719 499 B

File: 541.460.000n
C.H.

THE MEMPHIS DEPOT
TENNESSEE

ADMINISTRATIVE RECORD
COVER SHEET

AR File Number 719

PART II OF II

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

719 500

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Lab File ID: 0101001 BFB Injection Date: 10/14/02

Instrument ID: VOC4 BFB Injection Time: 1013

GC Column: ID: 2.00 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.9
75	30.0 - 60.0% of mass 95	51.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	0.1 (0.2)1
174	Greater than 50.0% of mass 95	58.9
175	5.0 - 9.0% of mass 174	4.2 (7.2)1
176	95.0 - 101.0% of mass 174	57.0 (96.8)1
177	5.0 - 9.0% of mass 176	4.0 (7.0)2

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

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	V4101411LCS	11LCS	0201002LCS	10/14/02	1031
02	DCS100PPB		0201002	10/14/02	1031
03	V4101411LB	11LB	0302004	10/14/02	1246
04	021005469	021005469	0401005	10/14/02	1317
05	021005471	021005471	0502007	10/14/02	1417
06	021005475	021005475	0601008	10/14/02	1448
07	021005476	021005476	0701009	10/14/02	1518
08	021005477	021005477	0801010	10/14/02	1549
09	021005478	021005478	0901011	10/14/02	1619
10	021005479	021005479	1001012	10/14/02	1650
11	021005480	021005480	1101013	10/14/02	1720
12	021005481	021005481	1201014	10/14/02	1751
13	021005482	021005482	1301015	10/14/02	1821
14	021005483	021005483	1401016	10/14/02	1851
15	021005484	021005484	1501017	10/14/02	1921
16	021005485	021005485	1601018	10/14/02	1951
17	021005480MS	MS	1801020	10/14/02	2051
18	021005480MSD	MSD	1901021	10/14/02	2122
19					
20					
21					
22					

719 501

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Instrument ID: VOC4 Calibration Date: 10/14/02 Time: 1031

Lab File ID: 0201002 Init. Calib. Date(s): 09/13/02 09/16/02

Heated Purge: (Y/N) Y Init. Calib. Times: 1057 1137

GC Column: ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d	
Acetone	155.9	100.0	AVRG	55.9	30.0	<-
Benzene	113.2	100.0	AVRG	13.2	30.0	
Bromodichloromethane	102.3	100.0	LINR	2.3	30.0	
Bromoform	104.7	100.0	AVRG	4.7	30.0	
2-Butanone	127.2	100.0	AVRG	27.2	30.0	
Bromomethane	85.08	100.0	AVRG	14.9	30.0	
Carbon Disulfide	107.5	100.0	AVRG	7.5	30.0	
Carbon Tetrachloride	112.7	100.0	AVRG	12.7	30.0	
Chlorobenzene	101.5	100.0	AVRG	1.5	30.0	
Chlorodibromomethane	103.5	100.0	AVRG	3.5	30.0	
Chloroethane	121.3	100.0	AVRG	21.3	30.0	
Chloroform	115.1	100.0	AVRG	15.1	20.0	
Chloromethane	107.4	100.0	AVRG	7.4	30.0	
1,1-Dichloroethane	96.12	100.0	AVRG	3.9	30.0	
1,2-Dichloroethane	129.9	100.0	AVRG	29.9	30.0	
1,1-Dichloroethene	101.4	100.0	AVRG	1.4	20.0	
cis-1,2-Dichloroethene	106.7	100.0	AVRG	6.7	30.0	
trans-1,2-Dichloroethene	120.5	100.0	AVRG	20.5	30.0	
1,2-Dichloropropane	106.8	100.0	AVRG	6.8	20.0	
cis-1,3-Dichloropropene	111.8	100.0	AVRG	11.8	30.0	
trans-1,3-Dichloropropene	115.3	100.0	AVRG	15.3	30.0	
Ethylbenzene	103.2	100.0	AVRG	3.2	20.0	
2-Hexanone	124.2	100.0	AVRG	24.2	30.0	
Methylene Chloride	113.1	100.0	LINR	13.1	30.0	
4-Methyl-2-Pentanone	116.9	100.0	AVRG	16.9	30.0	
Styrene	103.3	100.0	AVRG	3.3	30.0	
1,1,2,2-Tetrachloroethane	111.1	100.0	AVRG	11.1	30.0	
Tetrachloroethene	99.98	100.0	AVRG	0.0	30.0	
1,1,1-Trichloroethane	114.5	100.0	AVRG	14.5	30.0	
Toluene	104.0	100.0	AVRG	4.0	20.0	
1,1,2-Trichloroethane	110.0	100.0	AVRG	10.0	30.0	
Trichloroethene	91.90	100.0	AVRG	8.1	30.0	
Vinyl Acetate	80.96	100.0	AVRG	19.0	30.0	
Vinyl Chloride	115.1	100.0	AVRG	15.1	20.0	
Xylene-mp	200.0	200.0	AVRG	0.0	30.0	
Xylene-o	101.8	100.0	AVRG	1.8	30.0	

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

719 502

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Instrument ID: VOC4 Calibration Date: 10/14/02 Time: 1031

Lab File ID: 0201002 Init. Calib. Date(s): 09/13/02 09/16/02

Heated Purge: (Y/N) Y Init. Calib. Times: 1057 1137

GC Column: ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
Dibromofluoromethane	50.68	50.00	AVRG	1.4	30.0
Toluene-d8	52.29	50.00	AVRG	4.6	30.0
Bromofluorobenzene	53.36	50.00	AVRG	6.7	30.0
1,2-Dichloroethane-d4	54.58	50.00	AVRG	9.2	30.0

719 503

FORM 8
VOA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Lab File ID (Standard): 0201002 Date Analyzed: 10/14/02

Instrument ID: VOC4 Time Analyzed: 1031

GC Column: ID: 2.00 (mm) Heated Purge: (Y/N) Y

		IS1 AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	494371	6.17	786590	6.75	742853	8.97
	UPPER LIMIT	988742	6.67	1573180	7.25	1485706	9.47
	LOWER LIMIT	247186	5.67	393295	6.25	371427	8.47
	CLIENT SAMPLE NO.						
01	V4101411LB	379165	6.17	585728	6.76	515633	8.98
02	021005469	347515	6.17	542737	6.76	465690	8.98
03	021005471	318454	6.18	498469	6.76	450007	8.98
04	021005475	331607	6.17	538752	6.76	476370	8.98
05	021005476	331185	6.18	529902	6.76	478716	8.98
06	021005477	337179	6.17	543515	6.76	496309	8.98
07	021005478	340462	6.17	549812	6.76	486691	8.98
08	021005479	342615	6.18	560687	6.76	508441	8.98
09	021005480	338827	6.17	567710	6.76	511490	8.98
10	021005481	342152	6.17	573885	6.76	514078	8.98
11	021005482	351356	6.17	582468	6.76	525504	8.98
12	021005483	360247	6.18	596861	6.76	544685	8.98
13	021005484	362393	6.17	612843	6.76	546450	8.98
14	021005485	368064	6.17	621598	6.76	547498	8.98
15	021005480MS	522952	6.18	864142	6.76	750836	8.99
16	021005480MSD	564064	6.18	928725	6.76	831622	8.98
17							
18							
19							
20							
21							
22							

IS1 = Pentafluorobenzene
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

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

FORM VIII VOA-GCMS

FORM 8
VOA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY 719 504

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Lab File ID (Standard): 0201002 Date Analyzed: 10/14/02

Instrument ID: VOC4 Time Analyzed: 1031

GC Column: ID: 2.00 (mm) Heated Purge: (Y/N) Y

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	335604	10.77				
	UPPER LIMIT	671208	11.27				
	LOWER LIMIT	167802	10.27				
	CLIENT SAMPLE NO.						
01	V4101411LB	247565	10.78				
02	021005469	218719	10.78				
03	021005471	211011	10.78				
04	021005475	223615	10.78				
05	021005476	228057	10.78				
06	021005477	235966	10.78				
07	021005478	229476	10.78				
08	021005479	243321	10.78				
09	021005480	236269	10.78				
10	021005481	235841	10.78				
11	021005482	245480	10.78				
12	021005483	253097	10.78				
13	021005484	253700	10.78				
14	021005485	248921	10.78				
15	021005480MS	321499	10.78				
16	021005480MSD	361856	10.78				
17							
18							
19							
20							
21							
22							

IS4 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

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

719 505

ENVIRONMENTAL TESTING & CONSULTING, INC.
GC/MS VOC Method 8260B Sequence Check List (SW-846)

Sequence ID: V410151 Matrix: H_2O HBN: _____ Analyst CS

Date: 10-16-02 Super _____

Applicable ETC Order Nos. for this sequence:
0210-054-79,80,83 0210-330-1
0210-224-1-3 0210-285-1,2

	Validated
1. BFB Daily 12-Hour Tune Meets Criteria. No analyses begins until criteria are met. (SOP)	✓
2. Initial Calibration Verification Criteria - Method : V4 09131.8260M	
a. SPCC - Mean RF > =0.10 (> =0.30 for Chlorobenzene / 1122-Tetrachloroethene)	✓
b. CCC - RSD of RF for CCCs and Target Analytes MUST BE < = 30%	✓
c. RSD of analytes < =15% may use Average RF for quantitation	✓
d. Analytes w/RSD > 15% use Linear Regression - correlation coefficient > = 0.99	✓
3. Calibration Verification - Each 12-Hour Shift	
a. SPCC - Mean RF > =0.10 (> =0.30 for Chlorobenzene / 1122-Tetrachloroethene)	✓
b. CCC - % Difference for Average RF Calibration - < =20%	✓
c. CCC - % Drift for Linear Regression Calibration - < =20%	✓
d. % Difference/% Drift for all other Target Analytes - <=30% Acetone ↑, MEK ↑, Acrylonitrile ↑	✓
e. Internal Standards - Retention Times within +/-30 seconds from Mid-Point ICAL STD	✓
f Internal Standards - Areas within (-50% to +100%) form Mid-Point ICAL STD	✓
4. Method Blanks included in this sequence :	✓
Analyze daily or for each analytical batch (20 samples): _____	
List compounds identified in Method Blank w/concentration.	
Flag final report "B-Detected in Blank" Methylene 4.09 ppb	
5. Matrix Spike/Matrix Spike Duplicates included in this sequence :	✓ *
Analyze daily or for each matrix (ms/msd per 20 samples of same matrix)	
List MS/MSD(s) performed with any failures: 0210-224-3 ms, msd * 2/10 recoveries exceed limits	
6. Laboratory Control Samples included in this sequence :	✓
Must contain all Target Analytes. 3/88 ↑	
7. Surrogate Recoveries within QC Limits	✓
8. All positive compounds within calibration range	✓

Narrative/Notes

_____

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

719 506

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Lab File ID: 0101001 BFB Injection Date: 10/15/02

Instrument ID: VOC4 BFB Injection Time: 0954

GC Column: ID: 2.00 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.3
75	30.0 - 60.0% of mass 95	47.6
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	76.6
175	5.0 - 9.0% of mass 174	5.5 (7.2)1
176	95.0 - 101.0% of mass 174	73.5 (95.9)1
177	5.0 - 9.0% of mass 176	5.0 (6.8)2

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

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	DCS100PPB		0201002	10/15/02	1011
02	V4101511LCS	11LCS	0201002LCS	10/15/02	1011
03	V4101511LB	11LB	0303005	10/15/02	1228
04	021005480	021005480	0401006	10/15/02	1300
05	021005479	021005479	0501007	10/15/02	1330
06	021005483	021005483	0601008	10/15/02	1401
07	021022403	021022403	1201014	10/15/02	1705
08	021022403MS	MS	1601018	10/15/02	1907
09	021022403MSD	MSD	1701019	10/15/02	1937
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

719 507

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Instrument ID: VOC4 Calibration Date: 10/15/02 Time: 1011

Lab File ID: 0201002 Init. Calib. Date(s): 09/13/02 09/16/02

Heated Purge: (Y/N) Y Init. Calib. Times: 1057 1137

GC Column: ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d	
Acetone	140.2	100.0	AVRG	40.2	30.0	<-
Benzene	119.8	100.0	AVRG	19.8	30.0	
Bromodichloromethane	89.06	100.0	LINR	10.9	30.0	
Bromoform	86.03	100.0	AVRG	14.0	30.0	
2-Butanone	132.4	100.0	AVRG	32.4	30.0	<-
Bromomethane	94.78	100.0	AVRG	5.2	30.0	
Carbon Disulfide	108.9	100.0	AVRG	8.9	30.0	
Carbon Tetrachloride	95.79	100.0	AVRG	4.2	30.0	
Chlorobenzene	91.60	100.0	AVRG	8.4	30.0	
Chlorodibromomethane	91.56	100.0	AVRG	8.4	30.0	
Chloroethane	130.3	100.0	AVRG	30.3	30.0	<-
Chloroform	106.4	100.0	AVRG	6.4	20.0	
Chloromethane	103.3	100.0	AVRG	3.3	30.0	
1,1-Dichloroethane	109.6	100.0	AVRG	9.6	30.0	
1,2-Dichloroethane	99.70	100.0	AVRG	0.3	30.0	
1,1-Dichloroethene	114.3	100.0	AVRG	14.3	20.0	
cis-1,2-Dichloroethene	112.1	100.0	AVRG	12.1	30.0	
trans-1,2-Dichloroethene	105.3	100.0	AVRG	5.3	30.0	
1,2-Dichloropropane	109.3	100.0	AVRG	9.3	20.0	
cis-1,3-Dichloropropene	107.0	100.0	AVRG	7.0	30.0	
trans-1,3-Dichloropropene	104.1	100.0	AVRG	4.1	30.0	
Ethylbenzene	89.76	100.0	AVRG	10.2	20.0	
2-Hexanone	112.4	100.0	AVRG	12.4	30.0	
Methylene Chloride	109.6	100.0	LINR	9.6	30.0	
4-Methyl-2-Pentanone	113.0	100.0	AVRG	13.0	30.0	
Styrene	89.70	100.0	AVRG	10.3	30.0	
1,1,2,2-Tetrachloroethane	107.7	100.0	AVRG	7.7	30.0	
Tetrachloroethene	99.17	100.0	AVRG	0.8	30.0	
1,1,1-Trichloroethane	98.96	100.0	AVRG	1.0	30.0	
Toluene	101.9	100.0	AVRG	1.9	20.0	
1,1,2-Trichloroethane	108.4	100.0	AVRG	8.4	30.0	
Trichloroethene	97.84	100.0	AVRG	2.2	30.0	
Vinyl Acetate	94.38	100.0	AVRG	5.6	30.0	
Vinyl Chloride	107.3	100.0	AVRG	7.3	20.0	
Xylene-mp	171.1	200.0	AVRG	14.4	30.0	
Xylene-o	88.12	100.0	AVRG	11.9	30.0	

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

719 508

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Instrument ID: VOC4 Calibration Date: 10/15/02 Time: 1011

Lab File ID: 0201002 Init. Calib. Date(s): 09/13/02 09/16/02

Heated Purge: (Y/N) Y Init. Calib. Times: 1057 1137

GC Column: ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
Dibromofluoromethane	43.60	50.00	AVRG	12.8	30.0
Toluene-d8	48.91	50.00	AVRG	2.2	30.0
Bromofluorobenzene	42.84	50.00	AVRG	14.3	30.0
1,2-Dichloroethane-d4	40.44	50.00	AVRG	19.1	30.0

719 509

FORM 8

VOA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Lab File ID (Standard): 0201002 Date Analyzed: 10/15/02

Instrument ID: VOC4 Time Analyzed: 1011

GC Column: ID: 2.00 (mm) Heated Purge: (Y/N) Y

		IS1 AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	669456	6.18	1053450	6.76	1077530	8.98
	UPPER LIMIT	1338912	6.68	2106900	7.26	2155060	9.48
	LOWER LIMIT	334728	5.68	526725	6.26	538765	8.48
	CLIENT SAMPLE NO.						
01	V4101511LCS	669456	6.18	1053450	6.76	1077530	8.98
02	V4101511LB	537019	6.18	848166	6.77	744076	8.99
03	021005480	504686	6.18	808943	6.77	710610	8.99
04	021005479	453734	6.18	739374	6.77	656618	8.99
05	021005483	429084	6.18	697200	6.77	627662	8.99
06	021022403	419221	6.18	715217	6.77	648566	8.99
07	021022403MS	534724	6.18	900506	6.77	851321	8.99
08	021022403MSD	586349	6.18	980429	6.77	954547	8.99
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 = Pentafluorobenzene
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

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

FORM 8
VOA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

719 510

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Lab File ID (Standard): 0201002 Date Analyzed: 10/15/02

Instrument ID: VOC4 Time Analyzed: 1011

GC Column: ID: 2.00 (mm) Heated Purge: (Y/N) Y

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	427792	10.79				
	UPPER LIMIT	855584	11.29				
	LOWER LIMIT	213896	10.29				
	CLIENT SAMPLE NO.						
01	V4101511LCS	427792	10.79				
02	V4101511LB	357072	10.79				
03	021005480	345086	10.79				
04	021005479	307198	10.79				
05	021005483	296597	10.79				
06	021022403	301898	10.79				
07	021022403MS	344797	10.79				
08	021022403MSD	397392	10.78				
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS4 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

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

Lisa Savage 9-17-02

MM 9/18/02

9-18-02

719 511

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

SRN:02-6-94-12

Start Cal Date : 13-SEP-2002 10:57
End Cal Date : 16-SEP-2002 11:37
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V409161.B\v409131.8260.m
Cal Date : 17-Sep-2002 11:11 Lisa

Calibration File Names:
Level 1: \\ETCBDC\DD\chem\voc4.i\V409131.B\0301005.D
Level 2: \\ETCBDC\DD\chem\voc4.i\V409131.B\0401002.D
Level 3: \\ETCBDC\DD\chem\voc4.i\V409131.B\0601008.D
Level 4: \\ETCBDC\DD\chem\voc4.i\V409131.B\0701009.D
Level 5: \\ETCBDC\DD\chem\voc4.i\V409131.B\0801010.D
Level 6: \\ETCBDC\DD\chem\voc4.i\V409131.B\0901011.D
Level 7: \\ETCBDC\DD\chem\voc4.i\V409131.B\1001012.D
Level 8: \\ETCBDC\DD\chem\voc4.i\V409131.B\1101013.D
Level 9: \\ETCBDC\DD\chem\voc4.i\V409131.B\1201014.D
Level 10: \\ETCBDC\DD\chem\voc4.i\V409131.B\1301015.D

Compound	0 5000000 Level 1	1 0000 Level 2	5 0000 Level 3	20 0000 Level 4	50 0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120 0000 Level 7	150 0000 Level 8	170.0000 Level 9	200.0000 Level 10							
1 Dichlorodifluoromethane	0 95434	0 64594	1 01487	0 84863	0 97437	0 87113					
	1 05991	0 90539	0 79064	0 80900			AVRG		0 88742		13 74779

000377

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-SEP-2002 10:57
End Cal Date : 16-SEP-2002 11:37
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V409161.B\v409131.8260.m
Cal Date : 17-Sep-2002 11:11 Lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
2 Chloroethane	0.31793	0.30969	0.26917	0.22148	0.25360	0.23720					
	0.30021	0.28613	0.27111	0.28218			AVRG		0.27487		11.28335
3 Vinyl Chloride	0.44707	0.36876	0.42554	0.35496	0.38324	0.34289					
	0.40262	0.32871	*****	*****			AVRG		0.38172		10.77096
4 Bromomethane	*****	0.38289	0.47988	0.37253	0.37788	0.33938					
	0.42382	0.37213	0.33532	0.32437			AVRG		0.37869		12.78462
5 Chloroethane	0.17891	0.21067	0.21687	0.19422	0.20040	0.17267					
	0.21272	0.18583	0.16579	0.16485			AVRG		0.19029		10.28806
6 Acrolein	*****	*****	*****	0.01888	0.01608	0.01489					
	0.01556	0.01585	0.01575	0.01613			AVRG		0.01616		7.84104

719 513

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-SEP-2002 10:57
End Cal Date : 16-SEP-2002 11:37
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V409161.B\v409131.8260.m
Cal Date : 17-Sep-2002 11:11 Lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
7 Trichlorofluoromethane	1.20109	0.94571	1.32380	1.18705	1.18705	1.00814					
	1.18849	1.05358	0.93637	0.91385			AVRG		1.09451		12.87827
8 Acetonitrile	*****	*****	0.02875	0.02497	0.02454	0.02184					
	0.02764	0.02633	0.02479	0.02532			AVRG		0.02552		8.23630
9 Acetone	*****	*****	*****	0.21233	0.18537	0.16530					
	0.19830	0.18370	0.15962	0.15888			AVRG		0.18050		11.30458
10 Furan	*****	0.75492	0.99434	0.91102	0.92385	0.81398					
	0.99203	0.90768	0.81338	*****			AVRG		0.88890		9.79677
11 1,1-Dichloroethene	0.42441	0.34677	0.42393	0.37545	0.37753	0.33059					
	0.41845	0.38183	0.34721	0.34386			AVRG		0.37700		9.37703

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-SEP-2002 10:57
End Cal Date : 16-SEP-2002 11:37
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V409161.B\v409131.8260.m
Cal Date : 17-Sep-2002 11:11 Lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
12 Acrylonitrile	*****	*****	*****	0.09046	0.08152	0.07710					
	0.08439	0.08153	0.08187	0.08261			AVRG		0.08278		4.87741
13 Iodomethane	*****	0.53464	0.65445	0.66057	0.75456	0.67815					
	0.85355	0.73713	0.63717	0.61474			AVRG		0.68055		13.46685
14 Methylene Chloride	18242	20574	45707	134467	332038	678338					
	969612	1159410	*****	*****			LINR	-0.02514	0.44510		0.99193
15 1,1,2-trichloro-1,2,2-trifluo	*****	0.48986	0.61182	0.58876	0.58525	0.50974					
	0.61635	0.56807	0.50351	0.49673			AVRG		0.55223		9.38458
16 Allyl chloride	*****	0.55401	0.63210	0.61080	0.59954	0.52248					
	0.63346	0.58077	0.52084	0.50164			AVRG		0.57285		8.74299

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-SEP-2002 10:57
End Cal Date : 16-SEP-2002 11:37
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V409161.B\v409131.8260.m
Cal Date : 17-Sep-2002 11:11 Lisa

Compound	0.500000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
17 Carbon Disulfide	*****	1.04760	1.28109	1.17762	1.25892	1.09713					
	1.34389	1.23581	1.10325	1.10638			AVRG		1.18352		8.55565
18 trans-1,2-Dichloroethene	0.39647	0.36654	0.43027	0.44560	0.44655	0.39408					
	0.48070	0.44571	0.39569	0.40353			AVRG		0.42051		8.22039
19 Methyl-tertbutyl-Ether	1.72143	1.27522	1.93080	1.86472	1.79822	1.58438					
	1.99936	1.80840	1.54305	1.62406			AVRG		1.71496		12.50371
20 Propionitrile	0.04147	0.03931	0.03830	0.03985	0.03657	0.03304					
	0.04118	0.03865	0.03586	0.03657			AVRG		0.03808		6.83493
21 1,1-Dichloroethane	0.83103	0.83824	0.95022	0.91480	0.85054	0.78541					
	0.95910	0.90536	0.79435	0.79588			AVRG		0.86249		7.56823

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-SEP-2002 10:57
End Cal Date : 16-SEP-2002 11:37
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V409161.B\v409131.8260.m
Cal Date : 17-Sep-2002 11:11 Lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
22 Vinyl Acetate	*****	*****	0.87177	0.88202	0.83676	0.76108					
	0.95557	0.89570	0.82390	0.82789			AVRG		0.85683		6.77804
23 Chloroprene	1.10768	0.98571	1.14397	1.12815	1.09249	0.93922					
	1.13789	1.08707	0.95812	0.95835			AVRG		1.05386		7.89278
24 2-Butanone	*****	*****	*****	0.05715	0.05226	0.04581					
	0.05609	0.05138	0.04665	0.04550			AVRG		0.05069		9.56264
25 Hexane	*****	*****	0.64956	0.55158	0.52176	0.45336					
	0.53938	0.50132	0.44859	0.45085			AVRG		0.51455		13.26186
26 Di isopropyl ether	1.50637	1.36820	1.54380	1.49491	1.40707	1.24314					
	1.53380	1.43743	1.30701	1.29157			AVRG		1.41333		7.62788

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-SEP-2002 10:57
End Cal Date : 16-SEP-2002 11:37
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V409161.B\v409131.8260.m
Cal Date : 17-Sep-2002 11:11 Lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
27 Methacrylonitrile	0.25812	0.25707	0.25816	0.25331	0.22637	0.19719					
	0.24630	0.22709	0.21092	0.21032			AVRG		0.23449		9.82224
28 cis-1,2-Dichloroethene	0.42136	0.53233	0.50902	0.51319	0.48287	0.42033					
	0.51217	0.48206	0.43292	0.43317			AVRG		0.47394		9.10850
29 Ethyl Acetate	*****	*****	0.43655	0.42275	0.38899	0.35034					
	0.42297	0.38800	0.36170	0.36354			AVRG		0.39185		8.28532
30 Bromochloromethane	0.28818	0.27437	0.31849	0.30015	0.29292	0.25654					
	0.31510	0.29410	0.26723	0.26669			AVRG		0.28738		7.27184
31 Chloroform	*****	1.56901	1.18944	1.05782	1.59688	1.40726					
	1.63931	1.56760	1.36158	*****			AVRG		1.42361		14.81033

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-SEP-2002 10:57
End Cal Date : 16-SEP-2002 11:37
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V409161.B\v409131.8260.m
Cal Date : 17-Sep-2002 11:11 Lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
32 Isobutyl Alcohol	*****	*****	0.01820	0.01672	0.01564	0.01341					
	0.01636	0.01541	0.01389	0.01371			AVRG		0.01542		10.87291
33 2,2-Dichloropropane	1.46230	1.17892	1.39604	1.33138	1.26939	1.10576					
	1.31778	1.20799	1.05486	1.03980			AVRG		1.23642		11.62826
35 Tetrahydrofuran	*****	*****	0.10363	0.15553	0.15689	0.14851					
	0.18023	0.16862	0.15802	0.15884			AVRG		0.15378		14.57978
38 1,2-Dichloroethane	1.10629	1.04282	1.23953	1.25271	1.17612	1.06973					
	1.36788	1.19236	1.06751	1.04460			AVRG		1.15596		9.38456
39 1,1,1-Trichloroethane	1.51930	1.31220	1.68655	1.68320	1.63423	1.41719					
	1.69731	1.61158	1.41710	1.42194			AVRG		1.54006		9.11061

719 513

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-SEP-2002 10:57
End Cal Date : 16-SEP-2002 11:37
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V409161.B\v409131.8260.m
Cal Date : 17-Sep-2002 11:11 Lisa

Compound	0.5000000 Level 1	1 0000 Level 2	5 0000 Level 3	20 0000 Level 4	50 0000 Level 5	100 0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120 0000 Level 7	150 0000 Level 8	170 0000 Level 9	200 0000 Level 10							
40 1,1-Dichloropropene	0.83076	0 86003	0 91615	0 89872	0 87301	0 76701					
	0 93615	0.86502	0 78494	0 78654			AVRG		0.85183		6 83514
41 Carbon Tetrachloride	1 43061	1 23673	1 62794	1.66035	1 59311	1 37271					
	1 62708	1 54434	1 37133	1 35582			AVRG		1 48200		9 88886
42 Benzene	1 65915	1 68649	1 71434	1 66290	1 61150	1 40970					
	1 73494	1 63199	1.48854	1 51294			AVRG		1 61125		6.61780
44 Dibromomethane	0 28264	0 28497	0 30859	0 33135	0 31075	0 26604					
	0 33265	0 30578	0.27771	0 27656			AVRG		0.29770		7 87457
45 1,2-Dichloropropane	0 32896	0 28415	0 31469	0 30704	0 28502	0 24052					
	0 29096	0 27356	0 24643	0 24501			AVRG		0 28164		10 86024

001385

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-SEP-2002 10:57
End Cal Date : 16-SEP-2002 11:37
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V409161.B\v409131.8260.m
Cal Date : 17-Sep-2002 11:11 Lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
46 Trichloroethene	0.42334	0.45578	0.43848	0.45037	0.42839	0.36128					
	0.45470	0.42996	0.38903	0.39807			AVRG		0.42294		7.36460
47 Bromodichloromethane	16315	25251	66022	239702	596153	1377947					
	1718851	2065619	2247871	*****			LINR	-0.04774	0.53505		0.99029
48 n-Propyl Acetate	*****	0.79064	0.79373	0.78699	0.73135	0.61574					
	0.76510	0.70032	0.65336	0.64726			AVRG		0.72050		9.57389
49 Methyl methacrylate	0.19662	0.20866	0.21676	0.22012	0.20176	0.17123					
	0.20899	0.19120	0.17565	0.17128			AVRG		0.19623		9.36071
50 1,4-Dioxane	*****	*****	0.00283	0.00257	0.00240	0.00210					
	0.00268	0.00258	0.00261	0.00246			AVRG		0.00253		8.54150

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-SEP-2002 10:57
End Cal Date : 16-SEP-2002 11:37
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V409161.B\v409131.8260.m
Cal Date : 17-Sep-2002 11:11 Lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
51 2-Chloroethyl vinyl ether	329	614	5336	15593	52397	132515					
	*****	*****	*****	*****			LINR	0.03161	0.05401		0.99706
52 cis-1,3-Dichloropropene	0.59386	0.62201	0.70952	0.70914	0.66240	0.58274					
	0.72083	0.67006	0.60764	0.60639			AVRG		0.64846		8.08594
53 4-Methyl-2-Pentanone	*****	*****	0.34115	0.33504	0.31713	0.28056					
	0.35740	0.32866	0.31056	0.30781			AVRG		0.32229		7.32980
54 trans-1,3-Dichloropropene	0.63228	0.57445	0.69280	0.73738	0.69055	0.60258					
	0.75999	0.70262	0.63801	0.62801			AVRG		0.66587		9.00490
55 1,1,2-Trichloroethane	0.25638	0.23737	0.27157	0.28399	0.26376	0.23377					
	0.28992	0.27269	0.24907	0.24616			AVRG		0.26047		7.35324

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-SEP-2002 10:57
End Cal Date : 16-SEP-2002 11:37
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V409161.B\v409131.8260.m
Cal Date : 17-Sep-2002 11:11 Lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
57 Ethyl methacrylate	0.23945	0.22450	0.23789	0.23645	0.21740	0.18344					
	0.22344	0.20702	0.18835	0.18584			AVRG		0.21438		10.27379
58 Toluene	*****	0.79151	0.80147	0.81255	0.76605	0.65315					
	0.80929	0.78644	0.72056	0.72956			AVRG		0.76340		6.93681
59 1,3-Dichloropropane	0.58484	0.53073	0.55304	0.57165	0.52589	0.46075					
	0.55524	0.51547	0.47406	0.46234			AVRG		0.52340		8.59316
60 2-Hexanone	*****	*****	0.32256	0.25492	0.24757	0.22010					
	0.26961	0.24415	0.22940	0.22559			AVRG		0.25174		13.09258
61 Chlorodibromomethane	0.65854	0.54944	0.65134	0.68142	0.65750	0.57311					
	0.71544	0.66879	0.60880	0.60233			AVRG		0.63667		8.10602

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-SEP-2002 10:57
End Cal Date : 16-SEP-2002 11:37
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V409161.B\v409131.8260.m
Cal Date : 17-Sep-2002 11:11 Lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
62 1,2-Dibromoethane	0.35025	0.35896	0.41092	0.43633	0.41341	0.36891					
	0.45984	0.42898	0.39500	0.39203			AVRG		0.40146		8.79976
63 Tetrachloroethene	0.33383	0.33967	0.34562	0.36844	0.35142	0.30750					
	0.38000	0.36384	0.33376	0.33671			AVRG		0.34608		6.02593
64 1,1,1,2-Tetrachloroethane	0.64352	0.56280	0.63008	0.59352	0.61630	0.53193					
	0.61835	0.64313	0.57146	0.58122			AVRG		0.59923		6.21463
66 Chlorobenzene	1.01046	1.11690	1.06673	1.01956	1.04936	0.91655					
	1.07188	1.11768	0.99784	1.03309			AVRG		1.04000		5.74445
67 Ethylbenzene	2.14391	2.11580	2.12860	1.96222	2.07565	1.76957					
	2.02664	2.11762	1.85500	1.86922			AVRG		2.00642		6.71080

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-SEP-2002 10:57
End Cal Date : 16-SEP-2002 11:37
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V409161.B\v409131.8260.m
Cal Date : 17-Sep-2002 11:11 Lisa

Compound	0 5000000 Level 1	1 0000 Level 2	5 0000 Level 3	20 0000 Level 4	50 0000 Level 5	100 0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120 0000 Level 7	150 0000 Level 8	170 0000 Level 9	200.0000 Level 10							
68 Xylene-mp	0 71697	0 72301	0 68334	0 62496	0 61675	0 53947					
	0 62630	0 66724	*****	*****			AVRG		0 64974		9 32909
69 Bromoform	0.41715	0 39088	0 43413	0 42414	0 44337	0 39932					
	0 45969	0 47829	0 38135	0 31024			AVRG		0 41366		11 41538
70 trans-1,4-Dichloro-2-butene	*****	0 13446	0 13870	0 13947	0 14692	0 12882					
	0 14565	0 14783	0 16059	0 13917			AVRG		0 14240		6 43291
71 Styrene	1 05625	1 20070	1.13045	1 04402	1 08684	0 92787					
	1 06663	1 10270	1 00838	1 02368			AVRG		1 06475		6 91798
72 Xylene-o	0 61144	0.68546	0 62708	0 59185	0 59671	0 49115					
	0 56906	0 59510	0 53111	0 54861			AVRG		0.58476		9 21602

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-SEP-2002 10:57
End Cal Date : 16-SEP-2002 11:37
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V409161.B\v409131.8260.m
Cal Date : 17-Sep-2002 11:11 Lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
73 1,1,2,2-Tetrachloroethane	0.76280	0.85342	0.85611	0.89945	0.84548	0.73756					
	0.95254	0.91190	0.82132	0.84360			AVRG		0.84842		7.65352
74 cis-1,4-Dichloro-2-butene	0.12832	0.16433	0.18873	0.17591	0.18273	0.15489					
	0.17266	0.17195	0.15519	0.15192			AVRG		0.16466		10.74512
75 1,2,3-Trichloropropane	0.16879	0.16227	0.17474	0.17194	0.17336	0.14468					
	0.16703	0.16437	0.14941	0.14954			AVRG		0.16261		6.72655
76 Isopropylbenzene	1.94247	2.05264	2.07048	1.90771	1.99737	1.67893					
	1.89169	1.92584	1.75073	1.76618			AVRG		1.89840		6.87874
78 Bromobenzene	0.57245	0.51366	0.49845	0.48358	0.49991	0.42483					
	0.48890	0.49999	0.45474	0.46795			AVRG		0.49045		7.93925

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-SEP-2002 10:57
End Cal Date : 16-SEP-2002 11:37
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V409161.B\v409131.8260.m
Cal Date : 17-Sep-2002 11:11 Lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
79 n-Propylbenzene	2.33843	2.57992	2.30625	2.23759	2.29123	1.93344					
	2.13148	2.16232	1.93076	1.93160			AVRG		2.18430		9.69669
80 2-Chlorotoluene	*****	1.65458	1.51622	1.43569	1.51693	1.34071					
	1.45034	1.40777	1.28287	1.27069			AVRG		1.43064		8.60927
81 4-Chlorotoluene	1.74716	1.90015	1.58777	1.52305	1.54593	1.32092					
	1.42790	1.45985	1.32442	1.29911			AVRG		1.51362		12.83654
82 1,3,5-Trimethylbenzene	1.86607	1.90827	1.77945	1.69675	1.77329	1.48665					
	1.63312	1.66618	1.48311	1.50651			AVRG		1.67994		9.18412
83 1,2,4-Trimethylbenzene	1.99949	2.00890	1.83086	1.73532	1.77876	1.50412					
	1.64680	1.69652	1.51103	1.52092			AVRG		1.72327		10.82638

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-SEP-2002 10:57
End Cal Date : 16-SEP-2002 11:37
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V409161.B\v409131.8260.m
Cal Date : 17-Sep-2002 11:11 Lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
85 tert-Butylbenzene	*****	1.66708	1.50300	1.44348	1.45920	1.24493					
	1.36555	1.39932	1.26017	1.28503			AVRG		1.40308		9.60358
86 sec-Butylbenzene	2.12067	2.39768	2.13761	2.02169	2.06055	1.72924					
	1.87702	1.93483	1.72815	1.75954			AVRG		1.97670		10.86013
87 4-Isopropyltoluene	*****	2.03869	1.77831	1.69211	1.71361	1.45222					
	1.58410	1.63025	1.47903	1.48498			AVRG		1.65037		11.20703
89 1,3-Dichlorobenzene	1.82007	2.08574	1.81266	1.93244	1.80502	1.66296					
	2.06954	2.09206	1.81968	1.88358			AVRG		1.89837		7.59517
90 1,4-Dichlorobenzene	2.04983	2.12510	1.82032	1.87195	1.80169	1.64135					
	2.09551	2.05257	1.92832	1.93362			AVRG		1.93203		7.90635

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-SEP-2002 10:57
End Cal Date : 16-SEP-2002 11:37
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V409161.B\v409131.8260.m
Cal Date : 17-Sep-2002 11:11 Lisa

Compound	0.5000000 Level 1	1 0000 Level 2	5 0000 Level 3	20 0000 Level 4	50 0000 Level 5	100 0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120 0000 Level 7	150 0000 Level 8	170 0000 Level 9	200 0000 Level 10							
91 1,2-Dichloroberzene	1 53894	1 96619	1 67435	1 77986	1 73151	1 52496					
	1 92792	1 87038	1 70503	1 74380			AVRG		1 75629		7 69731
92 n-Butylbenzene	3 38792	3 94394	3 34647	3 62449	3 40617	2 99032					
	3 63814	3 49107	3 14034	3 20992			AVRG		3 41788		8 05710
93 1,2-Dibromo-3-chloropropane	0 36467	0 27994	0 26809	0 26712	0 25832	0 24085					
	0 30212	0 28659	0 26539	0 27007			AVRG		0 28031		12 08234
94 1,2,4-Trichlorobenzene	1 14376	1 49824	1.04972	1 13590	1 11403	1 03122					
	1 30913	1.27460	1 18600	1 21250			AVRG		1 19551		11 57378
95 Naphthalene	*****	*****	2 29022	2 49071	2 45973	2 32696					
	2 95166	2 92384	2 69097	2 81785			AVRG		2 61899		10 03517

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-SEP-2002 10:57
End Cal Date : 16-SEP-2002 11:37
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V409161.B\v409131.8260.m
Cal Date : 17-Sep-2002 11:11 Lisa

Compound	0 5000000 Level 1	1 0000 Level 2	5.0000 Level 3	20 0000 Level 4	50 0000 Level 5	100 0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120 0000 Level 7	150.0000 Level 8	170 0000 Level 9	200 0000 Level 10							
96 Hexachlorobutadiene	0 91664	1 03725	0 86440	0 92381	0 88074	0.82605					
	1 02515	1 00317	0 90571	0 92674			AVRG		0 93097		7 53223
97 1,2,3-Trichlorobenzene	1 01853	1 37737	0 95100	1 02363	1 02146	0 96926					
	1.20914	1 18863	1 11218	1 13989			AVRG		1 10111		11.97057
$ 34 Dibromofluoromethane	*****	*****	0 86679	0 78696	0 77205	0 69561					
	0 71501	0 69124	0.64425	0 67480			AVRG		0 73084		9 95169
$ 37 1,2-Dichloroethane-d4	0 94747	0.81711	1 07518	1.01673	0 99461	0 88581					
	0 90868	0 88436	0.82523	0 86367			AVRG		0 92189		9 22057
$ 56 Toluene-d8	1 18319	1.09492	1 17466	1 05376	1 10186	0 97206					
	1 06756	1 05347	0 98794	1 05950			AVRG		1 07489		6 36616

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-SEP-2002 10:57
End Cal Date : 16-SEP-2002 11:37
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V409161.B\v409131.8260.m
Cal Date : 17-Sep-2002 11:11 Lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
$ 77 Bromofluorobenzene	+++++	0.64613	0.69627	0.55208	0.62496	0.53373					
	0.50940	0.53871	0.48963	0.52934			AVRG		0.56892		12.29638

Curve	Formula	Units
Averaged	Amt * Rsp/m1	Response
Linear	Amt * b + Rsp/m1	Response

APPENDIX C

QUARTERLY EFFLUENT SAMPLES
ANALYTICAL LABORATY DATA

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

February 21, 2002

Mr. Kraig Smith
Sverdrup/Jacobs Eng.
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Ref: Analytical Testing
ETC Order # 0202225
Project Description Memphis Depot

Project Number C5X51106

The above referenced project has been analyzed per your instructions. The analyses were performed in our laboratory in accordance with Standard Methods, The Solid Waste Manual SW-846, EPA Methods for Chemical Analysis of Water and Wastes and/or 40 CFR part 136.

The analytical data has been validated using standard quality control measures performed as required by the analytical method. Quality Assurance, instrumentation maintenance and calibration were performed in accordance with guidelines established by the USEPA.

The results are shown on the attached analysis sheet(s).

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

Sincerely,
Connie Bradberry
Laboratory Project Manager

rt
Attachment

SVE_MHDDMT6

Certifications

Tennessee	*#TN02027*	*Mississippi*		*USDA #S-46279*
Arkansas	*#40730*	*Oklahoma*	*#9311*	
Kentucky	*#90047*	*Virginia*	*#00106*	
North Carolina	*#415*	*Washington*	*#C248*	
South Carolina	*#84002002*	*US Army Corps of Engineers*		

Environmental Testing & Consulting, Inc.

Data Qualifiers for Organic Reporting

Within the attached report, some analytical data may be reported as "Qualified Data" as indicated by a "Data Qualifier" next to the result. This table summarizes the possible "Data Qualifiers" that may be associated with this report. These qualifiers do not apply for TIC reports

Q	Surrogate Recovery Outside QC Limits
J	Estimated Value Presence of the compound was confirmed but less than the
	reported detection limit.
E	Concentration exceeds the established method calibration range but is within
	the working range of the instrument
B	Analyte detected in the associated Method Blank
U	Reported result was unconfirmed. Refer to Case Narrative.
C	Result reported from GC/MS confirmation analysis.
M	Result reported represents a minimum value Refer to Case Narrative.
NC	Result reported from Primary Column. Result did not confirm.
*	QC Data (percent recovery/RPD for a particular analyte was outside QC Limits)

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ANALYTICAL SUMMARY/CROSS REFERENCE TABLE

719 534

Client Name **Sverdrup/Jacobs Eng.** ETC Order #0202225

Site ID **Memphis Depot** C5X51106

ETC Sample ID	Field ID	Matrix	Method	Method Description
020222501	SVEMP-COMP	SOIL	1311	TCLP Extraction
020222501	SVEMP-COMP	SOIL	6010B	Silver - TCLP
020222501	SVEMP-COMP	SOIL	6010B	Arsenic - TCLP
020222501	SVEMP-COMP	SOIL	6010B	Barium - TCLP
020222501	SVEMP-COMP	SOIL	6010B	Cadmium - TCLP
020222501	SVEMP-COMP	SOIL	6010B	Chromium - TCLP
020222501	SVEMP-COMP	SOIL	7470A	Mercury - TCLP
020222501	SVEMP-COMP	SOIL	6010B	Lead - TCLP
020222501	SVEMP-COMP	SOIL	6010B	Selenium - TCLP
020222501	SVEMP-COMP	SOIL	1311	TCLP Extraction ZHE
020222501	SVEMP-COMP	SOIL	8260B	TCLP Volatile Organics
020222502	EFF-2-11	AQUEOUS	8260B	GC/MS Volatile Organics

Effluent sample

2/13/02

719 535

Environmental Testing & Consulting, Inc.

Login
Chain-of-Custody

719 536

CHAIN OF CUSTODY RECORD

000004

Environmental Testing & Consulting, Inc
2924 Walnut Grove Rd.
Memphis, TN 38111
(901)327-2750 FAX (901)327-6334

ETC Work Order : 0202225

Company Name	Phone #	Fax Results	
JACOBS ENGINEERING	615 305 6937		X
Project/Site	Fax # 615 833 8328	RUSH	
Memphis Depot	FID #	Ice	
Project #	PO #		
6SW1106	Matrix: 1 Wastewater 2 Aqueous 3 Soil/Sediment 4 Sludge 5 Oil/Solvent 6 Other		
Project Manager/Contact: KRAIG SMITH			

Analysis Requested (Note special detection limits or methods)

# of cont	Sample ID/ Number	Depth	Sample Date	Sample Time	Matrix	Type Grab/Comp	TCLP RCRA Met	TCLP VOCs	VOC							Comments
4	SVEMP-COMP		2/11	1100	Soil	Comp	X	X								
2	EFF-2-11		2/11	1130	water	GRAB			X							

Sampled By	Method of Shipment	Blank/Cooler Temp	Remarks
K. Smith	Hand Delivery		Standard TAT

RELINQUISHED BY (sign)	DATE	TIME	RECEIVED BY (sign)	DATE	TIME	Sample Delivery Group ID
[signature]	2/11/02	1320				
RELINQUISHED BY (sign)	DATE	TIME	RECEIVED BY (sign)	DATE	TIME	
RELINQUISHED BY (sign)	DATE	TIME	RECEIVED BY LAB (print/sign)	DATE	TIME	
			S. Heermann (M)	2/11/02	1320	

Distribution: Original and Yellow accompany samples to the laboratory Pink copy for Field
Original copy returned with results. Yellow copy for ETC, Inc files.

F:\QAQC\SLOP\COC0896.XLS

719 537

Environmental Testing & Consulting, Inc.
Cooler Receipt Form

LIMS#_0202-225_____
Date Received__2/11/02_____
Project_Memphis Depot__
Date/Time Checked In_2/11/02-13:20_
_____
Carrier/Bill# ___Hand-Delivered_____ By__Rebekah Barger__

1	Custody Seals?/Location-	No
2.	Samples are non-radioactive?	Yes
3	Chain of Custody in plastic?	Yes
4	Temperature at receipt (ok = 4 ± 2 °C)<4oC	OK
5	Ice & Packing- bag, ice	Yes
6	Chain of Custody filled out properly?	Yes
7	All containers in separate bags?	No
8	Sample containers intact?	Yes
9	Label(s) complete and in good condition?	Yes
10.	Label(s) agree with Chain of Custody?	Yes
11.	Correct containers used?	Yes
12	Sufficient sample?	Yes
13.	VOA vials bubble-free (H_2O) or no head space (soil)?	Yes
14.	Preservation OK? TM pH____; TRPH pH____; TOC pH____, TOX pH____; CN pH____; N/P pH____; Other pH____	Yes

Comments _____

*Validated Date and Time of Sample Receipt (VDTSR)

Environmental Testing & Consulting, Inc.

Sample Reports

719 539

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Depot**

Date Arrived **02/11/02**
ETC Order Number **0202225**

ETC Lab ID : **0202225-01**
Field ID . **SVEMP-COMP**

Matrix : **SOIL**
Sample Date **02/11/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
TCLP Extraction	Leachate				02/12/02	TL	1311
Metals Digestion Batch	V30-AQ-08				02/18/02	JF	3015A
Mercury Digestion Batch	V9-AQ-44				02/14/02	JF	7470
Silver - TCLP	ND	mg/L	0 010	02/19/02	02/18/02	SH	6010B
Arsenic - TCLP	ND	mg/L	0.100	02/19/02	02/18/02	SH	6010B
Barium - TCLP	0 381	mg/L	0 025	02/19/02	02/18/02	SH	6010B
Cadmium - TCLP	ND	mg/L	0 010	02/19/02	02/18/02	SH	6010B
Chromium - TCLP	ND	mg/L	0 010	02/19/02	02/18/02	SH	6010B
Mercury - TCLP	ND	mg/L	0 001	02/14/02	02/14/02	JF	7470A
Lead - TCLP	0 103	mg/L	0 100	02/19/02	02/18/02	SH	6010B
Selenium - TCLP	ND	mg/L	0.100	02/19/02	02/18/02	SH	6010B

Data Validator

ND - Not Detected

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 540

Client Name **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID **Memphis Depot**

FID #

Date Arrived **02/11/02**
ETC Order Number **0202225**

ETC Lab ID **0202225-01**
Field ID : **SVEMP-COMP**

Matrix **SOIL**
Sample Date · **02/11/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
TCLP Extraction ZHE	Leachate				02/12/02	TL	1311
TCLP Volatile Organics				02/13/02		LS	8260B 5030B
QC Batch	**V302131**						
Dilution Factor	**10**						
Benzene	ND	mg/L	0 010				
Carbon Tetrachloride	ND	mg/L	0 010				
Chlorobenzene	ND	mg/L	0 010				
Chloroform	ND	mg/L	0 010				
1,4-Dichlorobenzene	ND	mg/L	0 010				
1,2-Dichloroethane	ND	mg/L	0 010				
1,1-Dichloroethene	ND	mg/L	0.010				
2-Butanone (MEK)	ND	mg/L	1.00				
Tetrachloroethene	ND	mg/L	0 010				
[redacted]chloroethene	ND	mg/L	0 010				
[redacted]yl Chloride	ND	mg/L	0.010				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	108	84	115
S2 - Toluene-d8	118	69	133
S3 - 4-Bromofluorobenzene	134 Q	80	111
S4 - 1,2-Dichloroethane-d4	106	58	131

CB
Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 541

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name: **Sverdrup/Jacobs Eng.**
Memphis Depot, Dunn Field
3354 Perimeter Hill Drive,
Suite 310
Nashville, TN 37211

Site ID: **Memphis Depot**

FID #

Date Arrived: **02/11/02**
ETC Order Number: **0202225**

ETC Lab ID: **0202225-02**
Field ID: **EFF-2-11**

Matrix : **AQUEOUS**
Sample Date : **02/11/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				02/11/02		LS	8260B 5030B
QC Batch	V402111						
Dilution Factor	1						
Acetone	ND	ug/L	20 0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1.00				
Bromoform	ND	ug/L	1 00				
Bromomethane	ND	ug/L	1 00				
2-Butanone (MEK)	ND	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1 00				
Carbon Tetrachloride	5 53	ug/L	1.00				
Chlorobenzene	ND	ug/L	1 00				
Chlorodibromomethane	ND	ug/L	1 00				
Chloroethane	ND	ug/L	1 00				
Chloroform	51 1	ug/L	1 00				
Chloromethane	ND	ug/L	1.00				
1,1-Dichloroethane	0 42J	ug/L	1 00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	14 3	ug/L	1.00				
trans-1,2-Dichloroethene	14.6	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1 00				
1,1,2,2-Tetrachloroethane	124	ug/L	1.00				
Tetrachloroethene	17 0	ug/L	1.00				
Toluene	ND	ug/L	2 00				
1,1,1-Trichloroethane	ND	ug/L	1 00				
1,1,2-Trichloroethane	1.48	ug/L	1.00				
Trichloroethene	179	ug/L	1 00				
Vinyl Acetate	ND	ug/L	20 0				
Vinyl Chloride	ND	ug/L	1 00				
Xylenes-m,p	ND	ug/L	1 00				
Xylenes-o	ND	ug/L	1 00				
cis-1,2-Dichloroethene	60.0	ug/L	1 00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	95	84	115
S2 - Toluene-d8	95	69	133
S3 - 4-Bromofluorobenzene	101	80	111
S4 - 1,2-Dichloroethane-d4	92	58	131

CB
Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1 719 542 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

020222502

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0202225

Matrix: (soil/water) WATER Lab Sample ID: 020222502

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1401018

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/11/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

Environmental Testing & Consulting, Inc.

Quality Control Reports
Level III
Metals (ICP/GFAA/CV)

ENVIRONMENTAL TESTING AND CONSULTING, INC.
CASE NARRATIVE
METALS – TCLP

719 544

Client Name Sverdrup/Jacobs Eng
Project Name Memphis Depot

ETC Order# 0202-225

HOLDING TIMES

QC Batch(s) for this order	ICP Metals	V30-AQ-08
	Mercury	V9-AQ-44

TCLP Extraction	All soils extracted within 180 days (28 days for Mercury)
Sample Preparation	All TCLP leachates prepared and analyzed within 180 days (28 days for Mercury)

METHOD

Leachate.	SW-846 1311
Preparation	SW-846 3015/7470A
Analysis	SW-846 6010B/7470A

CALIBRATION

Initial Calibration	All criteria met
Continuing Calibration	All criteria met

SAMPLE ANALYSIS

Instrumentation	Thermo Jarrell Ash Enviro-I ICP
	CETAC M-6000A Mercury Analyzer
Dilutions Required	No dilutions required

QUALITY CONTROL

0202-225.MQCBLANK
Method Blank

V30-AQ-08BLK	ICP Metals
V9-AQ-44BLK	Mercury

No analytes detected in the Method Blank

0202-225.MQCLCS
Laboratory Control Sample(s)

V30-AQ-08LCS	ICP Metals
V9-AQ-44LCS	Mercury

All criteria met

0202-225.MQCMSMSD
Matrix Spike / Matrix Spike Dup - ICP Metals

0202-225-01	RPD	All analytes within QC limits
SVEMP-COMP	Spike Recovery	All analytes within QC limits

Refer to Laboratory Control Sample(s) for system verification

Matrix Spike / Matrix Spike Dup - Hg

0202-225-01	RPD	All analytes within QC limits
SVEMP-COMP	Spike Recovery	All analytes within QC limits

Refer to Laboratory Control Sample(s) for system verification

CB
Project Manager

719 545

FORM 3A
TCLP/SPLP METHOD BLANK
METALS

Lab Name: Environmental Testing and Consulting, Inc

		QC Batch
Laboratory ID ICP/GFAA Metals	V30-AQ-08 BLK	V30-AQ-08
Laboratory ID Mercury	V9-AQ-44 BLK	V9-AQ-44
Date Sample Prepared	2/18/02	ICP/GFAA Metals
	2/14/02	Mercury

Metals	Concentration mg/L	Detection Limit mg/L	Date Analyzed	Method
Silver	ND	0.010	2/18/02	6010B
Arsenic	ND	0.100	2/18/02	6010B
Barium	ND	0.025	2/18/02	6010B
Cadmium	ND	0.010	2/18/02	6010B
Chromium	ND	0 010	2/18/02	6010B
Lead	ND	0.100	2/18/02	6010B
Selenium	ND	0.100	2/18/02	6010B
Mercury	ND	0.040	2/14/02	7470A

ND - Not Detected

Reviewed by_____

0202-225 mqc BLANK

FORM 7
TCLP/SPLP LABORATORY CONTROL SAMPLE
METALS

Lab Name: Environmental Testing and Consulting, Inc

			QC Batch
Laboratory Control ID	ICP/GFAA Metals	V30-AQ-08 LCS	V30-AQ-08
	Mercury	V9-AQ-44 LCS	V9-AQ-44
Date Prepared	ICP/GFAA Metals	2/18/02	
	Mercury	2/14/02	

Metals	Spike Added mg/L	Found mg/L	% R	#	QC Limits	
Silver	0.250	0.264	106		80	120
Arsenic	1.25	1.44	115		80	120
Barium	2.50	2.62	105		80	120
Cadmium	0.250	0.271	108		80	120
Chromium	0.500	0 546	109		80	120
Lead	1 25	1.40	112		80	120
Selenium	1.25	1.36	109		80	120
Mercury	0 0050	0.0050	100		85	115

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

Reviewed by

0202-225.mqc LCS

719 547

FORM 6
TCLP/SPLP MATRIX SPIKE / MATRIX SPIKE DUPLICATE
METALS

Lab Name: Environmental Testing and Consulting, Inc

		QC Batch
Laboratory ID MS ICP/GFAA Metals	0202-225-01	V30-AQ-08
Laboratory ID MS Mercury	0202-225-01	V9-AQ-44

Date Sample Prepared	2/18/02	ICP/GFAA Metals
	2/14/02	Mercury

Metals	SPIKE Added mg/L	SAMPLE Conc mg/L	MS Conc mg/L	RPD <20% #	MS % Rec #	QC Limits	
Silver	0.250	ND	0.279	1	112	50	150
Arsenic	1.25	ND	1.52	3	122	50	150
Barium	2 50	0.381	2.94	2	102	50	150
Cadmium	0.250	ND	0.274	1	110	50	150
Chromium	0.500	ND	0.548	1	110	50	150
Lead	1.25	0.103	1.54	3	115	50	150
Selenium	1.25	ND	1.56	4	125	50	150
Mercury	0.0050	ND	0.0046	0	92	50	150

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

Reviewed by

0202-225.mqc MSMSD

FORM 6
TCLP/SPLP MATRIX SPIKE / MATRIX SPIKE DUPLICATE
METALS

Lab Name: Environmental Testing and Consulting, Inc

		QC Batch
Laboratory ID MS ICP/GFAA Metals	0202-225-01	V30-AQ-08
Laboratory ID MS Mercury	0202-225-01	V9-AQ-44

Date Sample Prepared	2/18/02	ICP/GFAA Metals
	2/14/02	Mercury

Metals	SPIKE Added mg/L	SAMPLE Conc mg/L	MSD Conc mg/L		MSD % Rec #	QC Limits	
Silver	0.250	ND	0.275		110	50	150
Arsenic	1.25	ND	1.48		118	50	150
Barium	2.50	0.381	2 87		100	50	150
Cadmium	0.250	ND	0.270		108	50	150
Chromium	0.500	ND	0.545		109	50	150
Lead	1.25	0.103	1.49		111	50	150
Selenium	1 25	ND	1 50		120	50	150
Mercury	0.0050	ND	0.0046		92	50	150

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

Reviewed by _____

719 549

Environmental Testing & Consulting, Inc.

Quality Control Reports
Level III
GC/MS Volatiles

ENVIRONMENTAL TESTING AND CONSULTING, INC.
CASE NARRATIVE
GC/MS VOLATILE COMPOUNDS – AQUEOUS

Client Name Sverdrup/Jacobs Eng
Project Name Memphis Depot

ETC Order# 0202-225

SAMPLE PRESERVATION (Verified at time of analysis)
All aqueous samples preserved to pH < 2 and maintained at 4 degrees C until analysis

METHOD

Preparation	SW-846 5030B
Analysis	SW-846 8260B

HOLDING TIMES

Sample Analysis	All samples analyzed within 14 days of collection

QUALITY CONTROL

QC Batch	Form 4 Summary
V402111	V402111LB

System Monitoring Compounds FORM 2
Surrogate recoveries within QC limits

Method Blank FORM 4
V402111LB
Target analytes were not detected in the method blank

Laboratory Control Sample FORM 3
V402111LCS
All target analyte acceptance criteria met, except as listed below
1,2-Dichlorobenzene and 1,4-Dichlorobenzene were flagged for high recoveries in the LCS These analytes were not identified in any associated project samples The data was not affected.

Matrix Spike / Matrix Spike Dup, FORM 3
Batch V402111

0202-091-01	RPD	All analytes within QC limits
	Spike Recovery	All analytes within QC limits

The MS/MSD was performed on a sample not directly associated with this project Batch QC provided for information only Refer to Laboratory Control Sample(s) for system verification

CALIBRATION

BFB Daily 12-Hour Tune	All criteria met	FORM 5
Initial Calibration	All criteria met	FORM 6
Calibration Verification	All criteria met	FORM 7

Volatile Internal Standard Area and RT FORM 8
Calibration Verification standard(s) Internal Standard Areas and Retention Times within QC limits

SAMPLE ANALYSIS

Instrumentation	HP 5890 Series II GC, 5971MSD
Dilutions Required	Dilutions were not required

CB
Project Manager

719 551

FORM 2

WATER VOA-GCMS SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0202225

	CLIENT SAMPLE NO.	SMC1 (DFM) #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER (DCE) #	TOT OUT
01	V402111LCS	88	98	92	87	0
02	V402111LB	94	94	97	83	0
03	020222502	95	95	101	92	0
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

		QC LIMITS
SMC1 (DFM)	= Dibromofluoromethane	(84-115)
SMC2 (TOL)	= Toluene-d8	(69-133)
SMC3 (BFB)	= Bromofluorobenzene	(80-111)
OTHER(DCE)	= 1,2-Dichloroethane-d4	(58-131)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 4
VOA-GCMS METHOD BLANK SUMMARY

719 552 CLIENT SAMPLE NO.

V402111LB

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0202225

Lab File ID: 0303007 Lab Prep Batch: V402111

Date Analyzed: 02/11/02 Time Analyzed: 1651

GC Column: ID: 2 (mm) Heated Purge: (Y/N) Y

Instrument ID: VOC4 Lab Sample ID: 1LB

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	V402111LCS	1LCS	0202004LCS	1433
02	020209101	020209101	1201016	2134
03	020222502	020222502	1401018	2237
04	020209101MS	MS	1801022	0042
05	020209101MSD	MSD	1901023	0114
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

719 553

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V402111LB

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0202225

Matrix: (soil/water) WATER Lab Prep Batch: V402111

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0303007

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/11/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
67-64-1	Acetone	20.00	U
75-05-8	Acetonitrile	20.00	U
107-02-8	Acrolein	20.00	U
107-13-1	Acrylonitrile	20.00	U
107-05-1	Allyl chloride	1.00	U
71-43-2	Benzene	1.00	U
108-86-1	Bromobenzene	1.00	U
74-97-5	Bromochloromethane	1.00	U
75-27-4	Bromodichloromethane	1.00	U
75-25-2	Bromoform	1.00	U
78-93-3	2-Butanone	20.00	U
74-83-9	Bromomethane	1.00	U
104-51-8	n-Butylbenzene	1.00	U
135-98-8	sec-Butylbenzene	1.00	U
98-06-6	tert-Butylbenzene	1.00	U
75-15-0	Carbon Disulfide	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U
108-90-7	Chlorobenzene	1.00	U
124-48-1	Chlorodibromomethane	1.00	U
75-00-3	Chloroethane	1.00	U
110-75-8	2-Chloroethyl vinyl ether	20.00	U
67-66-3	Chloroform	1.00	U
74-87-3	Chloromethane	1.00	U
126-99-8	Chloroprene	1.00	U
95-49-8	2-Chlorotoluene	1.00	U
106-43-4	4-Chlorotoluene	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane	1.00	U
106-93-4	1,2-Dibromoethane	1.00	U
74-95-3	Dibromomethane	1.00	U
95-50-1	1,2-Dichlorobenzene	1.00	U
541-73-1	1,3-Dichlorobenzene	1.00	U
106-46-7	1,4-Dichlorobenzene	1.00	U
1476-11-5	cis-1,4-Dichloro-2-butene	1.00	U

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V402111LB

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0202225

Matrix: (soil/water) WATER Lab Prep Batch: V402111

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0303007

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/11/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
110-57-6	trans-1,4-Dichloro-2-butene	1.00	U
75-71-8	Dichlorodifluoromethane	1.00	U
75-34-3	1,1-Dichloroethane	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
75-35-4	1,1-Dichloroethene	1.00	U
156-59-2	cis-1,2-Dichloroethene	1.00	U
156-60-5	trans-1,2-Dichloroethene	1.00	U
78-87-5	1,2-Dichloropropane	1.00	U
142-28-9	1,3-Dichloropropane	1.00	U
594-20-7	2,2-Dichloropropane	1.00	U
563-58-6	1,1-Dichloropropene	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
108-20-3	Di isopropyl ether	1.00	U
123-91-1	1,4-Dioxane	100.0	U
141-78-6	Ethyl Acetate	5.00	U
100-41-4	Ethylbenzene	1.00	U
97-63-2	Ethyl methacrylate	1.00	U
110-00-9	Furan	1.00	U
87-68-3	Hexachlorobutadiene	1.00	U
110-54-3	Hexane	1.00	U
591-78-6	2-Hexanone	5.00	U
74-88-4	Iodomethane	1.00	U
78-83-1	Isobutyl Alcohol	100.0	U
98-82-8	Isopropylbenzene	1.00	U
99-87-6	4-Isopropyltoluene	1.00	U
126-98-7	Methacrylonitrile	10.00	U
75-09-2	Methylene Chloride	5.00	U
80-62-6	Methyl methacrylate	1.00	U
108-10-1	4-Methyl-2-Pentanone	5.00	U
1634-04-4	Methyl-tertbutyl-Ether	1.00	U
91-20-3	Naphthalene	1.00	U
107-12-0	Propionitrile	10.00	U

719 555

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.
V402111LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0202225

Matrix: (soil/water) WATER Lab Prep Batch: V402111

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0303007

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/11/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
109-60-4	n-Propyl Acetate	1.00	U
103-65-1	n-Propylbenzene	1.00	U
100-42-5	Styrene	1.00	U
630-20-6	1,1,1,2-Tetrachloroethane	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane	1.00	U
127-18-4	Tetrachloroethene	1.00	U
109-99-9	Tetrahydrofuran	1.00	U
87-61-6	1,2,3-Trichlorobenzene	1.00	U
108-88-3	Toluene	1.00	U
71-55-6	1,1,1-Trichloroethane	1.00	U
79-00-5	1,1,2-Trichloroethane	1.00	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	1.00	U
79-01-6	Trichloroethene	1.00	U
75-69-4	Trichlorofluoromethane	1.00	U
96-18-4	1,2,3-Trichloropropane	1.00	U
95-63-6	1,2,4-Trimethylbenzene	1.00	U
120-82-1	1,2,4-Trichlorobenzene	1.00	U
108-67-8	1,3,5-Trimethylbenzene	1.00	U
108-05-4	Vinyl Acetate	20.00	U
75-01-4	Vinyl Chloride	1.00	U
108-38-3	Xylene-mp	1.00	U
95-47-6	Xylene-o	1.00	U

FORM 1 719 556 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

V402111LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0202225

Matrix: (soil/water) WATER Lab Sample ID: 1LB

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0303007

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/11/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC,INC. Lab Prep Batch: V402111

Lab Code: Case No.: SAS No.: SDG No.: 0202225

Matrix Spike - Sample No.: V402111LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Acetone	100.0		112.4	112	59-151
Acetonitrile	1000		1100	110	57-143
Acrolein	100.0		101.9	102	59-134
Acrylonitrile	100.0		109.5	110	60-146
Allyl chloride	100.0		101.8	102	74-120
Benzene	100.0		105.2	105	72-124
Bromobenzene	100.0		98.75	99	77-120
Bromochloromethane	100.0		105.7	106	74-120
Bromodichloromethane	100.0		101.2	101	68-119
Bromoform	100.0		102.4	102	66-136
2-Butanone	100.0		111.2	111	55-151
Bromomethane	100.0		79.94	80	40-134
n-Butylbenzene	100.0		112.5	112	69-129
sec-Butylbenzene	100.0		95.36	95	72-127
tert-Butylbenzene	100.0		97.21	97	73-126
Carbon Disulfide	100.0		89.13	89	60-133
Carbon Tetrachloride	100.0		102.1	102	64-123
Chlorobenzene	100.0		97.83	98	77-112
Chlorodibromomethane	100.0		106.0	106	72-118
Chloroethane	100.0		93.73	94	64-142
2-Chloroethyl vinyl eth	100.0		100.9	101	22-165
Chloroform	100.0		98.45	98	70-115
Chloromethane	100.0		76.29	76	58-139
Chloroprene	100.0		97.93	98	73-118
2-Chlorotoluene	100.0		98.66	99	65-132
4-Chlorotoluene	100.0		91.20	91	67-127
1,2-Dibromo-3-chloropro	100.0		114.8	115	56-134
1,2-Dibromoethane	100.0		107.0	107	74-118

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC. Lab Prep Batch: V402111

Lab Code: Case No.: SAS No.: SDG No.: 0202225

Matrix Spike - Sample No.: V402111LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Dibromomethane	100.0		96.54	96	75-114
1,2-Dichlorobenzene	100.0		113.7	114*	80-113
1,3-Dichlorobenzene	100.0		111.0	111	77-119
1,4-Dichlorobenzene	100.0		119.9	120*	78-116
cis-1,4-Dichloro-2-bute	100.0		112.0	112	70-130
trans-1,4-Dichloro-2-bu	100.0		114.1	114	62-138
Dichlorodifluoromethane	100.0		63.49	63	48-145
1,1-Dichloroethane	100.0		101.1	101	76-118
1,2-Dichloroethane	100.0		99.25	99	62-124
1,1-Dichloroethene	100.0		94.05	94	69-121
cis-1,2-Dichloroethene	100.0		103.2	103	76-114
trans-1,2-Dichloroethen	100.0		97.54	98	72-121
1,2-Dichloropropane	100.0		98.55	98	64-133
1,3-Dichloropropane	100.0		105.3	105	68-128
2,2-Dichloropropane	100.0		107.8	108	67-132
1,1-Dichloropropene	100.0		101.2	101	76-117
cis-1,3-Dichloropropene	100.0		107.1	107	77-120
trans-1,3-Dichloroprope	100.0		108.4	108	73-124
Di isopropyl ether	100.0		106.5	106	62-160
1,4-Dioxane	2000		2150	108	56-131
Ethyl Acetate	100.0		107.4	107	52-151
Ethylbenzene	100.0		97.28	97	77-111
Ethyl methacrylate	200.0		219.3	110	57-140
Furan	100.0		137.8	138*	52-124
Hexachlorobutadiene	100.0		124.2	124	69-137
Hexane	100.0		114.8	115	70-130
2-Hexanone	100.0		115.7	116	53-144
Iodomethane	100.0		94.56	94	51-153

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

719 559

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC. Lab Prep Batch: V402111

Lab Code: Case No.: SAS No.: SDG No.: 0202225

Matrix Spike - Sample No.: V402111LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Isobutyl Alcohol	2000		2298	115	60-134
Isopropylbenzene	100.0		98.42	98	74-125
4-Isopropyltoluene	100.0		94.69	95	72-127
Methacrylonitrile	1000		1060	106	70-125
Methylene Chloride	100.0		104.1	104	76-115
Methyl methacrylate	200.0		217.6	109	57-147
4-Methyl-2-Pentanone	100.0		111.6	112	42-144
Methyl-tertbutyl-Ether	100.0		106.6	107	62-122
Naphthalene	100.0		115.3	115	53-124
Propionitrile	1000		1125	112	58-139
n-Propyl Acetate	100.0		165.2	165	88-170
n-Propylbenzene	100.0		97.82	98	75-125
Styrene	100.0		100.1	100	77-117
1,1,1,2-Tetrachloroetha	100.0		94.62	95	79-113
1,1,2,2-Tetrachloroetha	100.0		119.8	120	67-126
Tetrachloroethene	100.0		107.8	108	77-115
Tetrahydrofuran	100.0		107.8	108	76-181
1,2,3-Trichlorobenzene	100.0		121.2	121	62-132
Toluene	100.0		104.8	105	77-115
1,1,1-Trichloroethane	100.0		100.9	101	63-122
1,1,2-Trichloroethane	100.0		104.6	105	69-117
1,1,2-trichloro-1,2,2-t	100.0		88.54	88	70-130
Trichloroethene	100.0		104.3	104	75-113
Trichlorofluoromethane	100.0		81.64	82	55-130
1,2,3-Trichloropropane	100.0		98.64	99	62-130
1,2,4-Trimethylbenzene	100.0		90.60	91	69-126
1,2,4-Trichlorobenzene	100.0		120.2	120	68-132
1,3,5-Trimethylbenzene	100.0		90.40	90	69-128

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

719 560

Lab Name: ETC, INC. Lab Prep Batch: V402111

Lab Code: Case No.: SAS No.: SDG No.: 0202225

Matrix Spike - Sample No.: V402111LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Vinyl Acetate	100.0		115.2	115	28-146
Vinyl Chloride	100.0		80.65	81	65-134
Xylene-mp	200.0		194.3	97	77-115
Xylene-o	100.0		95.90	96	77-115

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 3 out of 88 outside limits

COMMENTS: _____

FORM 3

WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ETC,INC. Lab Prep Batch: V402111

Lab Code: Case No.: SAS No.: SDG No.: 0202225

Matrix Spike - Sample No.: 020209101

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Benzene	100.0	0.000	98.90	99	72-124
Chlorobenzene	100.0	0.000	84.94	85	77-112
1,1-Dichloroethene	100.0	0.000	88.58	88	69-121
Toluene	100.0	0.000	94.11	94	77-115
Trichloroethene	100.0	0.000	93.36	93	75-113

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Benzene	100.0	98.47	98	1	20	72-124
Chlorobenzene	100.0	87.55	88	3	20	77-112
1,1-Dichloroethene	100.0	91.08	91	3	20	69-121
Toluene	100.0	93.32	93	1	20	77-115
Trichloroethene	100.0	93.20	93	0	20	75-113

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: _____

ENVIRONMENTAL TESTING AND CONSULTING, INC.
CASE NARRATIVE
GC/MS VOLATILE COMPOUNDS – TCLP

Client Name	Sverdrup/Jacobs Eng
Project Name	Memphis Depot
ETC Order#	0202-225

HOLDING TIMES

TCLP Extraction All samples extracted within 14 days
Sample Analysis All VOC extracts analyzed within 14days

METHOD

Preparation SW-846 1311
Analysis SW-846 8260B

QUALITY CONTROL

QC Batch	Form 4 Summary
V302131	V302131LB

System Monitoring Compounds FORM 2
Surrogate recoveries within QC limits.*
*Surrogate Bromofluorobenzene was flagged for high recovery in all samples associated with this project

Method Blank FORM 4
V302131LB
Target analytes were not detected in the method blank

Laboratory Control Sample FORM 3
V302131LCS
All acceptance criteria met

Matrix Spike / Matrix Spike Dup FORM 3
Batch V302131

0202-225-01	RPD	All analytes within QC limits
SVEMP-COMP	Spike Recovery	All analytes within QC limits

Refer to Laboratory Control Sample(s) for system verification

CALIBRATION

BFB Daily 12-Hour Tune	All criteria met	FORM 5
Initial Calibration	All criteria met	FORM 6
Calibration Verification	All criteria met	FORM 7

Volatile Internal Standard Area and RT FORM 8
Daily Check Standard(s) Internal Standard Areas and Retention Times within QC limits

SAMPLE ANALYSIS

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

CB
Project Manager

FORM 2
WATER VOA-GCMS SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0202225

	CLIENT SAMPLE NO.	SMC1 (DFM) #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER (DCE) #	TOT OUT
01	V302131LCS	100	114	118*	103	1
02	V302131LB	109	114	133*	110	1
03	020222501	108	118	134*	106	1
04	020222501MS	100	114	116*	116	1
05	020222501MSD	99	116	115*	103	1
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

		QC LIMITS
SMC1 (DFM)	= Dibromofluoromethane	(84-115)
SMC2 (TOL)	= Toluene-d8	(69-133)
SMC3 (BFB)	= Bromofluorobenzene	(80-111)
OTHER (DCE)	= 1,2-Dichloroethane-d4	(58-131)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 4 719 564 CLIENT SAMPLE NO.

VOA-GCMS METHOD BLANK SUMMARY

V302131LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0202225

Lab File ID: 0402007T Lab Prep Batch: V302131

Date Analyzed: 02/13/02 Time Analyzed: 1510

GC Column: ID: 2 (mm) Heated Purge: (Y/N) Y

Instrument ID: VOC3 Lab Sample ID: 1LB

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	V302131LCS	1LCS	0201004TLCS	1310
02	020222501	020222501	1201015	1901
03	020222501MS	MS	1901022	2222
04	020222501MSD	MSD	2001023	2251
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

719 565

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.
V302131LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0202225

Matrix: (soil/water) WATER Lab Prep Batch: V302131

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0402007T

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/13/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
71-43-2	Benzene	1.00	U
78-93-3	2-Butanone	20.00	U
56-23-5	Carbon Tetrachloride	1.00	U
108-90-7	Chlorobenzene	1.00	U
67-66-3	Chloroform	1.00	U
106-46-7	1,4-Dichlorobenzene	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
75-35-4	1,1-Dichloroethene	1.00	U
127-18-4	Tetrachloroethene	1.00	U
79-01-6	Trichloroethene	1.00	U
75-01-4	Vinyl Chloride	1.00	U

FORM 1 719 566 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

V302131LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0202225

Matrix: (soil/water) WATER Lab Sample ID: 1LB

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0402007T

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/13/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 567

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC. Lab Prep Batch: V302131

Lab Code: Case No.: SAS No.: SDG No.: 0202225

Matrix Spike - Sample No.: V302131LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Benzene	100.0		105.2	105	72-124
2-Butanone	100.0		103.8	104	55-151
Carbon Tetrachloride	100.0		105.7	106	64-123
Chlorobenzene	100.0		105.4	105	77-112
Chloroform	100.0		97.33	97	70-115
1,4-Dichlorobenzene	100.0		114.7	115	78-116
1,2-Dichloroethane	100.0		108.3	108	62-124
1,1-Dichloroethene	100.0		96.00	96	69-121
Tetrachloroethene	100.0		107.5	108	77-115
Trichloroethene	100.0		95.73	96	75-113
Vinyl Chloride	100.0		92.54	92	65-134

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 11 outside limits

COMMENTS: _____

FORM 3

WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY 719 568

Lab Name: ETC, INC. Lab Prep Batch: V302131

Lab Code: Case No.: SAS No.: SDG No.: 0202225

Matrix Spike - Sample No.: 020222501

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Benzene	100.0	0.000	100.5	100	72-124
2-Butanone	100.0	0.000	87.64	88	55-151
Carbon Tetrachloride	100.0	0.000	107.3	107	64-123
Chlorobenzene	100.0	0.000	102.2	102	77-112
Chloroform	100.0	0.000	98.06	98	70-115
1,4-Dichlorobenzene	100.0	0.000	106.6	107	78-116
1,2-Dichloroethane	100.0	0.000	107.3	107	62-124
1,1-Dichloroethene	100.0	0.000	99.10	99	69-121
Tetrachloroethene	100.0	0.000	95.05	95	77-115
Trichloroethene	100.0	0.000	90.82	91	75-113
Vinyl Chloride	100.0	0.000	82.51	82	65-134

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Benzene	100.0	98.12	98	2	20	72-124
2-Butanone	100.0	80.62	81	8	20	55-151
Carbon Tetrachloride	100.0	105.2	105	2	20	64-123
Chlorobenzene	100.0	102.5	102	0	20	77-112
Chloroform	100.0	97.03	97	1	20	70-115
1,4-Dichlorobenzene	100.0	110.6	111	4	20	78-116
1,2-Dichloroethane	100.0	105.0	105	2	20	62-124
1,1-Dichloroethene	100.0	98.39	98	1	20	69-121
Tetrachloroethene	100.0	97.68	98	3	20	77-115
Trichloroethene	100.0	92.39	92	1	20	75-113
Vinyl Chloride	100.0	81.59	82	0	20	65-134

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 11 outside limits
Spike Recovery: 0 out of 22 outside limits

COMMENTS: _____

_____

Environmental Testing & Consulting, Inc.

Quality Control Reports
Level IV
Metals (ICP/GFAA/CV)

ENVIRONMENTAL TESTING & CONSULTING, INC
ICP Metals Sequence Check List

719 570

Sequence ID : 21807 **System ID : ICP1** **Date/Time:** 2-18 1209 **Analyst :** SH
Supervisor: JF

1 Instrument Profile Intensity Check (Manganese) 7960

2 Initial Calibration
- a Initial Calibration Blank (STD1-Blank)
- b Initial Calibration Standard 1 (C1) 3 Exposures at less than 3% RSD
- c Initial Calibration Standard 2 (C2) 3 Exposures at less than 3% RSD
- d Initial Calibration Standard 3 (C3) 3 Exposures at less than 3% RSD
- e Initial Calibration Standard 4 (C4) 3 Exposures at less than 3% RSD
- f Standardization Report

3 Initial Calibration Readback (+/- 5% Difference Check Table)		Failures
a Initial Calibration Standard 1 (C1)	✓	
b Initial Calibration Standard 2 (C2)	✓	
c Initial Calibration Standard 3 (C3)	✓	
d Initial Calibration Standard 4 (C4)	✓	

4 Initial Calibration Verification		
e Initial Calibration Blank (ICB) - All elements below MDL/MQL	✓	
f Initial Calibration Verification (ICV1) – (5%)	✓	
g Low Level Check (LLC1) – (20%) As, Se	✓	
h Low Level Check (LLC2) - (20%)	✓	
i Interelement Correction Standard Initial (ICSAB) – (20%)	✓	
j Interelement Correction Standard – Final (ICSAB) (20%) ALL HIGH	✓	

Comments INTERNAL STANDARD ~~SAMPLE~~ LINE CLOGGED BETWEEN CCV6 AND CCB7 NO RESULTS USED AFTER CCV6

Applicable ETC Order Nos. for this sequence:

202091	202387			
306	365			
313	340			
318	393			
251	225			
330	238			
V30A006	330			
09	357			
08				
202363				
574				
385				

719 571

AutoSampler Report Table: PLASMA1 02/19/02 09:43:38 AM page 1

Table Name: PLASMA1 Autosampler Type: TYPE TJA
Sample Positions: 42/192 QC Positions: 19/19 # Sets: 1
Rinse Station location is rack -1, pos. -1.

--- Racks ---

Rack #	Type	Usage	#Pos Left	Analyses/Pos
1	Aux. (L) Rack	STD/QC/BLANK	19	10
2	Sample (16mm)	Samples	0	1
3	Sample (16mm)	Samples	0	1
4	Sample (16mm)	Samples	0	1
5	Sample (16mm)	Samples	42	1

--- Sample Sets ---

Set#	Type	Prepare?	Description	Method	#Pos	Rack#	StartPos
1	Normal	No	021802	ICPT	150	2	1

--- Preparation Info ---

Set#	Uptake	Uptake#2	Final	Dil.Factor

No Samples Prepared.

Rack #1

Pos	Row	Col	Sample Name	Set #	#Used	Type
(1...19	Not Used)					

Rack #2

Pos	Row	Col	Sample Name	Set #	#Used	Type
1	1	1	20209101 20	1	-NA-	Sample
2	1	2	20209101 2000	1	-NA-	Sample
3	1	3	20209101 100	1	-NA-	Sample
4	1	4	20209101 10000	1	-NA-	Sample
5	1	5	20209101 MS 20	1	-NA-	Sample
6	1	6	20209101 MS 2000	1	-NA-	Sample
7	1	7	20209101 MSD 20	1	-NA-	Sample
8	1	8	20209101 MSD 2000	1	-NA-	Sample
9	1	9	CCB1	1	-NA-	Sample
10	1	10	CCV1	1	-NA-	Sample
11	1	11	20220601 5	1	-NA-	Sample
12	1	12	20231302 PDS	1	-NA-	Sample
13	2	1	20231804 PDS	1	-NA-	Sample
14	2	2	20225102 PDS	1	-NA-	Sample
15	2	3	20233003 5	1	-NA-	Sample
16	2	4	20233003 25	1	-NA-	Sample
17	2	5	V30AQ06 SB	1	-NA-	Sample
18	2	6	V30AQ09 SB	1	-NA-	Sample
19	2	7	V30AQ08 SB	1	-NA-	Sample
20	2	8	V30AQ06 LC	1	-NA-	Sample
21	2	9	CCB2	1	-NA-	Sample

Rack #2

Pos	Row	Col	Sample Name	Set #	#Used	Type
22	2	10	CCV2	1	-NA-	Sample
23	2	11	V30AQ09 LC	1	-NA-	Sample
24	2	12	V30AQ08 LC	1	-NA-	Sample
25	3	1	20236301	1	-NA-	Sample
26	3	2	20237401	1	-NA-	Sample
27	3	3	20238501	1	-NA-	Sample
28	3	4	20238501 5	1	-NA-	Sample
29	3	5	20238501 PDS	1	-NA-	Sample
30	3	6	20238501 MS	1	-NA-	Sample
31	3	7	20238501 MSD	1	-NA-	Sample
32	3	8	20238701	1	-NA-	Sample
33	3	9	CCB3	1	-NA-	Sample
34	3	10	CCV3	1	-NA-	Sample
35	3	11	20238702	1	-NA-	Sample
36	3	12	20238703	1	-NA-	Sample
37	4	1	20238704	1	-NA-	Sample
38	4	2	20238705	1	-NA-	Sample
39	4	3	20238706	1	-NA-	Sample
40	4	4	20238707	1	-NA-	Sample
41	4	5	20236501	1	-NA-	Sample
42	4	6	20236502	1	-NA-	Sample
43	4	7	20236503	1	-NA-	Sample
44	4	8	20236504	1	-NA-	Sample
45	4	9	CCB4	1	-NA-	Sample
[illegible]	4	10	CCV4	1	-NA-	Sample
[illegible]	4	11	20236505	1	-NA-	Sample
48	4	12	20236505 5	1	-NA-	Sample

Rack #3

Pos	Row	Col	Sample Name	Set #	#Used	Type
1	1	1	20236505 PDS	1	-NA-	Sample
2	1	2	20236505 MS	1	-NA-	Sample
3	1	3	20236505 MSD	1	-NA-	Sample
4	1	4	20234001 DISS	1	-NA-	Sample
5	1	5	20239301	1	-NA-	Sample
6	1	6	20239301 100	1	-NA-	Sample
7	1	7	20239305	1	-NA-	Sample
8	1	8	20239305 100	1	-NA-	Sample
9	1	9	CCB5	1	-NA-	Sample
10	1	10	CCV5	1	-NA-	Sample
11	1	11	20239306	1	-NA-	Sample
12	1	12	20239306 100	1	-NA-	Sample
13	2	1	20239309	1	-NA-	Sample
14	2	2	20239309 100	1	-NA-	Sample
15	2	3	20222501	1	-NA-	Sample
16	2	4	20222501 MS	1	-NA-	Sample
17	2	5	20222501 MSD	1	-NA-	Sample
[illegible]	2	6	20223801	1	-NA-	Sample
[illegible]	2	7	20223801 MS	1	-NA-	Sample
20	2	8	20233001	1	-NA-	Sample
21	2	9	CCB6	1	-NA-	Sample

Rack #3

Pos	Row	Col	Sample Name	Set #	#Used	Type
22	2	10	CCV6	1	-NA-	Sample
23	2	11	20233002	1	-NA-	Sample
24	2	12	20235701	1	-NA-	Sample
25	3	1	20235701 MS	1	-NA-	Sample
26	3	2	2-14-02 BLANK F1	1	-NA-	Sample
27	3	3	CCB7	1	-NA-	Sample
28	3	4	CCV7	1	-NA-	Sample
29	3	5	ICSA	1	-NA-	Sample
30	3	6	ICSAB	1	-NA-	Sample
31	3	7	(empty)	1	-NA-	-NA-
32	3	8	(empty)	1	-NA-	-NA-
33	3	9	(empty)	1	-NA-	-NA-
34	3	10	(empty)	1	-NA-	-NA-
35	3	11	(empty)	1	-NA-	-NA-
36	3	12	(empty)	1	-NA-	-NA-
37	4	1	(empty)	1	-NA-	-NA-
38	4	2	(empty)	1	-NA-	-NA-
39	4	3	(empty)	1	-NA-	-NA-
40	4	4	(empty)	1	-NA-	-NA-
41	4	5	(empty)	1	-NA-	-NA-
42	4	6	(empty)	1	-NA-	-NA-
43	4	7	(empty)	1	-NA-	-NA-
44	4	8	(empty)	1	-NA-	-NA-
45	4	9	(empty)	1	-NA-	-NA-
46	4	10	(empty)	1	-NA-	-NA-
47	4	11	(empty)	1	-NA-	-NA-
48	4	12	(empty)	1	-NA-	-NA-

Rack #4

Pos	Row	Col	Sample Name	Set #	#Used	Type
1	1	1	(empty)	1	-NA-	-NA-
2	1	2	(empty)	1	-NA-	-NA-
3	1	3	(empty)	1	-NA-	-NA-
4	1	4	(empty)	1	-NA-	-NA-
5	1	5	(empty)	1	-NA-	-NA-
6	1	6	(empty)	1	-NA-	-NA-
7	1	7	(empty)	1	-NA-	-NA-
8	1	8	(empty)	1	-NA-	-NA-
9	1	9	(empty)	1	-NA-	-NA-
10	1	10	(empty)	1	-NA-	-NA-
11	1	11	(empty)	1	-NA-	-NA-
12	1	12	(empty)	1	-NA-	-NA-
13	2	1	(empty)	1	-NA-	-NA-
14	2	2	(empty)	1	-NA-	-NA-
15	2	3	(empty)	1	-NA-	-NA-
16	2	4	(empty)	1	-NA-	-NA-
17	2	5	(empty)	1	-NA-	-NA-
18	2	6	(empty)	1	-NA-	-NA-
19	2	7	(empty)	1	-NA-	-NA-
20	2	8	(empty)	1	-NA-	-NA-
21	2	9	(empty)	1	-NA-	-NA-

FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
ICP METALS

Lab Name: Environmental Testing and Consulting, Inc

Date/Time of Sequence: 02/18/02 1209 Instrument: ICPT

Initial Calibration Source: C1 M6-39-14 C2 M6-38-01 C3 M6-40-13 C4 M6-41-01

Continuing Calibration Source: ICV/CCV M6-42-01

	Initial Calibration Verification				Continuing CCV5				Continuing CCV6					
Analyte	True	Found	%Diff(1)	Flag	True	Found	%Diff(1)	Flag	Found	%Diff(1)	Flag	Found	%Diff(1)	Flag
Silver	100	99.9	0	<5	100	101	1	<5	100	0	<5			
Arsenic	500	527	5	<10	500	530	6	<10	529	6	<10			
Barium	1000	1000	0	<5	1000	1010	1	<5	1010	1	<5			
Cadmium	100	99.1	1	<5	100	100	0	<5	100	0	<5			
Chromium	200	205	3	<5	200	208	4	<5	209	5	<10			
Lead	500	516	3	<5	500	516	3	<5	517	3	<5			
Selenium	500	499	0	<5	500	505	1	<5	504	1	<5			

(1) Percent difference from true value ICP Method 6010B - 10% ICP Method 200.7 - 5%

FORM 3
INITIAL AND CONTINUING CALIBRATION BLANKS
ICP METALS

Lab Name: Environmental Testing and Consulting, Inc

Date/Time of Sequence: 02/18/02 1209 Instrument: ICPT

Analyte	Initial Calibration Blank ug/L	Continuing Calibration Blank ug/L									
		CCB5	CCB6								
Silver	ND	ND	ND								
Arsenic	ND	ND	ND								
Barium	ND	ND	ND								
Cadmium	ND	ND	ND								
Chromium	ND	ND	ND								
Lead	ND	ND	ND								
Selenium	ND	ND	ND								

FORM 4
INTERFERENCE CHECK SAMPLE
ICP METALS

Lab Name: Environmental Testing and Consulting, Inc

Date/Time of Sequence: 02/18/02 1209 Instrument: ICPT

Concentration Units: ug/L

Analyte	True Sol AB	Initial Found Sol AB	%REC	Final Found Sol AB	%REC
Silver	200	209	105		0
Aluminum	250000	250000	100		0
Arsenic	200	200	100		0
Barium	500	206	41		0
Calcium	250000	240000	96		0
Cadmium	200	193	97		0
Chromium	200	195	98		0
Iron	100000	99400	99		0
Magnesium	250000	254000	102		0
Lead	200	203	102		0
Selenium	200	198	99		0

Concentration Units. ug/L

Analyte	True Sol A	Initial Found Sol A	%REC	Final Found Sol A	%REC
Silver	0	ND	0		0
Aluminum	250000	247000	99		0
Arsenic	0	ND	0		0
Barium	0	ND	0		0
Calcium	250000	239000	96		0
Cadmium	0	ND	0		0
Chromium	0	ND	0		0
Iron	100000	98300	98		0
Magnesium	250000	250000	100		0
Lead	0	ND	0		0
Selenium	0	ND	0		0

719 577

ENVIRONMENTAL TESTING & CONSULTING, INC
Mercury Sequence Check List

Sequence ID : 020214O2,03.DB Date/Time: 2/14/02 1534 Analyst : JE
Supervisor:

Instrument ID: CETAC M-6000A

1 General Maintenance Check — Action Taken

a	Lamp Warm-up	[✓]	
b.	Pump Winding	[✓]	
c	Check GLS	[✓]	
d	Nafion Dryer	[✓]	

2 Sequence Check List
Initial Calibration

a	Initial Calibration Blank (STD1-Blank)	✓
b	Initial Calibration Standard 1 0 20 ug/L	✓
c	Initial Calibration Standard 2 1.0 ug/L	✓
d	Initial Calibration Standard 3 2.0 ug/L	✓
e	Initial Calibration Standard 4 5.0 ug/L	✓
f	Initial Calibration Standard 5 10 0 ug/L	✓

3 Regression coefficient (minimum = 0 995) ✓

4 Initial Calibration Blank (ICB) – All elements below MQL ✓
Water = 0 20 ug/L Soil = 0 02 mg/Kg

5 Initial Calibration Verification (ICV) – 2cnd Source SRN M6-41-24
Concentration 5 0 ug/L +/- 10% Found: 9,93 %Difference: 1

6 Continuing Calibration Blank (CCB) – All elements below MQL indicate by √

Metal	CCB1	CCB2	CCB3	CCB4	CCB5	CCB6	CCB7	CCB8	CCB9	CCB10	CCB11	CCB12	CCB13	CCB14	CCB15
Hg	✓	✓	✓	✓											

7. Continuing Calibration Verification (CCV) – Range EPA 90-110% SW-846 80-120%
All elements within QC limits indicate by √ (Concentration same as ICV) SRN M6-41-24

Metal	CCV1	CCV2	CCV3	CCV4	CCV5	CCV6	CCV7	CCV8	CCV9	CCV10	CCV11	CCV12	CCV13	CCV14	CCV15
Hg	✓	✓	✓	✓											

Applicable ETC Order Nos. for this sequence:

SBLC V094Q44	BLKFI-1 2/12/02	202238	202271	202285
202302	BLKDI 2/12/02	202273	202283	
202322	202225	202251	202284	

Tube	Rack ID	Sample ID	Weight	Volume	Sample
1	2 14 02 2	ICB	1	1	Unknow
2		ICV	1	1	Unknow
3		MB9AQ44 SB	1	1	Unknow
4		MB9AQ44 LC	1	1	Unknow
5		20230207	1	1	Unknow
6		20230208	1	1	Unknow
7		20230209	1	1	Unknow
8		20230210	1	1	Unknow
9		20232202	1	1	Unknow
10		20232203	1	1	Unknow
11		20232208	1	1	Unknow
12		20232208 MS	1	1	Unknow
13		CCB1	1	1	Unknow
14		CCV1	1	1	Unknow
15		20232208 MSD	1	1	Unknow
16		BLK FL-1 2/12/02	1	1	Unknow
17		BLK DI 2/12/02	1	1	Unknow
18		20222501	1	1	Unknow
19		20222501 MS	1	1	Unknow
20		20222501 MSD	1	1	Unknow
21		20223801	1	1	Unknow
22		20223801 MS	1	1	Unknow
23		20223801	1	1	Unknow
24		20223801 MS	1	1	Unknow
25		CCB2	1	1	Unknow
26		CCV2	1	1	Unknow
27		20225101	1	1	Unknow
28		20225101 MS	1	1	Unknow
29		20225101 MSD	1	1	Unknow
30		20227107	1	1	Unknow
31		20227104	1	1	Unknow
32		20227104 MS	1	1	Unknow
33		20227104 MSD	1	1	Unknow
34		20228301	1	1	Unknow
35		20228303	1	1	Unknow
36		20228401	1	1	Unknow
37		CCB3	1	1	Unknow
38		CCV3	1	1	Unknow
39		20228502	1	1	Unknow
40		20228504	1	1	Unknow
41		20232208 PDS	1	1	Unknow
42		CCB4	1	1	Unknow
43		CCV4	1	1	Unknow

FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
MERCURY

719 573

Lab Name Environmental Testing and Consulting, Inc

Date/Time of Sequence 02/12/02 1020 Instrument M6000

Initial Calibration Source C1 M6-41-11

Continuing Calibration Source ICV/CCV M6-41-12

	Initial Calibration Verification				Continuing CCV1				Continuing CCV2			Continuing CCV3		
Analyte	True	Found	%Diff(1)	Flag	True	Found	%Diff(1)	Flag	Found	%Diff(1)	Flag	Found	%Diff(1)	Flag
Mercury	5.00	4.93	1.4	<5	5.00	4.84	3.2	<5	4.90	2.0	<5	4.75	5.0	<20

(1) Percent difference from true value < = 10%

000047

FORM 3
INITIAL AND CONTINUING CALIBRATION BLANKS
ICP METALS

Lab Name: Environmental Testing and Consulting, Inc

Date/Time of Sequence: 02/14/02 1245 Instrument: M6000

Analyte	MDL ug/L	Initial Cal Blank (ICB) ug/L	Continuing Calibration Blank ug/L										
			CCB1	CCB2	CCB3								
Mercury	0.06	ND	ND	ND	ND								

719 58i

Environmental Testing & Consulting, Inc.

Quality Control Reports
Level IV
GC/MS Volatiles

ENVIRONMENTAL TESTING & CONSULTING, INC
GC/MS VOC Method 8260B Sequence Check List (SW-846)

Sequence ID: V402111 Matrix: H2O HBN: _____
Date: 2-12-02 Analyst SS
Applicable ETC Order Nos. for this sequence: Super 2/12/02
0202-040-10-15 0202-091-1,4
0202-225-2 0202-108-1

8-hr 25ng tune

	Validated
1. BFB Daily 12-Hour Tune Meets Criteria. No analyses begins until criteria are met. (SOP)	✓
2. Initial Calibration Verification Criteria - Method : V402072.8260M	
a. SPCC - Mean RF > =0.10 (> =0.30 for Chlorobenzene / 1122-Tetrachloroethene)	✓
b. CCC - RSD of RF for CCCs and Target Analytes MUST BE < = 30%	✓
c. RSD of analytes < =15% may use Average RF for quantitation	
d. Analytes w/RSD >15% use Linear Regression - correlation coefficient > =0.99	✓
3. Calibration Verification - Each 12-Hour Shift	
a. SPCC - Mean RF > =0.10 (> =0.30 for Chlorobenzene / 1122-Tetrachloroethene)	✓
b. CCC - % Difference for Average RF Calibration - < =20%	✓
c. CCC - % Drift for Linear Regression Calibration - < =20%	✓
d. % Difference/% Drift for all other Target Analytes - < =30%	✓
e. Internal Standards - Retention Times within +/-30 seconds from Mid-Point ICAL STD	✓
f. Internal Standards - Areas within (-50% to +100%) form Mid-Point ICAL STD	✓
4. Method Blanks included in this sequence :	✓
Analyze daily or for each analytical batch (20 samples): _____	
List compounds identified in Method Blank w/concentration.	
Flag final result "B-Detected in Blank" MeCl2 & BDL	
5. Matrix Spike/Matrix Spike Duplicates included in this sequence :	✓
Analyze daily or for each matrix (ms/msd per 20 samples of same matrix)	
List MS/MSD(s) performed with any failures : 0202-091-01MS, MSD	
6. Laboratory Control Samples included in this sequence : 3/88	✓
Must contain all Target Analytes.	
7. Surrogate Recoveries within QC Limits	✓
8. All positive compounds within calibration range	✓

Narrative/Notes :

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0202225

Lab File ID: 0101001 BFB Injection Date: 02/11/02

Instrument ID: VOC4 BFB Injection Time: 1306

GC Column: ID: 2.00 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	15.9	
75	30.0 - 60.0% of mass 95	41.6	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0% of mass 95	7.0	
173	Less than 2.0% of mass 174	0.0	(0.0)1
174	Greater than 50.0% of mass 95	68.1	
175	5.0 - 9.0% of mass 174	5.0	(7.3)1
176	95.0 - 101.0% of mass 174	66.8	(98.1)1
177	5.0 - 9.0% of mass 176	4.6	(6.9)2

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

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	DSC100PPB		0201003	02/11/02	1354
02	V402111LCS	1LCS	0202004LCS	02/11/02	1433
03	V402111LB	1LB	0303007	02/11/02	1651
04	020209101	020209101	1201016	02/11/02	2134
05	020222502	020222502	1401018	02/11/02	2237
06	020209101MS	MS	1801022	02/12/02	0042
07	020209101MSD	MSD	1901023	02/12/02	0114
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0202225

Instrument ID: VOC4 Calibration Date: 02/11/02 Time: 1354

Lab File ID: 0201003 Init. Calib. Date(s): 02/07/02 02/07/02

Heated Purge: (Y/N) Y Init. Calib. Times: 1616 2129

GC Column: ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
Acetone	109.2	100.0	AVRG	9.2	30.0
Acetonitrile	1134	1000	AVRG	13.4	30.0
Acrolein	110.7	100.0	AVRG	10.7	30.0
Acrylonitrile	109.0	100.0	AVRG	9.0	30.0
Allyl chloride	111.2	100.0	AVRG	11.2	30.0
Benzene	110.6	100.0	AVRG	10.6	30.0
Bromobenzene	94.18	100.0	AVRG	5.8	30.0
Bromochloromethane	108.1	100.0	AVRG	8.1	30.0
Bromodichloromethane	99.37	100.0	AVRG	0.6	30.0
Bromoform	94.12	100.0	AVRG	5.9	30.0
2-Butanone	104.4	100.0	AVRG	4.4	30.0
Bromomethane	99.41	100.0	AVRG	0.6	30.0
n-Butylbenzene	117.3	100.0	AVRG	17.3	30.0
sec-Butylbenzene	93.67	100.0	AVRG	6.3	30.0
tert-Butylbenzene	91.12	100.0	AVRG	8.9	30.0
Carbon Disulfide	108.2	100.0	AVRG	8.2	30.0
Carbon Tetrachloride	104.9	100.0	AVRG	4.9	30.0
Chlorobenzene	94.27	100.0	AVRG	5.7	30.0
Chlorodibromomethane	102.3	100.0	AVRG	2.3	30.0
Chloroethane	118.7	100.0	AVRG	18.7	30.0
2-Chloroethyl vinyl ether	100.3	100.0	AVRG	0.3	30.0
Chloroform	100.5	100.0	AVRG	0.5	20.0
Chloromethane	117.4	100.0	AVRG	17.4	30.0
Chloroprene	102.4	100.0	AVRG	2.4	30.0
2-Chlorotoluene	88.62	100.0	AVRG	11.4	30.0
4-Chlorotoluene	87.54	100.0	AVRG	12.5	30.0
1,2-Dibromo-3-chloropropane	105.8	100.0	AVRG	5.8	30.0
1,2-Dibromoethane	101.1	100.0	AVRG	1.1	30.0
Dibromomethane	94.94	100.0	AVRG	5.1	30.0
1,2-Dichlorobenzene	115.0	100.0	AVRG	15.0	30.0
1,3-Dichlorobenzene	113.8	100.0	AVRG	13.8	30.0
1,4-Dichlorobenzene	124.2	100.0	AVRG	24.2	30.0
cis-1,4-Dichloro-2-butene	98.64	100.0	AVRG	1.4	30.0
trans-1,4-Dichloro-2-butene	104.9	100.0	AVRG	4.9	30.0
Dichlorodifluoromethane	102.7	100.0	AVRG	2.7	30.0
1,1-Dichloroethane	104.8	100.0	AVRG	4.8	30.0
1,2-Dichloroethane	98.63	100.0	AVRG	1.4	30.0

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0202225

Instrument ID: VOC4 Calibration Date: 02/11/02 Time: 1354

Lab File ID: 0201003 Init. Calib. Date(s): 02/07/02 02/07/02

Heated Purge: (Y/N) Y Init. Calib. Times: 1616 2129

GC Column: ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
1,1-Dichloroethene	105.8	100.0	AVRG	5.8	20.0
cis-1,2-Dichloroethene	106.9	100.0	AVRG	6.9	30.0
trans-1,2-Dichloroethene	104.2	100.0	AVRG	4.2	30.0
1,2-Dichloropropane	98.26	100.0	AVRG	1.7	20.0
1,3-Dichloropropane	100.6	100.0	AVRG	0.6	30.0
2,2-Dichloropropane	110.1	100.0	AVRG	10.1	30.0
1,1-Dichloropropene	107.2	100.0	AVRG	7.2	30.0
cis-1,3-Dichloropropene	106.6	100.0	AVRG	6.6	30.0
trans-1,3-Dichloropropene	105.5	100.0	AVRG	5.5	30.0
Di isopropyl ether	108.9	100.0	AVRG	8.9	30.0
1,4-Dioxane	2272	2000	AVRG	13.6	30.0
Ethyl Acetate	105.9	100.0	AVRG	5.9	30.0
Ethylbenzene	93.72	100.0	AVRG	6.3	20.0
Ethyl methacrylate	209.4	200.0	AVRG	4.7	30.0
Furan	153.5	153.0	AVRG	0.3	30.0
Hexachlorobutadiene	120.7	100.0	AVRG	20.7	30.0
Hexane	134.4	117.0	AVRG	14.9	30.0
2-Hexanone	104.7	100.0	AVRG	4.7	30.0
Iodomethane	111.6	100.0	AVRG	11.6	30.0
Isobutyl Alcohol	2109	2000	AVRG	5.4	30.0
Isopropylbenzene	94.62	100.0	AVRG	5.4	30.0
4-Isopropyltoluene	94.09	100.0	AVRG	5.9	30.0
Methacrylonitrile	1033	1000	AVRG	3.3	30.0
Methylene Chloride	109.2	100.0	LINR	9.2	30.0
Methyl methacrylate	207.1	200.0	AVRG	3.6	30.0
4-Methyl-2-Pentanone	105.5	100.0	AVRG	5.5	30.0
Methyl-tertbutyl-Ether	106.6	100.0	AVRG	6.6	30.0
Naphthalene	112.2	100.0	AVRG	12.2	30.0
Propionitrile	1062	1000	AVRG	6.2	30.0
n-Propyl Acetate	156.3	151.0	AVRG	3.5	30.0
n-Propylbenzene	95.68	100.0	AVRG	4.3	30.0
Styrene	96.50	100.0	AVRG	3.5	30.0
1,1,1,2-Tetrachloroethane	90.16	100.0	AVRG	9.8	30.0
1,1,2,2-Tetrachloroethane	118.1	100.0	AVRG	18.1	30.0
Tetrachloroethene	107.4	100.0	AVRG	7.4	30.0
Tetrahydrofuran	104.8	91.50	AVRG	14.5	30.0
1,2,3-Trichlorobenzene	117.8	100.0	AVRG	17.8	30.0

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0202225

Instrument ID: VOC4 Calibration Date: 02/11/02 Time: 1354

Lab File ID: 0201003 Init. Calib. Date(s): 02/07/02 02/07/02

Heated Purge: (Y/N) Y Init. Calib. Times: 1616 2129

GC Column: ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
Toluene	104.7	100.0	AVRG	4.7	20.0
1,1,1-Trichloroethane	102.5	100.0	AVRG	2.5	30.0
1,1,2-Trichloroethane	101.4	100.0	AVRG	1.4	30.0
1,1,2-trichloro-1,2,2-triflu	104.0	100.0	AVRG	4.0	30.0
Trichloroethene	103.7	100.0	AVRG	3.7	30.0
Trichlorofluoromethane	95.47	100.0	AVRG	4.5	30.0
1,2,3-Trichloropropane	89.71	100.0	AVRG	10.3	30.0
1,2,4-Trimethylbenzene	89.55	100.0	AVRG	10.4	30.0
1,2,4-Trichlorobenzene	118.6	100.0	AVRG	18.6	30.0
1,3,5-Trimethylbenzene	89.92	100.0	AVRG	10.1	30.0
Vinyl Acetate	115.5	100.0	AVRG	15.5	30.0
Vinyl Chloride	115.2	100.0	AVRG	15.2	20.0
Xylene-mp	190.3	200.0	AVRG	4.8	30.0
Xylene-o	94.48	100.0	AVRG	5.5	30.0
Dibromofluoromethane	42.40	50.00	AVRG	15.2	30.0
Toluene-d8	47.43	50.00	AVRG	5.1	30.0
Bromofluorobenzene	43.06	50.00	AVRG	13.9	30.0
1,2-Dichloroethane-d4	40.90	50.00	AVRG	18.2	30.0

FORM 8
VOA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0202225

Lab File ID (Standard): 0201003 Date Analyzed: 02/11/02

Instrument ID: VOC4 Time Analyzed: 1354

GC Column: ID: 2.00 (mm) Heated Purge: (Y/N) Y

		IS1 AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	449598	6.73	753039	7.32	722480	9.52
	UPPER LIMIT	899196	7.23	1506078	7.82	1444960	10.02
	LOWER LIMIT	224799	6.23	376520	6.82	361240	9.02
	CLIENT SAMPLE NO.						
01	V402111LCS	431597	6.73	711560	7.32	671884	9.51
02	V402111LB	383363	6.73	621215	7.32	504102	9.52
03	020209101	353595	6.74	582454	7.32	481921	9.53
04	020222502	363463	6.74	599954	7.32	489206	9.52
05	020209101MS	372573	6.73	625483	7.33	606685	9.52
06	020209101MSD	382353	6.74	643922	7.32	594736	9.52
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 = Pentafluorobenzene
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

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

FORM VIII VOA-GCMS

FORM 8
VOA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0202225

Lab File ID (Standard): 0201003 Date Analyzed: 02/11/02

Instrument ID: VOC4 Time Analyzed: 1354

GC Column: ID: 2.00 (mm) Heated Purge: (Y/N) Y

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	251928	11.33				
	UPPER LIMIT	503856	11.83				
	LOWER LIMIT	125964	10.83				
	CLIENT SAMPLE NO.						
01	V402111LCS	248951	11.33				
02	V402111LB	201715	11.33				
03	020209101	202045	11.33				
04	020222502	204833	11.33				
05	020209101MS	223495	11.33				
06	020209101MSD	221683	11.33				
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS4 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

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

Report Date : 08-Feb-2002 09:46

Lisa Savage 2-8-02

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

SRN: O_2-6-7012 QC REVIEWED 2-8-02

Start Cal Date : 07-FEB-2002 16:16
End Cal Date : 07-FEB-2002 21:29
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V402072.B\v402072.8260.m
Cal Date : 08-Feb-2002 09:46 lisa

Calibration File Names:
Level 1: \\ETCBDC\DD\chem\voc4.i\V402072.B\0301006.D
Level 2: \\ETCBDC\DD\chem\voc4.i\V402072.B\0401007.D
Level 3: \\ETCBDC\DD\chem\voc4.i\V402072.B\0601009.D
Level 4: \\ETCBDC\DD\chem\voc4.i\V402072.B\0701010.D
Level 5: \\ETCBDC\DD\chem\voc4.i\V402072.B\0801011.D
Level 6: \\ETCBDC\DD\chem\voc4.i\V402072.B\0901012.D
Level 7: \\ETCBDC\DD\chem\voc4.i\V402072.B\1001013.D
Level 8: \\ETCBDC\DD\chem\voc4.i\V402072.B\1101014.D
Level 9: \\ETCBDC\DD\chem\voc4.i\V402072.B\1201015.D
Level 10: \\ETCBDC\DD\chem\voc4.i\V402072.B\1301016.D

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
1 Dichlorodifluoromethane	0.70054	0.93015	0.84746	0.75178	0.77041	0.71511					
	0.65881	0.67640	0.78163	*****			AVRG		0.75914		11.40957

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-FEB-2002 16:16
End Cal Date : 07-FEB-2002 21:29
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V402072.B\v402072.8260.m
Cal Date : 08-Feb-2002 09:46 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
2 Chloromethane	0.41135	0.52015	0.45527	0.36459	0.39325	0.37366					
	0.35271	0.39597	0.42561	*****			AVRG		0.41029		12.65588
3 Vinyl Chloride	0.42796	0.59645	0.55989	0.48437	0.50540	0.48343					
	0.44266	0.51052	0.52825	*****			AVRG		0.50432		10.55185
4 Bromomethane	0.60167	0.52040	0.48513	0.39444	0.41450	0.42437					
	0.39201	0.45798	0.46297	*****			AVRG		0.46150		14.65687
5 Chloroethane	0.22377	0.22863	0.33702	0.28872	0.28804	0.28176					
	0.25707	0.28062	0.29146	*****			AVRG		0.27523		12.61812
6 Acrolein	*****	*****	*****	0.03182	0.03199	0.03058					
	0.03027	0.02861	0.02908	0.02787			AVRG		0.03003		5.25773

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-FEB-2002 16:16
End Cal Date : 07-FEB-2002 21:29
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V402072.B\v402072.8260.m
Cal Date : 08-Feb-2002 09:46 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
7 Trichlorofluoromethane	1.04251	1.13856	1.07857	0.95995	0.99069	0.92261					
	0.83826	0.88977	0.90240	*****			AVRG		0.97370		10.04091
8 Acetonitrile	*****	0.02877	0.03533	0.03797	0.03601	0.03671					
	0.03525	0.03294	0.03408	0.03326			AVRG		0.03448		7.77201
9 Acetone	*****	*****	*****	0.20800	0.18506	0.20454					
	0.18194	0.16343	0.18859	0.16086			AVRG		0.18463		9.83920
10 Furan	*****	1.30369	1.08956	0.99503	1.00223	0.98013					
	0.91315	0.96218	0.96132	*****			AVRG		1.02591		11.98194
11 1,1-Dichloroethene	0.46116	0.57362	0.55260	0.51289	0.51899	0.50583					
	0.46126	0.49198	0.50854	*****			AVRG		0.50965		7.29388

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-FEB-2002 16:16
End Cal Date : 07-FEB-2002 21:29
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V402072.B\v402072.8260.m
Cal Date : 08-Feb-2002 09:46 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	125.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
12 Acrylonitrile	*****	*****	*****	0.14067	0.14734	0.15449					
	0.14207	0.13804	0.14333	0.13830			AVRG		0.14346		4.05056
13 Iodomethane	*****	0.97927	1.02935	0.97334	0.93334	0.83837					
	0.74795	0.75648	0.74695	*****			AVRG		0.87563		13.35283
14 Methylene Chloride	8217	11395	31701	99779	244525	466975					
	529372	677867	791657	*****			LINR	-0.05222	0.55089		0.99878
15 1,1,2-trichloro-1,2,2-trifluo	0.66139	0.71244	0.68127	0.61162	0.62290	0.57753					
	0.52121	0.53393	0.54901	*****			AVRG		0.60859		11.01216
16 Allyl chloride	*****	0.79592	0.69702	0.71016	0.68507	0.68755					
	0.63785	0.65734	0.67822	0.53659			AVRG		0.67619		10.11816

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-FEB-2002 16:16
End Cal Date : 07-FEB-2002 21:29
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V402072.B\v402072.8260.m
Cal Date : 08-Feb-2002 09:46 lisa

Compound	0.500000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
17 Carbon Disulfide	3.48535	3.54816	3.25872	2.95479	3.06874	2.96576					
	2.70014	2.99949	3.08913	2.10467			AVRG		3.01749		13.56240
18 trans-1,2-Dichloroethene	0.58209	0.65922	0.63178	0.60951	0.61668	0.63271					
	0.59282	0.58460	0.59026	0.52468			AVRG		0.60244		6.12997
19 Methyl-tertbutyl-Ether	2.02802	1.99303	2.01438	2.07473	2.12234	2.15132					
	2.02626	2.03436	2.00135	1.82129			AVRG		2.02671		4.38761
20 Propionitrile	0.05546	0.05498	0.05357	0.05649	0.05662	0.05836					
	0.05382	0.05159	0.05299	0.05242			AVRG		0.05463		3.89608
21 1,1-Dichloroethane	1.06060	1.11796	1.07951	1.02994	1.06225	1.05528					
	0.98581	0.97380	0.99447	0.82958			AVRG		1.01892		7.88667

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-FEB-2002 16:16
End Cal Date : 07-FEB-2002 21:29
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V402072.B\v402072.8260.m
Cal Date : 08-Feb-2002 09:46 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
22 Vinyl Acetate	*****	*****	1.10927	1.12769	1.17790	1.15635					
	1.04334	1.07963	1.08561	0.98315			AVRG		1.09537		5.71278
23 Chloroprene	1.21919	1.30479	1.16985	1.16419	1.20641	1.19393					
	1.09798	1.12245	1.12142	0.93801			AVRG		1.15382		8.34965
24 2-Butanone	*****	*****	0.06487	0.07033	0.07011	0.07472					
	0.06507	0.06017	0.06483	0.06228			AVRG		0.06655		7.19626
25 Hexane	*****	*****	0.86739	0.77462	0.78812	0.75147					
	0.68566	0.74358	0.76120	0.55535			AVRG		0.74092		12.21908
26 Di isopropyl ether	*****	1.92332	1.83974	1.84730	1.83629	1.87770					
	1.76443	1.78174	1.77249	1.61962			AVRG		1.80696		4.82596

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-FEB-2002 16:16
End Cal Date : 07-FEB-2002 21:29
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V402072.B\v402072.8260.m
Cal Date : 08-Feb-2002 09:46 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
27 Methacrylonitrile	0.29776	0.33182	0.29542	0.30069	0.29710	0.30794					
	0.29072	0.27838	0.27892	0.27836			AVRG		0.29571		5.51354
28 cis-1,2-Dichloroethene	0.58209	0.65922	0.63178	0.60951	0.61668	0.63271					
	0.59282	0.58460	0.59026	0.52468			AVRG		0.60244		6.12997
29 Ethyl Acetate	*****	*****	0.50749	0.52165	0.51220	0.52682					
	0.49057	0.47560	0.47766	0.47866			AVRG		0.49858		4.13175
30 Bromochloromethane	0.28225	0.28334	0.29565	0.28904	0.29657	0.29289					
	0.28101	0.27794	0.27180	0.24758			AVRG		0.28181		5.12195
31 Chloroform	*****	1.49050	1.34437	1.28517	1.32023	1.32692					
	1.24654	1.21089	1.21571	1.08559			AVRG		1.28066		8.73534

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-FEB-2002 16:16
End Cal Date : 07-FEB-2002 21:29
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V402072.B\v402072.8260.m
Cal Date : 08-Feb-2002 09:46 lisa

Compound	0.500000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
32 Isobutyl Alcohol	*****	*****	0.01908	0.02142	0.02093	0.02108					
	0.01957	0.01812	0.01827	0.01890			AVRG		0.01967		6.64984
33 2,2-Dichloropropane	1.22514	1.24586	1.18294	1.13386	1.16159	1.13364					
	1.06217	1.02468	1.00348	0.83529			AVRG		1.10088		11.18192
35 Tetrahydrofuran	*****	*****	0.15122	0.19664	0.18700	0.19748					
	0.17888	0.17933	0.17792	0.16650			AVRG		0.17937		8.54563
38 1,2-Dichloroethane	0.97188	1.05482	0.94583	1.06684	1.05288	1.06403					
	0.98368	0.95471	0.95070	0.85757			AVRG		0.99029		6.91348
39 1,1,1-Trichloroethane	1.24769	1.31347	1.24739	1.23468	1.32084	1.31416					
	1.22123	1.22696	1.21660	1.04987			AVRG		1.23929		6.29575

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-FEB-2002 16:16
End Cal Date : 07-FEB-2002 21:29
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V402072.B\v402072.8260.m
Cal Date : 08-Feb-2002 09:46 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
40 1,1-Dichloropropene	1.04251	0.96972	0.97070	0.91890	0.95860	0.96464					
	0.89333	0.90144	0.89990	0.77099			AVRG		0.92907		7.72636
41 Carbon Tetrachloride	0.85666	1.12739	1.05201	1.05521	1.13757	1.13323					
	1.04619	1.04664	1.04560	0.90018			AVRG		1.04007		9.03668
42 Benzene	2.17224	2.27451	2.04062	2.01770	2.10234	2.14344					
	2.02968	2.05000	2.04716	1.81896			AVRG		2.06957		5.75944
44 Dibromomethane	0.29010	0.26713	0.24725	0.23385	0.23715	0.23592					
	0.22043	0.20928	0.20778	0.19278			AVRG		0.23417		12.42238
45 1,2-Dichloropropane	*****	0.46088	0.35291	0.32764	0.33102	0.34157					
	0.32063	0.31255	0.31625	*****			AVRG		0.34543		14.04300

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-FEB-2002 16:16
End Cal Date : 07-FEB-2002 21:29
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V402072.B\v402072.8260.m
Cal Date : 08-Feb-2002 09:46 lisa

Compound	0.500000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
46 Trichloroethene	0.41638	0.39473	0.39021	0.38968	0.39560	0.39412					
	0.37550	0.36882	0.36839	0.33268			AVRG		0.38261		5.93131
47 Bromodichloromethane	0.55903	0.61925	0.65063	0.62324	0.64452	0.66022					
	0.63007	0.60454	0.59600	0.55793			AVRG		0.61453		5.77976
48 n-Propyl Acetate	*****	0.72197	0.64299	0.69596	0.68625	0.70580					
	0.66990	0.63975	0.64308	0.64901			AVRG		0.67275		4.60051
49 Methyl methacrylate	0.21932	0.24068	0.23361	0.24639	0.25091	0.25699					
	0.24127	0.23007	0.23244	0.22692			AVRG		0.23786		4.85527
50 1,4-Dioxane	*****	*****	0.00230	0.00309	0.00295	0.00312					
	0.00320	0.00283	0.00309	0.00298			AVRG		0.00294		9.68513

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-FEB-2002 16:16
End Cal Date : 07-FEB-2002 21:29
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V402072.B\v402072.8260.m
Cal Date : 08-Feb-2002 09:46 lisa

Compound	0 5000000 Level 1	1 0000 Level 2	5 0000 Level 3	20 0000 Level 4	50 0000 Level 5	100 0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120 0000 Level 7	150 0000 Level 8	170 0000 Level 9	200 0000 Level 10							
51 2-Chloroethyl vinyl ether	0 42349	0 36303	0 35291	0 33483	0 33154	0 33695					
	0 31751	0 31208	0 31603	0 28860			AVRG		0 33770		10 91307
52 cis-1,3-Dichloropropene	0 60262	0 68163	0 62412	0 64074	0 66761	0 66546					
	0 64884	0 62641	0 63371	0 58139			AVRG		0 63925		5 20001
53 4-Methyl-2-Pentanone	*****	*****	0 29513	0 32417	0 32542	0 33349					
	0 31859	0 29916	0 30382	0 30457			AVRG		0 31304		4 51183
54 trans-1,3-Dichloropropene	0 51591	0 60183	0 57103	0 61269	0 63121	0 64316					
	0.61040	0 59378	0 58662	0 54976			AVRG		0 59164		6 43937
55 1,1,2-Trichloroethane	0 26043	0 26273	0 25502	0 25881	0 26573	0 26489					
	0 2547.	0 24956	0 24828	0 23667			AVRG		0 25568		3 50533

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-FEB-2002 16:16
End Cal Date : 07-FEB-2002 21:29
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V402072.B\v402072.8260.m
Cal Date : 08-Feb-2002 09:46 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
57 Ethyl methacrylate	0.21700	0.25398	0.24653	0.25302	0.25855	0.25976					
	0.24716	0.23413	0.23698	0.23085			AVRG		0.24380		5.64676
58 Toluene	0.85083	0.99012	0.84361	0.85796	0.90263	0.89062					
	0.83974	0.82256	0.84496	0.75506			AVRG		0.85981		7.05270
59 1,3-Dichloropropane	0.53090	0.61517	0.52603	0.55417	0.58280	0.57716					
	0.54587	0.53063	0.53748	0.50968			AVRG		0.55099		5.79708
60 2-Hexanone	*****	*****	0.21039	0.22959	0.23712	0.24350					
	0.23152	0.21483	0.22109	0.21844			AVRG		0.22581		5.08386
61 Chlorodibromomethane	0.40107	0.42824	0.43818	0.46405	0.48107	0.49653					
	0.47510	0.44742	0.45421	0.42262			AVRG		0.45085		6.50111

719 601

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-FEB-2002 16:16
End Cal Date : 07-FEB-2002 21:29
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V402072.B\v402072.8260.m
Cal Date : 08-Feb-2002 09:46 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
62 1,2-Dibromoethane	0.34080	0.37150	0.34257	0.35915	0.37762	0.38492					
	0.36428	0.34821	0.34747	0.33430			AVRG		0.35708		4.78438
63 Tetrachloroethene	0.26182	0.28573	0.26286	0.26733	0.26267	0.26089					
	0.25841	0.25542	0.25933	0.23164			AVRG		0.26463		6.04175
64 1,1,1,2-Tetrachloroethane	0.48273	0.45542	0.46246	0.46129	0.48266	0.46463					
	0.44860	0.44281	0.45155	0.42597			AVRG		0.45781		3.77438
66 Chlorobenzene	1.11263	1.14845	1.02410	1.02407	1.05630	1.03569					
	0.98323	0.99371	1.01153	0.96017			AVRG		1.03499		5.59018
67 Ethylbenzene	2.22227	2.20564	1.98209	1.96518	2.06962	2.03888					
	1.92474	1.90127	1.96765	1.80857			AVRG		2.00859		6.46899

000069

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-FEB-2002 16:16
End Cal Date : 07-FEB-2002 21:29
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V402072.B\v402072.8260.m
Cal Date : 08-Feb-2002 09:46 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	r2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
68 Xylene-mp	0.72540	0.75769	0.65708	0.64324	0.66934	0.66673					
	0.62699	0.63157	0.65740	0.60796			AVRG		0.66434		6.85533
69 Bromoform	0.21571	0.32935	0.29479	0.31628	0.32441	0.33094					
	0.30937	0.31090	0.31090	0.30877			AVRG		0.30514		10.89592
70 trans-1,4-Dichloro-2-butene	0.11965	0.14875	0.13537	0.14746	0.15424	0.15867					
	0.15037	0.14624	0.14834	0.15077			AVRG		0.14599		7.54741
71 Styrene	1.12780	1.12827	1.07870	1.07825	1.10927	1.13200					
	1.03650	1.06312	1.09593	1.02190			AVRG		1.08717		3.55888
72 Xylene-o	0.66005	0.68831	0.60791	0.63246	0.64887	0.64358					
	0.60209	0.60424	0.62359	0.57315			AVRG		0.62643		5.31193

719 603

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-FEB-2002 16:16
End Cal Date : 07-FEB-2002 21:29
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V402072.B\v402072.8260.m
Cal Date : 08-Feb-2002 09:46 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
73 1,1,2,2-Tetrachloroethane	0.82587	0.97581	0.90488	0.97411	1.03295	1.01123					
	0.97376	0.98234	0.93044	0.94502			AVRG		0.95564		6.14344
74 cis-1,4-Dichloro-2-butene	0.12134	0.12293	0.12999	0.14658	0.15339	0.15444					
	0.14670	0.13982	0.13945	0.13900			AVRG		0.13936		8.33127
75 1,2,3-Trichloropropane	0.15111	0.14301	0.13995	0.16009	0.15629	0.15480					
	0.14819	0.14320	0.14401	0.14425			AVRG		0.14849		4.55220
76 Isopropylbenzene	1.94084	2.03800	1.81470	1.82766	1.92517	1.91201					
	1.78446	1.80585	1.85522	1.69191			AVRG		1.85958		5.23164
78 Bromobenzene	0.46925	0.46588	0.42849	0.44240	0.45054	0.43725					
	0.41326	0.41580	0.41465	0.39546			AVRG		0.43330		5.57891

000071

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-FEB-2002 16:16
End Cal Date : 07-FEB-2002 21:29
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V402072.B\v402072.8260.m
Cal Date : 08-Feb-2002 09:46 lisa

Compound	0.500000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
79 n-Propylbenzene	2.36365	2.40262	2.13971	2.14061	2.30576	2.29981					
	2.13277	2.14630	2.19214	2.04536			AVRG		2.21687		5.30916
80 2-Chlorotoluene	1.64536	1.53695	1.47399	1.39434	1.58596	1.47588					
	1.31148	1.32521	1.34936	1.36310			AVRG		1.44616		8.01273
81 4-Chlorotoluene	1.85545	1.68394	1.45222	1.54047	1.51307	1.61227					
	1.51340	1.37040	1.39926	1.30574			AVRG		1.52462		10.61384
82 1,3,5-Trimethylbenzene	1.77681	1.72060	1.48000	1.48299	1.55389	1.54377					
	1.42526	1.44052	1.47981	1.38031			AVRG		1.52840		8.35011
83 1,2,4-Trimethylbenzene	1.92455	1.85963	1.50434	1.50342	1.57291	1.57198					
	1.45639	1.45948	1.48978	1.37850			AVRG		1.57210		11.34972

000072

719 604

719 605

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-FEB-2002 16:16
End Cal Date : 07-FEB-2002 21:29
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V402072.B\v402072.8260.m
Cal Date : 08-Feb-2002 09:46 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
85 tert-Butylbenzene	1.39725	1.45707	1.24277	1.27641	1.34009	1.35120					
	1.24922	1.23312	1.26907	1.18456			AVRG		1.30007		6.46222
86 sec-Butylbenzene	2.20261	2.11446	1.79926	1.84003	1.95343	1.94729					
	1.83555	1.81381	1.87047	1.75279			AVRG		1.91297		7.57225
87 4-Isopropyltoluene	1.84665	1.64164	1.50051	1.51312	1.60573	1.58957					
	1.48315	1.46307	1.50217	1.38675			AVRG		1.55324		8.19282
89 1,3-Dichlorobenzene	2.10696	2.04819	1.70231	1.64187	1.81056	1.74484					
	1.67928	1.65052	1.62599	1.56043			AVRG		1.75709		10.38573
90 1,4-Dichlorobenzene	2.30013	2.00681	1.78581	1.62728	1.80266	1.82380					
	1.66510	1.63062	1.79409	1.54466			AVRG		1.79810		12.23497

000073

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-FEB-2002 16:16
End Cal Date : 07-FEB-2002 21:29
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V402072.B\v402072.8260.m
Cal Date : 08-Feb-2002 09:46 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
91 1,2-Dichlorobenzene	1.62644	1.72073	1.52747	1.50331	1.62296	1.59254					
	1.52591	1.51647	1.44739	1.39710			AVRG		1.54803		6.10501
92 n-Butylbenzene	4.10186	3.77571	3.42686	3.31479	3.63800	3.63415					
	3.45258	3.38482	3.28057	3.14443			AVRG		3.51538		7.94845
93 1,2-Dibromo-3-chloropropane	*****	*****	0.20499	0.21184	0.21625	0.21771					
	0.21190	0.19876	0.19184	0.20209			AVRG		0.20692		4.37423
94 1,2,4-Trichlorobenzene	1.23444	1.09657	0.91121	0.85316	0.91566	0.98307					
	0.90535	0.86614	0.85840	0.80865			AVRG		0.94326		13.79942
95 Naphthalene	*****	2.79990	2.06151	2.05562	2.19598	2.40422					
	2.24035	2.13985	2.13293	2.11317			AVRG		2.23817		10.54693

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-FEB-2002 16:16
End Cal Date : 07-FEB-2002 21:29
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V402072.B\v402072.8260.m
Cal Date : 08-Feb-2002 09:46 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
96 Hexachlorobutadiene	0.34622	0.56622	0.48746	0.46670	0.50301	0.55115					
	0.51097	0.49710	0.47887	0.46246			AVRG		0.48692		12.29838
97 1,2,3-Trichlorobenzene	0.89432	0.96796	0.78566	0.76503	0.81720	0.88840					
	0.82911	0.80399	0.80094	0.74467			AVRG		0.82983		8.19354
$ 34 Dibromofluoromethane	0.70859	0.70720	0.66580	0.67929	0.66420	0.68539					
	0.67178	0.65995	0.63071	0.60611			AVRG		0.66790		4.71720
$ 37 1,2-Dichloroethane-d4	0.92217	0.91776	0.85475	0.85312	0.87049	0.91946					
	0.86286	0.85384	0.81898	0.77187			AVRG		0.86453		5.48175
$ 56 Toluene-d8	1.29633	1.27670	1.25276	1.23649	1.27014	1.26249					
	1.22649	1.26973	1.17852	1.15820			AVRG		1.24278		3.55519

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-FEB-2002 16:16
End Cal Date : 07-FEB-2002 21:29
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V402072.B\v402072.8260.m
Cal Date : 08-Feb-2002 09:46 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
$ 77 Bromofluorobenzene	0.59133	0.57453	0.54465	0.56672	0.56392	0.55473					
	0.53115	0.55505	0.51705	0.51322			AVRG		0.55123		4.54100

Curve	Formula	Units
Averaged	Amt = Rsp/m1	Response
Linear	Amt = b + Rsp/m1	Response

719 609

ENVIRONMENTAL TESTING & CONSULTING, INC
GC/MS VOC Method 8260B Sequence Check List (SW-846)

Sequence ID: 1302131 Matrix: H2O HBN: _____
Date: 2-14-02 Analyst _____
Applicable ETC Order Nos. for this sequence: Super 02/MLC
0202-055-2 0202-302-7-10
0202-225-1 0202-163-1 0202-251 Validated

1. BFB Daily 12-Hour Tune Meets Criteria. No analyses begins until criteria are met. (SOP) ✓
2. Initial Calibration Verification Criteria - Method : 1302111, 8260M
   a. SPCC - Mean RF >=0.10 (>=0.30 for Chlorobenzene / 1122-Tetrachloroethene) ✓
   b. CCC - RSD of RF for CCCs and Target Analytes MUST BE <= 30% ✓
   c. RSD of analytes <=15% may use Average RF for quantitation ✓
   d. Analytes w/RSD >15% use Linear Regression - correlation coefficient >=0.99 ✓

3. Calibration Verification - Each 12-Hour Shift
   a. SPCC - Mean RF >=0.10 (>=0.30 for Chlorobenzene / 1122-Tetrachloroethene) ✓
   b. CCC - % Difference for Average RF Calibration - <=20% ✓
   c. CCC - % Drift for Linear Regression Calibration - <=20% ✓
   d. % Difference/% Drift for all other Target Analytes - <=30% 1,2,3-TCB, 1,2,4-TCB ✓
   e. Internal Standards - Retention Times within +/-30 seconds from Mid-Point ICAL STD ✓
   f. Internal Standards - Areas within (-50% to +100%) form Mid-Point ICAL STD ✓

4. Method Blanks included in this sequence : ✓
   Analyze daily or for each analytical batch (20 samples): _____
   List compounds identified in Method Blank w/concentration.
   Flag final result "B-Detected in Blank"
   MeCl2 @ BDL

5. Matrix Spike/Matrix Spike Duplicates included in this sequence : ✓
   Analyze daily or for each matrix (ms/msd per 20 samples of same matrix)
   List MS/MSD(s) performed with any failures :
   0202-22501 MS, MSD

6. Laboratory Control Samples included in this sequence : ✓
   Must contain all Target Analytes. 3/88

7. Surrogate Recoveries within QC Limits ✓

8. All positive compounds within calibration range ✓

Narrative/Notes :

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

719 610

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0202225

Lab File ID: 0101003 BFB Injection Date: 02/13/02

Instrument ID: VOC3 BFB Injection Time: 1257

GC Column: ID: 2.00 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.4
75	30.0 - 60.0% of mass 95	44.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.9
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	87.0
175	5.0 - 9.0% of mass 174	6.5 (7.5)1
176	95.0 - 101.0% of mass 174	87.0 (100.0)1
177	5.0 - 9.0% of mass 176	5.3 (6.1)2

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

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	V302131LCS	1LCS	0201004TLCS	02/13/02	1310
02	DCS100PPB		0201004	02/13/02	1310
03	V302131LB	1LB	0402007T	02/13/02	1510
04	020222501	020222501	1201015	02/13/02	1901
05	020222501MS	MS	1901022	02/13/02	2222
06	020222501MSD	MSD	2001023	02/13/02	2251
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

719 611

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0202225

Instrument ID: VOC3 Calibration Date: 02/13/02 Time: 1310

Lab File ID: 0201004 Init. Calib. Date(s): 02/11/02 02/11/02

Heated Purge: (Y/N) Y Init. Calib. Times: 1027 1516

GC Column: ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
Acetone	128.0	100.0	AVRG	28.0	30.0
Acetonitrile	1022	1000	AVRG	2.2	30.0
Acrolein	74.54	100.0	AVRG	25.5	30.0
Acrylonitrile	101.7	100.0	AVRG	1.7	30.0
Allyl chloride	92.49	100.0	AVRG	7.5	30.0
Benzene	105.2	100.0	LINR	5.2	30.0
Bromobenzene	106.9	100.0	AVRG	6.9	30.0
Bromochloromethane	102.4	100.0	AVRG	2.4	30.0
Bromodichloromethane	106.1	100.0	AVRG	6.1	30.0
Bromoform	116.5	100.0	AVRG	16.5	30.0
2-Butanone	103.8	100.0	AVRG	3.8	30.0
Bromomethane	85.23	100.0	AVRG	14.8	30.0
n-Butylbenzene	122.5	100.0	AVRG	22.5	30.0
sec-Butylbenzene	108.7	100.0	LINR	8.7	30.0
tert-Butylbenzene	96.76	100.0	AVRG	3.2	30.0
Carbon Disulfide	92.25	100.0	AVRG	7.8	30.0
Carbon Tetrachloride	105.7	100.0	AVRG	5.7	30.0
Chlorobenzene	105.4	100.0	AVRG	5.4	30.0
Chlorodibromomethane	106.8	100.0	AVRG	6.8	30.0
Chloroethane	92.04	100.0	AVRG	8.0	30.0
2-Chloroethyl vinyl ether	111.5	100.0	AVRG	11.5	30.0
Chloroform	97.33	100.0	AVRG	2.7	20.0
Chloromethane	79.79	100.0	AVRG	20.2	30.0
Chloroprene	94.45	100.0	AVRG	5.6	30.0
2-Chlorotoluene	108.9	100.0	AVRG	8.9	30.0
4-Chlorotoluene	112.2	100.0	LINR	12.2	30.0
1,2-Dibromo-3-chloropropane	127.8	100.0	AVRG	27.8	30.0
1,2-Dibromoethane	110.5	100.0	AVRG	10.5	30.0
Dibromomethane	106.9	100.0	AVRG	6.9	30.0
1,2-Dichlorobenzene	115.0	100.0	AVRG	15.0	30.0
1,3-Dichlorobenzene	112.8	100.0	AVRG	12.8	30.0
1,4-Dichlorobenzene	114.7	100.0	AVRG	14.7	30.0
cis-1,4-Dichloro-2-butene	109.4	100.0	AVRG	9.4	30.0
trans-1,4-Dichloro-2-butene	104.2	100.0	AVRG	4.2	30.0
Dichlorodifluoromethane	89.91	100.0	AVRG	10.1	30.0
1,1-Dichloroethane	93.78	100.0	AVRG	6.2	30.0
1,2-Dichloroethane	108.3	100.0	AVRG	8.3	30.0

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

719 612

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0202225

Instrument ID: VOC3 Calibration Date: 02/13/02 Time: 1310

Lab File ID: 0201004 Init. Calib. Date(s): 02/11/02 02/11/02

Heated Purge: (Y/N) Y Init. Calib. Times: 1027 1516

GC Column: ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d	
1,1-Dichloroethene	96.00	100.0	AVRG	4.0	20.0	
cis-1,2-Dichloroethene	95.12	100.0	AVRG	4.9	30.0	
trans-1,2-Dichloroethene	93.39	100.0	LINR	6.6	30.0	
1,2-Dichloropropane	85.31	100.0	AVRG	14.7	20.0	
1,3-Dichloropropane	104.1	100.0	AVRG	4.1	30.0	
2,2-Dichloropropane	104.6	100.0	AVRG	4.6	30.0	
1,1-Dichloropropene	100.6	100.0	AVRG	0.6	30.0	
cis-1,3-Dichloropropene	112.9	100.0	AVRG	12.9	30.0	
trans-1,3-Dichloropropene	113.8	100.0	AVRG	13.8	30.0	
Di isopropyl ether	87.86	100.0	LINR	12.1	30.0	
1,4-Dioxane	2332	2000	AVRG	16.6	30.0	
Ethyl Acetate	92.72	100.0	AVRG	7.3	30.0	
Ethylbenzene	108.8	100.0	AVRG	8.8	20.0	
Ethyl methacrylate	192.0	200.0	AVRG	4.0	30.0	
Furan	156.5	153.0	AVRG	2.3	30.0	
Hexachlorobutadiene	128.6	100.0	AVRG	28.6	30.0	
Hexane	85.46	117.0	AVRG	27.0	30.0	
2-Hexanone	103.5	100.0	AVRG	3.5	30.0	
Iodomethane	101.5	100.0	2ORDR	1.5	30.0	
Isobutyl Alcohol	1831	2000	AVRG	8.4	30.0	
Isopropylbenzene	102.0	100.0	AVRG	2.0	30.0	
4-Isopropyltoluene	88.43	100.0	AVRG	11.6	30.0	
Methacrylonitrile	780.3	1000	AVRG	22.0	30.0	
Methylene Chloride	106.8	100.0	LINR	6.8	30.0	
Methyl methacrylate	187.7	200.0	AVRG	6.2	30.0	
4-Methyl-2-Pentanone	99.03	100.0	AVRG	1.0	30.0	
Methyl-tertbutyl-Ether	110.2	100.0	LINR	10.2	30.0	
Naphthalene	111.2	100.0	AVRG	11.2	30.0	
Propionitrile	918.3	1000	AVRG	8.2	30.0	
n-Propyl Acetate	149.2	151.0	AVRG	1.2	30.0	
n-Propylbenzene	105.8	100.0	AVRG	5.8	30.0	
Styrene	100.5	100.0	AVRG	0.5	30.0	
1,1,1,2-Tetrachloroethane	107.4	100.0	AVRG	7.4	30.0	
1,1,2,2-Tetrachloroethane	119.3	100.0	AVRG	19.3	30.0	
Tetrachloroethene	107.5	100.0	AVRG	7.5	30.0	
Tetrahydrofuran	83.40	91.50	AVRG	8.8	30.0	
1,2,3-Trichlorobenzene	131.2	100.0	AVRG	31.2	30.0	<-

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0202225

Instrument ID: VOC3 Calibration Date: 02/13/02 Time: 1310

Lab File ID: 0201004 Init. Calib. Date(s): 02/11/02 02/11/02

Heated Purge: (Y/N) Y Init. Calib. Times: 1027 1516

GC Column: ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d	
Toluene	103.2	100.0	AVRG	3.2	20.0	
1,1,1-Trichloroethane	104.1	100.0	AVRG	4.1	30.0	
1,1,2-Trichloroethane	110.8	100.0	AVRG	10.8	30.0	
1,1,2-trichloro-1,2,2-triflu	87.45	100.0	AVRG	12.6	30.0	
Trichloroethene	95.73	100.0	AVRG	4.3	30.0	
Trichlorofluoromethane	107.7	100.0	AVRG	7.7	30.0	
1,2,3-Trichloropropane	109.8	100.0	AVRG	9.8	30.0	
1,2,4-Trimethylbenzene	94.60	100.0	AVRG	5.4	30.0	
1,2,4-Trichlorobenzene	134.0	100.0	AVRG	34.0	30.0	<-
1,3,5-Trimethylbenzene	106.9	100.0	LINR	6.9	30.0	
Vinyl Acetate	100.2	100.0	AVRG	0.2	30.0	
Vinyl Chloride	92.54	100.0	AVRG	7.5	20.0	
Xylene-mp	198.0	200.0	AVRG	1.0	30.0	
Xylene-o	98.41	100.0	AVRG	1.6	30.0	
Dibromofluoromethane	50.23	50.00	AVRG	0.4	30.0	
Toluene-d8	57.21	50.00	AVRG	14.4	30.0	
Bromofluorobenzene	58.89	50.00	AVRG	17.8	30.0	
1,2-Dichloroethane-d4	51.63	50.00	AVRG	3.3	30.0	

FORM 8
VOA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

719 614

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0202225

Lab File ID (Standard): 0201004 Date Analyzed: 02/13/02

Instrument ID: VOC3 Time Analyzed: 1310

GC Column: ID: 2.00 (mm) Heated Purge: (Y/N) Y

		IS1 AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	818043	7.34	1136258	7.90	1162714	10.02
	UPPER LIMIT	1636086	7.84	2272516	8.40	2325428	10.52
	LOWER LIMIT	409022	6.84	568129	7.40	581357	9.52
	CLIENT SAMPLE NO.						
01	V302131LB	758407	7.34	1024966	7.90	1022343	10.03
02	020222501	760734	7.34	1037876	7.90	1065009	10.02
03	020222501MS	847839	7.34	1177732	7.90	1117150	10.02
04	020222501MSD	887180	7.34	1179449	7.90	1124316	10.02
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 = Pentafluorobenzene
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

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

719 615

FORM 8
VOA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0202225

Lab File ID (Standard): 0201004 Date Analyzed: 02/13/02

Instrument ID: VOC3 Time Analyzed: 1310

GC Column: ID: 2.00 (mm) Heated Purge: (Y/N) Y

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	379110	11.90				
	UPPER LIMIT	758220	12.40				
	LOWER LIMIT	189555	11.40				
	CLIENT SAMPLE NO.						
01	V302131LB	422788	11.89				
02	020222501	449147	11.89				
03	020222501MS	359076	11.89				
04	020222501MSD	355980	11.89				
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS4 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

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

Report Date : 14-Feb-2002 08:49

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Lisa Savage 2-14-02
SRN: O2-6-70-12 2/14/02

Start Cal Date : 11-FEB-2002 10:27
End Cal Date : 11-FEB-2002 15:16
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc3.i\V302131.B\v302111.8260.m
Cal Date : 13-Feb-2002 13:30 elizabeth

Calibration File Names:
Level 1: \\ETCBDC\DD\chem\voc3.i\v302111.b\0301004.D
Level 2: \\ETCBDC\DD\chem\voc3.i\v302111.b\0501006.D
Level 3: \\ETCBDC\DD\chem\voc3.i\v302111.b\0601007.D
Level 4: \\ETCBDC\DD\chem\voc3.i\v302111.b\0701008.D
Level 5: \\ETCBDC\DD\chem\voc3.i\v302111.b\0801009.D
Level 6: \\ETCBDC\DD\chem\voc3.i\v302111.b\0901010.D
Level 7: \\ETCBDC\DD\chem\voc3.i\v302111.b\1001011.D
Level 8: \\ETCBDC\DD\chem\voc3.i\v302111.b\1101012.D
Level 9: \\ETCBDC\DD\chem\voc3.i\v302111.b\1201013.D
Level 10: \\ETCBDC\DD\chem\voc3.i\v302111.b\1301014.D

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
1 Dichlorodifluoromethane	0.58094	0.81513	0.70295	0.59265	0.69730	0.63400					
	0.70222	*****	*****	*****			AVRG		0.68360		11.50703

719 617

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 11-FEB-2002 10:27
End Cal Date : 11-FEB-2002 15:16
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc3.i\V302131.B\v302111.8260.m
Cal Date : 13-Feb-2002 13:30 elizabeth

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
2 Chloroethane	*****	0.45068	0.37950	0.31155	0.34201	0.34986					
	0.34404	*****	*****	*****			AVRG		0.36294		13.25978
3 Vinyl Chloride	0.20720	0.31644	0.32680	0.27315	0.30976	0.30185					
	0.29913	*****	*****	*****			AVRG		0.29062		13.91002
4 Bromomethane	0.37940	0.41469	0.34260	0.29153	0.33063	0.28180					
	0.33500	*****	*****	*****			AVRG		0.33938		13.70641
5 Chloroethane	*****	0.13475	0.18888	0.17406	0.17877	0.17194					
	0.17371	0.13077	*****	*****			AVRG		0.16470		13.69479
6 Acrolein	*****	*****	*****	0.01831	0.01564	0.01418					
	0.01630	0.01321	0.01505	0.01487			AVRG		0.01537		10.63639

000085

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 11-FEB-2002 10:27
End Cal Date : 11-FEB-2002 15:16
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc3.i\V302131.B\v302111.8260.m
Cal Date : 13-Feb-2002 13:30 elizabeth

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
7 Trichlorofluoromethane	0.48416	0.74193	0.70259	0.61059	0.72436	0.66639					
	0.67810	0.53681	0.58691	*****			AVRG		0.63687		13.83440
8 Acetonitrile	*****	0.02186	0.01978	0.02094	0.02055	0.02091					
	0.02065	0.01957	0.02029	0.01821			AVRG		0.02019		5.78643
9 Acetone	*****	*****	*****	0.12670	0.10578	0.10041					
	0.10351	0.09131	0.10923	0.09391			AVRG		0.10442		11.20146
10 Furan	*****	0.71361	0.64014	0.59638	0.69612	0.69044					
	0.66314	0.56242	0.59104	*****			AVRG		0.64416		8.66856
11 1,1-Dichloroethene	0.45863	0.50721	0.42031	0.36973	0.42663	0.42356					
	0.41327	0.33263	0.33195	*****			AVRG		0.40932		13.95101

719 619

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 11-FEB-2002 10:27
End Cal Date : 11-FEB-2002 15:16
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc3.i\V302131.B\v302111.8260.m
Cal Date : 13-Feb-2002 13:30 elizabeth

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
12 Acrylonitrile	*****	*****	*****	0.05462	0.06064	0.05768					
	0.05933	0.05204	0.05754	0.05048			AVRG		0.05605		6.75047
13 Iodomethane	2155	3363	19828	70487	270621	706219					
	*****	*****	*****	*****			QUAD	0.02468	3.74232	-1.65246	0.99686
14 Methylene Chloride	6364	9789	41101	143507	359959	708022					
	815761	*****	*****	*****			INR	-0.01747	0.40120		0.99843
15 1,1,2-trichloro-1,2,2-trifluo	*****	0.47173	0.41965	0.39424	0.42251	0.37522					
	0.37543	0.28489	*****	*****			AVRG		0.39051		14.62210
16 Allyl chloride	*****	0.52985	0.45836	0.42230	0.44558	0.43837					
	0.41150	0.34640	0.35715	*****			AVRG		0.42619		13.64382

000087

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 11-FEB-2002 10:27
End Cal Date : 11-FEB-2002 15:16
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc3.i\V302131.B\v302111.8260.m
Cal Date : 13-Feb-2002 13:30 elizabeth

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
17 Carbon Disulfide	2.40554	2.04500	2.16136	1.86696	2.07967	2.09564					
	2.05025	1.61230	1.60158	*****			AVRG		1.99092		13.00780
18 trans-1,2-Dichloroethene	4424	9672	33807	141284	387247	726172					
	877247	*****	*****	*****			LINR	-0.00366	0.42618		0.99947
19 Methyl-tertbutyl-Ether	8537	15946	72625	303967	726630	1301677					
	1609859	1900778	2097295	2270127			LINR	-0.08219	0.69526		0.99344
20 Propionitrile	0.02775	0.03166	0.03249	0.02737	0.02780	0.02632					
	0.02583	0.02528	0.02565	0.02470			AVRG		0.02748		9.60650
21 1,1-Dichloroethane	0.57182	0.58912	0.62864	0.57135	0.59366	0.58410					
	0.55841	0.48217	0.49795	0.44415			AVRG		0.55214		10.50093

719 621

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 11-FEB-2002 10:27
End Cal Date : 11-FEB-2002 15:16
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc3.i\V302131.B\v302111.8260.m
Cal Date : 13-Feb-2002 13:30 elizabeth

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients a	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
22 Vinyl Acetate	*****	*****	0.64473	0.58897	0.59678	0.54267					
	0.52596	0.46200	0.47803	0.41476			AVRG		0.53174		14.54264
23 Chloroprene	0.58625	0.56464	0.56564	0.55601	0.54312	0.51659					
	0.50846	0.41822	0.45610	0.40147			AVRG		0.51165		12.73911
24 2-Butanone	*****	*****	*****	0.03608	0.03436	0.03228					
	0.03211	0.02889	0.03014	0.02781			AVRG		0.03167		9.31539
25 Hexane	*****	*****	0.41509	0.35712	0.35685	0.32479					
	0.31901	*****	*****	*****			AVRG		0.35457		10.76324
26 Di isopropyl ether	*****	18128	80995	343016	802360	1430878					
	1642801	*****	*****	*****			LINR	-0.05571	0.80380		0.99552

680089

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 11-FEB-2002 10:27
End Cal Date : 11-FEB-2002 15:16
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc3.i\V302131.B\v302111.8260.m
Cal Date : 13-Feb-2002 13:30 elizabeth

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
27 Methacrylonitrile	0.19026	0.17358	0.16155	0.16221	0.14995	0.13454					
	0.13565	*****	*****	*****			AVRG		0.15825		12.71150
28 cis-1,2-Dichloroethene	0.61640	0.61551	0.54103	0.51978	0.50849	0.49848					
	0.49040	0.43262	0.44838	0.41436			AVRG		0.50855		13.58270
29 Ethyl Acetate	*****	*****	0.26696	0.25865	0.24019	0.22719					
	0.23767	0.21745	0.22037	0.20992			AVRG		0.23480		8.55918
30 Bromochloromethane	0.15523	0.19796	0.21657	0.20529	0.21088	0.20769					
	0.19952	0.18164	0.18640	0.15724			AVRG		0.19184		11.22651
31 Chloroform	*****	1.05430	0.88724	0.86034	0.84523	0.82439					
	0.81210	0.73840	0.76681	0.72216			AVRG		0.83455		11.90107

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 11-FEB-2002 10:27
End Cal Date : 11-FEB-2002 15:16
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc3.i\V302131.B\v302111.8260.m
Cal Date : 13-Feb-2002 13:30 elizabeth

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
32 Isobutyl Alcohol	*****	*****	0.01195	0.01200	0.01116	0.01005					
	0.01073	0.00972	0.00998	0.00942			AVRG		0.01063		9.39306
33 2,2-Dichloropropane	0.80754	0.62435	0.65035	0.62346	0.62644	0.61874					
	0.59291	0.50939	0.53076	*****			AVRG		0.62944		13.61655
35 Tetrahydrofuran	*****	*****	0.09599	0.11211	0.10569	0.09654					
	0.10114	0.08515	0.08940	0.08039			AVRG		0.09580		11.05434
38 1,2-Dichloroethane	0.47954	0.57289	0.51509	0.50743	0.51961	0.50069					
	0.50378	0.47126	0.48097	0.45518			AVRG		0.50054		6.47770
39 1,1,1-Trichloroethane	0.86679	0.77201	0.77674	0.76729	0.78589	0.76998					
	0.74835	0.64618	0.68747	0.64003			AVRG		0.74607		9.31384

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 11-FEB-2002 10:27
End Cal Date : 11-FEB-2002 15:16
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc3.i\V302131.B\v302111.8260.m
Cal Date : 13-Feb-2002 13:30 elizabeth

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	125.0000 Level 7	150.0000 Level 8	175.0000 Level 9	200.0000 Level 10							
40 1,1-Dichloropropene	0.56974	0.54053	0.58646	0.56176	0.55767	0.55168					
	0.53923	0.46490	0.48584	0.44277			AVRG		0.53006		9.11426
41 Carbon Tetrachloride	0.40897	0.56820	0.54936	0.55815	0.56869	0.55729					
	0.54518	0.46229	0.49596	0.44718			AVRG		0.51612		11.26499
42 Benzene	13583	23070	116872	485493	1162693	2169172					
	2553778	2948612	3254760	*****			LINR	-0.06710	1.13178		0.99100
44 Dibromomethane	0.24600	0.24340	0.24204	0.24155	0.23191	0.21956					
	0.20447	0.19497	0.19926	0.18966			AVRG		0.22128		10.12539
45 1,2-Dichloropropane	*****	0.23735	0.22467	0.21142	0.20272	0.19348					
	0.17281	0.16044	0.16514	*****			AVRG		0.19600		14.39953

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 11-FEB-2002 10:27
End Cal Date : 11-FEB-2002 15:16
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc3.i\V302131.B\v302111.8260.m
Cal Date : 13-Feb-2002 13:30 elizabeth

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
46 Trichloroethene	0.32334	0.28009	0.30464	0.29690	0.29587	0.28312					
	0.25771	0.23059	0.23816	0.21743			AVRG		0.27281		12.98501
47 Bromodichloromethane	0.53667	0.47775	0.50793	0.49788	0.48966	0.47581					
	0.44663	0.42199	0.43376	0.43109			AVRG		0.47192		7.98614
48 n-Propyl Acetate	*****	*****	0.16591	0.16035	0.15391	0.15004					
	0.14217	0.14043	0.14195	0.13600			AVRG		0.14884		7.08665
49 Methyl methacrylate	0.11866	0.14439	0.14003	0.13074	0.12336	0.11462					
	0.10989	0.10481	0.10647	0.10423			AVRG		0.11972		12.19135
50 1,4-Dioxane	*****	*****	0.00212	0.00234	0.00256	0.00259					
	0.00238	0.00231	0.00251	0.00231			AVRG		0.00239		6.55292

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 11-FEB-2002 10:27
End Cal Date : 11-FEB-2002 15:16
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc3.i\V302131.B\v302111.8260.m
Cal Date : 13-Feb-2002 13:30 elizabeth

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
51 2-Chloroethyl vinyl ether	*****	0.08756	0.09701	0.10330	0.10896	0.10835					
	0.10630	0.10664	0.11149	0.10733			AVRG		0.10410		7.14468
52 cis-1,3-Dichloropropene	0.45478	0.46135	0.46923	0.45593	0.46757	0.46476					
	0.42892	0.42221	0.42589	0.41971			AVRG		0.44704		4.54237
53 4-Methyl-2-Pentanone	*****	*****	0.24986	0.24133	0.23179	0.22656					
	0.21443	0.21158	0.21375	0.20467			AVRG		0.22425		7.07104
54 trans-1,3-Dichloropropene	0.44833	0.42933	0.44818	0.45094	0.45509	0.45622					
	0.42815	0.42444	0.43320	0.42428			AVRG		0.43982		2.97106
55 1,1,2-Trichloroethane	*****	0.23463	0.22904	0.23861	0.24754	0.24669					
	0.22555	0.22554	0.22459	0.22567			AVRG		0.23309		3.96738

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 11-FEB-2002 10:27
End Cal Date : 11-FEB-2002 15:16
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc3.i\V302131.B\v302111.8260.m
Cal Date : 13-Feb-2002 13:30 elizabeth

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
57 Ethyl methacrylate	0.18760	0.18193	0.16511	0.15475	0.15419	0.15174					
	0.13742	0.13432	0.13761	0.13253			AVRG		0.15372		12.69814
58 Toluene	*****	1.00069	0.93222	0.83971	0.81172	0.80607					
	0.72531	0.68980	0.70561	*****			AVRG		0.81389		13.50711
59 1,3-Dichloropropane	0.41574	0.42762	0.43274	0.42863	0.43221	0.41745					
	0.38849	0.38137	0.37836	0.37047			AVRG		0.40731		6.08602
60 2-Hexanone	*****	*****	0.21680	0.17888	0.16972	0.16318					
	0.15903	0.15561	0.15902	0.15040			AVRG		0.16908		12.52831
61 Chlorodibromomethane	0.30705	0.30546	0.32043	0.34203	0.35279	0.35945					
	0.33295	0.33523	0.33488	0.33074			AVRG		0.33210		5.28137

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 11-FEB-2002 10:27
End Cal Date : 11-FEB-2002 15:16
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc3.i\V302131.B\v302111.8260.m
Cal Date : 13-Feb-2002 13:30 elizabeth

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
62 1,2-Dibromoethane	0.34419	0.32385	0.34791	0.34869	0.36561	0.35462					
	0.32907	0.32830	0.32702	0.31886			AVRG		0.33881		4.55511
63 Tetrachloroethene	0.32583	0.33179	0.34599	0.33385	0.34099	0.33662					
	0.30739	0.28648	0.29473	0.28095			AVRG		0.31846		7.52319
64 1,1,1,2-Tetrachloroethane	0.25476	0.27733	0.28021	0.26799	0.28428	0.30506					
	0.27678	0.25942	0.29066	0.26012			AVRG		0.27566		5.65773
66 Chlorobenzene	0.95951	0.93234	0.90321	0.84169	0.85018	0.89407					
	0.80588	0.73794	0.83762	0.75067			AVRG		0.85131		8.58926
67 Ethylbenzene	*****	1.73734	1.66398	1.44700	1.45738	1.53036					
	1.36790	1.23434	1.39992	*****			AVRG		1.47978		10.94246

960000

719 628

719 629

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 11-FEB-2002 10:27
End Cal Date : 11-FEB-2002 15:16
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc3.i\V302131.B\v302111.8260.m
Cal Date : 13-Feb-2002 13:30 elizabeth

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
68 Xylene-mp	0.66289	0.63427	0.62832	0.53441	0.52586	0.53999					
	0.47691	0.42455	0.48538	*****			AVRG		0.54584		14.77129
69 Bromoform	0.24453	0.28125	0.27304	0.27732	0.28497	0.30017					
	0.27393	0.25592	0.28367	0.25466			AVRG		0.27295		6.13239
70 trans-1,4-Dichloro-2-butene	*****	0.12583	0.11645	0.11118	0.11155	0.11289					
	0.10117	0.09091	0.10408	0.09254			AVRG		0.10740		10.54325
71 Styrene	1.14780	1.02678	0.99391	0.87265	0.85885	0.89279					
	0.79744	0.72409	0.81731	*****			AVRG		0.90351		14.48279
72 Xylene-o	0.61346	0.59799	0.58926	0.52216	0.49209	0.50746					
	0.45632	0.40524	0.45977	*****			AVRG		0.51597		13.91961

000097

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 11-FEB-2002 10:27
End Cal Date : 11-FEB-2002 15:16
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc3.i\V302131.B\v302111.8260.m
Cal Date : 13-Feb-2002 13:30 elizabeth

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
73 1,1,2,2-Tetrachloroethane	1.01362	0.86758	0.83109	0.89110	0.91194	0.86269					
	0.85292	0.79599	0.81204	0.74743			AVRG		0.85863		8.43691
74 cis-1,4-Dichloro-2-butene	0.09161	0.09556	0.10830	0.09048	0.09350	0.09343					
	0.08828	0.07784	0.09128	0.07967			AVRG		0.09099		9.28263
75 1,2,3-Trichloropropane	*****	0.08837	0.10413	0.10025	0.09720	0.10095					
	0.09328	0.08672	0.09530	0.08636			AVRG		0.09473		6.88639
76 Isopropylbenzene	1.70028	1.62826	1.66046	1.39684	1.37883	1.43375					
	1.25578	1.11157	1.27690	*****			AVRG		1.42696		14.10975
78 Bromobenzene	0.41663	0.41070	0.40882	0.36377	0.37319	0.38810					
	0.34911	0.32067	0.36050	0.32387			AVRG		0.37153		9.31517

719 63i

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 11-FEB-2002 10:27
End Cal Date : 11-FEB-2002 15:16
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc3.i\V302131.B\v302111.8260.m
Cal Date : 13-Feb-2002 13:30 elizabeth

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
79 n-Propylbenzene	*****	1.94947	1.87722	1.65263	1.60179	1.64868					
	1.46672	1.27730	1.47407	*****			AVRG		1.61848		13.59992
80 2-Chlorotoluene	*****	1.20830	1.14371	1.00626	0.98730	0.99502					
	0.88898	0.80052	0.92502	0.79621			AVRG		0.97126		14.39144
81 4-Chlorotoluene	17977	33148	164222	609081	1245237	2586793					
	2897002	*****	*****	*****			LINR	-0.02710	0.98817		0.99209
82 1,3,5-Trimethylbenzene	15666	30557	152829	563260	1269939	2353802					
	2712671	*****	*****	*****			LINR	-0.03052	0.91253		0.99478
83 1,2,4-Trimethylbenzene	*****	1.31923	1.23254	1.03612	1.01371	1.00075					
	0.90599	*****	*****	*****			AVRG		1.08472		14.47371

660099

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 11-FEB-2002 10:27
End Cal Date : 11-FEB-2002 15:16
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc3.1\V302131.B\v302111.8260.m
Cal Date : 13-Feb-2002 13:30 elizabeth

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
85 tert-Butylbenzene	*****	1.03410	0.97262	0.86694	0.83853	0.86055					
	0.76831	0.66702	0.76428	*****			AVRG		0.84654		13.89585
86 sec-Butylbenzene	*****	.40924	.208682	.768975	1.000049	.3397862					
	.3852040	*****	*****	*****			LINR	-0.03288	1.30284		0.99243
87 4-Isopropyltoluene	*****	1.18052	1.10814	0.99446	0.94414	0.94559					
	0.84215	*****	*****	*****			AVRG		1.00250		12.23908
89 1,3-Dichlorobenzene	1.70868	1.52191	1.44641	1.52727	1.49015	1.50862					
	1.39345	1.29646	1.36252	1.27770			AVRG		1.45332		8.79740
90 1,4-Dichlorobenzene	1.86699	1.43496	1.45988	1.44908	1.48171	1.47570					
	1.45456	1.34714	1.41375	1.32206			AVRG		1.47058		10.13467

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 11-FEB-2002 10:27
End Cal Date : 11-FEB-2002 15:16
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc3.i\V302131.B\v302111.8260.m
Cal Date : 13-Feb-2002 13:30 elizabeth

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
91 1,2-Dichlorobenzene	1.40549	1.29937	1.29690	1.32666	1.32445	1.32429					
	1.25371	1.17122	1.21171	1.13015			AVRG		1.27440		6.50516
92 n-Butylbenzene	3.37030	2.77094	2.61684	2.70262	2.71180	2.68281					
	2.55573	2.30318	2.45878	2.29583			AVRG		2.64688		11.49588
93 1,2-Dibromo-3-chloropropane	*****	*****	0.13979	0.14357	0.15343	0.15171					
	0.14862	0.14231	0.14781	0.13703			AVRG		0.14553		3.97867
94 1,2,4-Trichlorobenzene	1.14061	0.87402	0.85298	0.87576	0.91173	0.95342					
	0.92278	0.89136	0.91842	0.88011			AVRG		0.92212		8.31285
95 Naphthalene	*****	1.88752	1.47538	1.45914	1.49589	1.51176					
	1.52026	1.42966	1.48706	1.39225			AVRG		1.51766		9.51816

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 11-FEB-2002 10:27
End Cal Date : 11-FEB-2002 15:16
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc3.i\V302131.B\v302111.8260.m
Cal Date : 13-Feb-2002 13:30 elizabeth

Compound	0.500000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	b	Coefficients m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
95 Hexachlorobutadiene	*****	0.28322	0.34159	0.37951	0.42366	0.43309					
	0.41752	0.39046	0.41814	0.38927			AVRG		0.38516		12.10180
97 1,2,3-Trichlorobenzene	*****	0.81761	0.73967	0.78566	0.80717	0.84359					
	0.82081	0.79271	0.82331	0.79086			AVRG		0.80238		3.73093
$ 34 Dibromofluoromethane	0.48148	0.48350	0.47474	0.48948	0.48459	0.47273					
	0.49052	0.47845	0.50400	0.48675			AVRG		0.48462		1.95442
$ 37 1,2-Dichloroethane-d4	0.41828	0.41185	0.43654	0.42277	0.40371	0.42840					
	0.44242	0.41253	0.42645	0.41024			AVRG		0.41932		3.24491
$ 56 Toluene-d8	1.18573	1.18354	1.18395	1.10696	1.11737	1.08706					
	1.03773	1.05411	1.06753	1.05352			AVRG		1.10775		5.25449

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 11-FEB-2002 10:27
End Cal Date : 11-FEB-2002 15:16
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc3.i\V302131.B\v302111.8260.m
Cal Date : 13-Feb-2002 13:30 elizabeth

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
$ 77 Bromofluorobenzene	0.50150	0.52600	0.49089	0.41946	0.42127	0.42041					
	0.40035	0.39556	0.43180	0.39261			AVRG		0.43999		10.92238

Curve	Formula	Units
Averaged	Amt = Rsp/m1	Response
Linear	Amt = b + Rsp/m1	Response
Quad	Amt = b + m1*Rsp + m2*Rsp^2	Response

ENVIRONMENTAL TESTING & CONSULTING, INC.
9024 Walnut Grove Road • Memphis, TN 38111 • (901) 327-2750 • FAX (901) 327-6334
Founded 1972

May 17, 2002

Mr. Kraig Smith
Jacobs
600 William Northern Blvd.
Tullahoma, TN 37388

Ref: Analytical Testing
ETC Order # 0205147
Project Description Dunn Field

Project Number C5X51111

The above referenced project has been analyzed per your instructions. The analyses were performed in our laboratory in accordance with Standard Methods, The Solid Waste Manual SW-846, EPA Methods for Chemical Analysis of Water and Wastes and/or 40 CFR part 136.

The analytical data has been validated using standard quality control measures performed as required by the analytical method. Quality Assurance, instrumentation maintenance and calibration were performed in accordance with guidelines established by the USEPA.

The results are shown on the attached analysis sheet(s).

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

Sincerely,
Connie Bradberry
Connie Bradberry
Laboratory Project Manager

rt
Attachment

JACOBS_DDMT

Certifications

Tennessee	*#TN02027*	*Mississippi*		*USDA*	*#S-46279*
Arkansas	*#40730*	*Oklahoma*	*#9311*		
Kentucky	*#90047*	*Virginia*	*#00106*		
		Washington	*#C248*		
		US Army Corps of Engineers			

719 637

Environmental Testing & Consulting, Inc.

Login
Chain-of-Custody

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ANALYTICAL SUMMARY/CROSS REFERENCE TABLE

719 638

Client Name Jacobs
Site ID Dunn Field

ETC Order #0205147
C5X51111

ETC Sample ID	Field ID	Matrix	Method	Method Description
020514701	E001	AQUEOUS	8260B	GC/MS Volatile Organics

5/9/02

719 639

Environmental Testing & Consulting, Inc.

Data Qualifiers for Organic Reporting

Within the attached report, some analytical data may be reported as "Qualified Data" as indicated by a "Data Qualifier" next to the result This table summarizes the possible "Data Qualifiers" that may be associated with this report These qualifiers do not apply for TIC reports

Q	Surrogate Recovery Outside QC Limits
J	Estimated Value Presence of the compound was confirmed but less than the reported detection limit
E	Concentration exceeds the established method calibration range but is within the working range of the instrument.
B	Analyte detected in the associated Method Blank
U	Reported result was unconfirmed Refer to Case Narrative
C	Result reported from GC/MS confirmation analysis
M	Result reported represents a minimum value Refer to Case Narrative
NC	Result reported from Primary Column Result did not confirm
*	QC Data (percent recovery/RPD for a particular analyte was outside QC Limits)

CHAIN OF CUSTODY RECORD

Environmental Testing & Consulting, Inc.
2924 Walnut Grove Rd.
Memphis, TN 38111
(901)327-2750 FAX (901)327-6334

ETC Work Order · C205147

Company Name	Phone #	Fax Results
SIGNS LNG	901 321 5225	X
Project/Site	Fax # 901 321 5224	RUSH
DUNN FIELD	FID #	Ice X
Project #	PO #	
C5X5 1111	Matrix: 1 Wastewater, 2 Aqueous, 3 Soil/Sediment, 4 Sludge, 5 Oil/Solvent, 6 Other	
Project Manager/Contact		
KRAIG SMITH		

Analysis Requested (Note special detection limits or methods)

# of cont	Sample ID/ Number	Depth	Sample Date	Sample Time	Matrix	Type Grab/Comp	VOLATILES	Comments
3	ECO1		5/7/02	10.00	H2O	G-291	X	

Sampled By	Method of Shipment	Blank/Cooler Temp	Remarks
NATHAN HOWARD	HAND DEL	4° C	

RELINQUISHED BY (sign) Nathan Howard	DATE 5/7/02	TIME 10:30	RECEIVED BY (sign)	DATE	TIME	Sample Delivery Group ID
RELINQUISHED BY (sign)	DATE	TIME	RECEIVED BY (sign)	DATE	TIME	
RELINQUISHED BY (sign)	DATE	TIME	RECEIVED BY LAB (print/sign)	DATE 5/7/02	TIME 1050	

etc\general\coc\coc030402.xls

719 640

0004

719 641

Environmental Testing & Consulting, Inc.
Cooler Receipt Form

LIMS# 0205-147
Date Received 5/7/02
Project Dunn Field
Date/Time Checked In 5/7/02-10.50
Carrier/Bill# Hand-Delivered
By Rebekah Barger

1	Custody Seals?/Location-	No
2.	Samples are non-radioactive?	Yes
3.	Chain of Custody in plastic?	Yes
4.	Temperature at receipt (ok 1 ± 2 °C)<4oC	OK
5	Ice & Packing- bag, ice, bubble wrap	Yes
6	Chain of Custody filled out properly?	Yes
7.	All containers in separate bags?	No
8.	Sample containers intact?	Yes
9	Label(s) complete and in good condition?	Yes
10.	Label(s) agree with Chain of Custody?	Yes
11.	Correct containers used?	Yes
12.	Sufficient sample?	Yes
13.	VOA vials bubble-free (H_2O) or no head space (soil)*	Yes
14	Preservation OK? TM pH____, TRPH pH____; TOC pH____; TOX pH ___; CN pH____; N/P pH____, Other pH ____	Yes

Comments _____

*Validated Date and Time of Sample Receipt (VDTSR)

Environmental Testing & Consulting, Inc.

Sample Reports

719 643

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Dunn Field**

FID #

Date Arrived **05/07/02**
ETC Order Number **0205147**

ETC Lab ID **0205147-01**
Field ID **E001**

Matrix : **AQUEOUS**
Sample Date **05/07/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				05/10/02		LS	8260B 5030B
QC Batch	**V405101**						
Dilution Factor	**1**						
Acetone	ND	ug/L	20 0				
Benzene	ND	ug/L	1 00				
Bromodichloromethane	ND	ug/L	1 00				
Bromoform	ND	ug/L	1 00				
Bromomethane	ND	ug/L	1 00				
2-Butanone (MEK)	ND	ug/L	20 0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	5.59	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	51.0	ug/L	1.00				
Chloromethane	ND	ug/L	1.00				
1,1-Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	12 5	ug/L	1.00				
trans-1,2-Dichloroethene	10.2	ug/L	1 00				
1,2-Dichloropropane	ND	ug/L	1 00				
cis-1,3-Dichloropropene	ND	ug/L	1 00				
trans-1,3-Dichloropropene	ND	ug/L	1 00				
Ethylbenzene	ND	ug/L	1 00				
2-Hexanone (MBK)	ND	ug/L	5 00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5 00				
Methylene Chloride	ND	ug/L	5 00				
Styrene	ND	ug/L	1 00				
1,1,2,2-Tetrachloroethane	73 2	ug/L	1 00				
Tetrachloroethene	15 4	ug/L	1 00				
Toluene	ND	ug/L	2 00				
1,1,1-Trichloroethane	ND	ug/L	1 00				
1,1,2-Trichloroethane	1.29	ug/L	1.00				
Trichloroethene	133	ug/L	1 00				
Vinyl Acetate	ND	ug/L	20 0				
Vinyl Chloride	ND	ug/L	1 00				
Xylenes-m,p	ND	ug/L	1.00				
Xylenes-o	ND	ug/L	1 00				
cis-1,2-Dichloroethene	50.8	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	96	84	115
S2 - Toluene-d8	95	69	133
S3 - 4-Bromofluorobenzene	104	80	120
S4 - 1,2-Dichloroethane-d4	86	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits

FORM 1 719 644 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

020514701

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0205147

Matrix: (soil/water) WATER Lab Sample ID: 020514701

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1301013

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/10/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 645

Environmental Testing & Consulting, Inc.

Quality Control Reports
Level III
GC/MS Volatiles

ENVIRONMENTAL TESTING AND CONSULTING, INC.
CASE NARRATIVE
GC/MS VOLATILE COMPOUNDS – AQUEOUS

Client Name Jacobs
Project Name Dunn Field

ETC Order# 0205-147

SAMPLE PRESERVATION (Verified at time of analysis)
All water samples preserved with HCl to pH < 2 and maintained at 4°C until analysis

METHOD
Preparation SW-846 5030B
Analysis: SW-846 8260B

HOLDING TIMES
Sample Analysis All samples analyzed within 14 days of collection

QUALITY CONTROL

QC Batch	Form 4 Summary
V405101	V4051011LB

System Monitoring Compounds FORM 2
Surrogate recoveries within QC limits

Method Blank FORM 4
V4051011LB
Target analytes were not detected in the method blank

Laboratory Control Sample FORM 3
V4051011I CS
All target analyte acceptance criteria met

Matrix Spike / Matrix Spike Dup FORM 3
Batch V405101

0205-158-04	RPD	All analytes within QC limits
	Spike Recovery	All analytes within QC limits

The MS/MSD was performed on a sample not directly associated with this project Batch QC provided for information only Refer to Laboratory Control Sample(s) for system verification

CALIBRATION

BFB Daily 12-Hour Tune	All criteria met FORM 5
Initial Calibration	All criteria met FORM 6
Calibration Verification	All criteria met FORM 7

Samples in this sequence are listed on Form 5 (Instrument Performance Check) The CV passed SPCC/CCC evaluation criteria The CV is valid per SW-846 method 8000A/8260B

Volatile Internal Standard Area and RT FORM 8
Calibration Verification standard(s) Internal Standard Areas and Retention Times within QC limits

SAMPLE ANALYSIS
Instrumentation HP 5890 Series II GC, 5971MSD
Dilutions Required No dilutions required

CB
Project Manager

FORM 2

WATER VOA-GCMS SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0205147

	CLIENT SAMPLE NO.	SMC1 (DFM) #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER (DCE) #	TOT OUT
01	V4051011LCS	91	91	97	84	0
02	V4051011LB	90	93	101	83	0
03	020514701	96	95	104	86	0
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

		QC LIMITS
SMC1 (DFM)	= Dibromofluoromethane	(84-115)
SMC2 (TOL)	= Toluene-d8	(69-133)
SMC3 (BFB)	= Bromofluorobenzene	(80-120)
OTHER(DCE)	= 1,2-Dichloroethane-d4	(58-131)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 4
VOA-GCMS METHOD BLANK SUMMARY

719 648 CLIENT SAMPLE NO.

V4051011LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0205147

Lab File ID: 0402004 Lab Prep Batch: V405101

Date Analyzed: 05/10/02 Time Analyzed: 1231

GC Column: ID: 2 (mm) Heated Purge: (Y/N) Y

Instrument ID: VOC4 Lab Sample ID: 11LB

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	V4051011LCS	11LCS	0201003LCS	1036
02	020514701	020514701	1301013	1750
03	020515804	020515804	1501015	1855
04	020515804MS	MS	1701017R	1959
05	020515804MSD	MSD	1801018R	2030
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

719 643

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V4051011LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0205147

Matrix: (soil/water) WATER Lab Prep Batch: V405101

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0402004

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/10/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
67-64-1	Acetone	20.00	U
75-05-8	Acetonitrile	20.00	U
107-02-8	Acrolein	20.00	U
107-13-1	Acrylonitrile	20.00	U
107-05-1	Allyl chloride	1.00	U
71-43-2	Benzene	1.00	U
108-86-1	Bromobenzene	1.00	U
74-97-5	Bromochloromethane	1.00	U
75-27-4	Bromodichloromethane	1.00	U
75-25-2	Bromoform	1.00	U
78-93-3	2-Butanone	20.00	U
74-83-9	Bromomethane	1.00	U
104-51-8	n-Butylbenzene	1.00	U
135-98-8	sec-Butylbenzene	1.00	U
98-06-6	tert-Butylbenzene	1.00	U
75-15-0	Carbon Disulfide	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U
108-90-7	Chlorobenzene	1.00	U
124-48-1	Chlorodibromomethane	1.00	U
75-00-3	Chloroethane	1.00	U
110-75-8	2-Chloroethyl vinyl ether	20.00	U
67-66-3	Chloroform	1.00	U
74-87-3	Chloromethane	1.00	U
126-99-8	Chloroprene	1.00	U
95-49-8	2-Chlorotoluene	1.00	U
106-43-4	4-Chlorotoluene	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane	1.00	U
106-93-4	1,2-Dibromoethane	1.00	U
74-95-3	Dibromomethane	1.00	U
95-50-1	1,2-Dichlorobenzene	1.00	U
541-73-1	1,3-Dichlorobenzene	1.00	U
106-46-7	1,4-Dichlorobenzene	1.00	U
1476-11-5	cis-1,4-Dichloro-2-butene	1.00	U

FORM 1 719 650 CLIENT SAMPLE NO.
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

V4051011LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0205147

Matrix: (soil/water) WATER Lab Prep Batch: V405101

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0402004

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/10/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
110-57-6	trans-1,4-Dichloro-2-butene	1.00	U
75-71-8	Dichlorodifluoromethane	1.00	U
75-34-3	1,1-Dichloroethane	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
75-35-4	1,1-Dichloroethene	1.00	U
156-59-2	cis-1,2-Dichloroethene	1.00	U
156-60-5	trans-1,2-Dichloroethene	1.00	U
78-87-5	1,2-Dichloropropane	1.00	U
142-28-9	1,3-Dichloropropane	1.00	U
594-20-7	2,2-Dichloropropane	1.00	U
563-58-6	1,1-Dichloropropene	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
108-20-3	Di isopropyl ether	1.00	U
123-91-1	1,4-Dioxane	100.0	U
141-78-6	Ethyl Acetate	5.00	U
100-41-4	Ethylbenzene	1.00	U
97-63-2	Ethyl methacrylate	1.00	U
110-00-9	Furan	1.00	U
87-68-3	Hexachlorobutadiene	1.00	U
110-54-3	Hexane	1.00	U
591-78-6	2-Hexanone	5.00	U
74-88-4	Iodomethane	1.00	U
78-83-1	Isobutyl Alcohol	100.0	U
98-82-8	Isopropylbenzene	1.00	U
99-87-6	4-Isopropyltoluene	1.00	U
126-98-7	Methacrylonitrile	10.00	U
75-09-2	Methylene Chloride	5.00	U
80-62-6	Methyl methacrylate	1.00	U
108-10-1	4-Methyl-2-Pentanone	5.00	U
1634-04-4	Methyl-tertbutyl-Ether	1.00	U
91-20-3	Naphthalene	1.00	U
107-12-0	Propionitrile	10.00	U

719 651

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V4051011LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0205147

Matrix: (soil/water) WATER Lab Prep Batch: V405101

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0402004

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/10/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
109-60-4	n-Propyl Acetate	1.00	U
103-65-1	n-Propylbenzene	1.00	U
100-42-5	Styrene	1.00	U
630-20-6	1,1,1,2-Tetrachloroethane	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane	1.00	U
127-18-4	Tetrachloroethene	1.00	U
109-99-9	Tetrahydrofuran	1.00	U
87-61-6	1,2,3-Trichlorobenzene	1.00	U
108-88-3	Toluene	1.00	U
71-55-6	1,1,1-Trichloroethane	1.00	U
79-00-5	1,1,2-Trichloroethane	1.00	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	1.00	U
79-01-6	Trichloroethene	1.00	U
75-69-4	Trichlorofluoromethane	1.00	U
96-18-4	1,2,3-Trichloropropane	1.00	U
95-63-6	1,2,4-Trimethylbenzene	1.00	U
120-82-1	1,2,4-Trichlorobenzene	1.00	U
108-67-8	1,3,5-Trimethylbenzene	1.00	U
108-05-4	Vinyl Acetate	20.00	U
75-01-4	Vinyl Chloride	1.00	U
108-38-3	Xylene-mp	1.00	U
95-47-6	Xylene-o	1.00	U

FORM 1 719 652 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

V4051011LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0205147

Matrix: (soil/water) WATER Lab Sample ID: 11LB

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0402004

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/10/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC,INC. Lab Prep Batch: V405101

Lab Code: Case No.: SAS No.: SDG No.: 0205147

Matrix Spike - Sample No.: V4051011LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Acetone	100.0		106.5	106	59-151
Acetonitrile	1000		1276	128	57-143
Acrolein	100.0		93.89	94	59-134
Acrylonitrile	100.0		112.5	112	60-146
Allyl chloride	100.0		102.7	103	74-120
Benzene	100.0		95.41	95	72-124
Bromobenzene	100.0		94.55	94	77-120
Bromochloromethane	100.0		103.1	103	74-120
Bromodichloromethane	100.0		87.74	88	68-119
Bromoform	100.0		98.83	99	66-136
2-Butanone	100.0		104.9	105	55-151
Bromomethane	100.0		74.49	74	40-134
n-Butylbenzene	100.0		101.1	101	69-129
sec-Butylbenzene	100.0		92.29	92	72-127
tert-Butylbenzene	100.0		81.19	81	73-126
Carbon Disulfide	100.0		97.95	98	60-133
Carbon Tetrachloride	100.0		85.96	86	64-123
Chlorobenzene	100.0		95.52	96	77-112
Chlorodibromomethane	100.0		87.80	88	72-118
Chloroethane	100.0		106.3	106	64-142
2-Chloroethyl vinyl eth	100.0		94.37	94	22-165
Chloroform	100.0		95.92	96	70-115
Chloromethane	100.0		94.14	94	58-139
Chloroprene	100.0		92.91	93	73-118
2-Chlorotoluene	100.0		90.96	91	65-132
4-Chlorotoluene	100.0		94.45	94	67-127
1,2-Dibromo-3-chloropro	100.0		99.38	99	56-134
1,2-Dibromoethane	100.0		93.80	94	74-118

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC. Lab Prep Batch: V405101

Lab Code: Case No.: SAS No.: SDG No.: 0205147

Matrix Spike - Sample No.: V4051011LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Dibromomethane	100.0		89.14	89	75-114
1,2-Dichlorobenzene	100.0		105.0	105	80-113
1,3-Dichlorobenzene	100.0		98.21	98	77-119
1,4-Dichlorobenzene	100.0		100.6	101	78-116
cis-1,4-Dichloro-2-bute	100.0		101.0	101	70-130
trans-1,4-Dichloro-2-bu	100.0		107.0	107	62-138
Dichlorodifluoromethane	100.0		99.58	100	48-145
1,1-Dichloroethane	100.0		94.45	94	76-118
1,2-Dichloroethane	100.0		88.64	89	62-124
1,1-Dichloroethene	100.0		97.45	97	69-121
cis-1,2-Dichloroethene	100.0		98.38	98	76-114
trans-1,2-Dichloroethen	100.0		86.90	87	72-121
1,2-Dichloropropane	100.0		92.53	92	64-133
1,3-Dichloropropane	100.0		90.62	91	68-128
2,2-Dichloropropane	100.0		93.50	94	67-132
1,1-Dichloropropene	100.0		92.32	92	76-117
cis-1,3-Dichloropropene	100.0		90.35	90	77-120
trans-1,3-Dichloroprope	100.0		90.05	90	73-124
Di isopropyl ether	100.0		97.59	98	62-160
1,4-Dioxane	2000		2266	113	56-131
Ethyl Acetate	100.0		121.9	122	52-151
Ethylbenzene	100.0		90.51	90	77-111
Ethyl methacrylate	200.0		188.3	94	57-140
Furan	100.0		140.3	140*	52-124
Hexachlorobutadiene	100.0		93.70	94	69-137
Hexane	100.0		113.2	113	70-130
2-Hexanone	100.0		98.84	99	53-144
Iodomethane	100.0		78.39	78	51-153

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC,INC. Lab Prep Batch: V405101

Lab Code: Case No.: SAS No.: SDG No.: 0205147

Matrix Spike - Sample No.: V4051011LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Isobutyl Alcohol	2000		2427	121	60-134
Isopropylbenzene	100.0		90.58	90	74-125
4-Isopropyltoluene	100.0		96.16	96	72-127
Methacrylonitrile	1000		994.5	99	70-125
Methylene Chloride	100.0		105.6	106	76-115
Methyl methacrylate	200.0		183.9	92	57-147
4-Methyl-2-Pentanone	100.0		94.73	95	42-144
Methyl-tertbutyl-Ether	100.0		90.91	91	62-122
Naphthalene	100.0		108.0	108	53-124
Propionitrile	1000		1159	116	58-139
n-Propyl Acetate	100.0		141.6	142	88-170
n-Propylbenzene	100.0		92.28	92	75-125
Styrene	100.0		95.48	95	77-117
1,1,1,2-Tetrachloroetha	100.0		90.84	91	79-113
1,1,2,2-Tetrachloroetha	100.0		109.2	109	67-126
Tetrachloroethene	100.0		88.41	88	77-115
Tetrahydrofuran	100.0		101.3	101	76-181
1,2,3-Trichlorobenzene	100.0		106.2	106	62-132
Toluene	100.0		85.54	86	77-115
1,1,1-Trichloroethane	100.0		88.93	89	63-122
1,1,2-Trichloroethane	100.0		95.24	95	69-117
1,1,2-trichloro-1,2,2-t	100.0		101.5	102	70-130
Trichloroethene	100.0		88.50	88	75-113
Trichlorofluoromethane	100.0		90.48	90	55-130
1,2,3-Trichloropropane	100.0		96.00	96	62-130
1,2,4-Trimethylbenzene	100.0		95.94	96	69-126
1,2,4-Trichlorobenzene	100.0		107.4	107	68-132
1,3,5-Trimethylbenzene	100.0		93.58	94	69-128

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

719 656

Lab Name: ETC, INC. Lab Prep Batch: V405101

Lab Code: Case No.: SAS No.: SDG No.: 0205147

Matrix Spike - Sample No.: V4051011LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Vinyl Acetate	100.0		110.0	110	28-146
Vinyl Chloride	100.0		103.3	103	65-134
Xylene-mp	200.0		180.6	90	77-115
Xylene-o	100.0		92.80	93	77-115

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 1 out of 88 outside limits

COMMENTS: _____

719 657

FORM 3

WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ETC, INC. Lab Prep Batch: V405101

Lab Code: Case No.: SAS No.: SDG No.: 0205147

Matrix Spike - Sample No.: 020515804

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Benzene	100.0	1.34	97.95	97	72-124
Chlorobenzene	100.0	0.000	83.65	84	77-112
1,1-Dichloroethene	100.0	0.000	87.96	88	69-121
Toluene	100.0	0.000	88.12	88	77-115
Trichloroethene	100.0	0.000	85.94	86	75-113

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Benzene	100.0	99.74	98	1	20	72-124
Chlorobenzene	100.0	87.20	87	4	20	77-112
1,1-Dichloroethene	100.0	88.15	88	0	20	69-121
Toluene	100.0	88.40	88	0	20	77-115
Trichloroethene	100.0	87.56	88	2	20	75-113

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: _____

Environmental Testing & Consulting, Inc.

Quality Control Reports
Level IV
GC/MS Volatiles

719 653

ENVIRONMENTAL TESTING & CONSULTING, INC.
GC/MS VOC Method 8260B Sequence Check List (SW-846)

Sequence ID: V405.01 Matrix: H2O HBN: ______ Analyst ____ S

Date: 5-13-02 Super ____

Applicable ETC Order Nos. for this sequence:
0205-078-4 0205-158-4
0205-147-1

	Validated
1. BFB Daily 12-Hour Tune Meets Criteria. No analyses begins until criteria are met (SOP)	✓
2. Initial Calibration Verification Criteria - Method : V405011.8260W	✓
a. SPCC - Mean RF >=0.10 (>=0.30 for Chlorobenzene / 1122-Tetrachloroethene)	✓
b. CCC - RSD of RF for CCCs and Target Analytes MUST BE <= 30%	✓
c. RSD of analytes <=15% may use Average RF for quantitation	✓
d. Analytes w/RSD >15% use Linear Regression - correlation coefficient >=0.99	✓
3. Calibration Verification - Each 12-Hour Shift	✓
a. SPCC - Mean RF >=0.10 (>=0.30 for Chlorobenzene / 1122-Tetrachloroethene)	✓
b. CCC - % Difference for Average RF Calibration - <=20%	✓
c. CCC - % Drift for Linear Regression Calibration - <=20%	✓
d. % Difference/% Drift for all other Target Analytes - <=30%	✓
e. Internal Standards - Retention Times within +/-30 seconds from Mid-Point ICAL STD	✓
f. Internal Standards - Areas within (-50% to +100%) form Mid-Point ICAL STD	✓
4. Method Blanks included in this sequence : Analyze daily or for each analytical batch (20 samples): List compounds identified in Method Blank w/concentration. Flag final result "B-Detected in Blank" — MeCl2 @ BDL	✓
5. Matrix Spike/Matrix Spike Duplicates included in this sequence : Analyze daily or for each matrix (ms/msd per 20 samples of same matrix). List MS/MSD(s) performed with any failures: 0205-158-4 MS, MSD	✓
6. Laboratory Control Samples included in this sequence : Must contain all Target Analytes — 1/88	✓
7. Surrogate Recoveries within QC Limits	✓
8. All positive compounds within calibration range	✓

Narrative/Notes

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

719 660

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0205147

Lab File ID: 0102002 BFB Injection Date: 05/10/02

Instrument ID: VOC4 BFB Injection Time: 1021

GC Column: ID: 2.00 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.7
75	30.0 - 60.0% of mass 95	47.0
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.4
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	69.7
175	5.0 - 9.0% of mass 174	5.0 (7.2)1
176	95.0 - 101.0% of mass 174	68.4 (98.2)1
177	5.0 - 9.0% of mass 176	5.0 (7.4)2

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

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	V4051011LCS	11LCS	0201003LCS	05/10/02	1036
02	DCS100PPB		0201003	05/10/02	1036
03	V4051011LB	11LB	0402004	05/10/02	1231
04	020514701	020514701	1301013	05/10/02	1750
05	020515804	020515804	1501015	05/10/02	1855
06	020515804MS	MS	1701017R	05/10/02	1959
07	020515804MSD	MSD	1801018R	05/10/02	2030
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0205147

Instrument ID: VOC4 Calibration Date: 05/10/02 Time: 1036

Lab File ID: 0201003 Init. Calib. Date(s): 05/01/02 05/01/02

Heated Purge: (Y/N) Y Init. Calib. Times: 1639 2202

GC Column: ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
Acetone	106.5	100.0	AVRG	6.5	30.0
Acetonitrile	1276	1000	AVRG	27.6	30.0
Acrolein	93.89	100.0	AVRG	6.1	30.0
Acrylonitrile	112.5	100.0	AVRG	12.5	30.0
Allyl chloride	102.7	100.0	AVRG	2.7	30.0
Benzene	95.41	100.0	AVRG	4.6	30.0
Bromobenzene	94.55	100.0	AVRG	5.4	30.0
Bromochloromethane	103.1	100.0	AVRG	3.1	30.0
Bromodichloromethane	87.74	100.0	LINR	12.3	30.0
Bromoform	98.83	100.0	AVRG	1.2	30.0
2-Butanone	104.9	100.0	AVRG	4.9	30.0
Bromomethane	74.49	100.0	LINR	25.5	30.0
n-Butylbenzene	101.1	100.0	AVRG	1.1	30.0
sec-Butylbenzene	92.29	100.0	AVRG	7.7	30.0
tert-Butylbenzene	81.19	100.0	AVRG	18.8	30.0
Carbon Disulfide	97.95	100.0	AVRG	2.0	30.0
Carbon Tetrachloride	85.96	100.0	AVRG	14.0	30.0
Chlorobenzene	95.52	100.0	AVRG	4.5	30.0
Chlorodibromomethane	87.80	100.0	AVRG	12.2	30.0
Chloroethane	106.3	100.0	AVRG	6.3	30.0
2-Chloroethyl vinyl ether	94.37	100.0	AVRG	5.6	30.0
Chloroform	95.92	100.0	LINR	4.1	20.0
Chloromethane	94.14	100.0	LINR	5.9	30.0
Chloroprene	92.91	100.0	AVRG	7.1	30.0
2-Chlorotoluene	90.96	100.0	AVRG	9.0	30.0
4-Chlorotoluene	94.45	100.0	AVRG	5.6	30.0
1,2-Dibromo-3-chloropropane	99.38	100.0	AVRG	0.6	30.0
1,2-Dibromoethane	93.80	100.0	AVRG	6.2	30.0
Dibromomethane	89.14	100.0	AVRG	10.9	30.0
1,2-Dichlorobenzene	105.0	100.0	AVRG	5.0	30.0
1,3-Dichlorobenzene	98.21	100.0	AVRG	1.8	30.0
1,4-Dichlorobenzene	100.6	100.0	AVRG	0.6	30.0
cis-1,4-Dichloro-2-butene	101.0	100.0	AVRG	1.0	30.0
trans-1,4-Dichloro-2-butene	107.0	100.0	AVRG	7.0	30.0
Dichlorodifluoromethane	99.58	100.0	AVRG	0.4	30.0
1,1-Dichloroethane	94.45	100.0	AVRG	5.6	30.0
1,2-Dichloroethane	88.64	100.0	AVRG	11.4	30.0

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

719 662

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0205147

Instrument ID: VOC4 Calibration Date: 05/10/02 Time: 1036

Lab File ID: 0201003 Init. Calib. Date(s): 05/01/02 05/01/02

Heated Purge: (Y/N) Y Init. Calib. Times: 1639 2202

GC Column: ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
1,1-Dichloroethene	97.45	100.0	AVRG	2.6	20.0
cis-1,2-Dichloroethene	98.38	100.0	AVRG	1.6	30.0
trans-1,2-Dichloroethene	86.90	100.0	AVRG	13.1	30.0
1,2-Dichloropropane	92.53	100.0	AVRG	7.5	20.0
1,3-Dichloropropane	90.62	100.0	AVRG	9.4	30.0
2,2-Dichloropropane	93.50	100.0	AVRG	6.5	30.0
1,1-Dichloropropene	92.32	100.0	AVRG	7.7	30.0
cis-1,3-Dichloropropene	90.35	100.0	AVRG	9.6	30.0
trans-1,3-Dichloropropene	90.05	100.0	AVRG	10.0	30.0
Di isopropyl ether	97.59	100.0	AVRG	2.4	30.0
1,4-Dioxane	2266	2000	AVRG	13.3	30.0
Ethyl Acetate	121.9	100.0	AVRG	21.9	30.0
Ethylbenzene	90.51	100.0	AVRG	9.5	20.0
Ethyl methacrylate	188.3	200.0	AVRG	5.8	30.0
Furan	140.3	153.0	AVRG	8.3	30.0
Hexachlorobutadiene	93.70	100.0	AVRG	6.3	30.0
Hexane	113.2	117.0	AVRG	3.2	30.0
2-Hexanone	98.84	100.0	AVRG	1.2	30.0
Iodomethane	78.39	100.0	LINR	21.6	30.0
Isobutyl Alcohol	2427	2000	AVRG	21.4	30.0
Isopropylbenzene	90.58	100.0	AVRG	9.4	30.0
4-Isopropyltoluene	96.16	100.0	AVRG	3.8	30.0
Methacrylonitrile	994.5	1000	AVRG	0.6	30.0
Methylene Chloride	105.6	100.0	LINR	5.6	30.0
Methyl methacrylate	183.9	200.0	AVRG	8.0	30.0
4-Methyl-2-Pentanone	94.73	100.0	AVRG	5.3	30.0
Methyl-tertbutyl-Ether	90.91	100.0	AVRG	9.1	30.0
Naphthalene	108.0	100.0	AVRG	8.0	30.0
Propionitrile	1159	1000	AVRG	15.9	30.0
n-Propyl Acetate	141.6	151.0	AVRG	6.2	30.0
n-Propylbenzene	92.28	100.0	AVRG	7.7	30.0
Styrene	95.48	100.0	AVRG	4.5	30.0
1,1,1,2-Tetrachloroethane	90.84	100.0	AVRG	9.2	30.0
1,1,2,2-Tetrachloroethane	109.2	100.0	AVRG	9.2	30.0
Tetrachloroethene	88.41	100.0	AVRG	11.6	30.0
Tetrahydrofuran	101.3	91.50	AVRG	10.7	30.0
1,2,3-Trichlorobenzene	106.2	100.0	AVRG	6.2	30.0

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0205147

Instrument ID: VOC4 Calibration Date: 05/10/02 Time: 1036

Lab File ID: 0201003 Init. Calib. Date(s): 05/01/02 05/01/02

Heated Purge: (Y/N) Y Init. Calib. Times: 1639 2202

GC Column: ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
Toluene	85.54	100.0	AVRG	14.5	20.0
1,1,1-Trichloroethane	88.93	100.0	AVRG	11.1	30.0
1,1,2-Trichloroethane	95.24	100.0	AVRG	4.8	30.0
1,1,2-trichloro-1,2,2-triflu	101.5	100.0	AVRG	1.5	30.0
Trichloroethene	88.50	100.0	AVRG	11.5	30.0
Trichlorofluoromethane	90.48	100.0	AVRG	9.5	30.0
1,2,3-Trichloropropane	96.00	100.0	AVRG	4.0	30.0
1,2,4-Trimethylbenzene	95.94	100.0	AVRG	4.1	30.0
1,2,4-Trichlorobenzene	107.4	100.0	AVRG	7.4	30.0
1,3,5-Trimethylbenzene	93.58	100.0	AVRG	6.4	30.0
Vinyl Acetate	110.0	100.0	AVRG	10.0	30.0
Vinyl Chloride	103.3	100.0	AVRG	3.3	20.0
Xylene-mp	180.6	200.0	AVRG	9.7	30.0
Xylene-o	92.80	100.0	AVRG	7.2	30.0
Dibromofluoromethane	45.51	50.00	AVRG	9.0	30.0
Toluene-d8	45.58	50.00	AVRG	8.8	30.0
Bromofluorobenzene	48.42	50.00	AVRG	3.2	30.0
1,2-Dichloroethane-d4	41.82	50.00	AVRG	16.4	30.0

FORM 8
VOA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

719 664

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0205147

Lab File ID (Standard): 0201003 Date Analyzed: 05/10/02

Instrument ID: VOC4 Time Analyzed: 1036

GC Column: ID: 2.00 (mm) Heated Purge: (Y/N) Y

		IS1 AREA #	RT #	IS2 (DFB) AREA #	RT #	IS3 (CBZ) AREA #	RT #
	12 HOUR STD	805537	6.31	1104928	6.90	1047792	9.14
	UPPER LIMIT	1611074	6.81	2209856	7.40	2095584	9.64
	LOWER LIMIT	402769	5.81	552464	6.40	523896	8.64
	CLIENT SAMPLE NO.						
01	V4051011LB	742466	6.31	946132	6.90	870827	9.14
02	020514701	710511	6.31	943674	6.90	860870	9.14
03	020515804	697347	6.31	926439	6.91	864576	9.14
04	020515804MS	770039	6.32	1047694	6.91	1128184	9.13
05	020515804MSD	774593	6.32	1047893	6.91	1102184	9.14
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 = Pentafluorobenzene
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

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

FORM 8
VOA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0205147

Lab File ID (Standard): 0201003 Date Analyzed: 05/10/02

Instrument ID: VOC4 Time Analyzed: 1036

GC Column: ID: 2.00 (mm) Heated Purge: (Y/N) Y

		IS4 (DCB) AREA	#	RT	#	AREA	#	RT	#	AREA	#	RT	#
	12 HOUR STD	466694		10.95									
	UPPER LIMIT	933388		11.45									
	LOWER LIMIT	233347		10.45									
	CLIENT SAMPLE NO.												
01	V4051011LB	420116		10.96									
02	020514701	420270		10.95									
03	020515804	409366		10.96									
04	020515804MS	444198		10.95									
05	020515804MSD	447934		10.95									
06													
07													
08													
09													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
21													
22													

IS4 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

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

Lisa Savage 5-2-02
5/7/02

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

QC REVIEWED
5-7-02

Start Cal Date : 01-MAY-2002 16:39
End Cal Date : 01-MAY-2002 22:02
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V405011.B\v405011.8260.m
Cal Date : 02-May-2002 09:57 lisa

SRN: 02-6-81-9

Calibration File Names:
Level 1: \\ETCBDC\DD\chem\voc4.i\V405011.B\0301005.D
Level 2: \\ETCBDC\DD\chem\voc4.i\V405011.B\0401006.D
Level 3: \\ETCBDC\DD\chem\voc4.i\V405011.B\0601008.D
Level 4: \\ETCBDC\DD\chem\voc4.i\V405011.B\0701009.D
Level 5: \\ETCBDC\DD\chem\voc4.i\V405011.B\0801010.D
Level 6: \\ETCBDC\DD\chem\voc4.i\V405011.B\0901011.D
Level 7: \\ETCBDC\DD\chem\voc4.i\V405011.B\1001012.D
Level 8: \\ETCBDC\DD\chem\voc4.i\V405011.B\1101013.D
Level 9: \\ETCBDC\DD\chem\voc4.i\V405011.B\1201014.D
Level 10: \\ETCBDC\DD\chem\voc4.i\V405011.B\1301015.D

Compound	0.500000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
1 Dichlorodifluoromethane	0.66985	0.70889	0.76890	0.60469	0.67401	0.56847					
	0.65789	0.52131	*****	*****			AVRG		0.64675		12.23266

000030

719 666

719 667

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAY-2002 16:39
End Cal Date : 01-MAY-2002 22:02
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V405011.B\v405011.8260.m
Cal Date : 02-May-2002 09:57 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	r2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
2 Chloromethane	4394	7950	35893	112605	264875	502583					
	611480	772372	929493	*****			LINR	-0.06324	0.35333		0.99060
3 Vinyl Chloride	0.38902	0.44367	0.45021	0.35266	0.39984	0.33412					
	0.37934	0.31399	0.34769	*****			AVRG		0.37895		12.41315
4 Bromomethane	2154	4279	16087	53027	124733	272455					
	374316	498090	*****	*****			LINR	0.02002	0.21905		0.99180
5 Chloroethane	0.17661	0.21781	0.23762	0.18777	0.20832	0.18236					
	0.20094	0.17456	0.18641	0.15369			AVRG		0.19261		12.52871
6 Acrolein	*****	*****	*****	0.03731	0.03777	0.03944					
	0.04247	0.03846	0.03870	0.03205			AVRG		0.03803		8.22905

000031

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAY-2002 16:39
End Cal Date : 01-MAY-2002 22:02
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V405011.B\v405011.8260.m
Cal Date : 02-May-2002 09:57 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
7 Trichlorofluoromethane	0.80987	0.89134	0.91627	0.74972	0.83472	0.71454					
	0.76250	0.65892	0.70232	0.57921			AVRG		0.76395		13.69284
8 Acetonitrile	*****	0.03677	0.02869	0.02617	0.02964	0.02820					
	0.03202	0.02738	0.02837	0.02580			AVRG		0.02922		11.59260
9 Acetone	*****	*****	*****	0.16819	0.15894	0.14928					
	0.15569	0.12038	0.13859	0.11393			AVRG		0.14357		14.11185
10 Furan	*****	0.94016	1.02133	0.84222	0.92762	0.86040					
	0.96099	0.84452	0.90185	*****			AVRG		0.91314		6.79956
11 1,1-Dichloroethene	0.46742	0.42936	0.42243	0.36614	0.41050	0.36072					
	0.40721	0.34732	0.37182	0.32229			AVRG		0.39052		11.28253

719 669

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAY-2002 16:39
End Cal Date : 01-MAY-2002 22:02
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V405011.B\v405011.8260.m
Cal Date : 02-May-2002 09:57 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or r^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
12 Acrylonitrile	*****	*****	*****	0.09852	0.10309	0.11434					
	0.12177	0.09589	0.10689	0.09729			AVRG		0.10540		9.15672
13 Iodomethane	*****	1966	13566	50949	167288	419226					
	568827	739316	878677	*****			LINR	0.11279	0.34606		0.99079
14 Methylene Chloride	9360	11529	37502	120692	269977	567867					
	716007	924608	1061092	1233510			LINR	-0.06732	0.39554		0.99218
15 1,1,2-trichloro-1,2,2-trifluo	*****	0.47317	0.50903	0.41706	0.46611	0.42091					
	0.45824	0.38647	0.41554	0.35499			AVRG		0.43350		10.96624
16 Allyl chloride	*****	0.64482	0.67905	0.56391	0.61914	0.55090					
	0.60039	0.50605	0.53309	0.47962			AVRG		0.57522		11.43385

000033

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAY-2002 16:39
End Cal Date : 01-MAY-2002 22:02
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V405011.B\v405011.8260.m
Cal Date : 02-May-2002 09:57 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
17 Carbon Disulfide	*****	1.62198	1.44325	1.20316	1.38109	1.21108					
	1.32834	1.11525	1.23342	1.03016			AVRG		1.28530		13.97986
18 trans-1,2-Dichloroethene	0.74524	0.63265	0.65163	0.55891	0.62890	0.57121					
	0.62992	0.53030	0.55812	0.50023			AVRG		0.60073		11.85532
19 Methyl-tertbutyl-Ether	1.23484	1.23377	1.35849	1.23576	1.17796	1.26070					
	1.30007	1.24986	1.31030	1.33970			AVRG		1.27015		4.38374
20 Propionitrile	0.03136	0.03892	0.04114	0.03660	0.03981	0.03900					
	0.04426	0.03480	0.03848	0.03589			AVRG		0.03803		9.40166
21 1,1-Dichloroethane	0.96715	0.85793	0.90290	0.80508	0.88924	0.80067					
	0.91244	0.77354	0.82314	0.77482			AVRG		0.85069		7.70753

719 671

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAY-2002 16:39
End Cal Date : 01-MAY-2002 22:02
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V405011.B\v405011.8260.m
Cal Date : 02-May-2002 09:57 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
22 Vinyl Acetate	*****	*****	0.58149	0.59681	0.59325	0.58666					
	0.61922	0.55092	0.58731	0.55718			AVRG		0.58410		3.73328
23 Chloroprene	0.97682	1.04663	1.04049	0.90831	1.01172	0.92322					
	1.02807	0.85405	0.90223	0.82842			AVRG		0.95200		8.34745
24 2-Butanone	*****	*****	0.04856	0.04422	0.04397	0.04222					
	0.04757	0.03909	0.04242	0.03800			AVRG		0.04326		8.51383
25 Hexane	*****	*****	0.62816	0.46123	0.50084	0.44772					
	0.50925	0.43558	0.47993	0.44864			AVRG		0.48517		13.52923
26 Di isopropyl ether	1.44946	1.40764	1.42127	1.26209	1.35016	1.28609					
	1.42962	1.30166	1.40876	1.35530			AVRG		1.36720		4.83337

000035

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAY-2002 16:39
End Cal Date : 01-MAY-2002 22:02
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V405011.B\v405011.8260.m
Cal Date : 02-May-2002 09:57 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients a	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
27 Methacrylonitrile	*****	0.26908	0.25173	0.22307	0.24293	0.23988					
	0.27013	0.22527	0.24199	0.21541			AVRG		0.24217		7.95603
28 cis-1,2-Dichloroethene	0.54884	0.43241	0.49638	0.42819	0.48202	0.46081					
	0.51478	0.44554	0.47636	0.44645			AVRG		0.47318		8.15423
29 Ethyl Acetate	*****	*****	0.38296	0.33682	0.35027	0.33309					
	0.37095	0.30844	0.32492	0.29586			AVRG		0.33791		8.73840
30 Bromochloromethane	0.27862	0.24433	0.26842	0.24300	0.25755	0.23552					
	0.25944	0.23196	0.24309	0.23077			AVRG		0.24927		6.45869
31 Chloroform	*****	21449	84655	308022	718545	1515380					
	1971974	2507638	2893228	3398851			LINR	-0.04853	1.08657		0.99090

Averaged 16.1

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAY-2002 16:39
End Cal Date : 01-MAY-2002 22:02
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V405011.B\v405011.8260.m
Cal Date : 02-May-2002 09:57 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
32 Isobutyl Alcohol	*****	*****	0.01872	0.01609	0.01567	0.01578					
	0.01703	0.01378	0.01461	0.01405			AVRG		0.01572		10.38498
33 2,2-Dichloropropane	1.08579	1.16454	1.12424	1.01506	1.09554	0.99839					
	1.08864	0.90678	0.94974	0.86527			AVRG		1.02940		9.59537
35 Tetrahydrofuran	*****	*****	0.11453	0.13373	0.14716	0.14143					
	0.14001	0.12390	0.13200	0.10943			AVRG		0.13027		10.22684
38 1,2-Dichloroethane	1.00121	0.96785	0.99387	0.89753	0.97317	0.93014					
	0.99493	0.87935	0.90994	0.84167			AVRG		0.93897		5.90657
39 1,1,1-Trichloroethane	1.33574	1.24058	1.28242	1.17912	1.32993	1.28836					
	1.31975	1.09501	1.16167	1.07911			AVRG		1.22107		7.78698

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAY-2002 16:39
End Cal Date : 01-MAY-2002 22:02
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V405011.B\v405011.8260.m
Cal Date : 02-May-2002 09:57 lisa

Compound	0.500000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
40 1,1-Dichloropropene	0.84250	0.77946	0.79728	0.73301	0.83122	0.74993					
	0.83689	0.69672	0.75161	0.70330			AVRG		0.77249		6.98604
41 Carbon Tetrachloride	1.24767	1.21867	1.17825	1.09634	1.24300	1.12879					
	1.22493	1.00544	1.06785	0.98250			AVRG		1.13934		8.04003
42 Benzene	1.61293	1.58411	1.54437	1.42134	1.58313	1.47458					
	1.68268	1.46365	1.57810	1.52968			AVRG		1.54746		5.03764
44 Dibromomethane	0.30144	0.27042	0.28866	0.26182	0.27313	0.26043					
	0.28780	0.25467	0.26559	0.24537			AVRG		0.27093		6.36261
45 1,2-Dichloropropane	*****	0.15960	0.18401	0.17815	0.18766	0.18297					
	0.20463	0.19110	0.18708	0.17797			AVRG		0.18264		6.45272

719 673

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAY-2002 16:39
End Cal Date : 01-MAY-2002 22:02
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V405011.B\v405011.8260.m
Cal Date : 02-May-2002 09:57 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	r1	r2	%RSD or R^2
	125.0000 Level 7	150.0000 Level 8	175.0000 Level 9	200.0000 Level 10							
46 Trichlorcethene	*****	0.43999	0.47058	0.44316	0.49235	0.44259					
	0.50566	0.42585	0.46091	0.42595			AVRG		0.45634		6.21584
47 Bromodichloromethane	*****	18608	65307	238669	548272	1189793					
	1539014	1973379	2269533	2752485			LINR	-0.04011	0.67225		0.99234
48 n-Propyl Acetate	*****	0.68372	0.76912	0.70547	0.74842	0.71949					
	0.79272	0.66836	0.70547	0.65342			AVRG		0.71624		6.47756
49 Methyl methacrylate	0.18758	0.20570	0.22945	0.20936	0.21739	0.20930					
	0.23206	0.19928	0.21017	0.18910			AVRG		0.20894		7.10207
50 1,4-Dioxane	*****	0.00230	0.00293	0.00282	0.00299	0.00336					
	0.00342	0.00308	0.00327	0.00292			AVRG		0.00301		11.23478

000039

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAY-2002 16:39
End Cal Date : 01-MAY-2002 22:02
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V405011.B\v405011.8260.m
Cal Date : 02-May-2002 09:57 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
51 2-Chloroethyl vinyl ether	0.14462	0.15972	0.18401	0.17812	0.18846	0.18441					
	0.20666	0.18127	0.18960	0.17639			AVRG		0.17933		9.45324
52 cis-1,3-Dichloropropene	0.66203	0.61161	0.67380	0.62180	0.66512	0.62207					
	0.69140	0.60786	0.65212	0.61301			AVRG		0.64110		4.85482
53 4-Methyl-2-Pentanone	*****	*****	0.35524	0.33658	0.33782	0.33541					
	0.37492	0.30793	0.32394	0.29473			AVRG		0.33332		7.57971
54 trans-1,3-Dichloropropene	0.60416	0.62376	0.67257	0.63277	0.66898	0.63311					
	0.71053	0.61862	0.64981	0.61450			AVRG		0.64288		5.09155
55 1,1,2-Trichloroethane	0.24506	0.22452	0.24164	0.22883	0.24312	0.23028					
	0.25969	0.23032	0.23841	0.22728			AVRG		0.23691		4.55437

719 677

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAY-2002 16:39
End Cal Date : 01-MAY-2002 22:02
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V405011.B\v405011.8260.m
Cal Date : 02-May-2002 09:57 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	b	Coefficients m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
57 Ethyl methacrylate	0.21089	0.21822	0.23740	0.22118	0.22389	0.22032					
	0.24012	0.21426	0.22490	0.20740			AVRG		0.22291		4.72689
58 Toluene	*****	0.98800	0.93794	0.78867	0.87419	0.82453					
	0.93166	0.80158	0.86028	0.82489			AVRG		0.87019		7.90466
59 1,3-Dichloropropane	0.53789	0.52770	0.54426	0.53774	0.55510	0.52944					
	0.58780	0.52156	0.53815	0.51717			AVRG		0.53968		3.74015
60 2-Hexanone	*****	*****	0.27371	0.23550	0.25437	0.24977					
	0.27291	0.22434	0.23443	0.21270			AVRG		0.24471		8.98692
61 Chlorodibromomethane	0.56666	0.53468	0.58440	0.57268	0.60836	0.57623					
	0.64079	0.55913	0.59148	0.55170			AVRG		0.57961		5.20662

000041

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAY-2002 16:39
End Cal Date : 01-MAY-2002 22:02
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V405011.B\v405011.8260.m
Cal Date : 02-May-2002 09:57 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
62 1,2-Dibromoethane	0.36155	0.35215	0.39575	0.36413	0.38882	0.37300					
	0.41759	0.36412	0.38268	0.36157			AVRG		0.37633		5.32128
63 Tetrachloroethene	0.38030	0.38480	0.39196	0.35494	0.39569	0.36484					
	0.41229	0.34100	0.37263	0.35125			AVRG		0.37497		5.93785
64 1,1,1,2-Tetrachloroethane	0.52721	0.56354	0.54058	0.50967	0.56424	0.46290					
	0.50654	0.44441	0.49630	0.46046			AVRG		0.50959		7.91270
66 Chlorobenzene	1.12485	1.03045	1.01555	0.94473	1.03550	0.85960					
	0.96224	0.86806	0.95281	0.94280			AVRG		0.97366		8.25751
67 Ethylbenzene	2.47447	2.15244	2.05923	1.94495	2.21668	1.78319					
	1.98473	1.73680	1.90661	1.83824			AVRG		2.00973		11.15462

719 673

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAY-2002 16:39
End Cal Date : 01-MAY-2002 22:02
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V405011.B\v405011.8260.m
Cal Date : 02-May-2002 09:57 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients a	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
68 Xylene-mp	0.83874	0.69302	0.65890	0.61276	0.67598	0.55371					
	0.62731	0.54044	0.59383	*****			AVRG		0.64385		13.91545
69 Bromoform	0.34717	0.37592	0.40797	0.38175	0.42462	0.36403					
	0.40247	0.35554	0.37819	0.38620			AVRG		0.38238		6.29461
70 trans-1,4-Dichloro-2-butene	*****	0.14114	0.14147	0.13834	0.14669	0.12850					
	0.14387	0.12268	0.12903	0.12454			AVRG		0.13514		6.64324
71 Styrene	1.24781	1.13403	1.07397	0.99784	1.08156	0.90840					
	0.99497	0.89891	0.98125	0.95136			AVRG		1.02601		10.68708
72 Xylene-o	0.76916	0.63173	0.62980	0.58369	0.63853	0.52209					
	0.57927	0.50686	0.55356	0.54759			AVRG		0.59623		12.77299

000043

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAY-2002 16:39
End Cal Date : 01-MAY-2002 22:02
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.1\V405011.B\v405011.8260.m
Cal Date : 02-May-2002 09:57 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
73 1,1,2,2-Tetrachloroethane	0.68542	0.72625	0.75118	0.70416	0.75624	0.73601					
	0.84817	0.72469	0.78277	0.75914			AVRG		0.74740		6.05629
74 cis-1,4-Dichloro-2-butene	0.14540	0.16966	0.18625	0.16860	0.18112	0.14944					
	0.16352	0.13275	0.14295	0.13199			AVRG		0.15717		12.32500
75 1,2,3-Trichloropropane	0.14611	0.16271	0.17021	0.15497	0.16667	0.13702					
	0.15187	0.12475	0.13436	0.12512			AVRG		0.14738		11.29138
76 Isopropylbenzene	2.28576	1.97666	2.01176	1.86654	2.05630	1.68676					
	1.85031	1.57780	1.73677	1.67215			AVRG		1.87226		11.47234
78 Bromobenzene	0.57705	0.52530	0.51799	0.48255	0.52152	0.43362					
	0.47814	0.41816	0.45423	0.44457			AVRG		0.48531		10.24768

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAY-2002 16:39
End Cal Date : 01-MAY-2002 22:02
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V405011.B\v405011.8260.m
Cal Date : 02-May-2002 09:57 lisa

Compound	0.500000 Level 1 / 120.0000 Level 7	1.0000 Level 2 / 150.0000 Level 8	5.0000 Level 3 / 170.0000 Level 9	20.0000 Level 4 / 200.0000 Level 10	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	r2	%RSD or R^2
79 n-Propylbenzene	2.76569	2.52959	2.44007	2.31100	2.53362	2.07496					
	2.26378	1.93100	*****	*****			AVRG		2.35871		11.36913
80 2-Chlorotoluene	*****	1.76046	1.68446	1.49709	1.72914	1.32000					
	1.48468	1.29226	1.31324	1.26929			AVRG		1.48340		13.39363
81 4-Chlorotoluene	*****	1.75454	1.71201	1.54052	1.67568	1.34926					
	1.48791	1.25730	1.45929	1.40219			AVRG		1.51543		11.26537
82 1,3,5-Trimethylbenzene	1.94427	1.74038	1.71109	1.59701	1.73724	1.39353					
	1.52576	1.31160	1.39523	1.34375			AVRG		1.56999		13.41659
83 1,2,4-Trimethylbenzene	*****	1.78802	1.72156	1.62985	1.73389	1.41600					
	1.51399	1.30572	1.42151	1.36747			AVRG		1.54422		11.55539

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAY-2002 16:39
End Cal Date : 01-MAY-2002 22:02
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V405011.B\v405011.8260.m
Cal Date : 02-May-2002 09:57 lisa

Compound	0.500000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
85 tert-Butylbenzene	*****	1.81830	1.74562	1.70674	1.84552	1.48419					
	1.59226	1.34030	1.41742	1.34879			AVRG		1.58879		12.52435
86 sec-Butylbenzene	2.57585	2.18170	2.05142	1.97839	2.14976	1.77225					
	1.94986	1.65024	1.77216	1.73915			AVRG		1.98208		13.90473
87 4-Isopropyltoluene	*****	1.81830	1.74562	1.70674	1.84552	1.48419					
	1.59226	1.34030	1.41742	1.34802			AVRG		1.56877		12.52614
89 1,3-Dichlorobenzene	2.19248	2.06019	1.87767	1.70683	1.96153	1.77554					
	2.04298	1.76904	1.95537	1.87726			AVRG		1.92089		7.74805
90 1,4-Dichlorobenzene	2.54033	2.08388	1.86555	1.73658	1.97380	1.79062					
	2.16508	1.68152	1.82174	1.81937			AVRG		1.93744		13.33540

719 683

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAY-2002 16:39
End Cal Date : 01-MAY-2002 22:02
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V405011.B\v405011.8260.m
Cal Date : 02-May-2002 09:57 lisa

Compound	0.500000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
91 1,2-Dichlorobenzene	1.93572	1.59670	1.70429	1.57968	1.71809	1.62779					
	1.83244	1.57664	1.74099	1.67264			AVRG		1.69750		6.88513
92 n-Butylbenzene	4.04928	3.37764	3.24687	3.08070	3.48607	3.22026					
	3.59452	2.98227	3.22235	3.11497			AVRG		3.33740		9.33312
93 1,2-Dibromo-3-chloropropane	*****	*****	0.21944	0.20625	0.23184	0.22692					
	0.24870	0.19870	0.21530	0.20290			AVRG		0.21976		7.64435
94 1,2,4-Trichlorobenzene	1.38165	1.21867	1.06083	1.04753	1.07333	1.06280					
	1.14706	0.98173	1.11588	1.04906			AVRG		1.10385		9.78313
95 Naphthalene	*****	2.43123	2.05653	2.05325	2.12458	2.14467					
	2.40223	1.94879	2.28219	2.17778			AVRG		2.17903		7.49244

000047

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAY-2002 16:39
End Cal Date : 01-MAY-2002 22:02
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V405011.B\v405011.8260.m
Cal Date : 02-May-2002 09:57 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	b	Coefficients m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
96 Hexachlorobutadiene	1.03948	0.87753	0.86169	0.85058	0.91328	0.85607					
	0.93296	0.76268	0.84994	0.79570			AVRG		0.87399		8.74498
97 1,2,3-Trichlorobenzene	1.09219	1.05610	0.94417	0.93232	0.96402	0.96032					
	1.05289	0.88584	1.03290	0.99474			AVRG		0.99155		6.59078
$ 34 Dibromofluoromethane	0.63969	0.59389	0.64455	0.57276	0.63947	0.60232					
	0.61974	0.55136	0.57403	0.54284			AVRG		0.59807		6.24686
$ 37 1,2-Dichloroethane-d4	0.83133	0.79481	0.83677	0.73574	0.80598	0.75917					
	0.78167	0.69153	0.73373	0.68440			AVRG		0.76552		7.04499
$ 56 Toluene-d8	1.24137	1.16041	1.21798	1.08445	1.25022	1.16366					
	1.24692	1.13495	1.16740	1.09720			AVRG		1.17616		5.19300

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAY-2002 16:39
End Cal Date : 01-MAY-2002 22:02
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V405011.B\v405011.8260.m
Cal Date : 02-May-2002 09:57 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
$ 77 Bromofluorobenzene	0.66970	0.59747	0.64413	0.56390	0.62046	0.50446					
	0.51840	0.48441	0.50630	0.47730			AVRG		0.55865		12.57568

Curve	Formula	Units
Averaged	Amt = Rsp/m1	Response
Linear	Amt = b + Rsp/m1	Response

ENVIRONMENTAL TESTING & CONSULTING, INC.
292 • Wilbur Grove Road • Memphis, TN 38119 • (901) 327-2750 • FAX (901) 327-6334
Founded 1973

December 9, 2002

Mr. Kraig Smith
Jacobs
600 William Northern Blvd.
Tullahoma, TN 37388

Ref: Analytical Testing
ETC Order # 0211497
Project Description Memphis Defense Depot

Project Number C5X51111

The above referenced project has been analyzed per your instructions. The analyses were performed in our laboratory in accordance with Standard Methods, The Solid Waste Manual SW-846, EPA Methods for Chemical Analysis of Water and Wastes and/or 40 CFR part 136.

The analytical data has been validated using standard quality control measures performed as required by the analytical method. Quality Assurance, instrumentation maintenance and calibration were performed in accordance with guidelines established by the USEPA.

The results are shown on the attached analysis sheet(s).

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

Sincerely,

Nathan A. Pera, IV
Chief Executive Officer

rt
Attachment

JACOBS_DDMT

Certifications

Tennessee	*#02027*	*Mississippi*		*USDA*	*#S-46279*
Arkansas		*Oklahoma*	*#9311*	EPA	#TN00012
Kentucky	*#90047*	*Virginia*	*#00106*	NELAP	
Alabama	#40750	*Louisiana DEQ*	*#04015*		
Illinois	#000537	*USACE_HTRW*			

Environmental Testing & Consulting, Inc.

Data Qualifiers for Organic Reporting

Within the attached report, some analytical data may be reported as "Qualified Data" as indicated by a "Data Qualifier" next to the result This table summarizes the possible "Data Qualifiers" that may be associated with this report These qualifiers do not apply for TIC reports

Q	Surrogate Recovery Outside QC Limits
J	Estimated Value Presence of the compound was confirmed but less than the
	reported detection limit.
E	Concentration exceeds the established method calibration range but is within
	the working range of the instrument.
B	Analyte detected in the associated Method Blank
U	Reported result was unconfirmed. Refer to Case Narrative.
C	Result reported from GC/MS confirmation analysis
M	Result reported represents a minimum value. Refer to Case Narrative
NC	Result reported from Primary Column Result did not confirm
*	QC Data (percent recovery/RPD for a particular analyte was outside QC Limits)

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 688

ANALYTICAL SUMMARY/CROSS REFERENCE TABLE

Client Name Jacobs ETC Order #0211497

Site ID Memphis Defense Depot C5X51111

ETC Sample ID	Field ID	Sample ID	Matrix	Method	Method Description
021149701	EFF-11-20-02		AQUEOUS	8260B	GC/MS Volatile Organics

719 689

Environmental Testing & Consulting, Inc.

Login
Chain-of-Custody

CHAIN OF CUSTODY RECORD

Environmental Testing & Consulting, Inc.
2924 Walnut Grove Rd.
Memphis, TN 38111
(901)327-2750 FAX (901)327-6334

ETC Work Order : 0211497 719 690

Company Name	Phone # : 731 343 6448	Fax Results
JACOBS ENGINEERING	Fax #	RUSH
Project/Site	FID # .	Ice
MEMPHIS DEPOT	PO # :	
Project #	Matrix	
C5A87111	1 Wastewater 4 Sludge	
Project Manager/Contact	2 Aqueous 5 Oil/Solvent	
KRISTA SMITH	3 Soil/Sediment 6 Other	

# of cont.	Sample ID/ Number	Depth	Sample Date	Sample Time	Matrix	Type Grab/Comp	Analysis Requested (Note special detection limits or methods) VOC	Comments
3	EFF-11-20-02		11/20/02	1400	2	GRAB	X	

Sampled By	Method of Shipment	Blank/Cooler Temp	Remarks
K Smith	Hand Delivered	2.4°C (B)	Include EDD

RELINQUISHED BY (sign)	DATE	TIME	RECEIVED BY (sign)	DATE	TIME	Sample Delivery Group ID
K Smith	11/20/02	1430				
RELINQUISHED BY (sign)	DATE	TIME	RECEIVED BY (sign)	DATE	TIME	
RELINQUISHED BY (sign)	DATE	TIME	RECEIVED BY LAB (print/sign) R Barnes	DATE 11/20/02	TIME 1430	

Distribution: Original and Yellow accompany samples to the laboratory. Pink copy for Field Crew.
Original copy returned with results. Yellow copy for ETC, Inc files

F:\QA\QC\SLOP\COC0995.XLS

719 691

Environmental Testing & Consulting, Inc.
Cooler Receipt Form

Date/Time Received 11/20/02-14:30
Date/Time Checked In 11/20/02-14:30
Carrier/Bill# Client Hand-Delivered

LIMS# 0211-497
Project Memphis Depot
By Rebekah Barger

1.	Custody Seals?/Location-	No
2.	Samples are non-radioactive?	Yes
3.	Chain of Custody in plastic?	Yes
4.	Temperature at receipt (ok - 4 ± 2 °C)<4oC	OK
5.	Ice & Packing- Bubble Bag, Ice	Yes
6	Chain of Custody filled out properly?	Yes
7	All containers in separate bags?	No
8	Sample containers intact?	Yes
9	Label(s) complete and in good condition?	Yes
10	Label(s) agree with Chain of Custody?	Yes
11.	Correct containers used?	Yes
12.	Sufficient sample?	Yes
13	VOA vials bubble-free (H_2O) or no head space (soil)?	Yes
14.	Preservation OK? TM pH____; TRPH pH____; TOC pH____; TOX pH____; CN pH____; N/P pH____; Other pH____	Yes

Comments _____

*Validated Date and Time of Sample Receipt (VDTSR)

Environmental Testing & Consulting, Inc.

Sample Reports

719 693

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Defense Depot**

FID #

Date Arrived **11/20/02**
ETC Order Number **0211497**

ETC Lab ID **0211497-01**
Field ID **EFF-11-20-02**

Matrix : **AQUEOUS**
Sample Date : **11/20/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				12/04/02		LS	8260B 5030B
QC Batch	**V412041**						
Dilution Factor	**1**						
Acetone	ND	ug/L	20 0				
Benzene	ND	ug/L	1 00				
Bromodichloromethane	ND	ug/L	1 00				
Bromoform	ND	ug/L	1.00				
Bromomethane	ND	ug/L	1.00				
2-Butanone (MEK)	ND	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	5.41	ug/L	1.00				
Chlorobenzene	ND	ug/L	1 00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	51.6	ug/L	1 00				
Chloromethane	ND	ug/L	1 00				
1,1-Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1 00				
1,1-Dichloroethene	10.0	ug/L	1.00				
trans-1,2-Dichloroethene	7 28	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1 00				
trans-1,3-Dichloropropene	ND	ug/L	1 00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5 00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1 00				
1,1,2,2-Tetrachloroethane	69.6	ug/L	1 00				
Tetrachloroethene	17.0	ug/L	1 00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	ND	ug/L	1 00				
1,1,2-Trichloroethane	1.32	ug/L	1.00				
Trichloroethene	109	ug/L	1 00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1 00				
Xylenes-m,p	ND	ug/L	1 00				
Xylenes-o	ND	ug/L	1.00				
cis-1,2-Dichloroethene	34.9	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	98	84	115
S2 - Toluene-d8	87	69	133
S3 - 4-Bromofluorobenzene	100	80	120
S4 - 1,2-Dichloroethane-d4	91	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1 719 694 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

021149701

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0211497

Matrix: (soil/water) WATER Lab Sample ID: 021149701

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0501008

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 12/04/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

Environmental Testing & Consulting, Inc.

Quality Control Reports
Level II
GC/MS Volatiles

ENVIRONMENTAL TESTING AND CONSULTING, INC.
CASE NARRATIVE
GC/MS VOLATILE COMPOUNDS – AQUEOUS

Client Name Jacobs
Project Name Memphis Defense Depot

ETC Order # 0211-497

SAMPLE PRESERVATION (Verified at time of analysis)
All water samples preserved with HCl to pH < 2 and maintained at 4oC until analysis

METHOD
Preparation SW-846 5030B
Analysis SW-846 8260B

HOLDING TIMES
Sample Analysis All samples analyzed within 14 days of collection

QUALITY CONTROL

QC Batch	Form 4 Summary
V412041	V412041LB

System Monitoring Compounds FORM 2
Surrogate recoveries within QC limits

Method Blank FORM 4
V412041I B
Target analytes were not detected in the method blank, except as listed below
Methylene Chloride was identified in method blank This analyte was not reported in any associated project samples The data was not affected

Laboratory Control Sample FORM 3
V412041LCS
All target analyte acceptance criteria met, except as listed below
Acrolein was flagged for high recovery in the LCS This analyte was not reported in any associated project sample The data was not affected

Matrix Spike / Matrix Spike Dup FORM 3
Batch V412041

0211-553-05	RPD	All analytes within QC limits *
S02138-5	Spike Recovery	All analytes within QC limits *

*RPDs and recoveries for multiple analytes were flagged as outside QC limits Refer to Laboratory Control Sample(s) for system verification

CALIBRATION

BFB Daily 12-Hour Tune	All criteria met FORM 5
Initial Calibration	All criteria met FORM 6
Calibration Verification	% Differences/% Drift (%D) >30% FORM 7 Multiple analytes were flagged for high % Differences in the CV These analytes were not reported in the associated project samples The data was not affected
Calibration Verification	% Differences/% Drift (%D) >30% FORM 7 Analyte(s) were flagged with % Differences >30% affecting the data as listed below

Sequence	Analyte	Date/Time Analyzed	% Difference	High/Low
V412041	2-Chloroethyl vinyl ether	12/04/02 0900	65 7	Low

ENVIRONMENTAL TESTING AND CONSULTING, INC.
CASE NARRATIVE
GC/MS VOLATILE COMPOUNDS – AQUEOUS

Client Name Jacobs
Project Name Memphis Defense Depot

ETC Order # 0211-497

CALIBRATION

Samples in this sequence are listed on Form 5 (Instrument Performance Check) The CV passed SPCC/CCC evaluation criteria The CV is valid per SW-846 method 8000A/8260B

USACOE Shell Document EM 200-1-2 specifies an additional requirement that all project-specified contaminants of concern are to be within +/- 20% D Calibration verification forms have been provided that lists the %D of all analytes

Volatile Internal Standard Area and RT FORM 8
Calibration Verification standard(s) Internal Standard Areas and Retention Times within QC limits

SAMPLE ANALYSIS

Instrumentation	HP 5890 Series II GC, 5971MSD
Dilutions	Dilutions were not required

Project Manager

FORM 2
WATER VOA-GCMS SYSTEM MONITORING COMPOUND RECOVERY

719 698

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0211497

	CLIENT SAMPLE NO.	SMC1 (DFM) #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER (DCE) #	TOT OUT
01	V4120411LCS	86	89	81	74	0
02	V4120411LB	95	86	98	80	0
03	021149701	98	87	100	91	0
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

		QC LIMITS
SMC1 (DFM)	= Dibromofluoromethane	(84-115)
SMC2 (TOL)	= Toluene-d8	(69-133)
SMC3 (BFB)	= Bromofluorobenzene	(80-120)
OTHER (DCE)	= 1,2-Dichloroethane-d4	(58-131)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

719 699

FORM 4
VOA-GCMS METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

V4120411LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0211497

Lab File ID: 0303006 Lab Prep Batch: V412041

Date Analyzed: 12/04/02 Time Analyzed: 1042

GC Column: ID: 2 (mm) Heated Purge: (Y/N) Y

Instrument ID: VOC4 Lab Sample ID: 11LB

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	V4120411LCS	11LCS	0201003LCS	0900
02	021149701	021149701	0501008	1145
03	021155305	021155305	1601017	1904
04	021155305MS	MS	1701018	1936
05	021155305MSD	MSD	1801019	2007
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.
V4120411LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0211497

Matrix: (soil/water) WATER Lab Prep Batch: V412041

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0303006

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 12/04/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
67-64-1	Acetone	20.00	U
75-05-8	Acetonitrile	20.00	U
107-02-8	Acrolein	20.00	U
107-13-1	Acrylonitrile	20.00	U
107-05-1	Allyl chloride	1.00	U
71-43-2	Benzene	1.00	U
108-86-1	Bromobenzene	1.00	U
74-97-5	Bromochloromethane	1.00	U
75-27-4	Bromodichloromethane	1.00	U
75-25-2	Bromoform	1.00	U
78-93-3	2-Butanone	20.00	U
74-83-9	Bromomethane	1.00	U
104-51-8	n-Butylbenzene	1.00	U
135-98-8	sec-Butylbenzene	1.00	U
98-06-6	tert-Butylbenzene	1.00	U
75-15-0	Carbon Disulfide	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U
108-90-7	Chlorobenzene	1.00	U
124-48-1	Chlorodibromomethane	1.00	U
75-00-3	Chloroethane	1.00	U
110-75-8	2-Chloroethyl vinyl ether	20.00	U
67-66-3	Chloroform	1.00	U
74-87-3	Chloromethane	1.00	U
126-99-8	Chloroprene	1.00	U
95-49-8	2-Chlorotoluene	1.00	U
106-43-4	4-Chlorotoluene	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane	1.00	U
106-93-4	1,2-Dibromoethane	1.00	U
74-95-3	Dibromomethane	1.00	U
95-50-1	1,2-Dichlorobenzene	1.00	U
541-73-1	1,3-Dichlorobenzene	1.00	U
106-46-7	1,4-Dichlorobenzene	1.00	U
1476-11-5	cis-1,4-Dichloro-2-butene	1.00	U

719 701

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V4120411LB

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0211497

Matrix: (soil/water) WATER Lab Prep Batch: V412041

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0303006

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 12/04/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
110-57-6	trans-1,4-Dichloro-2-butene	1.00	U
75-71-8	Dichlorodifluoromethane	1.00	U
75-34-3	1,1-Dichloroethane	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
75-35-4	1,1-Dichloroethene	1.00	U
156-59-2	cis-1,2-Dichloroethene	1.00	U
156-60-5	trans-1,2-Dichloroethene	1.00	U
78-87-5	1,2-Dichloropropane	1.00	U
142-28-9	1,3-Dichloropropane	1.00	U
594-20-7	2,2-Dichloropropane	1.00	U
563-58-6	1,1-Dichloropropene	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
108-20-3	Di isopropyl ether	1.00	U
123-91-1	1,4-Dioxane	100.0	U
141-78-6	Ethyl Acetate	5.00	U
100-41-4	Ethylbenzene	1.00	U
97-63-2	Ethyl methacrylate	1.00	U
110-00-9	Furan	1.00	U
87-68-3	Hexachlorobutadiene	1.00	U
110-54-3	Hexane	1.00	U
591-78-6	2-Hexanone	5.00	U
74-88-4	Iodomethane	1.00	U
78-83-1	Isobutyl Alcohol	100.0	U
98-82-8	Isopropylbenzene	1.00	U
99-87-6	4-Isopropyltoluene	1.00	U
126-98-7	Methacrylonitrile	10.00	U
75-09-2	Methylene Chloride	1.08	J
80-62-6	Methyl methacrylate	1.00	U
108-10-1	4-Methyl-2-Pentanone	5.00	U
1634-04-4	Methyl-tertbutyl-Ether	1.00	U
91-20-3	Naphthalene	1.00	U
107-12-0	Propionitrile	10.00	U

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V4120411LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0211497

Matrix: (soil/water) WATER Lab Prep Batch: V412041

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0303006

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 12/04/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
109-60-4	n-Propyl Acetate	1.00	U
103-65-1	n-Propylbenzene	1.00	U
100-42-5	Styrene	1.00	U
630-20-6	1,1,1,2-Tetrachloroethane	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane	1.00	U
127-18-4	Tetrachloroethene	1.00	U
109-99-9	Tetrahydrofuran	1.00	U
87-61-6	1,2,3-Trichlorobenzene	1.00	U
108-88-3	Toluene	1.00	U
71-55-6	1,1,1-Trichloroethane	1.00	U
79-00-5	1,1,2-Trichloroethane	1.00	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	1.00	U
79-01-6	Trichloroethene	1.00	U
75-69-4	Trichlorofluoromethane	1.00	U
96-18-4	1,2,3-Trichloropropane	1.00	U
95-63-6	1,2,4-Trimethylbenzene	1.00	U
120-82-1	1,2,4-Trichlorobenzene	1.00	U
108-67-8	1,3,5-Trimethylbenzene	1.00	U
108-05-4	Vinyl Acetate	20.00	U
75-01-4	Vinyl Chloride	1.00	U
108-38-3	Xylene-mp	1.00	U
95-47-6	Xylene-o	1.00	U

719 703

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

V4120411LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0211497

Matrix: (soil/water) WATER Lab Sample ID: 11LB

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0303006

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 12/04/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

719 704

Lab Name: ETC, INC. Lab Prep Batch: V412041

Lab Code: Case No.: SAS No.: SDG No.: 0211497

Matrix Spike - Sample No.: V4120411LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Acetone	100.0		117.6	118	59-151
Acetonitrile	1000		888.0	89	57-143
Acrolein	100.0		156.4	156*	59-134
Acrylonitrile	100.0		76.88	77	60-146
Allyl chloride	100.0		97.24	97	74-120
Benzene	100.0		85.45	85	72-124
Bromobenzene	100.0		94.29	94	77-120
Bromochloromethane	100.0		97.40	97	74-120
Bromodichloromethane	100.0		85.55	86	68-119
Bromoform	100.0		100.6	101	66-136
2-Butanone	100.0		100.2	100	55-151
Bromomethane	100.0		100.6	101	40-134
n-Butylbenzene	100.0		99.28	99	69-129
sec-Butylbenzene	100.0		94.91	95	72-127
tert-Butylbenzene	100.0		94.92	95	73-126
Carbon Disulfide	100.0		76.50	76	60-133
Carbon Tetrachloride	100.0		84.78	85	64-123
Chlorobenzene	100.0		91.62	92	77-112
Chlorodibromomethane	100.0		91.40	91	72-118
Chloroethane	100.0		108.2	108	64-142
2-Chloroethyl vinyl eth	100.0		39.16	39	22-165
Chloroform	100.0		86.36	86	70-115
Chloromethane	100.0		73.38	73	58-139
Chloroprene	100.0		65.69	66*	73-118
2-Chlorotoluene	100.0		88.93	89	65-132
4-Chlorotoluene	100.0		83.88	84	67-127
1,2-Dibromo-3-chloropro	100.0		94.88	95	56-134
1,2-Dibromoethane	100.0		88.35	88	74-118

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC. Lab Prep Batch: V412041

Lab Code: Case No.: SAS No.: SDG No.: 0211497

Matrix Spike - Sample No.: V4120411LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Dibromomethane	100.0		86.22	86	75-114
1,2-Dichlorobenzene	100.0		98.00	98	80-113
1,3-Dichlorobenzene	100.0		97.47	97	77-119
1,4-Dichlorobenzene	100.0		95.98	96	78-116
cis-1,4-Dichloro-2-bute	100.0		93.55	94	70-130
trans-1,4-Dichloro-2-bu	100.0		96.05	96	62-138
Dichlorodifluoromethane	100.0		99.55	100	48-145
1,1-Dichloroethane	100.0		88.19	88	76-118
1,2-Dichloroethane	100.0		79.40	79	62-124
1,1-Dichloroethene	100.0		88.39	88	69-121
cis-1,2-Dichloroethene	100.0		86.30	86	76-114
trans-1,2-Dichloroethen	100.0		88.03	88	72-121
1,2-Dichloropropane	100.0		85.20	85	64-133
1,3-Dichloropropane	100.0		85.96	86	68-128
2,2-Dichloropropane	100.0		92.27	92	67-132
1,1-Dichloropropene	100.0		86.02	86	76-117
cis-1,3-Dichloropropene	100.0		88.68	89	77-120
trans-1,3-Dichloroprope	100.0		90.81	91	73-124
Di isopropyl ether	100.0		77.28	77	62-160
1,4-Dioxane	2000		1898	95	56-131
Ethyl Acetate	100.0		74.38	74	52-151
Ethylbenzene	100.0		88.76	89	77-111
Ethyl methacrylate	200.0		168.3	84	57-140
Furan	100.0		125.1	125*	52-124
Hexachlorobutadiene	100.0		101.7	102	69-137
Hexane	100.0		85.14	85	70-130
2-Hexanone	100.0		100.0	100	53-144
Iodomethane	100.0		130.2	130	51-153

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

719 706

Lab Name: ETC, INC. Lab Prep Batch: V412041

Lab Code: Case No.: SAS No.: SDG No.: 0211497

Matrix Spike - Sample No.: V4120411LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Isobutyl Alcohol	2000		1577	79	60-134
Isopropylbenzene	100.0		90.37	90	74-125
4-Isopropyltoluene	100.0		98.26	98	72-127
Methacrylonitrile	1000		735.2	74	70-125
Methylene Chloride	100.0		82.73	83	76-115
Methyl methacrylate	200.0		163.0	82	57-147
4-Methyl-2-Pentanone	100.0		79.21	79	42-144
Methyl-tertbutyl-Ether	100.0		71.30	71	62-122
Naphthalene	100.0		99.53	100	53-124
Propionitrile	1000		853.6	85	58-139
n-Propyl Acetate	100.0		115.0	115	88-170
n-Propylbenzene	100.0		85.67	86	75-125
Styrene	100.0		91.00	91	77-117
1,1,1,2-Tetrachloroetha	100.0		92.89	93	79-113
1,1,2,2-Tetrachloroetha	100.0		90.84	91	67-126
Tetrachloroethene	100.0		94.76	95	77-115
Tetrahydrofuran	100.0		67.09	67*	76-181
1,2,3-Trichlorobenzene	100.0		109.3	109	62-132
Toluene	100.0		83.17	83	77-115
1,1,1-Trichloroethane	100.0		83.80	84	63-122
1,1,2-Trichloroethane	100.0		89.20	89	69-117
1,1,2-trichloro-1,2,2-t	100.0		80.81	81	70-130
Trichloroethene	100.0		89.90	90	75-113
Trichlorofluoromethane	100.0		103.7	104	55-130
1,2,3-Trichloropropane	100.0		86.86	87	62-130
1,2,4-Trimethylbenzene	100.0		93.02	93	69-126
1,2,4-Trichlorobenzene	100.0		114.4	114	68-132
1,3,5-Trimethylbenzene	100.0		90.37	90	69-128

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC. Lab Prep Batch: V412041

Lab Code: Case No.: SAS No.: SDG No.: 0211497

Matrix Spike - Sample No.: V4120411LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Vinyl Acetate	100.0		76.50	76	28-146
Vinyl Chloride	100.0		108.5	108	65-134
Xylene-mp	200.0		169.9	85	77-115
Xylene-o	100.0		85.27	85	77-115

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 4 out of 88 outside limits

COMMENTS: _____

FORM 3

WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY 719 708

Lab Name: ETC, INC. Lab Prep Batch: V412041

Lab Code: Case No.: SAS No.: SDG No.: 0211497

Matrix Spike - Sample No.: 021155305

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Acetone	100.0	0.000	59.67	60	59-151
Acetonitrile	1000	0.000	738.0	74	57-143
Acrolein	100.0	0.000	140.5	140*	59-134
Acrylonitrile	100.0	0.000	73.47	73	60-146
Allyl chloride	100.0	0.000	96.28	96	74-120
Benzene	100.0	0.000	66.75	67*	72-124
Bromobenzene	100.0	0.000	88.21	88	77-120
Bromochloromethane	100.0	0.000	84.40	84	74-120
Bromodichloromethane	100.0	0.000	101.0	101	68-119
Bromoform	100.0	0.000	99.54	100	66-136
2-Butanone	100.0	0.000	69.76	70	55-151
Bromomethane	100.0	0.000	84.10	84	40-134
n-Butylbenzene	100.0	0.000	91.40	91	69-129
sec-Butylbenzene	100.0	0.000	94.14	94	72-127
tert-Butylbenzene	100.0	0.000	94.09	94	73-126
Carbon Disulfide	100.0	0.000	100.1	100	60-133
Carbon Tetrachloride	100.0	0.000	91.84	92	64-123
Chlorobenzene	100.0	0.000	81.55	82	77-112
Chlorodibromomethane	100.0	0.000	105.6	106	72-118
Chloroethane	100.0	0.000	88.65	89	64-142
2-Chloroethyl vinyl eth	100.0	0.000	3.51	4*	22-165
Chloroform	100.0	0.000	85.33	85	70-115
Chloromethane	100.0	0.000	46.79	47*	58-139
Chloroprene	100.0	0.000	79.54	80	73-118
2-Chlorotoluene	100.0	0.000	90.93	91	65-132
4-Chlorotoluene	100.0	0.000	83.71	84	67-127
1,2-Dibromo-3-chloropro	100.0	0.000	99.82	100	56-134
1,2-Dibromoethane	100.0	0.000	95.95	96	74-118

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

FORM 3
WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ETC,INC. Lab Prep Batch: V412041

Lab Code: Case No.: SAS No.: SDG No.: 0211497

Matrix Spike - Sample No.: 021155305

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Dibromomethane	100.0	0.000	94.06	94	75-114
1,2-Dichlorobenzene	100.0	0.000	86.22	86	80-113
1,3-Dichlorobenzene	100.0	0.000	86.72	87	77-119
1,4-Dichlorobenzene	100.0	0.000	90.40	90	78-116
cis-1,4-Dichloro-2-bute	100.0	0.000	99.00	99	70-130
trans-1,4-Dichloro-2-bu	100.0	0.000	85.79	86	62-138
Dichlorodifluoromethane	100.0	0.000	78.74	79	48-145
1,1-Dichloroethane	100.0	0.000	95.96	96	76-118
1,2-Dichloroethane	100.0	0.546	83.48	83	62-124
1,1-Dichloroethene	100.0	0.000	79.70	80	69-121
cis-1,2-Dichloroethene	100.0	11.09	94.38	83	76-114
trans-1,2-Dichloroethen	100.0	0.000	84.00	84	72-121
1,2-Dichloropropane	100.0	0.000	79.64	80	64-133
1,3-Dichloropropane	100.0	0.000	93.26	93	68-128
2,2-Dichloropropane	100.0	0.000	82.11	82	67-132
1,1-Dichloropropene	100.0	0.000	78.27	78	76-117
cis-1,3-Dichloropropene	100.0	0.000	90.79	91	77-120
trans-1,3-Dichloroprope	100.0	0.000	93.42	93	73-124
Di isopropyl ether	100.0	0.000	81.17	81	62-160
1,4-Dioxane	2000	0.000	1646	82	56-131
Ethyl Acetate	100.0	0.000	63.33	63	52-151
Ethylbenzene	100.0	0.000	82.77	83	77-111
Ethyl methacrylate	200.0	0.000	178.4	89	57-140
Furan	100.0	0.000	144.5	144*	52-124
Hexachlorobutadiene	100.0	0.000	95.20	95	69-137
Hexane	100.0	0.000	80.85	81	70-130
2-Hexanone	100.0	0.000	81.45	81	53-144
Iodomethane	100.0	0.000	103.2	103	51-153

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

FORM 3

WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY 719 710

Lab Name: ETC, INC. Lab Prep Batch: V412041

Lab Code: Case No.: SAS No.: SDG No.: 0211497

Matrix Spike - Sample No.: 021155305

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Isobutyl Alcohol	2000	0.000	1350	68	60-134
Isopropylbenzene	100.0	0.000	87.13	87	74-125
4-Isopropyltoluene	100.0	0.000	97.26	97	72-127
Methacrylonitrile	1000	0.000	781.4	78	70-125
Methylene Chloride	100.0	0.000	79.92	80	76-115
Methyl methacrylate	200.0	0.000	166.1	83	57-147
4-Methyl-2-Pentanone	100.0	0.000	81.34	81	42-144
Methyl-tertbutyl-Ether	100.0	0.000	85.58	86	62-122
Naphthalene	100.0	0.000	84.42	84	53-124
Propionitrile	1000	0.000	790.5	79	58-139
n-Propyl Acetate	100.0	0.000	113.5	114	88-170
n-Propylbenzene	100.0	0.000	82.54	82	75-125
Styrene	100.0	0.000	80.07	80	77-117
1,1,1,2-Tetrachloroetha	100.0	0.000	89.01	89	79-113
1,1,2,2-Tetrachloroetha	100.0	0.000	83.58	84	67-126
Tetrachloroethene	100.0	0.000	99.07	99	77-115
Tetrahydrofuran	100.0	0.000	48.39	48*	76-181
1,2,3-Trichlorobenzene	100.0	0.000	93.57	94	62-132
Toluene	100.0	0.000	81.08	81	77-115
1,1,1-Trichloroethane	100.0	0.000	85.38	85	63-122
1,1,2-Trichloroethane	100.0	0.000	89.72	90	69-117
1,1,2-trichloro-1,2,2-t	100.0	0.000	84.56	84	70-130
Trichloroethene	100.0	51.64	112.0	60*	75-113
Trichlorofluoromethane	100.0	0.000	124.2	124	55-130
1,2,3-Trichloropropane	100.0	0.000	91.82	92	62-130
1,2,4-Trimethylbenzene	100.0	0.000	90.65	91	69-126
1,2,4-Trichlorobenzene	100.0	0.000	95.35	95	68-132
1,3,5-Trimethylbenzene	100.0	0.000	87.13	87	69-128

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

719 71i

FORM 3

WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ETC, INC. Lab Prep Batch: V412041

Lab Code: Case No.: SAS No.: SDG No.: 0211497

Matrix Spike - Sample No.: 021155305

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Vinyl Acetate	100.0	0.000	78.97	79	28-146
Vinyl Chloride	100.0	0.000	91.92	92	65-134
Xylene-mp	200.0	0.000	151.5	76*	77-115
Xylene-o	100.0	0.000	79.70	80	77-115

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

FORM 3
WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ETC, INC. Lab Prep Batch: V412041

Lab Code: Case No.: SAS No.: SDG No.: 0211497

Matrix Spike - Sample No.: 021155305

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Acetone	100.0	60.22	60	0	20	59-151
Acetonitrile	1000	838.3	84	13	20	57-143
Acrolein	100.0	162.7	163*	15	20	59-134
Acrylonitrile	100.0	81.91	82	12	20	60-146
Allyl chloride	100.0	94.48	94	2	20	74-120
Benzene	100.0	71.19	71*	6	20	72-124
Bromobenzene	100.0	81.12	81	8	20	77-120
Bromochloromethane	100.0	84.51	84	0	20	74-120
Bromodichloromethane	100.0	86.06	86	16	20	68-119
Bromoform	100.0	96.23	96	4	20	66-136
2-Butanone	100.0	70.75	71	1	20	55-151
Bromomethane	100.0	90.45	90	7	20	40-134
n-Butylbenzene	100.0	85.47	85	7	20	69-129
sec-Butylbenzene	100.0	85.26	85	10	20	72-127
tert-Butylbenzene	100.0	86.42	86	9	20	73-126
Carbon Disulfide	100.0	69.55	70	35*	20	60-133
Carbon Tetrachloride	100.0	81.49	81	13	20	64-123
Chlorobenzene	100.0	79.50	80	2	20	77-112
Chlorodibromomethane	100.0	88.21	88	18	20	72-118
Chloroethane	100.0	91.63	92	3	20	64-142
2-Chloroethyl vinyl eth	100.0	2.82	3*	28*	20	22-165
Chloroform	100.0	79.19	79	7	20	70-115
Chloromethane	100.0	48.08	48*	2	20	58-139
Chloroprene	100.0	74.34	74	8	20	73-118
2-Chlorotoluene	100.0	83.70	84	8	20	65-132
4-Chlorotoluene	100.0	76.48	76	10	20	67-127
1,2-Dibromo-3-chloropro	100.0	96.85	97	3	20	56-134
1,2-Dibromoethane	100.0	83.74	84	13	20	74-118

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

FORM 3

WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ETC, INC. Lab Prep Batch: V412041

Lab Code: Case No.: SAS No.: SDG No.: 0211497

Matrix Spike - Sample No.: 021155305

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dibromomethane	100.0	83.68	84	11	20	75-114
1,2-Dichlorobenzene	100.0	82.15	82	5	20	80-113
1,3-Dichlorobenzene	100.0	83.45	83	5	20	77-119
1,4-Dichlorobenzene	100.0	84.14	84	7	20	78-116
cis-1,4-Dichloro-2-bute	100.0	94.82	95	4	20	70-130
trans-1,4-Dichloro-2-bu	100.0	87.16	87	1	20	62-138
Dichlorodifluoromethane	100.0	71.46	71	11	20	48-145
1,1-Dichloroethane	100.0	93.33	93	3	20	76-118
1,2-Dichloroethane	100.0	73.73	73	13	20	62-124
1,1-Dichloroethene	100.0	82.53	82	2	20	69-121
cis-1,2-Dichloroethene	100.0	89.60	78	6	20	76-114
trans-1,2-Dichloroethen	100.0	83.57	84	0	20	72-121
1,2-Dichloropropane	100.0	75.48	75	6	20	64-133
1,3-Dichloropropane	100.0	81.15	81	14	20	68-128
2,2-Dichloropropane	100.0	74.48	74	10	20	67-132
1,1-Dichloropropene	100.0	73.82	74*	5	20	76-117
cis-1,3-Dichloropropene	100.0	81.63	82	10	20	77-120
trans-1,3-Dichloroprope	100.0	83.54	84	10	20	73-124
Di isopropyl ether	100.0	78.50	78	4	20	62-160
1,4-Dioxane	2000	1650	82	0	20	56-131
Ethyl Acetate	100.0	65.48	65	3	20	52-151
Ethylbenzene	100.0	79.46	79	5	20	77-111
Ethyl methacrylate	200.0	160.3	80	11	20	57-140
Furan	100.0	130.6	131*	9	20	52-124
Hexachlorobutadiene	100.0	91.74	92	3	20	69-137
Hexane	100.0	78.05	78	4	20	70-130
2-Hexanone	100.0	74.32	74	9	20	53-144
Iodomethane	100.0	96.77	97	6	20	51-153

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

FORM 3
WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY 719 714

Lab Name: ETC, INC. Lab Prep Batch: V412041

Lab Code: Case No.: SAS No.: SDG No.: 0211497

Matrix Spike - Sample No.: 021155305

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Isobutyl Alcohol	2000	1456	73	7	20	60-134
Isopropylbenzene	100.0	81.67	82	6	20	74-125
4-Isopropyltoluene	100.0	87.53	88	10	20	72-127
Methacrylonitrile	1000	768.2	77	1	20	70-125
Methylene Chloride	100.0	82.28	82	2	20	76-115
Methyl methacrylate	200.0	157.7	79	5	20	57-147
4-Methyl-2-Pentanone	100.0	77.14	77	5	20	42-144
Methyl-tertbutyl-Ether	100.0	83.29	83	4	20	62-122
Naphthalene	100.0	86.84	87	4	20	53-124
Propionitrile	1000	864.2	86	8	20	58-139
n-Propyl Acetate	100.0	107.6	108	5	20	88-170
n-Propylbenzene	100.0	76.71	77	6	20	75-125
Styrene	100.0	78.01	78	2	20	77-117
1,1,1,2-Tetrachloroetha	100.0	83.90	84	6	20	79-113
1,1,2,2-Tetrachloroetha	100.0	87.27	87	4	20	67-126
Tetrachloroethene	100.0	81.03	81	20	20	77-115
Tetrahydrofuran	100.0	53.02	53*	10	20	76-181
1,2,3-Trichlorobenzene	100.0	90.22	90	4	20	62-132
Toluene	100.0	71.44	71*	13	20	77-115
1,1,1-Trichloroethane	100.0	74.55	74	14	20	63-122
1,1,2-Trichloroethane	100.0	82.73	83	8	20	69-117
1,1,2-trichloro-1,2,2-t	100.0	79.73	80	5	20	70-130
Trichloroethene	100.0	105.4	54*	10	20	75-113
Trichlorofluoromethane	100.0	108.9	109	13	20	55-130
1,2,3-Trichloropropane	100.0	88.80	89	3	20	62-130
1,2,4-Trimethylbenzene	100.0	84.48	84	8	20	69-126
1,2,4-Trichlorobenzene	100.0	92.41	92	3	20	68-132
1,3,5-Trimethylbenzene	100.0	81.67	82	6	20	69-128

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

FORM 3

WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ETC, INC. Lab Prep Batch: V412041

Lab Code: Case No.: SAS No.: SDG No.: 0211497

Matrix Spike - Sample No.: 021155305

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Vinyl Acetate	100.0	81.43	81	2	20	28-146
Vinyl Chloride	100.0	87.48	87	6	20	65-134
Xylene-mp	200.0	144.9	72*	5	20	77-115
Xylene-o	100.0	77.09	77	4	20	77-115

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 2 out of 88 outside limits
Spike Recovery: 18 out of 176 outside limits

COMMENTS: _____

Environmental Testing & Consulting, Inc.

Quality Control Reports
Level III
GC/MS Volatiles

719 717

ENVIRONMENTAL TESTING & CONSULTING, INC
GC/MS VOC Method 8260B Sequence Check List (SW-846)

Sequence ID: V41204 Matrix: H2O HBN: _____
Date: 12-5-02
Analyst [signature]
Super [signature]
Applicable ETC Order Nos. for this sequence:
0211-497-1 0212-078-1
0211-553-1-4

Validated

1. **BFB Daily 12-Hour Tune Meets Criteria.** No analyses begins until criteria are met. (SOP) ✓
2. **Initial Calibration Verification Criteria - Method :** V4102S1.826 OM
   a. SPCC - Mean RF > =0.10 (> =0.30 for Chlorobenzene / 1122-Tetrachloroethene) ✓
   b. CCC - RSD of RF for CCCs and Target Analytes MUST BE < = 30% ✓
   c. RSD of analytes < =15% may use Average RF for quantitation ✓
   d. Analytes w/RSD >15% use Linear Regression - correlation coefficient > =0.99 ✓
3. **Calibration Verification - Each 12-Hour Shift**
   a. SPCC - Mean RF > =0.10 (> =0.30 for Chlorobenzene / 1122-Tetrachloroethene) ✓
   b. CCC - % Difference for Average RF Calibration - < =20% ✓
   c. CCC - % Drift for Linear Regression Calibration - < =20% ✓
   d. % Difference/% Drift for all other Target Analytes - < =30% ✓
      Acrolein ↑, 2-CEVE ↓, Chloroprene ↓, Iodomethane ↑
   e. Internal Standards - Retention Times within +/-30 seconds from Mid-Point ICAL STD ✓
   f. Internal Standards - Areas within (-50% to +100%) form Mid-Point ICAL STD ✓
4. **Method Blanks included in this sequence :** ✓
   Analyze daily or for each analytical batch (20 samples): _____
   List compounds identified in Method Blank w/concentration.
   Flag final result "B-Detected in Blank"
   MeCl2 1.08 ppb
5. **Matrix Spike/Matrix Spike Duplicates included in this sequence :** * ✓
   Analyze daily or for each matrix (ms/msd per 20 samples of same matrix)
   List MS/MSD(s) performed with any failures :
   0211-553-5 MS, MSD
   * 2/88 - RPD, 18/176 - acrolein outside limits
6. **Laboratory Control Samples included in this sequence :** ✓
   Must contain all Target Analytes 4/88 Acrolein Furan Chloroprene THF
7. **Surrogate Recoveries within QC Limits** ✓
8. **All positive compounds within calibration range** ✓

Narrative/Notes :

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

719 718

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0211497

Lab File ID: 0102002 BFB Injection Date: 12/04/02

Instrument ID: VOC4 BFB Injection Time: 0845

GC Column: ID: 2.00 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	15.0
75	30.0 - 60.0% of mass 95	46.9
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.8
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	111.1
175	5.0 - 9.0% of mass 174	8.3 (7.5)1
176	95.0 - 101.0% of mass 174	109.3 (98.4)1
177	5.0 - 9.0% of mass 176	7.0 (6.4)2

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

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	V4120411LCS	11LCS	0201003LCS	12/04/02	0900
02	DCS100PPB		0201003	12/04/02	0900
03	V4120411LB	11LB	0303006	12/04/02	1042
04	021149701	021149701	0501008	12/04/02	1145
05	021155305	021155305	1601017	12/04/02	1904
06	021155305MS	MS	1701018	12/04/02	1936
07	021155305MSD	MSD	1801019	12/04/02	2007
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0211497

Instrument ID: VOC4 Calibration Date: 12/04/02 Time: 0900

Lab File ID: 0201003 Init. Calib. Date(s): 10/25/02 10/25/02

Heated Purge: (Y/N) Y Init. Calib. Times: 1455 2007

GC Column: ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d	
Acetone	117.6	100.0	AVRG	17.6	30.0	
Acetonitrile	888.0	1000	AVRG	11.2	30.0	
Acrolein	156.4	100.0	AVRG	56.4	30.0	<-
Acrylonitrile	76.88	100.0	AVRG	23.1	30.0	
Allyl chloride	97.24	100.0	AVRG	2.8	30.0	
Benzene	85.45	100.0	AVRG	14.6	30.0	
Bromobenzene	94.29	100.0	AVRG	5.7	30.0	
Bromochloromethane	97.40	100.0	AVRG	2.6	30.0	
Bromodichloromethane	85.55	100.0	AVRG	14.4	30.0	
Bromoform	100.6	100.0	AVRG	0.6	30.0	
2-Butanone	100.2	100.0	AVRG	0.2	30.0	
Bromomethane	100.6	100.0	AVRG	0.6	30.0	
n-Butylbenzene	99.28	100.0	AVRG	0.7	30.0	
sec-Butylbenzene	94.91	100.0	AVRG	5.1	30.0	
tert-Butylbenzene	94.92	100.0	AVRG	5.1	30.0	
Carbon Disulfide	76.50	100.0	AVRG	23.5	30.0	
Carbon Tetrachloride	84.78	100.0	AVRG	15.2	30.0	
Chlorobenzene	91.62	100.0	AVRG	8.4	30.0	
Chlorodibromomethane	91.40	100.0	AVRG	8.6	30.0	
Chloroethane	108.2	100.0	AVRG	8.2	30.0	
2-Chloroethyl vinyl ether	39.16	100.0	LINR	60.8	30.0	<-
Chloroform	86.36	100.0	AVRG	13.6	20.0	
Chloromethane	73.38	100.0	AVRG	26.6	30.0	
Chloroprene	65.69	100.0	AVRG	34.3	30.0	<-
2-Chlorotoluene	88.93	100.0	AVRG	11.1	30.0	
4-Chlorotoluene	83.88	100.0	AVRG	16.1	30.0	
1,2-Dibromo-3-chloropropane	94.88	100.0	AVRG	5.1	30.0	
1,2-Dibromoethane	88.35	100.0	AVRG	11.6	30.0	
Dibromomethane	86.22	100.0	AVRG	13.8	30.0	
1,2-Dichlorobenzene	98.00	100.0	AVRG	2.0	30.0	
1,3-Dichlorobenzene	97.47	100.0	AVRG	2.5	30.0	
1,4-Dichlorobenzene	95.98	100.0	AVRG	4.0	30.0	
cis-1,4-Dichloro-2-butene	93.55	100.0	AVRG	6.4	30.0	
trans-1,4-Dichloro-2-butene	96.05	100.0	AVRG	4.0	30.0	
Dichlorodifluoromethane	99.55	100.0	AVRG	0.4	30.0	
1,1-Dichloroethane	88.19	100.0	AVRG	11.8	30.0	
1,2-Dichloroethane	79.40	100.0	AVRG	20.6	30.0	

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

719 720

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0211497

Instrument ID: VOC4 Calibration Date: 12/04/02 Time: 0900

Lab File ID: 0201003 Init. Calib. Date(s): 10/25/02 10/25/02

Heated Purge: (Y/N) Y Init. Calib. Times: 1455 2007

GC Column: ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d	
1,1-Dichloroethene	88.39	100.0	AVRG	11.6	20.0	
cis-1,2-Dichloroethene	86.30	100.0	AVRG	13.7	30.0	
trans-1,2-Dichloroethene	88.03	100.0	AVRG	12.0	30.0	
1,2-Dichloropropane	85.20	100.0	AVRG	14.8	20.0	
1,3-Dichloropropane	85.96	100.0	AVRG	14.0	30.0	
2,2-Dichloropropane	92.27	100.0	AVRG	7.7	30.0	
1,1-Dichloropropene	86.02	100.0	AVRG	14.0	30.0	
cis-1,3-Dichloropropene	88.68	100.0	AVRG	11.3	30.0	
trans-1,3-Dichloropropene	90.81	100.0	AVRG	9.2	30.0	
Di isopropyl ether	77.28	100.0	AVRG	22.7	30.0	
1,4-Dioxane	1898	2000	AVRG	5.1	30.0	
Ethyl Acetate	74.38	100.0	AVRG	25.6	30.0	
Ethylbenzene	88.76	100.0	AVRG	11.2	20.0	
Ethyl methacrylate	168.3	200.0	AVRG	15.8	30.0	
Furan	125.1	153.0	AVRG	18.2	30.0	
Hexachlorobutadiene	101.7	100.0	AVRG	1.7	30.0	
Hexane	85.14	117.0	AVRG	27.2	30.0	
2-Hexanone	100.0	100.0	AVRG	0.0	30.0	
Iodomethane	130.2	100.0	AVRG	30.2	30.0	<-
Isobutyl Alcohol	1577	2000	AVRG	21.2	30.0	
Isopropylbenzene	90.37	100.0	AVRG	9.6	30.0	
4-Isopropyltoluene	98.26	100.0	AVRG	1.7	30.0	
Methacrylonitrile	735.2	1000	AVRG	26.5	30.0	
Methylene Chloride	82.73	100.0	LINR	17.3	30.0	
Methyl methacrylate	163.0	200.0	AVRG	18.5	30.0	
4-Methyl-2-Pentanone	79.21	100.0	AVRG	20.8	30.0	
Methyl-tertbutyl-Ether	71.30	100.0	AVRG	28.7	30.0	
Naphthalene	99.53	100.0	AVRG	0.5	30.0	
Propionitrile	853.6	1000	AVRG	14.6	30.0	
n-Propyl Acetate	115.0	151.0	AVRG	23.8	30.0	
n-Propylbenzene	85.67	100.0	AVRG	14.3	30.0	
Styrene	91.00	100.0	AVRG	9.0	30.0	
1,1,1,2-Tetrachloroethane	92.89	100.0	AVRG	7.1	30.0	
1,1,2,2-Tetrachloroethane	90.84	100.0	AVRG	9.2	30.0	
Tetrachloroethene	94.76	100.0	AVRG	5.2	30.0	
Tetrahydrofuran	67.09	91.50	AVRG	26.7	30.0	
1,2,3-Trichlorobenzene	109.3	100.0	AVRG	9.3	30.0	

719 721

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0211497

Instrument ID: VOC4 Calibration Date: 12/04/02 Time: 0900

Lab File ID: 0201003 Init. Calib. Date(s): 10/25/02 10/25/02

Heated Purge: (Y/N) Y Init. Calib. Times: 1455 2007

GC Column: ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
Toluene	83.17	100.0	AVRG	16.8	20.0
1,1,1-Trichloroethane	83.80	100.0	AVRG	16.2	30.0
1,1,2-Trichloroethane	89.20	100.0	AVRG	10.8	30.0
1,1,2-trichloro-1,2,2-triflu	80.81	100.0	AVRG	19.2	30.0
Trichloroethene	89.90	100.0	AVRG	10.1	30.0
Trichlorofluoromethane	103.7	100.0	AVRG	3.7	30.0
1,2,3-Trichloropropane	86.86	100.0	AVRG	13.1	30.0
1,2,4-Trimethylbenzene	93.02	100.0	AVRG	7.0	30.0
1,2,4-Trichlorobenzene	114.4	100.0	AVRG	14.4	30.0
1,3,5-Trimethylbenzene	90.37	100.0	AVRG	9.6	30.0
Vinyl Acetate	76.50	100.0	AVRG	23.5	30.0
Vinyl Chloride	108.5	100.0	AVRG	8.5	20.0
Xylene-mp	169.9	200.0	AVRG	15.0	30.0
Xylene-o	85.27	100.0	AVRG	14.7	30.0
Dibromofluoromethane	43.22	50.00	AVRG	13.6	30.0
Toluene-d8	44.37	50.00	AVRG	11.3	30.0
Bromofluorobenzene	40.74	50.00	AVRG	18.5	30.0
1,2-Dichloroethane-d4	36.84	50.00	AVRG	26.3	30.0

FORM 8
VOA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

719 722

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0211497

Lab File ID (Standard): 0201003 Date Analyzed: 12/04/02

Instrument ID: VOC4 Time Analyzed: 0900

GC Column: ID: 2.00 (mm) Heated Purge: (Y/N) Y

		IS1 AREA #	RT #	IS2 (DFB) AREA #	RT #	IS3 (CBZ) AREA #	RT #
	12 HOUR STD	1114040	6.13	1021540	6.72	921272	8.94
	UPPER LIMIT	2228080	6.63	2043080	7.22	1842544	9.44
	LOWER LIMIT	557020	5.63	510770	6.22	460636	8.44
	CLIENT SAMPLE NO.						
01	V4120411LB	968307	6.14	850493	6.72	682837	8.94
02	021149701	809518	6.14	713321	6.73	590708	8.94
03	021155305	644200	6.14	559680	6.73	475846	8.94
04	021155305MS	770993	6.14	650293	6.73	678410	8.94
05	021155305MSD	928377	6.14	841660	6.73	748288	8.95
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 = Pentafluorobenzene
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

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

719 723

FORM 8
VOA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0211497

Lab File ID (Standard): 0201003 Date Analyzed: 12/04/02

Instrument ID: VOC4 Time Analyzed: 0900

GC Column: ID: 2.00 (mm) Heated Purge: (Y/N) Y

		IS4 (DCB) AREA	#	RT	#	AREA	#	RT	#	AREA	#	RT	#
	12 HOUR STD	542382		10.74									
	UPPER LIMIT	1084764		11.24									
	LOWER LIMIT	271191		10.24									
	CLIENT SAMPLE NO.												
01	V4120411LB	452154		10.74									
02	021149701	395022		10.74									
03	021155305	314987		10.74									
04	021155305MS	422348		10.74									
05	021155305MSD	442669		10.74									
06													
07													
08													
09													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
21													
22													

IS4 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

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

Report Date : 30-Oct-2002 13:40

Page 1

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

SKN:02-6-96-06

ICVSKN:02-6-97-1

Start Cal Date : 25-OCT-2002 14:55
End Cal Date : 25-OCT-2002 20:07
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V410251.B\v410251.8260.m
Cal Date : 26-Oct-2002 10:36 lisa

Calibration File Names:
Level 1: \\ETCBDC\DD\chem\voc4.i\V410251.B\0301005.D
Level 2: \\ETCBDC\DD\chem\voc4.i\V410251.B\0401006.D
Level 3: \\ETCBDC\DD\chem\voc4.i\V410251.B\0601008.D
Level 4: \\ETCBDC\DD\chem\voc4.i\V410251.B\0701009.D
Level 5: \\ETCBDC\DD\chem\voc4.i\V410251.B\0801010.D
Level 6: \\ETCBDC\DD\chem\voc4.i\V410251.B\0901011.D
Level 7: \\ETCBDC\DD\chem\voc4.i\V410251.B\1001012.D
Level 8: \\ETCBDC\DD\chem\voc4.i\V410251.B\1101013.D
Level 9: \\ETCBDC\DD\chem\voc4.i\V410251.B\1201014.D
Level 10: \\ETCBDC\DD\chem\voc4.i\V410251.B\1301015.D

Compound	0 5000000 Level 1	1 0000 Level 2	5 0000 Level 3	20 0000 Level 4	50 0000 Level 5	100 0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120 0000 Level 7	150 0000 Level 8	170 0000 Level 9	200 0000 Level 10							
1 Dichlorodifluoromethane	*****	0 41793	0 56272	0 56625	0 53699	0 49992					
	0 66660	0 56279	0 53729	0 55212			AVRG		0 54473		12 00684

219 225

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
End Cal Date : 25-OCT-2002 20:07
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V410251.B\v410251.8260.m
Cal Date : 26-Oct-2002 10:36 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
2 Chloromethane	0.33314	0.26698	0.28420	0.24906	0.24438	0.23460					
	0.30542	0.27801	0.27170	0.28778			AVRG		0.27553		10.73822
3 Vinyl Chloride	*****	0.18521	0.23748	0.21923	0.21537	0.19786					
	0.23490	0.19877	0.17964	0.18315			AVRG		0.20574		10.67106
4 Bromomethane	*****	0.18755	0.17674	0.15471	0.16313	0.17818					
	0.22729	0.20029	0.18130	0.18934			AVRG		0.18428		11.45973
5 Chloroethane	0.07834	0.09323	0.13319	0.11581	0.11540	0.11313					
	0.13489	0.11924	0.11175	0.11399			AVRG		0.11290		14.86205
6 Acrolein	*****	*****	*****	0.00680	0.00762	0.00827					
	0.00853	0.00847	0.00755	0.00786			AVRG		0.00787		7.79941

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
End Cal Date : 25-OCT-2002 20:07
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V410251.B\v410251.8260.m
Cal Date : 26-Oct-2002 10:36 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
7 Trichlorofluoromethane	0.46912	0.54829	0.61697	0.62780	0.60107	0.56199					
	0.64491	0.56395	0.52324	0.51930			AVRG		0.56766		9.75089
8 Acetonitrile	*****	*****	0.01503	0.01152	0.01374	0.01433					
	0.01563	0.01492	0.01436	0.01426			AVRG		0.01422		8.68607
9 Acetone	*****	*****	*****	0.11017	0.10849	0.10299					
	0.11137	0.10305	0.09608	0.08848			AVRG		0.10295		8.03496
10 Furan	*****	0.39734	0.42528	0.41968	0.40541	0.41527					
	0.49281	0.43625	0.40547	*****			AVRG		0.42469		7.10777
11 1,1-Dichloroethene	0.19973	0.22027	0.24705	0.22694	0.22636	0.21927					
	0.26894	0.24602	0.23222	0.23181			AVRG		0.23186		8.11478

719 727

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
End Cal Date : 25-OCT-2002 20:07
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V410251.B\v410251.8260.m
Cal Date : 26-Oct-2002 10:36 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
12 Acrylonitrile	*****	*****	*****	0.05090	0.05476	0.05582					
	0.05897	0.05703	0.05426	0.05220			AVRG		0.05485		5.02707
13 Iodomethane	*****	0.29767	0.33660	0.35447	0.35287	0.33257					
	0.37540	0.32483	0.28769	0.26867			AVRG		0.32564		10.68582
14 Methylene Chloride	45655	48930	77496	151014	362507	693642					
	1073943	1244795	*****	*****			LINR	-0.08187	0.27155		0.99049
15 1,1,2-trichloro-1,2,2-trifluo	*****	0.32364	0.35128	0.33615	0.33653	0.31283					
	0.38111	0.33541	0.31986	0.30292			AVRG		0.33331		6.91280
16 Allyl chloride	*****	0.27355	0.30650	0.28570	0.27922	0.26549					
	0.30999	0.26973	0.25329	0.24134			AVRG		0.27609		8.16210

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
End Cal Date : 25-OCT-2002 20:07
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V410251.B\v410251.8260.m
Cal Date : 26-Oct-2002 10:36 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
17 Carbon Disulfide	*****	1.08042	0.74870	0.72261	0.76734	0.70567					
	0.89935	0.82161	0.76028	0.75968			AVRG		0.80730		14.54399
18 trans-1,2-Dichloroethene	0.23865	0.26495	0.27237	0.27048	0.27478	0.27297					
	0.31952	0.29654	0.27738	0.27501			AVRG		0.27627		7.52462
19 Methyl-tertbutyl-Ether	*****	0.15931	0.17132	0.15567	0.15453	0.14545					
	0.16244	0.15090	0.13950	0.13467			AVRG		0.15264		7.51515
20 Propionitrile	0.01761	0.01470	0.02169	0.02154	0.02213	0.02266					
	0.02502	0.02475	0.02299	0.02321			AVRG		0.02165		14.56620
21 1,1-Dichloroethane	0.39654	0.44184	0.48156	0.49245	0.47612	0.45586					
	0.51677	0.48399	0.43749	0.44643			AVRG		0.46291		7.39871

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
End Cal Date : 25-OCT-2002 20:07
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V410251.B\v410251.8260.m
Cal Date : 26-Oct-2002 10:36 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
22 Vinyl Acetate	*****	*****	0.40464	0.41100	0.42476	0.41901					
	0.47120	0.53030	0.42371	0.46663			AVRG		0.44391		9.61216
23 Chloroprene	0.44613	0.47397	0.52012	0.51938	0.61060	0.57136					
	0.64279	0.62791	0.56672	0.55537			AVRG		0.55343		11.64763
24 2-Butanone	*****	*****	*****	0.02859	0.03624	0.03232					
	0.03566	0.03482	0.03286	0.03075			AVRG		0.03303		8.37056
25 Hexane	*****	*****	0.29962	0.28469	0.32556	0.30281					
	0.35240	0.34258	0.32314	0.32060			AVRG		0.31892		7.06052
26 Di isopropyl ether	0.72712	0.73787	0.76072	0.74147	0.91131	0.85988					
	0.98559	0.94232	0.88245	0.88940			AVRG		0.84381		11.20171

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
End Cal Date : 25-OCT-2002 20:07
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V410251.B\v410251.8260.m
Cal Date : 26-Oct-2002 10:36 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
27 Methacrylonitrile	0.11900	0.14481	0.12759	0.12305	0.14660	0.13304					
	0.14564	0.13633	0.12687	0.11872			AVRG		0.13217		8.18830
28 cis-1,2-Dichloroethene	0.27729	0.34189	0.28925	0.28553	0.31129	0.29632					
	0.34017	0.32859	0.30606	0.30968			AVRG		0.30861		7.29231
29 Ethyl Acetate	*****	*****	0.27653	0.21211	0.27614	0.26549					
	0.28802	0.27252	0.25809	0.24794			AVRG		0.26211		9.01970
30 Bromochloromethane	0.14586	0.15910	0.16405	0.15219	0.17334	0.16294					
	0.19020	0.17726	0.17050	0.17347			AVRG		0.16689		7.71308
31 Chloroform	*****	0.84043	0.84495	0.79557	0.87099	0.81305					
	0.90230	0.83122	0.76469	*****			AVRG		0.83290		5.15660

719 731

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
End Cal Date : 25-OCT-2002 20:07
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V410251.B\v410251.8260.m
Cal Date : 26-Oct-2002 10:36 lisa

Compound	0.5000000 Level 1	1 0000 Level 2	5 0000 Level 3	20 0000 Level 4	50 0000 Level 5	100 0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120 0000 Level 7	150 0000 Level 8	170 0000 Level 9	200 0000 Level 10							
32 Isobutyl Alcohol	+++++	+++++	0 01181	0 00999	0 01082	0 00981					
	0 01022	0 00954	0 00918	0 00883			AVRG		0 01002		9 45722
33 2,2-Dichloropropane	0 71154	0 71839	0 77574	0 75494	0 76795	0 71767					
	0 80917	0 72118	0 67245	0 65339			AVRG		0 73024		6 50531
35 Tetrahydrofuran	+++++	+++++	0 08951	0 09700	0 10428	0 10922					
	0 12676	0 12254	0 11660	0 10340			AVRG		0 10866		11 70881
38 1,2-Dichloroethane	0 63618	0 64617	0 72960	0 71882	0 73525	0 71907					
	0.78189	0 70529	0 64950	0 62426			AVRG		0 69460		7 51713
39 1,1,1-Trichloroethane	0.81072	0 85753	0 91522	0 92888	0 95544	0 90118					
	1 01274	0 93478	0 86676	0 83957			AVRG		0 90228		6 66389

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
End Cal Date : 25-OCT-2002 20:07
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V410251.B\v410251.8260.m
Cal Date : 26-Oct-2002 10:36 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
40 1,1-Dichloropropene	0.56069	0.55598	0.57709	0.56734	0.57991	0.54883					
	0.62534	0.58230	0.54755	0.53986			AVRG		0.56849		4.34465
41 Carbon Tetrachloride	0.78895	0.83624	0.89450	0.91124	0.95046	0.89961					
	1.00570	0.91486	0.83790	0.82322			AVRG		0.88627		7.36622
42 Benzene	1.22733	1.25256	1.24581	1.16878	1.19520	1.12701					
	1.30893	1.23328	1.17574	1.18106			AVRG		1.21157		4.30769
44 Dibromomethane	0.30509	0.28718	0.31130	0.31061	0.31678	0.29366					
	0.30983	0.28193	0.25916	0.25049			AVRG		0.29260		7.84972
45 1,2-Dichloropropane	0.34418	0.31552	0.34732	0.33677	0.32510	0.29866					
	0.32577	0.29826	0.28372	0.27120			AVRG		0.31465		8.22763

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
End Cal Date : 25-OCT-2002 20:07
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V410251.B\v410251.8260.m
Cal Date : 26-Oct-2002 10:36 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
46 Trichloroethene	0.42084	0.44345	0.45212	0.43872	0.43709	0.40533					
	0.45506	0.43331	0.41504	0.40303			AVRG		0.43040		4.29642
47 Bromodichloromethane	5603	12686	61530	234649	631911	1248227					
	1843060	2205725	2481166	*****			LINR	-0.02592	0.50666		0.99226
48 n-Propyl Acetate	*****	0.72628	0.85634	0.78586	0.82056	0.72357					
	0.76943	0.71044	0.67112	0.62803			AVRG		0.74352		9.68665
49 Methyl methacrylate	0.21752	0.20801	0.23789	0.22881	0.23730	0.20390					
	0.22176	0.20427	0.19096	0.18256			AVRG		0.21330		8.77404
50 1,4-Dioxane	*****	*****	0.00256	0.00296	0.00295	0.00298					
	0.00323	0.00309	0.00293	0.00286			AVRG		0.00295		6.50778

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
End Cal Date : 25-OCT-2002 20:07
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V410251.B\v410251.8260.m
Cal Date : 26-Oct-2002 10:36 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
51 2-Chloroethyl vinyl ether	1731	2651	18457	35634	111925	223928					
	*****	*****	*****	*****			LINR	-0.01133	0.09284		0.99732
52 cis-1,3-Dichloropropene	0.64735	0.65403	0.71611	0.72393	0.75194	0.70028					
	0.78131	0.72016	0.67946	0.65116			AVRG		0.70257		6.39608
53 4-Methyl-2-Pentanone	*****	*****	0.33828	0.32775	0.35790	0.33348					
	0.36851	0.34699	0.33172	0.31401			AVRG		0.33983		5.12282
54 trans-1,3-Dichloropropene	0.59686	0.61320	0.68979	0.71564	0.75777	0.70214					
	0.77895	0.71738	0.66991	0.63471			AVRG		0.68763		8.67674
55 1,1,2-Trichloroethane	0.26143	0.24937	0.28222	0.27105	0.28181	0.26105					
	0.28983	0.27061	0.25457	0.24851			AVRG		0.26705		5.40486

719 735

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
End Cal Date : 25-OCT-2002 20:07
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V410251.B\v410251.8260.m
Cal Date : 26-Oct-2002 10:36 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
62 1,2-Dibromoethane	0.36144	0.38541	0.41245	0.40725	0.43352	0.40927					
	0.44891	0.41825	0.38936	0.38072			AVRG		0.40466		6.43895
63 Tetrachloroethene	0.50471	0.50797	0.49384	0.51531	0.55286	0.53169					
	0.59506	0.56386	0.52806	0.51022			AVRG		0.53036		5.94476
64 1,1,1,2-Tetrachloroethane	0.57219	0.55931	0.56619	0.51172	0.58162	0.56057					
	0.65344	0.51781	0.50091	0.48472			AVRG		0.55085		8.93831
66 Chlorobenzene	1.09813	1.04449	0.99266	0.90790	1.00942	0.95713					
	1.15237	0.91592	0.90142	0.89558			AVRG		0.98750		9.02073
67 Ethylbenzene	2.28293	2.16473	2.11728	1.91171	2.11377	1.98701					
	2.30951	1.83223	1.73584	1.62776			AVRG		2.00828		11.42076

000049

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
End Cal Date : 25-OCT-2002 20:07
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V410251.B\v410251.8260.m
Cal Date : 26-Oct-2002 10:36 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
68 Xylene-mp	0.73684	0.71418	0.65624	0.56391	0.59994	0.57126					
	0.67309	0.54002	*****	*****			AVRG		0.63194		11.63383
69 Bromoform	0.48755	0.49624	0.54770	0.52387	0.64044	0.62608					
	0.72023	0.58257	0.66283	*****			AVRG		0.58750		13.66451
70 trans-1,4-Dichloro-2-butene	*****	0.10713	0.14120	0.13302	0.15823	0.15368					
	0.17024	0.13847	0.15677	0.14963			AVRG		0.14537		12.59279
71 Styrene	1.27353	1.08137	1.05817	0.96322	1.05797	1.00583					
	1.14793	0.94026	0.94039	0.89110			AVRG		1.03598		11.02897
72 Xylene-o	0.73629	0.66658	0.61489	0.54867	0.57275	0.54104					
	0.61838	0.49477	0.48566	0.48191			AVRG		0.57609		14.49940

719 73?

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
End Cal Date : 25-OCT-2002 20:07
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V410251.B\v410251.8260.m
Cal Date : 26-Oct-2002 10:36 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
73 1,1,2,2-Tetrachloroethane	0.61177	0.58631	0.65130	0.57951	0.61358	0.58003					
	0.66028	0.65203	0.63825	0.60305			AVRG		0.61761		5.02629
74 cis-1,4-Dichloro-2-butene	0.12543	0.11562	0.14597	0.13942	0.16708	0.15140					
	0.16107	0.12475	0.11742	0.11009			AVRG		0.13583		14.75153
75 1,2,3-Trichloropropane	0.17540	0.15702	0.16702	0.15238	0.17434	0.16083					
	0.17277	0.13783	0.13006	0.12260			AVRG		0.15503		12.28051
76 Isopropylbenzene	2.02113	1.98835	1.87512	1.73132	1.91245	1.80014					
	1.98475	1.59396	1.53205	1.45942			AVRG		1.78987		11.33930
78 Bromobenzene	0.74648	0.68983	0.66505	0.61969	0.71247	0.68922					
	0.79422	0.63483	0.61027	0.59588			AVRG		0.67579		9.40590

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
End Cal Date : 25-OCT-2002 20:07
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V410251.B\v410251.8260.m
Cal Date : 26-Oct-2002 10:36 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
79 n-Propylbenzene	2.87126	2.62301	2.31109	2.11340	2.35666	2.19298					
	2.41756	1.90792	*****	*****			AVRG		2.34923		12.75424
80 2-Chlorotoluene	*****	1.59802	1.57181	1.40689	1.63262	1.44353					
	1.56541	1.31016	1.19658	*****			AVRG		1.46563		10.54299
81 4-Chlorotoluene	1.96532	1.71215	1.56552	1.43526	1.57083	1.43314					
	1.61973	1.22776	*****	*****			AVRG		1.56621		13.92326
82 1,3,5-Trimethylbenzene	2.02113	1.98835	1.87512	1.73132	1.91245	1.80014					
	1.98475	1.59396	1.53205	1.45962			AVRG		1.78987		11.33930
83 1,2,4-Trimethylbenzene	*****	1.79770	1.63327	1.48405	1.64653	1.52233					
	1.68966	1.31769	1.25793	1.44508			AVRG		1.53269		11.52936

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
End Cal Date : 25-OCT-2002 20:07
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V410251.B\v410251.8260.m
Cal Date : 26-Oct-2002 10:36 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
85 tert-Butylbenzene	*****	1.46895	1.40012	1.29484	1.44291	1.34371					
	1.46464	1.15427	1.10197	1.25218			AVRG		1.32484		10.16953
86 sec-Butylbenzene	*****	2.15065	2.00368	1.83430	2.00350	1.83066					
	1.98746	1.57720	1.51626	1.50225			AVRG		1.82288		13.11436
87 4-Isopropyltoluene	*****	1.79169	1.64469	1.51468	1.64914	1.52456					
	1.67670	1.31636	1.26592	1.24168			AVRG		1.51394		13.08213
89 1,3-Dichlorobenzene	1.84009	1.58561	1.52148	1.50496	1.62499	1.56717					
	1.84956	1.82752	1.74870	1.77247			AVRG		1.68426		8.15200
90 1,4-Dichlorobenzene	1.95325	1.83958	1.56394	1.51977	1.56856	1.54065					
	1.78290	1.69709	1.66930	1.68662			AVRG		1.68217		8.45606

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
End Cal Date : 25-OCT-2002 20:07
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V410251.B\v410251.8260.m
Cal Date : 26-Oct-2002 10:36 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
91 1,2-Dichlorobenzene	1.67327	1.47147	1.43806	1.43199	1.53073	1.47650					
	1.74065	1.68553	1.65157	1.64320			AVRG		1.57430		7.37750
92 n-Butylbenzene	2.89362	2.57652	2.39077	2.40681	2.52217	2.37281					
	2.62606	2.52815	2.42647	2.41136			AVRG		2.51547		6.29438
93 1,2-Dibromo-3-chloropropane	0.17559	0.14024	0.16612	0.16898	0.18976	0.18041					
	0.20303	0.19374	0.18536	0.17947			AVRG		0.17827		9.76644
94 1,2,4-Trichlorobenzene	1.54881	1.31084	1.17380	1.24639	1.36469	1.39597					
	1.63168	1.57112	1.52797	1.53813			AVRG		1.43094		10.80039
95 Naphthalene	*****	*****	1.72771	1.68397	1.85293	1.83899					
	2.15604	2.15604	2.09268	2.13570			AVRG		1.95551		10.25370

719 741

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
End Cal Date : 25-OCT-2002 20:07
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V410251.B\v410251.8260.m
Cal Date : 26-Oct-2002 10:36 lisa

Compound	0 5000000 Level 1	1 0000 Level 2	5 0000 Level 3	20 0000 Level 4	50 0000 Level 5	100 0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120 0000 Level 7	150 0000 Level 8	170 0000 Level 9	200 0000 Level 10							
96 Hexachlorobutadiene	0 71006	0 62442	0 56973	0 59479	0 62139	0 60096					
	0 67086	0 64179	0 61744	0.62065			AVRG		0 62721		6 33417
97 1,2,3-Trichlorobenzene	1.52796	1 24663	1 12141	1 15666	1 26626	1 29576					
	1 52996	1 46835	1 43149	1 45521			AVRG		1 34997		11 20830
$ 34 Dibromofluoromethane	*****	*****	0 47268	0 46728	0 44750	0 42776					
	0 41021	0 40432	0 38581	0 39154			AVRG		0 42589		7 87342
$ 37 1,2-Dichloroethane-d4	0 54040	0 57024	0 64343	0 61269	0 62150	0 60946					
	0 56590	0 54353	0 51583	0 49610			AVRG		0 57391		8 87868
$ 56 Toluene-d8	1 24252	1 24952	1 21868	1 25646	1 24866	1 20595					
	1 16690	1 16053	1 15587	1 12374			AVRG		1 20288		3 97106

000055

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
End Cal Date : 25-OCT-2002 20:07
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc4.i\V410251.B\v410251.8260.m
Cal Date : 26-Oct-2002 10:36 lisa

Compound	0.5000000 Level 1	1.0000 Level 2	5.0000 Level 3	20.0000 Level 4	50.0000 Level 5	100.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
$ 77 Bromofluorobenzene	*****	0.60800	0.58452	0.57309	0.60325	0.57211					
	0.53988	0.42904	0.44422	0.42944			AVRG		0.53151		14.23438

Curve	Formula	Units
Averaged	Amt = Rsp/m1	Response
Linear	Amt = b + Rsp/m1	Response

719 743

ENVIRONMENTAL TESTING & CONSULTING, INC.
[illegible] • Memphis, TN 38141 • 901-527-3750 • FAX 901-527-6344

Form 4197

December 18, 2002

Mr. Kraig Smith
Jacobs
600 William Northern Blvd.
Tullahoma, TN 37388

Ref: Analytical Testing
ETC Order # 0212292
Project Description Memphis Depot

Project Number C5X51111

The above referenced project has been analyzed per your instructions. The analyses were performed in our laboratory in accordance with Standard Methods, The Solid Waste Manual SW-846, EPA Methods for Chemical Analysis of Water and Wastes and/or 40 CFR part 136.

The analytical data has been validated using standard quality control measures performed as required by the analytical method. Quality Assurance, instrumentation maintenance and calibration were performed in accordance with guidelines established by the USEPA.

The results are shown on the attached analysis sheet(s).

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

Sincerely,

Connie Bradberry

Connie Bradberry
Laboratory Project Manager

rt
Attachment

JACOBS_DDMT

Certifications

Tennessee	*#02027*	*Mississippi*		*USDA*	*#S-46279*
Arkansas		*Oklahoma*	*#9311*	EPA	#TN000
Kentucky	*#90047*	*Virginia*	*#00106*	NELAP	#04015
Alabama	#40750	Louisiana DEQ	#04015		
Illinois	#000537	*USACE_HTRW*			

Environmental Testing & Consulting, Inc.

Data Qualifiers for Organic Reporting

Within the attached report, some analytical data may be reported as "Qualified Data" as indicated by a "Data Qualifier" next to the result This table summarizes the possible "Data Qualifiers" that may be associated with this report These qualifiers do not apply for TIC reports

Q	Surrogate Recovery Outside QC Limits
J	Estimated Value Presence of the compound was confirmed but less than the reported detection limit
E	Concentration exceeds the established method calibration range but is within the working range of the instrument
B	Analyte detected in the associated Method Blank
U	Reported result was unconfirmed Refer to Case Narrative
C	Result reported from GC/MS confirmation analysis
M	Result reported represents a minimum value Refer to Case Narrative
NC	Result reported from Primary Column Result did not confirm.
*	QC Data (percent recovery/RPD for a particular analyte was outside QC Limits)

719 745

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ANALYTICAL SUMMARY/CROSS REFERENCE TABLE

Client Name **Jacobs**
Site ID **Memphis Depot** **C5X51111**

ETC Sample ID	Field ID	Sample Date	Matrix	Method	Method Description
021229201	EFF-12-10-02	12/10/02	AQUEOUS	200.7	Silver
021229201	EFF-12-10-02	12/10/02	AQUEOUS	200 7	Aluminum
021229201	EFF-12-10-02	12/10/02	AQUEOUS	200 7	Arsenic
021229201	EFF-12-10-02	12/10/02	AQUEOUS	200 7	Barium
021229201	EFF-12-10-02	12/10/02	AQUEOUS	200 7	Beryllium
021229201	EFF-12-10-02	12/10/02	AQUEOUS	200.7	Calcium
021229201	EFF-12-10-02	12/10/02	AQUEOUS	200 7	Cadmium
021229201	EFF-12-10-02	12/10/02	AQUEOUS	200 7	Cobalt
021229201	EFF-12-10-02	12/10/02	AQUEOUS	200 7	Chromium
021229201	EFF-12-10-02	12/10/02	AQUEOUS	200 7	Copper
021229201	EFF-12-10-02	12/10/02	AQUEOUS	200 7	Iron
021229201	EFF-12-10-02	12/10/02	AQUEOUS	245.1	Mercury
021229201	EFF-12-10-02	12/10/02	AQUEOUS	200 7	Potassium
021229201	EFF-12-10-02	12/10/02	AQUEOUS	200 7	Magnesium
021229201	EFF-12-10-02	12/10/02	AQUEOUS	200 7	Manganese
021229201	EFF-12-10-02	12/10/02	AQUEOUS	200 7	Sodium
021229201	EFF-12-10-02	12/10/02	AQUEOUS	200 7	Nickel
021229201	EFF-12-10-02	12/10/02	AQUEOUS	200 7	Lead
021229201	EFF-12-10-02	12/10/02	AQUEOUS	200.7	Antimony
021229201	EFF-12-10-02	12/10/02	AQUEOUS	200.7	Selenium
021229201	EFF-12-10-02	12/10/02	AQUEOUS	200 7	Thallium
021229201	EFF-12-10-02	12/10/02	AQUEOUS	200 7	Vanadium
021229201	EFF-12-10-02	12/10/02	AQUEOUS	200 7	Zinc
021229201	EFF-12-10-02	12/10/02	AQUEOUS	8270C	GC/MS Base/Neutral & Acid

Environmental Testing & Consulting, Inc.

Login
Chain-of-Custody

CHAIN OF CUSTODY RECORD

Environmental Testing & Consulting, Inc.
2924 Walnut Grove Rd.
Memphis, TN 38111
(901)327-2750 FAX (901)327-6334

ETC Work Order : 0212292

719 747

Company Name	Phone #	Fax Results	
JACOBS ENGINEERING	931-393-6448		X
	Fax # 931-393-6211	RUSH	X
Project/Site: Memphis Depot	FID #	Ice	
Project #: CSXS1111	PO # :		
Project Manager/Contact: KRAIG SMITH	Matrix: 1 Wastewater, 2 Aqueous, 3 Soil/Sediment, 4 Sludge, 5 Oil/Solvent, 6 Other		

Analysis Requested (Note special detection limits or methods)

# of cont	Sample ID/ Number	Depth	Sample Date	Sample Time	Matrix	Type Grab/Comp		Metals	SVOCs										Comments
3	EFF12-10-02							X	X										

Sampled By: Kraig Smith

Method of Shipment: Hand Deliver

Blank/Cooler Temp: 4°C

Remarks: 3 DAY TAT.

RELINQUISHED BY (sign)	DATE	TIME	RECEIVED BY (sign)	DATE	TIME	Sample Delivery Group ID
Kraig Smith	12/11/02	1500				
RELINQUISHED BY (sign)	DATE	TIME	RECEIVED BY (sign)	DATE	TIME	
RELINQUISHED BY (sign)	DATE	TIME	RECEIVED BY LAB (print/sign)	DATE	TIME	
			B Bruce	12/10/02	1500	

Distribution: Original and Yellow accompany samples to the laboratory Pink copy for Field
Original copy returned with results. Yellow copy for ETC, Inc files.

F:\QAQC\SLOP\ 6 XLS

00004

Environmental Testing & Consulting, Inc.
Cooler Receipt Form

Date/Time Received 12/10/02-15:00
Date/Time Checked In 12/10/02-15:00
Carrier/Bill# Client hand-delivered

LIMS# 0212-292
Project Memphis Depot
By Rebekah Barger

1.	Custody Seals?/Location-	No
2.	Samples are non-radioactive?	Yes
3.	Chain of Custody in plastic?	Yes
4.	Temperature at receipt (ok - 4 ± 2 °C)<4oC	OK
5.	Ice & Packing-ice	Yes
6.	Chain of Custody filled out properly?	Yes
7.	All containers in separate bags?	No
8.	Sample containers intact?	Yes
9.	Label(s) complete and in good condition?	Yes
10.	Label(s) agree with Chain of Custody?	Yes
11.	Correct containers used?	Yes
12.	Sufficient sample?	Yes
13.	VOA vials bubble-free (H_2O) or no head space (soil)?	Yes
14.	Preservation OK? TM pH____; TRPH pH____, TOC pH____; TOX pH____; CN pH____, N/A pH____; Other pH____	Yes

Comments _____

*Validated Date and Time of Sample Receipt (VDTSR)

719 749

Environmental Testing & Consulting, Inc.

Sample Reports

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 750

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

Date Arrived **12/10/02**
ETC Order Number **0212292**

ETC Lab ID . **0212292-01**
Field ID **EFF-12-10-02**

Matrix : **AQUEOUS**
Sample Date **12/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Mercury Digestion Batch	V10-AQ-34				12/13/02	JF	245 1
Metals Digestion Batch	V34-AQ-24				12/11/02	SH	3030E
Silver	ND	mg/L	0 001	12/13/02	12/11/02	SH	200.7
Aluminum	ND	mg/L	0 040	12/13/02	12/11/02	SH	200 7
Arsenic	ND	mg/L	0 004	12/13/02	12/11/02	SH	200 7
Barium	0 100	mg/L	0 001	12/13/02	12/11/02	SH	200 7
Beryllium	ND	mg/L	0 001	12/13/02	12/11/02	SH	200 7
Calcium	24 8	mg/L	0.125	12/13/02	12/11/02	SH	200 7
Cadmium	ND	mg/L	0.001	12/13/02	12/11/02	SH	200 7
Cobalt	ND	mg/L	0 002	12/13/02	12/11/02	SH	200.7
Chromium	0 003	mg/L	0.002	12/13/02	12/11/02	SH	200.7
Copper	0 006	mg/L	0 005	12/13/02	12/11/02	SH	200 7
Iron	0 221	mg/L	0 035	12/13/02	12/11/02	SH	200 7
Mercury	ND	mg/L	0 0002	12/13/02	12/13/02	JF	245 1
Potassium	0 814	mg/L	0 125	12/13/02	12/11/02	SH	200 7
[redacted]esium	12.0	mg/L	0 125	12/13/02	12/11/02	SH	200 7
M[redacted]ganese	0.045	mg/L	0.001	12/13/02	12/11/02	SH	200 7
Sodium	23.7	mg/L	0 125	12/13/02	12/11/02	SH	200 7
Nickel	ND	mg/L	0 002	12/13/02	12/11/02	SH	200 7
Lead	ND	mg/L	0 002	12/13/02	12/11/02	SH	200 7
Antimony	ND	mg/L	0 005	12/13/02	12/11/02	SH	200 7
Selenium	ND	mg/L	0 004	12/13/02	12/11/02	SH	200 7
Thallium	ND	mg/L	0 010	12/13/02	12/11/02	SH	200 7
Vanadium	ND	mg/L	0 002	12/13/02	12/11/02	SH	200.7
Zinc	0 038	mg/L	0 010	12/13/02	12/11/02	SH	200 7

Data Validator

ND - Not Detected

719 751

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **12/10/02**
ETC Order Number **0212292**

ETC Lab ID **0212292-01**
Field ID : **EFF-12-10-02**

Matrix **AQUEOUS**
Sample Date · **12/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Base/Neutral & Acid				12/12/02	12/12/02	EM	8270C 3510C
QC Batch	**P09031**						
Dilution Factor	**1**						
Acenaphthene	ND	ug/L	2.00				
Acenaphthylene	ND	ug/L	2.00				
Anthracene	ND	ug/L	2.00				
Benzo(a)anthracene	ND	ug/L	2 00				
Benzo(b)fluoranthene	ND	ug/L	2 00				
Benzo(k)fluoranthene	ND	ug/L	2 00				
Benzo(g,h,i)perylene	ND	ug/L	2 00				
Benzo(a)pyrene	ND	ug/L	2.00				
Benzoic Acid	ND	ug/L	50 0				
Benzyl Alcohol	ND	ug/L	10.0				
Bis(2-chloroethoxy)methane	ND	ug/L	5 00				
Bis(2-chloroethyl)ether	ND	ug/L	5 00				
Bis(2-chloroisopropyl)ether	ND	ug/L	5 00				
Bis(2-ethylhexyl)phthalate	ND	ug/L	10 0				
4-Bromophenyl phenyl ether	ND	ug/L	5 00				
Butyl benzyl phthalate	ND	ug/L	5.00				
4-Chloroaniline	ND	ug/L	5.00				
2-Chloronaphthalene	ND	ug/L	5.00				
4-Chloro-3-methylphenol	ND	ug/L	5.00				
2-Chlorophenol	ND	ug/L	5.00				
4-Chlorophenyl phenyl ether	ND	ug/L	5.00				
Chrysene	ND	ug/L	2.00				
Dibenzo(a,h)anthracene	ND	ug/L	2.00				
Dibenzofuran	ND	ug/L	5.00				
Di-n-butyl phthalate	ND	ug/L	5 00				
3,3'-Dichlorobenzidine	ND	ug/L	10.0				
2,4-Dichlorophenol	ND	ug/L	5 00				
Diethyl phthalate	ND	ug/L	5 00				
2,4-Dimethylphenol	ND	ug/L	5 00				
Dimethyl phthalate	ND	ug/L	5 00				
4,6-Dinitro-2-methylphenol	ND	ug/L	10 0				
2,4-Dinitrophenol	ND	ug/L	50.0				
2,4-Dinitrotoluene	ND	ug/L	5 00				
2,6-Dinitrotoluene	ND	ug/L	5 00				
Di-n-octyl phthalate	ND	ug/L	5 00				
Fluoranthene	ND	ug/L	2 00				
Fluorene	ND	ug/L	2 00				
Hexachlorobenzene	ND	ug/L	5.00				
Hexachlorobutadiene	ND	ug/L	5 00				
Hexachlorocyclopentadiene	ND	ug/L	5 00				
Hexachloroethane	ND	ug/L	5.00				
Indeno(1,2,3-cd)pyrene	ND	ug/L	2.00				
Isophorone	ND	ug/L	5 00				
2-Methylnaphthalene	ND	ug/L	2.00				
2-Methylphenol (o-cresol)	ND	ug/L	5.00				
4-Methylphenol (p-cresol)	ND	ug/L	5.00				
Naphthalene	ND	ug/L	2.00				

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits ** - Method Detection Limit

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 752

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **12/10/02**
ETC Order Number **0212292**

ETC Lab ID **0212292-01**
Field ID **EFF-12-10-02**

Matrix . **AQUEOUS**
Sample Date **12/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Base/Neutral & Acid				12/12/02		EM	8270C
					12/12/02		3510C
Nitrobenzene	ND	ug/L	5.00				
2-Nitroaniline	ND	ug/L	5.00				
3-Nitroaniline	ND	ug/L	10.0				
4-Nitroaniline	ND	ug/L	5.00				
2-Nitrophenol	ND	ug/L	5.00				
4-Nitrophenol	ND	ug/L	5.00				
N-Nitrosodiphenylamine	ND	ug/L	5.00				
N-Nitrosodipropylamine	ND	ug/L	5.00				
Pentachlorophenol	ND	ug/L	10.0				
Phenanthrene	ND	ug/L	2.00				
Phenol	ND	ug/L	5.00				
Pyrene	ND	ug/L	2.00				
2,4,5-Trichlorphenol	ND	ug/L	5.00				
2,4,6-Trichlorophenol	ND	ug/L	5.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Nitrobenzene-d5	82	29	110
S2 - 2-Fluorobiphenyl	82	38	107
S3 - 4-Terphenyl-d14	119	33	122
S4 - Phenol-d6	32	7	58
S5 - 2,4,6-Tribromophenol	68	16	138
S6 - 2-Fluorophenol	52	8	88

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits ** - Method Detection Limit

719 753

FORM 1
BNA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021229201

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0212292

Matrix: (soil/water) WATER Lab Sample ID: 021229201

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 2401024

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N)___ Date Extracted:

Concentrated Extract Volume: 1(mL) Date Analyzed: 12/12/02

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

Environmental Testing & Consulting, Inc.

Quality Control Reports
Level II
Metals (ICP/GFAA/CV)

719 755

ENVIRONMENTAL TESTING AND CONSULTING, INC.
CASE NARRATIVE
METALS – AQUEOUS

Client Name Jacobs
Project Name Memphis Defense Depot
Memphis Depot

ETC Order # 0212-292

HOLDING TIMES

QC Batch(s) for this order — ICP Metals V34-AQ-24; Mercury V10-AQ-34

TCLP Extraction — All soils extracted within 180 days (28 days for Mercury)
Sample Preparation — All TCLP leachates prepared and analyzed within 180 days (28 days for Mercury)

METHOD

Preparation — SW-846 200 7/245 1
Analysis — SW-846 200 7/245 1

CALIBRATION

Initial Calibration — All criteria met
Continuing Calibration — All criteria met

SAMPLE ANALYSIS

Instrumentation — Thermo Jarrell Ash Enviro-I ICP
CETAC M-6000A Mercury Analyzer
Dilutions Required — Dilutions performed as indicated on the Dilution Summary Table

QUALITY CONTROL

Method Blank

V34-AQ-24BLK — ICP Metals
V10-AQ-34BLK — Mercury
No analytes detected in the method blank.

Laboratory Control Sample(s)

V34-AQ-24LCS — ICP Metals
V10-AQ-34LCS — Mercury
All criteria met

Matrix Spike / Matrix Spike Dup - ICP Metals

0212-292-01 — RPD — All analytes within QC limits
EFF-12-10-02 — Spike Recovery — All analytes within QC limits
Refer to Laboratory Control Sample(s) for system verification

Matrix Spike / Matrix Spike Dup - Hg

0212-292-01 — RPD — All analytes within QC limits
EFF-12-10-02 — Spike Recovery — All analytes within QC limits
Refer to Laboratory Control Sample(s) for system verification

CB
Project Manager

FORM 3A
WATER METHOD BLANK
METALS

Lab Name Environmental Testing and Consulting, Inc

		QC Batch
Laboratory ID ICP/GFAA Metals	V34-AQ-24 BLK	V34-AQ-24
Laboratory ID Mercury	V10-AQ-34 BLK	V10-AQ-34

Date Sample Prepared	12/11/02 ICP/GFAA Metals
	12/13/02 Mercury

Metals	Concentration mg/L	Detection Limit mg/L	Date Analyzed	Method
Silver	ND	0 001	12/13/02	200 7
Aluminum	ND	0 040	12/13/02	200 7
Arsenic	ND	0 004	12/13/02	200.7
Barium	ND	0.001	12/13/02	200.7
Beryllium	ND	0 001	12/13/02	200 7
Calcium	ND	0 125	12/13/02	200.7
Cadmium	ND	0 001	12/13/02	200 7
Cobalt	ND	0 002	12/13/02	200 7
Chromium	ND	0 002	12/13/02	200 7
Copper	ND	0 005	12/13/02	200 7
Iron	ND	0 035	12/13/02	200 7
Potassium	ND	0 125	12/13/02	200 7
Magnesium	ND	0 125	12/13/02	200.7
Manganese	ND	0.001	12/13/02	200 7
Sodium	ND	0 125	12/13/02	200 7
Nickel	ND	0 002	12/13/02	200 7
Lead	ND	0 005	12/13/02	200 7
Antimony	ND	0 005	12/13/02	200 7
Selenium	ND	0 004	12/13/02	200 7
Thallium	ND	0.010	12/13/02	200 7
Vanadium	ND	0 002	12/13/02	200 7
Zinc	ND	0 010	12/13/02	200 7
Mercury	ND	0 0002	12/13/02	245 1

ND - Not Detected

Reviewed by _____

719 757

FORM 7
WATER LABORATORY CONTROL SAMPLE
METALS

Lab Name Environmental Testing and Consulting, Inc

				QC Batch
Laboratory Control ID	ICP/GFAA Metals	V34-AQ-24	LCS	V34-AQ-24
	Mercury	V10-AQ-34	LCS	V10-AQ-34
Date Prepared	ICP/GFAA Metals	12/11/02		
	Mercury	12/13/02		

Metals	Spike Added mg/L	Found mg/L	% R	#	QC Limits	
Silver	0 200	0 211	106		80	120
Aluminum	2 00	2.21	111		80	120
Arsenic	0 080	0 086	108		80	120
Barium	2 00	2.09	105		80	120
Beryllium	0 200	0 218	109		80	120
Calcium	4 00	4 57	114		80	120
Cadmium	0 016	0 016	100		80	120
Cobalt	1 00	1 06	106		80	120
Chromium	0 400	0 423	106		80	120
Copper	0 400	0 444	111		80	120
Iron	2 00	2 17	109		80	120
Potassium	4 00	4 34	109		80	120
Magnesium	4 00	4 27	107		80	120
Manganese	0 200	0 216	108		80	120
Sodium	4 00	4.20	105		80	120
Nickel	1 00	1 06	106		80	120
Lead	0 080	0 082	103		80	120
Antimony	0 160	0 160	100		80	120
Selenium	0 080	0 078	98		80	120
Thallium	0 080	0 081	101		80	120
Vanadium	1 00	1 06	106		80	120
Zinc	0 200	0 217	109		80	120
Mercury	0 0050	0.0057	114		80	120

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

Reviewed by _____

0212-292 mqc LCS

FORM 6
WATER MATRIX SPIKE / MATRIX SPIKE DUPLICATE
METALS

Lab Name Environmental Testing and Consulting, Inc

		QC Batch
Laboratory ID MS ICP/GFAA Metals	0212-292-01	V34-AQ-24
Laboratory ID MS Mercury	0212-292-01	V10-AQ-34

Date Sample Prepared	12/11/02	ICP/GFAA Metals
	12/13/02	Mercury

Metals	SPIKE Added mg/L	SAMPLE Conc mg/L	MS Conc mg/L	RPD <20% #	MS % Rec #	QC Limits	
Silver	0.200	ND	0 216	0	108	75	125
Aluminum	2 00	ND	2 21	0	111	75	125
Arsenic	0 080	ND	0 085	3	106	75	125
Barium	2 00	0 100	2 22	0	106	75	125
Beryllium	0.200	ND	0 224	0	112	75	125
Calcium	4 00	24.8	29 7	0	123	75	125
Cadmium	0 016	ND	0 016	0	100	75	125
Cobalt	1.00	ND	1 09	0	109	75	125
Chromium	0 400	0 003	0 435	1	108	75	125
Copper	0 400	0.006	0.458	0	113	75	125
Iron	2 00	0 221	2 47	0	112	75	125
Potassium	4 00	0 814	5 28	0	112	75	125
Magnesium	4 00	12 0	16 5	1	113	75	125
Manganese	0 200	0 045	0 267	0	111	75	125
Sodium	4 00	23 7	27 2	2	88	75	125
Nickel	1 00	ND	1 08	0	108	75	125
Lead	0 080	ND	0 083	1	104	75	125
Antimony	0 160	ND	0.162	1	101	75	125
Selenium	0 080	ND	0 081	1	101	75	125
Thallium	0 080	ND	0 085	2	106	75	125
Vanadium	1 00	ND	1 08	0	108	75	125
Zinc	0 200	0 038	0 259	0	111	75	125
Mercury	0 0050	ND	0 0058	2	116	80	120

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

Reviewed by _____

719 759

FORM 6
WATER MATRIX SPIKE / MATRIX SPIKE DUPLICATE
METALS

Lab Name Environmental Testing and Consulting, Inc

		QC Batch
Laboratory ID MS ICP/GFAA Metals	0212-292-01	V34-AQ-24
Laboratory ID MS Mercury	0212-292-01	V10-AQ-34

Date Sample Prepared	12/11/02	ICP/GFAA Metals
	12/13/02	Mercury

Metals	SPIKE Added mg/L	SAMPLE Conc mg/L	MSD Conc mg/L		MSD % Rec #	QC Limits	
Silver	0 200	ND	0 217		109	75	125
Aluminum	2 00	ND	2 22		111	75	125
Arsenic	0 080	ND	0 088		110	75	125
Barium	2 00	0 100	2 23		107	75	125
Beryllium	0.200	ND	0 225		113	75	125
Calcium	4 00	24.8	29 6		120	75	125
Cadmium	0 016	ND	0 016		100	75	125
Cobalt	1 00	ND	1 09		109	75	125
Chromium	0 400	0 003	0 438		109	75	125
Copper	0 400	0 006	0 460		114	75	125
Iron	2.00	0.221	2 47		112	75	125
Potassium	4 00	0 814	5 27		111	75	125
Magnesium	4 00	12 0	16.4		110	75	125
Manganese	0 200	0 045	0.268		112	75	125
Sodium	4 00	23.7	27 7		100	75	125
Nickel	1 00	ND	1 08		108	75	125
Lead	0.080	ND	0 082		103	75	125
Antimony	0 160	ND	0 163		102	75	125
Selenium	0 080	ND	0 08		100	75	125
Thallium	0 080	ND	0 083		104	75	125
Vanadium	1 00	ND	1 08		108	75	125
Zinc	0 200	0 038	0 26		111	75	125
Mercury	0 0050	ND	0.0059		118	80	120

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

Reviewed by_ _____

WATER
DILUTIONS
METALS

719 760

Lab Name Enviornmental Testing and Consulting, Inc

QC Batch ICP/GFAA Metals V34-AQ-24

Date Sample Prepared 12/11/02 ICP/GFAA Metals

Analyte	Dilution	Code	Sample ID
Sodium	1 5	C	0212-292-01

Dilutions were performed on several samples to bring the Target Analyte(s) within calibration range (C) or to remove spectral interference (I) as indicated

Reviewed by

DIL 0212-292 mqc

719 76i

Environmental Testing & Consulting, Inc.

Quality Control Reports
Level II
GC/MS Semi-Volatiles

ENVIRONMENTAL TESTING AND CONSULTING, INC.
CASE NARRATIVE
GC/MS SEMI-VOLATILE COMPOUNDS –AQUEOUS

Client Name Jacobs
Project Name Memphis Defense Depot
Memphis Depot

ETC Order # 0212-292

SAMPLE PRESERVATION

All aqueous samples maintained at 4 degrees C until extraction

HOLDING TIMES

Sample Extraction	All aqueous samples extracted within 7 days
Sample Analysis	All samples analyzed within 40 days of extraction

METHOD

Preparation	SW-846 3510C
Analysis	SW-846 8270C

QUALITY CONTROL

QC Batch Form 4 Summary
P09031LB

System Monitoring Compounds FORM 2
Surrogate recoveries within QC limits, except as listed below

Method Blank FORM 4
P09031LB
Target analytes were not detected in the method blanks, except as listed below
Bis(2-ethylhexyl)phthalate was identified in the method blank This analyte was not reported in any of the associated project samples The data was not affected

Laboratory Control Sample FORM 3
P09031LCS/LCSD
All target analyte acceptance criteria met, except as listed below
RPD's for numerous analytes outside QC limits, LCS/LCSD recoveries within QC limits

Matrix Spike / Matrix Spike Dup FORM 3
Batch P09031
Due to the limited amount of sample available, no MS/MSD was extracted/analyzed Refer to Laboratory Control Sample(s) for system verification

CALIBRATION

DFTPP Daily 12-Hour Tune	All criteria met FORM 5
Initial Calibration	All criteria met FORM 6
Calibration Verification	All criteria met FORM 7

Semi-Volatile Internal Standard Area and RT FORM 8
Calibration Verification standard(s) Internal Standard Areas and Retention Times within QC limits

SAMPLE ANALYSIS

Instrumentation	HP 5890 Series II GC, 5971MSD/HP 6890 GC, 5973MSD
Dilutions Required	No dilutions required

CB
Project Manager

FORM 2
WATER BNA-GCMS SURROGATE RECOVERY

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0212292

	CLIENT SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (TBP) #	S6 (2FP) #	S7 #	S8 #	TOT OUT
01	P09031LB	86	84	110	36	75	51			0
02	P09031LCS	71	74	96	27	72	42			0
03	P09031LCSD	85	81	104	35	77	51			0
04	021229201	82	82	119	32	68	52			0
05										
06										
07										
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

		QC LIMITS
S1 (NBZ)	= Nitrobenzene-d5	(29-110)
S2 (FBP)	= 2-Fluorobiphenyl	(38-107)
S3 (TPH)	= Terphenyl-d14	(33-122)
S4 (PHL)	= Phenol-d6	(7- 58)
S5 (TBP)	= 2,4,6-Tribromophenol	(16-138)
S6 (2FP)	= 2-Fluorophenol	(8- 88)

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

719 764

FORM 4
BNA-GCMS METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

P09031LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0212292

Lab File ID: 2101021 Lab Prep Batch: P09031

Instrument ID: BNA1 Lab Sample ID: LB

Matrix: (soil/water) WATER Date Analyzed: 12/12/02

Level: (low/med) LOW Time Analyzed: 2214

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	P09031LCS	LCS	2201022	12/12/02
02	P09031LCSD	LCSD	2301023	12/12/02
03	021229201	021229201	2401024	12/12/02
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

FORM 1
BNA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.
P09031LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0212292

Matrix: (soil/water) WATER Lab Prep Batch: P09031

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 2101021

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N)___ Date Extracted:

Concentrated Extract Volume: 1(mL) Date Analyzed: 12/12/02

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
83-32-9	Acenaphthene	2.00	U
208-96-8	Acenaphthylene	2.00	U
98-86-2	Acetophenone	5.00	U
62-53-3	Aniline	5.00	U
120-12-7	Anthracene	2.00	U
92-87-5	Benzidine	20.00	U
56-55-3	Benz(a)Anthracene	2.00	U
205-99-2	Benzo(b)fluoranthene	2.00	U
207-08-9	Benzo(k)fluoranthene	2.00	U
191-24-2	Benzo(ghi)perylene	2.00	U
50-32-8	Benzo(a)pyrene	2.00	U
65-85-0	Benzoic acid	50.00	U
100-51-6	Benzyl alcohol	5.00	U
111-91-1	Bis(2-chloroethoxy)methane	5.00	U
111-44-4	Bis(2-chloroethyl)ether	5.00	U
108-60-1	Bis(2-chloroisopropyl)ether	5.00	U
117-81-7	Bis(2-ethylhexyl)phthalate	2.42	J
101-55-3	4-Bromophenyl phenyl ether	5.00	U
85-68-7	Butyl benzyl phthalate	5.00	U
86-74-8	Carbazole	2.00	U
106-47-8	4-Chloroaniline	5.00	U
510-15-6	Chlorobenzilate	5.00	U
59-50-7	4-Chloro-3-methylphenol	5.00	U
91-58-7	2-Chloronaphthalene	2.00	U
95-57-8	2-Chlorophenol	5.00	U
7005-72-3	4-Chlorophenyl phenyl ether	5.00	U
218-01-9	Chrysene	2.00	U
53-70-3	Dibenz(a,h)anthracene	2.00	U
132-64-9	Dibenzofuran	5.00	U
84-74-2	Di-n-butyl phthalate	5.00	U
95-50-1	1,2-Dichlorobenzene	5.00	U
541-73-1	1,3-Dichlorobenzene	5.00	U
106-46-7	1,4-Dichlorobenzene	5.00	U

FORM 1 719 766 CLIENT SAMPLE NO.

BNA-GCMS ORGANICS ANALYSIS DATA SHEET

P09031LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0212292

Matrix: (soil/water) WATER Lab Prep Batch: P09031

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 2101021

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N)___ Date Extracted:

Concentrated Extract Volume: 1(mL) Date Analyzed: 12/12/02

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-94-1	3,3'-Dichlorobenzidine	10.00	U
120-83-2	2,4-Dichlorophenol	5.00	U
87-65-0	2,6-Dichlorophenol	5.00	U
84-66-2	Diethyl phthalate	5.00	U
119-93-7	3,3-Dimethylbenzidine	10.00	U
105-67-9	2,4-Dimethyphenol	5.00	U
131-11-3	Dimethyl phthalate	5.00	U
534-52-1	4,6-Dinitro-2-methylphenol	10.00	U
51-28-5	2,4-Dinitrophenol	20.00	U
121-14-2	2,4-Dinitrotoluene	5.00	U
606-20-2	2,6-Dinitrotoluene	5.00	U
122-39-4	N-Nitrsdiphylam/Diphenylamin	5.00	U
117-84-0	Di-n-octyl phthalate	5.00	U
62-50-0	Ethyl methanesulfonate	5.00	U
206-44-0	Fluoranthene	2.00	U
86-73-7	Fluorene	2.00	U
118-74-1	Hexachlorobenzene	5.00	U
87-68-3	Hexachlorobutadiene	5.00	U
77-47-4	Hexachlorocyclopentadiene	5.00	U
67-72-1	Hexachloroethane	5.00	U
193-39-5	Indeno(1,2,3-cd)pyrene	2.00	U
78-59-1	Isophorone	5.00	U
66-27-3	Methyl methanesulfonate	5.00	U
91-57-6	2-Methylnaphthalene	2.00	U
95-48-7	2-Methylphenol	5.00	U
108-39-4	3&4-Methylphenol	5.00	U
91-20-3	Naphthalene	2.00	U
88-74-4	2-Nitroaniline	10.00	U
99-09-2	3-Nitroaniline	10.00	U
608-9-35	Pentachlorobenzene	5.00	U
100-01-6	4-Nitroaniline	10.00	U
98-95-3	Nitrobenzene	5.00	U
88-75-5	2-Nitrophenol	10.00	U

719 767

FORM 1
BNA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

P09031LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0212292

Matrix: (soil/water) WATER Lab Prep Batch: P09031

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 2101021

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N)___ Date Extracted:

Concentrated Extract Volume: 1(mL) Date Analyzed: 12/12/02

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-02-7	4-Nitrophenol	5.00	U
924-16-3	N-Nitrosodibutylamine	5.00	U
55-18-5	N-Nitrosodiethylamine	5.00	U
62-75-9	N-Nitrosodimethylamine	5.00	U
621-64-7	N-Nitrosodi-n-propylamine	5.00	U
82-68-8	Pentachloronitrobenzene	10.00	U
87-86-5	Pentachlorophenol	10.00	U
62-44-2	Phenacetin	5.00	U
85-01-8	Phenanthrene	2.00	U
108-95-2	Phenol	5.00	U
129-00-0	Pyrene	2.00	U
110-86-1	Pyridine	5.00	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.00	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.00	U
120-82-1	1,2,4-Trichlorobenzene	5.00	U
95-95-4	2,4,5-Trichlorophenol	5.00	U
88-06-2	2,4,6-Trichlorophenol	5.00	U
103-33-3	1,2-Dphnylhydrzine/Azobenzen	5.00	U

FORM 1
BNA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.
P09031LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0212292

Matrix: (soil/water) WATER Lab Sample ID: LB

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 2101021

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N)___ Date Extracted:

Concentrated Extract Volume: 1(mL) Date Analyzed: 12/12/02

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

FORM 3
WATER BNA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC. Lab Prep Batch: P09031

Lab Code: Case No.: SAS No.: SDG No.: 0212292

Matrix Spike - Sample No.: P09031LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Acenaphthene	50.00		41.58	83	38-117
Acenaphthylene	50.00		41.92	84	37-114
Acetophenone	50.00		38.44	77	32-108
Aniline	50.00		22.44	45	16-133
Anthracene	50.00		49.11	98	34-128
Benzidine	50.00		2.28	4*	22-176
Benz(a)Anthracene	50.00		49.45	99	36-127
Benzo(b)fluoranthene	50.00		47.62	95	36-131
Benzo(k)fluoranthene	50.00		48.89	98	32-132
Benzo(ghi)perylene	50.00		39.80	80	26-123
Benzo(a)pyrene	50.00		45.49	91	34-131
Benzoic acid	50.00		11.60	23	11- 58
Benzyl alcohol	50.00		21.91	44	20-109
Bis(2-chloroethoxy)meth	50.00		38.06	76	20-126
Bis(2-chloroethyl)ether	50.00		38.63	77	16-122
Bis(2-chloroisopropyl)e	50.00		33.11	66	28-108
Bis(2-ethylhexyl)phthal	50.00		43.06	86	21-162
4-Bromophenyl phenyl et	50.00		40.49	81	31-124
Butyl benzyl phthalate	50.00		48.02	96	33-142
Carbazole	50.00		44.49	89	20-147
4-Chloroaniline	50.00		34.21	68	24-127
Chlorobenzilate	50.00		41.42	83	35-118
4-Chloro-3-methylphenol	50.00		36.00	72	35-117
2-Chloronaphthalene	50.00		38.33	77	29-137
2-Chlorophenol	50.00		29.47	59	27-102
4-Chlorophenyl phenyl e	50.00		41.98	84	39-110
Chrysene	50.00		47.50	95	30-124
Dibenz(a,h)anthracene	50.00		41.79	84	27-124

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

COMMENTS: _____

FORM 3
WATER BNA-GCMS LAB CONTROL SAMPLE

719 770

Lab Name: ETC, INC. Lab Prep Batch: P09031

Lab Code: Case No.: SAS No.: SDG No.: 0212292

Matrix Spike - Sample No.: P09031LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Dibenzofuran	50.00		42.87	86	40-108
Di-n-butyl phthalate	50.00		48.02	96	19-158
1,2-Dichlorobenzene	50.00		32.89	66	26-100
1,3-Dichlorobenzene	50.00		30.76	62	21-102
1,4-Dichlorobenzene	50.00		30.76	62	24- 99
3,3'-Dichlorobenzidine	50.00		24.31	49	6-192
2,4-Dichlorophenol	50.00		34.36	69	32-110
2,6-Dichlorophenol	50.00		33.77	68	31-112
Diethyl phthalate	50.00		45.56	91	36-130
3,3-Dimethylbenzidine	50.00		9.07	18	6-192
2,4-Dimethyphenol	50.00		33.48	67	34-105
Dimethyl phthalate	50.00		43.92	88	34-123
4,6-Dinitro-2-methylphe	50.00		25.38	51	27-128
2,4-Dinitrophenol	50.00		29.63	59	10-132
2,4-Dinitrotoluene	50.00		41.76	84	24-147
2,6-Dinitrotoluene	50.00		53.43	107	36-125
N-NitrsdiphylAm/Dipheny	100.0		45.69	46	35-116
Di-n-octyl phthalate	50.00		44.38	89	29-136
Ethyl methanesulfonate	50.00		31.58	63	20-121
Fluoranthene	50.00		45.36	91	28-127
Fluorene	50.00		44.56	89	41-116
Hexachlorobenzene	50.00		40.18	80	18-136
Hexachlorobutadiene	50.00		31.49	63	22-109
Hexachlorocyclopentadie	50.00		23.99	48	10-102
Hexachloroethane	50.00		31.10	62	16-107
Indeno(1,2,3-cd)pyrene	50.00		43.22	86	22-126
Isophorone	50.00		42.96	86	31-116
Methyl methanesulfonate	50.00		24.50	49	15- 82

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

COMMENTS: _____

FORM 3
WATER BNA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC. Lab Prep Batch: P09031

Lab Code: Case No.: SAS No.: SDG No.: 0212292

Matrix Spike - Sample No.: P09031LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
2-Methylnaphthalene	50.00		36.15	72	34-108
2-Methylphenol	50.00		18.72	37	22- 97
3&4-Methylphenol	50.00		27.45	55	21- 96
Naphthalene	50.00		37.76	76	33-108
2-Nitroaniline	50.00		41.66	83	32-127
3-Nitroaniline	50.00		46.47	93	28-142
4-Nitroaniline	50.00		43.90	88	23-139
Nitrobenzene	50.00		39.88	80	27-117
2-Nitrophenol	50.00		30.01	60	25-114
4-Nitrophenol	50.00		7.99	16	1- 76
N-Nitrosodibutylamine	50.00		42.46	85	31-126
N-Nitrosodiethylamine	50.00		34.29	68	28-107
N-Nitrosodimethylamine	50.00		24.11	48	14- 84
N-Nitrosodi-n-propylami	50.00		43.35	87	29-114
Pentachloronitrobenzene	50.00		42.49	85	34-135
Pentachlorophenol	50.00		23.75	48	17-142
Phenacetin	50.00		44.28	88	29-141
Phenanthrene	50.00		47.59	95	40-120
Phenol	50.00		13.09	26	11- 55
Pyrene	50.00		43.68	87	20-154
Pyridine	50.00		12.11	24	10- 71
1,2,4,5-Tetrachlorobenz	50.00		35.14	70	28-110
2,3,4,6-Tetrachlorophen	50.00		30.33	61	28-118
1,2,4-Trichlorobenzene	50.00		34.16	68	23-106
2,4,5-Trichlorophenol	50.00		31.91	64	26-118
2,4,6-Trichlorophenol	50.00		32.37	65	26-115
1,2-Dphnylhydrzine/Azob	50.00		44.45	89	45-135

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

COMMENTS: _____

FORM 3
WATER BNA-GCMS LAB CONTROL SAMPLE

719 772

Lab Name: ETC, INC. Lab Prep Batch: P09031

Lab Code: Case No.: SAS No.: SDG No.: 0212292

Matrix Spike - Sample No.: P09031LCS

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Acenaphthene	50.00	44.74	89	7	20	38-117
Acenaphthylene	50.00	45.79	92	9	20	37-114
Acetophenone	50.00	45.45	91	17	20	32-108
Aniline	50.00	28.88	58	25*	20	16-133
Anthracene	50.00	52.75	106	8	20	34-128
Benzidine	50.00	2.38	5*	22*	20	22-176
Benz(a)Anthracene	50.00	49.72	99	0	20	36-127
Benzo(b)fluoranthene	50.00	50.26	100	5	20	36-131
Benzo(k)fluoranthene	50.00	47.06	94	4	20	32-132
Benzo(ghi)perylene	50.00	39.97	80	0	20	26-123
Benzo(a)pyrene	50.00	48.61	97	6	20	34-131
Benzoic acid	50.00	11.80	24	4	20	11- 58
Benzyl alcohol	50.00	24.86	50	13	20	20-109
Bis(2-chloroethoxy)meth	50.00	42.60	85	11	20	20-126
Bis(2-chloroethyl)ether	50.00	47.01	94	20	20	16-122
Bis(2-chloroisopropyl)e	50.00	39.89	80	19	20	28-108
Bis(2-ethylhexyl)phthal	50.00	45.74	91	6	20	21-162
4-Bromophenyl phenyl et	50.00	43.18	86	6	20	31-124
Butyl benzyl phthalate	50.00	50.39	101	5	20	33-142
Carbazole	50.00	45.82	92	3	20	20-147
4-Chloroaniline	50.00	38.59	77	12	20	24-127
Chlorobenzilate	50.00	42.91	86	4	20	35-118
4-Chloro-3-methylphenol	50.00	37.34	75	4	20	35-117
2-Chloronaphthalene	50.00	43.25	86	11	20	29-137
2-Chlorophenol	50.00	35.75	72	20	20	27-102
4-Chlorophenyl phenyl e	50.00	43.92	88	5	20	39-110
Chrysene	50.00	47.46	95	0	20	30-124
Dibenz(a,h)anthracene	50.00	42.31	85	1	20	27-124

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

COMMENTS: _____

719 773

FORM 3
WATER BNA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC. Lab Prep Batch: P09031

Lab Code: Case No.: SAS No.: SDG No.: 0212292

Matrix Spike - Sample No.: P09031LCS

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dibenzofuran	50.00	45.49	91	6	20	40-108
Di-n-butyl phthalate	50.00	48.20	96	0	20	19-158
1,2-Dichlorobenzene	50.00	40.40	81	20	20	26-100
1,3-Dichlorobenzene	50.00	38.15	76	20	20	21-102
1,4-Dichlorobenzene	50.00	41.25	82	28*	20	24- 99
3,3'-Dichlorobenzidine	50.00	27.45	55	12	20	6-192
2,4-Dichlorophenol	50.00	39.26	78	12	20	32-110
2,6-Dichlorophenol	50.00	39.35	79	15	20	31-112
Diethyl phthalate	50.00	45.72	91	0	20	36-130
3,3-Dimethylbenzidine	50.00	10.00	20	10	20	6-192
2,4-Dimethyphenol	50.00	39.35	79	16	20	34-105
Dimethyl phthalate	50.00	44.96	90	2	20	34-123
4,6-Dinitro-2-methylphe	50.00	24.97	50	2	20	27-128
2,4-Dinitrophenol	50.00	31.33	63	6	20	10-132
2,4-Dinitrotoluene	50.00	42.67	85	1	20	24-147
2,6-Dinitrotoluene	50.00	54.67	109	2	20	36-125
N-NitrsdiphylAm/Dipheny	100.0	47.77	48	4	20	35-116
Di-n-octyl phthalate	50.00	44.48	89	0	20	29-136
Ethyl methanesulfonate	50.00	36.88	74	16	20	20-121
Fluoranthene	50.00	45.55	91	0	20	28-127
Fluorene	50.00	46.45	93	4	20	41-116
Hexachlorobenzene	50.00	43.21	86	7	20	18-136
Hexachlorobutadiene	50.00	39.61	79	22*	20	22-109
Hexachlorocyclopentadie	50.00	27.69	55	14	20	10-102
Hexachloroethane	50.00	38.61	77	22*	20	16-107
Indeno(1,2,3-cd)pyrene	50.00	43.95	88	2	20	22-126
Isophorone	50.00	47.29	94	9	20	31-116
Methyl methanesulfonate	50.00	30.99	62	23*	20	15- 82

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

COMMENTS: _____

FORM 3
WATER BNA-GCMS LAB CONTROL SAMPLE

719 774

Lab Name: ETC, INC. Lab Prep Batch: P09031

Lab Code: Case No.: SAS No.: SDG No.: 0212292

Matrix Spike - Sample No.: P09031LCS

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
2-Methylnaphthalene	50.00	40.96	82	13	20	34-108
2-Methylphenol	50.00	21.24	42	13	20	22- 97
3&4-Methylphenol	50.00	32.81	66	18	20	21- 96
Naphthalene	50.00	44.93	90	17	20	33-108
2-Nitroaniline	50.00	43.09	86	4	20	32-127
3-Nitroaniline	50.00	47.23	94	1	20	28-142
4-Nitroaniline	50.00	43.10	86	2	20	23-139
Nitrobenzene	50.00	44.65	89	11	20	27-117
2-Nitrophenol	50.00	34.18	68	12	20	25-114
4-Nitrophenol	50.00	7.84	16	0	20	1- 76
N-Nitrosodibutylamine	50.00	45.29	90	6	20	31-126
N-Nitrosodiethylamine	50.00	41.22	82	19	20	28-107
N-Nitrosodimethylamine	50.00	29.20	58	19	20	14- 84
N-Nitrosodi-n-propylami	50.00	49.86	100	14	20	29-114
Pentachloronitrobenzene	50.00	43.65	87	2	20	34-135
Pentachlorophenol	50.00	23.29	46	4	20	17-142
Phenacetin	50.00	44.88	90	2	20	29-141
Phenanthrene	50.00	49.07	98	3	20	40-120
Phenol	50.00	14.42	29	11	20	11- 55
Pyrene	50.00	44.68	89	2	20	20-154
Pyridine	50.00	15.73	31	25*	20	10- 71
1,2,4,5-Tetrachlorobenz	50.00	41.42	83	17	20	28-110
2,3,4,6-Tetrachlorophen	50.00	30.83	62	2	20	28-118
1,2,4-Trichlorobenzene	50.00	41.14	82	19	20	23-106
2,4,5-Trichlorophenol	50.00	34.27	68	6	20	26-118
2,4,6-Trichlorophenol	50.00	35.02	70	7	20	26-115
1,2-Dphnylhydrzine/Azob	50.00	49.54	99	11	20	45-135

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

RPD: 7 out of 83 outside limits
Spike Recovery: 2 out of 166 outside limits

COMMENTS: _____

FORM III BNA-GCMS

719 775

Environmental Testing & Consulting, Inc.

Quality Control Reports
Level III
Metals (ICP/GFAA/CV)

ENVIRONMENTAL TESTING & CONSULTING, INC
ICP Metals Sequence Check List

Sequence ID : 12302 System ID : ICP1 / ICP2 Date: 12-13-02 Time: 0946 Analyst : SH Supervisor: JP

1. **Instrument Profile Intensity Check (Arsenic / Manganese)** 6380

2. **Initial Calibration**
   - a Initial Calibration Blank (STD1-Blank)
   - b Initial Calibration Standard 1 (C1) 3 Exposures at less than 3% RSD
   - c Initial Calibration Standard 2 (C2) 3 Exposures at less than 3% RSD
   - d. Initial Calibration Standard 3 (C3) 3 Exposures at less than 3% RSD
   - e Initial Calibration Standard 4 (C4) 3 Exposures at less than 3% RSD
   - f Standardization Report

3. **Initial Calibration Readback (+/- 5% Difference Check Table)**

			Failures
a	Initial Calibration Standard 1 (C1)	✓	
b	Initial Calibration Standard 2 (C2)	✓	
c.	Initial Calibration Standard 3 (C3)	✓	
d	Initial Calibration Standard 4 (C4)	✓	

4. **Initial Calibration Verification**

e	Initial Calibration Blank (ICB) – All elements below 2 times MDL	✓	B, Mo
f	Low Level Check (LLC1) – (20%)	✓	Na, Tl
g.	Low Level Check (LLC2) (20%)	—	
h	Initial Calibration Verification (ICV1) – (10%)	✓	Ti, B
i	Initial Interference Check Standard, ICS-A (Interferents at 20%) all others 2 X MDL	✓	Ti
j	Initial Interelement Correction Standard – (ICSAB) – (20%)	✓	
k	Final Interference Check Standard, ICS-A (Interferents at 20%) all others 2 X MDL	✓	
l	Final Interelement Correction Standard – (ICSAB) – (20%)	✓	

Comments

Applicable ETC Order Nos. for this sequence:

V54AQ24
212292
384

719 777

AutoSampler Report Table: AQ1 12/16/02 09:36:42 AM page 1

Table Name: AQ1 Autosampler Type: TYPE TJA
Sample Positions: 42/192 QC Positions: 19/19 # Sets: 1
Rinse Station location is rack -1, pos. -1.

--- Racks ---

Rack #	Type	Usage	#Pos Left	Analyses/Pos
1	Aux. (L) Rack	STD/QC/BLANK	19	10
2	Sample (16mm)	Samples	0	1
3	Sample (16mm)	Samples	0	1
4	Sample (16mm)	Samples	0	1
5	Sample (16mm)	Samples	42	1

--- Sample Sets ---

Set#	Type	Prepare?	Description	Method	#Pos	Rack#	StartPos
1	Normal	No	121302	AQ1	150	2	1

--- Preparation Info ---

Set#	Uptake	Uptake#2	Final	Dil.Factor

No Samples Prepared.

Rack #1

Pos	Row	Col	Sample Name	Set #	#Used	Type
(1...19	Not Used)					

Rack #2

Pos	Row	Col	Sample Name	Set #	#Used	Type
1	1	1	V34AQ24 SB	1	-NA-	Sample
2	1	2	V34AQ24 LC	1	-NA-	Sample
3	1	3	21229201	1	-NA-	Sample
4	1	4	21229201 MS	1	-NA-	Sample
5	1	5	21229201 MSD	1	-NA-	Sample
6	1	6	21229201 5	1	-NA-	Sample
7	1	7	21229201 25	1	-NA-	Sample
8	1	8	21229201 MS	1	-NA-	Sample
9	1	9	21229201 MSD	1	-NA-	Sample
10	1	10	21238401	1	-NA-	Sample
11	1	11	CCB1	1	-NA-	Sample
12	1	12	CCV1	1	-NA-	Sample
13	2	1	(empty)	1	-NA-	-NA-
14	2	2	(empty)	1	-NA-	-NA-
15	2	3	(empty)	1	-NA-	-NA-
16	2	4	(empty)	1	-NA-	-NA-
17	2	5	(empty)	1	-NA-	-NA-
18	2	6	(empty)	1	-NA-	-NA-
19	2	7	(empty)	1	-NA-	-NA-
20	2	8	(empty)	1	-NA-	-NA-
21	2	9	(empty)	1	-NA-	-NA-

Rack #2

P	Row	Col	Sample Name	Set #	#Used	Type
22	2	10	(empty)	1	-NA-	-NA-
23	2	11	(empty)	1	-NA-	-NA-
24	2	12	(empty)	1	-NA-	-NA-
25	3	1	(empty)	1	-NA-	-NA-
26	3	2	(empty)	1	-NA-	-NA-
27	3	3	(empty)	1	-NA-	-NA-
28	3	4	(empty)	1	-NA-	-NA-
29	3	5	(empty)	1	-NA-	-NA-
30	3	6	(empty)	1	-NA-	-NA-
31	3	7	(empty)	1	-NA-	-NA-
32	3	8	(empty)	1	-NA-	-NA-
33	3	9	(empty)	1	-NA-	-NA-
34	3	10	(empty)	1	-NA-	-NA-
35	3	11	(empty)	1	-NA-	-NA-
36	3	12	(empty)	1	-NA-	-NA-
37	4	1	(empty)	1	-NA-	-NA-
38	4	2	(empty)	1	-NA-	-NA-
39	4	3	(empty)	1	-NA-	-NA-
40	4	4	(empty)	1	-NA-	-NA-
41	4	5	(empty)	1	-NA-	-NA-
42	4	6	(empty)	1	-NA-	-NA-
43	4	7	(empty)	1	-NA-	-NA-
44	4	8	(empty)	1	-NA-	-NA-
45	4	9	(empty)	1	-NA-	-NA-
46	4	10	(empty)	1	-NA-	-NA-
47	4	11	(empty)	1	-NA-	-NA-
48	4	12	(empty)	1	-NA-	-NA-

Rack #3

Pos	Row	Col	Sample Name	Set #	#Used	Type
1	1	1	(empty)	1	-NA-	-NA-
2	1	2	(empty)	1	-NA-	-NA-
3	1	3	(empty)	1	-NA-	-NA-
4	1	4	(empty)	1	-NA-	-NA-
5	1	5	(empty)	1	-NA-	-NA-
6	1	6	(empty)	1	-NA-	-NA-
7	1	7	(empty)	1	-NA-	-NA-
8	1	8	(empty)	1	-NA-	-NA-
9	1	9	(empty)	1	-NA-	-NA-
10	1	10	(empty)	1	-NA-	-NA-
11	1	11	(empty)	1	-NA-	-NA-
12	1	12	(empty)	1	-NA-	-NA-
13	2	1	(empty)	1	-NA-	-NA-
14	2	2	(empty)	1	-NA-	-NA-
15	2	3	(empty)	1	-NA-	-NA-
16	2	4	(empty)	1	-NA-	-NA-
17	2	5	(empty)	1	-NA-	-NA-
18	2	6	(empty)	1	-NA-	-NA-
19	2	7	(empty)	1	-NA-	-NA-
20	2	8	(empty)	1	-NA-	-NA-
21	2	9	(empty)	1	-NA-	-NA-

FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
ICP METALS

719 779

Lab Name: Environmental Testing and Consulting, Inc

Date/Time of Sequence: 12/13/02 0946 Instrument: ICPT

Initial Calibration Source: C1 M6-88-08 C2 M6-85-05 C3 M6-86-01 C4 M6-85-01

Continuing Calibration Source: ICV/CCV M6-89-19

Analyte	Initial Calibration Verification				Continuing CCV1									
	True	Found	%Diff(1)	Flag	True	Found	%Diff(1)	Flag		%Diff(1)	Flag	Found	%Diff(1)	Flag
Silver	100	98.1	2	<5	100	97	3	<5						
Aluminum	1000	1010	1	<5	1000	993	1	<5						
Arsenic	500	504	1	<5	500	501	0	<5						
Barium	1000	973	3	<5	1000	961	4	<5						
Beryllium	100	101	1	<5	100	101	1	<5						
Calcium	2000	2090	5	<5	2000	2090	5	<5						
Cadmium	100	95	5	<5	100	95	3	<5						
Cobalt	500	495	1	<5	500	491	2	<5						
Chromium	200	198	1	<5	200	196	2	<5						
Copper	200	207	4	<5	200	203	2	<5						
Iron	1000	1000	0	<5	1000	1000	0	<5						
Potassium	2000	2030	2	<5	2000	2010	1	<5						
Magnesium	2000	1950	3	<5	2000	1940	3	<5						
Manganese	100	102	2	<5	100	100	0	<5						
Sodium	2000	1930	4	<5	2000	1910	5	<5						
Nickel	500	492	2	<5	500	492	2	<5						
Lead	500	488	2	<5	500	488	2	<5						
Antimony	500	476	5	<5	500	474	5	<5						
Selenium	500	478	4	<5	500	474	5	<5						
Thallium	500	494	1	<5	500	489	2	<5						
Vanadium	500	490	2	<5	500	486	3	<5						
Zinc	100	102	2	<10	100	102	2	<5						

(1) Percent difference from true value ICP Method 6010B - 10% ICP Method 200.7 - 5%

000036

FORM 3
INITIAL AND CONTINUING CALIBRATION BLANKS
ICP METALS

Lab Name: Environmental Testing and Consulting, Inc

Date/Time of Sequence: 12/13/02 0946 Instrument: ICPT

Analyte	Initial Calibration Blank ug/L	Continuing Calibration Blank ug/L									
		CCB1	CCB2								
Silver	ND	ND	ND								
Aluminum	ND	ND	ND								
Arsenic	ND	ND	ND								
Barium	ND	ND	ND								
Beryllium	ND	ND	ND								
Calcium	ND	ND	ND								
Cadmium	ND	ND	ND								
Cobalt	ND	ND	ND								
Chromium	ND	ND	ND								
Copper	ND	ND	ND								
Iron	ND	ND	ND								
Potassium	ND	ND	ND								
Magnesium	ND	ND	ND								
Manganese	ND	ND	ND								
Sodium	ND	ND	ND								
Nickel	ND	ND	ND								
Lead	ND	ND	ND								
Antimony	ND	ND	ND								
Selenium	ND	ND	ND								
Thallium	ND	ND	ND								
Vanadium	ND	ND	ND								
Zinc	ND	ND	ND								

719 781

FORM 4
INTERFERENCE CHECK SAMPLE
ICP METALS

Lab Name: Environmental Testing and Consulting, Inc

Date/Time of Sequence: 12/13/02 0946 Instrument: ICPT 0

Concentration Units: ug/L

Analyte	True Sol A	Initial Found Sol A	%REC	Final Found Sol A	%REC
Silver	0	ND	0	ND	0
Aluminum	100000	103000	103	101000	101
Arsenic	0	ND	0	ND	0
Barium	0	ND	0	ND	0
Beryllium	0	ND	0	ND	0
Calcium	100000	103000	103	102000	102
Cadmium	0	ND	0	ND	0
Cobalt	0	ND	0	ND	0
Chromium	0	ND	0	ND	0
Copper	0	ND	0	ND	0
Iron	100000	104000	104	103000	103
Potassium	0	ND	0	ND	0
Magnesium	100000	103000	103	102000	102
Manganese	0	ND	0	ND	0
Sodium	0	ND	0	ND	0
Nickel	0	ND	0	ND	0
Lead	0	ND	0	ND	0
Antimony	0	ND	0	ND	0
Selenium	0	ND	0	ND	0
Vanadium	0	ND	0	ND	0
Zinc	0	ND	0	ND	0

%R - Recovery should be within 20%.

FORM 4
INTERFERENCE CHECK SAMPLE
ICP METALS

Lab Name: Environmental Testing and Consulting, Inc

Date/Time of Sequence: 12/13/02 0946 Instrument: ICPT

Concentration Units: ug/L

Analyte	True Sol AB	Initial Found Sol AB	%REC	Final Found Sol AB	%REC
Silver	200	206	103	206	103
Aluminum	100000	102000	102	101000	101
Arsenic	200	204	102	202	101
Barium	200	213	107	209	105
Beryllium	200	208	104	207	104
Calcium	100000	102000	102	103000	103
Cadmium	200	199	100	197	99
Cobalt	200	202	101	200	100
Chromium	200	203	102	201	101
Copper	200	211	106	209	105
Iron	100000	103000	103	104000	104
Potassium	5000	5330	107	5340	107
Magnesium	100000	103000	103	103000	103
Manganese	300	296	99	296	99
Sodium	5000	4920	98	5120	102
Nickel	200	200	100	199	100
Lead	200	201	101	200	100
Antimony	200	200	100	200	100
Selenium	200	201	101	193	97
Thallium	200	200	100	201	101
Vanadium	500	505	101	500	100
Zinc	250	246	98	248	99

%R - Recovery should be within 20%.

719 783

ENVIRONMENTAL TESTING & CONSULTING, INC
Mercury Sequence Check List

Sequence ID : C212305,06,08 Date/Time: 12/13/2 1445 Analyst : JF
Supervisor:

Instrument ID: CETAC M-6000A

1. General Maintenance Check — Action Taken
   - a. Lamp Warm-up [✓] _____
   - b. Pump Winding [✓] _____
   - c Check GLS [✓] _____
   - d Nafion Dryer [✓] _____

2. Sequence Check List
   Initial Calibration
   - a Initial Calibration Blank (STD1-Blank) ✓
   - b. Initial Calibration Standard 1 0 20 ug/L ✓
   - c. Initial Calibration Standard 2 1.0 ug/L ✓
   - d. Initial Calibration Standard 3 2.0 ug/L ✓
   - e Initial Calibration Standard 4 5.0 ug/L ✓
   - f. Initial Calibration Standard 5 10.0 ug/L ✓

3 Regression coefficient (minimum = 0 995) ✓

4 Initial Calibration Blank (ICB) – All elements below MQL ✓
Water = 0.20 ug/L Soil = 0.02 mg/Kg

5. Initial Calibration Verification (ICV) – 2cnd Source SRN: M6-92-13
Concentration 5.0 ug/L +/- 10% Found: 5,15 %Difference: 3

6 Continuing Calibration Blank (CCB) – All elements below MQL indicate by √

Metal	CCB1	CCB2	CCB3	CCB4	CCB5	CCB6	CCB7	CCB8	CCB9	CCB10	CCB11	CCB12	CCB13	CCB14	CCB15
Hg	✓	✓													

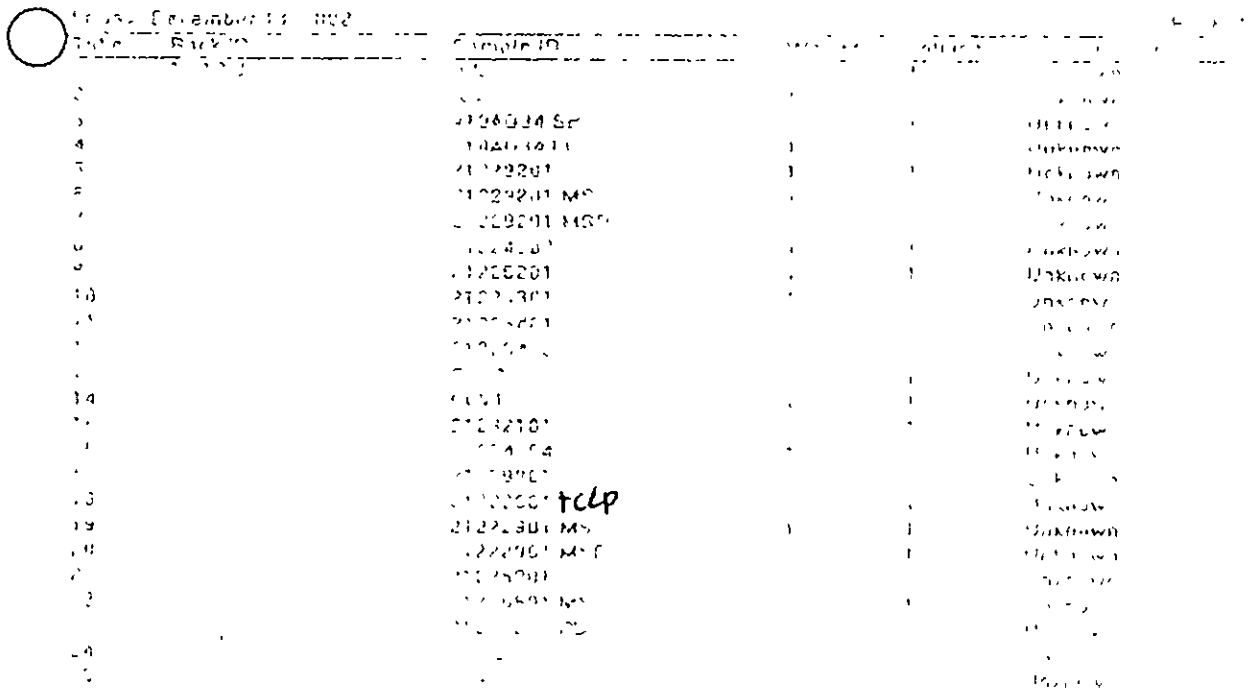
7 Continuing Calibration Verification (CCV) – Range: EPA 90-110% SW-846 80-120%
All elements within QC limits indicate by √ (Concentration same as ICV) SRN: M6-92-13

Metal	CCV1	CCV2	CCV3	CCV4	CCV5	CCV6	CCV7	CCV8	CCV9	CCV10	CCV11	CCV12	CCV13	CCV14	CCV15
Hg	✓	✓													

8 Method Blank (USACE) <1/2 MQL: _____ LCS % Recovery 80-120%: _____

Applicable ETC Order Nos. for this sequence:

SBLC V10AQ34	212262	212321	212229 TCLP	
212292	212263	212341	212288	
212243	212264	212399		



FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
MERCURY

Lab Name: Environmental Testing and Consulting, Inc

Date/Time of Sequence: 12/13/02 1445 Instrument: M6000

Initial Calibration Source: C1 M6-92-12

Continuing Calibration Source: ICV/CCV M6-92-13

	Initial Calibration Verification				Continuing CCV1				Continuing CCV2					
Analyte	True	Found	%Diff(1)	Flag	True	Found	%Diff(1)	Flag	Found	%Diff(1)	Flag	Found	%Diff(1)	Flag
Mercury	5.00	5 15	3.0	<5	5 00	5 17	3 4	<5	5 09	1 8	<5			

(1) Percent difference from true value < = 10%

FORM 3
INITIAL AND CONTINUING CALIBRATION BLANKS
ICP METALS

Lab Name Environmental Testing and Consulting, Inc

Date/Time of Sequence 12/13/02 1445 Instrument M6000

Analyte	MDL ug/L	Initial Cal Blank (ICB) ug/L	Continuing Calibration Blank ug/L										
			CCB1	CCB2									
Mercury	0.06	ND	ND	ND									

719 787

Environmental Testing & Consulting, Inc.

Quality Control Reports
Level III
GC/MS Semi-Volatiles

ENVIRONMENTAL TESTING & CONSULTING, INC
GC/MS BNA Sequence Check List (SW-846)

Sequence ID B112101 System ID BNA
Date 12/3/02 Analyst ESM
Applicable ETC Order Nos. for this sequence:
0212086 0212036 0212126 0212028 0212173
0212033 0212094 0212292 0212186
Validated

1. **DFTPP Daily 12-Hour Tune Meets Criteria.** No analysis begins until criteria are met. (SOP) ✓
2. **Degradation/Peak Tailing Check** (may be combined with DFTPP Tune): ✓
   a. DDT to DDE/DDD < =20% Benzidine/PCP - Normal Response with no visible peak tailing. ✓

2. **Initial Calibration Verification Criteria - Method :** B112101.M
   a. SPCC - Mean RF > =0.050 ✓
   b. CCC - RSD of RF for CCCs and Target Analytes MUST BE < =30% ✓
   c. RSD of analytes < =15% may use Average RF for quantitation ✓
   d. Analytes w/RSD >15% use Linear Regression - correlation coefficient > =0.99 ✓

3. **Calibration Verification - Each 12-Hour Shift**
   a. SPCC - RF > =0.050 ✓
   b. CCC - % Difference for Average RF Calibration - < =20% ✓
   c. CCC - % Drift for Linear Regression Calibration - < =20% ✓
   d. % Difference/% Drift for all other Target Analytes - < =30% ✓
   Calibration ran within sequence
   e. Internal Standards - Retention Times within +/- 30 seconds from Mid-Point ICAL STD ✓
   f. Internal Standards - Areas within (-50% to + 100%) from Mid-Point ICAL STD ✓

3. **Method Blanks included in this sequence :** ✓
   Analyze for each analytical batch (20 samples):
   List compounds identified in Method Blank w/concentration.
   Flag final result "B-Detected in Blank"
   P090281B => ND P090291B => Di-n-butyl phthl @ 5.9B
   P090311B => Bis(2-ethylhexyl)phthl @ 2.42J P090301B => ND

4. **Matrix Spike/Matrix Spike Duplicates included in this sequence :**
   Analyze for each analytical batch (20 samples). List MS/MSD(s) performed with any failures : NA

5. **Laboratory Control Samples included in this sequence :** ✓
   Must contain all Target Analytes.
   P090281CS/D => 2/83 RPD 1/166 recoveries P090291CS/D => 4/83 RPD 2/166 recoveries P090301CS/D => 7/83 RPD 2/166 recoveries ✓

6. **Surrogate Recoveries within QC Limits** P090301CS/D => 0/116 RPD 0/32 recoveries ✓

7 positive compounds within calibration range

Narrative/Notes :

719 789

DFTPP TUNE/TAILING FACTOR/DEGRADATION SUMMARY RESULTS

DFTPP Ion Abundance/Ratio Criteria Chart

Ion	Abundance Criteria	Base Peak	Other	Test
198	Base Peak, 100% relative abundance	100.00		PASS
51	30 - 60% of mass 198	35.97		PASS
68	Less than 2% of mass 69	0.00	(0.00)	PASS
69	Mass 69 relative abundance	46.33		PASS
70	Less than 2% of mass 69	0.00	(0.00)	PASS
127	40 - 60% of mass 198	49.31		PASS
197	0 - 1% of mass 198	0.00		PASS
199	5 - 9% of mass 198	6.82		PASS
275	10 - 30% of mass 198	27.99		PASS
365	Greater than 1% of mass 198	4.52		PASS
441	Present, but less than mass 443	11.68	(76.72)	PASS
442	Greater than 40% of mass 198	76.58		PASS
443	17 - 23% of mass 442	15.22	(19.88)	PASS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	0.9964747	5.000	PASS
Benzidine	0.5083612	3.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	603586			N/A
4,4-DDE	0	0.0	15.0	PASS
4,4-DDD	41928	6.5	15.0	PASS
4,4-DDD + DDE	41928	6.5	15.0	PASS

****
Tuning Sample, //ETCBDC/DD/chem/bna1.i/B1121201.B/0101001.D/0101001.D,*** PASSED **
****

FORM 5
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0212292

Lab File ID: 0101001 DFTPP Injection Date: 12/12/02

Instrument ID: BNA1 DFTPP Injection Time: 1606

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	36.0
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	46.3
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	49.3
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.8
275	10.0 - 30.0% of mass 198	28.0
365	Greater than 1.0% of mass 198	4.52
441	Present, but less than mass 443	11.7
442	Greater than 40.0% of mass 198	76.6
443	17.0 - 23.0% of mass 442	15.2 (19.9)2

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

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	WS1		0201002	12/12/02	1621
02	WS2		0301003	12/12/02	1640
03	WS3		0401004	12/12/02	1658
04	WS4		0501005	12/12/02	1717
05	WS5		0601006	12/12/02	1736
06	WS6		0701007	12/12/02	1754
07	WS7		0801008	12/12/02	1813
08	WS8		0901009	12/12/02	1832
09	WS9		1001010	12/12/02	1850
10	P09031LB	LB	2101021	12/12/02	2214
11	P09031LCS	LCS	2201022	12/12/02	2233
12	P09031LCSD	LCSD	2301023	12/12/02	2251
13	021229201	021229201	2401024	12/12/02	2310
14					
15					
16					
17					
18					
19					
20					
21					
22					

719 791

FORM 7
BNA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0212292

Instrument ID: BNA1 Calibration Date: 12/12/02 Time: 1736

Lab File ID: 0601006 Init. Calib. Date(s): 12/12/02 12/12/02

Init. Calib. Times: 1621 1850

GC Column: DB-5MS ID: 0.25 (mm)

COMPOUND	SAMPLE AMOUNT	CAL50 AMOUNT	CURVE	%D	MAX %d
Acenaphthene	53.04	50.00	AVRG	6.1	20.0
Acenaphthylene	52.65	50.00	AVRG	5.3	30.0
Acetophenone	47.82	50.00	AVRG	4.4	30.0
Aniline	49.52	50.00	AVRG	1.0	30.0
Anthracene	55.47	50.00	AVRG	10.9	30.0
Benzidine	48.87	50.00	2ORDR	2.3	35.0
Benz(a)Anthracene	50.61	50.00	AVRG	1.2	30.0
Benzo(b)fluoranthene	53.22	50.00	2ORDR	6.4	30.0
Benzo(k)fluoranthene	51.46	50.00	2ORDR	2.9	30.0
Benzo(ghi)perylene	47.56	50.00	AVRG	4.9	30.0
Benzo(a)pyrene	49.39	50.00	2ORDR	1.2	20.0
Benzoic acid	48.83	50.00	LINR	2.3	35.0
Benzyl alcohol	47.63	50.00	2ORDR	4.7	30.0
Bis(2-chloroethoxy)methane	49.49	50.00	AVRG	1.0	30.0
Bis(2-chloroethyl)ether	49.01	50.00	AVRG	2.0	30.0
Bis(2-chloroisopropyl)ether	48.28	50.00	AVRG	3.4	30.0
Bis(2-ethylhexyl)phthalate	49.78	50.00	2ORDR	0.4	30.0
4-Bromophenyl phenyl ether	51.08	50.00	AVRG	2.2	30.0
Butyl benzyl phthalate	54.00	50.00	AVRG	8.0	30.0
Carbazole	48.25	50.00	AVRG	3.5	30.0
4-Chloroaniline	50.51	50.00	AVRG	1.0	30.0
Chlorobenzilate	48.94	50.00	2ORDR	2.1	35.0
4-Chloro-3-methylphenol	52.34	50.00	AVRG	4.7	20.0
2-Chloronaphthalene	51.27	50.00	AVRG	2.5	30.0
2-Chlorophenol	49.91	50.00	AVRG	0.2	30.0
4-Chlorophenyl phenyl ether	52.95	50.00	AVRG	5.9	30.0
Chrysene	50.61	50.00	AVRG	1.2	30.0
Dibenz(a,h)anthracene	49.14	50.00	2ORDR	1.7	30.0
Dibenzofuran	53.33	50.00	AVRG	6.7	30.0
Di-n-butyl phthalate	56.08	50.00	AVRG	12.2	30.0
1,2-Dichlorobenzene	50.08	50.00	AVRG	0.2	30.0
1,3-Dichlorobenzene	49.23	50.00	AVRG	1.5	30.0
1,4-Dichlorobenzene	49.23	50.00	AVRG	1.5	20.0
3,3'-Dichlorobenzidine	47.81	50.00	2ORDR	4.4	30.0
2,4-Dichlorophenol	52.45	50.00	AVRG	4.9	20.0
2,6-Dichlorophenol	51.69	50.00	AVRG	3.4	30.0
Diethyl phthalate	53.28	50.00	AVRG	6.6	30.0

FORM 7
BNA-GCMS CONTINUING CALIBRATION CHECK

719 792

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0212292

Instrument ID: BNA1 Calibration Date: 12/12/02 Time: 1736

Lab File ID: 0601006 Init. Calib. Date(s): 12/12/02 12/12/02

Init. Calib. Times: 1621 1850

GC Column: DB-5MS ID: 0.25 (mm)

COMPOUND	SAMPLE AMOUNT	CAL50 AMOUNT	CURVE	%D	MAX %d
3,3-Dimethylbenzidine	44.45	50.00	2ORDR	11.1	35.0
2,4-Dimethyphenol	51.83	50.00	AVRG	3.7	30.0
Dimethyl phthalate	51.95	50.00	AVRG	3.9	30.0
4,6-Dinitro-2-methylphenol	47.08	50.00	2ORDR	5.8	30.0
2,4-Dinitrophenol	54.64	50.00	AVRG	9.3	30.0
2,4-Dinitrotoluene	52.05	50.00	AVRG	4.1	30.0
2,6-Dinitrotoluene	53.67	50.00	AVRG	7.3	30.0
N-NitrsdiphylAm/Diphenylamin	50.38	50.00	AVRG	0.8	20.0
Di-n-octyl phthalate	50.91	50.00	LINR	1.8	20.0
Ethyl methanesulfonate	50.71	50.00	AVRG	1.4	30.0
Fluoranthene	56.36	50.00	AVRG	12.7	20.0
Fluorene	52.92	50.00	AVRG	5.8	30.0
Hexachlorobenzene	50.80	50.00	AVRG	1.6	30.0
Hexachlorobutadiene	50.17	50.00	AVRG	0.3	20.0
Hexachlorocyclopentadiene	49.77	50.00	2ORDR	0.4	30.0
Hexachloroethane	50.17	50.00	AVRG	0.3	30.0
Indeno(1,2,3-cd)pyrene	44.66	50.00	2ORDR	10.7	30.0
Isophorone	51.41	50.00	AVRG	2.8	30.0
Methyl methanesulfonate	51.44	50.00	AVRG	2.9	30.0
2-Methylnaphthalene	52.48	50.00	AVRG	5.0	30.0
2-Methylphenol	50.09	50.00	AVRG	0.2	30.0
3&4-Methylphenol	51.57	50.00	AVRG	3.1	30.0
Naphthalene	51.61	50.00	AVRG	3.2	30.0
2-Nitroaniline	52.45	50.00	AVRG	4.9	30.0
3-Nitroaniline	51.64	50.00	AVRG	3.3	30.0
Pentachlorobenzene	48.98	50.00	AVRG	2.0	30.0
4-Nitroaniline	52.92	50.00	2ORDR	5.8	30.0
Nitrobenzene	49.93	50.00	AVRG	0.1	30.0
2-Nitrophenol	47.97	50.00	2ORDR	4.1	20.0
4-Nitrophenol	46.42	50.00	LINR	7.2	30.0
N-Nitrosodibutylamine	49.72	50.00	AVRG	0.6	30.0
N-Nitrosodiethylamine	48.04	50.00	AVRG	3.9	30.0
N-Nitrosodimethylamine	51.76	50.00	AVRG	3.5	30.0
N-Nitrosodi-n-propylamine	50.48	50.00	AVRG	1.0	30.0
Pentachloronitrobenzene	49.93	50.00	AVRG	0.1	30.0
Pentachlorophenol	51.96	50.00	2ORDR	3.9	20.0
Phenacetin	46.71	50.00	2ORDR	6.6	35.0

719 793

FORM 7
BNA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0212292

Instrument ID: BNA1 Calibration Date: 12/12/02 Time: 1736

Lab File ID: 0601006 Init. Calib. Date(s): 12/12/02 12/12/02

Init. Calib. Times: 1621 1850

GC Column: DB-5MS ID: 0.25 (mm)

COMPOUND	SAMPLE AMOUNT	CAL50 AMOUNT	CURVE	%D	MAX %d
Phenanthrene	55.10	50.00	AVRG	10.2	30.0
Phenol	50.32	50.00	AVRG	0.6	20.0
Pyrene	55.70	50.00	AVRG	11.4	30.0
Pyridine	53.97	50.00	AVRG	7.9	30.0
1,2,4,5-Tetrachlorobenzene	48.44	50.00	AVRG	3.1	30.0
2,3,4,6-Tetrachlorophenol	47.82	50.00	2ORDR	4.4	30.0
1,2,4-Trichlorobenzene	49.98	50.00	AVRG	0.0	30.0
2,4,5-Trichlorophenol	48.16	50.00	2ORDR	3.7	30.0
2,4,6-Trichlorophenol	48.11	50.00	2ORDR	3.8	20.0
1,2-Dphnylhydrzine/Azobenzen	50.31	50.00	AVRG	0.6	30.0
Nitrobenzene-d5	45.84	50.00	AVRG	8.3	30.0
2-Fluorobiphenyl	47.19	50.00	AVRG	5.6	30.0
Terphenyl-d14	46.38	50.00	AVRG	7.2	30.0
Phenol-d6	51.25	50.00	AVRG	2.5	30.0
2,4,6-Tribromophenol	44.74	50.00	2ORDR	10.5	30.0
2-Fluorophenol	50.88	50.00	AVRG	1.8	30.0

FORM 8

BNA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

719 794

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0212292

Lab File ID (Standard): 1001010 Date Analyzed: 12/12/02

Instrument ID: BNA1 Time Analyzed: 1850

		IS1 (DCB) AREA	#	RT	#	IS2 (NPT) AREA	#	RT	#	IS3 (ANT) AREA	#	RT	#
	12 HOUR STD	306957		4.23		1202749		4.92		716084		5.83	
	UPPER LIMIT	613914		4.73		2405498		5.42		1432168		6.33	
	LOWER LIMIT	153479		3.73		601375		4.42		358042		5.33	
	CLIENT SAMPLE NO.												
01	P09031LB	329639		4.25		1303000		4.93		776192		5.84	
02	P09031LCS	307639		4.25		1186061		4.93		716143		5.84	
03	P09031LCSD	319309		4.25		1236003		4.93		746703		5.84	
04	021229201	288906		4.24		1114108		4.93		665894		5.84	
05													
06													
07													
08													
09													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
21													
22													

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

FORM 8
BNA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0212292

Lab File ID (Standard): 1001010 Date Analyzed: 12/12/02

Instrument ID: BNA1 Time Analyzed: 1850

		IS4 (PHN)		IS5 (CRY)		IS6 (PRY)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	1377802	6.58	923108	8.04	443007	9.17
	UPPER LIMIT	2755604	7.08	1846216	8.54	886014	9.67
	LOWER LIMIT	688901	6.08	461554	7.54	221504	8.67
	CLIENT SAMPLE NO.						
01	P09031LB	1268575	6.60	812315	8.06	365561	9.22
02	P09031LCS	1284550	6.60	842924	8.06	387447	9.22
03	P09031LCSD	1298250	6.60	810611	8.06	358052	9.22
04	021229201	1140600	6.60	561433	8.05	250514	9.21
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

Report Date : 13-Dec-2002 11:00

E.S. Moody 12/13/02
12/13/02

12-13-02

ICAL SRN: 01-13-91-01

ICV SRN: 01-13-91-11

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
End Cal Date : 12-DEC-2002 18:50
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\bna1.i\B1121201.B\B1121201.M
Cal Date : 13-Dec-2002 10:33 erica

Calibration File Names:
Level 1: \\ETCBDC\DD\chem\bna1.i\B1121201.B\0201002.D
Level 2: \\ETCBDC\DD\chem\bna1.i\B1121201.B\0301003.D
Level 3: \\ETCBDC\DD\chem\bna1.i\B1121201.B\0401004.D
Level 4: \\ETCBDC\DD\chem\bna1.i\B1121201.B\0501005.D
Level 5: \\ETCBDC\DD\chem\bna1.i\B1121201.B\0601006.D
Level 6: \\ETCBDC\DD\chem\bna1.i\B1121201.B\0701007.D
Level 7: \\ETCBDC\DD\chem\bna1.i\B1121201.B\0801008.D
Level 8: \\ETCBDC\DD\chem\bna1.i\B1121201.B\0901009.D
Level 9: \\ETCBDC\DD\chem\bna1.i\B1121201.B\1001010.D

Compound	2 0000 Level 1	5 0000 Level 2	10 0000 Level 3	20 0000 Level 4	50 0000 Level 5	80 0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	100 0000 Level 7	120 0000 Level 8	160 0000 Level 9								
1 N-Nitrosodimethylamine	0 86973	0 73548	0 84942	0 89344	0 90502	0 88148					
	0 91047	0 94034	0 68314				AVRG		0 87428		6 64745

719 796

000053

719 797

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
End Cal Date : 12-DEC-2002 18:50
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\bna1.i\B1121201.B\B1121201.M
Cal Date : 13-Dec-2002 10:33 erica

Compound	2 0000 Level 1	5 0000 Level 2	10 0000 Level 3	20 0000 Level 4	50 0000 Level 5	80 0000 Level 6	Curve	Coefficients b	m1	r2	%RSD or R^2
	100 0000 Level 7	120 0000 Level 8	160 0000 Level 9								
2 Pyridine	1 09051	1 13443	1 32762	1 48863	1 52960	1 44922					
	1 52530	1 63015	1 57829				AVRG		1 41708		13 58445
3 Methyl methanesulfonate	0 91375	0 78356	0 89784	0 90825	0 94655	1 02664					
	0 89587	0 96367	0 94500				AVRG		0 92013		7 13437
5 N-Nitrosodiethylamine	0 52426	0 43712	0 54761	0 55671	0 52621	0.58524					
	0 57598	0 60033	0 57533				AVRG		0 54764		8 91331
6 Ethyl methanesulfonate	1 10286	0 91627	1 04585	1 07386	1 07757	1 16846					
	1 02079	1 08362	1 07260				AVRG		1 06243		6 41500
8 Phenol	1 53370	1 31990	1 52509	1 51571	1 55665	1 69399					
CCC	1 59151	1 67293	1 52108				AVRG		1 54673		6 87949

000054

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
End Cal Date : 12-DEC-2002 18:50
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\bna1.i\B1121201.B\B1121201.M
Cal Date : 13-Dec-2002 10:33 erica

Compound	2.0000 Level 1	5.0000 Level 2	10.0000 Level 3	20.0000 Level 4	50.0000 Level 5	80.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	100.0000 Level 7	120.0000 Level 8	160.0000 Level 9								
9 Aniline	0.73691	0.65052	0.74289	0.73825	0.70680	0.67667					
	0.72379	0.77776	0.66955				AVRG		0.71368		5.7685
10 Bis(2-chloroethyl)ether	0.96243	0.79298	0.86895	0.84788	0.81019	0.76637					
	0.80056	0.81589	0.77464				AVRG		0.82654		7.27760
11 2-Chlorophenol	1.22153	1.03784	1.21047	1.22432	1.24727	1.37990					
	1.24598	1.34432	1.33420				AVRG		1.24954		8.04919
12 1,3-Dichlorobenzene	1.57732	1.28092	1.35500	1.35015	1.33842	1.30663					
	1.35833	1.37773	1.29047				AVRG		1.35944		6.47924
14 1,4-Dichlorobenzene	1.57732	1.28092	1.35500	1.35015	1.33842	1.30663					
CCC	1.35833	1.37773	1.29047				AVRG		1.35944		6.47924

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
End Cal Date : 12-DEC-2002 18:50
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\bna1.i\B1121201.B\B1121201.M
Cal Date : 13-Dec-2002 10:33 erica

Compound	2 0000 Level 1	5 0000 Level 2	10 0000 Level 3	20 0000 Level 4	50 0000 Level 5	80 0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	100 0000 Level 7	120 0000 Level 8	160 0000 Level 9								
15 Benzyl alcohol	13034	33422	79849	150662	411760	745331					
	850387	1011675	1387661				QUAD	0 03650	0 85875	0 00288	0 99707
16 2-Methylpherol	0 91265	0 78682	0 87538	0 90355	0 94378	1.06158					
	0 95649	1 03356	1 00496				AVRG		0 94209		9 01629
17 1,2-Dichlorobenzene	1 40158	1 09670	1 22229	1 21499	1 23263	1 19 80					
	1 23773	1 28276	1 18997				AVRG		1 23066		6 61453
18 Bis(2-chloroisopropyl)ether	1 38383	1 11543	1 16324	1 13616	1 08135	1 04084					
	1 05852	1 09107	1 00896				AVRG		1 11993		9 80504
19 3&4-Methylphenol	1 06119	0 90997	1 03112	1 09648	1 15445	1 28354					
	1 15138	1 21826	1 16762				AVRG		1 11933		9 93034

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
End Cal Date : 12-DEC-2002 18:50
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\bna1.i\B1121201.B\B1121201.M
Cal Date : 13-Dec-2002 10:33 erica

Compound	2 0000 Level 1	5 0000 Level 2	10 0000 Level 3	20 0000 Level 4	50 0000 Level 5	80 0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	100 0000 Level 7	120 0000 Level 8	160 0000 Level 9								
20 N-Nitrosodi-n-propylamine	0 24044	0 20056	0 23471	0 22871	0 21760	0 20285					
SRC	0 20488	0 21261	0 19743				AVRG		0 21553		7 33780
21 Acetophenone	0 46384	0 37061	0 44102	0 43331	0 39711	0 42079					
	0 40786	0 42492	0 37748				AVRG		0 41522		7 26438
22 Hexachloroethane	0 15522	0 12681	0 15019	0 14115	0 14254	0 13724					
	0 14061	0 14745	0 13718				AVRG		0 14204		5 84315
24 Nitrobenzene	0 39129	0 31850	0 36113	0 35279	0 33673	0 32102					
	0 31713	0 33214	0 31425				AVRG		0 33722		6 89596
25 Isophorone	0 51631	0 45783	0 56469	0 57185	0 55689	0 53817					
	0 56016	0 56862	0 53969				AVRG		0 54158		6 66690

719 801

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
End Cal Date : 12-DEC-2002 18:50
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\bna1.i\B1121201.B\B1121201.M
Cal Date : 13-Dec-2002 10:33 erica

Compound	2 0000 Level 1	5 0000 Level 2	10 0000 Level 3	20 0000 Level 4	50 0000 Level 5	80 0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	100 0000 Level 7	120 0000 Level 8	160 0000 Level 9								
26 2,4-Dimethyphenol	0 31659	0 27142	0 32369	0 32871	0 32982	0 34797					
	0 31058	0 32804	0 30673				AVRG		0 31817		6 70365
27 Benzoic acid	+++++	5376	24243	66184	285883	563366					
	659627	842263	1253594				LINR	0 25534	0 26758		0 99112
28 2-Nitrophenol	6845	19055	48554	100085	279960	509889					
CCC	583746	691356	941836				QUAD	0 04374	4 88342	0 17395	0 99810 *1
29 Bis(2-chloroethoxy)methane	0 37540	0 32256	0 36304	0 34905	0 33846	0 32879					
	0 33425	0 34935	0 31667				AVRG		0 34195		5 59498
30 2,4-Dichlorophenol	0 23306	0 20642	0 25230	0 25133	0 27758	0 30126					
CCC	0 27229	0 29578	0 29153				AVRG		0 26462		11 93281

*1 %RSD = 15.3

000058

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
End Cal Date : 12-DEC-2002 18:50
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\bna1.i\B1121201.B\B1121201.M
Cal Date : 13-Dec-2002 10:33 erica

Compound	2 0000 Level 1	5 0000 Level 2	10 0000 Level 3	20 0000 Level 4	50 0000 Level 5	80 0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	100 0000 Level 7	120 0000 Level 8	160 0000 Level 9								
31 1,2,4-Trichlorobenzene	0 32976	0 26559	0 30069	0 30181	0 29951	0 29212					
	0 30379	0 31222	0 29088				AVRG		0 29960		5 75803
33 Naphthalene	0 99387	0 77481	0 88368	0 88151	0 84465	0 77931					
	0 76856	0 77499	0 66342				AVRG		0 81931		11 55573
34 4-Chloroaniline	0 30679	0.28623	0 34599	0 33999	0 34569	0 34936					
	0 36609	0 38082	0 35858				AVRG		0 34217		8 52064
35 2,6-Dichlorophenol	0 24127	0 21037	0 24789	0 24973	0 26917	0 29774					
	0 26395	0 28632	0 27699				AVRG		0 26038		10 13489
36 Hexachlorobutadiene	0 20807	0 16399	0 18542	0 18589	0 19530	0 19798					
CCC	0 20629	0 21048	0 19815				AVRG		0 19462		7 47258

719 803

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
End Cal Date : 12-DEC-2002 18:50
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\bna1.i\B1121201.B\B1121201.M
Cal Date : 13-Dec-2002 10:33 erica

Compound	2.0000 Level 1	5.0000 Level 2	10.0000 Level 3	20.0000 Level 4	50.0000 Level 5	80.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	100.0000 Level 7	120.0000 Level 8	160.0000 Level 9									
37 N-Nitrosodibutylamine	0.18074	0.17591	0.21319	0.22422	0.21386	0.23367						
	0.22900	0.24177	0.22375				AVRG		0.21506		10.52323	
38 4-Chloro-3-methylphenol	0.23480	0.20780	0.26036	0.26886	0.28609	0.31627						
CCC	0.28896	0.30418	0.29206				AVRG		0.27327		12.62402	
39 2-Methylnaphthalene	0.66311	0.54218	0.62712	0.62577	0.63376	0.58603						
	0.59103	0.61968	0.54527				AVRG		0.60377		6.77741	
40 Hexachlorocyclopentadiene	5085	15174	40251	83304	267762	451142						
SPCC	577877	689671	871870				QUAD	0.06522	3.21141	-0.04458	0.99691	*1
41 1,2,4,5-Tetrachlorobenzene	0.57485	0.45347	0.52192	0.51056	0.51661	0.55852						
	0.55339	0.58357	0.52641				AVRG		0.53326		7.45387	

*1 RF = 0.26

090060

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
End Cal Date : 12-DEC-2002 18:50
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\bna1.i\B1121201.B\B1121201.M
Cal Date : 13-Dec-2002 10:33 erica

Compound	2 0000 Level 1	5 0000 Level 2	10 0000 Level 3	20 0000 Level 4	50 0000 Level 5	80 0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	100 0000 Level 7	120 0000 Level 8	160 0000 Level 9									
42 2,4,6 Trichlorophenol	7535	21675	55937	112032	328653	610139						
	694433	821828	1143463				LINR	0 06780	0 39907		0 99772	
43 2,4,5-Trichlorophenol	*****	22587	59163	124654	337490	639983						
CCC	747569	876977	1195645				QUAD	0 05922	2 50411	-0 09205	0 99870	*1
45 2-Chloronaphthalene	0 95641	0 75476	0 85033	0 83295	0 86111	0 80152						
	0 84578	0 85299	0 80255				AVRG		0 83982		6 59009	
46 2-Nitroaniline	*****	0 22397	0 27886	0 28792	0 30549	0 28234						
	0 30027	0 32572	0 32499				AVRG		0 29120		11 15150	
47 4-Nitrophenol	2278	9717	25671	54777	182436	339161						
SPCC	399319	497653	724713				LINR	0 15727	0 25061		0 99114	*2

*1 %RSD = 15.4

*2 RF = 0.18

719 805

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
End Cal Date : 12-DEC-2002 18:50
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\bna1.i\B1121201.B\B1121201.M
Cal Date : 13-Dec-2002 10:33 erica

Compound	2 0000 Level 1	5 0000 Level 2	10 0000 Level 3	20 0000 Level 4	50 0000 Level 5	80 0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	100 0000 Level 7	120 0000 Level 8	160 0000 Level 9								
48 Dimethyl phthalate	1 14153	0 98065	1 14554	1 12716	1 13694	1 06120					
	1 09437	1 11741	1 04365				AVRG		1 09427		5 09493
49 2,4-Dinitrotoluene	0 20154	0 20487	0 24300	0 24864	0 26269	0 25772					
	0 27458	0 28908	0 28910				AVRG		0 25236		12 73866
50 Acenaphthylene	1 39646	1 18874	1 37275	1 33785	1 34461	1 20915					
	1 25165	1 26889	1 12221				AVRG		1 27692		7 26115
52 3-Nitroaniline	0 19333	0 19846	0 25042	0 25470	0 24239	0 23308					
	0 27042	*****	*****				AVRG		0 23468		12 31149
53 2,4-Dinitrophenol	0 15661	0 17342	0 21170	0 21545	0 19986	0 18506					
SPCC	0 16719	0 17153	0 16527				AVRG		0 18290		11 67717

290062

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
End Cal Date : 12-DEC-2002 18:50
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\bna1.i\B1121201.B\B1121201.M
Cal Date : 13-Dec-2002 10:33 erica

Compound	2.0000 Level 1	5.0000 Level 2	10.0000 Level 3	20.0000 Level 4	50.0000 Level 5	80.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	100.0000 Level 7	120.0000 Level 8	160.0000 Level 9								
54 Acenaphthene	0.99415	0.80794	0.90149	0.90421	0.94513	0.87837					
CCC	0.89176	0.89347	0.80256				AVRG		0.89101		6.72732
55 2,6-Dinitrotoluene	0.21820	0.19675	0.23665	0.23864	0.23482	0.20904					
	0.20657	0.20936	*****				AVRG		0.21875		7.30830
56 Pentachlorobenzene	0.69383	0.56442	0.64304	0.68670	0.72530	0.87096					
	0.83315	0.85239	0.79303				AVRG		0.74034		14.06378
57 Dibenzofuran	1.43840	1.17927	1.36702	1.36424	1.40947	1.29096					
	1.30667	1.34091	1.19523				AVRG		1.32135		6.71627
58 Diethyl phthalate	1.04503	0.92653	1.06896	1.06316	1.08231	0.97727					
	1.01273	1.03175	0.93379				AVRG		1.01573		5.69742

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
End Cal Date : 12-DEC-2002 18:50
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\bna1.i\B1121201.B\B1121201.M
Cal Date : 13-Dec-2002 10:33 erica

Compound	2.0000 Level 1	5.0000 Level 2	10.0000 Level 3	20.0000 Level 4	50.0000 Level 5	80.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	100.0000 Level 7	120.0000 Level 8	160.0000 Level 9								
59 2,3,4,6-Tetrachlorophenol	5171	16556	44651	95449	298484	586138					
	665374	815118	1104669				QUAD	0.06884	2.81633	-0.18872	0.99747
60 4-Chlorophenyl phenyl ether	0.58729	0.48796	0.55867	0.56422	0.61062	0.58278					
	0.61686	0.62334	0.55782				AVRG		0.57662		7.20280
61 4-Nitroaniline	3231	12323	32817	66546	183849	306847					
	408423	513366	*****				QUAD	-0.00971	5.84844	-2.32137	0.99863
62 4,6-Dinitro-2-methylphenol	2166	8717	27180	60555	215077	426170					
	493526	617695	835424				QUAD	0.09670	7.12363	-1.27300	0.99662
63 Fluorene	1.09033	0.94994	1.07693	1.07433	1.09388	1.01600					
	1.02583	1.03001	0.94497				AVRG		1.03358		5.47572

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
End Cal Date : 12-DEC-2002 18:50
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\bna1.i\B1121201.B\B1121201.M
Cal Date : 13-Dec-2002 10:33 erica

Compound	2 0000 Level 1	5 0000 Level 2	10 0000 Level 3	20 0000 Level 4	50 0000 Level 5	80 0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	100 0000 Level 7	120 0000 Level 8	160 0000 Level 9								
64 N-Nitrsd.phylAm/D.phenylamine	0 41573	0 33898	0 37731	0 37605	0 38074	0 37199					
CCC	0 38784	0 39859	0 35385				AVRG		0 37790		5 98901
65 1,2-Dphrylnydrzine/Azobenzene	0 08560	0 07569	0 08721	0 08733	0 08818	0 08717					
	0 09021	0 09578	0 09160				AVRG		0 08764		6 20031
67 Pheracetin	5620	19054	64377	150909	445225	820418					
	1007695	1222378	1545914				QUAD	0 07905	3 35764	0 04230	0 99640
68 4-Bromophenyl phenyl ether	0 20666	0 16523	0 19448	0 19258	0 20976	0 20745					
	0 22344	0 22975	0 21837				AVRG		0 20530		9 44543
69 Hexachlorobenzene	0 24822	0 19129	0 21773	0 22052	0 24329	0 24847					
	0 26921	0 27702	*****				AVRG		0 23947		11 83202

719 809

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
End Cal Date : 12-DEC-2002 18:50
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\bna1.i\B1121201.B\B1121201.M
Cal Date : 13-Dec-2002 10:33 erica

Compound	2.0000 Level 1	5.0000 Level 2	10.0000 Level 3	20.0000 Level 4	50.0000 Level 5	80.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	100.0000 Level 7	120.0000 Level 8	160.0000 Level 9									
70 Pentachlorophenol	*****	13842	32559	75035	263543	541078						
CCC	630963	775462	1082074				QUAD	0.12221	5.61664	-0.91546	0.99693	*1
71 Pentachloronitrobenzene	0.08030	0.07607	0.09588	0.09602	0.09500	0.10380						
	0.10143	0.10754	0.10007				AVRG		0.09512		11.01352	
73 Phenanthrene	0.79909	0.65800	0.77969	0.80780	0.82139	0.76807						
	0.72028	0.72193	0.63174				AVRG		0.74533		8.99756	
74 Anthracene	0.76957	0.66542	0.78750	0.80377	0.82723	0.77284						
	0.72157	0.72359	0.63361				AVRG		0.74568		8.72813	
75 Carbazole	0.58912	0.53963	0.63322	0.63240	0.56291	0.57583						
	0.56757	0.60514	0.54430				AVRG		0.58335		5.92606	

*1 %RSD = 27.9

000066

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
End Cal Date : 12-DEC-2002 18:50
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\bna1.i\B1121201.B\B1121201.M
Cal Date : 13-Dec-2002 10:33 erica

Compound	2.0000 Level 1	5.0000 Level 2	10.0000 Level 3	20.0000 Level 4	50.0000 Level 5	80.0000 Level 6	Curve	Coefficients b	m1	r2	%RSD or R^2
	100.0000 Level 7	120.0000 Level 8	160.0000 Level 9								
76 Di-n-butyl phthalate	0.76940	0.77650	0.96174	0.98332	0.97436	0.86143					
	0.81806	0.80438	*****				AVRG		0.86965		10.48579
77 Fluoranthene	0.88266	0.79498	0.92777	0.95345	0.97943	0.88295					
CCC	0.84445	0.83297	0.72127				AVRG		0.86888		9.31130
78 Benzidine	6462	22538	65044	125661	360596	676970					
	840503	1075203	*****				QUAD	0.00206	4.29827	-1.42846	0.99778
79 Pyrene	0.90414	0.78981	0.90028	0.90489	0.94126	0.84325					
	0.81089	0.81124	0.69819				AVRG		0.84488		9.00525
81 Chlorobenzilate	*****	30116	86958	186158	546151	990952					
	1199802	1391211	*****				QUAD	0.02711	2.69688	-0.42944	0.99745

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
End Cal Date : 12-DEC-2002 18:50
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\bna1.i\B1121201.B\B1121201.M
Cal Date : 13-Dec-2002 10:33 erica

Compound	2 0000 Level 1	5 0000 Level 2	10 0000 Level 3	20 0000 Level 4	50 0000 Level 5	80 0000 Level 6	Curve	Coefficients			%RSD or R^2
	100 0000 Level 7	120 0000 Level 8	160 0000 Level 9					a0	a1	a2	
82 Butyl benzyl phthalate	*****	0.32276	0 47112	0 52659	0 52633	0 51132					
	0 51359	0 53713	0 49000				AVRG		0 48736		14 33369
83 3,3-Dimethylbenzidine	8642	31940	89640	182602	487990	903876					
	1147228	1289454	1565936				QUAD	0 05083	2 53527	0 15133	0 99653
84 Bis(2-ethylhexyl)phthalate	10963	47637	149528	323347	967558	1471742					
	1836318	1990394	2306527				QUAD	0 05263	1 32333	0 09079	0 99769
85 3,3'-Dichlorobenzidine	6236	26950	67626	144006	423646	724165					
	906317	965407	1228281				QUAD	0 04174	3 14817	-0 14139	0 99952
86 Benz(a)Anthracene	0 97642	0 76223	0 85436	0 85944	0 86915	0 83833					
	0 85850	0 89568	0 81432				AVRG		0 85871		6 77102

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
End Cal Date : 12-DEC-2002 18:50
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\bna1.i\B1121201.B\B1121201.M
Cal Date : 13-Dec-2002 10:33 erica

Compound	2.0000 Level 1	5.0000 Level 2	10.0000 Level 3	20.0000 Level 4	50.0000 Level 5	80.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	100.0000 Level 7	120.0000 Level 8	160.0000 Level 9									
88 Chrysene	0.97642	0.76223	0.85436	0.85944	0.86915	0.83833						
	0.85850	0.89568	0.81432				AVRG		0.85871		6.77102	
89 Di-n-octyl phthalate	*****	52082	175426	400862	1273203	1957459						
CCC	2577665	2725985	3212290				LINR	0.04343	0.91095		0.99698	*1
90 Benzo(b)fluoranthene	24842	98895	203406	396661	1061740	1508412						
	2260635	2253200	*****				QUAD	-0.00510	0.93430	-0.06621	0.99812	
91 Benzo(k)fluoranthene	28339	99552	239431	455176	1253944	1894420						
	2391441	2254594	3119348				QUAD	0.02501	0.69747	-0.03888	0.99967	
92 Benzo(a)pyrene	15888	65671	163771	318146	866515	1284765						
	1787335	1705190	*****				QUAD	0.01902	1.06820	-0.07262	0.99940	*2

*1 %RSD = 22.4

*2 %RSD = 23.8

719 813

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
End Cal Date : 12-DEC-2002 18:50
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\bna1.i\B1121201.B\B1121201.M
Cal Date : 13-Dec-2002 10:33 erica

Compound	2.0000 Level 1	5.0000 Level 2	10.0000 Level 3	20.0000 Level 4	50.0000 Level 5	80.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	100.0000 Level 7	120.0000 Level 8	160.0000 Level 9								
94 Indeno(1,2,3-cd)pyrene	15571	65528	150039	305898	713736	1114442					
	1591535	1432466	+++++				QUAD	0.00729	1.23191	-0.09274	0.99887
95 Dibenz(a,h)anthracene	12637	53089	122541	252874	611918	974850					
	1379361	1244477	+++++				QUAD	0.01914	1.41398	-0.12320	0.99916
96 Benzo(ghi)perylene	0.55090	0.53938	0.65016	0.69137	0.63162	0.65862					
	0.74718	0.75379	0.75266				AVRG		0.66395		12.27821
$ 4 2-Fluorophenol	1.06228	0.91825	1.12413	1.18191	1.18106	1.25992					
	1.19234	1.30818	1.21823				AVRG		1.16070		9.94415
$ 7 Phenol-d6	1.31933	1.18478	1.38909	1.39653	1.44737	1.53991					
	1.45822	1.55962	1.41326				AVRG		1.41201		8.01733

000070

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
End Cal Date : 12-DEC-2002 18:50
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\bna1.i\B1121201.B\B1121201.M
Cal Date : 13-Dec-2002 10:33 erica

Compound	2.0000 Level 1	5.0000 Level 2	10.0000 Level 3	20.0000 Level 4	50.0000 Level 5	80.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	100.0000 Level 7	120.0000 Level 8	160.0000 Level 9								
$ 23 Nitrobenzene-d5	0.39611	0.34149	0.38913	0.37660	0.33789	0.35636					
	0.36035	0.39049	*****				AVRG		0.36655		6.16833
$ 44 2-Fluorobiphenyl	1.32372	1.08648	1.20714	1.20106	1.09181	1.08990					
	1.10591	1.14297	*****				AVRG		1.15687		7.36527
$ 66 2,4,6-Tribromophenol	3523	10722	29510	62866	208298	429523					
	545162	684682	946656				QUAD	0.09739	7.09130	-2.20598	0.99644
$ 60 Terphenyl-d14	0.88685	0.68458	0.84681	0.91471	0.84624	0.93086					
	0.87143	0.99779	*****				AVRG		0.87241		10.41169

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
End Cal Date : 12-DEC-2002 18:50
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\bna1.i\B1121201.B\B1121201.M
Cal Date : 13-Dec-2002 10:33 erica

Curve	Formula	Units
Averaged	Amt = Rsp/m1	Response
Linear	Amt = b + Rsp/m1	Response
Quad	Amt = b + m1*Rsp + m2*Rsp^2	Response

APPENDIX D

DATA EVALUATION OF SEMI-ANNUAL GROUNDWATER SAMPLES

Technical Memorandum

Jacobs Eastern Federal Operations
Oak Ridge, Tennessee

TO: Kraig Smith, Project Manager

FROM: Linda Lang, Project Chemist

DATE: 15 November 2002

SUBJECT: Quality Control Review of Chemical Analytical Data

REFERENCE: Memphis Depot – Dunn Field Groundwater Systems
Jacobs Project Number C5X51111; WBS 040100L

1.0 PURPOSE

This Technical Memorandum (Memorandum) presents an evaluation of the quality of the analytical chemistry data generated in support of the referenced project The purpose of the evaluation is to document the quality of the reported data and any limitations to the use of the data Data use limitations are conveyed to data users through the text of this Memorandum and the application of qualifiers to project data as a result of this evaluation. Laboratory data sheets with these qualifiers applied are included as Attachment 1 to this Memorandum. The data users are urged to review the findings of this evaluation and associated data qualification before using the data for decision-making.

1.1 DATA QUALITY OBJECTIVES

Analytical support for this project required the collection of definitive data. Definitive data are defined in "*Data Quality Objectives Process for Superfund*," EPA540-R-93-071, U.S EPA Office of Emergency and Remedial Response, September 1993, as follows:

> "Definitive data are generated using rigorous analytical methods, such as approved EPA reference methods. Data are analyte-specific, with confirmation of analyte identity and concentration Methods produce tangible raw data (e.g , chromatograms, spectra, digital values) in the form of paper printouts or computer-generated electronic files. Data may be generated at the site or at an off-site location, as long as the QA/QC requirements are satisfied. For the data to be definitive, either analytical or total measurement error must be determined."

Specific data quality criteria and procedures to achieve the desired level of quality are documented in the approved Quality Assurance Project Plan (QAPP) Key elements of the quality program relating to this evaluation include:

- Use of an approved, USACE-validated laboratory
- Use of a sampling program designed to meet the project objectives
- Use of appropriate analytical methods
- Evaluation of reported QA/QC to verify compliance with data quality objectives

1.1.1 Analytical Laboratory

The analytical laboratory employed on this project, Environmental Testing & Consulting, Inc. (ETC), was evaluated by the USACE Hazardous, Toxic and Radioactive Waste Center of Expertise (HTRW-CX) and holds a current letter of validation from HTRW-CX to perform sample analyses in support of the USACE HTRW Program. This validation confirms their ability to produce reliable and defensible data. In addition, the laboratory was approved by USACE to provide the required project-specific analyses. USACE approval of the laboratory is documented in the approved QAPP. The laboratory can be contacted as follows:

Environmental Testing & Consulting, Inc. (ETC)
Contact: Ms. Connie Bradberry, Project Manager
2924 Walnut Grove Road
Memphis, TN 38111
Phone: (901) 327-2750
Fax: (901) 327-6334

1.1.2 Sampling Program Design/Project Samples

The sampling program was designed to collect samples representative of site conditions at the time of sampling and to generate data of sufficient quality and quantity to make the intended decisions. The basis for selecting the sampling locations, sample collection procedures, frequency and type of samples collected, and the analytical parameters for each sample were documented in the approved project Work Plans.

Project samples included in this evaluation consist of groundwater and associated field QC samples collected in October of 2002 and distributed to the laboratory for chemical analysis of volatile organic compounds (VOCs). The laboratory reported the analyses in two Laboratory Data Packages (LDPs), each designated by an order number. LDPs included in this evaluation are:

1. ETC Order # 0201053, dated October 18, 2002
2. ETC Order # 0201054, dated October 18, 2002

A listing of specific project samples contained in the LDPs, along with a cross reference of sample field ID numbers to laboratory ID numbers, is included in Attachment 2.

1.1.3 Analytical Methods

In order to obtain definitive data and promote data comparability, the laboratory was required to perform testing within the guidelines of standardized EPA methods included in the following approved protocol:

- "*Test Methods for Evaluating Solid Waste*," SW-846, 3rd Edition, Update III, U.S. EPA, November 1986, (SW-846).

The specific analytical method used in the analysis of the evaluated project samples was:

- 8260B – VOCs by Gas Chromatography/Mass Spectrometry (GC/MS)

1.1.4 Data Evaluation Procedure

The quality of these data has been evaluated according to procedures consistent with those included in the approved QAPP. The procedures are based on "*USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*," EPA-540/R-94-012, February 1994 (*Functional Guidelines*). Data evaluation was also based on the QC requirements of the analytical method, project DQOs, and the informed professional judgment of the evaluator. Data evaluation was performed by qualified Jacobs personnel, experienced in the evaluation of analytical data quality.

The following data quality issues were addressed in this evaluation:

- Review of chain-of-custody and sample receipt forms to evaluate sample receipt data, damaged sample containers, etc.
- Review of laboratory testing methods, detection limits, holding times, data qualifiers, etc.
- Review of field QC blank data to detect contamination from outside sources.
- Review of field QC duplicates to evaluate data reproducibility.
- Review of laboratory QC including laboratory blanks, spike recovery, and duplicates.
- Review of calibrations as provided by the laboratory.
- Qualification of data with appropriate review qualifiers to document data use limitations.
- Documentation of data evaluation findings in terms of the precision, accuracy, representativeness, comparability, and completeness (PARCC) data quality parameters.

The PARCC data quality parameters were evaluated as follows:

- Accuracy - by evaluation of surrogate (SUR), laboratory control sample (LCS), internal standard (IS), and matrix spike/matrix spike duplicate (MS/MSD) percent recoveries (%Rs).
- Precision - by evaluation of MS/MSD, laboratory duplicate, and field duplicate relative percent differences (RPDs).
- Representativeness - by evaluation of sample receipt records, technical holding times, and blank sample results (field and laboratory).
- Comparability - by evaluation of laboratory detection limits, reporting units, and the overall performance of the chosen method.
- Completeness - by comparing the number of valid measurements obtained to the number of measurements planned for these samples.

Field QC Duplicate Sample Evaluation Procedure

Field QC duplicate samples were collected and analyzed at a frequency of approximately 10 percent of the primary samples. Typically, no data qualification is required based solely on non-conforming QC duplicate results unless an individual non-conformance is deemed to be extreme or the data evaluation revealed negative trends. Data qualification, if deemed necessary, may be limited to individual sample results or may include entire data sets. Since no published EPA procedure exists for the evaluation of field duplicate results, the following overview is included to document the procedure and criteria used in this report.

Duplicate results for liquid sample matrices that differ by more than a factor of two (RPD > 67) would be considered to be in 'disagreement'. In the special case where one or both sample results were less than five

times the laboratory RL, a difference of two times the RL was used as the evaluation criterion. Data found to be out of control would be further examined to determine whether the disagreement was extreme or an isolated occurrence, or whether negative trends exist.

Duplicate samples found to be in disagreement do not necessarily indicate that an error has been made or that inappropriate procedures were used Factors including the natural variability of the sample matrix, high or low analyte concentrations, or the presence of compounds that interfere with analysis can contribute to duplicate disagreement. Negative trends may indicate systematic errors made in sampling, handling, or analytical procedures; or the selection of an inappropriate protocol. If negative trends or extreme non-conformances exist, associated data are evaluated carefully to determine their validity. Data severely affected by duplicate sample results, if any, are reported with qualifiers and/or notations as to data usability.

1.1.5 Data Qualifier Definitions

The following definitions describe the data qualifiers that may have been assigned to results during this review. Data qualifier definitions are based on those included in the *Functional Guidelines*.

U The analyte was analyzed for, but was not detected above the laboratory Reporting Limit (RL)

J The analyte was positively identified, however, the associated numerical value is an estimate of the concentration of the analyte in the sample.

UJ The analyte was not detected above the RL. However, the RL is an estimate and may or may not represent the actual RL necessary to accurately and precisely measure the analyte in the sample.

R The sample result is rejected and is therefore unusable due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

1.2 STATEMENT OF DATA QUALITY AND DATA USE LIMITATIONS

QA/QC results indicate that the data meet definitive data standards, are of known quality, and are acceptable for their intended uses with the qualifiers applied No results were found to be unusable due to QC deficiencies. QC data demonstrated that the QA mechanisms were effective in ensuring measurement data reliability within expected limits of sampling and analytical error. Sample data, as qualified, are considered to be representative of actual site conditions at the time sampled.

1.2.1 Summary of Qualifiers Applied to Data During This Evaluation

This section presents a summary of qualifiers applied to sample data as a result of this review. Laboratory data sheets with these qualifiers applied are included as Attachment 1 to this Memorandum. Section 1.1.5 presents complete qualifier definitions and Section 2 0 contains the review findings, along with descriptions of the impact of the findings on project data. Sample data may also have qualifiers applied by the laboratory Laboratory qualifiers are defined on page 1 of each LDP Based on this review, project data were qualified as follows:

1. All analytes detected in samples MW-32-1, MW-37-100, MW-54-1, MW-54-2, MW-68-1, MW-69-1, MW-126-1, MW-127-1, MW-127-2, RW-1A, RW-1B, RW-2, RW-3, RW-4, RW-5, RW-6, RW-7, RW-8, RW-9, and RW-9-100 were qualified as estimated "J" due to high surrogate recoveries.

2. The reported nondetects for acetone, bromomethane, 2-butanone, chloroethane , chloromethane, trans-1,2-dichloroethene, and were qualified as estimated "UJ" in the samples with high %D's in calibration verifications.

3. Trichloroethene was qualified as estimated "J" in MW-57-2 and RW-5 due to high RPD's in the MS/MSD analyses of these samples.

4. Reported concentrations of methylene chloride in the following samples were qualified nondetect at an estimated detection limit "UJ" due to method blank contamination: MW-54-2, MW-126-1, MW-127-2, RW-1A, RW-1B, RW-2, RW-3, RW-4, RW-6, RW-7, RW-8, RW-9, and RW-9-100.

1.2.2 Additional Data Use Concerns

1. Some analyte concentrations were detected beyond the calibration range of the respective instrument and were designated as such by the laboratory with an "E" flag. In each case, these concentrations were replaced with concentrations from the appropriate secondary dilutions. See section 2.4.3 for specific samples and analytes affected.

2.0 DATA QUALITY NARRATIVES

Specific findings of this evaluation are discussed in data quality narratives in terms of the PARCC data quality parameters. The discussions present a compilation of laboratory QC results found to be outside project acceptance criteria and provide an assessment of the potential impact those results have on the analytical data. The bulk of the QC results were in control and, therefore, were not summarized in these discussions.

Project sample analyses were grouped into QC batches as defined in SW-846 The laboratory analyzed QC samples with each analytical batch. Data qualification, when necessary, may be based on non-conforming batch QC results Thus, specific findings of this evaluation may be discussed in terms of analytical batches

2.1 ACCURACY

In general, project accuracy indicators (SUR, LCS, and MS/MSD %Rs) were found to be in control. Some exceptions were noted and are summarized below as Specific Findings. Each exception was evaluated to determine whether it had any impact on data use or resulted in data qualification.

Specific Findings:

1. The LCS recovery for methylene chloride was found to be above the criterion in batch V3100411. The LCS recoveries for methylene chloride and toluene were found to be above the criteria in batch V3100911. The LCS recoveries for 1,1-dichloroethene, cis-1,2-dichloroethene, and trans-1,2-dichloroethene were found to be above the criteria in batch V4101121. The LCS recoveries for

acetone and 1,2-dichloroethane were found to be above the criteria in batch V4101411. MS/MSD recoveries were found to be above the criteria for the following: benzene in batch V4101511; chlorobenzene in batches V3100911, V3101011, and V3101111, 1,1-dichloroethene in batch V3100911; toluene in batches V3100411, V3100911, V3101011, and V3101111; and trichloroethene in batch V3101011. MS/MSD recoveries were found to be below the criterion in batch V4101411. Since none of the non-conformances was extreme, there was no impact on sample data quality and no qualification was necessary.

2. SUR recoveries were found to be above the criteria for 4-bromofluorobenzene and/or dibromofluoromethane in samples MW-32-1, MW-37-100, MW-54-1, MW-54-2, MW-68-1, MW-69-1, MW-126-1, MW-127-1, MW-127-2, RW-1A, RW-1B, RW-2, RW-3, RW-4, RW-5, RW-6, RW-7, RW-8, RW-9, and RW-9-100. All analytes detected in these field samples were qualified as estimated (J) to reflect a potential high bias.

3. Calibration verification %D were found to be outside the criterion for methylene chloride in batch V310091; chloromethane in batch V310101; acetone in batch V310111; acetone, bromomethane, and 2-butanone in batch V410111; 2-butanone and trans-1,2-dichloroethene in batch V410112; acetone in batch V410141; acetone, 2-butanone, and chloroethane in batch V410151. The reported nondetects for these compounds were qualified as estimated (UJ) in the associated samples.

2.2 PRECISION

2.2.1 FIELD QC DUPLICATE SAMPLE PRECISION

Project precision indicators for field QC duplicate samples were found to be in control. No exceptions were noted

2.2.2 Laboratory Internal QC Sample Precision

In general, QC data indicated that requirements for laboratory internal QC duplicate samples (MS/MSD) were met for each sample analysis. One exception was noted and is summarized below as a Specific Finding The exception was evaluated to determine whether it had any impact on data use or resulted in data qualification.

Specific Findings:

1. Trichloroethene precision was found to be outside the criterion in the MS/MSD analyses of MW-57-2 (RPD = 32) and RW-5 (RPD = 29). This finding does not appear to be indicative of a trend. The reported results for this compound were qualified as estimated (J) in both field samples.

2.3 REPRESENTATIVENESS

2.3.1 Sample Custody/Handling Documentation Review

The project samples were received at the laboratory adequately preserved, chilled within the required range of 4 ± 2 degrees Celsius, in good condition, and with required custody documentation in order

2.3.2 Sample Holding Time Review

QC data indicated that requirements for holding times were met for each sample analysis.

2.3.3 Blank Sample Results Review

QC data indicated that requirements for blank sample results were met, with the exception noted below

Specific Finding:

1. Methylene chloride (a common laboratory contaminant) was detected at low levels in five of the MB samples in the laboratory batches associated with project data. The reported detection was less than 10 times the blank result multiplied by the dilution factor and was qualified as an estimated nondetect (UJ) in the following samples:

Sample ID	Lab ID
MW-54-2	0210053-26
MW-126-1	0210054-69
MW-127-2	0210054-71
RW-1A	0210054-75
RW-1B	0210054-76
RW-2	0210054-77
RW-3	0210054-78
RW-4	0210054-79
RW-6	0210054-81
RW-7	0210054-82
RW-8	0210054-83
RW-9	0210054-84
RW-9-100	0210054-85

2.3.4 Internal Standard (IS) Recoveries

IS recoveries were found to be below the criterion for one to three internal standards in samples MW-32-1, MW-33-1, MW-34-1, MW-34-2, MW-34-3, MW-37-1, MW-37-100, MW-44-100, MW-67-3, MW-68-1, MW-68-2, MW-69-1, MW-70-100, MW-76-2, MW-77-1, MW-78-1, and MW-78-2. This finding could indicate a potential uncertainty in quantitation; however, further evaluation is beyond the scope of this review.

2.4 COMPARABILITY

Comparability was assessed by evaluation of laboratory detection limits, reporting units, and the overall performance of the chosen method. Project data comparability was found to be acceptable.

2.4.1 Concentrations Below the Reporting Limit

Although comparability was acceptable, analyte concentrations found to be below the RLs but above the method detection limits (MDLs) were qualified as estimated "J" by the laboratory. These data were qualified

in compliance with the USACE reporting protocol and were not flagged due to quality non-conformances.

2.4.2 Elevated Detection Limits Due to Initial Dilutions

Although some samples required dilutions to quantitate specific analytes detected beyond the linear range of the instrument, no non-detect sample data were reported from a dilution sample run. Thus, data comparability was not impacted by the required sample dilutions.

2.4.3 Data Reporting Guidelines For "E" Flagged Concentrations

The laboratory reported some concentrations flagged with an "E" to indicate that the concentrations were beyond the linear range of the instrument. The affected samples were re-analyzed at a secondary dilution designed to bring the "E" concentrations into the calibration range. The laboratory reported results for both the initial and diluted sample analyses. In these cases, it was necessary to report the concentration for each compound from the initial analysis (lowest dilution) that was not flagged with "E." In other words, all results from the initial analyses, except those qualified "E," were accepted. The "E" flagged concentrations were replaced with results for that compound from the next lowest dilution not flagged with an "E." Samples and parameters flagged "E" by the laboratory and reported from a secondary dilution include the following:

Sample ID	Lab ID	Method	Parameter
MW-70-1	0210053-42	8260	1,1,2,2-tetrachloroethane
MW-70-100	0210053-51	8260	1,1,2,2-tetrachloroethane
MW-77-1	0210053-53	8260	1,1,2,2-tetrachloroethane
MW-79-1	0210053-57	8260	1,1,2,2-tetrachloroethane, trichloroethene
RW-4	0204275-24	8260	1,1,2,2-tetrachloroethane, trichloroethene
RW-8	0204276-03	8260	1,1,2,2-tetrachloroethane

Occurrences of "E" flagged data do not indicate quality non-conformances if the LDP includes appropriately diluted sample analyses (secondary dilutions) for each "E" flagged concentration. All laboratory "E" flagged concentrations in the evaluated data were accompanied by appropriate secondary dilution analyses

2.5 COMPLETENESS

Completeness was found to be 100% for all evaluated data

ATTACHMENT 1
QUALIFIED DATA SHEETS

719 826

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210053

ETC Lab ID: 0210053-01
Field ID: MW-30-1

Matrix : AQUEOUS
Sample Date : 10/02/02 08:20:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/04/02	LS	8260B 5030B
QC Batch	V310041					
Dilution Factor	1					
Acetone	ND	ug/L	20 0			
Benzene	ND	ug/L	1 00			
Bromodichloromethane	ND	ug/L	1 00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1 00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1 00			
Chloromethane	ND	ug/L	1 00			
1,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1 00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5 00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1 00			
Vinyl Acetate	ND	ug/L	20 0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	103	84	115
S2 - Toluene-d8	104	69	133
S3 - 4-Bromofluorobenzene	115	80	120
S4 - 1,2-Dichloroethane-d4	81	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005301

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005301

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0701008

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/04/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

719 828

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210053**

ETC Lab ID **0210053-02**
Field ID : **MW-30-2**

Matrix : **AQUEOUS**
Sample Date : **10/02/02 08:22:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/04/02	LS	8260B 5030B
QC Batch	**V310041**					
Dilution Factor	**1**					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1 00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1 00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
oromethane	ND	ug/L	1 00			
,1-Dichloroethane	ND	ug/L	1 00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1 00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1 00			
Tetrachloroethene	ND	ug/L	1 00			
Toluene	ND	ug/L	2 00			
1,1,1-Trichloroethane	ND	ug/L	1 00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1 00			
Xylenes-m,p	ND	ug/L	1 00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	101	84	115
S2 - Toluene-d8	108	69	133
S3 - 4-Bromofluorobenzene	113	80	120
S4 - 1,2-Dichloroethane-d4	83	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 829

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005302

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005302

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0801009

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/04/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 830

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210053

ETC Lab ID: 0210053-03
Field ID: MW-31-1

Matrix : AQUEOUS
Sample Date : 10/02/02 08:30:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/04/02	LS	8260B 5030B
QC Batch	V310041					
Dilution Factor	1					
Acetone	ND	ug/L	20 0			
Benzene	ND	ug/L	1 00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1 00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	0.88J	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1 00			
Chloroform	1 08	ug/L	1.00			
bromethane	ND	ug/L	1.00			
,1-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	39.3	ug/L	1 00			
trans-1,2-Dichloroethene	11.3	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1 00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5 00			
Methylene Chloride	ND	ug/L	5 00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1 00			
Tetrachloroethene	1 32	ug/L	1 00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	0 62J	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1 00			
Trichloroethene	87 5	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1 00			
Xylenes-o	ND	ug/L	1 00			
cis-1,2-Dichloroethene	17.0	ug/L	1 00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	107	84	115
S2 - Toluene-d8	106	69	133
S3 - 4-Bromofluorobenzene	116	80	120
S4 - 1,2-Dichloroethane-d4	89	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 831

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005303

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005303

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0901010

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/04/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 832

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210053**

ETC Lab ID **0210053-04**
Field ID : **MW-31-2**

Matrix **AQUEOUS**
Sample Date : **10/02/02 08:31:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/04/02	LS	8260B 5030B
QC Batch	V310041					
Dilution Factor	1					
Acetone	ND	ug/L	20 0			
Benzene	ND	ug/L	1 00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20 0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1 00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
[illegible]romethane	ND	ug/L	1 00			
[illegible]-Dichloroethane	ND	ug/L	1 00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	55 4	ug/L	1.00			
trans-1,2-Dichloroethene	0 73J	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1 00			
cis-1,3-Dichloropropene	ND	ug/L	1 00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5 00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5 00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	1.10	ug/L	1 00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	0.63J	ug/L	1 00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	15.8	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1 00			
Xylenes-m,p	ND	ug/L	1 00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	1.24	ug/L	1 00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	103	84	115
S2 - Toluene-d8	108	69	133
S3 - 4-Bromofluorobenzene	115	80	120
S4 - 1,2-Dichloroethane-d4	85	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1 719 833 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

021005304

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005304

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1001011

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/04/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 834

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210053

ETC Lab ID: 0210053-05
Field ID: MW-32-1

Matrix: AQUEOUS
Sample Date: 10/01/02 10:00:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/04/02		LS	8260B 5030B
QC Batch	V310041						
Dilution Factor	1						
Acetone	ND	ug/L	20.0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1.00				
Bromoform	ND	ug/L	1.00				
Bromomethane	ND	ug/L	1.00				
2-Butanone (MEK)	ND	ug/L	20 0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	12.3J	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1 00				
Chloroform	91.5J	ug/L	1.00				
promethane	ND	ug/L	1.00				
-Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1.00				
trans-1,2-Dichloroethene	0 72J	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1 00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1 00				
1,1,2,2-Tetrachloroethane	14 0J	ug/L	1 00				
Tetrachloroethene	1.41J	ug/L	1.00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	34.8J	ug/L	1 00				
Vinyl Acetate	ND	ug/L	20 0				
Vinyl Chloride	ND	ug/L	1 00				
Xylenes-m,p	ND	ug/L	1.00				
Xylenes-o	ND	ug/L	1.00				
cis-1,2-Dichloroethene	3.49J	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	105	84	115
S2 - Toluene-d8	109	69	133
S3 - 4-Bromofluorobenzene	121 Q	80	120
S4 - 1,2-Dichloroethane-d4	90	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 835

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.
021005305

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005305

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1101012

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/04/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 836

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210053**

ETC Lab ID **0210053-06**
Field ID : **MW-33-1**

Matrix : **AQUEOUS**
Sample Date : **10/02/02 09:05:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/04/02		LS	8260B 5030B
QC Batch	V310041						
Dilution Factor	1						
Acetone	ND	ug/L	20 0				
Benzene	ND	ug/L	1 00				
Bromodichloromethane	ND	ug/L	1 00				
Bromoform	ND	ug/L	1 00				
Bromomethane	ND	ug/L	1 00				
2-Butanone (MEK)	ND	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	ND	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	ND	ug/L	1 00				
Chloromethane	ND	ug/L	1 00				
1,1-Dichloroethane	ND	ug/L	1 00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1 00				
trans-1,2-Dichloroethene	ND	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1 00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5 00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1 00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	ND	ug/L	1 00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1 00				
Trichloroethene	ND	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20 0				
Vinyl Chloride	ND	ug/L	1 00				
Xylenes-m,p	ND	ug/L	1.00				
Xylenes-o	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	104	84	115
S2 - Toluene-d8	114	69	133
S3 - 4-Bromofluorobenzene	117	80	120
S4 - 1,2-Dichloroethane-d4	88	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1 719 837 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

021005306

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005306

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1201013

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/04/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 838

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210053**

ETC Lab ID **0210053-07**
Field ID **MW-34-1**

Matrix : **AQUEOUS**
Sample Date : **10/01/02 08:45:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/04/02		LS	8260B 5030B
QC Batch	**V310041**						
Dilution Factor	**1**						
Acetone	ND	ug/L	20.0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1 00				
Bromoform	ND	ug/L	1 00				
Bromomethane	ND	ug/L	1 00				
2-Butanone (MEK)	ND	ug/L	20 0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	ND	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	2.56	ug/L	1.00				
›romethane	ND	ug/L	1 00				
-Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1 00				
trans-1,2-Dichloroethene	ND	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1 00				
2-Hexanone (MBK)	ND	ug/L	5 00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5 00				
Methylene Chloride	ND	ug/L	5 00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1 00				
Tetrachloroethene	ND	ug/L	1 00				
Toluene	ND	ug/L	2 00				
1,1,1-Trichloroethane	ND	ug/L	1 00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	ND	ug/L	1 00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
Xylenes-m,p	ND	ug/L	1 00				
Xylenes-o	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	104	84	115
S2 - Toluene-d8	112	69	133
S3 - 4-Bromofluorobenzene	118	80	120
S4 - 1,2-Dichloroethane-d4	90	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits

FORM 1 719 839 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

021005307

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005307

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1301014

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/04/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 840

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210053**

ETC Lab ID **0210053-08**
Field ID : **MW-34-2**

Matrix : **AQUEOUS**
Sample Date : **10/01/02 08:46:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/04/02		LS	8260B 5030B
QC Batch	**V310041**						
Dilution Factor	1						
Acetone	ND	ug/L	20 0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1 00				
Bromoform	ND	ug/L	1 00				
Bromomethane	ND	ug/L	1.00				
2-Butanone (MEK)	ND	ug/L	20 0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	ND	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	1 26	ug/L	1.00				
romethane	ND	ug/L	1.00				
,,-Dichloroethane	ND	ug/L	1 00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1 00				
trans-1,2-Dichloroethene	ND	ug/L	1 00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1 00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5 00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5 00				
Methylene Chloride	ND	ug/L	5 00				
Styrene	ND	ug/L	1 00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1 00				
Tetrachloroethene	ND	ug/L	1.00				
Toluene	ND	ug/L	2 00				
1,1,1-Trichloroethane	ND	ug/L	1 00				
1,1,2-Trichloroethane	ND	ug/L	1 00				
Trichloroethene	ND	ug/L	1 00				
Vinyl Acetate	ND	ug/L	20 0				
Vinyl Chloride	ND	ug/L	1 00				
Xylenes-m,p	ND	ug/L	1 00				
Xylenes-o	ND	ug/L	1 00				
cis-1,2-Dichloroethene	ND	ug/L	1 00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	101	84	115
S2 - Toluene-d8	111	69	133
S3 - 4-Bromofluorobenzene	117	80	120
S4 - 1,2-Dichloroethane-d4	87	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1 719 841 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

021005308

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005308

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1401015

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/04/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 842

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210053**

ETC Lab ID **0210053-09**
Field ID : **MW-34-3**

Matrix : **AQUEOUS**
Sample Date : **10/01/02 08:47:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/04/02		LS	8260B 5030B
QC Batch	**V310041**						
Dilution Factor	**1**						
Acetone	ND	ug/L	20 0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1.00				
Bromoform	ND	ug/L	1.00				
Bromomethane	ND	ug/L	1.00				
2-Butanone (MEK)	ND	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	ND	ug/L	1.00				
Chlorobenzene	ND	ug/L	1 00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1 00				
Chloroform	ND	ug/L	1 00				
›romethane	ND	ug/L	1 00				
.-Dichloroethane	ND	ug/L	1 00				
1,2-Dichloroethane	ND	ug/L	1 00				
1,1-Dichloroethene	ND	ug/L	1 00				
trans-1,2-Dichloroethene	ND	ug/L	1 00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1 00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5 00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1 00				
Tetrachloroethene	ND	ug/L	1 00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	ND	ug/L	1 00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
Xylenes-m,p	ND	ug/L	1 00				
Xylenes-o	ND	ug/L	1 00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	104	84	115
S2 - Toluene-d8	114	69	133
S3 - 4-Bromofluorobenzene	120	80	120
S4 - 1,2-Dichloroethane-d4	91	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1 719 843 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

021005309

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005309

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1501016

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/04/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 844

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name: **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: **Memphis Depot**

FID #

Date Arrived: **10/02/02**
ETC Order Number: **0210053**

ETC Lab ID: **0210053-10**
Field ID: **MW-37-1**

Matrix : **AQUEOUS**
Sample Date : **10/01/02 10:05:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/04/02		LS	8260B 5030B
QC Batch	**V310041**						
Dilution Factor	**1**						
Acetone	ND	ug/L	20.0				
Benzene	ND	ug/L	1 00				
Bromodichloromethane	ND	ug/L	1 00				
Bromoform	ND	ug/L	1 00				
Bromomethane	ND	ug/L	1.00				
2-Butanone (MEK)	ND	ug/L	20 0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	ND	ug/L	1 00				
Chlorobenzene	ND	ug/L	1 00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1 00				
Chloroform	ND	ug/L	1 00				
romethane	ND	ug/L	1 00				
-Dichloroethane	ND	ug/L	1 00				
1,2-Dichloroethane	ND	ug/L	1 00				
1,1-Dichloroethene	ND	ug/L	1 00				
trans-1,2-Dichloroethene	ND	ug/L	1 00				
1,2-Dichloropropane	ND	ug/L	1 00				
cis-1,3-Dichloropropene	ND	ug/L	1 00				
trans-1,3-Dichloropropene	ND	ug/L	1 00				
Ethylbenzene	ND	ug/L	1 00				
2-Hexanone (MBK)	ND	ug/L	5 00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5 00				
Methylene Chloride	ND	ug/L	5 00				
Styrene	ND	ug/L	1 00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1 00				
Tetrachloroethene	ND	ug/L	1 00				
Toluene	ND	ug/L	2 00				
1,1,1-Trichloroethane	ND	ug/L	1 00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	ND	ug/L	1 00				
Vinyl Acetate	ND	ug/L	20 0				
Vinyl Chloride	ND	ug/L	1 00				
Xylenes-m,p	ND	ug/L	1 00				
Xylenes-o	ND	ug/L	1 00				
cis-1,2-Dichloroethene	ND	ug/L	1 00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	104	84	115
S2 - Toluene-d8	112	69	133
S3 - 4-Bromofluorobenzene	119	80	120
S4 - 1,2-Dichloroethane-d4	95	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 845

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005310

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005310

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1601017

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/04/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 846

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210053**

ETC Lab ID **0210053-11**
Field ID . **MW-37-100**

Matrix **AQUEOUS**
Sample Date : **10/01/02 10:05:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/04/02		LS	8260B 5030B
QC Batch	V310041						
Dilution Factor	1						
Acetone	ND	ug/L	20 0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1 00				
Bromoform	ND	ug/L	1.00				
Bromomethane	ND	ug/L	1 00				
2-Butanone (MEK)	ND	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1 00				
Carbon Tetrachloride	ND	ug/L	1 00				
Chlorobenzene	ND	ug/L	1 00				
Chlorodibromomethane	ND	ug/L	1 00				
Chloroethane	ND	ug/L	1 00				
[illegible]oroform	ND	ug/L	1.00				
[illegible]romethane	ND	ug/L	1.00				
1,1-Dichloroethane	ND	ug/L	1 00				
1,2-Dichloroethane	ND	ug/L	1 00				
1,1-Dichloroethene	ND	ug/L	1 00				
trans-1,2-Dichloroethene	ND	ug/L	1 00				
1,2-Dichloropropane	ND	ug/L	1 00				
cis-1,3-Dichloropropene	ND	ug/L	1 00				
trans-1,3-Dichloropropene	ND	ug/L	1 00				
Ethylbenzene	ND	ug/L	1 00				
2-Hexanone (MBK)	ND	ug/L	5 00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5 00				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1 00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1 00				
Tetrachloroethene	ND	ug/L	1.00				
Toluene	ND	ug/L	2 00				
1,1,1-Trichloroethane	ND	ug/L	1 00				
1,1,2-Trichloroethane	ND	ug/L	1 00				
Trichloroethene	ND	ug/L	1 00				
Vinyl Acetate	ND	ug/L	20 0				
Vinyl Chloride	ND	ug/L	1 00				
Xylenes-m,p	ND	ug/L	1 00				
Xylenes-o	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1 00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	108	84	115
S2 - Toluene-d8	117	69	133
S3 - 4-Bromofluorobenzene	121 Q	80	120
S4 - 1,2-Dichloroethane-d4	93	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 847

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.
021005311

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005311

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1701018

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/04/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 848

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210053**

ETC Lab ID **0210053-12**
Field ID **MW-37-2**

Matrix : **AQUEOUS**
Sample Date : **10/01/02 10:06:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/07/02		LS	8260B 5030B
QC Batch	**V410071**						
Dilution Factor	**1**						
Acetone	ND	ug/L	20.0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1.00				
Bromoform	ND	ug/L	1.00				
Bromomethane	ND	ug/L	1.00				
2-Butanone (MEK)	ND	ug/L	20 0				
Carbon Disulfide	ND	ug/L	1 00				
Carbon Tetrachloride	ND	ug/L	1 00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1 00				
`oroform	ND	ug/L	1.00				
oromethane	ND	ug/L	1.00				
1,1-Dichloroethane	ND	ug/L	1 00				
1,2-Dichloroethane	ND	ug/L	1 00				
1,1-Dichloroethene	ND	ug/L	1.00				
trans-1,2-Dichloroethene	ND	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1 00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1 00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	ND	ug/L	1 00				
Toluene	ND	ug/L	2 00				
1,1,1-Trichloroethane	ND	ug/L	1 00				
1,1,2-Trichloroethane	ND	ug/L	1 00				
Trichloroethene	ND	ug/L	1 00				
Vinyl Acetate	ND	ug/L	20 0				
Vinyl Chloride	ND	ug/L	1.00				
Xylenes-m,p	ND	ug/L	1.00				
Xylenes-o	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	105	84	115
S2 - Toluene-d8	98	69	133
S3 - 4-Bromofluorobenzene	113	80	120
S4 - 1,2-Dichloroethane-d4	100	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1 719 849 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

021005312

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005312

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0402006

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/07/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 850

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210053

ETC Lab ID: 0210053-13
Field ID: MW-37-3

Matrix: AQUEOUS
Sample Date: 10/01/02 10:07:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/07/02		LS	8260B 5030B
QC Batch	V410071						
Dilution Factor	1						
Acetone	ND	ug/L	20.0				
Benzene	ND	ug/L	1 00				
Bromodichloromethane	ND	ug/L	1.00				
Bromoform	ND	ug/L	1.00				
Bromomethane	ND	ug/L	1.00				
2-Butanone (MEK)	ND	ug/L	20 0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	ND	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1 00				
Chloroethane	ND	ug/L	1.00				
C[illegible]loroform	ND	ug/L	1.00				
[illegible]romethane	ND	ug/L	1.00				
1,1-Dichloroethane	ND	ug/L	1 00				
1,2-Dichloroethane	ND	ug/L	1 00				
1,1-Dichloroethene	ND	ug/L	1 00				
trans-1,2-Dichloroethene	ND	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1 00				
trans-1,3-Dichloropropene	ND	ug/L	1 00				
Ethylbenzene	ND	ug/L	1 00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	ND	ug/L	5 00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1 00				
Tetrachloroethene	ND	ug/L	1.00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	ND	ug/L	1 00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	ND	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20 0				
Vinyl Chloride	ND	ug/L	1 00				
Xylenes-m,p	ND	ug/L	1 00				
Xylenes-o	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	108	84	115
S2 - Toluene-d8	99	69	133
S3 - 4-Bromofluorobenzene	115	80	120
S[illegible] - 1,2-Dichloroethane-d4	104	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1 719 851

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005313

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005313

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0501007

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/07/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 852

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210053

ETC Lab ID: 0210053-14
Field ID : MW-40-1

Matrix : AQUEOUS
Sample Date : 10/01/02 13:30:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/07/02		LS	8260B 5030B
QC Batch	V410071						
Dilution Factor	1						
Acetone	ND	ug/L	20.0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1 00				
Bromoform	ND	ug/L	1 00				
Bromomethane	ND	ug/L	1 00				
2-Butanone (MEK)	ND	ug/L	20 0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	ND	ug/L	1.00				
Chlorobenzene	ND	ug/L	1 00				
Chlorodibromomethane	ND	ug/L	1 00				
Chloroethane	ND	ug/L	1.00				
Chloroform	ND	ug/L	1.00				
romethane	ND	ug/L	1.00				
,1-Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1 00				
trans-1,2-Dichloroethene	ND	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1 00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5 00				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1 00				
Tetrachloroethene	ND	ug/L	1 00				
Toluene	ND	ug/L	2 00				
1,1,1-Trichloroethane	ND	ug/L	1 00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	ND	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20 0				
Vinyl Chloride	ND	ug/L	1.00				
Xylenes-m,p	ND	ug/L	1.00				
Xylenes-o	ND	ug/L	1 00				
cis-1,2-Dichloroethene	ND	ug/L	1 00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	109	84	115
S2 - Toluene-d8	100	69	133
S3 - 4-Bromofluorobenzene	113	80	120
S4 - 1,2-Dichloroethane-d4	107	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 853

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005314

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005314

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0601008

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/07/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 854 **ENVIRONMENTAL TESTING & CONSULTING, INC.**

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210053**

ETC Lab ID **0210053-15**
Field ID : **MW-42-1**

Matrix : **AQUEOUS**
Sample Date : **10/01/02 11:25:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/07/02		LS	8260B 5030B
QC Batch	V410071						
Dilution Factor	1						
Acetone	ND	ug/L	20.0				
Benzene	ND	ug/L	1 00				
Bromodichloromethane	ND	ug/L	1 00				
Bromoform	ND	ug/L	1 00				
Bromomethane	ND	ug/L	1 00				
2-Butanone (MEK)	ND	ug/L	20 0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	ND	ug/L	1 00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1 00				
Chloroethane	ND	ug/L	1 00				
[illegible]loroform	ND	ug/L	1 00				
[illegible]romethane	ND	ug/L	1 00				
1,1-Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1 00				
1,1-Dichloroethene	ND	ug/L	1 00				
trans-1,2-Dichloroethene	ND	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1 00				
cis-1,3-Dichloropropene	ND	ug/L	1 00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5 00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	ND	ug/L	1.00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	ND	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
Xylenes-m,p	ND	ug/L	1.00				
Xylenes-o	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	111	84	115
S2 - Toluene-d8	99	69	133
S3 - 4-Bromofluorobenzene	115	80	120
[illegible] 1,2-Dichloroethane-d4	110	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005315

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005315

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0701009

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/07/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 856

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210053

ETC Lab ID: 0210053-16
Field ID : MW-43-1

Matrix : AQUEOUS
Sample Date : 10/01/02 12:45:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/07/02		LS	8260B 5030B
QC Batch	V410071						
Dilution Factor	1						
Acetone	ND	ug/L	20 0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1 00				
Bromoform	ND	ug/L	1 00				
Bromomethane	ND	ug/L	1 00				
2-Butanone (MEK)	ND	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	ND	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
C[illegible]oroform	ND	ug/L	1.00				
[illegible]romethane	ND	ug/L	1.00				
1,1-Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1.00				
trans-1,2-Dichloroethene	ND	ug/L	1 00				
1,2-Dichloropropane	ND	ug/L	1 00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1 00				
Ethylbenzene	ND	ug/L	1 00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	ND	ug/L	1.00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	ND	ug/L	1 00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1 00				
Xylenes-m,p	ND	ug/L	1 00				
Xylenes-o	ND	ug/L	1 00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	111	84	115
S2 - Toluene-d8	101	69	133
S3 - 4-Bromofluorobenzene	114	80	120
S4 - 1,2-Dichloroethane-d4	110	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1 719 857 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

021005316

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005316

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0801010

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/07/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 853

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210053

ETC Lab ID: 0210053-17
Field ID : MW-43-2

Matrix : AQUEOUS
Sample Date : 10/01/02 12:46:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/07/02	LS	8260B 5030B
QC Batch	V410071					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1 00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20 0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1 00			
roform	ND	ug/L	1.00			
romethane	ND	ug/L	1 00			
1,1-Dichloroethane	ND	ug/L	1 00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1 00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1 00			
cis-1,3-Dichloropropene	ND	ug/L	1 00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1 00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5 00			
Methylene Chloride	ND	ug/L	5 00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1 00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1 00			
1,1,2-Trichloroethane	ND	ug/L	1 00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20 0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1 00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1 00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	110	84	115
S2 - Toluene-d8	102	69	133
S3 - 4-Bromofluorobenzene	115	80	120
1,2-Dichloroethane-d4	110	58	131

Q

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1 719 859 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

021005317

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005317

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0901011

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/07/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 860

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210053**

ETC Lab ID **0210053-18**
Field ID : **MW-44-1**

Matrix : **AQUEOUS**
Sample Date : **10/01/02 11:30:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/07/02		LS	8260B 5030B
QC Batch	V410071						
Dilution Factor	1						
Acetone	ND	ug/L	20 0				
Benzene	ND	ug/L	1 00				
Bromodichloromethane	ND	ug/L	1 00				
Bromoform	ND	ug/L	1 00				
Bromomethane	ND	ug/L	1 00				
2-Butanone (MEK)	ND	ug/L	20 0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	ND	ug/L	1 00				
Chlorobenzene	ND	ug/L	1 00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1 00				
Chloroform	ND	ug/L	1.00				
Chloromethane	ND	ug/L	1 00				
1,1-Dichloroethane	ND	ug/L	1 00				
1,2-Dichloroethane	ND	ug/L	1 00				
1,1-Dichloroethene	ND	ug/L	1.00				
trans-1,2-Dichloroethene	ND	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1 00				
trans-1,3-Dichloropropene	ND	ug/L	1 00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5 00				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1 00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1 00				
Tetrachloroethene	ND	ug/L	1.00				
Toluene	ND	ug/L	2 00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1 00				
Trichloroethene	ND	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
Xylenes-m,p	ND	ug/L	1 00				
Xylenes-o	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	112	84	115
S2 - Toluene-d8	100	69	133
S3 - 4-Bromofluorobenzene	116	80	120
S4 - 1,2-Dichloroethane-d4	110	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005318

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005318

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1001012

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/07/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 862

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210053**

ETC Lab ID **0210053-19**
Field ID : **MW-44-2**

Matrix : **AQUEOUS**
Sample Date . **10/01/02 11:31:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/07/02		LS	8260B 5030B
QC Batch	V410071						
Dilution Factor	1						
Acetone	ND	ug/L	20 0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1.00				
Bromoform	ND	ug/L	1.00				
Bromomethane	ND	ug/L	1.00				
2-Butanone (MEK)	ND	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	4 39	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1 00				
Chloroform	2.80	ug/L	1 00				
Bromomethane	ND	ug/L	1.00				
1,1-Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1 00				
trans-1,2-Dichloroethene	ND	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1 00				
cis-1,3-Dichloropropene	ND	ug/L	1 00				
trans-1,3-Dichloropropene	ND	ug/L	1 00				
Ethylbenzene	ND	ug/L	1 00				
2-Hexanone (MBK)	ND	ug/L	5 00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	ND	ug/L	1 00				
Toluene	ND	ug/L	2 00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	1.67	ug/L	1 00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1 00				
Xylenes-m,p	ND	ug/L	1 00				
Xylenes-o	ND	ug/L	1 00				
cis-1,2-Dichloroethene	1.01	ug/L	1 00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	111	84	115
S2 - Toluene-d8	102	69	133
S3 - 4-Bromofluorobenzene	115	80	120
S4 - 1,2-Dichloroethane-d4	111	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1 719 863 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

021005319

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005319

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1101013

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/07/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 864

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name: **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: **Memphis Depot**

FID #

Date Arrived: **10/02/02**
ETC Order Number: **0210053**

ETC Lab ID: **0210053-20**
Field ID : **MW-44-3**

Matrix : **AQUEOUS**
Sample Date : **10/01/02 11:32:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/07/02		LS	8260B 5030B
QC Batch	**V410071**						
Dilution Factor	**1**						
Acetone	ND	ug/L	20 0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1.00				
Bromoform	ND	ug/L	1.00				
Bromomethane	ND	ug/L	1.00				
2-Butanone (MEK)	ND	ug/L	20.0				
Carbon Disulfide	1.55	ug/L	1.00				
Carbon Tetrachloride	ND	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1 00				
Chloroethane	ND	ug/L	1 00				
Chloroform	1.03	ug/L	1 00				
romethane	ND	ug/L	1.00				
,,-Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1 00				
trans-1,2-Dichloroethene	ND	ug/L	1 00				
1,2-Dichloropropane	ND	ug/L	1 00				
cis-1,3-Dichloropropene	ND	ug/L	1 00				
trans-1,3-Dichloropropene	ND	ug/L	1 00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5 00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5 00				
Methylene Chloride	ND	ug/L	5 00				
Styrene	ND	ug/L	1 00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1 00				
Tetrachloroethene	ND	ug/L	1 00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1 00				
Trichloroethene	ND	ug/L	1 00				
Vinyl Acetate	ND	ug/L	20 0				
Vinyl Chloride	ND	ug/L	1 00				
Xylenes-m,p	ND	ug/L	1.00				
Xylenes-o	ND	ug/L	1 00				
cis-1,2-Dichloroethene	ND	ug/L	1 00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	113	84	115
S2 - Toluene-d8	102	69	133
S3 - 4-Bromofluorobenzene	114	80	120
S4 - 1,2-Dichloroethane-d4	117	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits

FORM 1 719 865 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

021005320

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005320

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1201014

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/07/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 866

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210053**

ETC Lab ID **0210053-21**
Field ID . **MW-51-1**

Matrix : **AQUEOUS**
Sample Date : **10/01/02 08:55:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/07/02		LS	8260B 5030B
QC Batch	V410071						
Dilution Factor	1						
Acetone	ND	ug/L	20 0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1 00				
Bromoform	ND	ug/L	1 00				
Bromomethane	ND	ug/L	1.00				
2-Butanone (MEK)	ND	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	ND	ug/L	1.00				
Chlorobenzene	ND	ug/L	1 00				
Chlorodibromomethane	ND	ug/L	1 00				
Chloroethane	ND	ug/L	1 00				
Chloroform	ND	ug/L	1 00				
oromethane	ND	ug/L	1 00				
,1-Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1 00				
1,1-Dichloroethene	57 0	ug/L	1.00				
trans-1,2-Dichloroethene	ND	ug/L	1 00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1 00				
Tetrachloroethene	0.74J	ug/L	1.00				
Toluene	ND	ug/L	2 00				
1,1,1-Trichloroethane	1.09	ug/L	1 00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	7.11	ug/L	1 00				
Vinyl Acetate	ND	ug/L	20 0				
Vinyl Chloride	ND	ug/L	1 00				
Xylenes-m,p	ND	ug/L	1.00				
Xylenes-o	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	113	84	115
S2 - Toluene-d8	102	69	133
S3 - 4-Bromofluorobenzene	115	80	120
S4 - 1,2-Dichloroethane-d4	115	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005321

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005321

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1301015

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/07/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 868

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210053**

ETC Lab ID **0210053-22**
Field ID : **MW-51-100**

Matrix : **AQUEOUS**
Sample Date : **10/01/02 08:55:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/07/02		LS	8260B 5030B
QC Batch	V410071						
Dilution Factor	1						
Acetone	ND	ug/L	20.0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1 00				
Bromoform	ND	ug/L	1 00				
Bromomethane	ND	ug/L	1.00				
2-Butanone (MEK)	ND	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	ND	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	ND	ug/L	1 00				
romethane	ND	ug/L	1.00				
Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	59.5	ug/L	1.00				
trans-1,2-Dichloroethene	ND	ug/L	1 00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1 00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1 00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1 00				
Tetrachloroethene	0 85J	ug/L	1 00				
Toluene	ND	ug/L	2 00				
1,1,1-Trichloroethane	1.07	ug/L	1 00				
1,1,2-Trichloroethane	ND	ug/L	1 00				
Trichloroethene	6.81	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20 0				
Vinyl Chloride	ND	ug/L	1 00				
Xylenes-m,p	ND	ug/L	1 00				
Xylenes-o	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	115	84	115
S2 - Toluene-d8	102	69	133
S3 - 4-Bromofluorobenzene	116	80	120
S4 - 1,2-Dichloroethane-d4	116	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits

FORM 1 719 869 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

021005322

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005322

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1401016

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/07/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 870

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210053**

ETC Lab ID **0210053-23**
Field ID : **EQB-1**

Matrix : **AQUEOUS**
Sample Date : **10/02/02 08:00:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/07/02		LS	8260B 5030B
QC Batch	**V410071**						
Dilution Factor	**1**						
Acetone	ND	ug/L	20.0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1.00				
Bromoform	ND	ug/L	1 00				
Bromomethane	ND	ug/L	1.00				
2-Butanone (MEK)	ND	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1 00				
Carbon Tetrachloride	ND	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1 00				
Chloroethane	ND	ug/L	1.00				
C'loroform	ND	ug/L	1 00				
romethane	ND	ug/L	1.00				
,,-Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1.00				
trans-1,2-Dichloroethene	ND	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1 00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1 00				
2-Hexanone (MBK)	ND	ug/L	5 00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	ND	ug/L	1.00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	ND	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20 0				
Vinyl Chloride	ND	ug/L	1 00				
Xylenes-m,p	ND	ug/L	1.00				
Xylenes-o	ND	ug/L	1 00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	113	84	115
S2 - Toluene-d8	101	69	133
S3 - 4-Bromofluorobenzene	116	80	120
S4 1,2-Dichloroethane-d4	116	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1 719 871 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

021005323

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005323

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1501017

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/07/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 872

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210053

ETC Lab ID: 0210053-24
Field ID: MW-51-2

Matrix : AQUEOUS
Sample Date : 10/01/02 08:56:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/07/02		LS	8260B 5030B
QC Batch	V410071						
Dilution Factor	1						
Acetone	ND	ug/L	20.0				
Benzene	ND	ug/L	1 00				
Bromodichloromethane	ND	ug/L	1.00				
Bromoform	ND	ug/L	1.00				
Bromomethane	ND	ug/L	1.00				
2-Butanone (MEK)	ND	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	ND	ug/L	1 00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
[illegible]oroform	ND	ug/L	1 00				
[illegible]romethane	ND	ug/L	1 00				
1,1-Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1 00				
1,1-Dichloroethene	53.7	ug/L	1 00				
trans-1,2-Dichloroethene	ND	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1 00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	ND	ug/L	5 00				
Styrene	ND	ug/L	1 00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1 00				
Tetrachloroethene	ND	ug/L	1.00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	1 00	ug/L	1 00				
1,1,2-Trichloroethane	ND	ug/L	1 00				
Trichloroethene	7.04	ug/L	1 00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1 00				
Xylenes-m,p	ND	ug/L	1.00				
Xylenes-o	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1 00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	114	84	115
S2 - Toluene-d8	106	69	133
S3 - 4-Bromofluorobenzene	115	80	120
S4 - 1,2-Dichloroethane-d4	114	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1 719 873 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

021005324

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005324

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1601018

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/07/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 874

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210053

ETC Lab ID: 0210053-25
Field ID : MW-54-1

Matrix : AQUEOUS
Sample Date : 10/01/02 09:00:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/07/02		LS	8260B 5030B
QC Batch	**V410071**						
Dilution Factor	**10**						
Acetone	ND	ug/L	200				
Benzene	ND	ug/L	10.0				
Bromodichloromethane	ND	ug/L	10.0				
Bromoform	ND	ug/L	10 0				
Bromomethane	ND	ug/L	10 0				
2-Butanone (MEK)	ND	ug/L	200				
Carbon Disulfide	ND	ug/L	10.0				
Carbon Tetrachloride	5.58J	ug/L	10.0				
Chlorobenzene	ND	ug/L	10.0				
Chlorodibromomethane	ND	ug/L	10.0				
Chloroethane	ND	ug/L	10.0				
Chloroform	11.5 J	ug/L	10 0				
romomethane	ND	ug/L	10.0				
,,-Dichloroethane	ND	ug/L	10.0				
1,2-Dichloroethane	ND	ug/L	10.0				
1,1-Dichloroethene	ND	ug/L	10.0				
trans-1,2-Dichloroethene	12.1 J	ug/L	10.0				
1,2-Dichloropropane	ND	ug/L	10 0				
cis-1,3-Dichloropropene	ND	ug/L	10.0				
trans-1,3-Dichloropropene	ND	ug/L	10 0				
Ethylbenzene	ND	ug/L	10.0				
2-Hexanone (MBK)	ND	ug/L	50.0				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0				
Methylene Chloride	ND	ug/L	50.0				
Styrene	ND	ug/L	10.0				
1,1,2,2-Tetrachloroethane	40.0 J	ug/L	10.0				
Tetrachloroethene	ND	ug/L	10 0				
Toluene	ND	ug/L	20 0				
1,1,1-Trichloroethane	ND	ug/L	10.0				
1,1,2-Trichloroethane	ND	ug/L	10.0				
Trichloroethene	333 J	ug/L	10.0				
Vinyl Acetate	ND	ug/L	200				
Vinyl Chloride	ND	ug/L	10.0				
Xylenes-m,p	ND	ug/L	10.0				
Xylenes-o	ND	ug/L	10.0				
cis-1,2-Dichloroethene	66.0 J	ug/L	10 0				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	116 Q	84	115
S2 - Toluene-d8	104	69	133
S3 - 4-Bromofluorobenzene	114	80	120
S4 - 1,2-Dichloroethane-d4	117	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1 719 875 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

021005325

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005325

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1701019

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/07/02

GC Column: ID: 2.00 (mm) Dilution Factor: 10.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 876

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210053

ETC Lab ID: 0210053-26
Field ID : MW-54-2

Matrix: AQUEOUS
Sample Date : 10/01/02 09:01:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/07/02		LS	8260B 5030B
QC Batch	V410071						
Dilution Factor	10						
Acetone	ND	ug/L	200				
Benzene	ND	ug/L	10.0				
Bromodichloromethane	ND	ug/L	10.0				
Bromoform	ND	ug/L	10 0				
Bromomethane	ND	ug/L	10.0				
2-Butanone (MEK)	ND	ug/L	200				
Carbon Disulfide	ND	ug/L	10 0				
Carbon Tetrachloride	14 4 J	ug/L	10.0				
Chlorobenzene	ND	ug/L	10.0				
Chlorodibromomethane	ND	ug/L	10 0				
Chloroethane	ND	ug/L	10 0				
Chloroform	11.6 J	ug/L	10 0				
ɔromethane	ND	ug/L	10 0				
Dichloroethane	ND	ug/L	10 0				
1,2-Dichloroethane	ND	ug/L	10 0				
1,1-Dichloroethene	ND	ug/L	10 0				
trans-1,2-Dichloroethene	15 2 J	ug/L	10 0				
1,2-Dichloropropane	ND	ug/L	10 0				
cis-1,3-Dichloropropene	ND	ug/L	10 0				
trans-1,3-Dichloropropene	ND	ug/L	10 0				
Ethylbenzene	ND	ug/L	10 0				
2-Hexanone (MBK)	ND	ug/L	50 0				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50 0				
Methylene Chloride	51 7 UJ	ug/L	50.0				
Styrene	ND	ug/L	10 0				
1,1,2,2-Tetrachloroethane	60.1 J	ug/L	10.0				
Tetrachloroethene	ND	ug/L	10.0				
Toluene	ND	ug/L	20.0				
1,1,1-Trichloroethane	ND	ug/L	10 0				
1,1,2-Trichloroethane	ND	ug/L	10 0				
Trichloroethene	632 J	ug/L	10 0				
Vinyl Acetate	ND	ug/L	200				
Vinyl Chloride	ND	ug/L	10 0				
Xylenes-m,p	ND	ug/L	10.0				
Xylenes-o	ND	ug/L	10.0				
cis-1,2-Dichloroethene	85.9 J	ug/L	10.0				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	116 Q	84	115
S2 - Toluene-d8	103	69	133
S3 - 4-Bromofluorobenzene	111	80	120
S4 - 1,2-Dichloroethane-d4	117	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

719 877 CLIENT SAMPLE NO.

021005326

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005326

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1801020

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/07/02

GC Column: ID: 2.00 (mm) Dilution Factor: 10.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

719 878

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210053**

ETC Lab ID **0210053-27**
Field ID : **MW-54-3**

Matrix : **AQUEOUS**
Sample Date : **10/01/02 09:02:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/09/02	LS	8260B 5030B
QC Batch	**V310091**					
Dilution Factor	**10**					
Acetone	ND	ug/L	200			
Benzene	ND	ug/L	10.0			
Bromodichloromethane	ND	ug/L	10 0			
Bromoform	ND	ug/L	10 0			
Bromomethane	ND	ug/L	10.0			
2-Butanone (MEK)	ND	ug/L	200			
Carbon Disulfide	ND	ug/L	10.0			
Carbon Tetrachloride	14.0	ug/L	10.0			
Chlorobenzene	ND	ug/L	10 0			
Chlorodibromomethane	ND	ug/L	10 0			
Chloroethane	ND	ug/L	10.0			
Chloroform	10.9	ug/L	10 0			
›romethane	ND	ug/L	10 0			
Dichloroethane	ND	ug/L	10 0			
1,2-Dichloroethane	ND	ug/L	10 0			
1,1-Dichloroethene	ND	ug/L	10.0			
trans-1,2-Dichloroethene	16.2	ug/L	10.0			
1,2-Dichloropropane	ND	ug/L	10.0			
cis-1,3-Dichloropropene	ND	ug/L	10.0			
trans-1,3-Dichloropropene	ND	ug/L	10.0			
Ethylbenzene	ND	ug/L	10.0			
2-Hexanone (MBK)	ND	ug/L	50 0			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0			
Methylene Chloride	ND	ug/L	50.0			
Styrene	ND	ug/L	10.0			
1,1,2,2-Tetrachloroethane	50.7	ug/L	10.0			
Tetrachloroethene	ND	ug/L	10 0			
Toluene	ND	ug/L	20 0			
1,1,1-Trichloroethane	ND	ug/L	10 0			
1,1,2-Trichloroethane	ND	ug/L	10 0			
Trichloroethene	920	ug/L	10 0			
Vinyl Acetate	ND	ug/L	200			
Vinyl Chloride	ND	ug/L	10.0			
Xylenes-m,p	ND	ug/L	10 0			
Xylenes-o	ND	ug/L	10 0			
cis-1,2-Dichloroethene	80.2	ug/L	10.0			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	100	84	115
S2 - Toluene-d8	109	69	133
S3 - 4-Bromofluorobenzene	114	80	120
S4 - 1,2-Dichloroethane-d4	75	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1 719 879 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

021005327

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005327

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0401004

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/09/02

GC Column: ID: 2.00 (mm) Dilution Factor: 10.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 830

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210053**

ETC Lab ID **0210053-28**
Field ID : **MW-56-1**

Matrix : **AQUEOUS**
Sample Date **10/01/02 08:40:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/09/02		LS	8260B 5030B
QC Batch	**V310091**						
Dilution Factor	**1**						
Acetone	ND	ug/L	20.0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1.00				
Bromoform	ND	ug/L	1.00				
Bromomethane	ND	ug/L	1 00				
2-Butanone (MEK)	ND	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1 00				
Carbon Tetrachloride	ND	ug/L	1 00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1 00				
Chloroethane	ND	ug/L	1.00				
Chloroform	49.3	ug/L	1 00				
romethane	ND	ug/L	1.00				
Dichloroethane	ND	ug/L	1 00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1 00				
trans-1,2-Dichloroethene	ND	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1 00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1 00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5 00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	ND	ug/L	1.00				
Toluene	ND	ug/L	2 00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1 00				
Trichloroethene	1.95	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20 0				
Vinyl Chloride	ND	ug/L	1.00				
Xylenes-m,p	ND	ug/L	1.00				
Xylenes-o	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	102	84	115
S2 - Toluene-d8	108	69	133
S3 - 4-Bromofluorobenzene	113	80	120
S4 - 1,2-Dichloroethane-d4	75	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits

719 881

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005328

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005328

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0501005

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/09/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 1

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	108-70-3	BENZENE, 1,3,5-TRICHLORO-	13.14	4.49	NJ
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 882

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210053

ETC Lab ID: 0210053-29
Field ID : MW-57-1

Matrix : AQUEOUS
Sample Date : 10/01/02 08:20:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/09/02		LS	8260B 5030B
QC Batch	V310091						
Dilution Factor	1						
Acetone	ND	ug/L	20.0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1.00				
Bromoform	ND	ug/L	1 00				
Bromomethane	ND	ug/L	1.00				
2-Butanone (MEK)	ND	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	19 6	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1 00				
Chloroethane	ND	ug/L	1.00				
Chloroform	12.6	ug/L	1.00				
bromethane	ND	ug/L	1 00				
.-Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1.00				
trans-1,2-Dichloroethene	1.10	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1 00				
cis-1,3-Dichloropropene	ND	ug/L	1 00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	ND	ug/L	5 00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1 00				
Tetrachloroethene	3.64	ug/L	1 00				
Toluene	ND	ug/L	2 00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	54.1	ug/L	1 00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
Xylenes-m,p	ND	ug/L	1 00				
Xylenes-o	ND	ug/L	1 00				
cis-1,2-Dichloroethene	0 54J	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	103	84	115
S2 - Toluene-d8	104	69	133
S3 - 4-Bromofluorobenzene	112	80	120
S4 - 1,2-Dichloroethane-d4	81	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1 719 883 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

021005329

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005329

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0601006

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/09/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 884

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210053**

ETC Lab ID **0210053-30**
Field ID . **MW-57-2**

Matrix : **AQUEOUS**
Sample Date : **10/01/02 08:22:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/09/02		LS	8260B 5030B
QC Batch	V310091						
Dilution Factor	1						
Acetone	ND	ug/L	20.0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1.00				
Bromoform	ND	ug/L	1.00				
Bromomethane	ND	ug/L	1.00				
2-Butanone (MEK)	ND	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	43.0	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	29 7	ug/L	1 00				
›romethane	ND	ug/L	1.00				
...-Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1 00				
1,1-Dichloroethene	ND	ug/L	1 00				
trans-1,2-Dichloroethene	2 27	ug/L	1 00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1 00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	8.14	ug/L	1.00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	111 J	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20 0				
Vinyl Chloride	ND	ug/L	1.00				
Xylenes-m,p	ND	ug/L	1 00				
Xylenes-o	ND	ug/L	1.00				
cis-1,2-Dichloroethene	1.13	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	101	84	115
S2 - Toluene-d8	109	69	133
S3 - 4-Bromofluorobenzene	114	80	120
S4 - 1,2-Dichloroethane-d4	77	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000077

FORM 1 719 885 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

021005330

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005330

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0701007

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/09/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 886

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210053

ETC Lab ID: 0210053-31
Field ID : MW-58-1

Matrix : AQUEOUS
Sample Date : 10/01/02 08:30:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/09/02		LS	8260B 5030B
QC Batch	V310091						
Dilution Factor	1						
Acetone	ND	ug/L	20.0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1.00				
Bromoform	ND	ug/L	1 00				
Bromomethane	ND	ug/L	1 00				
2-Butanone (MEK)	ND	ug/L	20 0				
Carbon Disulfide	ND	ug/L	1 00				
Carbon Tetrachloride	ND	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1 00				
Chloroethane	ND	ug/L	1.00				
Chloroform	3.36	ug/L	1.00				
›romethane	ND	ug/L	1.00				
-Dichloroethane	ND	ug/L	1 00				
1,2-Dichloroethane	ND	ug/L	1 00				
1,1-Dichloroethene	ND	ug/L	1 00				
trans-1,2-Dichloroethene	ND	ug/L	1 00				
1,2-Dichloropropane	ND	ug/L	1 00				
cis-1,3-Dichloropropene	ND	ug/L	1 00				
trans-1,3-Dichloropropene	ND	ug/L	1 00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5 00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	ND	ug/L	1.00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	1.82	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1 00				
Xylenes-m,p	ND	ug/L	1.00				
Xylenes-o	ND	ug/L	1 00				
cis-1,2-Dichloroethene	ND	ug/L	1 00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	102	84	115
S2 - Toluene-d8	111	69	133
S3 - 4-Bromofluorobenzene	116	80	120
S4 - 1,2-Dichloroethane-d4	82	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1 719 887 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

021005331

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005331

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0801008

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/09/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 888

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210053

ETC Lab ID: 0210053-32
Field ID : MW-65-1

Matrix : AQUEOUS
Sample Date : 10/01/02 12:50:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/09/02		LS	8260B 5030B
QC Batch	V310091						
Dilution Factor	1						
Acetone	ND	ug/L	20.0				
Benzene	ND	ug/L	1 00				
Bromodichloromethane	ND	ug/L	1.00				
Bromoform	ND	ug/L	1 00				
Bromomethane	ND	ug/L	1 00				
2-Butanone (MEK)	ND	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	ND	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1 00				
Chloroform	ND	ug/L	1 00				
)romethane	ND	ug/L	1.00				
-Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1.00				
trans-1,2-Dichloroethene	ND	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1 00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1 00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5 00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	ND	ug/L	1.00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	ND	ug/L	1 00				
Vinyl Acetate	ND	ug/L	20 0				
Vinyl Chloride	ND	ug/L	1.00				
Xylenes-m,p	ND	ug/L	1.00				
Xylenes-o	ND	ug/L	1 00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	105	84	115
S2 - Toluene-d8	117	69	133
S3 - 4-Bromofluorobenzene	117	80	120
S4 - 1,2-Dichloroethane-d4	84	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1 719 889 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

021005332

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005332

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0901009

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/09/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

719 830

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210053**

ETC Lab ID **0210053-33**
Field ID : **MW-65-2**

Matrix : **AQUEOUS**
Sample Date : **10/01/02 12:51:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/09/02		LS	8260B 5030B
QC Batch	**V310091**						
Dilution Factor	**1**						
Acetone	ND	ug/L	20.0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1 00				
Bromoform	ND	ug/L	1.00				
Bromomethane	ND	ug/L	1.00				
2-Butanone (MEK)	ND	ug/L	20 0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	ND	ug/L	1 00				
Chlorobenzene	ND	ug/L	1 00				
Chlorodibromomethane	ND	ug/L	1 00				
Chloroethane	ND	ug/L	1 00				
Chloroform	ND	ug/L	1.00				
)romethane	ND	ug/L	1.00				
-Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1.00				
trans-1,2-Dichloroethene	ND	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5 00				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	ND	ug/L	1.00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	ND	ug/L	1 00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	ND	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
Xylenes-m,p	ND	ug/L	1.00				
Xylenes-o	ND	ug/L	1 00				
cis-1,2-Dichloroethene	ND	ug/L	1 00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	108	84	115
S2 - Toluene-d8	118	69	133
S3 - 4-Bromofluorobenzene	117	80	120
S4 - 1,2-Dichloroethane-d4	85	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1 719 891 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

021005333

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005333

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1001010

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/09/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 892

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name: **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: **Memphis Depot**

FID #

Date Arrived: **10/02/02**
ETC Order Number: **0210053**

ETC Lab ID: **0210053-34**
Field ID : **MW-65-200**

Matrix : **AQUEOUS**
Sample Date : **10/01/02 12:51:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/09/02		LS	8260B 5030B
QC Batch	**V310091**						
Dilution Factor	**1**						
Acetone	ND	ug/L	20 0				
Benzene	ND	ug/L	1 00				
Bromodichloromethane	ND	ug/L	1 00				
Bromoform	ND	ug/L	1 00				
Bromomethane	ND	ug/L	1 00				
2-Butanone (MEK)	ND	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1 00				
Carbon Tetrachloride	ND	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	ND	ug/L	1 00				
romethane	ND	ug/L	1.00				
...-Dichloroethane	ND	ug/L	1 00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1 00				
trans-1,2-Dichloroethene	ND	ug/L	1 00				
1,2-Dichloropropane	ND	ug/L	1 00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	ND	ug/L	1 00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	ND	ug/L	1 00				
1,1,2-Trichloroethane	ND	ug/L	1 00				
Trichloroethene	ND	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1 00				
Xylenes-m,p	ND	ug/L	1.00				
Xylenes-o	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	105	84	115
S2 - Toluene-d8	113	69	133
S3 - 4-Bromofluorobenzene	120	80	120
S4 - 1,2-Dichloroethane-d4	88	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1 719 893 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

021005334

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005334

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1101011

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/09/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 894

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210053**

ETC Lab ID **0210053-35**
Field ID : **MW-67-1**

Matrix : **AQUEOUS**
Sample Date : **10/01/02 13:15:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/09/02		LS	8260B 5030B
QC Batch	**V310091**						
Dilution Factor	**1**						
Acetone	ND	ug/L	20.0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1.00				
Bromoform	ND	ug/L	1.00				
Bromomethane	ND	ug/L	1.00				
2-Butanone (MEK)	ND	ug/L	20 0				
Carbon Disulfide	3.33	ug/L	1 00				
Carbon Tetrachloride	ND	ug/L	1 00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1 00				
Chloroethane	ND	ug/L	1 00				
Chloroform	ND	ug/L	1.00				
›romethane	ND	ug/L	1 00				
-Dichloroethane	ND	ug/L	1 00				
1,2-Dichloroethane	ND	ug/L	1 00				
1,1-Dichloroethene	ND	ug/L	1.00				
trans-1,2-Dichloroethene	ND	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1 00				
cis-1,3-Dichloropropene	ND	ug/L	1 00				
trans-1,3-Dichloropropene	ND	ug/L	1 00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	ND	ug/L	1 00				
Toluene	ND	ug/L	2 00				
1,1,1-Trichloroethane	ND	ug/L	1 00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	ND	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
Xylenes-m,p	ND	ug/L	1.00				
Xylenes-o	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	104	84	115
S2 - Toluene-d8	116	69	133
S3 - 4-Bromofluorobenzene	120	80	120
S4 - 1,2-Dichloroethane-d4	84	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005335

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005335

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1201012

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/09/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 896

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210053

ETC Lab ID: 0210053-36
Field ID : MW-67-2

Matrix : AQUEOUS
Sample Date : 10/01/02 13:16:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/09/02		LS	8260B 5030B
QC Batch	V310091						
Dilution Factor	1						
Acetone	ND	ug/L	20.0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1.00				
Bromoform	ND	ug/L	1.00				
Bromomethane	ND	ug/L	1.00				
2-Butanone (MEK)	ND	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	ND	ug/L	1.00				
Chlorobenzene	ND	ug/L	1 00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	ND	ug/L	1.00				
romethane	ND	ug/L	1 00				
,,-Dichloroethane	ND	ug/L	1 00				
1,2-Dichloroethane	ND	ug/L	1 00				
1,1-Dichloroethene	ND	ug/L	1 00				
trans-1,2-Dichloroethene	ND	ug/L	1 00				
1,2-Dichloropropane	ND	ug/L	1 00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	ND	ug/L	1.00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	ND	ug/L	1 00				
1,1,2-Trichloroethane	ND	ug/L	1 00				
Trichloroethene	ND	ug/L	1 00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1 00				
Xylenes-m,p	ND	ug/L	1 00				
Xylenes-o	ND	ug/L	1 00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	108	84	115
S2 - Toluene-d8	116	69	133
S3 - 4-Bromofluorobenzene	118	80	120
S4 - 1,2-Dichloroethane-d4	86	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1 719 897 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

021005336

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005336

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1301013

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/09/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 898

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name: **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: **Memphis Depot**

FID #

Date Arrived: **10/02/02**
ETC Order Number: **0210053**

ETC Lab ID: **0210053-37**
Field ID : **MW-67-3**

Matrix : **AQUEOUS**
Sample Date : **10/01/02 13:17:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/09/02		LS	8260B 5030B
QC Batch	V310091						
Dilution Factor	1						
Acetone	ND	ug/L	20.0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1.00				
Bromoform	ND	ug/L	1 00				
Bromomethane	ND	ug/L	1 00				
2-Butanone (MEK)	ND	ug/L	20.0				
Carbon Disulfide	3 95	ug/L	1 00				
Carbon Tetrachloride	ND	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1 00				
Chloroethane	ND	ug/L	1.00				
Chloroform	ND	ug/L	1.00				
›romethane	ND	ug/L	1.00				
-Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1.00				
trans-1,2-Dichloroethene	ND	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5 00				
Methylene Chloride	ND	ug/L	5 00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	ND	ug/L	1.00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	ND	ug/L	1 00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	ND	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20 0				
Vinyl Chloride	ND	ug/L	1.00				
Xylenes-m,p	ND	ug/L	1 00				
Xylenes-o	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1 00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	107	84	115
S2 - Toluene-d8	117	69	133
S3 - 4-Bromofluorobenzene	119	80	120
S4 - 1,2-Dichloroethane-d4	89	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1 719 899 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

021005337

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005337

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1401014

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/09/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 900

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210053

ETC Lab ID: 0210053-38
Field ID : MW-68-1

Matrix : AQUEOUS
Sample Date : 10/01/02 09:40:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/09/02		LS	8260B 5030B
QC Batch	V310091						
Dilution Factor	1						
Acetone	ND	ug/L	20.0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1.00				
Bromoform	ND	ug/L	1 00				
Bromomethane	ND	ug/L	1.00				
2-Butanone (MEK)	ND	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	ND	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
roform	7.88 J	ug/L	1.00				
romethane	ND	ug/L	1 00				
1,1-Dichloroethane	ND	ug/L	1 00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1 00				
trans-1,2-Dichloroethene	ND	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1 00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1 00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	ND	ug/L	5 00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1 00				
Tetrachloroethene	ND	ug/L	1 00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	ND	ug/L	1 00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	0 94J	ug/L	1 00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1 00				
Xylenes-m,p	ND	ug/L	1 00				
Xylenes-o	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	109	84	115
S2 - Toluene-d8	116	69	133
S3 - 4-Bromofluorobenzene	121 Q	80	120
1,2-Dichloroethane-d4	91	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits

FORM 1 719 901 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

021005338

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005338

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1501015

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/09/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 902

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210053

ETC Lab ID: 0210053-39
Field ID : MW-68-2

Matrix: AQUEOUS
Sample Date : 10/01/02 09:42:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/09/02		LS	8260B 5030B
QC Batch	V310091						
Dilution Factor	1						
Acetone	ND	ug/L	20.0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1.00				
Bromoform	ND	ug/L	1 00				
Bromomethane	ND	ug/L	1.00				
2-Butanone (MEK)	ND	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1 00				
Carbon Tetrachloride	ND	ug/L	1.00				
Chlorobenzene	ND	ug/L	1 00				
Chlorodibromomethane	ND	ug/L	1 00				
Chloroethane	ND	ug/L	1.00				
[illegible]oroform	1 43	ug/L	1.00				
[illegible]romethane	ND	ug/L	1 00				
1,1-Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1 00				
1,1-Dichloroethene	9.01	ug/L	1.00				
trans-1,2-Dichloroethene	ND	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1 00				
cis-1,3-Dichloropropene	ND	ug/L	1 00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5 00				
Methylene Chloride	ND	ug/L	5 00				
Styrene	ND	ug/L	1 00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1 00				
Tetrachloroethene	4.30	ug/L	1.00				
Toluene	ND	ug/L	2 00				
1,1,1-Trichloroethane	ND	ug/L	1 00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	3.85	ug/L	1 00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1 00				
Xylenes-m,p	ND	ug/L	1.00				
Xylenes-o	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	109	84	115
S2 - Toluene-d8	114	69	133
S3 - 4-Bromofluorobenzene	120	80	120
S4 - 1,2-Dichloroethane-d4	93	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1 719 903 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

021005339

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005339

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1601016

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/09/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 904

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210053

ETC Lab ID: 0210053-40
Field ID : MW-69-1

Matrix: AQUEOUS
Sample Date : 10/02/02 08:40:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/09/02		LS	8260B 5030B
QC Batch	V310091						
Dilution Factor	1						
Acetone	ND	ug/L	20 0				
Benzene	ND	ug/L	1 00				
Bromodichloromethane	ND	ug/L	1.00				
Bromoform	ND	ug/L	1 00				
Bromomethane	ND	ug/L	1.00				
2-Butanone (MEK)	ND	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1 00				
Carbon Tetrachloride	ND	ug/L	1 00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1 00				
Chloroethane	ND	ug/L	1 00				
C oroform	ND	ug/L	1.00				
romethane	ND	ug/L	1 00				
1,1-Dichloroethane	ND	ug/L	1 00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1.00				
trans-1,2-Dichloroethene	ND	ug/L	1 00				
1,2-Dichloropropane	ND	ug/L	1 00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1 00				
Ethylbenzene	ND	ug/L	1 00				
2-Hexanone (MBK)	ND	ug/L	5 00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1 00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	0.98J	ug/L	1.00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1 00				
Trichloroethene	8.12 J	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
Xylenes-m,p	ND	ug/L	1.00				
Xylenes-o	ND	ug/L	1 00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	108	84	115
S2 - Toluene-d8	121	69	133
S3 - 4-Bromofluorobenzene	123 Q	80	120
S4 - 1,2-Dichloroethane-d4	90	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1 719 905 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

021005340

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005340

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1701017

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/09/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 906

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210053

ETC Lab ID: 0210053-41
Field ID: MW-69-2

Matrix: AQUEOUS
Sample Date : 10/02/02 08:42:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/10/02		LS	8260B 5030B
QC Batch	V310101						
Dilution Factor	1						
Acetone	ND	ug/L	20.0				
Benzene	ND	ug/L	1 00				
Bromodichloromethane	ND	ug/L	1 00				
Bromoform	ND	ug/L	1 00				
Bromomethane	ND	ug/L	1.00				
2-Butanone (MEK)	ND	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1 00				
Carbon Tetrachloride	ND	ug/L	1 00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1 00				
Chloroethane	ND	ug/L	1 00				
)roform	ND	ug/L	1.00				
)romethane	UJ ND	ug/L	1 00				
1,1-Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1.00				
trans-1,2-Dichloroethene	ND	ug/L	1 00				
1,2-Dichloropropane	ND	ug/L	1 00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1 00				
2-Hexanone (MBK)	ND	ug/L	5 00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	ND	ug/L	5 00				
Styrene	ND	ug/L	1 00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1 00				
Tetrachloroethene	ND	ug/L	1.00				
Toluene	ND	ug/L	2 00				
1,1,1-Trichloroethane	ND	ug/L	1 00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	ND	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20 0				
Vinyl Chloride	ND	ug/L	1 00				
Xylenes-m,p	ND	ug/L	1 00				
Xylenes-o	ND	ug/L	1 00				
cis-1,2-Dichloroethene	ND	ug/L	1 00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	99	84	115
S2 - Toluene-d8	108	69	133
S3 - 4-Bromofluorobenzene	108	80	120
S4 - 1,2-Dichloroethane-d4	75	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1 719 907 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

021005341

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005341

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0501006

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/10/02

GC Column: ID: 2.00 (mm) Dilution Factor: 10.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 908

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name: **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: **Memphis Depot**

FID #

Date Arrived: **10/02/02**
ETC Order Number: **0210053**

ETC Lab ID: **0210053-42**
Field ID : **MW-70-1**

Matrix : **AQUEOUS**
Sample Date: **10/02/02 09:45:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/10/02		LS	8260B 5030B
QC Batch	**V310101**						
Dilution Factor	**50**						
Acetone	ND	ug/L	1000				
Benzene	ND	ug/L	50.0				
Bromodichloromethane	ND	ug/L	50.0				
Bromoform	ND	ug/L	50.0				
Bromomethane	ND	ug/L	50 0				
2-Butanone (MEK)	ND	ug/L	1000				
Carbon Disulfide	ND	ug/L	50.0				
Carbon Tetrachloride	ND	ug/L	50 0				
Chlorobenzene	ND	ug/L	50 0				
Chlorodibromomethane	ND	ug/L	50 0				
Chloroethane	ND	ug/L	50.0				
Chloroform	ND	ug/L	50.0				
bromomethane	UJ ND	ug/L	50 0				
1,1-Dichloroethane	ND	ug/L	50.0				
1,2-Dichloroethane	ND	ug/L	50.0				
1,1-Dichloroethene	ND	ug/L	50.0				
trans-1,2-Dichloroethene	ND	ug/L	50.0				
1,2-Dichloropropane	ND	ug/L	50 0				
cis-1,3-Dichloropropene	ND	ug/L	50.0				
trans-1,3-Dichloropropene	ND	ug/L	50.0				
Ethylbenzene	ND	ug/L	50.0				
2-Hexanone (MBK)	ND	ug/L	250				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	250				
Methylene Chloride	ND	ug/L	250				
Styrene	ND	ug/L	50.0				
1,1,2,2-Tetrachloroethane	11,300 EJ	ug/L	50 0				
Tetrachloroethene	ND	ug/L	50 0				
Toluene	ND	ug/L	100				
1,1,1-Trichloroethane	ND	ug/L	50.0				
1,1,2-Trichloroethane	ND	ug/L	50.0				
Trichloroethene	1,980	ug/L	50.0				
Vinyl Acetate	ND	ug/L	1000				
Vinyl Chloride	ND	ug/L	50 0				
Xylenes-m,p	ND	ug/L	50 0				
Xylenes-o	ND	ug/L	50 0				
cis-1,2-Dichloroethene	72 4	ug/L	50 0				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	101	84	115
S2 - Toluene-d8	104	69	133
S3 - 4-Bromofluorobenzene	109	80	120
S4 - 1,2-Dichloroethane-d4	78	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1 719 909 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

021005342

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005342

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0601007

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/10/02

GC Column: ID: 2.00 (mm) Dilution Factor: 50.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 910

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210054

ETC Lab ID: 0210054-87
Field ID : MW-70-1-DIL

Matrix . AQUEOUS
Sample Date : 10/02/02

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/11/02		LS	8260B 5030B
QC Batch	**V310111**						
Dilution Factor	**500**						
1,1,2,2-Tetrachloroethane	12,400	ug/L	500				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	104	84	115
S2 - Toluene-d8	102	69	133
S3 - 4-Bromofluorobenzene	105	80	120
S4 - 1,2-Dichloroethane-d4	74	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 911

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210053**

ETC Lab ID **0210053-43**
Field ID **MW-70-2**

Matrix : **AQUEOUS**
Sample Date : **10/02/02 09:46:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/10/02		LS	8260B 5030B
QC Batch	**V310101**						
Dilution Factor	**50**						
Acetone	ND	ug/L	1000				
Benzene	ND	ug/L	50.0				
Bromodichloromethane	ND	ug/L	50.0				
Bromoform	ND	ug/L	50.0				
Bromomethane	ND	ug/L	50.0				
2-Butanone (MEK)	ND	ug/L	1000				
Carbon Disulfide	89.2	ug/L	50.0				
Carbon Tetrachloride	ND	ug/L	50 0				
Chlorobenzene	ND	ug/L	50.0				
Chlorodibromomethane	ND	ug/L	50 0				
Chloroethane	ND	ug/L	50 0				
Chloroform	ND	ug/L	50 0				
[redacted]romethane	ND UJ	ug/L	50 0				
[redacted]Dichloroethane	ND	ug/L	50.0				
1,2-Dichloroethane	ND	ug/L	50.0				
1,1-Dichloroethene	ND	ug/L	50.0				
trans-1,2-Dichloroethene	ND	ug/L	50.0				
1,2-Dichloropropane	ND	ug/L	50 0				
cis-1,3-Dichloropropene	ND	ug/L	50.0				
trans-1,3-Dichloropropene	ND	ug/L	50.0				
Ethylbenzene	ND	ug/L	50.0				
2-Hexanone (MBK)	ND	ug/L	250				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	250				
Methylene Chloride	ND	ug/L	250				
Styrene	ND	ug/L	50.0				
1,1,2,2-Tetrachloroethane	7,980	ug/L	50.0				
Tetrachloroethene	ND	ug/L	50.0				
Toluene	ND	ug/L	100				
1,1,1-Trichloroethane	ND	ug/L	50.0				
1,1,2-Trichloroethane	ND	ug/L	50.0				
Trichloroethene	1,340	ug/L	50.0				
Vinyl Acetate	ND	ug/L	1000				
Vinyl Chloride	ND	ug/L	50.0				
Xylenes-m,p	ND	ug/L	50 0				
Xylenes-o	ND	ug/L	50 0				
cis-1,2-Dichloroethene	42 5J	ug/L	50 0				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	97	84	115
S2 - Toluene-d8	107	69	133
S3 - 4-Bromofluorobenzene	105	80	120
S4 - 1,2-Dichloroethane-d4	79	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 912

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005343

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005343

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0701008

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/10/02

GC Column: ID: 2.00 (mm) Dilution Factor: 50.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 913

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210053**

ETC Lab ID **0210053-44**
Field ID . **MW-71-1**

Matrix : **AQUEOUS**
Sample Date **10/02/02 08:58:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/10/02		LS	8260B 5030B
QC Batch	**V310101**						
Dilution Factor	1						
Acetone	ND	ug/L	20.0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1.00				
Bromoform	ND	ug/L	1.00				
Bromomethane	ND	ug/L	1 00				
2-Butanone (MEK)	ND	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	ND	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	8 89	ug/L	1.00				
[redacted]romomethane	U ND	ug/L	1.00				
[redacted]Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1.00				
trans-1,2-Dichloroethene	ND	ug/L	1 00				
1,2-Dichloropropane	ND	ug/L	1 00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5 00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5 00				
Methylene Chloride	ND	ug/L	5 00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	9 49	ug/L	1.00				
Tetrachloroethene	ND	ug/L	1.00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	1 60	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
Xylenes-m,p	ND	ug/L	1.00				
Xylenes-o	ND	ug/L	1 00				
cis-1,2-Dichloroethene	ND	ug/L	1 00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	104	84	115
S2 - Toluene-d8	111	69	133
S3 - 4-Bromofluorobenzene	109	80	120
S4 - 1,2-Dichloroethane-d4	80	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 914

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.
021005344

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005344

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0801009

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/10/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 915

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210053

ETC Lab ID: 0210053-45
Field ID : MW-71-2

Matrix : AQUEOUS
Sample Date : 10/02/02 09:00:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/10/02		LS	8260B 5030B
QC Batch	**V310101**						
Dilution Factor	**1**						
Acetone	ND	ug/L	20 0				
Benzene	ND	ug/L	1 00				
Bromodichloromethane	ND	ug/L	1.00				
Bromoform	ND	ug/L	1.00				
Bromomethane	ND	ug/L	1.00				
2-Butanone (MEK)	ND	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1 00				
Carbon Tetrachloride	11.2	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1 00				
Chloroethane	ND	ug/L	1.00				
Chloroform	73.1	ug/L	1.00				
[illegible]promethane	ND UJ	ug/L	1.00				
[illegible]Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1 00				
1,1-Dichloroethene	ND	ug/L	1 00				
trans-1,2-Dichloroethene	ND	ug/L	1 00				
1,2-Dichloropropane	ND	ug/L	1 00				
cis-1,3-Dichloropropene	ND	ug/L	1 00				
trans-1,3-Dichloropropene	ND	ug/L	1 00				
Ethylbenzene	ND	ug/L	1 00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5 00				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1 00				
1,1,2,2-Tetrachloroethane	26.7	ug/L	1 00				
Tetrachloroethene	ND	ug/L	1 00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	ND	ug/L	1 00				
1,1,2-Trichloroethane	ND	ug/L	1 00				
Trichloroethene	27.0	ug/L	1 00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1 00				
Xylenes-m,p	ND	ug/L	1.00				
Xylenes-o	ND	ug/L	1 00				
cis-1,2-Dichloroethene	1.12	ug/L	1 00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	98	84	115
S2 - Toluene-d8	107	69	133
S3 - 4-Bromofluorobenzene	110	80	120
S4 - 1,2-Dichloroethane-d4	82	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

000108

719 916

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.
021005345

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005345

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0901010

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/10/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 1

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	55429-29-3	ARSENOUS ACID, TRIS(TRIMETHY	8.97	5.15	NJ
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 917

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210053**

ETC Lab ID **0210053-46**
Field ID **EQB-2**

Matrix : **AQUEOUS**
Sample Date : **10/02/02 09:02:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/10/02	LS	8260B 5030B
QC Batch	**V310101**					
Dilution Factor	**1**					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1 00			
Bromodichloromethane	ND	ug/L	1 00			
Bromoform	ND	ug/L	1 00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
[illegible]oromethane	UJ ND	ug/L	1 00			
[illegible]Dichloroethane	ND	ug/L	1 00			
1,2-Dichloroethane	ND	ug/L	1 00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1 00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1 00			
1,1,2-Trichloroethane	ND	ug/L	1 00			
Trichloroethene	ND	ug/L	1 00			
Vinyl Acetate	ND	ug/L	20 0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1 00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1 00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	102	84	115
S2 - Toluene-d8	109	69	133
S3 - 4-Bromofluorobenzene	111	80	120
S4 - 1,2-Dichloroethane-d4	84	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 918

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005346

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005346

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1001011

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/10/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 919

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210053**

ETC Lab ID **0210053-47**
Field ID : **MW-76-1**

Matrix : **AQUEOUS**
Sample Date : **10/01/02 09:45:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/10/02	LS	8260B 5030B
QC Batch	**V310101**					
Dilution Factor	**1**					
Acetone	ND	ug/L	20 0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1 00			
Bromoform	ND	ug/L	1 00			
Bromomethane	ND	ug/L	1 00			
2-Butanone (MEK)	ND	ug/L	20 0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1 00			
Chlorobenzene	ND	ug/L	1 00			
Chlorodibromomethane	ND	ug/L	1 00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
[redacted]romethane	~~ND~~ J	ug/L	1.00			
[redacted]Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1 00			
1,1-Dichloroethene	ND	ug/L	1 00			
trans-1,2-Dichloroethene	1.17	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1 00			
trans-1,3-Dichloropropene	ND	ug/L	1 00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5 00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	54.7	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1 00			
Trichloroethene	37.2	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1 00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1 00			
cis-1,2-Dichloroethene	2.94	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	102	84	115
S2 - Toluene-d8	109	69	133
S3 - 4-Bromofluorobenzene	114	80	120
S4 - 1,2-Dichloroethane-d4	85	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 920

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005347

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005347

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1101012

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/10/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 921

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210053**

ETC Lab ID **0210053-48**
Field ID : **MW-76-2**

Matrix : **AQUEOUS**
Sample Date : **10/01/02 09:47:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/10/02		LS	8260B 5030B
QC Batch	**V310101**						
Dilution Factor	**1**						
Acetone	ND	ug/L	20.0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1.00				
Bromoform	ND	ug/L	1.00				
Bromomethane	ND	ug/L	1.00				
2-Butanone (MEK)	ND	ug/L	20 0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	ND	ug/L	1.00				
Chlorobenzene	ND	ug/L	1 00				
Chlorodibromomethane	ND	ug/L	1 00				
Chloroethane	ND	ug/L	1 00				
Chloroform	ND	ug/L	1 00				
[redacted]romomethane	UJ ND	ug/L	1 00				
[redacted] Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1 00				
trans-1,2-Dichloroethene	ND	ug/L	1 00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1 00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5 00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	ND	ug/L	5 00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	14.0	ug/L	1.00				
Tetrachloroethene	1.80	ug/L	1 00				
Toluene	ND	ug/L	2 00				
1,1,1-Trichloroethane	ND	ug/L	1 00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	20 3	ug/L	1 00				
Vinyl Acetate	ND	ug/L	20 0				
Vinyl Chloride	ND	ug/L	1.00				
Xylenes-m,p	ND	ug/L	1.00				
Xylenes-o	ND	ug/L	1.00				
cis-1,2-Dichloroethene	1.90	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	104	84	115
S2 - Toluene-d8	111	69	133
S3 - 4-Bromofluorobenzene	114	80	120
S4 - 1,2-Dichloroethane-d4	88	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 922

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005348

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005348

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1201013

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/10/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 923

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210053**

ETC Lab ID **0210053-49**
Field ID **Trip Blank**

Matrix : AQUEOUS
Sample Date : **10/01/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/10/02	LS	8260B 5030B
QC Batch	**V310101**					
Dilution Factor	**1**					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1 00			
Bromodichloromethane	ND	ug/L	1 00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1 00			
2-Butanone (MEK)	ND	ug/L	20 0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1 00			
[redacted]romethane	UJ ND	ug/L	1.00			
[redacted]Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1 00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5 00			
Styrene	ND	ug/L	1 00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1 00			
Tetrachloroethene	ND	ug/L	1 00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1 00			
Trichloroethene	ND	ug/L	1 00			
Vinyl Acetate	ND	ug/L	20 0			
Vinyl Chloride	ND	ug/L	1 00			
Xylenes-m,p	ND	ug/L	1 00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	97	84	115
S2 - Toluene-d8	105	69	133
S3 - 4-Bromofluorobenzene	106	80	120
S4 - 1,2-Dichloroethane-d4	75	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 924

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005349

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005349

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0401005

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/10/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 925

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210053**

ETC Lab ID **0210053-50**
Field ID **MW-44-100**

Matrix : **AQUEOUS**
Sample Date **10/01/02 11:30:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/10/02	LS	8260B 5030B
QC Batch	**V310101**					
Dilution Factor	**1**					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1 00			
Bromodichloromethane	ND	ug/L	1 00			
Bromoform	ND	ug/L	1 00			
Bromomethane	ND	ug/L	1 00			
2-Butanone (MEK)	ND	ug/L	20 0			
Carbon Disulfide	ND	ug/L	1 00			
Carbon Tetrachloride	ND	ug/L	1 00			
Chlorobenzene	ND	ug/L	1 00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
[illegible]romomethane	UJ ND	ug/L	1.00			
[illegible]Dichloroethane	ND	ug/L	1 00			
1,2-Dichloroethane	ND	ug/L	1 00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1 00			
cis-1,3-Dichloropropene	ND	ug/L	1 00			
trans-1,3-Dichloropropene	ND	ug/L	1 00			
Ethylbenzene	ND	ug/L	1 00			
2-Hexanone (MBK)	ND	ug/L	5 00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5 00			
Methylene Chloride	ND	ug/L	5 00			
Styrene	ND	ug/L	1 00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1 00			
Tetrachloroethene	ND	ug/L	1 00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1 00			
Trichloroethene	ND	ug/L	1 00			
Vinyl Acetate	ND	ug/L	20 0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1 00			
Xylenes-o	ND	ug/L	1 00			
cis-1,2-Dichloroethene	ND	ug/L	1 00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	101	84	115
S2 - Toluene-d8	113	69	133
S3 - 4-Bromofluorobenzene	114	80	120
S4 - 1,2-Dichloroethane-d4	88	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 926

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005350

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005350

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1301014

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/10/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 927

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210053**

ETC Lab ID **0210053-51**
Field ID **MW-70-100**

Matrix **AQUEOUS**
Sample Date **10/02/02 09:45:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/10/02	LS	8260B 5030B
QC Batch	**V310101**					
Dilution Factor	**50**					
Acetone	ND	ug/L	1000			
Benzene	ND	ug/L	50 0			
Bromodichloromethane	ND	ug/L	50.0			
Bromoform	ND	ug/L	50.0			
Bromomethane	ND	ug/L	50.0			
2-Butanone (MEK)	ND	ug/L	1000			
Carbon Disulfide	ND	ug/L	50.0			
Carbon Tetrachloride	ND	ug/L	50.0			
Chlorobenzene	ND	ug/L	50.0			
Chlorodibromomethane	ND	ug/L	50.0			
Chloroethane	ND	ug/L	50.0			
Chloroform	ND	ug/L	50.0			
[redacted]romethane	UJ ND	ug/L	50.0			
[redacted]Dichloroethane	ND	ug/L	50.0			
1,2-Dichloroethane	ND	ug/L	50.0			
1,1-Dichloroethene	ND	ug/L	50.0			
trans-1,2-Dichloroethene	ND	ug/L	50.0			
1,2-Dichloropropane	ND	ug/L	50.0			
cis-1,3-Dichloropropene	ND	ug/L	50.0			
trans-1,3-Dichloropropene	ND	ug/L	50.0			
Ethylbenzene	ND	ug/L	50.0			
2-Hexanone (MBK)	ND	ug/L	250			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	250			
Methylene Chloride	ND	ug/L	250			
Styrene	ND	ug/L	50.0			
1,1,2,2-Tetrachloroethane	11,500 EJ	ug/L	50.0			
Tetrachloroethene	ND	ug/L	50.0			
Toluene	ND	ug/L	100			
1,1,1-Trichloroethane	ND	ug/L	50.0			
1,1,2-Trichloroethane	ND	ug/L	50.0			
Trichloroethene	1,870	ug/L	50.0			
Vinyl Acetate	ND	ug/L	1000			
Vinyl Chloride	ND	ug/L	50 0			
Xylenes-m,p	ND	ug/L	50.0			
Xylenes-o	ND	ug/L	50.0			
cis-1,2-Dichloroethene	67.0	ug/L	50 0			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	103	84	115
S2 - Toluene-d8	110	69	133
S3 - 4-Bromofluorobenzene	110	80	120
S4 - 1,2-Dichloroethane-d4	88	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 923

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005351

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005351

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1401015

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/10/02

GC Column: ID: 2.00 (mm) Dilution Factor: 50.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 929

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210054**

ETC Lab ID **0210054-88**
Field ID : **MW-70-100-DIL**

Matrix : **AQUEOUS**
Sample Date . **10/02/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/02	LS	8260B 5030B
QC Batch	**V310111**					
Dilution Factor	**500**					
1,1,2,2-Tetrachloroethane	11,200	ug/L	500			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	98	84	115
S2 - Toluene-d8	106	69	133
S3 - 4-Bromofluorobenzene	106	80	120
S4 - 1,2-Dichloroethane-d4	75	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 930

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210053

ETC Lab ID: 0210053-52
Field ID: MW-71-200

Matrix: AQUEOUS
Sample Date: 10/02/02 09:00:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/11/02		LS	8260B 5030B
QC Batch	V310111						
Dilution Factor	1						
Acetone	ND	ug/L	20.0				
Benzene	ND	ug/L	1 00				
Bromodichloromethane	ND	ug/L	1.00				
Bromoform	ND	ug/L	1 00				
Bromomethane	ND	ug/L	1 00				
2-Butanone (MEK)	ND	ug/L	20 0				
Carbon Disulfide	ND	ug/L	1 00				
Carbon Tetrachloride	14 4	ug/L	1.00				
Chlorobenzene	ND	ug/L	1 00				
Chlorodibromomethane	ND	ug/L	1 00				
Chloroethane	ND	ug/L	1 00				
Chloroform	133	ug/L	1 00				
romethane	ND	ug/L	1 00				
Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1 00				
1,1-Dichloroethene	ND	ug/L	1.00				
trans-1,2-Dichloroethene	1.00	ug/L	1 00				
1,2-Dichloropropane	ND	ug/L	1 00				
cis-1,3-Dichloropropene	ND	ug/L	1 00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1 00				
2-Hexanone (MBK)	ND	ug/L	5 00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5 00				
Methylene Chloride	ND	ug/L	5 00				
Styrene	ND	ug/L	1 00				
1,1,2,2-Tetrachloroethane	51 0	ug/L	1.00				
Tetrachloroethene	1 35	ug/L	1.00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	1.00	ug/L	1.00				
Trichloroethene	49 7	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
Xylenes-m,p	ND	ug/L	1 00				
Xylenes-o	ND	ug/L	1.00				
cis-1,2-Dichloroethene	2 19	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	100	84	115
S2 - Toluene-d8	106	69	133
S3 - 4-Bromofluorobenzene	106	80	120
S4 - 1,2-Dichloroethane-d4	78	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005352

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005352

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0701006

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/11/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 932 **ENVIRONMENTAL TESTING & CONSULTING, INC.**

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210053**

ETC Lab ID **0210053-53**
Field ID : **MW-77-1**

Matrix : **AQUEOUS**
Sample Date : **10/01/02 09:50:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/10/02		LS	8260B 5030B
QC Batch	**V310101**						
Dilution Factor	**50**						
Acetone	ND	ug/L	1000				
Benzene	ND	ug/L	50.0				
Bromodichloromethane	ND	ug/L	50.0				
Bromoform	ND	ug/L	50.0				
Bromomethane	ND	ug/L	50.0				
2-Butanone (MEK)	ND	ug/L	1000				
Carbon Disulfide	ND	ug/L	50.0				
Carbon Tetrachloride	ND	ug/L	50.0				
Chlorobenzene	ND	ug/L	50.0				
Chlorodibromomethane	ND	ug/L	50.0				
Chloroethane	ND	ug/L	50.0				
'oroform	ND	ug/L	50 0				
ɔromethane	UJ ND	ug/L	50.0				
1,1-Dichloroethane	ND	ug/L	50 0				
1,2-Dichloroethane	ND	ug/L	50.0				
1,1-Dichloroethene	ND	ug/L	50.0				
trans-1,2-Dichloroethene	42 9J	ug/L	50.0				
1,2-Dichloropropane	ND	ug/L	50.0				
cis-1,3-Dichloropropene	ND	ug/L	50.0				
trans-1,3-Dichloropropene	ND	ug/L	50.0				
Ethylbenzene	ND	ug/L	50 0				
2-Hexanone (MBK)	ND	ug/L	250				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	250				
Methylene Chloride	ND	ug/L	250				
Styrene	ND	ug/L	50.0				
1,1,2,2-Tetrachloroethane	17,800EJ	ug/L	50.0				
Tetrachloroethene	ND	ug/L	50.0				
Toluene	ND	ug/L	100				
1,1,1-Trichloroethane	ND	ug/L	50 0				
1,1,2-Trichloroethane	ND	ug/L	50.0				
Trichloroethene	5,040	ug/L	50 0				
Vinyl Acetate	ND	ug/L	1000				
Vinyl Chloride	ND	ug/L	50.0				
Xylenes-m,p	ND	ug/L	50.0				
Xylenes-o	ND	ug/L	50 0				
cis-1,2-Dichloroethene	237	ug/L	50 0				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	106	84	115
S2 - Toluene-d8	111	69	133
S3 - 4-Bromofluorobenzene	114	80	120
S4 - 1,2-Dichloroethane-d4	92	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1 719 933 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

021005353

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005353

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1601017

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/10/02

GC Column: ID: 2.00 (mm) Dilution Factor: 50.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 934

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210054**

ETC Lab ID **0210054-89**
Field ID : **MW-77-1-DIL**

Matrix : **AQUEOUS**
Sample Date **10/01/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/11/02		LS	8260B 5030B
QC Batch	**V310111**						
Dilution Factor	**500**						
1,1,2,2-Tetrachloroethane	18,200	ug/L	500				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	97	84	115
S2 - Toluene-d8	110	69	133
S3 - 4-Bromofluorobenzene	110	80	120
S4 - 1,2-Dichloroethane-d4	77	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 935

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210053

ETC Lab ID: 0210053-54
Field ID : MW-78-1

Matrix : AQUEOUS
Sample Date : 10/01/02 09:30:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/10/02	LS	8260B 5030B
QC Batch	**V310101**					
Dilution Factor	**1**					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1 00			
Bromodichloromethane	ND	ug/L	1 00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1 00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
[illegible]oromethane	UJ ND	ug/L	1.00			
[illegible]Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1 00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1 00			
2-Hexanone (MBK)	ND	ug/L	5 00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5 00			
Methylene Chloride	ND	ug/L	5 00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1 00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1 00			
1,1,2-Trichloroethane	ND	ug/L	1 00			
Trichloroethene	ND	ug/L	1 00			
Vinyl Acetate	ND	ug/L	20 0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1 00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	102	84	115
S2 - Toluene-d8	112	69	133
S3 - 4-Bromofluorobenzene	113	80	120
S4 - 1,2-Dichloroethane-d4	90	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 936

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005354

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005354

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1701018

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/10/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 937

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210053**

ETC Lab ID **0210053-55**
Field ID **MW-78-2**

Matrix : **AQUEOUS**
Sample Date **10/01/02 09:32:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/10/02		LS	8260B 5030B
QC Batch	V310101						
Dilution Factor	1						
Acetone	ND	ug/L	20.0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1.00				
Bromoform	ND	ug/L	1.00				
Bromomethane	ND	ug/L	1.00				
2-Butanone (MEK)	ND	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	ND	ug/L	1.00				
Chlorobenzene	ND	ug/L	1 00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	ND	ug/L	1 00				
[redacted]romethane	ND	ug/L	1 00				
[redacted]Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1.00				
trans-1,2-Dichloroethene	ND	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1 00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5 00				
Methylene Chloride	ND	ug/L	5 00				
Styrene	ND	ug/L	1 00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1 00				
Tetrachloroethene	ND	ug/L	1 00				
Toluene	ND	ug/L	2 00				
1,1,1-Trichloroethane	ND	ug/L	1 00				
1,1,2-Trichloroethane	ND	ug/L	1 00				
Trichloroethene	ND	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20 0				
Vinyl Chloride	ND	ug/L	1.00				
Xylenes-m,p	ND	ug/L	1.00				
Xylenes-o	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	100	84	115
S2 - Toluene-d8	112	69	133
S3 - 4-Bromofluorobenzene	113	80	120
S4 - 1,2-Dichloroethane-d4	89	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 938

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005355

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005355

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1801019

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/10/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 939

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210053**

ETC Lab ID **0210053-56**
Field ID **MW-78-3**

Matrix : **AQUEOUS**
Sample Date : **10/01/02 09:34:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/11/02		LS	8260B 5030B
QC Batch	**V410111**						
Dilution Factor	**1**						
Acetone	ND	ug/L	20.0				
Benzene	ND	ug/L	1 00				
Bromodichloromethane	ND	ug/L	1 00				
Bromoform	ND	ug/L	1 00				
Bromomethane	ND	ug/L	1.00				
2-Butanone (MEK)	ND	ug/L	20.0				
Carbon Disulfide	2.07	ug/L	1 00				
Carbon Tetrachloride	ND	ug/L	1 00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1 00				
Chloroethane	ND	ug/L	1.00				
Chloroform	ND	ug/L	1 00				
[illegible]promethane	ND	ug/L	1.00				
[illegible]Dichloroethane	ND	ug/L	1 00				
1,2-Dichloroethane	ND	ug/L	1 00				
1,1-Dichloroethene	ND	ug/L	1.00				
trans-1,2-Dichloroethene	ND	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1 00				
trans-1,3-Dichloropropene	ND	ug/L	1 00				
Ethylbenzene	ND	ug/L	1 00				
2-Hexanone (MBK)	ND	ug/L	5 00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5 00				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	ND	ug/L	1.00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	ND	ug/L	1 00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	ND	ug/L	1 00				
Vinyl Acetate	ND	ug/L	20 0				
Vinyl Chloride	ND	ug/L	1.00				
Xylenes-m,p	ND	ug/L	1.00				
Xylenes-o	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1 00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	98	84	115
S2 - Toluene-d8	97	69	133
S3 - 4-Bromofluorobenzene	106	80	120
S4 - 1,2-Dichloroethane-d4	86	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits ** - Method Detection Limit

719 940

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005356

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021005356

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0401005

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/11/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

719 941

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210053**

ETC Lab ID **0210053-57**
Field ID **MW-79-1**

Matrix : **AQUEOUS**
Sample Date : **10/01/02 10:35:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/11/02		LS	8260B 5030B
QC Batch	**V410111**						
Dilution Factor	**10**						
Acetone	ND	ug/L	200				
Benzene	ND	ug/L	10 0				
Bromodichloromethane	ND	ug/L	10 0				
Bromoform	ND	ug/L	10 0				
Bromomethane	ND	ug/L	10.0				
2-Butanone (MEK)	ND	ug/L	200				
Carbon Disulfide	112	ug/L	10.0				
Carbon Tetrachloride	ND	ug/L	10 0				
Chlorobenzene	ND	ug/L	10.0				
Chlorodibromomethane	ND	ug/L	10 0				
Chloroethane	ND	ug/L	10.0				
Chloroform	ND	ug/L	10 0				
[redacted]romethane	ND	ug/L	10 0				
[redacted]Dichloroethane	ND	ug/L	10.0				
1,2-Dichloroethane	ND	ug/L	10.0				
1,1-Dichloroethene	19.8	ug/L	10.0				
trans-1,2-Dichloroethene	6.82J	ug/L	10.0				
1,2-Dichloropropane	ND	ug/L	10.0				
cis-1,3-Dichloropropene	ND	ug/L	10.0				
trans-1,3-Dichloropropene	ND	ug/L	10.0				
Ethylbenzene	ND	ug/L	10.0				
2-Hexanone (MBK)	ND	ug/L	50.0				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0				
Methylene Chloride	ND	ug/L	50.0				
Styrene	ND	ug/L	10.0				
1,1,2,2-Tetrachloroethane	ND	ug/L	10.0				
Tetrachloroethene	ND	ug/L	10.0				
Toluene	ND	ug/L	20.0				
1,1,1-Trichloroethane	ND	ug/L	10.0				
1,1,2-Trichloroethane	ND	ug/L	10.0				
Trichloroethene	37.8	ug/L	10.0				
Vinyl Acetate	ND	ug/L	200				
Vinyl Chloride	ND	ug/L	10.0				
Xylenes-m,p	ND	ug/L	10.0				
Xylenes-o	ND	ug/L	10.0				
cis-1,2-Dichloroethene	5 34J	ug/L	10.0				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	102	84	115
S2 - Toluene-d8	99	69	133
S3 - 4-Bromofluorobenzene	107	80	120
S4 - 1,2-Dichloroethane-d4	94	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits ** - Method Detection Limit

719 942

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005357

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210053

Matrix: (soil/water) WATER Lab Sample ID: 021003557

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0501006

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/11/02

GC Column: ID: 2.00 (mm) Dilution Factor: 10.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 943

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210054**

ETC Lab ID **0210054-58**
Field ID . **MW-79-2**

Matrix : **AQUEOUS**
Sample Date : **10/01/02 10:36:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/02	LS	8260B 5030B
QC Batch	V410111					
Dilution Factor	10					
Acetone	UJ ~~ND~~	ug/L	200			
Benzene	ND	ug/L	10.0			
Bromodichloromethane	ND	ug/L	10.0			
Bromoform	ND	ug/L	10.0			
Bromomethane	UJ ~~ND~~	ug/L	10.0			
2-Butanone (MEK)	UJ ~~ND~~	ug/L	200			
Carbon Disulfide	25.7	ug/L	10.0			
Carbon Tetrachloride	ND	ug/L	10.0			
Chlorobenzene	ND	ug/L	10.0			
Chlorodibromomethane	ND	ug/L	10 0			
Chloroethane	ND	ug/L	10 0			
C[illegible]loroform	ND	ug/L	10 0			
[illegible]romethane	ND	ug/L	10 0			
[illegible]-Dichloroethane	ND	ug/L	10.0			
1,2-Dichloroethane	ND	ug/L	10.0			
1,1-Dichloroethene	22 6	ug/L	10.0			
trans-1,2-Dichloroethene	11.2	ug/L	10 0			
1,2-Dichloropropane	ND	ug/L	10.0			
cis-1,3-Dichloropropene	ND	ug/L	10 0			
trans-1,3-Dichloropropene	ND	ug/L	10.0			
Ethylbenzene	ND	ug/L	10 0			
2-Hexanone (MBK)	ND	ug/L	50.0			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0			
Methylene Chloride	ND	ug/L	50.0			
Styrene	ND	ug/L	10.0			
1,1,2,2-Tetrachloroethane	ND	ug/L	10.0			
Tetrachloroethene	2 89J	ug/L	10 0			
Toluene	ND	ug/L	20 0			
1,1,1-Trichloroethane	ND	ug/L	10.0			
1,1,2-Trichloroethane	ND	ug/L	10.0			
Trichloroethene	67.6	ug/L	10.0			
Vinyl Acetate	ND	ug/L	200			
Vinyl Chloride	ND	ug/L	10 0			
Xylenes-m,p	ND	ug/L	10 0			
Xylenes-o	ND	ug/L	10.0			
cis-1,2-Dichloroethene	8.67J	ug/L	10.0			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	104	84	115
S2 - Toluene-d8	99	69	133
S3 - 4-Bromofluorobenzene	108	80	120
S4 - 1,2-Dichloroethane-d4	100	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits

719 944

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005458

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Matrix: (soil/water) WATER Lab Sample ID: 021005458

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0601007

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/11/02

GC Column: ID: 2.00 (mm) Dilution Factor: 10.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750 719 945

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210054

ETC Lab ID: 0210054-59
Field ID : MW-79-3

Matrix . AQUEOUS
Sample Date . 10/01/02 10:37:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/11/02		LS	8260B 5030B
QC Batch	V410111						
Dilution Factor	10						
Acetone	UJ ~~ND~~	ug/L	200				
Benzene	ND	ug/L	10.0				
Bromodichloromethane	ND	ug/L	10 0				
Bromoform	ND	ug/L	10 0				
Bromomethane	UJ ~~ND~~	ug/L	10 0				
2-Butanone (MEK)	UJ ~~ND~~	ug/L	200				
Carbon Disulfide	34 4	ug/L	10 0				
Carbon Tetrachloride	ND	ug/L	10.0				
Chlorobenzene	ND	ug/L	10 0				
Chlorodibromomethane	ND	ug/L	10 0				
Chloroethane	ND	ug/L	10 0				
Chloroform	ND	ug/L	10 0				
[redacted]romethane	ND	ug/L	10.0				
[redacted]-Dichloroethane	ND	ug/L	10.0				
1,2-Dichloroethane	ND	ug/L	10 0				
1,1-Dichloroethene	23.5	ug/L	10 0				
trans-1,2-Dichloroethene	10.7	ug/L	10 0				
1,2-Dichloropropane	ND	ug/L	10 0				
cis-1,3-Dichloropropene	ND	ug/L	10.0				
trans-1,3-Dichloropropene	ND	ug/L	10.0				
Ethylbenzene	ND	ug/L	10.0				
2-Hexanone (MBK)	ND	ug/L	50 0				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0				
Methylene Chloride	ND	ug/L	50 0				
Styrene	ND	ug/L	10.0				
1,1,2,2-Tetrachloroethane	ND	ug/L	10 0				
Tetrachloroethene	3 26J	ug/L	10 0				
Toluene	ND	ug/L	20 0				
1,1,1-Trichloroethane	ND	ug/L	10 0				
1,1,2-Trichloroethane	ND	ug/L	10 0				
Trichloroethene	68 4	ug/L	10 0				
Vinyl Acetate	ND	ug/L	200				
Vinyl Chloride	ND	ug/L	10 0				
Xylenes-m,p	ND	ug/L	10.0				
Xylenes-o	ND	ug/L	10 0				
cis-1,2-Dichloroethene	8 07J	ug/L	10 0				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	104	84	115
S2 - Toluene-d8	99	69	133
S3 - 4-Bromofluorobenzene	112	80	120
S4 - 1,2-Dichloroethane-d4	99	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits

719 946

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005459

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Matrix: (soil/water) WATER Lab Sample ID: 021005459

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0701008

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/11/02

GC Column: ID: 2.00 (mm) Dilution Factor: 10.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 947

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210054

ETC Lab ID: 0210054-60
Field ID: MW-79-4

Matrix : AQUEOUS
Sample Date : 10/01/02 10:38:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/02	LS	8260B 5030B
QC Batch	**V410111**					
Dilution Factor	**10**					
Acetone	UJ ~~ND~~	ug/L	200			
Benzene	ND	ug/L	10.0			
Bromodichloromethane	ND	ug/L	10 0			
Bromoform	ND	ug/L	10 0			
Bromomethane	UJ ~~ND~~	ug/L	10 0			
2-Butanone (MEK)	UJ ~~ND~~	ug/L	200			
Carbon Disulfide	ND	ug/L	10.0			
Carbon Tetrachloride	ND	ug/L	10.0			
Chlorobenzene	ND	ug/L	10.0			
Chlorodibromomethane	ND	ug/L	10.0			
Chloroethane	ND	ug/L	10 0			
Chloroform	ND	ug/L	10 0			
[redacted]oromethane	ND	ug/L	10.0			
[redacted]-Dichloroethane	ND	ug/L	10.0			
1,2-Dichloroethane	ND	ug/L	10.0			
1,1-Dichloroethene	23.8	ug/L	10.0			
trans-1,2-Dichloroethene	9.00	ug/L	10 0			
1,2-Dichloropropane	ND	ug/L	10 0			
cis-1,3-Dichloropropene	ND	ug/L	10.0			
trans-1,3-Dichloropropene	ND	ug/L	10 0			
Ethylbenzene	ND	ug/L	10 0			
2-Hexanone (MBK)	ND	ug/L	50.0			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0			
Methylene Chloride	ND	ug/L	50.0			
Styrene	ND	ug/L	10.0			
1,1,2,2-Tetrachloroethane	ND	ug/L	10 0			
Tetrachloroethene	3.18J	ug/L	10 0			
Toluene	ND	ug/L	20.0			
1,1,1-Trichloroethane	ND	ug/L	10.0			
1,1,2-Trichloroethane	ND	ug/L	10 0			
Trichloroethene	56.6	ug/L	10 0			
Vinyl Acetate	ND	ug/L	200			
Vinyl Chloride	ND	ug/L	10.0			
Xylenes-m,p	ND	ug/L	10.0			
Xylenes-o	ND	ug/L	10 0			
cis-1,2-Dichloroethene	7 02J	ug/L	10.0			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	106	84	115
S2 - Toluene-d8	100	69	133
S3 - 4-Bromofluorobenzene	110	80	120
S4 - 1,2-Dichloroethane-d4	102	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 948

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005460

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Matrix: (soil/water) WATER Lab Sample ID: 021005460

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0801009

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/11/02

GC Column: ID: 2.00 (mm) Dilution Factor: 10.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 949

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210054

ETC Lab ID: 0210054-61
Field ID : MW-79-400

Matrix : AQUEOUS
Sample Date: 10/01/02 10:38:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/02	LS	8260B 5030B
QC Batch	V410111					
Dilution Factor	10					
Acetone	UJ ~~ND~~	ug/L	200			
Benzene	ND	ug/L	10.0			
Bromodichloromethane	ND	ug/L	10 0			
Bromoform	ND	ug/L	10.0			
Bromomethane	UJ ~~ND~~	ug/L	10.0			
2-Butanone (MEK)	UJ ~~ND~~	ug/L	200			
Carbon Disulfide	2.57J	ug/L	10 0			
Carbon Tetrachloride	ND	ug/L	10.0			
Chlorobenzene	ND	ug/L	10 0			
Chlorodibromomethane	ND	ug/L	10 0			
Chloroethane	ND	ug/L	10.0			
Chloroform	ND	ug/L	10.0			
[redacted]romethane	ND	ug/L	10.0			
[redacted]Dichloroethane	ND	ug/L	10 0			
1,2-Dichloroethane	ND	ug/L	10 0			
1,1-Dichloroethene	23 7	ug/L	10 0			
trans-1,2-Dichloroethene	9.81J	ug/L	10.0			
1,2-Dichloropropane	ND	ug/L	10.0			
cis-1,3-Dichloropropene	ND	ug/L	10 0			
trans-1,3-Dichloropropene	ND	ug/L	10.0			
Ethylbenzene	ND	ug/L	10 0			
2-Hexanone (MBK)	ND	ug/L	50 0			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0			
Methylene Chloride	ND	ug/L	50 0			
Styrene	ND	ug/L	10.0			
1,1,2,2-Tetrachloroethane	ND	ug/L	10.0			
Tetrachloroethene	3.31J	ug/L	10 0			
Toluene	ND	ug/L	20.0			
1,1,1-Trichloroethane	ND	ug/L	10.0			
1,1,2-Trichloroethane	ND	ug/L	10.0			
Trichloroethene	58 8	ug/L	10.0			
Vinyl Acetate	ND	ug/L	200			
Vinyl Chloride	ND	ug/L	10 0			
Xylenes-m,p	ND	ug/L	10.0			
Xylenes-o	ND	ug/L	10.0			
cis-1,2-Dichloroethene	6.70J	ug/L	10.0			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	108	84	115
S2 - Toluene-d8	100	69	133
S3 - 4-Bromofluorobenzene	110	80	120
S4 - 1,2-Dichloroethane-d4	106	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 950

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005461

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Matrix: (soil/water) WATER Lab Sample ID: 021005461

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0901010

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/11/02

GC Column: ID: 2.00 (mm) Dilution Factor: 10.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 951

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210054**

ETC Lab ID **0210054-62**
Field ID : **MW-80-1**

Matrix : **AQUEOUS**
Sample Date : **10/01/02 11:05:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/02	LS	8260B 5030B
QC Batch	**V410111**					
Dilution Factor	**1**					
Acetone	UJ ~~ND~~	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	STET ~~ND~~	ug/L	1.00			
Bromomethane	UJ ~~ND~~	ug/L	1.00			
2-Butanone (MEK)	UJ ~~ND~~	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1 00			
Chloroethane	ND	ug/L	1 00			
Chloroform	ND	ug/L	1 00			
[redacted]romethane	ND	ug/L	1.00			
[redacted]Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1 00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5 00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5 00			
Styrene	ND	ug/L	1 00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1 00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1 00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	110	84	115
S2 - Toluene-d8	99	69	133
S3 - 4-Bromofluorobenzene	110	80	120
S4 - 1,2-Dichloroethane-d4	106	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 952

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005462

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Matrix: (soil/water) WATER Lab Sample ID: 021005462

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1001011

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/11/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 953

Client Name: **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: **Memphis Depot**

FID #

Date Arrived: **10/02/02**
ETC Order Number: **0210054**

ETC Lab ID: **0210054-63**
Field ID: **MW-80-2**

Matrix: **AQUEOUS**
Sample Date: **10/01/02 11:06:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/11/02		LS	8260B 5030B
QC Batch	V410111						
Dilution Factor	1						
Acetone	UJ ~~ND~~	ug/L	20.0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1 00				
Bromoform	ND	ug/L	1.00				
Bromomethane	UJ ~~ND~~	ug/L	1.00				
2-Butanone (MEK)	UJ ~~ND~~	ug/L	20.0				
Carbon Disulfide	1 13	ug/L	1.00				
Carbon Tetrachloride	ND	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	ND	ug/L	1.00				
[redacted]oromethane	ND	ug/L	1.00				
[redacted]-Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1.00				
trans-1,2-Dichloroethene	ND	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1 00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5 00				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1 00				
Tetrachloroethene	ND	ug/L	1 00				
Toluene	ND	ug/L	2 00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	ND	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
Xylenes-m,p	ND	ug/L	1.00				
Xylenes-o	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	112	84	115
S2 - Toluene-d8	99	69	133
S3 - 4-Bromofluorobenzene	110	80	120
S4 - 1,2-Dichloroethane-d4	111	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 954

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005463

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Matrix: (soil/water) WATER Lab Sample ID: 021005463

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1101012

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/11/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 955

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210054

ETC Lab ID: 0210054-64
Field ID : MW-80-3

Matrix : AQUEOUS
Sample Date : 10/01/02 11:07:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/11/02		LS	8260B 5030B
QC Batch	V410111						
Dilution Factor	1						
Acetone	UJ ~~ND~~	ug/L	20.0				
Benzene	ND	ug/L	1 00				
Bromodichloromethane	ND	ug/L	1.00				
Bromoform	ND	ug/L	1.00				
Bromomethane	UJ ~~ND~~	ug/L	1.00				
2-Butanone (MEK)	UJ ~~ND~~	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1 00				
Carbon Tetrachloride	ND	ug/L	1 00				
Chlorobenzene	ND	ug/L	1 00				
Chlorodibromomethane	ND	ug/L	1 00				
Chloroethane	ND	ug/L	1.00				
Chloroform	ND	ug/L	1.00				
[redacted]oromethane	ND	ug/L	1.00				
[redacted]Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1 00				
trans-1,2-Dichloroethene	ND	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1 00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5 00				
Methylene Chloride	ND	ug/L	5 00				
Styrene	ND	ug/L	1 00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1 00				
Tetrachloroethene	ND	ug/L	1.00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	ND	ug/L	1 00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	ND	ug/L	1 00				
Vinyl Acetate	ND	ug/L	20 0				
Vinyl Chloride	ND	ug/L	1.00				
Xylenes-m,p	ND	ug/L	1.00				
Xylenes-o	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	109	84	115
S2 - Toluene-d8	102	69	133
S3 - 4-Bromofluorobenzene	110	80	120
S4 - 1,2-Dichloroethane-d4	110	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 956

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005464

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Matrix: (soil/water) WATER Lab Sample ID: 021005464

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1201013

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/11/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 957

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210054

ETC Lab ID: 0210054-65
Field ID : MW-95-1

Matrix : AQUEOUS
Sample Date : 10/01/02 10:50:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/11/02		LS	8260B 5030B
QC Batch	V410111						
Dilution Factor	1						
Acetone	UJ ~~ND~~	ug/L	20.0				
Benzene	ND	ug/L	1 00				
Bromodichloromethane	ND	ug/L	1 00				
Bromoform	ND	ug/L	1.00				
Bromomethane	UJ ~~ND~~	ug/L	1.00				
2-Butanone (MEK)	UJ ~~ND~~	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	ND	ug/L	1.00				
Chlorobenzene	ND	ug/L	1 00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	ND	ug/L	1.00				
[redacted]romethane	ND	ug/L	1.00				
[redacted]Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1 00				
1,1-Dichloroethene	ND	ug/L	1.00				
trans-1,2-Dichloroethene	ND	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1 00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1 00				
2-Hexanone (MBK)	ND	ug/L	5 00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	ND	ug/L	5 00				
Styrene	ND	ug/L	1 00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1 00				
Tetrachloroethene	ND	ug/L	1 00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	ND	ug/L	1 00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	ND	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
Xylenes-m,p	ND	ug/L	1.00				
Xylenes-o	ND	ug/L	1 00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	111	84	115
S2 - Toluene-d8	101	69	133
S3 - 4-Bromofluorobenzene	111	80	120
S4 - 1,2-Dichloroethane-d4	110	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 958

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005465

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Matrix: (soil/water) WATER Lab Sample ID: 021005465

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1301014

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/11/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 959

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210054

ETC Lab ID: 0210054-66
Field ID: MW-95-2

Matrix : AQUEOUS
Sample Date : 10/01/02 10:51:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/11/02		LS	8260B 5030B
QC Batch	V410111						
Dilution Factor	1						
Acetone	UJ ~~ND~~	ug/L	20.0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1.00				
Bromoform	ND	ug/L	1.00				
Bromomethane	UJ ~~ND~~	ug/L	1.00				
2-Butanone (MEK)	UJ ~~ND~~	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	ND	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	ND	ug/L	1.00				
[redacted]oromethane	ND	ug/L	1.00				
[redacted]Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1.00				
trans-1,2-Dichloroethene	ND	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	ND	ug/L	1.00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	ND	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
Xylenes-m,p	ND	ug/L	1.00				
Xylenes-o	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	112	84	115
S2 - Toluene-d8	101	69	133
S3 - 4-Bromofluorobenzene	111	80	120
S4 - 1,2-Dichloroethane-d4	113	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 960

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005466

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Matrix: (soil/water) WATER Lab Sample ID: 021005466

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1401015

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/11/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 961

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210054**

ETC Lab ID **0210054-67**
Field ID **MW-95-3**

Matrix : **AQUEOUS**
Sample Date · **10/01/02 10:52:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/11/02		LS	8260B 5030B
QC Batch	**V410111**						
Dilution Factor	1						
Acetone	UJ ~~ND~~	ug/L	20.0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1 00				
Bromoform	ND	ug/L	1.00				
Bromomethane	UJ ~~ND~~	ug/L	1.00				
2-Butanone (MEK)	UJ ~~ND~~	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	ND	ug/L	1 00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	ND	ug/L	1.00				
[redacted]romethane	ND	ug/L	1 00				
[redacted]Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1.00				
trans-1,2-Dichloroethene	ND	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1 00				
cis-1,3-Dichloropropene	ND	ug/L	1 00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	ND	ug/L	5 00				
Styrene	ND	ug/L	1 00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	ND	ug/L	1.00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	ND	ug/L	1 00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	ND	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
Xylenes-m,p	ND	ug/L	1 00				
Xylenes-o	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	112	84	115
S2 - Toluene-d8	102	69	133
S3 - 4-Bromofluorobenzene	110	80	120
S4 - 1,2-Dichloroethane-d4	113	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 962

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005467

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Matrix: (soil/water) WATER Lab Sample ID: 021005467

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1501016

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/11/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

719 963

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210054**

ETC Lab ID **0210054-68**
Field ID . **MW-95-4**

Matrix : **AQUEOUS**
Sample Date · **10/01/02 10:53:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/11/02	LS	8260B 5030B
QC Batch	**V410111**					
Dilution Factor	**1**					
Acetone	UJ ~~ND~~	ug/L	20.0			
Benzene	ND	ug/L	1 00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	UJ ~~ND~~	ug/L	1.00			
2-Butanone (MEK)	UJ ~~ND~~	ug/L	20.0			
Carbon Disulfide	0.60J	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1 00			
[redacted]romethane	ND	ug/L	1.00			
[redacted]-Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2 00			
1,1,1-Trichloroethane	ND	ug/L	1 00			
1,1,2-Trichloroethane	ND	ug/L	1 00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	113	84	115
S2 - Toluene-d8	102	69	133
S3 - 4-Bromofluorobenzene	112	80	120
S4 - 1,2-Dichloroethane-d4	115	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 964

FORM 1

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005468

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Matrix: (soil/water) WATER Lab Sample ID: 021005468

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1601017

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/11/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 965

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210054**

ETC Lab ID **0210054-69**
Field ID : **MW-126-1**

Matrix : **AQUEOUS**
Sample Date : **10/01/02 11:00:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/14/02		LS	8260B 5030B
QC Batch	**V410141**						
Dilution Factor	1						
Acetone	UJ ~~ND~~	ug/L	20.0				
Benzene	ND	ug/L	1 00				
Bromodichloromethane	ND	ug/L	1 00				
Bromoform	ND	ug/L	1.00				
Bromomethane	UJ ~~ND~~	ug/L	1.00				
2-Butanone (MEK)	UJ ~~ND~~	ug/L	20.0				
Carbon Disulfide	0.84J	ug/L	1.00				
Carbon Tetrachloride	ND	ug/L	1 00				
Chlorobenzene	ND	ug/L	1 00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	ND	ug/L	1.00				
Chloromethane	ND	ug/L	1.00				
1,1-Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1.00				
trans-1,2-Dichloroethene	ND	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1 00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	7.10B UJ	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	ND	ug/L	1 00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	ND	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
Xylenes-m,p	ND	ug/L	1 00				
Xylenes-o	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	114	84	115
S2 - Toluene-d8	100	69	133
S3 - 4-Bromofluorobenzene	124 Q	80	120
S4 - 1,2-Dichloroethane-d4	117	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 966

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005469

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Matrix: (soil/water) WATER Lab Sample ID: 021005469

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0401005

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/14/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 967

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210054

ETC Lab ID: 0210054-70
Field ID : MW-127-1

Matrix : AQUEOUS
Sample Date : 10/01/02 11:20:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/11/02		LS	8260B 5030B
QC Batch	V410111						
Dilution Factor	1						
Acetone	UJ ~~ND~~	ug/L	20.0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1.00				
Bromoform	ND	ug/L	1 00				
Bromomethane	UJ ~~ND~~	ug/L	1.00				
2-Butanone (MEK)	UJ ~~ND~~	ug/L	20.0				
Carbon Disulfide	1.36 J	ug/L	1.00				
Carbon Tetrachloride	ND	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1 00				
Chloroethane	ND	ug/L	1.00				
Chloroform	ND	ug/L	1 00				
[redacted]romethane	ND	ug/L	1.00				
[redacted]Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1.00				
trans-1,2-Dichloroethene	ND	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1 00				
cis-1,3-Dichloropropene	ND	ug/L	1 00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1 00				
2-Hexanone (MBK)	ND	ug/L	5 00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1 00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	ND	ug/L	1 00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	ND	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1 00				
Xylenes-m,p	ND	ug/L	1 00				
Xylenes-o	ND	ug/L	1 00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	116 Q	84	115
S2 - Toluene-d8	102	69	133
S3 - 4-Bromofluorobenzene	112	80	120
S4 - 1,2-Dichloroethane-d4	118	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 968

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.
021005470

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Matrix: (soil/water) WATER Lab Sample ID: 021005470

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1801019

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/11/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 969

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210054

ETC Lab ID: 0210054-71
Field ID: MW-127-2

Matrix: AQUEOUS
Sample Date: 10/01/02 11:21:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/14/02	LS	8260B 5030B
QC Batch	V410141					
Dilution Factor	1					
Acetone	UJ ~~ND~~	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
[redacted]romomethane	ND	ug/L	1.00			
[redacted]Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	6.60 BU	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	118 Q	84	115
S2 - Toluene-d8	103	69	133
S3 - 4-Bromofluorobenzene	122 Q	80	120
S4 - 1,2-Dichloroethane-d4	127	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 970

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005471

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Matrix: (soil/water) WATER Lab Sample ID: 021005471

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0502007

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/14/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 971

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210054

ETC Lab ID: 0210054-72
Field ID : EQB-3

Matrix : AQUEOUS
Sample Date : 10/02/02 10:00:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/12/02		LS	8260B 5030B
QC Batch	V410112						
Dilution Factor	1						
Acetone	ND	ug/L	20.0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1.00				
Bromoform	ND	ug/L	1.00				
Bromomethane	ND	ug/L	1.00				
2-Butanone (MEK)	UJ ~~ND~~	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	ND	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	ND	ug/L	1.00				
[illegible]romethane	ND	ug/L	1.00				
1,1-Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1.00				
trans-1,2-Dichloroethene	UJ ~~ND~~	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00				
Tetrachloroethene	ND	ug/L	1.00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	ND	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
Xylenes-m,p	ND	ug/L	1.00				
Xylenes-o	ND	ug/L	1.00				
cis-1,2-Dichloroethene	ND	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	105	84	115
S2 - Toluene-d8	100	69	133
S3 - 4-Bromofluorobenzene	104	80	120
S4 - 1,2-Dichloroethane-d4	96	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 972

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005472

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Matrix: (soil/water) WATER Lab Sample ID: 021005472

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 2502032

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/12/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 973

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210054

ETC Lab ID: 0210054-73
Field ID: PZ-02

Matrix : AQUEOUS
Sample Date : 10/02/02 09:25:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/12/02	LS	8260B 5030B
QC Batch	V410112					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	UJ ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	1.13	ug/L	1.00			
[redacted]oromethane	ND	ug/L	1.00			
[redacted]Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	1.71	ug/L	1.00			
trans-1,2-Dichloroethene	UJ ND	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	ND	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1.00			
Tetrachloroethene	3.10	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	ND	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	109	84	115
S2 - Toluene-d8	100	69	133
S3 - 4-Bromofluorobenzene	107	80	120
S4 - 1,2-Dichloroethane-d4	103	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 974

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005473

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Matrix: (soil/water) WATER Lab Sample ID: 021005473

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 2603033

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/12/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 975

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived : 10/02/02
ETC Order Number: 0210054

ETC Lab ID: 0210054-74
Field ID : EQB-4

Matrix : AQUEOUS
Sample Date : 10/02/02 10:40:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/12/02	LS	8260B 5030B
QC Batch	V410112					
Dilution Factor	1					
Acetone	ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	UJ ~~ND~~	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	ND	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	ND	ug/L	1.00			
[redacted]romomethane	ND	ug/L	1.00			
[redacted]Dichloroethane	ND	ug/L	1 00			
1,2-Dichloroethane	ND	ug/L	1 00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	UJ ~~ND~~	ug/L	1 00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5 00			
Methylene Chloride	ND	ug/L	5 00			
Styrene	ND	ug/L	1 00			
1,1,2,2-Tetrachloroethane	ND	ug/L	1 00			
Tetrachloroethene	ND	ug/L	1.00			
Toluene	ND	ug/L	2 00			
1,1,1-Trichloroethane	ND	ug/L	1 00			
1,1,2-Trichloroethane	ND	ug/L	1.00			
Trichloroethene	ND	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1 00			
cis-1,2-Dichloroethene	ND	ug/L	1 00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	108	84	115
S2 - Toluene-d8	98	69	133
S3 - 4-Bromofluorobenzene	105	80	120
S4 - 1,2-Dichloroethane-d4	100	58	131

[redacted]

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 976

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.
021005474

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Matrix: (soil/water) WATER Lab Sample ID: 021005474

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 2701034

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/12/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 977

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210054

ETC Lab ID: 0210054-75
Field ID : RW-1A

Matrix : AQUEOUS
Sample Date . 10/01/02 13:40:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/14/02	LS	8260B 5030B
QC Batch	**V410141**					
Dilution Factor	**10**					
Acetone	UJ ~~ND~~	ug/L	200			
Benzene	ND	ug/L	10 0			
Bromodichloromethane	ND	ug/L	10 0			
Bromoform	ND	ug/L	10 0			
Bromomethane	ND	ug/L	10.0			
2-Butanone (MEK)	ND	ug/L	200			
Carbon Disulfide	ND	ug/L	10 0			
Carbon Tetrachloride	65.3 J	ug/L	10.0			
Chlorobenzene	ND	ug/L	10 0			
Chlorodibromomethane	ND	ug/L	10.0			
Chloroethane	ND	ug/L	10 0			
Chloroform	1,120 J	ug/L	10.0			
[redacted]romethane	ND	ug/L	10 0			
[redacted]Dichloroethane	ND	ug/L	10.0			
1,2-Dichloroethane	ND	ug/L	10.0			
1,1-Dichloroethene	ND	ug/L	10 0			
trans-1,2-Dichloroethene	6.35J	ug/L	10 0			
1,2-Dichloropropane	ND	ug/L	10 0			
cis-1,3-Dichloropropene	ND	ug/L	10 0			
trans-1,3-Dichloropropene	ND	ug/L	10.0			
Ethylbenzene	ND	ug/L	10.0			
2-Hexanone (MBK)	ND	ug/L	50 0			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50 0			
Methylene Chloride	71.2 UJ	ug/L	50.0			
Styrene	ND	ug/L	10.0			
1,1,2,2-Tetrachloroethane	187 J	ug/L	10.0			
Tetrachloroethene	12.3 J	ug/L	10.0			
Toluene	ND	ug/L	20 0			
1,1,1-Trichloroethane	ND	ug/L	10.0			
1,1,2-Trichloroethane	3.32J	ug/L	10.0			
Trichloroethene	294 J	ug/L	10.0			
Vinyl Acetate	ND	ug/L	200			
Vinyl Chloride	ND	ug/L	10.0			
Xylenes-m,p	ND	ug/L	10.0			
Xylenes-o	ND	ug/L	10.0			
cis-1,2-Dichloroethene	17 6 J	ug/L	10.0			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	120 Q	84	115
S2 - Toluene-d8	101	69	133
S3 - 4-Bromofluorobenzene	119	80	120
S4 - 1,2-Dichloroethane-d4	128	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 978

FORM 1

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005475

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Matrix: (soil/water) WATER Lab Sample ID: 021005475

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0601008

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/14/02

GC Column: ID: 2.00 (mm) Dilution Factor: 10.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 979

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210054

ETC Lab ID: 0210054-76
Field ID: RW-1B

Matrix : AQUEOUS
Sample Date : 10/01/02 13:42:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/14/02	LS	8260B 5030B
QC Batch	V410141					
Dilution Factor	1					
Acetone	UJ ND	ug/L	20.0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1.00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20.0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	27 9 J	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	20.8 J	ug/L	1 00			
[redacted]romethane	ND	ug/L	1.00			
[redacted]Dichloroethane	ND	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	ND	ug/L	1.00			
trans-1,2-Dichloroethene	2.45 J	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1.00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	6 94 UJ	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	1.43 J	ug/L	1.00			
Tetrachloroethene	2 05 J	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	ND	ug/L	1.00			
1,1,2-Trichloroethane	0.66J	ug/L	1 00			
Trichloroethene	24 1 J	ug/L	1 00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	12.5 J	ug/L	1 00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	119 Q	84	115
S2 - Toluene-d8	102	69	133
S3 - 4-Bromofluorobenzene	122 Q	80	120
S4 - 1,2-Dichloroethane-d4	126	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 980

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005476

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Matrix: (soil/water) WATER Lab Sample ID: 021005476

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0701009

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/14/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 981

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210054

ETC Lab ID: 0210054-77
Field ID : RW-2

Matrix : AQUEOUS
Sample Date : 10/01/02 13:44:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/14/02		LS	8260B 5030B
QC Batch	V410141						
Dilution Factor	1						
Acetone	UJ ~~ND~~	ug/L	20.0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1.00				
Bromoform	ND	ug/L	1.00				
Bromomethane	ND	ug/L	1.00				
2-Butanone (MEK)	ND	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	21.6 J	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	23.1 J	ug/L	1.00				
[redacted]romethane	ND	ug/L	1.00				
[redacted]-Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1.00				
trans-1,2-Dichloroethene	6.49 J	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	6.92 BJ	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	94.7 J	ug/L	1.00				
Tetrachloroethene	1.48 J	ug/L	1.00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	3.34 J	ug/L	1.00				
Trichloroethene	64.6 J	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
Xylenes-m,p	ND	ug/L	1.00				
Xylenes-o	ND	ug/L	1.00				
cis-1,2-Dichloroethene	88.1 J	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	121 Q	84	115
S2 - Toluene-d8	104	69	133
S3 - 4-Bromofluorobenzene	123 Q	80	120
S4 - 1,2-Dichloroethane-d4	128	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 982

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005477

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Matrix: (soil/water) WATER Lab Sample ID: 021005477

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0801010

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/14/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 983

Client Name: **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: **Memphis Depot**

FID #

Date Arrived: **10/02/02**
ETC Order Number: **0210054**

ETC Lab ID: **0210054-78**
Field ID : **RW-3**

Matrix : **AQUEOUS**
Sample Date . **10/01/02 13:50:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/14/02		LS	8260B 5030B
QC Batch	**V410141**						
Dilution Factor	1						
Acetone	UJ ND	ug/L	20.0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1.00				
Bromoform	ND	ug/L	1.00				
Bromomethane	ND	ug/L	1.00				
2-Butanone (MEK)	ND	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	15.2 J	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	3.97 J	ug/L	1.00				
[redacted]oromethane	ND	ug/L	1.00				
[redacted]-Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1.00				
trans-1,2-Dichloroethene	2.56 J	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	6.66 BU J	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	3.61 J	ug/L	1.00				
Tetrachloroethene	0.92 J	ug/L	1.00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	70.4 J	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
Xylenes-m,p	ND	ug/L	1.00				
Xylenes-o	ND	ug/L	1.00				
cis-1,2-Dichloroethene	16.9 J	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	120 Q	84	115
S2 - Toluene-d8	101	69	133
S3 - 4-Bromofluorobenzene	124 Q	80	120
S4 - 1,2-Dichloroethane-d4	126	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 984

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005478

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Matrix: (soil/water) WATER Lab Sample ID: 021005478

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0901011

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/14/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 985

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210054

ETC Lab ID: 0210054-79
Field ID: RW-4

Matrix : AQUEOUS
Sample Date : 10/01/02 13:54:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/14/02		LS	8260B 5030B
QC Batch	V410141						
Dilution Factor	1						
Acetone	UJ ND	ug/L	20.0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1 00				
Bromoform	ND	ug/L	1 00				
Bromomethane	ND	ug/L	1.00				
2-Butanone (MEK)	ND	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	1 77 J	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1 00				
Chloroethane	ND	ug/L	1.00				
Chloroform	3.33 J	ug/L	1.00				
[redacted]romethane	ND	ug/L	1.00				
[redacted]Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1.00				
trans-1,2-Dichloroethene	8.11 J	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1 00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	6 24 BUJ	ug/L	5 00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	335 EJ	ug/L	1.00				
Tetrachloroethene	5 73 J	ug/L	1.00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	ND	ug/L	1 00				
1,1,2-Trichloroethane	5.25 J	ug/L	1 00				
Trichloroethene	775 EJ	ug/L	1 00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
Xylenes-m,p	ND	ug/L	1 00				
Xylenes-o	ND	ug/L	1 00				
cis-1,2-Dichloroethene	38.8 J	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	121 Q	84	115
S2 - Toluene-d8	104	69	133
S3 - 4-Bromofluorobenzene	120	80	120
S4 - 1,2-Dichloroethane-d4	127	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 986

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.
021005479

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Matrix: (soil/water) WATER Lab Sample ID: 021005479

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1001012

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/14/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 987

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210054**

ETC Lab ID **0210054-90**
Field ID : **RW-4-DIL**

Matrix · **AQUEOUS**
Sample Date : **10/01/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/15/02	LS	8260B 5030B
QC Batch	**V410151**					
Dilution Factor	**10**					
1,1,2,2-Tetrachloroethane	669	ug/L	10.0			
Trichloroethene	1,050	ug/L	10.0			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	108	84	115
S2 - Toluene-d8	99	69	133
S3 - 4-Bromofluorobenzene	114	80	120
S4 - 1,2-Dichloroethane-d4	105	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 988

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210054

ETC Lab ID: 0210054-80
Field ID: RW-5

Matrix : AQUEOUS
Sample Date : 10/01/02 13:56:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/15/02		LS	8260B 5030B
QC Batch	V410151						
Dilution Factor	1						
Acetone	UJ ~~ND~~	ug/L	20.0				
Benzene	ND	ug/L	1 00				
Bromodichloromethane	ND	ug/L	1 00				
Bromoform	ND	ug/L	1.00				
Bromomethane	ND	ug/L	1.00				
2-Butanone (MEK)	ND	ug/L	20 0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	ND	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1 00				
Chloroform	ND	ug/L	1 00				
)romethane	ND	ug/L	1.00				
...-Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1 00				
1,1-Dichloroethene	ND	ug/L	1.00				
trans-1,2-Dichloroethene	2.30	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1 00				
trans-1,3-Dichloropropene	ND	ug/L	1 00				
Ethylbenzene	ND	ug/L	1 00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	ND	ug/L	5 00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	47.8	ug/L	1.00				
Tetrachloroethene	4.36	ug/L	1 00				
Toluene	ND	ug/L	2 00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	142 J	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
Xylenes-m,p	ND	ug/L	1 00				
Xylenes-o	ND	ug/L	1 00				
cis-1,2-Dichloroethene	12.8	ug/L	1 00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	104	84	115
S2 - Toluene-d8	100	69	133
S3 - 4-Bromofluorobenzene	112	80	120
S4 - 1,2-Dichloroethane-d4	96	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.
021005480

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Matrix: (soil/water) WATER Lab Sample ID: 021005480

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0401006

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/15/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

719 990

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210054**

ETC Lab ID **0210054-81**
Field ID . **RW-6**

Matrix : **AQUEOUS**
Sample Date : **10/01/02 13:58:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/14/02		LS	8260B 5030B
QC Batch	**V410141**						
Dilution Factor	**1**						
Acetone	UJ ~~ND~~	ug/L	20.0				
Benzene	ND	ug/L	1 00				
Bromodichloromethane	ND	ug/L	1.00				
Bromoform	ND	ug/L	1.00				
Bromomethane	ND	ug/L	1.00				
2-Butanone (MEK)	ND	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	ND	ug/L	1.00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND J	ug/L	1.00				
Chloroform	3.15 J	ug/L	1.00				
bromethane	ND	ug/L	1.00				
,1-Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND J	ug/L	1.00				
trans-1,2-Dichloroethene	3.98 J	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5 00				
Methylene Chloride	6 76 ~~B~~ UJ	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	2.00 J	ug/L	1.00				
Tetrachloroethene	32.6 J	ug/L	1.00				
Toluene	ND	ug/L	2 00				
1,1,1-Trichloroethane	ND	ug/L	1 00				
1,1,2-Trichloroethane	ND J	ug/L	1 00				
Trichloroethene	27 2 J	ug/L	1 00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
Xylenes-m,p	ND	ug/L	1.00				
Xylenes-o	ND J	ug/L	1.00				
cis-1,2-Dichloroethene	10.0 J	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	124 Q	84	115
S2 - Toluene-d8	103	69	133
S3 - 4-Bromofluorobenzene	118	80	120
S4 - 1,2-Dichloroethane-d4	128	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1 719 991 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

021005481

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Matrix: (soil/water) WATER Lab Sample ID: 021005481

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1201014

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/14/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 992

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name: **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: **Memphis Depot**

FID #

Date Arrived: **10/02/02**
ETC Order Number: **0210054**

ETC Lab ID: **0210054-82**
Field ID : **RW-7**

Matrix : **AQUEOUS**
Sample Date : **10/01/02 14:00:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/14/02		LS	8260B 5030B
QC Batch	**V410141**						
Dilution Factor	1						
Acetone	~~UJ~~ ND	ug/L	20.0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1.00				
Bromoform	ND	ug/L	1.00				
Bromomethane	ND	ug/L	1.00				
2-Butanone (MEK)	ND	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1 00				
Carbon Tetrachloride	0 98J	ug/L	1 00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	6 66 J	ug/L	1.00				
romethane	ND	ug/L	1.00				
,,-Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1.00				
trans-1,2-Dichloroethene	10.8 J	ug/L	1 00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1 00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5 00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	6 29 ~~BU~~ J	ug/L	5 00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	156 J	ug/L	1.00				
Tetrachloroethene	4.22 J	ug/L	1 00				
Toluene	ND	ug/L	2 00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	1.43 J	ug/L	1.00				
Trichloroethene	55.3 J	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20 0				
Vinyl Chloride	ND	ug/L	1 00				
Xylenes-m,p	ND	ug/L	1 00				
Xylenes-o	ND	ug/L	1 00				
cis-1,2-Dichloroethene	50.4 J	ug/L	1 00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	122 Q	84	115
S2 - Toluene-d8	103	69	133
S3 - 4-Bromofluorobenzene	119	80	120
S4 - 1,2-Dichloroethane-d4	129	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

719 993

CLIENT SAMPLE NO.

021005482

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Matrix: (soil/water) WATER Lab Sample ID: 021005482

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1301015

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/14/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 994

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210054**

ETC Lab ID **0210054-83**
Field ID : **RW-8**

Matrix : **AQUEOUS**
Sample Date : **10/01/02 14:05:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/14/02		LS	8260B 5030B
QC Batch	**V410141**						
Dilution Factor	**1**						
Acetone	UJ ~~ND~~	ug/L	20.0				
Benzene	ND	ug/L	1 00				
Bromodichloromethane	ND	ug/L	1 00				
Bromoform	ND	ug/L	1.00				
Bromomethane	ND	ug/L	1 00				
2-Butanone (MEK)	ND	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1.00				
Carbon Tetrachloride	2 76 J	ug/L	1 00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	36.2 J	ug/L	1.00				
oromethane	ND	ug/L	1.00				
,1-Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	21.8 J	ug/L	1.00				
trans-1,2-Dichloroethene	38.6 J	ug/L	1 00				
1,2-Dichloropropane	ND	ug/L	1.00				
cis-1,3-Dichloropropene	ND	ug/L	1.00				
trans-1,3-Dichloropropene	ND	ug/L	1.00				
Ethylbenzene	ND	ug/L	1 00				
2-Hexanone (MBK)	ND	ug/L	5 00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5 00				
Methylene Chloride	5 70B UJ	ug/L	5 00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	223 J	ug/L	1.00				
Tetrachloroethene	8.35 J	ug/L	1.00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	0.60J	ug/L	1.00				
1,1,2-Trichloroethane	3.90 J	ug/L	1.00				
Trichloroethene	189 J	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1.00				
Xylenes-m,p	ND	ug/L	1.00				
Xylenes-o	ND	ug/L	1 00				
cis-1,2-Dichloroethene	166 J	ug/L	1.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	121 Q	84	115
S2 - Toluene-d8	103	69	133
S3 - 4-Bromofluorobenzene	118	80	120
S4 - 1,2-Dichloroethane-d4	126	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits

FORM 1 719 995 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

021005483

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Matrix: (soil/water) WATER Lab Sample ID: 021005483

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1401016

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/14/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	66-25-1	HEXANAL	8.26	7.99	NJ
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

719 996

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210054**

ETC Lab ID **0210054-91**
Field ID : **RW-8-DIL**

Matrix : **AQUEOUS**
Sample Date : **10/01/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/15/02		LS	8260B 5030B
QC Batch	**V410151**						
Dilution Factor	**10**						
1,1,2,2-Tetrachloroethane	312	ug/L	10.0				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	113	84	115
S2 - Toluene-d8	101	69	133
S3 - 4-Bromofluorobenzene	112	80	120
S4 - 1,2-Dichloroethane-d4	107	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 997

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**

FID #

Date Arrived **10/02/02**
ETC Order Number **0210054**

ETC Lab ID **0210054-84**
Field ID : **RW-9**

Matrix : **AQUEOUS**
Sample Date : **10/01/02 14:10:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/14/02	LS	8260B 5030B
QC Batch	**V410141**					
Dilution Factor	1					
Acetone	UJ ND	ug/L	20 0			
Benzene	ND	ug/L	1.00			
Bromodichloromethane	ND	ug/L	1 00			
Bromoform	ND	ug/L	1.00			
Bromomethane	ND	ug/L	1 00			
2-Butanone (MEK)	ND	ug/L	20 0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	1.28 J	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	23.4 J	ug/L	1.00			
[redacted]romethane	ND	ug/L	1.00			
[redacted]-Dichloroethane	1.68 J	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1 00			
1,1-Dichloroethene	42.0 J	ug/L	1 00			
trans-1,2-Dichloroethene	2.03 J	ug/L	1 00			
1,2-Dichloropropane	ND	ug/L	1 00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1 00			
Ethylbenzene	ND	ug/L	1.00			
2-Hexanone (MBK)	ND	ug/L	5.00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00			
Methylene Chloride	6 35 BU	ug/L	5.00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	10.2 J	ug/L	1.00			
Tetrachloroethene	30.4 J	ug/L	1.00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	1.49 J	ug/L	1.00			
1,1,2-Trichloroethane	ND J	ug/L	1.00			
Trichloroethene	35 0 J	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1 00			
cis-1,2-Dichloroethene	7.55 J	ug/L	1.00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	123 Q	84	115
S2 - Toluene-d8	104	69	133
S3 - 4-Bromofluorobenzene	120	80	120
S4 - 1,2-Dichloroethane-d4	126	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

719 998

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005484

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Matrix: (soil/water) WATER Lab Sample ID: 021005484

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1501017

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/14/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

719 999

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210054

ETC Lab ID: 0210054-85
Field ID : RW-9-100

Matrix : AQUEOUS
Sample Date : 10/01/02 14:10:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				10/14/02	LS	8260B 5030B
QC Batch	**V410141**					
Dilution Factor	1					
Acetone	UJ ND	ug/L	20.0			
Benzene	ND	ug/L	1 00			
Bromodichloromethane	ND	ug/L	1 00			
Bromoform	ND	ug/L	1 00			
Bromomethane	ND	ug/L	1.00			
2-Butanone (MEK)	ND	ug/L	20 0			
Carbon Disulfide	ND	ug/L	1.00			
Carbon Tetrachloride	1.09 J	ug/L	1.00			
Chlorobenzene	ND	ug/L	1.00			
Chlorodibromomethane	ND	ug/L	1.00			
Chloroethane	ND	ug/L	1.00			
Chloroform	21.4 J	ug/L	1 00			
[illegible]romethane	ND	ug/L	1.00			
[illegible]-Dichloroethane	1 71 J	ug/L	1 00			
1,2-Dichloroethane	ND	ug/L	1 00			
1,1-Dichloroethene	42.4 J	ug/L	1 00			
trans-1,2-Dichloroethene	1.95 J	ug/L	1.00			
1,2-Dichloropropane	ND	ug/L	1 00			
cis-1,3-Dichloropropene	ND	ug/L	1.00			
trans-1,3-Dichloropropene	ND	ug/L	1.00			
Ethylbenzene	ND	ug/L	1 00			
2-Hexanone (MBK)	ND	ug/L	5 00			
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5 00			
Methylene Chloride	5.88 BU J	ug/L	5 00			
Styrene	ND	ug/L	1.00			
1,1,2,2-Tetrachloroethane	6.24 J	ug/L	1 00			
Tetrachloroethene	29.6 J	ug/L	1 00			
Toluene	ND	ug/L	2.00			
1,1,1-Trichloroethane	1.36 J	ug/L	1.00			
1,1,2-Trichloroethane	ND	ug/L	1 00			
Trichloroethene	32.9 J	ug/L	1.00			
Vinyl Acetate	ND	ug/L	20.0			
Vinyl Chloride	ND	ug/L	1.00			
Xylenes-m,p	ND	ug/L	1.00			
Xylenes-o	ND	ug/L	1.00			
cis-1,2-Dichloroethene	6 94 J	ug/L	1 00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	120 Q	84	115
S2 - Toluene-d8	100	69	133
S3 - 4-Bromofluorobenzene	116	80	120
S4 - 1,2-Dichloroethane-d4	126	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

7191000

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005485

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Matrix: (soil/water) WATER Lab Sample ID: 021005485

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1601018

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/14/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ATTACHMENT 2
ANALYTICAL SUMMARY/CROSS REFERENCE TABLE

7191002

Field Sample ID	Lab Sample ID	SDG
MW-30-1	21005301	210053
MW-30-2	21005302	210053
MW-31-1	21005303	210053
MW-31-2	21005304	210053
MW-32-1	21005305	210053
MW-33-1	21005306	210053
MW-34-1	21005307	210053
MW-34-2	21005308	210053
MW-34-3	21005309	210053
MW-37-1	21005310	210053
MW-37-100	21005311	210053
MW-37-2	21005312	210053
MW-37-3	21005313	210053
MW-40-1	21005314	210053
MW-42-1	21005315	210053
MW-43-1	21005316	210053
MW-43-2	21005317	210053
MW-44-1	21005318	210053
MW-44-2	21005319	210053
MW-44-3	21005320	210053
MW-51-1	21005321	210053
MW-51-100	21005322	210053
EQB-1	21005323	210053
MW-51-2	21005324	210053
MW-54-1	21005325	210053
MW-54-2	21005326	210053
MW-54-3	21005327	210053
MW-56-1	21005328	210053
MW-57-1	21005329	210053
MW-57-2	21005330	210053
MW-58-1	21005331	210053
MW-65-1	21005332	210053
MW-65-2	21005333	210053
MW-65-200	21005334	210053
MW-67-1	21005335	210053
MW-67-2	21005336	210053
MW-67-3	21005337	210053
MW-68-1	21005338	210053
MW-68-2	21005339	210053
MW-69-1	21005340	210053
MW-69-2	21005341	210053
MW-70-1	21005342	210053
MW-70-2	21005343	210053
MW-71-1	21005344	210053
MW-71-2	21005345	210053

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

7191003

Client Name: Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID: Memphis Depot

FID #

Date Arrived: 10/02/02
ETC Order Number: 0210054

ETC Lab ID: 0210054-86
Field ID : TB

Matrix : AQUEOUS
Sample Date : 10/01/02

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				10/12/02		LS	8260B 5030B
QC Batch	V410112						
Dilution Factor	1						
Acetone	ND	ug/L	20 0				
Benzene	ND	ug/L	1.00				
Bromodichloromethane	ND	ug/L	1.00				
Bromoform	ND	ug/L	1.00				
Bromomethane	ND	ug/L	1.00				
2-Butanone (MEK)	UJ ~~ND~~	ug/L	20.0				
Carbon Disulfide	ND	ug/L	1 00				
Carbon Tetrachloride	ND	ug/L	1 00				
Chlorobenzene	ND	ug/L	1.00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1.00				
Chloroform	ND	ug/L	1 00				
[redacted]romethane	ND	ug/L	1.00				
[redacted]Dichloroethane	ND	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	ND	ug/L	1.00				
trans-1,2-Dichloroethene	UJ ~~ND~~	ug/L	1.00				
1,2-Dichloropropane	ND	ug/L	1 00				
cis-1,3-Dichloropropene	ND	ug/L	1 00				
trans-1,3-Dichloropropene	ND	ug/L	1 00				
Ethylbenzene	ND	ug/L	1.00				
2-Hexanone (MBK)	ND	ug/L	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.00				
Methylene Chloride	ND	ug/L	5.00				
Styrene	ND	ug/L	1.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	1 00				
Tetrachloroethene	ND	ug/L	1.00				
Toluene	ND	ug/L	2.00				
1,1,1-Trichloroethane	ND	ug/L	1.00				
1,1,2-Trichloroethane	ND	ug/L	1.00				
Trichloroethene	ND	ug/L	1.00				
Vinyl Acetate	ND	ug/L	20.0				
Vinyl Chloride	ND	ug/L	1 00				
Xylenes-m,p	ND	ug/L	1 00				
Xylenes-o	ND	ug/L	1 00				
cis-1,2-Dichloroethene	ND	ug/L	1 00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	105	84	115
S2 - Toluene-d8	100	69	133
S3 - 4-Bromofluorobenzene	104	80	120
S4 - 1,2-Dichloroethane-d4	102	58	131

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

7191004

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

021005486

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0210054

Matrix: (soil/water) WATER Lab Sample ID: 021005486

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 2401031

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 10/12/02

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

Field Sample ID	Lab Sample ID	SDG
EQB-2	21005346	210053
MW-76-1	21005347	210053
MW-76-2	21005348	210053
Trip Blank	21005349	210053
MW-44-100	21005350	210053
MW-70-100	21005351	210053
MW-71-200	21005352	210053
MW-77-1	21005353	210053
MW-78-1	21005354	210053
MW-78-2	21005355	210053
MW-78-3	21005356	210053
MW-79-1	21005357	210053
MW-79-2	21005458	210054
MW-79-3	21005459	210054
MW-79-4	21005460	210054
MW-79-400	21005461	210054
MW-80-1	21005462	210054
MW-80-2	21005463	210054
MW-80-3	21005464	210054
MW-95-1	21005465	210054
MW-95-2	21005466	210054
MW-95-3	21005467	210054
MW-95-4	21005468	210054
MW-126-1	21005469	210054
MW-127-1	21005470	210054
MW-127-2	21005471	210054
EQB-3	21005472	210054
PZ-02	21005473	210054
EQB-4	21005474	210054
RW-1A	21005475	210054
RW-1B	21005476	210054
RW-2	21005477	210054
RW-3	21005478	210054
RW-4	21005479	210054
RW-5	21005480	210054
RW-6	21005481	210054
RW-7	21005482	210054
RW-8	21005483	210054
RW-9	21005484	210054
RW-9-100	21005485	210054
TB	21005486	210054
MW-70-1-DIL	21005487	210054
MW-70-100-DIL	21005488	210054
MW-77-1-DIL	21005489	210054
RW-4-DIL	21005490	210054
RW-8-DIL	21005491	210054

APPENDIX E

GROUNDWATER INTERPOLATION EXPLANATION

Groundwater Interpolation of October 2, 2002 Data — Memphis DDMT

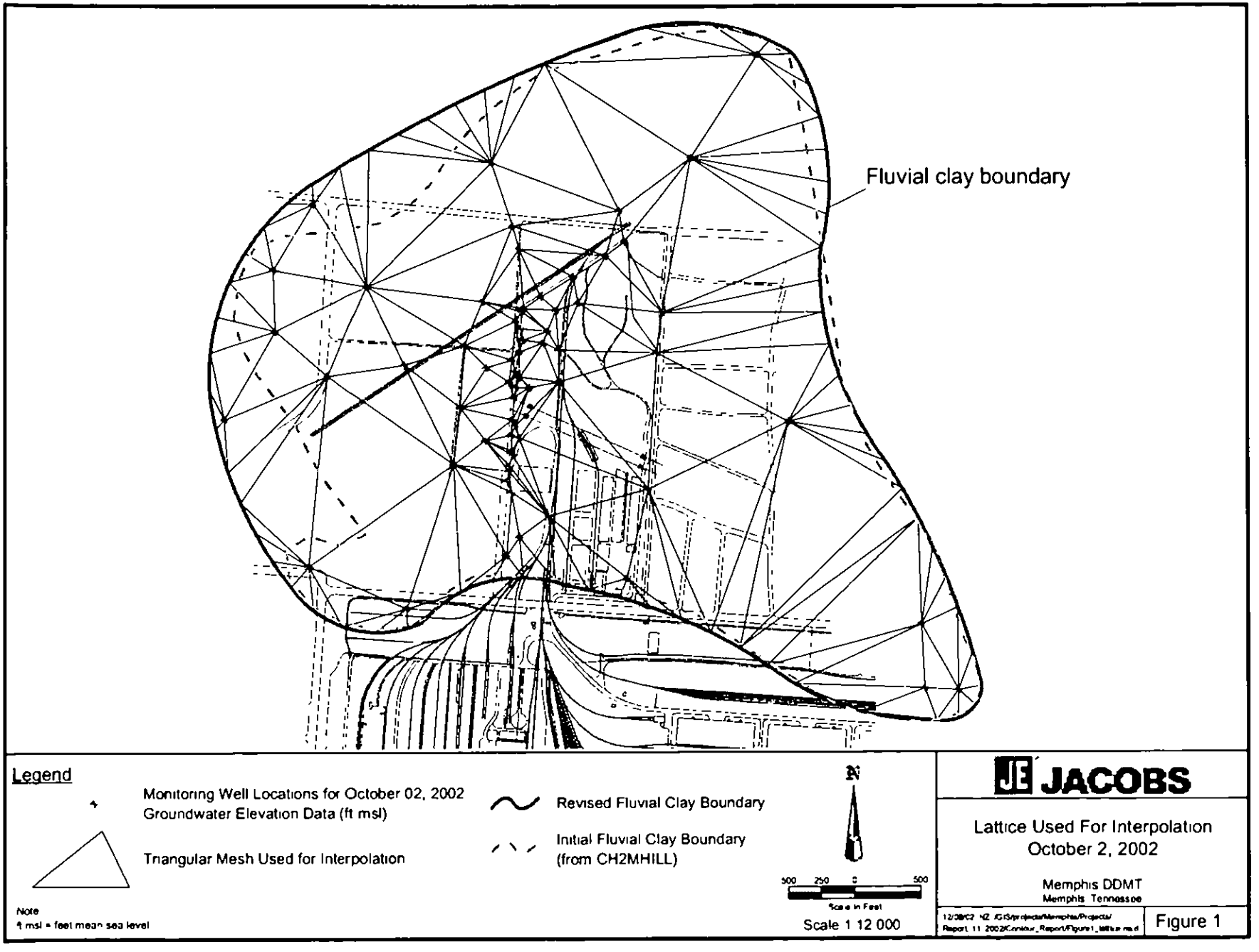
Synoptic groundwater elevation data for October 2, 2002 are used to create groundwater elevation maps for perched groundwater in shallow sands above a fluvial clay in the Dunn Field area of the Memphis DDMT The data are shown on Table 1 Groundwater elevations are mapped using ArcInfo TIN and geostatistically interpolated An initial interpolation lattice was constrained to the boundary of the fluvial clay, following previous work performed by Earl V Edris, Jr as reported in the 2001 Monitoring Report The initial fluvial clay boundary was defined by cross-sections developed by CH2MHILL is shown as orange-dashed line in Figure 1 The fluvial clay bourdary is revised in this report to include monitoring well locations MW-41, MW-126, and MW-127 in the western site area The new fluvial clay boundary is shown as solid red line on Figure 1

In the analysis for this report, one interpolation is performed for the October 2 data set The interpolation of the data set is performed using ordinary kriging Spatial correlation includes all sample points within a minimum radius of 150 ft A minimum of 12 correlated data points are specified If 12 correlated points are not found within the search radius, the search radius is increased until the 12 points have been correlated A spherical function is used to model semi-variance The October 2 data set requires a 350 feet search radius to satisfy the 12-point requirement No control points are used in the interpolation of the data set where as in the 2001 Monitoring Report a control point was added in the vicinity of MW 40 at an elevation of 211 ft mean sea level (MSL) The following kriging parameters derived from analysis of the semi-variogram are used in the interpolation

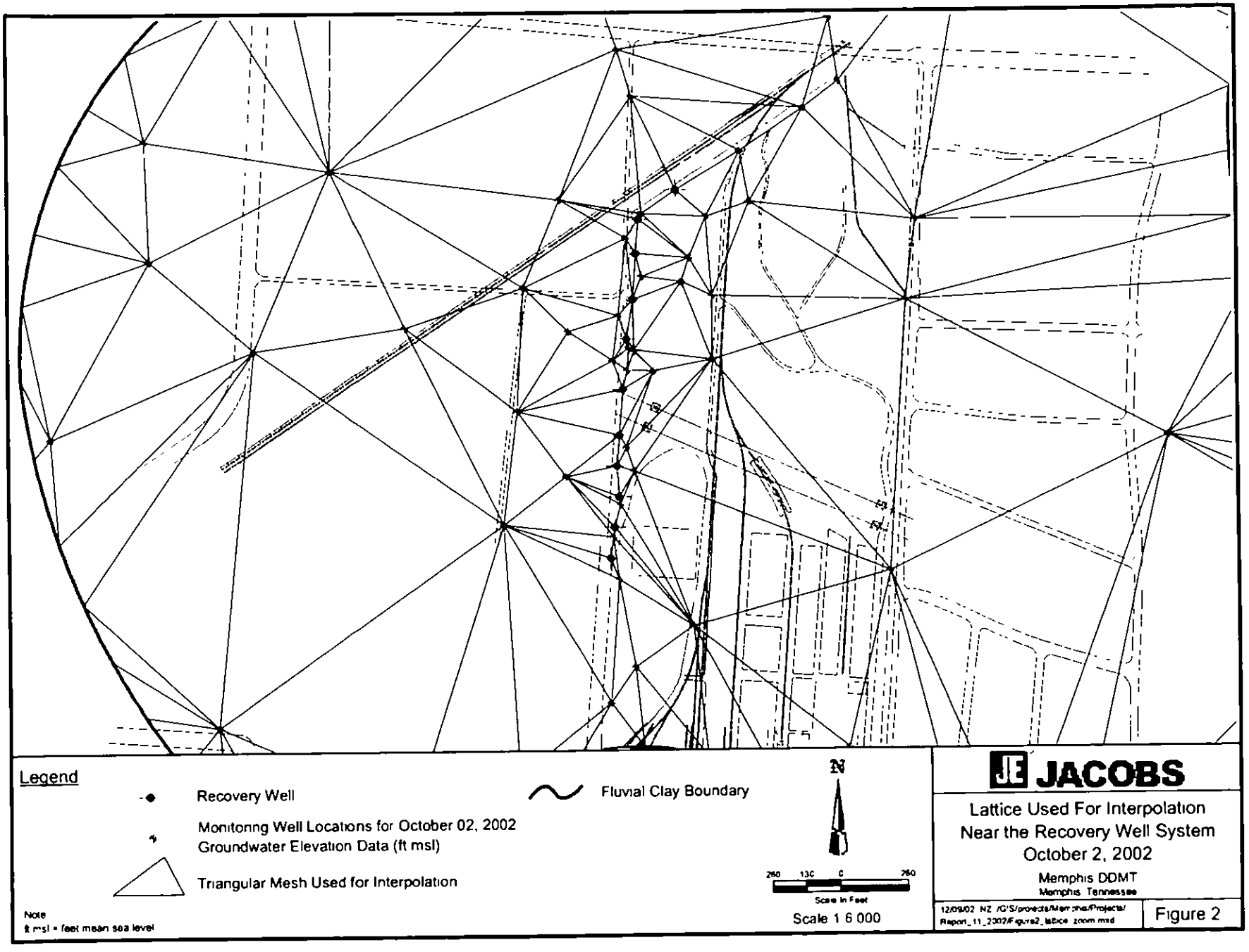
Lag size	100
Range	4400
Partial Size	150
Nugget	0 2

The lattice resulting from this interpolation is shown in Figures 1 and 2 Groundwater elevations for October 2 in the Dunn Field area and near the recovery well system are shown on Figures 3 and 4, respectively

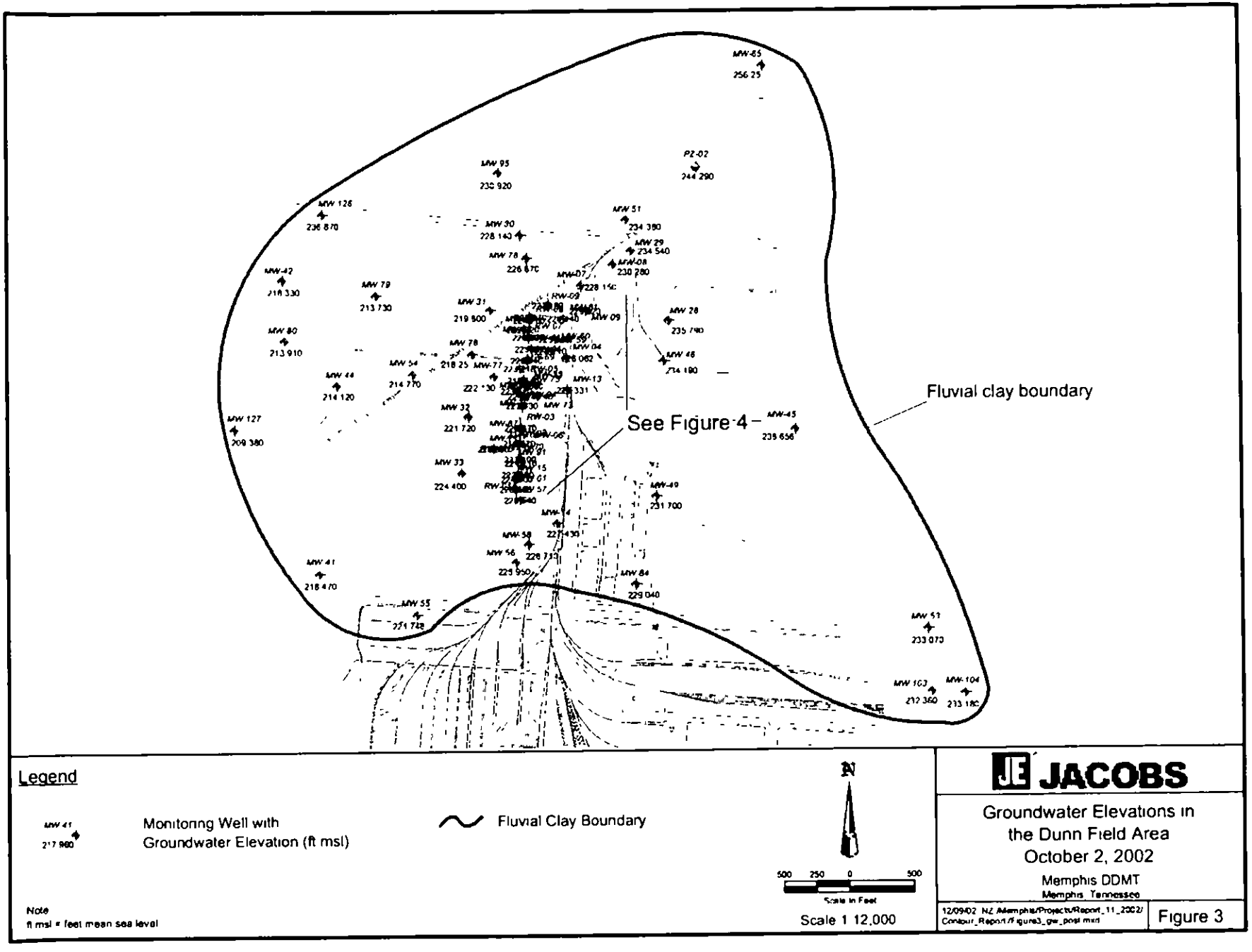
Figures 5 and 6 present groundwater elevation contours for October 2 in shallow fluvial sands in the Dunn Field area and near the recovery well system, respectively Generally groundwater flows from the northeast to the southwest in the perched water system In the western portion of the map, there is a potentiometric depression with groundwater elevations as low as 209 ft MSL This potentiometric depression could result from vertical drainage of groundwater through a window in the fluvial clay or possible completion of the monitoring well screens in geologic materials beneath the fluvial clay The maps also show the potential influence of the recovery wells on the potentiometric surface It should be pointed out that interpolation in the area of recovery wells was based on ordinary kriging and that actual groundwater elevations in the vicinity of pumping wells propagate according to the Theis well function Actual areas of potentiometric influence are best simulated with a numerical model that accounts for hydraulic anisotropy


Fluvial clay boundary
Legend
Monitoring Well Locations for October 02, 2002 Groundwater Elevation Data (ft msl)
Triangular Mesh Used for Interpolation
Revised Fluvial Clay Boundary
Initial Fluvial Clay Boundary (from CH2MHILL)
Note
ft msl = feet mean sea level
N
500 250 0 500
Scale in Feet
Scale 1 12 000
JACOBS
Lattice Used For Interpolation
October 2, 2002
Memphis DDMT
Memphis Tennessee
Figure 1

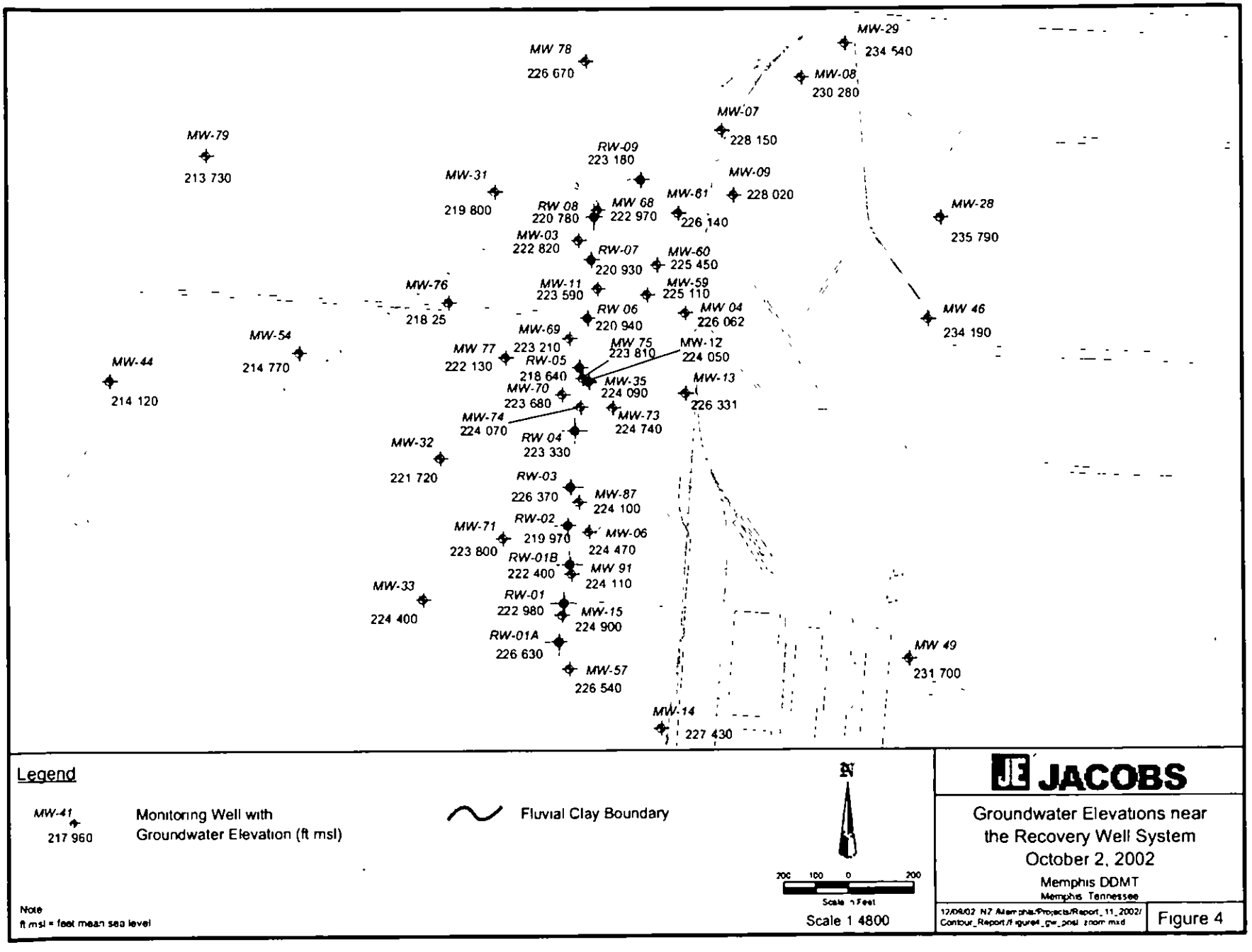
7191006


Legend
Recovery Well
Monitoring Well Locations for October 02, 2002
Groundwater Elevation Data (ft msl)
Triangular Mesh Used for Interpolation
Fluvial Clay Boundary
Note
ft msl = feet mean sea level
N
260 130 0 260
Scale in Feet
Scale 1 6 000
JACOBS
Lattice Used For Interpolation
Near the Recovery Well System
October 2, 2002
Memphis DDMT
Memphis Tennessee
12/09/02 NZ /G:\S/projects/Memphis/Projects/
Report_11_2002/Figure2_lattice zoom.mxd
Figure 2

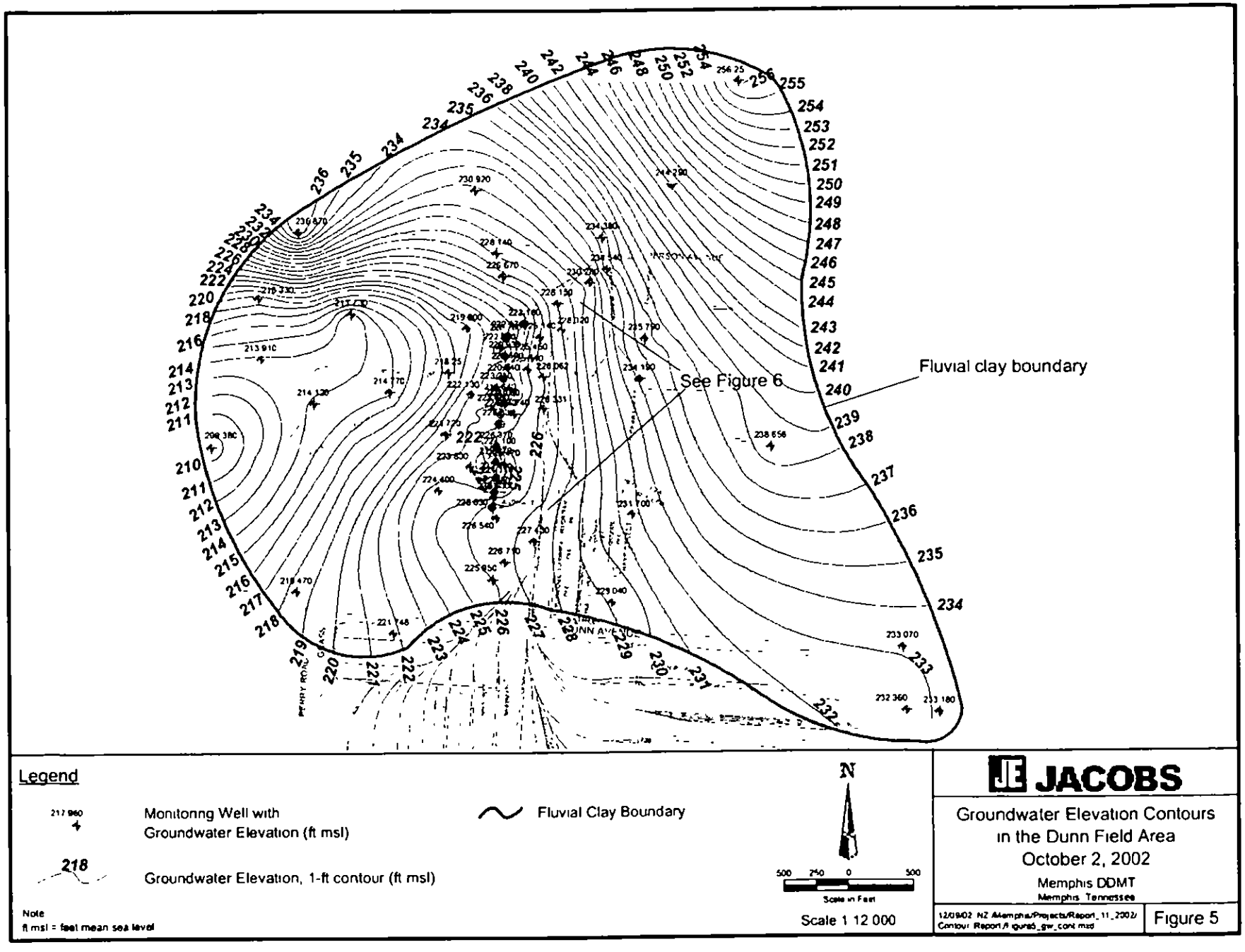
7191009


MW-65
256 25
PZ-02
244 290
MW 95
230 920
MW 126
236 870
MW 30
228 140
MW 51
234 390
MW 29
234 540
MW 78
226 670
MW-08
230 280
MW-07
228 150
MW-42
218 330
MW 79
213 730
MW 31
219 500
MW 28
235 790
MW 80
213 910
MW 78
218 25
MW 46
234 180
MW 54
214 770
MW 44
214 120
MW 13
MW 32
221 720
MW 73
MW-03
MW 127
209 380
See Figure 4
MW-45
235 656
Fluvial clay boundary
MW 33
224 400
MW-49
231 700
MW 84
229 040
MW 41
218 470
MW 55
MW 51
233 070
MW 103
212 360
MW 104
233 180
Legend
MW 41
217 980
Monitoring Well with
Groundwater Elevation (ft msl)
Fluvial Clay Boundary
N
500 250 0 500
Scale in Feet
Scale 1 12,000
Note
ft msl = feet mean sea level
JACOBS
Groundwater Elevations in
the Dunn Field Area
October 2, 2002
Memphis DDMT
Memphis, Tennessee
12/09/02 NZ /Memphis/Project/Report_11_2002/
Contour_Report/Figure3_gw_post.mxd
Figure 3

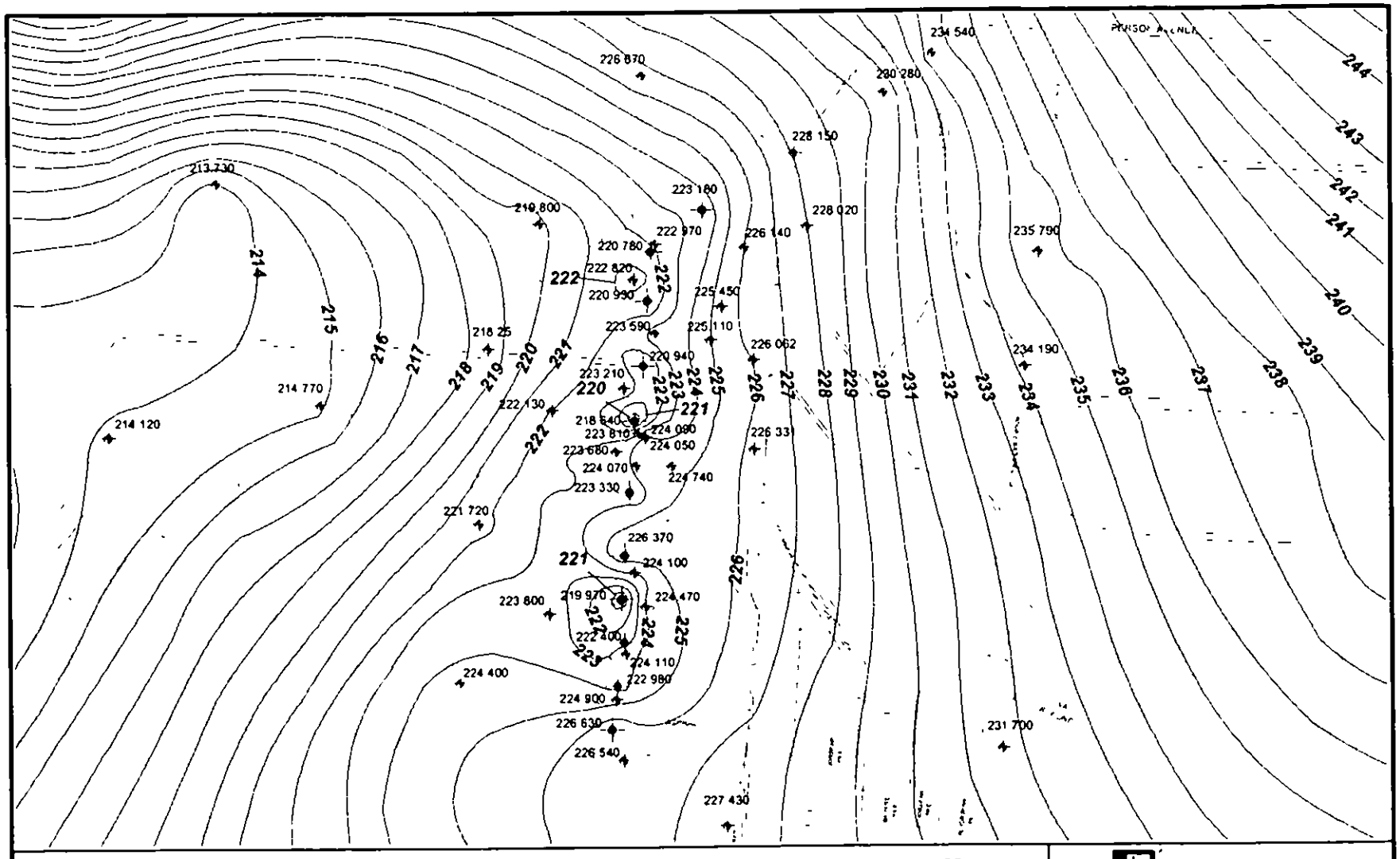
7191010


MW-29
234 540
MW 78
226 670
MW-08
230 280
MW-07
228 150
MW-79
213 730
RW-09
223 180
MW-31
219 800
MW-09
228 020
MW-61
226 140
RW 08
220 780
MW 68
222 970
MW-28
235 790
MW-03
222 820
RW-07
220 930
MW-60
225 450
MW-76
218 25
MW-11
223 590
MW-59
225 110
RW 06
220 940
MW 04
226 062
MW 46
234 190
MW-54
214 770
MW-69
223 210
MW 77
222 130
RW-05
218 640
MW 75
223 810
MW-12
224 050
MW-44
214 120
MW-70
223 680
MW-35
224 090
MW-13
226 331
MW-74
224 070
MW-73
224 740
RW 04
223 330
MW-32
221 720
RW-03
226 370
MW-87
224 100
MW-71
223 800
RW-02
219 970
MW-06
224 470
RW-01B
222 400
MW 91
224 110
MW-33
224 400
RW-01
222 980
MW-15
224 900
RW-01A
226 630
MW-57
226 540
MW 49
231 700
MW-14
227 430
Legend
MW-41
217 960
Monitoring Well with Groundwater Elevation (ft msl)
Fluvial Clay Boundary
N
200 100 0 200
Scale 1 Feet
Scale 1 4800
Note
ft msl = feet mean sea level
JE JACOBS
Groundwater Elevations near the Recovery Well System
October 2, 2002
Memphis DDMT
Memphis, Tennessee
12/04/02 N:\ Memphis\Projects\Report_11_2002\Contour_Report\figure4_gw_posi_zoom.mxd
Figure 4

7191011


See Figure 6
Fluvial clay boundary
Legend
Monitoring Well with Groundwater Elevation (ft msl)
Groundwater Elevation, 1-ft contour (ft msl)
Fluvial Clay Boundary
Note
ft msl = feet mean sea level
N
500 250 0 500
Scale in Feet
Scale 1 12 000
JACOBS
Groundwater Elevation Contours in the Dunn Field Area
October 2, 2002
Memphis DDMT
Memphis, Tennessee
12/09/02 NZ A:\memphis\Projects\Report_11_2002\Contour Report\Figure5_gw_cont.mxd
Figure 5

7191012


Legend
217 960
Monitoring Well with Groundwater Elevation (ft msl)
218
Groundwater Elevation, 1-ft contour (ft msl)
Note
ft msl = feet mean sea level
N
200 100 0 200
Scale in Feet
Scale 1 4800
JACOBS
Groundwater Elevation Contours near the Recovery Well System
October 2, 2002
Memphis DDMT
Memphis Tennessee
12/09/02 NZ M:\memphis\Projects\Report_11_2002\Contour_Report\Figure6_gw_cont_zoom.mxd
Figure 6

FINAL PAGE

ADMINISTRATIVE RECORD

FINAL PAGE