichloroethene	2.335	2.087	1.962	1.894	1.776	2.011	10.60
16)	T	1,1-Dichloroethane SPCC	2.967	2.718	2.536	2.476	2.353	2.610	9.16
17)		Vinyl Acetate	1.857	2.025	1.811	1.747	1.682	1.825	7.14
18)		Methyl Ethyl Ketone	0.209	0.341	0.281	0.251	0.219	0.260	20.44
19)		cis-1,2-Dichloroethene	2.313	2.049	1.839	1.837	1.737	1.955	11.77
20)	T	Chloroform CCC	3.276	3.019	2.853	2.820	2.678	2.929	7.80
21)	T	1,1,1-Trichloroethane	2.641	2.272	2.144	2.105	1.985	2.229	11.30
22)	T	Carbon Tetrachloride	2.326	2.168	2.056	2.022	1.931	2.100	7.23
23)	S	1,2-Dichloroethane-d4 (S	1.218	1.222	1.190	1.164	1.143	1.187	2.89
24)	T	1,2-Dichloroethane	1.515	1.488	1.366	1.327	1.277	1.394	7.38
25)	TM	Benzene	4.045	3.596	3.206	3.207	2.987	3.408	12.27
26)		Dibromomethane	1.725	1.713	1.545	1.514	1.409	1.581	8.57
27)		Methyl Isobutly Ketone	1.106	1.298	1.094	1.122	1.007	1.125	9.44
28)		Methly Butyl Ketone	0.415	0.564	0.466	0.456	0.416	0.463	13.15
29)	I	1,4-Difluorobenzene ISTD	----------	----------	ISTD	----------	----------	----------	
30)	TM	Trichloroethene	0.468	0.455	0.433	0.423	0.418	0.440	4.91
31)	T	1,2-Dichloropropane CCC	0.442	0.419	0.396	0.376	0.368	0.400	7.68
32)		Methyl Methacrylate	0.142	0.175	0.162	0.160	0.158	0.159	7.37
33)	T	Bromodichloromethane	0.708	0.697	0.673	0.644	0.629	0.670	5.05
34)	T	2-Chloroethylvinylether	0.165	0.188	0.156	0.171	0.163	0.168	7.19
35)		cis-1,3-Dichloropropene	0.590	0.571	0.543	0.515	0.478	0.539	8.23
36)	S	Toluene-d8 (Surr)	0.906	0.881	0.900	0.880	0.876	0.889	1.52
37)	TM	Toluene CCC	1.038	0.932	0.866	0.846	0.811	0.898	9.96
38)	T	trans-1,3-Dichloropropene	0.453	0.459	0.435	0.417	0.385	0.430	6.96
39)		Ethyl Methacrylate	0.314	0.380	0.343	0.337	0.325	0.340	7.30
40)	T	1,1,2-Trichloroethane	0.325	0.343	0.322	0.305	0.297	0.318	5.65
41)	T	Tetrachloroethene	0.368	0.340	0.327	0.311	0.290	0.327	9.10
42)	T	Dibromochloromethane	0.411	0.434	0.410	0.392	0.382	0.406	4.92

(#) = Out of Range

Response Factor Report VOC 1

Method : C:\HPCHEM\1\METHODS\V11007V.M
Title : System #1 VOC TOTAL LIST
Last Update : Fri Oct 07 15:30:25 1994
Response via : Initial Calibration

2 2 0274

Calibration Files
1 =0301003.D 2 =0601006.D 3 =0701007.D
4 =0801008.D 5 =0901009.D

		Compound	1	2	3	4	5	Avg	%RSD
43)	I	Chlorobenzene-d5 ISTD3	----------ISTD----------						
44)	TM	Chlorobenzene SPCC	0.994	0.958	0.900	0.860	0.804	0.903	8.42
45)	T	Ethylbenzene CCC	1.438	1.347	1.199	1.155	1.111	1.250	11.00
46)		mp-Xylenes	1.182	1.109	0.991	0.942	0.866	1.018	12.51
47)		o-Xylenes	1.167	1.097	1.007	0.976	0.936	1.036	9.06
48)		Styrene	0.943	0.920	0.842	0.822	0.779	0.861	7.97
49)	T	Bromoform SPCC	0.371	0.466	0.451	0.447	0.445	0.436	8.50
50)	T	1,1,2,2-Tetrachloroethane	0.543	0.615	0.580	0.556	0.523	0.563	6.30
51)	S	4-Bromofluorobenzene (Su	0.717	0.723	0.726	0.716	0.718	0.720	0.56
52)		1,2,3-Trichloropropane	0.067	0.084	0.075	0.074	0.072	0.074	8.08
53)		1,4-Dichoro-2-butene	0.068	0.087	0.081	0.079	0.059	0.075	15.09
54)	T	1,3-Dichlorobenzene	0.800	0.752	0.715	0.676	0.625	0.714	9.47
55)	T	1,4-Dichlorobenzene	0.834	0.785	0.736	0.678	0.617	0.730	11.71
56)	T	1,2-Dichlorobenzene	0.709	0.683	0.646	0.600	0.562	0.640	9.34

Jim Savage 10/7/94

MM 10/7/94

(#) = Out of Range

000048

Evaluate Continuing Calibration Report

2 2 0275

Data File : C:\HPCHEM\1\DATA\V1112201\BSB\0201002.D
Acq Time : 22 Nov 94 12:49 pm
Sample : DCS L1 B1
Misc : 02-2-34-1 IS02-2-32-20

Operator: [BSB1]
Inst : VOC 1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\V11007V.M
Title : System #1 VOC TOTAL LIST
Last Update : Mon Nov 21 14:01:48 1994
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRRF	CCRRF	%Dev	Area%	Dev(Min)
1	I	Bromochloromethane ISTD1	1.000	1.000	0.0	122	-0.07
2		Dichlorodiflurometh ane	0.931	0.755	18.9	106	0.00
3	T	Chloromethane SPCC	0.665	0.683	-2.7	128	-0.02
4	T	Vinyl Chloride CCC	0.766	0.850	-10.9	132	-0.02
5	T	Bromomethane	1.085	0.983	9.4	112	-0.03
6	T	Chloroethane	0.551	0.584	-5.9	132	-0.03
7	T	Trichlorofluoromethane	1.871	1.908	-2.0	129	-0.02
8	T	Acrolien	0.067	0.064	4.1	118	-0.05
9		Acetone	0.044	0.050	-13.3	132	-0.02
10	TM	1,1-Dichloroethene CCC	2.010	2.389	-18.8	148	-0.03
11		Iodomethane	3.142	3.226	-2.7	126	-0.03
12		Carbon Disulfide	3.166	3.916	-23.7	155	-0.04
13	T	Methylene Chloride	1.647	1.759	-6.8	141	-0.05
[illegible]	T	Acrylonitrile	0.146	0.163	-11.3	138	-0.05
	T	trans-1,2-Dichloroethene	2.011	2.391	-18.9	148	-0.06
16	T	1,1-Dichloroethane SPCC	2.610	3.132	-20.0	150	-0.06
17		Vinyl Acetate	1.816	1.963	-8.1	131	-0.08
18		Methyl Ethyl Ketone	0.223	0.257	-15.0	141	-0.11
19		cis-1,2-Dichloroethene	1.955	2.337	-19.5	155	-0.07
20	T	Chloroform CCC	2.929	3.294	-12.4	140	-0.07
21	T	1,1,1-Trichloroethane	2.229	2.394	-7.4	136	-0.08
22	T	Carbon Tetrachloride	2.100	2.096	0.2	124	-0.06
23	S	1,2-Dichloroethane-d4 (Sur	1.187	1.193	-0.4	122	-0.07
24	T	1,2-Dichloroethane	1.394	1.427	-2.3	127	-0.06
25	TM	Benzene	3.408	3.983	-16.9	151	-0.06
26		Dibromomethane	1.581	1.418	10.3	112	-0.07
27		Methyl Isobutly Ketone	1.125	1.295	-15.1	144	-0.07
28		Methly Butyl Ketone	0.460	0.482	-4.8	126	-0.05
29	I	1,4-Difluorobenzene ISTD2	1.000	1.000	0.0	124	-0.06
30	TM	Trichloroethene	0.440	0.436	0.8	124	-0.07
31	T	1,2-Dichloropropane CCC	0.400	0.437	-9.1	136	-0.05
32		Methyl Methacrylate	0.159	0.169	-6.4	129	-0.05
33	T	Bromodichloromethane	0.670	0.677	-1.0	124	-0.05
34	T	2-Chloroethylvinylether	0.168	0.194	-15.3	154	-0.06
35		cis-1,3-Dichloropropene	0.539	0.582	-7.8	132	-0.06
36	S	Toluene-d8 (Surr)	0.889	0.888	0.0	122	-0.06
37	TM	Toluene CCC	0.898	0.973	-8.3	139	-0.05
38	T	trans-1,3-Dichloropropene	0.430	0.456	-6.1	129	-0.06
		Ethyl Methacrylate	0.340	0.370	-8.7	133	-0.06
[illegible]	T	1,1,2-Trichloroethane	0.318	0.310	2.5	119	-0.05
41	T	Tetrachloroethene	0.327	0.306	6.4	116	-0.06

(#) = Out of Range

Evaluate Continuing Calibration Report

2 2 0276

Data File : C:\HPCHEM\1\DATA\V1112201\BSB\0201002.D
Acq Time : 22 Nov 94 12:49 pm
Sample : DCS L1 B1
Misc : 02-2-34-1 IS02-2-32-20

Operator: [BSB1]
Inst : VOC 1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\V11007V.M
Title : System #1 VOC TOTAL LIST
Last Update : Mon Nov 21 14:01:48 1994
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRRF	CCRRF	%Dev	Area%	Dev(Min)
42	T	Dibromochloromethane	0.406	0.370	8.9	111	-0.06
43	I	Chlorobenzene-d5 ISTD3	1.000	1.000	0.0	113	-0.06
44	TM	Chlorobenzene SPCC	0.903	0.984	-9.0	123	-0.05
45	T	Ethylbenzene CCC	1.250	1.394	-11.6	131	-0.05
46		mp-Xylenes	1.018	1.173	-15.2	134	-0.05
47		o-Xylenes	1.036	1.170	-12.9	131	-0.05
48		Styrene	0.861	0.953	-10.7	128	-0.05
49	T	Bromoform SPCC	0.436	0.386	11.6	96	-0.05
50	T	1,1,2,2-Tetrachloroethane S	0.563	0.559	0.8	109	-0.05
51	S	4-Bromofluorobenzene (Surr	0.720	0.669	7.1	104	-0.05
52		1,2,3-Trichloropropane	0.074	0.069	5.9	105	-0.06
53		1,4-Dichoro-2-butene	0.075	0.081	-8.4	113	-0.06
[illegible]	T	1,3-Dichlorobenzene	0.714	0.692	3.0	109	-0.05
	T	1,4-Dichlorobenzene	0.730	0.714	2.2	110	-0.05
56	T	1,2-Dichlorobenzene	0.640	0.616	3.7	108	-0.05

(#) = Out of Range SPCC's out = 0 CCC's out = 0

000050

Evaluate Continuing Calibration Report

2 2 0277

Data File : C:\HPCHEM\1\DATA\V1112302\BSB\0201006.D
Acq Time : 23 Nov 94 5:45 pm
Sample : DCS L1 B1
Misc : 02-2-34-1 IS02-2-32-20

Operator: [BSB1]
Inst : VOC 1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\V11007V.M
Title : System #1 VOC TOTAL LIST
Last Update : Mon Nov 21 14:01:48 1994
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRRF	CCRRF	%Dev	Area%	Dev(Min)
1	I	Bromochloromethane ISTD1	1.000	1.000	0.0	130	-0.10
2		Dichlorodifluromethane	0.931	0.566	39.2#	85	0.00
3	T	Chloromethane SPCC	0.665	0.571	14.0	114	-0.03
4	T	Vinyl Chloride CCC	0.766	0.708	7.6	117	-0.04
5	T	Bromomethane	1.085	0.876	19.2	107	-0.03
6	T	Chloroethane	0.551	0.518	6.1	125	-0.04
7	T	Trichlorofluoromethane	1.871	1.686	9.9	122	-0.04
8	T	Acrolien	0.067	0.068	-1.6	134	-0.05
9		Acetone	0.044	0.047	-6.6	132	-0.03
10	TM	1,1-Dichloroethene CCC	2.010	2.266	-12.7	150	-0.05
11		Iodomethane	3.142	3.098	1.4	129	-0.04
12		Carbon Disulfide	3.166	3.935	-24.3	166	-0.05
13	T	Methylene Chloride	1.647	1.757	-6.7	150	-0.07
14	T	Acrylonitrile	0.146	0.180	-22.9	163	-0.07
	T	trans-1,2-Dichloroethene	2.011	2.389	-18.8	158	-0.07
16	T	1,1-Dichloroethane SPCC	2.610	3.119	-19.5	160	-0.08
17		Vinyl Acetate	1.816	1.936	-6.6	138	-0.08
18		Methyl Ethyl Ketone	0.223	0.277	-24.1	162	-0.11
19		cis-1,2-Dichloroethene	1.955	2.384	-21.9	168	-0.10
20	T	Chloroform CCC	2.929	3.269	-11.6	149	-0.09
21	T	1,1,1-Trichloroethane	2.229	2.365	-6.1	143	-0.08
22	T	Carbon Tetrachloride	2.100	2.133	-1.6	135	-0.09
23	S	1,2-Dichloroethane-d4 (Sur	1.187	1.268	-6.8	138	-0.08
24	T	1,2-Dichloroethane	1.394	1.525	-9.3	145	-0.08
25	TM	Benzene	3.408	4.230	-24.1	171	-0.07
26		Dibromomethane	1.581	1.533	3.0	129	-0.08
27		Methyl Isobutly Ketone	1.125	1.539	-36.8#	183	-0.06
28		Methly Butyl Ketone	0.460	0.571	-24.1	159	-0.08
29	I	1,4-Difluorobenzene ISTD2	1.000	1.000	0.0	142	-0.08
30	TM	Trichloroethene	0.440	0.417	5.2	136	-0.08
31	T	1,2-Dichloropropane CCC	0.400	0.440	-10.0	158	-0.07
32		Methyl Methacrylate	0.159	0.189	-18.6	165	-0.07
33	T	Bromodichloromethane	0.670	0.654	2.4	138	-0.07
34	T	2-Chloroethylvinylether	0.168	0.206	-22.2	187	-0.08
35		cis-1,3-Dichloropropene	0.539	0.541	-0.3	141	-0.08
36	S	Toluene-d8 (Surr)	0.889	0.853	4.0	134	-0.08
37	TM	Toluene CCC	0.898	0.948	-5.5	155	-0.08
38	T	trans-1,3-Dichloropropene	0.430	0.428	0.4	140	-0.08
		Ethyl Methacrylate	0.340	0.382	-12.3	158	-0.07
40	T	1,1,2-Trichloroethane	0.318	0.300	5.6	132	-0.07
41	T	Tetrachloroethene	0.327	0.276	15.5	120	-0.08

(#) = Out of Range

Evaluate Continuing Calibration Report

2 2 0273

Data File : C:\HPCHEM\1\DATA\V1112302\BSB\0201006.D
Acq Time : 23 Nov 94 5:45 pm Operator: [BSB1]
Sample : DCS L1 B1 Inst : VOC 1
Misc : 02-2-34-1 IS02-2-32-20 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\V11007V.M
Title : System #1 VOC TOTAL LIST
Last Update : Mon Nov 21 14:01:48 1994
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRRF	CCRRF	%Dev	Area%	Dev(Min)
42	T	Dibromochloromethane	0.406	0.343	15.6	118	-0.09
43	I	Chlorobenzene-d5 ISTD3	1.000	1.000	0.0	123	-0.09
44	TM	Chlorobenzene SPCC	0.903	0.937	-3.7	128	-0.08
45	T	Ethylbenzene CCC	1.250	1.407	-12.5	144	-0.08
46		mp-Xylenes	1.018	1.144	-12.4	142	-0.07
47		o-Xylenes	1.036	1.140	-10.0	139	-0.07
48		Styrene	0.861	0.905	-5.1	132	-0.08
49	T	Bromoform SPCC	0.436	0.389	10.9	106	-0.08
50	T	1,1,2,2-Tetrachloroethane S	0.563	0.592	-5.0	126	-0.07
51	S	4-Bromofluorobenzene (Surr	0.720	0.668	7.2	113	-0.07
52		1,2,3-Trichloropropane	0.074	0.072	2.2	119	-0.07
53		1,4-Dichoro-2-butene	0.075	0.086	-14.9	131	-0.08
54	T	1,3-Dichlorobenzene	0.714	0.605	15.2	104	-0.08
	T	1,4-Dichlorobenzene	0.730	0.635	13.0	106	-0.08
56	T	1,2-Dichlorobenzene	0.640	0.557	13.0	106	-0.08

(#) = Out of Range SPCC's out = 0 CCC's out = 0

4A
VOLATILE METHOD BLANK SUMMARY

2 2 0279

Lab Name: Environmental Testing and Consulting, Inc
Method Name: V11007V.M
System ID: V1

Blank Date/Time Analyzed: 11/22/94 12:49 PM
Data File Path/Sequence ID: C:\HPCHEM\1\DATA\V1112201\BSB\
Data File ID: 0201002.D

GC Column 502.2 ID 0.32 (mm) Heated Purge (Y/N) Y

This check applies to the following SAMPLES, MS, MSD, and STANDARDS:

	ETC SAMPLE ID	LAB FILE ID	DATE / TIME ANALYZED
1	DCS624 L1 B1	0302004.D	11/22/94 02:53 PM
2	BLANK B1 L1	0401004.D	11/22/94 02:07 PM
3	9411-529-5 SO S	0501005.D	11/22/94 03:33 PM
4	9411-529-9 SO S	0601006.D	11/22/94 04:11 PM
5	9411-529-8 SO S	0701007.D	11/22/94 04:51 PM
6	9411-529-11 QC	0801008.D	11/22/94 05:29 PM
7	9411-529-11 MS	0901009.D	11/22/94 06:07 PM
8	9411-529-11 MSD	1001010.D	11/22/94 06:47 PM
9	9411-496-1 SO	1101011.D	11/22/94 07:26 PM
10	9411-602-1 SO	1201012.D	11/22/94 08:06 PM
11			
12			
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17			
18			
19			
20			

Comments

ENVIRONMENTAL TESTING AND CONSULTING, INC.
Memphis, TN
Volatile Compounds
Organics Analysis Data Sheet

Client Name : Roy F. Weston, Inc.

Matrix : _Aqueous__

Sample ID : Method Blank

Date Sample Collected : N/A
Date Sample Received : N/A

Date Sample Prepared : 11/22/94
Date Sample Analyzed : 11/22/94
Preparation Method : 8240
Analytical Method : 8240
Analyst : LS

Laboratory Sample Number : 1122-BLK(1)
File name : 9411-602.D

COMPOUND	RESULTS UNITS:(ug/L)	PQL
Acetone	<100	100
Acrolein	<50	50
Acrylonitrile	<50	50
Benzene	<5	5
Bromodichloromethane	<5	5
Bromoform	<5	5
Bromomethane	<5	5
Carbon Disulfide	<50	50
Carbon Tetrachloride	<5	5
Chlorobenzene	<5	5
Chlorodibromomethane	<5	5
Chloroethane	<5	5
2-Chloroethyl vinyl ether	<50	50
Chloroform	<5	5
Chloromethane	<5	5
Dibromomethane	<5	5
1,4-Dichloro-2-butene	<5	5
Dichlorodifluoromethane	<5	5
1,1-Dichloroethane	<5	5
1,2-Dichlorobenzene	<5	5
1,3-Dichlorobenzene	<5	5
1,4-Dichlorobenzene	<5	5

COMPOUND	RESULTS UNITS:(ug/L)	PQL
1,2-Dichloroethane	<5	5
1,1-Dichloroethene	<5	5
trans-1,2-Dichloroethene	<5	5
1,2-Dichloropropane	<5	5
cis-1,3-Dichloropropene	<5	5
trans-1,3-Dichloropropene	<5	5
Ethylbenzene	<5	5
Ethyl Methacrylate	<50	50
2-Hexanone(MBK)	<50	50
Iodomethane	<5	5
4-Methyl-2-pentanone (MIBK)	<50	50
Methylene Chloride	<20	20
2-Butanone(MEK)	<50	50
Styrene	<5	5
1,1,2,2-Tetrachloroethane	<5	5
Tetrachloroethene	<5	5
Toluene	<5	5
1,1,1-Trichloroethane	<5	5
1,1,2-Trichloroethane	<5	5
Trichloroethene	<5	5
Trichlorofluoromethane	<5	5
1,2,3-Trichloropropane	<5	5
Vinyl Acetate	<50	50
Vinyl Chloride	<5	5
Xylenes (total)	<5	5

Units: ug/L

SURROGATE STANDARDS	RESULT	EXP	%REC	QC LIMITS % RECOVERY
1,2-Dichloroethane-d4	52.5	50.0	105	76-114
Toluene-d8	53.2	50.0	106	88-110
4-Bromofluorobenzene	49.5	50.0	99	86-115

PQL - Practical Quantitation Limit

LABORATORY MANAGER

4A
VOLATILE METHOD BLANK SUMMARY

2 2 0261

Lab Name: Environmental Testing and Consulting, Inc
Method Name: V11007V.M
System ID: V1

Blank Date/Time Analyzed: 11/23/94 05:45 PM
Data File Path/Sequence ID: C:\HPCHEM\1\DATA\V1112302\BSB\
Data File ID: 0201006.D

GC Column 502.2 ID 0.32 (mm) Heated Purge (Y/N) Y

This check applies to the following SAMPLES, MS, MSD, and STANDARDS:

	ETC SAMPLE ID	LAB FILE ID	DATE / TIME ANALYZED
1	DCS624 L1 B1	0301003.D	11/23/94 03:49 PM
2	BLANK B1 L1	0401004.D	11/23/94 04:27 PM
3	MEOH BLANK B2	0501005.D	11/23/94 05:06 PM
4	9411-602-1 SO S	0601007.D	11/23/94 06:24 PM
5	9411-602-1 QC S	0701008.D	11/23/94 07:03 PM
6	9411-602-1 MS S	0801009.D	11/23/94 07:43 PM
7	9411-602-1 MSD	0901010.D	11/23/94 08:22 PM
8			
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17			
18			
19			
20			

Comments

ENVIRONMENTAL TESTING AND CONSULTING, INC.
Memphis, TN
Volatile Compounds
Organics Analysis Data Sheet

Client Name : Roy F. Weston, Inc.

Matrix : _Aqueous__

Sample ID : Method Blank

Date Sample Collected : N/A
Date Sample Received : N/A

Date Sample Prepared : 11/23/94
Date Sample Analyzed : 11/23/94
Preparation Method : 8240
Analytical Method : 8240
Analyst : LS

Laboratory Sample Number : 1123-BLK(1)
File name : 9411-602.D

COMPOUND	RESULTS UNITS:(ug/L)	PQL
Acetone	<100	100
Acrolein	<50	50
Acrylonitrile	<50	50
Benzene	<5	5
Bromodichloromethane	<5	5
Bromoform	<5	5
Bromomethane	<5	5
Carbon Disulfide	<50	50
Carbon Tetrachloride	<5	5
Chlorobenzene	<5	5
Chlorodibromomethane	<5	5
roethane	<5	5
2-Chloroethyl vinyl ether	<50	50
Chloroform	<5	5
Chloromethane	<5	5
Dibromomethane	<5	5
1,4-Dichloro-2-butene	<5	5
Dichlorodifluoromethane	<5	5
1,1-Dichloroethane	<5	5
1,2-Dichlorobenzene	<5	5
1,3-Dichlorobenzene	<5	5
1,4-Dichlorobenzene	<5	5

COMPOUND	RESULTS UNITS:(ug/L)	PQL
1,2-Dichloroethane	<5	5
1,1-Dichloroethene	<5	5
trans-1,2-Dichloroethene	<5	5
1,2-Dichloropropane	<5	5
cis-1,3-Dichloropropene	<5	5
trans-1,3-Dichloropropene	<5	5
Ethylbenzene	<5	5
Ethyl Methacrylate	<50	50
2-Hexanone(MBK)	<50	50
Iodomethane	<5	5
4-Methyl-2-pentanone (MIBK)	<50	50
Methylene Chloride	<20	20
2-Butanone(MEK)	<50	50
Styrene	<5	5
1,1,2,2-Tetrachloroethane	<5	5
Tetrachloroethene	<5	5
Toluene	<5	5
1,1,1-Trichloroethane	<5	5
1,1,2-Trichloroethane	<5	5
Trichloroethene	<5	5
Trichlorofluoromethane	<5	5
1,2,3-Trichloropropane	<5	5
Vinyl Acetate	<50	50
Vinyl Chloride	<5	5
Xylenes (total)	<5	5

Units: ug/L

SURROGATE STANDARDS	RESULT	EXP	%REC	QC LIMITS % RECOVERY
1,2-Dichloroethane-d4	50.3	50.0	101	76-114
Toluene-d8	48.6	50.0	97	88-110
4-Bromofluorobenzene	46.8	50.0	94	86-115

PQL - Practical Quantitation Limit

LABORATORY MANAGER

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY
METHOD 8240/8260

Lab Name: Environmental Testing and Consulting, Inc
Method Name: V11007V
System ID: V1

QC Data File Path/Sequence ID: C:\HPCHEM\1\DATA\V1112201\BSB\
QC Data File ID: 0801008.D

Matrix Spike ID: 9411-529-11 MS SO SS10.0g L1 B1
MS Data File Path/Sequence ID: C:\HPCHEM\1\DATA\V1112201\BSB\
MS Data File ID: 0901009.D

COMPOUND	SPIKE Added (ug/kg)	SAMPLE Conc (ug/kg)	MS Conc (ug/kg)	RPD % Diff	MS % Rec #	QC Limits	
1,1-Dichloroethene CCC	114.9	BDL	81.2	7	71	59	172
Benzene	114.9	BDL	88.0	2	77	66	142
Trichloroethene	114.9	1.9	87.3	4	74	62	137
Toluene CCC	114.9	0.7	83.9	3	72	59	139
Chlorobenzene SPCC	114.9	BDL	104.9	2	91	60	133

Matrix Spike Duplicate ID: 9411-529-11 MSD SO SS10.0g L1 B1
MSD Data File Path/Sequence ID: C:\HPCHEM\1\DATA\V1112201\BSB\
MSD Data File ID: 1001010.D

COMPOUND	SPIKE Added (ug/kg)	SAMPLE Conc (ug/kg)	MSD Conc (ug/kg)		MSD % Rec #	QC Limits	
1,1-Dichloroethene CCC	114.9	BDL	87.4		76	59	172
Benzene	114.9	BDL	89.5		78	66	142
Trichloroethene	114.9	1.9	90.6		77	62	137
Toluene CCC	114.9	0.7	86.5		75	59	139
Chlorobenzene SPCC	114.9	BDL	106.8		93	60	133

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS:

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY
METHOD 8240/8260

Lab Name: Environmental Testing and Consulting, Inc
Method Name: V11007V
System ID: V1

QC Data File Path/Sequence ID: C:\HPCHEM\1\DATA\V1112302\BSB\
QC Data File ID: 0701008.D

Matrix Spike ID: 9411-602-1 MS SO SS10.3g L1 B1
MS Data File Path/Sequence ID: C:\HPCHEM\1\DATA\V1112302\BSB\
MS Data File ID: 0801009.D

COMPOUND	SPIKE Added (ug/kg)	SAMPLE Conc (ug/kg)	MS Conc (ug/kg)	RPD % Diff	MS % Rec	#	QC Limits	
1,1-Dichloroethene CCC	123.5	2.1	106.2	1	84		59	172
Benzene	123.5	12.0	132.2	0	97		66	142
Trichloroethene	123.5	1025.3	1004.5	-53	-17	*	62	137
Toluene CCC	123.5	1151.3	1128.5	-75	-18	*	59	139
Chlorobenzene SPCC	123.5	0.2	112.3	1	91		60	133

Matrix Spike Duplicate ID: 9411-602-1 MSD SO SS10.3g L1 B1
MSD Data File Path/Sequence ID: C:\HPCHEM\1\DATA\V1112302\BSB\
MSD Data File ID: 0901010.D

COMPOUND	SPIKE Added (ug/kg)	SAMPLE Conc (ug/kg)	MSD Conc (ug/kg)		MSD % Rec	#	QC Limits	
1,1-Dichloroethene CCC	123.5	2.1	105.1		83		59	172
Benzene	123.5	12.0	132.1		97		66	142
Trichloroethene	123.5	1025.3	989.6		-29	*	62	137
Toluene CCC	123.5	1151.3	1101.0		-41	*	59	139
Chlorobenzene SPCC	123.5	0.2	113.7		92		60	133

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 4 out of 10 outside limits

COMMENTS:

VOLATILE LABORATORY CONTROL SAMPLE
METHOD 624/8240/8260

2 2 0265

Lab Name	Environmental Testing and Consulting, Inc.
Method Name	V11007V.M
System ID	V1
LCS Date/Time Analyzed	11/22/94
Data File Path/Sequence ID	C:\HPCHEM\1\DATA\V1112201\BSB\

Compound	LCS Level ug/L	LCS Found ug/L	LCS % Rec	#	% Recovery Low ug/L	High ug/L
Chloromethane SPCC	20	10.8	54		0	273
Vinyl Chloride CCC	20	13.7	69		0	251
Bromomethane	20	21.5	108		0	242
Chloroethane	20	20.5	103		14	230
Trichlorofluoromethane	20	20.5	102		17	181
Acrolien	100	143.6	144		3	152
1,1-Dichloroethene CCC	20	16.4	82		0	234
Methylene Chloride	20	29.7	149		0	221
Acrylonitrile	100	89.2	89		49	157
trans-1,2-Dichloroethene	20	17.1	85		54	156
1,1-Dichloroethane SPCC	20	17.5	88		59	155
Chloroform CCC	20	17.8	89		51	138
1,1,1-Trichloroethane	20	18.4	92		52	162
Carbon Tetrachloride	20	17.7	88		70	140
1,2-Dichloroethane	20	18.2	91		49	155
Benzene	20	19.6	98		37	151
Trichloroethene	20	17.9	89		71	157
1,2-Dichloropropane CCC	20	17.5	88		0	210
Bromodichloromethane	20	18.0	90		35	155
2-Chloroethylvinylether	20	17.4	87		0	305
cis-1,3-Dichloropropene	20	17.5	88		0	227
Toluene CCC	20	18.5	92		47	150
trans-1,3-Dichloropropene	20	17.5	87		17	183
1,1,2-Trichloroethane	20	17.8	89		52	150
Tetrachloroethene	20	19.5	97		64	148
Dibromochloromethane	20	17.9	90		53	149
Chlorobenzene SPCC	40	38.3	96		37	160
Ethylbenzene CCC	20	22.3	112		37	162
Bromoform SPCC	20	17.7	88		45	169
1,1,2,2-Tetrachloroethane SPCC	20	18.5	92		46	157
1,3-Dichlorobenzene	40	36.8	92		59	156
1,4-Dichlorobenzene	40	37.0	92		18	190
1,2-Dichlorobenzene	40	37.3	93		18	190

Column to be used to flag recovery values
* Value outside QC Limits

V1112201.LCS

FORM III VOA-LCS

VOLATILE LABORATORY CONTROL SAMPLE
METHOD 624/8240/8260

2 2 0286

Lab Name	Environmental Testing and Consulting, Inc.
Method Name	V11007V.M
System ID	V1
LCS Date/Time Analyzed	11/23/94
Data File Path/Sequence ID	C:\HPCHEM\1\DATA\V1112302\BSB\

Compound	LCS Level ug/L	LCS Found ug/L	LCS % Rec	#	% Recovery Low ug/L	High ug/L
Chloromethane SPCC	20	19.5	97		0	273
Vinyl Chloride CCC	20	20.6	103		0	251
Bromomethane	20	30.4	152		0	242
Chloroethane	20	29.7	148		14	230
Trichlorofluoromethane	20	23.8	119		17	181
Acrolien	100	195.6	196		3	152
1,1-Dichloroethene CCC	20	20.9	104		0	234
Methylene Chloride	20	30.6	153		0	221
Acrylonitrile	100	118.6	119		49	157
trans-1,2-Dichloroethene	20	20.3	102		54	156
1,1-Dichloroethane SPCC	20	21.8	109		59	155
Chloroform CCC	20	22.0	110		51	138
1,1,1-Trichloroethane	20	21.7	109		52	162
Carbon Tetrachloride	20	20.0	100		70	140
1,2-Dichloroethane	20	22.3	112		49	155
Benzene	20	24.0	120		37	151
Trichloroethene	20	22.3	111		71	157
1,2-Dichloropropane CCC	20	24.0	120		0	210
Bromodichloromethane	20	23.9	119		35	155
2-Chloroethylvinylether	20	24.9	125		0	305
cis-1,3-Dichloropropene	20	23.5	117		0	227
Toluene CCC	20	24.9	125		47	150
trans-1,3-Dichloropropene	20	22.8	114		17	183
1,1,2-Trichloroethane	20	24.8	124		52	150
Tetrachloroethene	20	18.9	95		64	148
Dibromochloromethane	20	23.9	119		53	149
Chlorobenzene SPCC	40	45.0	113		37	160
Ethylbenzene CCC	20	22.4	112		37	162
Bromoform SPCC	20	23.3	116		45	169
1,1,2,2-Tetrachloroethane SPCC	20	24.4	122		46	157
1,3-Dichlorobenzene	40	36.5	91		59	156
1,4-Dichlorobenzene	40	38.0	95		18	190
1,2-Dichlorobenzene	40	38.5	96		18	190

Column to be used to flag recovery values
* Value outside QC Limits

V1112302.LCS

2B
SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Environmental Testing and Consulting, Inc
Method Name
System ID

Date Analyzed: 11/22/94
Data File Path/Sequence ID: C:\HPCHEM\1\DATA\V1112201\BSB\

	ETC SAMPLE NO.	S1 DCE-d4	#	S2 TOL-d8	#	S3 BFB	#	TOT OUT
01	9411-529-5 SO S	104		53	*	92		1
02	9411-529-9 SO S	101		101		90		0
03	9411-529-8 SO S	106		83		99		0
04	9411-529-11 QC	106		60	*	85		1
05	9411-529-11 MS	99		76	*	75		1
06	9411-529-11 MSD	102		77	*	78		1
07	9411-496-1 SO	99		84		83		0
08	9411-602-1 SO	164	*	394	*	127	*	3
09								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

		QC Limits	
S1 (DCE) = 1,2-Dichloroethane-d4		70	121
S2 (TOL) = Toluene-d8		81	117
S3 (BFB) = 4-Bromofluorobenzene		74	121

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

2A
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Environmental Testing and Consulting, Inc
Method Name: V11007V.M
System ID: V1

Date Analyzed: 11/22/94
Data File Path/Sequence ID: C:\HPCHEM\1\DATA\V1112201\BSB\

	ETC SAMPLE NO.	S1 DCE-d4 #	S2 TOL-d8 #	S3 BFB #	TOT OUT
01	DCS L1 B1	100	100	93	0
02	DCS624 L1 B1	103	95	91	0
03	BLANK B1 L1	105	106	99	0
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

		QC Limits	
S1 (DCE) = 1,2-Dichloroethane-d4		76	114
S2 (TOL) = Toluene-d8		88	110
S3 (BFB) = 4-Bromofluorobenzene		86	115

Column to be used to flag recovery values
* Values outside of contract required QC limits

2B
SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Environmental Testing and Consulting, Inc
Method Name
System ID

Date Analyzed: 11/23/94
Data File Path/Sequence ID: C:\HPCHEM\1\DATA\V1112302\BSB\

	ETC SAMPLE NO.	S1 DCE-d4 #	S2 TOL-d8 #	S3 BFB #	TOT OUT
01	9411-602-1 SO S	99	95	98	0
02	9411-602-1 QC S	99	89	101	0
03	9411-602-1 MS S	107	89	96	0
04	9411-602-1 MSD	107	93	96	0
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

		QC Limits	
S1 (DCE) = 1,2-Dichloroethane-d4		70	121
S2 (TOL) = Toluene-d8		81	117
S3 (BFB) = 4-Bromofluorobenzene		74	121

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

2A
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name	Environmental Testing and Consulting, Inc
Method Name	V11007V.M
System ID	V1
Date Analyzed	11/23/94
Data File Path/Sequence ID	C:\HPCHEM\1\DATA\V1112302\BSB\

	ETC SAMPLE NO.	S1 DCE-d4	#	S2 TOL-d8	#	S3 BFB	#	TOT OUT
01	DCS L1 B1	107		96		93		0
02	DCS624 L1 B1	110		98		88		0
03	BLANK B1 L1	109		98		90		0
04	MEOH BLANK B2	98		94		85	*	1
05								
06								
07								
08								
09								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

		QC Limits	
S1 (DCE) = 1,2-Dichloroethane-d4		76	114
S2 (TOL) = Toluene-d8		88	110
S3 (BFB) = 4-Bromofluorobenzene		86	115

Column to be used to flag recovery values
* Values outside of contract required QC limits

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Environmental Testing and Consulting, Inc
Method Name: V11007V.M
System ID: V1

Date/Time Analyzed: 11/22/94
Data File Path/Sequence ID: C:\HPCHEM\1\DATA\V1112201\BSB\

GC Column 502.2 ID 0.32 (mm) Heated Purge (Y/N) Y

	IS 1 RT	IS 1 AREA	IS 2 RT	IS 2 AREA	IS 3 RT	IS 3 AREA
12 Hour STD	9.22	1610810	11.73	7054440	17.52	4728320
Upper Limit	9.72	3221620	12.23	14108880	18.02	9456640
Lower Limit	8.72	805405	11.23	3527220	17.02	2364160

	Data File	ETC ID	IS 1 RT	IS 1 AREA	IS 2 RT	IS 2 AREA	IS 3 RT	IS 3 AREA
1	0201002.D	DCS L1 B1	9.15	1594310	11.67	6537430	17.46	4434830
2	0302004.D	DCS624 L1 B1	9.16	1810230	11.66	8229270	17.44	5424840
3	0401004.D	BLANK B1 L1	9.17	1424300	11.68	6496080	17.45	4951430
4	0501005.D	9411-529-5 SO S	9.17	894624	11.68	2722270 *	17.45	1052060 *
5	0601006.D	9411-529-9 SO S	9.13	1369250	11.66	6378630	17.45	4490970
6	0701007.D	9411-529-8 SO S	9.17	968226	11.69	3541430	17.45	2038040 *
7	0801008.D	9411-529-11 QC	9.18	760477 *	11.68	2010860 *	17.45	843985 *
8	0901009.D	9411-529-11 MS	9.17	1014700	11.68	3298850 *	17.45	1474990 *
9	1001010.D	9411-529-11 MSD	9.15	940313	11.67	3200290 *	17.44	1478030 *
10	1101011.D	9411-496-1 SO	9.16	1097780	11.67	4315090	17.44	2417650
11	1201012.D	9411-602-1 SO	9.22	620187 *	11.75	2562790 *	17.49	1864430 *
12								
13								
14								
15								
16								
17								
18								
19								
20								

IS1 = Bromochloromethane ISTD1
IS2 = 1,4-Difluorobenzene ISTD2
IS3 = Chlorobenzene-d5 ISTD3

Area Upper Limit = +100% of ISTD Area
Area Lower Limit = -50% of ISTD Area
RT Upper Limit = +0.5 min of ISTD RT
RT Lower Limit = -0.5 min of ISTD RT

* - Values outside QC Limits

V1112201.IST

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Environmental Testing and Consulting, Inc
Method Name: V11007V.M
System ID: V1

Date/Time Analyzed: 11/23/94
Data File Path/Sequence ID: C:\HPCHEM\1\DATA\V1112302\BSB\

GC Column 502.2 ID 0.32 (mm) Heated Purge (Y/N) Y

	IS 1 RT	IS 1 AREA	IS 2 RT	IS 2 AREA	IS 3 RT	IS 3 AREA
12 Hour STD	9.22	1610810	11.73	7054440	17.52	4728320
Upper Limit	9.72	3221620	12.23	14108880	18.02	9456640
Lower Limit	8.72	805405	11.23	3527220	17.02	2364160

	Data File	ETC ID	IS 1 RT	IS 1 AREA	IS 2 RT	IS 2 AREA	IS 3 RT	IS 3 AREA
1	0201006.D	DCS L1 B1	9.12	1700690	11.65	7502340	17.43	4835210
2	0301003.D	DCS624 L1 B1	9.12	1591830	11.65	6605690	17.43	4437120
3	0401004.D	BLANK B1 L1	9.13	1553260	11.65	6976920	17.43	4660710
4	0501005.D	MEOH BLANK B2 L	9.12	1644420	11.64	7555990	17.43	4831080
5	0601007.D	9411-602-1 SO S	9.13	1518200	11.66	6734610	17.44	4707240
6	0701008.D	9411-602-1 QC S	9.13	1453910	11.65	6544500	17.44	4349460
7	0801009.D	9411-602-1 MS S	9.14	1468110	11.66	6619980	17.44	4342090
8	0901010.D	9411-602-1 MSD	9.14	1526630	11.66	6691140	17.44	4543260
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

IS1 = Bromochloromethane ISTD1
IS2 = 1,4-Difluorobenzene ISTD2
IS3 = Chlorobenzene-d5 ISTD3

Area Upper Limit = +100% of ISTD Area
Area Lower Limit = -50% of ISTD Area
RT Upper Limit = +0.5 min of ISTD RT
RT Lower Limit = -0.5 min of ISTD RT

* - Values outside QC Limits

Quality Control Data
GC/MS BNA

- [x] Case Narrative
- [x] DFTPP Tune Report
- [x] Initial Calibration
- [x] Continuing Calibration
- [x] Method Blank
- [x] Matrix Spike/Matrix Spike Duplicate
- [x] Laboratory Control Sample
- [x] Surrogate Recovery Summary Report
- [x] Internal Standard Summary Report

LB 12/2/94
QC Coordinator

ENVIRONMENTAL TESTING AND CONSULTING, INC.
MEMPHIS, TN
CASE NARRATIVE
SEMIVOLATILE COMPOUNDS

Client Name : Roy F. Weston
Project Name : SAAD

ETC Order # : 9411-602
Method (SW-846) : 8270

HOLDING TIMES

Sample Extraction All soil samples extracted within 14 days.
Sample Analysis : All samples analyzed within 40 days of extraction.

CALIBRATION

DFTPP Daily 12 Hour Tune : All criteria met.
Initial Calibration : All criteria met.
Daily Calibration : All criteria met.

Date Analyzed	Sequence ID
11/29/94	B1112903 Initial Calibration B11128B.M
11/30/94	B1113001
11/30/94	B1113001 (2cnd sequence)

SAMPLE ANALYSIS

Instrumentation : HP 5890 Series II GC, 5971MSD
Dilutions Required : No dilutions required. GPC cleanup preformed.

QUALITY CONTROL

Matrix Spike / Matrix Spike Dup
9411-602-1 MS/MSD RPD : All analytes within QC limits*
Spike Recovery : All analytes within QC limits*
*
Multiple analytes showed RPDs outside QC Limits.
Due to the nature of the sample matrix, obtaining interlab homogeneous splits for QC samples was difficult.

Multiple analytes showed recoveries outside QC Limits due to matrix interference.

See Laboratory Control Samples for system verification.

Method Blank
No Target Analytes detected above Practical Quantitation Limit.

Laboratory Control Sample
All criteria met.

ENVIRONMENTAL TESTING AND CONSULTING, INC.
MEMPHIS, TN
CASE NARRATIVE
SEMIVOLATILE COMPOUNDS

2 2 0295

Client Name : Roy F. Weston
Project Name : SAAD

ETC Order # : 9411-602
Method (SW-846) : 8270

Semivolatile System Monitoring Compounds
Surrogate recoveries within QC limits.*
*
Refer to Surrogate Summary Report B1113001.SO2
Recoveries outside QC Limits due to matrix interference.

Semivolatile Internal Standard Area and RT
Internal Standard Areas and Retention Times within QC limits
Refer to Internal Standard Report B1113001.IST

Laboratory Manager

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name	Environmental Testing and Consulting, Inc
Method Name	B11128B.M
System ID	B1
DFTPP Date/Time Analyzed	11/29/94 05:19 PM
Data File Path/Sequence ID	C:\HPCHEM\1\DATA\B1112903\
Data File ID	0101001.D

m/e	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE	
51	30.0 - 60.0% of mass 198	57.6	
68	Less than 2.0% of mass 69	0.00	
69	Mass 69 relative abundance	89.2	
70	Less than 2.0% of mass 69	0.75	
127	40.0 - 60.0% of mass 198	51.4	1
197	Less than 1.0% of mass 198	0.0	
198	Base Peak, 100% relative abundance	100.0	1
199	5.0 to 9.0% of mass 198	8.3	1
275	10.0 - 30.0% of mass 198	16.6	2
365	Greater than 1.0% of mass 198	1.7	
441	Present, but less than mass 443	80.9	
442	>40.0% of mass 198	61.9	
443	17.0 - 23.0% of mass 442	19.9	

1-Value is % mass 69 2-Value is % mass 442

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

	ETC SAMPLE ID	LAB FILE ID	DATE / TIME ANALYZED
1	DCS 50.0 ng/ul	0401004.D	11/29/94 07:27 PM
2	1109-BLK1 AQ SS1000ML TIC	1001010.D	11/30/94 01:02 AM
3	1109-LCS(1)1 AQ SS1000ML	1101011.D	11/30/94 01:58 AM
4	1109-LCS(1)2 AQ SS1000ML	1201012.D	11/30/94 02:53 AM
5	9411-238-1 AQ SS1080ML TI	1301013.D	11/30/94 03:49 AM
6	1123-BLK1 SO SS5.0G	1401014.D	11/30/94 04:45 AM
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Randle Rose 11/30/94
Dana Czech
11-30-94

OLMO3.O

5B
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name	Environmental Testing and Consulting, Inc
Method Name	B11128B.M
System ID	B1
DFTPP Date/Time Analyzed	11/30/94 09:33 AM
Data File Path/Sequence ID	C:\HPCHEM\1\DATA\B1113001\
Data File ID	0201002.D

m/e	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE	
51	30.0 - 60.0% of mass 198	43.3	
68	Less than 2.0% of mass 69	0.00	
69	Mass 69 relative abundance	62.7	
70	Less than 2.0% of mass 69	0.00	
127	40.0 - 60.0% of mass 198	44.6	1
197	Less than 1.0% of mass 198	0.0	
198	Base Peak, 100% relative abundance	100.0	1
199	5.0 to 9.0% of mass 198	6.4	1
275	10.0 - 30.0% of mass 198	16.6	2
365	Greater than 1.0% of mass 198	2.1	
441	Present, but less than mass 443	73.3	
442	>40.0% of mass 198	59.9	
443	17.0 - 23.0% of mass 442	20.3	

1-Value is % mass 69 2-Value is % mass 442

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

	ETC SAMPLE ID	LAB FILE ID	DATE / TIME ANALYZED
1	DCS 50.0 ng/ul	0301003.D	11/30/94 09:52 AM
2	9411-293-2 AQ SS1070ML TI	0401004.D	11/30/94 10:47 AM
3	9411-294-2 AQ SS1070ML TI	0501005.D	11/30/94 11:42 AM
4	9411-294-3 AQ SS1080ML TI	0601006.D	11/30/94 12:36 PM
5	9411-294-4 AQ SS1070ML TI	0701007.D	11/30/94 01:31 PM
6	9411-294-5 AQ SS1070ML QC	0801008.D	11/30/94 02:23 PM
7	9411-294-5 AQ SS1070ML MS	0901009.D	11/30/94 03:17 PM
8	9411-294-5 AQ SS1070ML MS	1001010.D	11/30/94 04:12 PM
9	1114-B2 AQ SS250ML	1301001.D	11/30/94 05:06 PM
10	9411-197-1 AQ SS1070ML	1401002.D	11/30/94 06:01 PM
11	1123-LCS1 SO SS5.06G	1501003.D	11/30/94 06:56 PM
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Randi Rose 11/30/94

OLMO3.0

5B
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name	Environmental Testing and Consulting, Inc
Method Name	B11128B.M
System ID	B1
DFTPP Date/Time Analyzed	11/30/94 11:55 PM
Data File Path/Sequence ID	C:\HPCHEM\1\DATA\B1113001\
Data File ID	2602006.D

m/e	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE	
51	30.0 - 60.0% of mass 198	41.7	
68	Less than 2.0% of mass 69	0.00	
69	Mass 69 relative abundance	64.7	
70	Less than 2.0% of mass 69	0.68	
127	40.0 - 60.0% of mass 198	41.8	1
197	Less than 1.0% of mass 198	0.0	
198	Base Peak, 100% relative abundance	100.0	1
199	5.0 to 9.0% of mass 198	5.7	1
275	10.0 - 30.0% of mass 198	15.4	2
365	Greater than 1.0% of mass 198	1.8	
441	Present, but less than mass 443	79.1	
442	>40.0% of mass 198	61.9	
443	17.0 - 23.0% of mass 442	20.0	

1-Value is % mass 69 2-Value is % mass 442

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

	ETC SAMPLE ID	LAB FILE ID	DATE / TIME ANALYZED
1	DCS 50.0 NG/UL	2701007.D	1 Dec 94 12:14 am
2	1118-B1 SO SS30.0G	1701002.D	1 Dec 94 9:39 am
3	1118-LCS1 SO SS30.0G	1802009.D	1 Dec 94 2:04 am
4	9411-362-1 SO SS30.4G 1:5	1901010.D	1 Dec 94 2:58 am
5	9411-602-1 SO SS5.3G 1:10	2001011.D	1 Dec 94 3:53 am
6	9411-602-1 SO SS5.2G 1:10	2101012.D	1 Dec 94 4:47 am
7	9411-602-1 SO SS5.2G 1:10	2201013.D	1 Dec 94 5:41 am
8	9411-496-1 SO SS3.4G 1:5D	2301014.D	1 Dec 94 6:36 am
9	9411-496-1 SO SS3.7G 1:5D	2401015.D	1 Dec 94 7:30 am
10	9411-496-1 SO SS3.4G 1:5D	2501001.D	1 Dec 94 8:44 am
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Randy Ross 12/1/94

OLMO3.C

Response Factor Report BNA Syste

2 2 0299

Method : C:\HPCHEM\1\METHODS\B11128B.M
Title : Method 8270 Semi-Volatile Calibration File
Last Update : Thu Dec 01 08:35:02 1994
Response via : Continuing Calibration

Method 8270

Calibration Files
10 =0201002.D 20 =0501005.D 50 =0401004.D
80 =0601006.D 120 =0701007.D 160 =0801008.D

		Compound	10	20	50	80	120	160	Avg	%RSD
1)	I	1,4-Dichlorobenzene-d4	----------	----------	----------	ISTD	----------	----------	----------	
2)		Pyridine	0.713	0.868	0.938	1.033	1.048	1.123	0.954	15.49
3)		N-Nitroso-dimethyla	0.826	0.786	0.696	0.797	0.812	0.877	0.799	7.47
4)	S	2-Fluorophenol SURR	1.680	1.533	1.356	1.283	1.311	1.309	1.412	11.30
5)		Aniline	0.998	0.951	0.839	0.834	0.832	0.864	0.886	7.98
6)	T	bis(2-Chloroethyl)e	2.143	1.779	1.565	1.459	1.461	1.508	1.652	16.22
7)	M	2-Chlorophenol	1.736	1.603	1.389	1.305	1.291	1.333	1.443	12.72
8)	S	Phenol-d6 SURR	1.893	1.765	1.569	1.658	1.668	1.638	1.698	6.73
9)	M	Phenol CCC	2.187	1.961	1.713	1.592	1.576	1.714	1.790	13.30
10)	T	1,3-Dichlorobenzene	1.833	1.746	1.506	1.479	1.498	1.549	1.602	9.36
11)	M	1,4-Dichlorobenzene	1.767	1.693	1.459	1.417	1.449	1.492	1.546	9.46
12)	T	1,2-Dichlorobenzene	1.742	1.666	1.460	1.407	1.413	1.486	1.529	9.22
13)	T	Benzyl alcohol	0.929	0.901	0.791	0.797	0.781	0.823	0.837	7.49
14)	T	bis(2-chloroisoprop	1.598	1.453	1.258	1.259	1.177	1.298	1.340	11.60
15)		Benzoic Acid	2.376	2.082	1.750	1.769	1.754	1.750	1.913	13.67
16)	T	Hexachloroethane	1.034	0.902	0.772	0.768	0.769	0.773	0.837	13.15
17)	T	2-Methylphenol	1.561	1.438	1.254	1.205	1.151	1.209	1.303	12.31
18)	M	N-Nitroso-di-n-prop	1.447	1.301	1.118	1.116	1.102	1.125	1.201	11.78
19)	T	3 & 4-Methylphenol	1.530	1.438	1.243	1.201	1.157	1.178	1.291	11.98
20)	I	Naphthalene-d8	----------	----------	----------	ISTD	----------	----------	----------	
21)	S	Nitrobenzene-d5 SUR	0.528	0.481	0.513	0.496	0.505	0.511	0.505	3.15
22)	T	Nitrobenzene	0.650	0.538	0.471	0.463	0.467	0.501	0.515	13.97
23)	T	Isophorone	1.128	1.022	0.875	0.877	0.781	0.896	0.930	13.35
24)	T	2-Nitrophenol CCC	0.265	0.247	0.220	0.225	0.231	0.244	0.239	6.95
25)	T	2,4-Dimethylphenol	0.477	0.439	0.379	0.378	0.382	0.394	0.408	10.00
26)	T	bis(2-Chloroethoxy)	0.690	0.595	0.515	0.508	0.509	0.522	0.556	13.19
27)	T	2,4-Dichlorophenol	0.325	0.308	0.268	0.264	0.265	0.275	0.284	9.10
28)	M	1,2,4-Trichlorobenz	0.388	0.355	0.303	0.302	0.309	0.320	0.329	10.49
29)	T	Naphthalene	1.348	1.144	1.014	0.983	0.999	1.036	1.088	12.85
30)	T	4-Chloroaniline	0.590	0.513	0.455	0.435	0.449	0.456	0.483	12.14
31)	T	Hexachlorobutadiene	0.220	0.198	0.176	0.174	0.179	0.185	0.189	9.34
32)	T	2-Methylnaphthalene	0.887	0.716	0.595	0.536	0.556	0.529	0.637	22.09
33)	M	4-Chloro-3-methylph	0.394	0.346	0.299	0.290	0.289	0.303	0.320	13.06
34)	I	Acenaphthene-d10	----------	----------	----------	ISTD	----------	----------	----------	
35)		2,6-Dichlorophenol	0.689	0.600	0.525	0.547	0.571	0.574	0.584	9.78
36)	T	Hexachlorocyclopent	0.340	0.342	0.296	0.328	0.330	0.338	0.329	5.20
37)	T	2,4,6-Trichlorophen	0.459	0.451	0.370	0.392	0.401	0.409	0.414	8.39
38)	S	2-Fluorobiphenyl SU	1.337	1.190	1.195	1.180	1.192	1.197	1.215	4.92
39)	T	2,4,5-Trichlorophen	0.464	0.461	0.389	0.415	0.403	0.424	0.426	7.19
40)	T	2-Chloronaphthalene	1.471	1.413	1.180	1.385	1.444	2.070	1.494	20.12
41)	T	2-Nitroaniline	0.506	0.503	0.415	0.440	0.449	0.459	0.462	7.80

(#) = Out of Range

Response Factor Report BNA Syste

2 2 0300

Method : C:\HPCHEM\1\METHODS\B11128B.M
Title : Method 8270 Semi-Volatile Calibration File
Last Update : Thu Dec 01 08:35:02 1994
Response via : Continuing Calibration

Calibration Files
10 =0201002.D 20 =0501005.D 50 =0401004.D
80 =0601006.D 120 =0701007.D 160 =0801008.D

		Compound	10	20	50	80	120	160	Avg	%RSD
42)	M	Acenaphthylene	2.001	1.824	1.507	1.531	1.527	1.538	1.655	12.55
43)	T	Dimethylphthalate	1.529	1.422	1.112	1.142	1.161	0.840	1.201	20.40
44)	T	2,6-Dinitrotoluene	0.380	0.370	0.305	0.304	0.314	0.320	0.332	10.13
45)	M	Acenaphthene CCC	1.281	1.135	0.914	0.934	0.954	0.999	1.036	13.84
46)	T	3-Nitroaniline	0.358	0.371	0.309	0.322	0.326	0.324	0.335	7.16
47)	T	Dibenzofuran	1.886	1.690	1.340	1.370	1.381	1.404	1.512	14.80
48)	T	2,4-Dinitrophenol S	0.079	0.131	0.114	0.163	0.166	0.151	0.134	25.02
49)	M	2,4-Dinitrotoluene	0.443	0.444	0.345	0.342	0.349	0.314	0.373	15.01
50)	M	4-Nitrophenol SPCC	0.130	0.233	0.185	0.185	0.180	0.157	0.178	19.23
51)	T	Fluorene	1.373	1.182	0.926	0.919	0.927	0.939	1.044	18.25
52)	T	4-Chlorophenyl-phen	0.615	0.575	0.451	0.470	0.467	0.480	0.510	13.33
53)	T	Diethylphthalate	1.584	1.435	1.094	1.140	1.145	1.133	1.255	16.20
54)	T	4-Nitroaniline	0.273	0.311	0.237	0.230	0.220	0.198	0.245	16.70
55)		Azobenzene	2.370	2.283	1.894	1.852	1.825	1.783	2.001	12.79
56)	I	Phenanthrene-d10		----------ISTD----------						
57)	T	4,6-Dinitro-2-methy	0.144	0.183	0.163	0.165	0.167	0.166	0.165	7.42
58)	T	n-Nitrosodiphenylam	1.439	1.328	1.159	1.187	1.226	1.328	1.278	8.29
59)	S	2,4,6-Tribromopheno	0.203	0.193	0.173	0.185	0.192	0.210	0.193	6.69
60)	T	4-Bromophenyl-pheny	0.331	0.299	0.259	0.268	0.275	0.313	0.291	9.69
61)	T	Hexachlorobenzene	0.225	0.209	0.178	0.174	0.179	0.198	0.194	10.58
62)	M	Pentachlorophenol C	0.074	0.100	0.098	0.116	0.116	0.124	0.104	17.54
63)	T	Phenanthrene	1.454	1.267	1.045	0.999	1.015	1.061	1.140	15.95
64)	T	Anthracene	1.307	1.153	0.948	0.924	0.934	0.968	1.039	15.06
65)	T	Di-n-butylphthalate	1.798	1.684	1.371	1.194	1.194	1.166	1.401	19.67
66)	T	Fluoranthene CCC	0.825	0.818	0.685	0.554	0.528	0.515	0.654	21.88
67)	I	Chrysene-d12		----------ISTD----------						
68)	M	Pyrene	3.428	3.326	3.349	3.191	3.347	3.157	3.300	3.15
69)		Benzidine	0.184	0.400	0.333	0.354	0.416	0.397	0.347	24.74
70)	S	Terphenyl-d14 SURR	1.562	1.543	1.775	1.596	1.626	1.513	1.603	5.83
71)	T	Butylbenzylphthalat	1.559	1.362	1.243	1.140	1.131	1.157	1.265	13.30
72)	T	Benzo[a]anthracene	1.511	1.355	1.183	1.175	1.192	1.223	1.273	10.53
73)	T	Chrysene	1.459	1.297	1.103	1.112	1.125	1.140	1.206	11.87
74)	T	3,3'-Dichlorobenzid	0.229	0.273	0.254	0.350	0.341	0.381	0.305	19.92
75)	T	bis(2-Ethylhexyl)ph	1.704	1.542	1.409	1.400	1.354	1.378	1.465	9.18
76)	I	Perylene-d12		----------ISTD----------						
77)	T	Di-n-octylphthalate	5.791	3.985	4.021	3.371	3.338	3.416	3.987	23.49
78)	T	Benzo[b]fluoranthen	2.278	1.826	1.604	1.523	1.555	1.684	1.745	16.20
79)	T	Benzo[k]fluoranthen	2.268	1.723	1.692	1.554	1.545	1.547	1.721	16.21
80)	T	Benzo[a]pyrene CCC	1.712	1.468	1.320	1.336	1.374	1.460	1.445	10.02
81)	T	Indeno[1,2,3-cd]pyr	1.001	1.288	1.162	1.312	1.355	1.460	1.263	12.72
82)	T	Dibenz[a,h]anthrace	0.835	1.065	0.955	1.117	1.165	1.268	1.067	14.45

(#) = Out of Range

Response Factor Report BNA Syste

2 2 0301

Method : C:\HPCHEM\1\METHODS\B11128B.M
Title : Method 8270 Semi-Volatile Calibration File
Last Update : Thu Dec 01 08:35:02 1994
Response via : Continuing Calibration

Calibration Files

10	=0201002.D	20	=0501005.D	50	=0401004.D
80	=0601006.D	120	=0701007.D	160	=0801008.D

Compound	10	20	50	80	120	160	Avg	%RSD
83) T Benzo[g,h,i]perylen	0.765	1.025	0.938	1.090	1.112	1.199	1.022	14.98

Randle Ross 12/1/94

* Curve lost in system, reloaded curve 12/1/94.

(#) = Out of Range

Evaluate Continuing Calibration Report 2 2 0302

Data File : C:\HPCHEM\1\DATA\B1113001\0301003.D
Acq Time : 30 Nov 94 9:52 am
Sample : DCS 50.0 ng/ul
Misc :

Operator: DC
Inst : BNA Syste
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\B11128B.M
Title : Method 8270 Semi-Volatile Calibration File
Last Update : Wed Nov 30 08:41:19 1994
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 10% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 300%

		Compound	AvgRRF	CCRRF	%Dev	Area%	Dev(Min)
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	112	-0.03
2		Pyridine	0.954	1.042	-9.3	124	0.00
3		N-Nitroso-dimethylamine	0.799	0.760	4.9	122	0.02
4	S	2-Fluorophenol SURR	1.408	1.327	5.7	109	0.00
5		Aniline	0.886	0.858	3.2	114	-0.03
6	T	bis(2-Chloroethyl)ether	1.652	1.498	9.3	107	-0.02
7	M	2-Chlorophenol	1.443	1.348	6.6	108	-0.03
8	S	Phenol-d6 SURR	1.699	1.752	-3.1	125	-0.02
9	M	Phenol CCC	1.790	1.659	7.4	108	-0.02
10	T	1,3-Dichlorobenzene	1.602	1.514	5.5	112	-0.03
11	M	1,4-Dichlorobenzene CCC	1.546	1.431	7.5	109	-0.03
12	T	1,2-Dichlorobenzene	1.529	1.448	5.3	111	-0.03
13	T	Benzyl alcohol	0.837	0.798	4.7	112	-0.02
14	T	bis(2-chloroisopropyl)ether	1.340	1.158	13.6	103	-0.03
		Benzoic Acid	1.913	1.768	7.6	113	-0.01
16	T	Hexachloroethane	0.837	0.795	5.0	115	-0.03
17	T	2-Methylphenol	1.303	1.244	4.5	111	-0.02
18	M	N-Nitroso-di-n-propylamine	1.201	1.121	6.7	112	0.00
19	T	3 & 4-Methylphenol	1.291	1.230	4.7	110	-0.02
20	I	Naphthalene-d8	1.000	1.000	0.0	111	-0.03
21	S	Nitrobenzene-d5 SURR	0.505	0.510	-0.9	111	-0.03
22	T	Nitrobenzene	0.515	0.465	9.6	110	-0.03
23	T	Isophorone	0.930	0.898	3.5	114	-0.02
24	T	2-Nitrophenol CCC	0.239	0.228	4.4	116	-0.02
25	T	2,4-Dimethylphenol	0.408	0.380	6.9	112	-0.02
26	T	bis(2-Chloroethoxy)methane	0.556	0.516	7.2	112	-0.03
27	T	2,4-Dichlorophenol CCC	0.284	0.271	4.6	113	-0.02
28	M	1,2,4-Trichlorobenzene	0.329	0.308	6.7	113	-0.03
29	T	Naphthalene	1.088	0.974	10.4	107	-0.03
30	T	4-Chloroaniline	0.483	0.441	8.8	108	-0.03
31	T	Hexachlorobutadiene CCC	0.189	0.184	2.5	117	-0.03
32	T	2-Methylnaphthalene	0.637	0.638	-0.2	119	-0.03
33	M	4-Chloro-3-methylphenol CCC	0.320	0.320	-0.1	120	-0.03
34	I	Acenaphthene-d10	1.000	1.000	0.0	122	-0.03
35		2,6-Dichlorophenol	0.584	0.503	14.0	116	-0.03
36	T	Hexachlorocyclopentadiene	0.329	0.265	19.5	109	-0.03
37	T	2,4,6-Trichlorophenol CCC	0.414	0.368	11.0	121	-0.03
	S	2-Fluorobiphenyl SURR	1.215	1.157	4.8	118	-0.03
39	T	2,4,5-Trichlorophenol TVA	0.426	0.399	6.4	125	-0.03
40	T	2-Chloronaphthalene	1.494	1.275	14.7	131	-0.02

(#) = Out of Range

Evaluate Continuing Calibration Report

2 2 0303

Data File : C:\HPCHEM\1\DATA\B1113001\0301003.D
Acq Time : 30 Nov 94 9:52 am
Sample : DCS 50.0 ng/ul
Misc :

Operator: DC
Inst : BNA Syste
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\B11128B.M
Title : Method 8270 Semi-Volatile Calibration File
Last Update : Wed Nov 30 08:41:19 1994
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 10% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 300%

		Compound	AvgRRF	CCRRF	%Dev	Area%	Dev(Min)
41	T	2-Nitroaniline	0.462	0.428	7.2	126	-0.02
42	M	Acenaphthylene	1.655	1.453	12.2	117	-0.03
43	T	Dimethylphthalate	1.201	1.195	0.5	131	-0.03
44	T	2,6-Dinitrotoluene	0.332	0.324	2.3	129	-0.02
45	M	Acenaphthene CCC	1.036	0.927	10.6	123	-0.03
46	T	3-Nitroaniline	0.335	0.324	3.3	128	-0.03
47	T	Dibenzofuran	1.512	1.372	9.2	125	-0.03
48	T	2,4-Dinitrophenol SPCC	0.134	0.150	-11.9	160	-0.02
49	M	2,4-Dinitrotoluene	0.373	0.388	-4.2	137	-0.02
50	M	4-Nitrophenol SPCC	0.178	0.174	2.7	114	-0.02
51	T	Fluorene	1.044	0.964	7.7	127	-0.04
52	T	4-Chlorophenyl-phenylether	0.510	0.485	4.9	131	-0.03
53	T	Diethylphthalate	1.255	1.301	-3.6	145	-0.02
54	T	4-Nitroaniline	0.245	0.234	4.5	120	-0.02
		Azobenzene	2.001	1.998	0.2	128	-0.02
56	I	Phenanthrene-d10	1.000	1.000	0.0	140	-0.03
57	T	4,6-Dinitro-2-methylphenol	0.165	0.153	7.2	131	0.00
58	T	n-Nitrosodiphenylamine CCC	1.278	1.120	12.3	136	-0.02
59	S	2,4,6-Tribromophenol SURR	0.203	0.176	13.0	143	-0.03
60	T	4-Bromophenyl-phenylether	0.291	0.258	11.3	140	-0.02
61	T	Hexachlorobenzene	0.194	0.175	9.9	138	-0.02
62	M	Pentachlorophenol CCC	0.104	0.104	0.4	150	-0.02
63	T	Phenanthrene	1.140	1.016	10.9	136	-0.02
64	T	Anthracene	1.039	0.937	9.8	139	-0.02
65	T	Di-n-butylphthalate	1.401	1.339	4.4	137	-0.03
66	T	Fluoranthene CCC	0.593	0.601	-1.3	123	-0.04
67	I	Chrysene-d12	1.000	1.000	0.0	103	-0.04
68	M	Pyrene	3.300	3.947	-19.6	122	-0.04
69		Benzidine	0.347	0.413	-19.0	128	-0.07
70	S	Terphenyl-d14 SURR	1.603	1.908	-19.0	111	-0.04
71	T	Butylbenzylphthalate	1.265	1.203	4.9	100	-0.05
72	T	Benzo[a]anthracene	1.273	1.169	8.2	102	-0.05
73	T	Chrysene	1.206	1.098	9.0	103	-0.04
74	T	3,3'-Dichlorobenzidine	0.305	0.310	-1.6	126	-0.05
75	T	bis(2-Ethylhexyl)phthalate	1.465	1.295	11.6	95	-0.04
76	I	Perylene-d12	1.000	1.000	0.0	109	-0.05
	T	Di-n-octylphthalate CCC	3.987	3.576	10.3	97	-0.04
78	T	Benzo[b]fluoranthene	1.745	1.573	9.9	107	-0.04
79	T	Benzo[k]fluoranthene	1.721	1.576	8.5	102	-0.05

(#) = Out of Range

Evaluate Continuing Calibration Report

2 2 0304

Data File : C:\HPCHEM\1\DATA\B1113001\0301003.D
Acq Time : 30 Nov 94 9:52 am
Sample : DCS 50.0 ng/ul
Misc :

Operator: DC
Inst : BNA Syste
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\B11128B.M
Title : Method 8270 Semi-Volatile Calibration File
Last Update : Wed Nov 30 08:41:19 1994
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 10% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 300%

		Compound	AvgRRF	CCRRF	%Dev	Area%	Dev(Min)
80	T	Benzo[a]pyrene CCC	1.445	1.318	8.8	109	-0.05
81	T	Indeno[1,2,3-cd]pyrene	1.263	1.163	7.9	109	-0.07
82	T	Dibenz[a,h]anthracene	1.067	0.931	12.7	106	-0.07
83	T	Benzo[g,h,i]perylene	1.022	0.912	10.8	106	-0.08

Dana Geer
11-30-94

Randle Hom

(#) = Out of Range SPCC's out = 0 CCC's out =

00078

Evaluate Continuing Calibration Report 2 2 0305

Data File : C:\HPCHEM\1\DATA\B1113001\2701007.D
Acq Time : 1 Dec 94 12:14 am
Sample : DCS 50.0 NG/UL
Misc :

Operator: DC
Inst : BNA Syste
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\B11128B.M
Title : Method 8270 Semi-Volatile Calibration File
Last Update : Thu Dec 01 08:44:41 1994
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 10% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 300%

		Compound	AvgRRF	CCRRF	%Dev	Area%	Dev(Min)
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	116	0.00
2		Pyridine	0.954	0.876	8.2	108	0.00
3		N-Nitroso-dimethylamine	0.799	0.747	6.5	124	0.00
4	S	2-Fluorophenol SURR	1.412	1.324	6.2	113	0.00
5		Aniline	0.886	0.827	6.7	114	0.00
6	T	bis(2-Chloroethyl)ether	1.652	1.465	11.4	108	0.00
7	M	2-Chlorophenol	1.443	1.311	9.1	109	0.00
8	S	Phenol-d6 SURR	1.698	1.720	-1.3	127	0.00
9	M	Phenol CCC	1.790	1.564	12.7	106	0.00
10	T	1,3-Dichlorobenzene	1.602	1.466	8.5	113	0.00
11	M	1,4-Dichlorobenzene CCC	1.546	1.414	8.6	112	0.00
12	T	1,2-Dichlorobenzene	1.529	1.413	7.6	112	0.00
13	T	Benzyl alcohol	0.837	0.719	14.1	105	0.00
[illegible]	T	bis(2-chloroisopropyl)ether	1.340	1.082	19.2	100	0.00
[illegible]		Benzoic Acid	1.913	1.676	12.4	111	0.00
16	T	Hexachloroethane	0.837	0.799	4.5	120	-0.01
17	T	2-Methylphenol	1.303	1.110	14.8	102	0.00
18	M	N-Nitroso-di-n-propylamine	1.201	1.039	13.5	108	0.00
19	T	3 & 4-Methylphenol	1.291	1.150	10.9	107	0.00
20	I	Naphthalene-d8	1.000	1.000	0.0	108	0.00
21	S	Nitrobenzene-d5 SURR	0.505	0.517	-2.4	109	0.00
22	T	Nitrobenzene	0.515	0.465	9.6	107	0.00
23	T	Isophorone	0.930	0.852	8.4	105	0.00
24	T	2-Nitrophenol CCC	0.239	0.226	5.2	111	0.00
25	T	2,4-Dimethylphenol	0.408	0.370	9.4	106	0.00
26	T	bis(2-Chloroethoxy)methane	0.556	0.513	7.8	108	0.00
27	T	2,4-Dichlorophenol CCC	0.284	0.262	7.9	106	0.00
28	M	1,2,4-Trichlorobenzene	0.329	0.315	4.5	112	0.00
29	T	Naphthalene	1.088	0.967	11.0	103	0.00
30	T	4-Chloroaniline	0.483	0.421	12.8	100	0.00
31	T	Hexachlorobutadiene CCC	0.189	0.199	-5.2	122	0.00
32	T	2-Methylnaphthalene	0.637	0.607	4.7	110	0.00
33	M	4-Chloro-3-methylphenol CCC	0.320	0.301	6.1	109	0.00
34	I	Acenaphthene-d10	1.000	1.000	0.0	106	0.00
35		2,6-Dichlorophenol	0.584	0.548	6.3	111	0.00
36	T	Hexachlorocyclopentadiene	0.329	0.339	-2.9	121	0.00
[illegible]	T	2,4,6-Trichlorophenol CCC	0.414	0.387	6.4	111	0.00
[illegible]	S	2-Fluorobiphenyl SURR	1.215	1.197	1.5	106	0.00
39	T	2,4,5-Trichlorophenol TVA	0.426	0.409	3.9	112	0.00
40	T	2-Chloronaphthalene	1.494	1.253	16.1	113	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

2 2 0306

Data File : C:\HPCHEM\1\DATA\B1113001\2701007.D
Acq Time : 1 Dec 94 12:14 am
Sample : DCS 50.0 NG/UL
Misc :

Operator: DC
Inst : BNA Syste
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\B11128B.M
Title : Method 8270 Semi-Volatile Calibration File
Last Update : Thu Dec 01 08:44:41 1994
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 10% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 300%

		Compound	AvgRRF	CCRRF	%Dev	Area%	Dev(Min)
41	T	2-Nitroaniline	0.462	0.417	9.7	107	0.00
42	M	Acenaphthylene	1.655	1.501	9.3	106	0.00
43	T	Dimethylphthalate	1.201	1.212	-0.9	116	0.00
44	T	2,6-Dinitrotoluene	0.332	0.322	3.1	112	0.00
45	M	Acenaphthene CCC	1.036	0.914	11.8	106	-0.01
46	T	3-Nitroaniline	0.335	0.299	10.8	103	0.00
47	T	Dibenzofuran	1.512	1.376	8.9	109	0.00
48	T	2,4-Dinitrophenol SPCC	0.134	0.139	-3.3	129	0.00
49	M	2,4-Dinitrotoluene	0.373	0.364	2.5	112	-0.01
50	M	4-Nitrophenol SPCC	0.178	0.143	19.8	82	0.00
51	T	Fluorene	1.044	0.950	9.1	109	0.00
52	T	4-Chlorophenyl-phenylether	0.510	0.486	4.6	114	0.00
[illegible]	T	Diethylphthalate	1.255	1.232	1.8	119	-0.02
	T	4-Nitroaniline	0.245	0.212	13.5	95	-0.01
55		Azobenzene	2.001	1.822	8.9	102	-0.02
56	I	Phenanthrene-d10	1.000	1.000	0.0	112	0.00
57	T	4,6-Dinitro-2-methylphenol	0.165	0.172	-4.5	118	-0.01
58	T	n-Nitrosodiphenylamine CCC	1.278	1.150	10.0	111	-0.02
59	S	2,4,6-Tribromophenol SURR	0.193	0.194	-0.4	125	-0.02
60	T	4-Bromophenyl-phenylether	0.291	0.277	4.8	120	-0.02
61	T	Hexachlorobenzene	0.194	0.189	2.8	118	0.00
62	M	Pentachlorophenol CCC	0.104	0.103	1.1	119	0.00
63	T	Phenanthrene	1.140	1.041	8.7	111	0.00
64	T	Anthracene	1.039	0.958	7.8	113	0.00
65	T	Di-n-butylphthalate	1.401	1.260	10.1	103	0.00
66	T	Fluoranthene CCC	0.654	0.600	8.4	98	-0.01
67	I	Chrysene-d12	1.000	1.000	0.0	94	0.00
68	M	Pyrene	3.300	3.457	-4.8	97	-0.01
69		Benzidine	0.347	0.246	29.3	69	0.02
70	S	Terphenyl-d14 SURR	1.603	1.727	-7.8	91	-0.01
71	T	Butylbenzylphthalate	1.265	1.120	11.5	84	0.00
72	T	Benzo[a]anthracene	1.273	1.144	10.1	91	0.00
73	T	Chrysene	1.206	1.108	8.1	94	0.00
74	T	3,3'-Dichlorobenzidine	0.305	0.277	9.1	102	0.00
75	T	bis(2-Ethylhexyl)phthalate	1.465	1.142	22.1	76	0.00
	I	Perylene-d12	1.000	1.000	0.0	109	0.00
[illegible]	T	Di-n-octylphthalate CCC	3.987	3.094	22.4	84	0.00
78	T	Benzo[b]fluoranthene	1.745	1.601	8.2	108	-0.01
79	T	Benzo[k]fluoranthene	1.721	1.649	4.2	106	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

2 2 0307

Data File : C:\HPCHEM\1\DATA\B1113001\2701007.D
Acq Time : 1 Dec 94 12:14 am
Sample : DCS 50.0 NG/UL
Misc :

Operator: DC
Inst : BNA Syste
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\B11128B.M
Title : Method 8270 Semi-Volatile Calibration File
Last Update : Thu Dec 01 08:44:41 1994
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 10% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 300%

		Compound	AvgRRF	CCRRF	%Dev	Area%	Dev(Min)
80	T	Benzo[a]pyrene CCC	1.445	1.318	8.8	108	0.00
81	T	Indeno[1,2,3-cd]pyrene	1.263	0.984	22.1	92	-0.01
82	T	Dibenz[a,h]anthracene	1.067	0.963	9.8	110	-0.01
83	T	Benzo[g,h,i]perylene	1.022	0.963	5.7	111	0.00

(#) = Out of Range SPCC's out = 0 CCC's out
2701007.D B11128B.M Thu Dec 01 08:51:52 1994

000081

ENVIRONMENTAL TESTING & CONSULTING, INC.
Memphis, TN
Base Neutral and Acid Extractable
Organic Analysis Data Sheet

t Name : Roy F. Weston, Inc.

Matrix : _Soil____

Sample ID : Method Blank

Date Sample Collected : N/A
Date Sample Received : N/A

Laboratory Sample Number : 1123-BLK(1)
File Name : 9411-602.E

Date Sample Prepared : 11/23/94
Date Sample Analyzed : 11/30/94
Preparation Method : 3550
Analytical Method : 8270
Analyst : SB

COMPOUND	RESULTS UNITS:(ug/Kg)	PQL
Acenaphthene	<330	330
Acenaphthylene	<330	330
Aniline	<330	330
Anthracene	<330	330
Benzidine	<330	330
Benzoic Acid	<330	330
Benzo(a)anthracene	<330	330
Benzo(b)fluoranthene	<330	330
Benzo(k)fluoranthene	<330	330
Benzo(g,h,i)perylene	<330	330
Benzo(a)pyrene	<330	330
Benzyl alcohol	<330	330
Bi-(2-chloroethoxy)methane	<330	330
-chloroethyl)ether	<330	330
b...2-chloroisopropyl)ether	<330	330
Bis(2-ethylhexyl)phthalate	<330	330
4-Bromophenyl phenyl ether	<330	330
Butyl benzyl phthalate	<330	330
4-Chloroaniline	<330	330
2-Chloronaphthalene	<330	330
4-Chloro-3-methylphenol	<330	330
2-Chlorophenol	<330	330
4-Chlorophenyl phenyl ether	<330	330
Chrysene	<330	330
Dibenzo(a,h)anthracene	<330	330
Dibenzofuran	<330	330
Di-n-butylphthalate	<330	330
1,2-Dichlorobenzene	<330	330
1,3-Dichlorobenzene	<330	330
1,4-Dichlorobenzene	<330	330
3,3-Dichlorobenzidine	<330	330
2,4-Dichlorophenol	<330	330
Diethylphthalate	<330	330
2,4-Dimethylphenol	<330	330
Dimethylphthalate	<330	330
4,6-Dinitro-2-methylphenol	<330	330
2,4-Dinitrophenol	<330	330
2,4-Dinitrotoluene	<330	330

COMPOUND	RESULTS UNITS:(ug/Kg)	PQL
2,6-Dinitrotoluene	<330	330
Di-n-octylphthalate	<330	330
Fluoranthene	<330	330
Fluorene	<330	330
Hexachlorobenzene	<330	330
Hexachlorobutadiene	<330	330
Hexachlorocyclopentadiene	<330	330
Hexachloroethane	<330	330
Indeno(1,2,3-cd)pyrene	<330	330
Isophorone	<330	330
2-Methylnaphthalene	<330	330
2-Methylphenol (o-cresol)	<330	330
3&4-Methylphenol(m&p-cresol)	<330	330
Naphthalene	<330	330
2-Nitroaniline	<330	330
3-Nitroaniline	<330	330
4-Nitroaniline	<330	330
Nitrobenzene	<330	330
2-Nitrophenol	<330	330
4-Nitrophenol	<330	330
N-Nitrosodimethylamine	<330	330
N-Nitrosodiphenylamine	<330	330
N-Nitrosodipropylamine	<330	330
Pentachlorophenol	<330	330
Phenanthrene	<330	330
Phenol	<330	330
Pyrene	<330	330
1,2,4-Trichlorobenzene	<330	330
2,4,5-Trichlorophenol	<330	330
2,4,6-Trichlorophenol	<330	330
1,2-Diphenylhydrazine (as Azobenzene)	<330	330

PQL - Practical Quantitation Limit

Units: ug/Kg

SURROGATE STANDARD	RESULT	EXP	%REC	QC LIMITS % RECOVERY
Nitrobenzene-d5	69.7	100	70	23-120
2-Fluorobiphenyl	74.7	100	75	30-115
4-Terphenyl-d14	60.5	100	61	18-137
Phenol-d6	154	200	77	24-113
2,4,6-Tribromophenol	171	200	86	19-122
2-Fluorophenol	132	200	66	25-121

Laboratory Manager

3B
SOIL SEMIVOLATILEMATRIX SPIKE/ DUPLICATE RECOVERY
METHOD 8270/625

2 2 0309

Lab Name: Environmental Testing and Consulting, Inc
Method Name: B11128B
System ID: B1

QC Data File Path/Sequence ID: C:\HPCHEM\1\DATA\B1113001\
QC Data File ID: 2001011.D

Matrix Spike ID: 9411-602-1 SO SS5.2G 1:10D MS
MS Date Analyzed: 1 Dec 94 4:47am
MS Data File Path/Sequence ID: C:\HPCHEM\1\DATA\B1113001\
MS Data File ID: 2101012.D

COMPOUND	SPIKE Added (ug/Kg)	SAMPLE Conc (ug/Kg)	MS Conc (ug/Kg)	RPD % Diff	MS % Rec #	QC Limits	
2-Chlorophenol	94967	ND	50419	13	53	23	134
Phenol CCC	94967	ND	44824	7	47	5	112
1,4-Dichlorobenzene CCC	47483	ND	23711	19	50	20	124
N-Nitroso-di-n-propylamine	47483	ND	25037	16	53	0	230
1,2,4-Trichlorobenzene	47483	ND	28004	10	59	44	142
4-Chloro-3-methylphenol C	94967	ND	58346	2	61	22	147
Acenaphthene CCC	47483	2869	31476	17	120	47	145
2,4-Dinitrotoluene	47483	ND	20144	32 *	42	39	139
4-Nitrophenol SPCC	94967	ND	6611	132 *	7	0	132
Pentachlorophenol CCC	94967	ND	12087	65 *	13 *	14	176
Pyrene	47483	ND	21751	29 *	46 *	52	115

Matrix Spike Duplicate ID: 9411-602-1 SO SS5.1G 1:10D MSD
MSD Date Analyzed: 1 Dec 94 5:41am
MSD Data File Path/Sequence ID: C:\HPCHEM\1\DATA\B1113001\
MSD Data File ID: 2201013.D

COMPOUND	SPIKE Added (ug/Kg)	SAMPLE Conc (ug/Kg)	MSD Conc (ug/Kg)		MSD % Rec #	QC Limits	
2-Chlorophenol	94967	ND	57418		60	23	134
Phenol CCC	94967	ND	48124		51	5	112
1,4-Dichlorobenzene CCC	47483	ND	28595		60	20	124
N-Nitroso-di-n-propylamine	47483	ND	29517		62	0	230
1,2,4-Trichlorobenzene	47483	ND	31064		65	44	142
4-Chloro-3-methylphenol C	94967	ND	59332		62	22	147
Acenaphthene CCC	47483	2869	37593		143	47	145
2,4-Dinitrotoluene	47483	ND	27949		59	39	139
4-Nitrophenol SPCC	94967	ND	32438		34	0	132
Pentachlorophenol CCC	94967	ND	23727		25	14	176
Pyrene	47483	ND	28990		61	52	115

Randle Ross 12/1/94

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

Dana Geck
12-1-94

RPD: 4 out of 11 outside limits
Spike Recovery: 2 out of 22 outside limits

3A
WATER SEMIVOLATILE LABORATORY CONTROL RECOVERY
METHOD 8270

2 2 0310

Lab Name	Environmental Testing and Consulting, Inc
Method Name	B11128B
System ID	B1

Laboratory Control ID	1123-LCS1 SO SS5.0G
LCS Date Analyzed	11/30/94
LCS Data File Path/Sequence ID	C:\HPCHEM\1\DATA\B1113001\
LCS Data File ID	1501003.D

COMPOUND	SPIKE Added (ug/kg)		LCS Conc (ug/Kg)	RPD % Diff	LCS % Rec #	QC Limits	
2-Chlorophenol	40000		33238		83	23	134
Phenol CCC	40000		35790		89	5	112
1,4-Dichlorobenzene CCC	20000		15574		78	20	124
N-Nitroso-di-n-propylamine	20000		15922		80	0	230
1,2,4-Trichlorobenzene	20000		15401		77	44	142
4-Chloro-3-methylphenol C	40000		39674		99	22	147
Acenaphthene CCC	20000		16800		84	47	145
2,4-Dinitrotoluene	20000		19288		96	39	139
4-Nitrophenol SPCC	40000		47992		120	0	132
Pentachlorophenol CCC	40000		54576		136	14	176
Pyrene	20000		15168		76	52	115

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

Spike Recovery: 0 out of 11 outside limits

FORM III BNA

Rick Ross 11/30/94

000084

1123-L1 XLS

2D
SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name	Environmental Testing and Consulting, Inc
Method Name	B11128B.M
System ID	B1
Date Analyzed	11/29/94
Data File Path	C:\HPCHEM\1\DATA\B1112903\

	ETC SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	TOT OUT
01	1123-BLK1 SO SS5.0G	66	77	70	75	86	61	0
02								
03								
04								
05								
06								
07								
08								
09								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

			QC Limits	
S1	(2FP)	2-Fluorophenol SURR	25	121
S2	(PHL)	Phenol-d6 SURR	24	113
S3	(NBZ)	Nitrobenzene-d5 SURR	23	120
S4	(FBP)	2-Fluorobiphenyl SURR	30	115
S5	(TBP)	2,4,6-Tribromophenol SURR	19	122
S6	(TPH)	Terphenyl-d14 SURR	18	137

Randall Ross 11/30/94

Donna Geck 11-30-94

Column to be used to flag recovery values
* Values outside of contract required QC limits

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name	Environmental Testing and Consulting, Inc
Method Name	B11128B.M
System ID	B1
Date Analyzed	11/30/94
Data File Path	C:\HPCHEM\1\DATA\B1113001\

	ETC SAMPLE NO.	S1 (2FP)	#	S2 (PHL)	#	S3 (NBZ)	#	S4 (FBP)	#	S5 (TBP)	#	S6 (TPH)	#	TOT OUT
01	9411-293-2 AQ SS1070ML TI	55		37		70		69		76		75		0
02	9411-294-2 AQ SS1070ML TI	11	*	7	*	58		57		33		59		2
03	9411-294-3 AQ SS1080ML TI	21		15		49		56		28		53		0
04	9411-294-4 AQ SS1070ML TI	2	*	9	*	47		47		9	*	57		3
05	9411-294-5 AQ SS1070ML QC	ND		ND		53		51		6	*	52		1
06	9411-294-5 AQ SS1070ML MS	ND		ND		63		63		2	*	79		1
07	9411-294-5 AQ SS1070ML MS	ND		ND		69		66		1		69		0
08	1114-B2 AQ SS250ML	44		29		55		51		58		45		0
09	9411-197-1 AQ SS1070ML	25		21		32	*	33	*	55		44		2
10	1123-LCS1 SO SS5.0G	82		84		80		83		100		83		0
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														

			QC Limits	
S1	(2FP)	2-Fluorophenol SURR	21	100
S2	(PHL)	Phenol-d6 SURR	10	94
S3	(NBZ)	Nitrobenzene-d5 SURR	35	114
S4	(FBP)	2-Fluorobiphenyl SURR	43	116
S5	(TBP)	2,4,6-Tribromophenol SURR	10	123
S6	(TPH)	Terphenyl-d14 SURR	33	141

Column to be used to flag recovery values
* Values outside of contract required QC limits

Randi Ross
11/30/94

2D
SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: Environmental Testing and Consulting, Inc
Method Name: B11128B.M
System ID: B1

Date Analyzed: 11/30/94
Data File Path: C:\HPCHEM\1\DATA\B1113001\

	ETC SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	TOT OUT
01	1118-B1 SO SS30.0G	45	46	44	52	68	57	0
02	1118-LCS1 SO SS30.0G	64	66	64	69	90	63	0
03	9411-362-1 SO SS30.4G 1:5	NA	NA	54	78	NA	51	0
04	9411-602-1 SO SS5.3G 1:10	98	97	110	133 *	120	96	1
05	9411-602-1 SO SS5.2G 1:10	98	87	107	131 *	156 *	108	2
06	9411-602-1 SO SS5.2G 1:10	104	94	115	144 *	163 *	105	2
07	9411-496-1 SO SS3.4G 1:5D	48	48	60	86	85	47	0
08	9411-496-1 SO SS3.7G 1:5D	66	57	65	92	99	44	0
09	9411-496-1 SO SS3.4G 1:5D	64	56	63	88	91	48	0
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

			QC Limits	
S1	(2FP)	2-Fluorophenol SURR	25	121
S2	(PHL)	Phenol-d6 SURR	24	113
S3	(NBZ)	Nitrobenzene-d5 SURR	23	120
S4	(FBP)	2-Fluorobiphenyl SURR	30	115
S5	(TBP)	2,4,6-Tribromophenol SURR	19	122
S6	(TPH)	Terphenyl-d14 SURR	18	137

Ronalle Ross 12/1/94
Dana Zech
12-1-94

Column to be used to flag recovery values
* Values outside of contract required QC limits

OLMO3.OM

FORM II SV-2

B1113001.S02

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

2 2 0314

Lab Name: Environmental Testing and Consulting, Inc
Method Name: B11128B.M
System ID: B1

Date/Time Analyzed: 11/29/94 07:27 PM
Data File Path/Sequence ID: C:\HPCHEM\1\DATA\B1112903\

	IS 1 RT	IS 1 AREA	IS 2 RT	IS 2 AREA	IS 3 RT	IS 3 AREA
12 Hour STD	10.69	368396	14.47	1276630	19.90	654816
Upper Limit	11.19	736792	14.97	2553260	20.40	1309632
Lower Limit	10.19	184198	13.97	638315	19.40	327408

	Data File	ETC ID	IS 1 RT	IS 1 AREA	IS 2 RT	IS 2 AREA	IS 3 RT	IS 3 AREA
1	0401004.D	DCS 50.0 ng/ul	10.69	368396	14.47	1276630	19.90	654816
2	1001010.D	1109-BLK1 AQ SS1000ML TIC	10.68	359589	14.46	1319200	19.90	718732
3	1101011.D	1109-LCS(1)1 AQ SS1000ML	10.70	367107	14.47	1357900	19.90	719596
4	1201012.D	1109-LCS(1)2 AQ SS1000ML	10.69	349058	14.46	1235700	19.89	644283
5	1301013.D	9411-238-1 AQ SS1080ML TI	10.68	323184	14.46	1155190	19.88	643508
6	1401014.D	1123-BLK1 SO SS5.0G	10.67	316505	14.45	1146270	19.88	603344
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

IS1 1,4-Dichlorobenzene-d4
IS2 Naphthalene-d8
IS3 Acenaphthene-d10

Area Upper Limit = +100% of ISTD Area
Area Lower Limit = -50% of ISTD Area
RT Upper Limit = +0.5 min of ISTD RT
RT Lower Limit = -0.5 min of ISTD RT

* - Values outside QC Limits

Randall Ross 11/30/94
Dana Geck 11-30-94

8C

SEMI-VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

2 2 0313

Lab Name: Environmental Testing and Consulting, Inc
Method Name: B11128B.M
System ID: B1

Date/Time Analyzed: 11/29/94 07:27 PM
Data File Path/Sequence ID: C:\HPCHEM\1\DATA\B1112903\

	IS 4 RT	IS 4 AREA	IS 5 RT	IS 5 AREA	IS 6 RT	IS 6 AREA
12 Hour STD	24.53	713954	32.76	131543	36.56	46643
Upper Limit	25.03	1427908	33.26	263086	37.06	93286
Lower Limit	24.03	356977	32.26	65771.5	36.06	23321.5

	Data File	ETC ID	IS 4 RT	IS 4 AREA	IS 5 RT	IS 5 AREA	IS 6 RT	IS 6 AREA
1	0401004.D	DCS 50.0 ng/ul	24.53	713954	32.76	131543	36.56	46643
2	1001010.D	1109-BLK1 AQ SS1000ML TIC	24.51	889136	32.76	277266 *	36.54	86934
3	1101011.D	1109-LCS(1)1 AQ SS1000ML	24.51	871052	32.76	223002	36.55	69831
4	1201012.D	1109-LCS(1)2 AQ SS1000ML	24.51	743186	32.76	206329	36.54	65077
5	1301013.D	9411-238-1 AQ SS1080ML TI	24.50	778852	32.75	210644	36.54	63010
6	1401014.D	1123-BLK1 SO SS5.0G	24.50	745478	32.75	234933	36.54	73779
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

IS4 Phenanthrene-d10
IS5 Chrysene-d12
IS6 Perylene-d12

Area Upper Limit = +100% of ISTD Area
Area Lower Limit = -50% of ISTD Area
RT Upper Limit = +0.5 min of ISTD RT
RT Lower Limit = -0.5 min of ISTD RT

Donna Geck
11-30-94

* - Values outside QC Limits

000039

FORM VIII BNA

OLMO3.O
B1112903.IST

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

2 2 0316

Lab Name: Environmental Testing and Consulting, Inc
Method Name: B11128B.M
System ID: B1

Date/Time Analyzed: 11/30/94 09:52 AM
Data File Path/Sequence ID: C:\HPCHEM\1\DATA\B1113001\

	IS 1 RT	IS 1 AREA	IS 2 RT	IS 2 AREA	IS 3 RT	IS 3 AREA
12 Hour STD	10.69	368396	14.47	1276630	19.90	654816
Upper Limit	11.19	736792	14.97	2553260	20.40	1309632
Lower Limit	10.19	184198	13.97	638315	19.40	327408

	Data File	ETC ID	IS 1 RT	IS 1 AREA	IS 2 RT	IS 2 AREA	IS 3 RT	IS 3 AREA
1	0301003.D	DCS 50.0 ng/ul	10.66	410978	14.44	1422430	19.87	796675
2	0401004.D	9411-293-2 AQ SS1070ML TI	10.66	420951	14.43	1503660	19.87	831881
3	0501005.D	9411-294-2 AQ SS1070ML TI	10.66	419704	14.43	1544920	19.87	869498
4	0601006.D	9411-294-3 AQ SS1080ML TI	10.66	386699	14.43	1388340	19.87	737656
5	0701007.D	9411-294-4 AQ SS1070ML TI	10.66	402740	14.44	1470640	19.87	807319
6	0801008.D	9411-294-5 AQ SS1070ML QC	10.66	391043	14.44	1430390	19.87	837959
7	0901009.D	9411-294-5 AQ SS1070ML MS	10.67	381500	14.44	1369290	19.87	773388
8	1001010.D	9411-294-5 AQ SS1070ML MS	10.67	374602	14.44	1314680	19.87	734706
9	1301001.D	1114-B2 AQ SS250ML	10.66	359478	14.43	1295594	19.86	741974
10	1401002.D	9411-197-1 AQ SS1070ML	10.66	358599	14.43	1295216	19.86	699986
11	1501003.D	1123-LCS1 SO SS5.0G	10.68	336633	14.44	1218239	19.87	673025
12								
13								
14								
15								
16								
17								
18								
19								
20								

IS1 1,4-Dichlorobenzene-d4
IS2 Naphthalene-d8
IS3 Acenaphthene-d10

Area Upper Limit = +100% of ISTD Area
Area Lower Limit = -50% of ISTD Area
RT Upper Limit = +0.5 min of ISTD RT
RT Lower Limit = -0.5 min of ISTD RT

Randy Ross 11/30/94

* - Values outside QC Limits

000030

FORM VIII SV-1 OLMO3.O
B1113001.IST

8C

SEMI-VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Environmental Testing and Consulting, Inc
Method Name: B11128B.M
System ID: B1

Date/Time Analyzed: 11/30/94 09:52 AM
Data File Path/Sequence ID: C:\HPCHEM\1\DATA\B1113001\

	IS 4 RT	IS 4 AREA	IS 5 RT	IS 5 AREA	IS 6 RT	IS 6 AREA
12 Hour STD	24.53	713954	32.76	131543	36.56	46643
Upper Limit	25.03	1427908	33.26	263086	37.06	93286
Lower Limit	24.03	356977	32.26	65771.5	36.06	23321.5

	Data File	ETC ID	IS 4 RT	IS 4 AREA	IS 5 RT	IS 5 AREA	IS 6 RT	IS 6 AREA
1	0301003.D	DCS 50.0 ng/ul	24.49	1001590	32.72	135844	36.51	50908
2	0401004.D	9411-293-2 AQ SS1070ML TI	24.48	1079010	32.72	181908	36.50	58073
3	0501005.D	9411-294-2 AQ SS1070ML TI	24.49	1182500	32.73	340188 *	36.50	87678
4	0601006.D	9411-294-3 AQ SS1080ML TI	24.48	966680	32.72	195844	36.51	70462
5	0701007.D	9411-294-4 AQ SS1070ML TI	24.49	1090680	32.73	320772 *	36.50	98787 *
6	0801008.D	9411-294-5 AQ SS1070ML QC	24.49	1125890	32.73	339361 *	36.49	94439 *
7	0901009.D	9411-294-5 AQ SS1070ML MS	24.48	1038650	32.73	205488	36.51	46909
8	1001010.D	9411-294-5 AQ SS1070ML MS	24.49	965516	32.72	196111	36.51	56410
9	1301001.D	1114-B2 AQ SS250ML	24.48	972276	32.72	299305 *	36.51	104317 *
10	1401002.D	9411-197-1 AQ SS1070ML	24.48	925284	32.73	278542 *	36.50	89616
11	1501003.D	1123-LCS1 SO SS5.0G	24.49	893113	32.72	185182	36.52	54214
12								
13								
14								
15								
16								
17								
18								
19								
20								

IS4 Phenanthrene-d10
IS5 Chrysene-d12
IS6 Perylene-d12

Area Upper Limit = +100% of ISTD Area
Area Lower Limit = -50% of ISTD Area
RT Upper Limit = +0.5 min of ISTD RT
RT Lower Limit = -0.5 min of ISTD RT

Randy Ross 11/30/94

* - Values outside QC Limits

000031

FORM VIII BNA

OLMO3.O
B1113001 IST

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

2 2 0313

Lab Name: Environmental Testing and Consulting, Inc
Method Name: B11128B.M
System ID: B1

Date/Time Analyzed: 1 Dec 94 12:14 am
Data File Path/Sequence ID: C:\HPCHEM\1\DATA\B1113001\

	IS 1 RT	IS 1 AREA	IS 2 RT	IS 2 AREA	IS 3 RT	IS 3 AREA
12 Hour STD	10.66	410978	14.44	1422425	19.87	796675
Upper Limit	11.16	821956	14.94	2844850	20.37	1593350
Lower Limit	10.16	205489	13.94	711212.5	19.37	398337.5

	Data File	ETC ID	IS 1 RT	IS 1 AREA	IS 2 RT	IS 2 AREA	IS 3 RT	IS 3 AREA
1	2701007.D	DCS 50.0 NG/UL	10.67	426098	14.44	1380400	19.87	694785
2	1701002.D	1118-B1 SO SS30.0G	10.66	394342	14.42	1424140	19.85	711859
3	1802009.D	1118-LCS1 SO SS30.0G	10.68	323960	14.43	1164980	19.87	625562
4	1901010.D	9411-362-1 SO SS30.4G 1:5	10.65	326534	14.42	1116570	19.86	550506
5	2001011.D	9411-602-1 SO SS5.3G 1:10	10.65	345206	14.43	1172610	19.85	567394
6	2101012.D	9411-602-1 SO SS5.2G 1:10	10.66	355258	14.43	1194050	19.86	579872
7	2201013.D	9411-602-1 SO SS5.2G 1:10	10.66	362448	14.42	1218840	19.86	582422
8	2301014.D	9411-496-1 SO SS3.4G 1:5D	10.65	357315	14.42	1212270	19.85	500201
9	2401015.D	9411-496-1 SO SS3.7G 1:5D	10.66	369622	14.42	1268710	19.85	489773
10	2501001.D	9411-496-1 SO SS3.4G 1:5D	10.65	395844	14.43	1379320	19.85	569721
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

IS1 1,4-Dichlorobenzene-d4
IS2 Naphthalene-d8
IS3 Acenaphthene-d10

Area Upper Limit = +100% of ISTD Area
Area Lower Limit = -50% of ISTD Area
RT Upper Limit = +0.5 min of ISTD RT
RT Lower Limit = -0.5 min of ISTD RT

* - Values outside QC Limits

Daralzech
12-1-94
Randle Ross 12/1/94

FORM VIII SV-1

OLMO3.O
B1113001.IST

8C

SEMI-VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

2 0319

Lab Name: Environmental Testing and Consulting, Inc
Method Name: B11128B.M
System ID: B1

Date/Time Analyzed: 1 Dec 94 12:14 am
Data File Path/Sequence ID: C:\HPCHEM\1\DATA\B1113001\

	IS 4 RT	IS 4 AREA	IS 5 RT	IS 5 AREA	IS 6 RT	IS 6 AREA
12 Hour STD	24.49	1001591	32.72	135844	36.51	50908
Upper Limit	24.99	2003182	33.22	271688	37.01	101816
Lower Limit	23.99	500796	32.22	67922	36.01	25454

	Data File	ETC ID	IS 4 RT	IS 4 AREA	IS 5 RT	IS 5 AREA	IS 6 RT	IS 6 AREA
1	2701007.D	DCS 50.0 NG/UL	24.48	799269	32.72	123253	36.51	50645
2	1701002.D	1118-B1 SO SS30.0G	24.47	704696	32.72	134890	36.49	57403
3	1802009.D	1118-LCS1 SO SS30.0G	24.48	731269	32.72	170042	36.51	55111
4	1901010.D	9411-362-1 SO SS30.4G 1:5	24.47	444252 *	32.72	70049	36.50	46316
5	2001011.D	9411-602-1 SO SS5.3G 1:10	24.47	515568	32.73	89033	36.51	44080
6	2101012.D	9411-602-1 SO SS5.2G 1:10	24.48	499793 *	32.72	84730	36.50	45106
7	2201013.D	9411-602-1 SO SS5.2G 1:10	24.48	480172 *	32.72	81896	36.50	41761
8	2301014.D	9411-496-1 SO SS3.4G 1:5D	24.46	323063 *	32.72	66647 *	36.50	47490
9	2401015.D	9411-496-1 SO SS3.7G 1:5D	24.46	294698 *	32.73	59902 *	36.50	42850
10	2501001.D	9411-496-1 SO SS3.4G 1:5D	24.47	381497 *	32.72	68585	36.50	44475
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

IS4 Phenanthrene-d10
IS5 Chrysene-d12
IS6 Perylene-d12

Area Upper Limit = +100% of ISTD Area
Area Lower Limit = -50% of ISTD Area
RT Upper Limit = +0.5 min of ISTD RT
RT Lower Limit = -0.5 min of ISTD RT

* - Values outside QC Limits

FORM VIII BNA

Dana Czech
12-1-94
Randle Ross 12/1/94

OLMO3.O
B1113001.IST

000033

Quality Control Data
Pesticide/PCB

- [x] Case Narrative
- [x] Analytical Sequence
- [x] Initial Calibration
- [x] Continuing Calibration
- [x] Method Blank
- [x] Matrix Spike/Matrix Spike Duplicate
- [x] Laboratory Control Sample
- [x] Surrogate Recovery Summary Report
- [x] Dilution Factor Summary Report

LB 12/2/94
QC Coordinator

ENVIRONMENTAL TESTING AND CONSULTING, INC.
MEMPHIS, TN
CASE NARRATIVE
PESTICIDE/PCBs

2 2 0321

Client Name : Roy F. Weston
Project Name : SAAD

ETC Order # : 9411-602
Method (SW-846) : 8080

HOLDING TIMES

Sample Extraction : All soil samples extracted within 14 days.
Sample Analysis : All samples analyzed within 40 days of extraction.

CALIBRATION

Initial Calibration : All criteria met.
Daily Calibration : All criteria met.

Date Analyzed	Sequence ID	
11/28/94	S211281A	Initial Calibration S21129E1A.CAL
11/29/94	S211291A	Initial Calibration S21129E1A.CAL

Ending Check Standard (ECS) for sequence S211281A showed several analytes with increased response.

Method 8000A Revision 1 July 1992 concerning Continuing Calibration states :

Section 7.6.8

"The calibration factor for each analyte to be quantitated must not exceed a 15% difference when compared to the initial standard of the analysis sequence.
...All samples that were injected **after** the standard exceeding the criterion must be reinjected to avoid errors in quantitation, if the initial analysis indicated the presence of the specific target analytes that exceeded the criterion."

No Target Analytes were identified in this sample.

SAMPLE ANALYSIS

Instrumentation : HP 5890 Series II GC, ECD
Dilutions Required : No dilutions required.*
*

Sample ID	Dilution
9411-602-1	1:10

Dilution performed due to matrix interference.

ENVIRONMENTAL TESTING AND CONSULTING, INC.
MEMPHIS, TN
CASE NARRATIVE
PESTICIDE/PCBs

2 2 0322

Client Name : Roy F. Weston
Project Name : SAAD

ETC Order # : 9411-602
Method (SW-846) : 8080

QUALITY CONTROL

Matrix Spike / Matrix Spike Dup
9411-602-1 MS/MSD RPD : All analytes within QC limits*
Spike Recovery : All analytes within QC limits
*
Recovery for Endrin Aldehyde showed low recovery in the MS
Due to the nature of the sample matrix, obtaining interlab homogeneous splits for QC samples was difficult.

See Laboratory Control Samples for system verification.

Method Blank
No Target Analytes detected above Practical Quantitation Limit.

Laboratory Control Sample
All criteria met.

System Monitoring Compounds
All surrogates within QC Limits.

Laboratory Manager

Sequence file C:\DIRECT\system1\S211281A.SEQ Date = 11-28-1994 Time = 18:15:06

	DATA FILE	SAMPLE NAME	METHOD	SAMPLE WEIGHT	AMOUNT INJECTED	DILUTION FACTOR	INTERNAL STD AMT	CAL
1	S211281A.01R	PEST COND SHOT	C:\DIRECT\SYSTE	1.000	1.000	1.000	1.000	0
2	S211281A.02R	HEXANE	C:\DIRECT\SYSTE	1.000	1.000	1.000	1.000	0
3	S211281A.03R	PEST WS-1 02-2-34-22	C:\DIRECT\SYSTE	1.000	1.000	1.000	1.000	0
4	S211281A.04R	PEST WS-3 02-2-35-1	C:\DIRECT\SYSTE	1.000	1.000	1.000	1.000	0
5	S211281A.05R	PEST WS-5 02-2-35-4	C:\DIRECT\SYSTE	1.000	1.000	1.000	1.000	0
6	S211281A.06R	PEST WS-6 02-2-35-7	C:\DIRECT\SYSTE	1.000	1.000	1.000	1.000	0
7	S211281A.07R	PEST WS-7 02-2-35-10	C:\DIRECT\SYSTE	1.000	1.000	1.000	1.000	0
8	S211281A.08R	CHLOR WS-3 02-1-49-11	C:\DIRECT\SYSTE	1.000	1.000	1.000	1.000	0
9	S211281A.09R	ENDRIN-DDT 02-2-37-1	C:\DIRECT\SYSTE	1.000	1.000	1.000	1.000	0
10	S211281A.10R	1123-BLK(1)	C:\DIRECT\SYSTE	30.000	1.000	10.000	1.000	0
11	S211281A.11R	1123-LCS(1) 1:10	C:\DIRECT\SYSTE	30.000	1.000	100.000	1.000	0
12	S211281A.12R	9411-602-1 1:100	C:\DIRECT\SYSTE	5.500	1.000	1000.000	1.000	0
13	S211281A.13R	9411-602-1MS 1:10	C:\DIRECT\SYSTE	5.500	1.000	100.000	1.000	0
14	S211281A.14R	9411-602-1MSD 1:10	C:\DIRECT\SYSTE	5.900	1.000	100.000	1.000	0
15	S211281A.15R	9411-602-1 1:10	C:\DIRECT\SYSTE	5.200	1.000	100.000	1.000	0
16	S211281A.16R	9411-602-1	C:\DIRECT\SYSTE	5.200	1.000	10.000	1.000	0
17	S211281A.17R	HEXANE	C:\DIRECT\SYSTE	1.000	1.000	1.000	1.000	0
18	S211281A.18R	HEXANE	C:\DIRECT\SYSTE	1.000	1.000	1.000	1.000	0
19	S211281A.19R	ECS PEST WS-5 02-2-35-4	C:\DIRECT\SYSTE	1.000	1.000	1.000	1.000	0
20	S211281A.20R	ECS PEST WS-5 02-2-35-4	C:\DIRECT\SYSTE	1.000	1.000	1.000	1.000	0

Sequence file C:\DIRECT\system1\S211291A.SEQ Date = 11-29-1994 Time = 18:20:18

#	DATA FILE	SAMPLE NAME	METHOD	SAMPLE WEIGHT	AMOUNT INJECTED	DILUTION FACTOR	INTERNAL STD AMT	CAL
	S211291A.01R	PEST COND SHOT	C:\DIRECT\SYSTE	1.000	1.000	1.000	1.000	0
2	S211291A.02R	HEXANE	C:\DIRECT\SYSTE	1.000	1.000	1.000	1.000	0
3	S211291A.03R	DCS PEST WS-5 02-2-35-4	C:\DIRECT\SYSTE	1.000	1.000	1.000	1.000	3
4	S211291A.04R	ENDRIN-DDT	C:\DIRECT\SYSTE	1.000	1.000	1.000	1.000	0
5	S211291A.05R	PEST WS-1 02-2-34-22	C:\DIRECT\SYSTE	1.000	1.000	1.000	1.000	1
6	S211291A.06R	PEST WS-3 02-2-35-1	C:\DIRECT\SYSTE	1.000	1.000	1.000	1.000	2
7	S211291A.07R	PEST WS-6 02-2-35-7	C:\DIRECT\SYSTE	1.000	1.000	1.000	1.000	4
8	S211291A.08R	PEST WS-7 02-2-35-10	C:\DIRECT\SYSTE	1.000	1.000	1.000	1.000	5
9	S211291A.09R	1123-BLK(1) NO GPC	C:\DIRECT\SYSTE	30.000	1.000	10.000	1.000	0
10	S211291A.10R	9411-602-1 1:10 NO GPC	C:\DIRECT\SYSTE	5.500	1.000	100.000	1.000	0
11	S211291A.11R	1129-BLK(1)	C:\DIRECT\SYSTE	30.000	1.000	10.000	1.000	0
12	S211291A.12R	1129-BLK(2)	C:\DIRECT\SYSTE	1000.000	1.000	10.000	1.000	0
13	S211291A.13R	1129-LCS(1)-1 1:10	C:\DIRECT\SYSTE	30.000	1.000	100.000	1.000	0
14	S211291A.14R	1129-LCS(1)-2 1:10	C:\DIRECT\SYSTE	30.000	1.000	100.000	1.000	0
15	S211291A.15R	1129-LCS(2)-1 1:10	C:\DIRECT\SYSTE	1000.000	1.000	100.000	1.000	0
16	S211291A.16R	1129-LCS(2)-2 1:10	C:\DIRECT\SYSTE	1000.000	1.000	100.000	1.000	0
17	S211291A.17R	9411-667-2	C:\DIRECT\SYSTE	1000.000	1.000	10.000	1.000	0
18	S211291A.18R	9411-667-3	C:\DIRECT\SYSTE	30.000	1.000	10.000	1.000	0
19	S211291A.19R	HEXANE	C:\DIRECT\SYSTE	1.000	1.000	1.000	1.000	0
20	S211291A.20R	HEXANE	C:\DIRECT\SYSTE	1.000	1.000	1.000	1.000	0
21	S211291A.21R	ECS PEST WS-5 02-2-35-4	C:\DIRECT\SYSTE	1.000	1.000	1.000	1.000	0
22	S211291A.22R	ECS PEST WS-5 02-2-35-4	C:\DIRECT\SYSTE	1.000	1.000	1.000	1.000	0
23	S211291A.23R	MeCl2 GPC	C:\DIRECT\SYSTE	1.000	1.000	1.000	1.000	0

CALIBRATION UPDATE REPORT 2 2 0325

Calibration file = C:\DIRECT\SYSTEM1\21128E1A.CAL Current version number =
Updated from file = C:\DIRECT\system2\S211281A.07A
Amount injected = 1
Standard amount injected = 0
Calibration level = 5 Replace old values with new
Update to both retention time and area
Today's Date = 11-29-1994 time = 09:25:07

Compound	Old Height or Area	Measured Height or Area	New Height or Area	Old Ret. Time	Measured Ret. Time	New Ret. Time	Average Area/Amt	RPD	Average % Error
2,4,5,6TETRACL-M-X	790837	794551	794551	8.027	8.027	8.027	8465792.00	7.59%	4.874%
alpha-BHC	722692	743474	743474	10.733	10.733	10.733	10887388.00	26.78%	3.403%
Lindane	622478	636273	636273	12.200	12.200	12.200	9584950.00	22.26%	6.681%
beta-BHC	310123	319521	319521	12.523	12.523	12.523	5700291.00	1.99%	1.444%
Heptachlor	313521	314017	314017	13.343	13.340	13.340	5018284.00	10.59%	2.660%
delta-BHC	606132	620107	620107	13.830	13.830	13.830	10138504.00	9.22%	4.014%
Aldrin	495718	502825	502825	14.497	14.497	14.497	7299439.00	23.70%	8.706%
Heptachlor Epoxide	441590	446617	446617	16.520	16.520	16.520	6755078.50	18.63%	5.936%
gamma-Chlordane	Max cal level = 3								
alpha-Chlordane	Max cal level = 3								
Endosulfan I	426039	435164	435164	17.717	17.713	17.713	6524179.50	18.28%	4.161%
DDE-pp	404819	430352	430352	18.590	18.590	18.590	6212376.00	21.69%	5.743%
Dieldrin	353543	333550	333550	18.767	18.767	18.767	4941244.50	17.14%	4.037%
Endrin	266040	260769	260769	20.120	20.120	20.120	3953308.75	15.14%	3.219%
DDD-pp	149113	150301	150301	20.720	20.720	20.720	2364341.00	11.27%	3.142%
Endosulfan II	273210	279140	279140	20.913	20.913	20.913	4333392.00	12.64%	5.912%
pp	141489	128728	128728	22.137	22.137	22.137	1795396.00	21.07%	3.340%
in Aldehyde	193548	178731	178731	22.540	22.540	22.540	3555938.50	23.73%	3.397%
Endosulfan Sulfate	240634	247196	247196	23.200	23.197	23.197	4278247.00	11.16%	2.367%
DBC	408173	406774	406774	24.663	24.663	24.663	3613173.50	14.16%	3.759%
Methoxychlor	227167	197848	197848	26.283	26.287	26.287	822660.63	6.73%	1.086%

11/29/94
11/29/94

CALIBRATION UPDATE REPORT

Calibration file = C:\DIRECT\SYSTEM1\21129E1B.CAL Current version number =
Updated from file = C:\DIRECT\system2\S211291B.08A
Amount injected = 1
Standard amount injected = 0
Calibration level = 5 Replace old values with new
Update to both retention time and area
Today's Date = 11-29-1994 time = 17:54:38

Compound	Old Height or Area	Measured Height or Area	New Height or Area	Old Ret. Time	Measured Ret. Time	New Ret. Time	Average Area/Amt	RPD	Average % Error
2,4,5,6TETRACL-M-X	1021892	1020532	1020532	5.323	5.327	5.327	11361174.00	7.55%	2.365%
alpha-BHC	1022908	995700	995700	6.480	6.477	6.477	14857891.00	23.50%	6.731%
beta-BHC	469734	410794	410794	7.320	7.320	7.320	7524657.50	2.80%	1.300%
Lindane	1023049	877225	877225	7.447	7.447	7.447	13586102.00	18.79%	4.670%
delta-BHC	1002333	831651	831651	8.223	8.220	8.220	12950103.00	17.99%	6.725%
Heptachlor	594865	628647	628647	9.567	9.563	9.563	10106776.00	11.31%	2.317%
Aldrin	884942	729644	729644	10.610	10.607	10.607	11428802.00	15.09%	5.273%
Heptachlor Epoxide	766057	626720	626720	11.903	11.903	11.903	10064671.00	12.88%	3.680%
gamma-Chlordane	Max cal level = 3								
Endosulfan I	732758	584569	584569	13.003	13.003	13.003	9364042.00	13.50%	3.505%
alpha-Chlordane	Max cal level = 3								
Dieldrin	653558	594538	594538	13.823	13.827	13.827	9181842.00	15.60%	4.530%
DDE-pp	799528	661106	661106	13.910	13.910	13.910	10342507.00	16.74%	6.737%
Endrin	546556	469400	469400	14.480	14.483	14.483	7492165.00	15.14%	2.983%
Endosulfan II	656526	508154	508154	14.803	14.807	14.807	8522149.00	7.70%	3.107%
DDD-pp	435147	427977	427977	15.210	15.213	15.213	6614385.00	15.91%	4.885%
in Aldehyde	460148	328961	328961	15.413	15.417	15.417	6009219.00	4.25%	1.499%
Endosulfan Sulfate	566062	441858	441858	16.143	16.150	16.150	7367432.00	8.21%	2.806%
DDT-PP	368403	378437	378437	16.340	16.347	16.347	5643559.00	19.44%	7.927%
Methoxychlor	494718	580215	580215	18.193	18.200	18.200	2499106.75	8.28%	3.927%
DBC	770263	646823	646823	19.160	19.167	19.167	6000557.50	12.07%	2.822%

11/30/94

11/30/94

Environmental Testing and Consulting, Inc. *****
Method 8080/608 Pesticide and PCB
Daily Check Standard Evaluation 2 2 0527

Today's Date : 11-29-1994 Date Analyzed :Nov 29, 1994 04:58:00
Analyst :DPC

Ending

Sample ID :ECS PEST WS-5 02-2-35-4
Data File :C:\DIRECT\system2\S211281A.20R
Method File :C:\DIRECT\system1\SY2PESTA.MET
Method File Version: 156
Cal File :C:\DIRECT\SYSTEM1\21128E1A.CAL
Cal File Version : 7 (CAL FILE DATE 11/29/94 09:25:08)
Instrument ID :Chrom 2--Det 2A-ECD

Integration Report

Method 608 % Difference Max = 15
Method 8080 % Difference Max = 15
Initial Calibration = 5

Peak #	Ret Time (min)	Peak Name	Peak Area	Peak Height	Amount ng/ul	% Diff
2	8.037	2,4,5,6TETRACL-M-X	2057413	403814	0.04744	5.1
4	10.747	alpha-BHC	989260	220786	0.01852	1.5
6	12.213	Lindane	910665	200908	0.01897	-0.9
7	12.537	beta-BHC	502139	107666	0.01841	2.1
9	13.357	Heptachlor	623025	110328	0.02123	%-12.9
10	13.843	delta-BHC	772138	180794	0.01784	5.1
11	14.510	Aldrin	729401	139696	0.01778	5.4
13	16.533	Heptachlor Epoxide	730052	131580	0.01830	2.7
15	17.730	Endosulfan I	626405	120008	0.01765	6.1
16	18.607	DDE-pp	510746	117277	0.01810	3.7
17	18.780	Dieldrin	497379	105638	0.02072	%-10.2
18	20.137	Endrin	486939	81211	0.01995	-6.1
19	20.743	DDD-pp	342005	63960	0.02586	%-37.6 *
20	20.930	Endosulfan II	445003	75516	0.01723	8.4
21	22.157	DDT-PP	273750	37293	0.02068	%-10.0
22	22.560	Endrin Aldehyde	469127	60014	0.01904	-1.3
23	23.217	Endosulfan Sulfate	482283	66687	0.01699	9.6
26	24.680	DBC	1174340	185011	0.04977	0.5
27	26.310	Methoxychlor	673953	98825	0.11576	%-53.9 *

Peaks not found in this sample

gamma-Chlordane	17.090
alpha-Chlordane	17.660

Analyst (Sign/Date) : DPC 11/29/94 10- Ending Check Std

Supervisor (Sign/Date) : 11/29/94

Environmental Testing and Consulting, Inc. *****
Method 8080/608 Pesticide and PCB 2 2 0328
Daily Check Standard Evaluation

Today's Date : 11-30-1994 Date Analyzed :Nov 30, 1994 01:10:39
Analyst :DPC

Sample ID :ECS PEST WS-5 02-2-35-4
Data File :C:\DIRECT\system2\S211291B.22R
Method File :C:\DIRECT\system1\SY2PESTB.MET
Method File Version: 163
Cal File :C:\DIRECT\SYSTEM1\21129E1B.CAL
Cal File Version : 9 (CAL FILE DATE 11/29/94 17:54:40)
Instrument ID :Chrom 2--Det 2B-ECD

Integration Report

Method 608 % Difference Max = 15
Method 8080 % Difference Max = 15
Initial Calibration = 5

Peak #	Ret Time (min)	Peak Name	Peak Area	Peak Height	Amount ng/ul	% Diff
2	5.313	2,4,5,6TETRACL-M-X	2179413	558107	0.04713	5.7
4	6.467	alpha-BHC	1082389	306651	0.01866	0.7
6	7.310	beta-BHC	563520	141870	0.01834	2.4
7	7.437	Lindane	1025569	278491	0.01881	-0.1
9	8.210	delta-BHC	913856	252481	0.01801	4.2
12	9.553	Heptachlor	873404	208030	0.01972	-4.9
13	10.593	Aldrin	908156	219057	0.01809	3.8
15	11.890	Heptachlor Epoxide	858806	201379	0.01887	-0.4
17	12.990	Endosulfan I	818406	190339	0.01909	-1.6
19	13.810	Dieldrin	745531	181785	0.01880	0.0
20	13.897	DDE-pp	816964	193567	0.01741	7.4
22	14.467	Endrin	614051	145455	0.01812	3.6
23	14.790	Endosulfan II	753928	174277	0.01962	-4.3
24	15.197	DDD-pp	598539	145051	0.02053	-9.2
25	15.400	Endrin Aldehyde	586284	135121	0.02139	%-13.8
26	16.130	Endosulfan Sulfate	650304	152874	0.01988	-5.8
27	16.327	DDT-PP	408670	97073	0.01669	11.2
32	18.180	Methoxychlor	950119	210240	0.08094	-7.6
35	19.150	DBC	1638769	347914	0.05508	%-10.2

Peaks not found in this sample
gamma-Chlordane 12.560
alpha-Chlordane 13.040

Analyst (Sign/Date) : DPC 11/30/94 10

Supervisor (Sign/Date) : (P) 11/30/94

ENVIRONMENTAL TESTING AND CONSULTING, INC.
Memphis, TN
Pesticides and PCBs
Organics Analysis Data Sheet

2 2 0329

Client Name : Roy F. Weston, Inc.

Sample ID : Method Blank

Matrix : _Soil

Date Sample Prepared : 11/23/94
Date Sample Analyzed : 11/29/94
Preparation Method : 3550
Analytical Method : 8080
Analyst : DC

Date Sample Collected : N/A
Date Sample Received : N/A

Laboratory Sample Number : 1123-BLK(1)
File Name : 9411-602.B

COMPOUND	SAMPLE RESULTS UNITS (ug/Kg)	PQL UNITS (ug/Kg)
Alpha-BHC	<2.00	2.00
Beta-BHC	<2.00	2.00
Delta-BHC	<2.00	2.00
Gamma-BHC(Lindane)	<2.00	2.00
Heptachlor	<2.00	2.00
Aldrin	<2.00	2.00
Heptachlor Epoxide	<2.00	2.00
Endosulfan I	<2.00	2.00
Dieldrin	<2.00	2.00
4,4'-DDE	<2.00	2.00
Endrin	<2.00	2.00
Endosulfan II	<2.00	2.00
4,4'-DDD	<2.00	2.00
Endosulfan Sulfate	<2.00	2.00
4,4'-DDT	<2.00	2.00
Endrin Aldehyde	<2.00	2.00
Methoxychlor	<10.0	10.0
Chlordane	<35.0	35.0
Toxaphene	<165	165
PCB-1016	<35.0	35.0
PCB-1221	<35.0	35.0
PCB-1232	<35.0	35.0
PCB-1242	<35.0	35.0
PCB-1248	<35.0	35.0
PCB-1254	<35.0	35.0
PCB-1260	<35.0	35.0

UNITS: ug/Kg

SURROGATE STANDARD	RESULT	EXP	% REC	QC LIMITS % RECOVERY
Dibutyl Chlorendate	31.3	33.3	94	25-115
Tetrachloro-meta-Xylene	25.2	33.3	76	25-115

PQL - Practical Quantitation Limit

LABORATORY MANAGER

3E
SOLID PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY
METHOD 8080

Lab Name: Environmental Testing and Consulting, Inc
System ID: HP5890II

Matrix Spike ID: 9411-602-1MS 1:10
MS Date Analyzed: 11/29/94
MS Data File ID: S211281A.13

COMPOUND	SPIKE Added (ug/L)	SAMPLE Conc (ug/L)	MS Conc (ug/L)	RPD % Diff	MS % Rec #	QC Limits	
alpha-BHC	182	ND	95.4	5	52	37	134
beta-BHC	182	ND	81.1	4	45	17	147
gamma-BHC(Lindane)	182	ND	102	4	56	32	127
delta-BHC	182	ND	76.8	6	42	19	140
Heptachlor	182	ND	132	5	73	34	111
Aldrin	182	ND	112	4	62	42	122
Heptachlor Epoxide	182	ND	116	6	64	37	142
Endosulfan I	182	ND	116	2	64	45	153
Dieldrin	182	ND	164	3	90	36	146
4,4'-DDE	182	ND	135	5	74	30	145
Endrin	182	ND	151	7	83	30	147
Endosulfan II	182	ND	111	6	61	0	202
4,4'-DDD	182	ND	163	12	90	31	141
Endrin Aldehyde	182	ND	71.0	8	39 *	59	156
Endosulfan Sulfate	182	ND	158	6	87	26	144
4,4'-DDT	182	ND	182	4	100	25	160
Methoxychlor	727	ND	827	4	114	59	155
2,4,5,6-TMX	182		71.0	5	39	25	155
DBC	182		162	1	89	25	155

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 19 outside limits
Spike Recovery: 2 out of 38 outside limits

COMMENTS: 11/29/94 - End. Aldehyde also low in LCS
11/29/94

FORM III PEST

3E
SOLID PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY
METHOD 8080

Lab Name: Environmental Testing and Consulting, Inc
System ID: HP5890II

Matrix Spike Duplicate ID: 9411-602-1MSD 1:10
MSD Date Analyzed: 11/29/94
MSD Data File ID: S211281A.14

COMPOUND	SPIKE Added (ug/L)	SAMPLE Conc (ug/L)	MSD Conc (ug/L)		MSD % Rec #	QC Limits	
alpha-BHC	169	ND	93.9		55	37	134
beta-BHC	169	ND	78.8		46	17	147
Lindane (gamma-BHC)	169	ND	98.9		58	32	127
delta-BHC	169	ND	76.2		45	19	140
Heptachlor	169	ND	130		77	34	111
Aldrin	169	ND	109		64	42	122
Heptachlor Epoxide	169	ND	115		68	37	142
Endosulfan I	169	ND	110		65	45	153
Dieldrin	169	ND	158		93	36	146
4,4'-DDE	169	ND	132		78	30	145
Endrin	169	ND	151		89	30	147
Endosulfan II	169	ND	110		65	0	202
4,4'-DDD	169	ND	172		101	31	141
Endrin Aldehyde	169	ND	72.0		42 *	59	156
Endosulfan Sulfate	169	ND	156		92	26	144
4,4'-DDT	169	ND	177		104	25	160
Methoxychlor	727	ND	793		109	59	155
2,4,5,6-TMX	169		69.7		41	25	155
DBC	169		150		89	25	155

FORM III PEST

9411-602.PQ1

3G
SOLID PESTICIDE LABORATORY CONTROL SAMPLE
METHOD 608/8080

Lab Name: Environmental Testing and Consulting, Inc

LCS Spike ID: 1123-LCS(1) 1:10
LCS Date Analyzed: 11/29/94
LCS Data File ID: S211281A.11

COMPOUND	SPIKE Added (ug/kg)	SAMPLE Conc (ug/kg)	MS Conc (ug/kg)		MS % Rec #	QC Limits	
alpha-BHC	33.3	ND	21.0		63	37	134
gamma-BHC (Lindane)	33.3	ND	22.8		68	32	127
beta-BHC	33.3	ND	22.1		66	17	147
Heptachlor	33.3	ND	24.3		73	34	111
delta-BHC	33.3	ND	17.6		53	19	140
Aldrin	33.3	ND	22.5		68	42	122
Heptachlor Expoxide	33.3	ND	23.9		72	37	142
Endosulfan I	33.3	ND	23.8		71	45	153
p,p-DDE	33.3	ND	23.3		70	30	145
Dieldrin	33.3	ND	23.7		71	36	146
Endrin	33.3	ND	24.1		72	30	147
p,p-DDD	33.3	ND	26.3		79	31	141
Endosulfan II	33.3	ND	23.0		69	0	202
p,p-DDT	33.3	ND	25.5		77	25	160
Endrin Aldehyde	33.3	ND	19.6		59	59	156
Endosulfan Sulfate	33.3	ND	18.7		56	26	144
Methoxychlor	133	ND	108		81	59	155
2,4,5,6-TMX	33.3		19.9		60	25	155
DBC	33.3		28.0		84	25	155

Column to be used to flag recovery values with an asterisk
* Values outside of QC limits

COMMENTS: 11/29/94
11/29/94

FORM III PEST

Compounds Detected at Croft Springs
Nashville, TN
March 1-3, 1995

Volatile Organics (ug/L)	CS01	CS02	CS03	CS04	CS05	CS06	CS06A	CS07	CS08	CS09	CS12	CS16	CS17	CS20	CS23	CS24	CS25	CS26	CS27	CS28	CS31
VINYL CHLORIDE	.4	.5	.4	.5	.5	.4	.5		.5		.4	.4	.5	.5	.5	.5	.5	.5	.5	G	
ACETONE	17	34	22	10	11	4	2	45	10	53	7	9	3	4	4	2					41
1,1-DICHLOROETHANE	.1	.2	.2	.2	.2	.2	.2		.2		.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	
CIS -1,2-DICHLOROETHENE	2	2	2	2	2	2	2		2		2	2	2	2	2	2	2	2	2	2	
CHLOROFORM	.1	.1	.2	.1	.1	.2	.2	3	.2	3	.1	.1	.2	.2	.1	.2	.2	.1	.1	2	8
BENZENE	.1	.1	.1	.1	.1	.1	.1		.1		.1	.1	.1	.2	.2	.1	.1	.1	.1	.1	
CHLOROBENZENE	2	2	2	2	2	2	2		2		2	2	2	2	2	2	2	2	2	2	
1,2-DICHLOROBENZENE	.1	.1	.1	.1	.1	.1	.1		.1		.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	
2-BUTANONE								4		5											3
BROMODICHLOROMETHANE										.1											

Semi-Volatile Organics (ug/L)	CS10A	CS15A
DI-N-BUTYLPHTHALATE	2	3

Pesticides and PCBs (ug/L)	CS10	CS10A	CS16	CS15A
ALDRIN	.017	.019	.018	.013

Total Petroleum Hydrocarbons (mg/L)	CS13	CS14
#2 FUEL OIL	.52	.60

** TOTAL PAGE.02 **

GOVERNMENT EXHIBIT