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THE MEMPHIS DEPOT
TENNESSEE

ADMINISTRATIVE RECORD
COVER SHEET

AR File Number 743

Technical Memorandum

Jacobs Federal Programs
Oak Ridge, Tennessee

TO: Peggy Dubray, Karl Blankinship
Mobile District Corps of Engineers

FROM: Kraig Smith

DATE: 12 August 2003

SUBJECT: Installation of up-gradient monitoring wells near Dunn Field

As part of the ongoing groundwater evaluation at the Memphis Defense Depot, three wells were installed up-gradient from the northeast corner of Dunn Field. These wells were placed to evaluate the potential for off-site contamination migrating onto Dunn Field from the northeast. This memorandum describes the installation and contains analytical data from the collection of groundwater samples from the three new wells and four additional wells in the vicinity of the northeast corner of Dunn Field

In addition to well installation, three older wells were abandoned. MW-17 (historically dry) , MW-41 and MW-48 (damaged) were unsuitable for use in the monitoring program

MOBILIZATION

A Jacobs Engineering geologist and a drill crew from Boart/Longyear Drilling Company arrived at the Memphis Defense Depot on 23 June 2003 to commence installation of three monitoring wells

INSTALLATION

Three wells were installed northeast of the Defense Depot The wells were numbered MW-128, MW-129, and MW-130. Survey coordinates and top-of-casing elevations were determined by Allan & Hoshall registered land surveyors and are included as Attachment 1.

Installation of the three wells was completed on 27 June 2003. Boring logs and well construction diagrams are included as Attachments 2 and 3.

DEVELOPMENT

Well development was completed 24 hours after well installation Development was accomplished by using a 2 inch submersible pump to remove water and solids from the well. The wells were pumped until the monitoring parameters became stable and the water was clear. Well development logs are contained in Attachment 4

SAMPLING

Following completion of wells and well development, diffusion bag samplers were installed in the three new wells and existing wells MW-7, MW-8, MW-9 and MW-29. Samplers were put in place on 1 July 2003 and collected on 28 July 2003. Samplers were placed at a frequency of one 2 ft bag per each 5 ft of well screen Analytical data is summarized in Attachment 5. Laboratory data sheets are included as Attachment 6. The results have been validated by a Jacobs Engineering Chemical Engineer

ABANDONMENT

Three existing wells were abandoned by filling the standpipe with bentonite/cement grout. MW-17 had been historically dry A tremie pipe was used to fill the well bore with grout. The concrete pad and bollards were removed and the ground restored to match surrounding area (gravel)

MW-41 had been damaged by heavy equipment, and the concrete pad and well cap at the surface had been destroyed. The standpipe was located and a tremie pipe was used to fill the well bore with grout. The ground surface restored to match the surrounding area.

MW-48 was damaged and non-usable. The standpipe had collapsed and was not visible. The boring was determined to be open to a depth of approximately 10 feet. Grout was used to fill the space beneath the concrete pad. After allowing the grout to settle, it was topped off with concrete flush with the existing pad.

ATTACHMENT 1

Survey Information

Allan & Hoshall land surveyors determined the northing and easting coordinates and the top-of-casing and ground surface elevation for the three new wells as follows:

Well No	Northing	Easting	T.O.C. Elevation	Ground Surface El.
MW - 128	N:282712 19	E:803376 38	Z 284.14TC	Z:284.77
MW - 129	N:282271.08	E:803128.53	Z:293.01TC	Z 293.33
MW - 130	N:282116.23	E:803242 024	Z:293.20TC	Z:293.69

ATTACHMENT 2

BORING LOGS

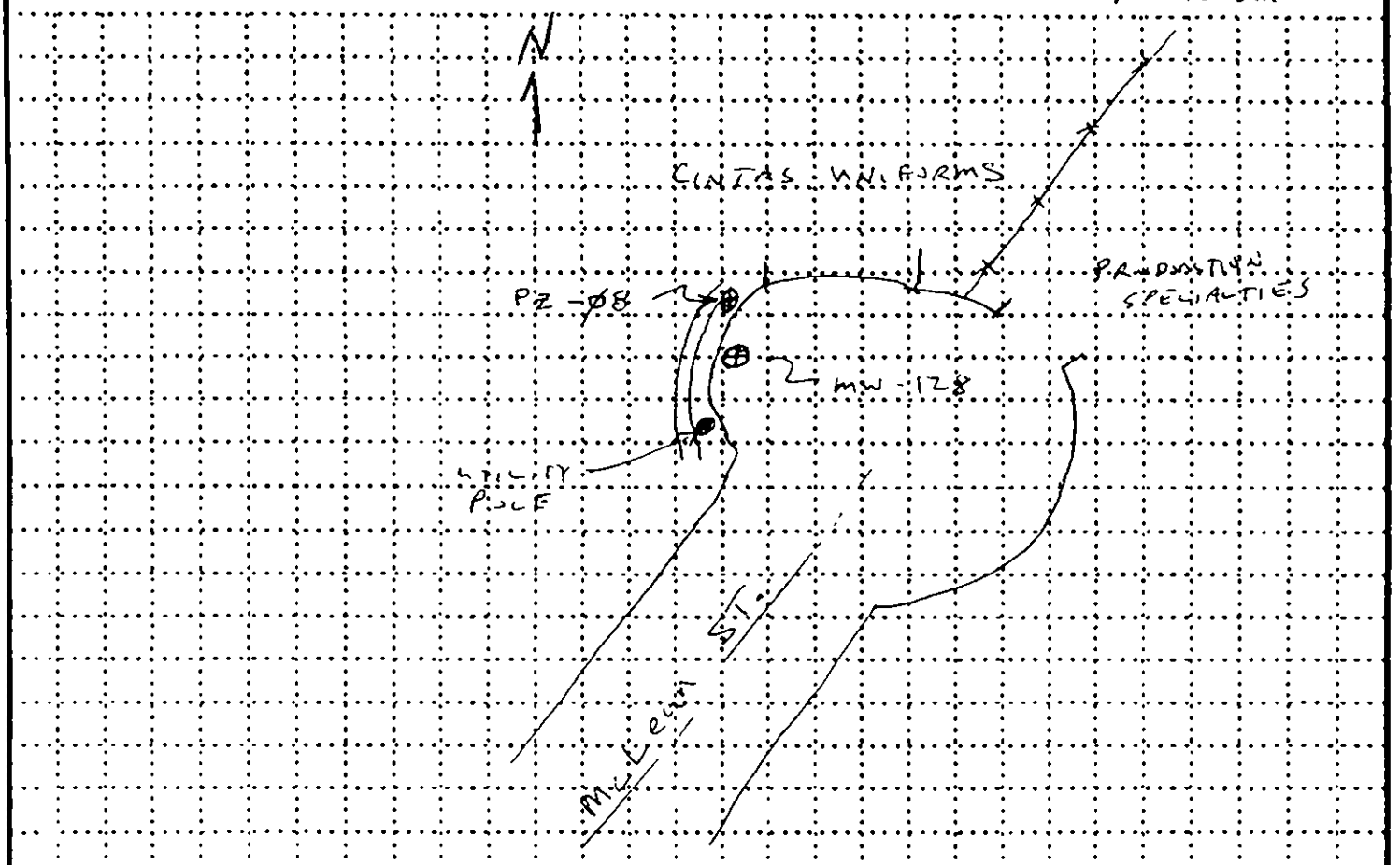
HTRW DRILLING LOG

DISTRICT: MOBILE		HOLE NUMBER: MW-128
1. COMPANY NAME: JACOBS ENG	2. DRILLING SUBCONTRACTOR: BOART / LONGYEAR	SHEET: 1 OF SHEETS: 3
3. PROJECT: DDMT - MEMPHIS	4. LOCATION: MEMPHIS, TN	
5. NAME OF DRILLER: JON WEEKS	6. MANUFACTURER'S DESIGNATION OF DRILL: GUS PESCHE RD300 SONIC DRILL	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 6" OD CONTINUOUS SAMPLE ENTERED INTO PLASTIC LINERS	8. HOLE LOCATION: SEE SKETCH	
	9. SURFACE ELEVATION	
	10. DATE STARTED: 6/27/03	11. DATE COMPLETED: 6/27/03
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED: APP 35'	
13. DEPTH DRILLED INTO ROCK: 0	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 36.5 Ft / E.T. = 2 HRS	
14. TOTAL DEPTH OF HOLE: 85 FT	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES			
NONE						
20. SAMPLES FOR CHEMICAL ANALYSIS	**VOC**	**METALS**	**OTHER (SPECIFY)**	**OTHER (SPECIFY)**	**OTHER (SPECIFY)**	**21. TOTAL CORE RECOVERY %**
NONE						
22. DISPOSITION OF HOLE	**BACKFILLED**	**MONITORING WELL**	**OTHER (SPECIFY)**	**23. SIGNATURE OF INSPECTOR**		
		X				

LOCATION SKETCH/COMMENTS

SCALE: NOT TO SCALE



PROJECT	HOLE NO.
DDMT - MEMPHIS	MW-128

Figure 4-2. HTRW Drilling Log

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER MW 128

PROJECT DDMT- MEMPHIS

INSPECTOR K. SMITH

SHEET 2 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	CORED SAMPLE OR CORE RUN NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		ASPHALT					BEGAN @ 0830
		GRAVEL		5'/5'			
	5	CLAY, SILTY, DARK BROWN, MOIST, MED PLASTICITY	Ø ppm				NO ODOR
		CLAY, VERY SILTY, BROWN, MOIST, MED PLASTICITY	Ø ppm	5'/5'			NO ODOR
	10	CLAY, SILTY, BROWN, MOIST MEDIUM PLASTICITY	Ø ppm	5'/5'			NO ODOR
	15	As Above, becoming dark brown					
		CLAY, SILTY, LIGHT BR, MOIST, MED PLASTICITY, BECOMING STIFFER	Ø ppm	5'/5'			NO ODOR
	20		Ø ppm	5'/5'			NO ODOR
	25		Ø ppm	5'/5'			NO ODOR
		CLAY, SILTY, REDDISH BR, MOIST, MED PLASTICITY					
	30	As Above, becoming Sandy w fine Sand	Ø ppm	5'/5'			NO ODOR
	35	SAND, CLAYEY & SILTY, REDDISH BR., VERY FINE, MOIST					
		SAND, SILTY, VERY FINE MOIST					
	40	SAND, VERY FINE, WET, YELLOW BROWN	Ø ppm	10'/10'			NO ODOR
		SAND, MED GRAINED, YELLOW-BROWN, WET					
	45			15'/20'			
	50						

PROJECT DDMT - MEMPHIS

HOLE NO. MW-128

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

Figure 4-2 (Concluded)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER MW-125

PROJECT DOMT- MEMPHIS | INSPECTOR K SMITH | SHEET 3 OF 3 SHEETS

ELEV. (ft)	DEPTH (ft)	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	CONTROL SAMPLE OR CORE NO. OR B.G.	ANALYTICAL SAMPLE NO.	BLOW COUNT	REMARKS
	55	AS ABOVE					
		SAND, MED GRAINED WI SOME GRAVEL, WET, YELLOW BROWN	Ø ppm	15'/20'			NO ODOR
	60						
	65						
	70		Ø ppm	10'/10'			NO ODOR
	75	SAND, FINE, WET, YELLOW-BROWN					
		CLAY, SANDY, YELLOW BROWN, WET, STIFF					
	80	CLAY, YELLOW-BR, MOIST, MED PLAST, STIFF	Ø ppm	10'/10'			NO ODOR
		CLAY, MOIST, DARK GRAY, VERY STIFF					COMPLETE AT 1900 HRS
	85	TD = 85'					
	90						
	95						
	100						

PROJECT DOMT- MEMPHIS | HOLE NO. MW-128

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Figure 4-2 (Concluded)

HTRW DRILLING LOG

DISTRICT: MOBILE		HOLE NUMBER: MW-129
1. COMPANY NAME: JACOBS ENGINEERING	2. DRILLING SUBCONTRACTOR: B DART/LONGYEAR	SHEET 1 OF 3 SHEETS
3. PROJECT: DOMT- MEMPHIS	4. LOCATION: SEE SKETCH - MEMPHIS, TN	
5. NAME OF DRILLER: JON WEEKS	6. MANUFACTURER'S DESIGNATION OF DRILL: GUS PESCHE RD300 SONIC DRILL	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 6" CONTINUOUS SAMPLE EXTRUDED INTO PLASTIC SLEEVE	8. HOLE LOCATION: SEE SKETCH	
	9. SURFACE ELEVATION	
	10. DATE STARTED: 6/24/03	11. DATE COMPLETED: 6/24/03
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED	
13. DEPTH DRILLED INTO ROCK: 0	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 85 FT	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	

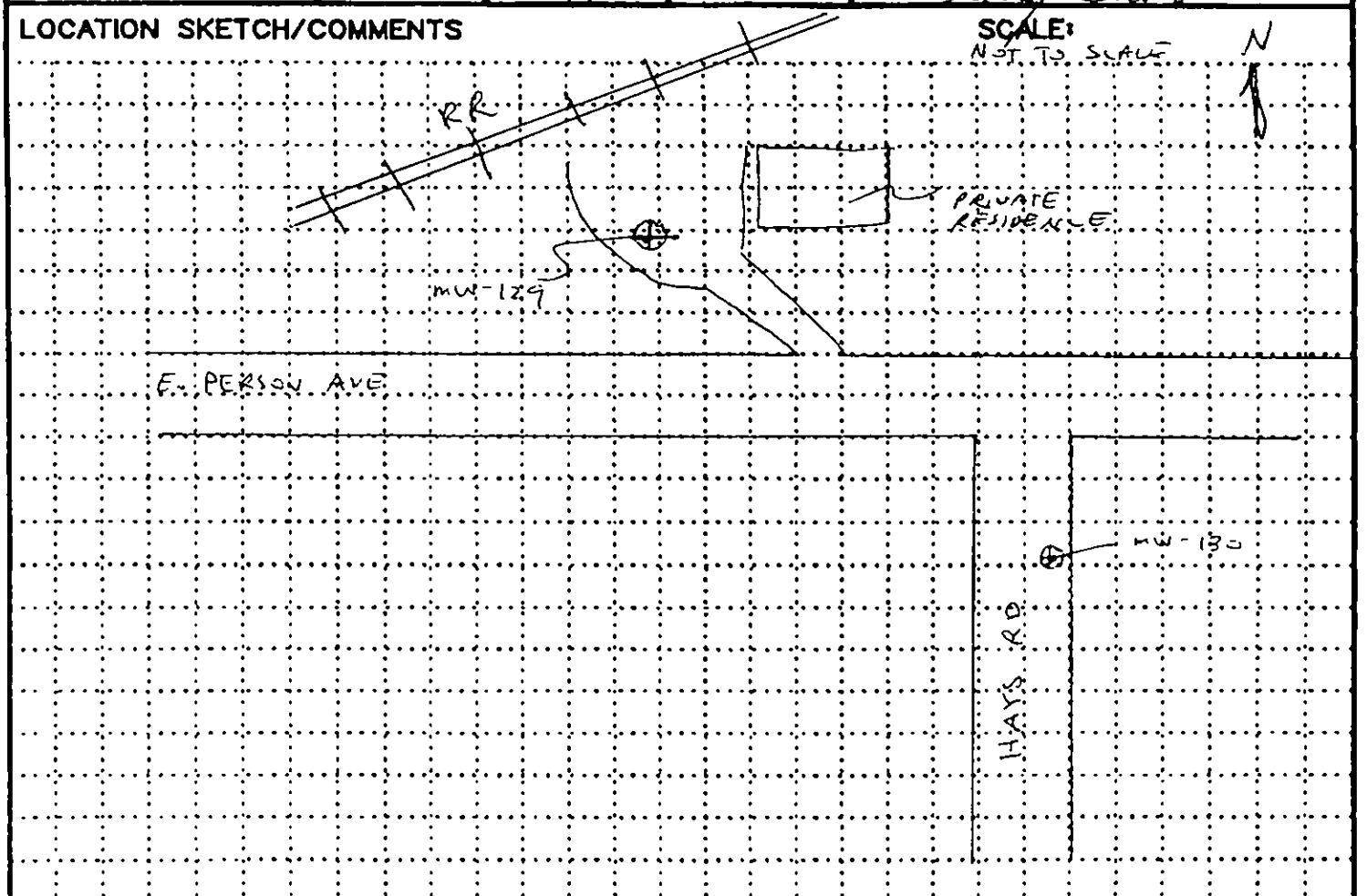
18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
0			

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
0						

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
		X		Kenny Smith

LOCATION SKETCH/COMMENTS

SCALE: NOT TO SCALE



PROJECT	HOLE NO.
DOMT - MEMPHIS	MW-129

Figure 4-2. HTRW Drilling Log

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-129
PROJECT: DDMT-MEMPHIS
INSPECTOR: K SMITH
SHEET 2 OF 3 SHEETS

ELEV. (ft)	DEPTH (ft)	DESCRIPTION OF FORMATIONS	FIELD SCREENING RESULTS	CONTROL SAMPLE OR CORE NO. OR DIA.	ANALYTICAL SAMPLE NO.	BLOW COUNT	REMARKS
		ASPHALT					BEGAN @ 0805
		MIXED GRAVEL & CLAY	9999 ppm	5'/5'			NO ODOR
	5	CLAY, SILTY, YELLOW-BROWN, MOIST, MED-PLASTICITY					
		SILT, CLAY, DRY, LOW PLASTICITY	184 ppm	5'/5'			NO ODOR
	10			5'/5'			NO ODOR
	15	CLAY, SILTY, MOIST, LT BROWN, MED PLASTICITY	999 ppm				
		SILT, CLAYEY, MOIST, LT BROWN, LOW PLASTICITY	32 ppm	5'/5'			NO ODOR
	20		125 ppm	5'/5'			NO ODOR
	25						
	30	AS ABOVE w/SOME FINE SAND	5 ppm	5'/10'			NO ODOR
	35		5 ppm	5'/5'			NO ODOR
	40	CLAY, VERY SANDY, REDDISH BROWN, MOIST, MED PLASTICITY					
		SAND MED GRAINED, SOME GRAVEL, REDDISH BROWN, MOIST, SOME LT BROWN BANDING	33 ppm	5'/5'			NO ODOR
	45	SAND, FINE, REDDISH BROWN, MOIST, SOME DARK STAINING	27 ppm	10'/10'			NO ODOR
	50						

PROJECT: DDMT - MEMPHIS
HOLE NO. MW-129

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Figure 4-2 (Concluded)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER MW-129

PROJECT DDMT - MEMPHIS | INSPECTOR K SMITH | SHEET 3 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	CENTERED SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		AS ABOVE					
	55	SAND MOIST TO WET, REDDISH BROWN, MED. TO FINE GRAINED		10'/10'			NO ODOR
	60	SAND, MED GRAINED, WET, LT. BROWN	0.5 ppm	10'/10'			NO ODOR
		AS ABOVE BUT BECOMING FINER					
	65	SAND, COARSE, MOIST, LT BROWN					
	70	AS ABOVE W/ SOME CAVEAING OF FINE SAND	0.6 ppm	10'/10'			NO ODOR
	75						
	80	CLAY, YELLOW-BROWN MOTTLED GRAY, STIFF	0.5 ppm	10'/10'			NO ODOR
	85	TD = 85'					COMPLETE @ 1600 HRS
	90						
	95						
	100						

PROJECT DDMT - MEMPHIS | HOLE NO. MW-129

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Figure 4-2 (Concluded)

HTRW DRILLING LOG

DISTRICT: MOBILE		HOLE NUMBER: MW-130
1. COMPANY NAME: JACOBS ENG.	2. DRILLING SUBCONTRACTOR: BOART/LONGYEAR	SHEET: 1 of 3 SHEETS
3. PROJECT: DOMT-MEMPHIS	4. LOCATION: SEE SKETCH	
5. NAME OF DRILLER: JON WEEKS	6. MANUFACTURER'S DESIGNATION OF DRILL: GUS PESCHE RD300 SONIC DRILL	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 6" OD CONTINUOUS SAMPLE EXTRUDED INTO PLASTIC LINERS	8. HOLE LOCATION: SEE SKETCH	
	9. SURFACE ELEVATION	
	10. DATE STARTED: 6/25/03	11. DATE COMPLETED: 6/25/03
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED: 55'	
13. DEPTH DRILLED INTO ROCK: 0	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 52.38 FT / ET = 23 HRS	
14. TOTAL DEPTH OF HOLE: 55 FT	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	

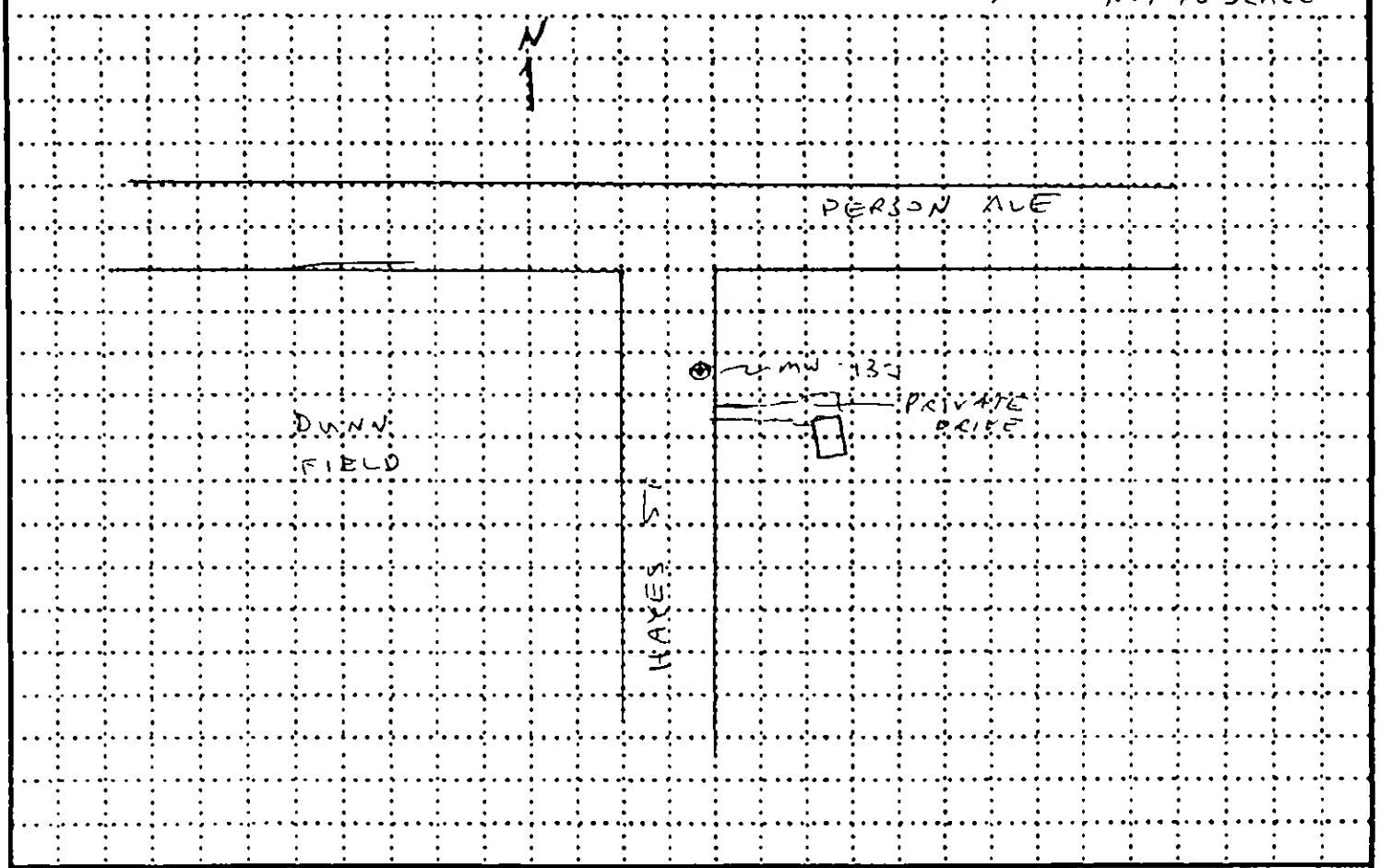
18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
0			

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
0						

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
		X		Bruce Smith

LOCATION SKETCH/COMMENTS

SCALE: NOT TO SCALE



PROJECT	HOLE NO.
DOMT-MEMPHIS	MW-130

Figure 4-2. HTRW Drilling Log

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER MW-130

PROJECT DDMT- MEMPHIS | INSPECTOR K SMITH | SHEET 2 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	SAMPLE NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
	0	ASPHALT					BEGAN @ 0800
		GRAVEL					
		CLAY, SILTY, BROWN MOIST, MED PLASTIC.	15 ppm	5'/5'			NO ODOR
	5		36 ppm	5'/5'			NO ODOR
	10		40 ppm	5'/5'			NO ODOR
	15		20 ppm	5'/5'			NO ODOR
	20		35 ppm	5'/5'			NO ODOR
	25	CLAY, SILTY, BECOMING SANDY W VERY FINE SAND, MOIST, MED PLAST, BROWN	Ø ppm	5'/5'			NO ODOR
	30	CLAY, VERY SANDY W/ FINE SAND, REDDISH-BROWN MOIST	Ø ppm	5'/5'			NO ODOR
	35	SAND, SILTY, VERY FINE MOIST, REDDISH BROWN	Ø ppm	10'/10'			NO ODOR
	45		Ø ppm	10'/10'			NO ODOR
	50			↓			

PROJECT DDMT- MEMPHIS | HOLE NO. MW-130

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Figure 4-2 (Concluded)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER MW - 130

PROJECT DDMT - MEMPHIS | INSPECTOR K SMITH | SHEET 3 of 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	SAMPLE NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
	55	AS ABOVE	17 ppm	10'/10'			NO ODOR
		SAND, SOME GRAVEL, YELLOW BROWN, MOIST					
	60	SAND, FINE, YELLOW-BROWN, WET		15'/15'			NO ODOR
			Ø ppm				
	65	AS ABOVE, BECOMING MED GRAINED					
	70						
	75			15'/15'			NO ODOR
	80	CLAY, SILTY W/ SOME FINE SAND, MOIST, STIFF, YELLOW-BROWN MOTTLED GRAY	Ø ppm				
	85	TD = 85'					COMPLETE @ 150- HRS
	90						
	95						
	100						

PROJECT DDMT - MEMPHIS | HOLE NO. MW - 130

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Figure 4-2 (Concluded)

ATTACHMENT 3

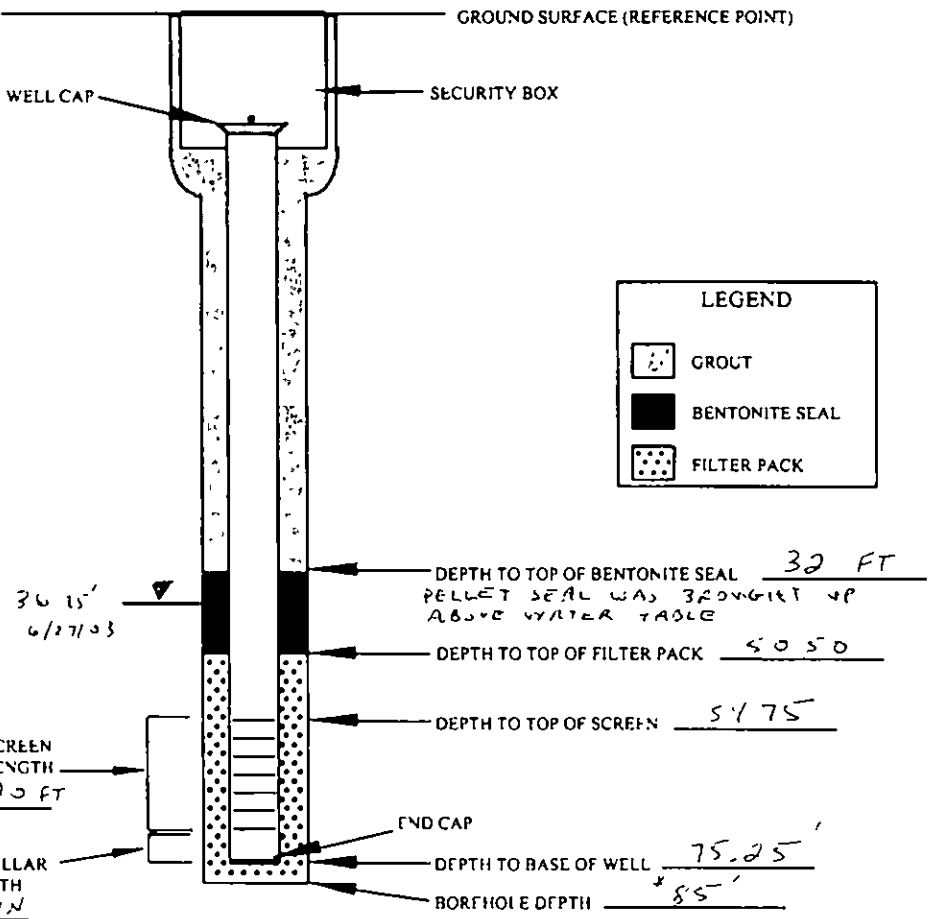
WELL CONSTRUCTION DIAGRAMS

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE K SMITH
DRILLING CONTRACTOR BOART/LONGYEAR
DRILLING TECHNIQUE SONIC
AUGER SIZE AND TYPE 6 IN CONTINUOUS
BOREHOLE IDENTIFICATION MW-128
BOREHOLE DIAMETER 6 IN
WELL IDENTIFICATION MW-128
WELL CONSTRUCTION START DATE 6/27/03
WELL CONSTRUCTION COMPLETE DATE 6/27/03
SCREEN MATERIAL PVC
SCREEN DIAMETER 2 IN
STRATUM-SCREENED INTERVAL (FT) 20 FT
CASING MATERIAL SCH 40 PVC
CASING DIAMETER 2 IN

TYPE OF FILTER PACK #2 SAND
GRADIATION
AMOUNT OF FILTER PACK USED SEE DIAGRAM
TYPE OF BENTONITE. MOLEPLUG
AMOUNT BENTONITE USED SEE DIAGRAM
TYPE OF CEMENT CEMENT/BENTONITE
AMOUNT CEMENT USED SEE DIAGRAM
GROUT MATERIALS USED
DIMENSIONS OF SECURITY BOX 8 IN
TYPE OF WELL CAP LOCKING
TYPE OF END CAP 6 IN FLAT
COMMENTS

SPECIAL CONDITIONS
(describe and draw)



* Hole Backfilled to Bottom of Casing @ 75.25'

NOT TO SCALE

INSTALLED BY JON WEEKS INSTALLATION OBSERVED BY K SMITH

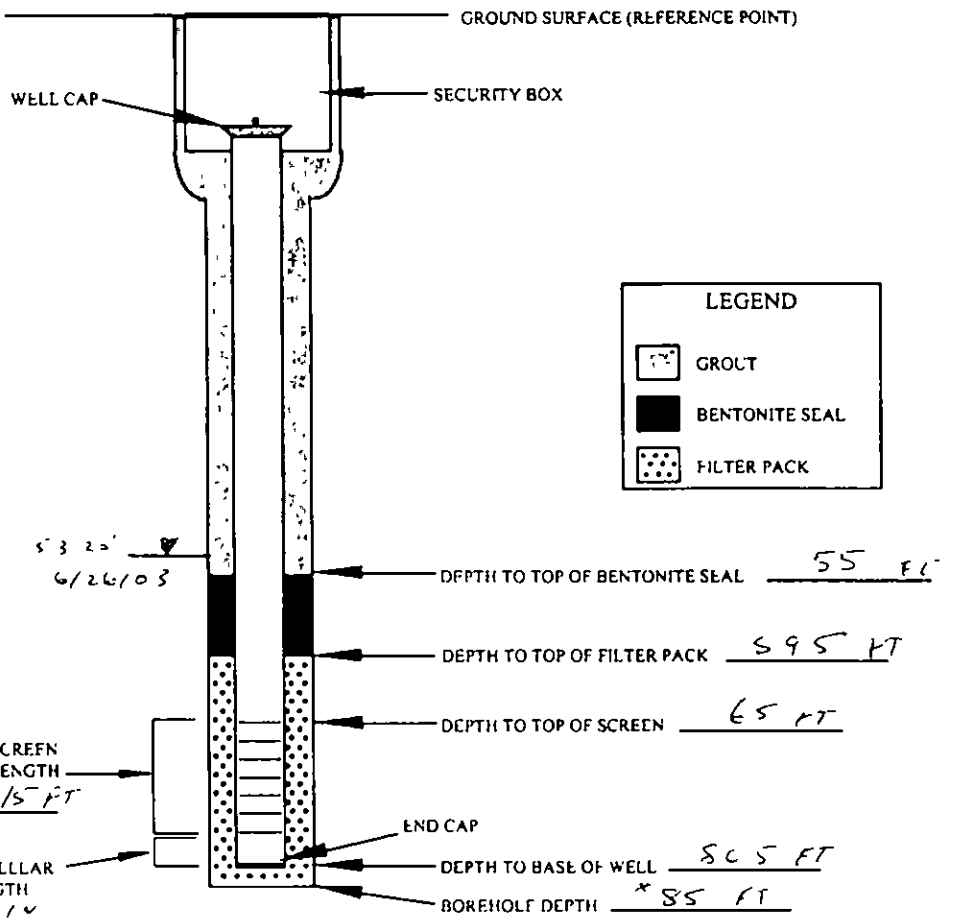
DISCREPANCIES

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE K SMITH
DRILLING CONTRACTOR BOART/LONGYEAR
DRILLING TECHNIQUE SONIC
AUGER SIZE AND TYPE 6 IN CONTINUOUS
BOREHOLE IDENTIFICATION MW-129
BOREHOLE DIAMETER 6 IN
WELL IDENTIFICATION MW-129
WELL CONSTRUCTION START DATE 6/24/03
WELL CONSTRUCTION COMPLETE DATE 6/24/03
SCREEN MATERIAL PVC
SCREEN DIAMETER 2 IN
STRATUM-SCREENED INTERVAL (FT) 15
CASING MATERIAL PVC
CASING DIAMETER 2 IN

TYPE OF FILTER PACK #2 SAND
GRADIATION
AMOUNT OF FILTER PACK USED SEE DIAGRAM
TYPE OF BENTONITE HOLEPLUG
AMOUNT BENTONITE USED SEE DIAGRAM
TYPE OF CEMENT Bentonite/cement
AMOUNT CEMENT USED SEE DIAGRAM
GROUT MATERIALS USED
DIMENSIONS OF SECURITY BOX 8 IN
TYPE OF WELL CAP LOCKING
TYPE OF END CAP 6 IN FLAT
COMMENTS

SPECIAL CONDITIONS
(describe and draw)



* HOLE COLLAPSED TO 605 FT AS CASING WAS ADVANCED

NOT TO SCALE

INSTALLED BY JON WEEKS INSTALLATION OBSERVED BY K SMITH

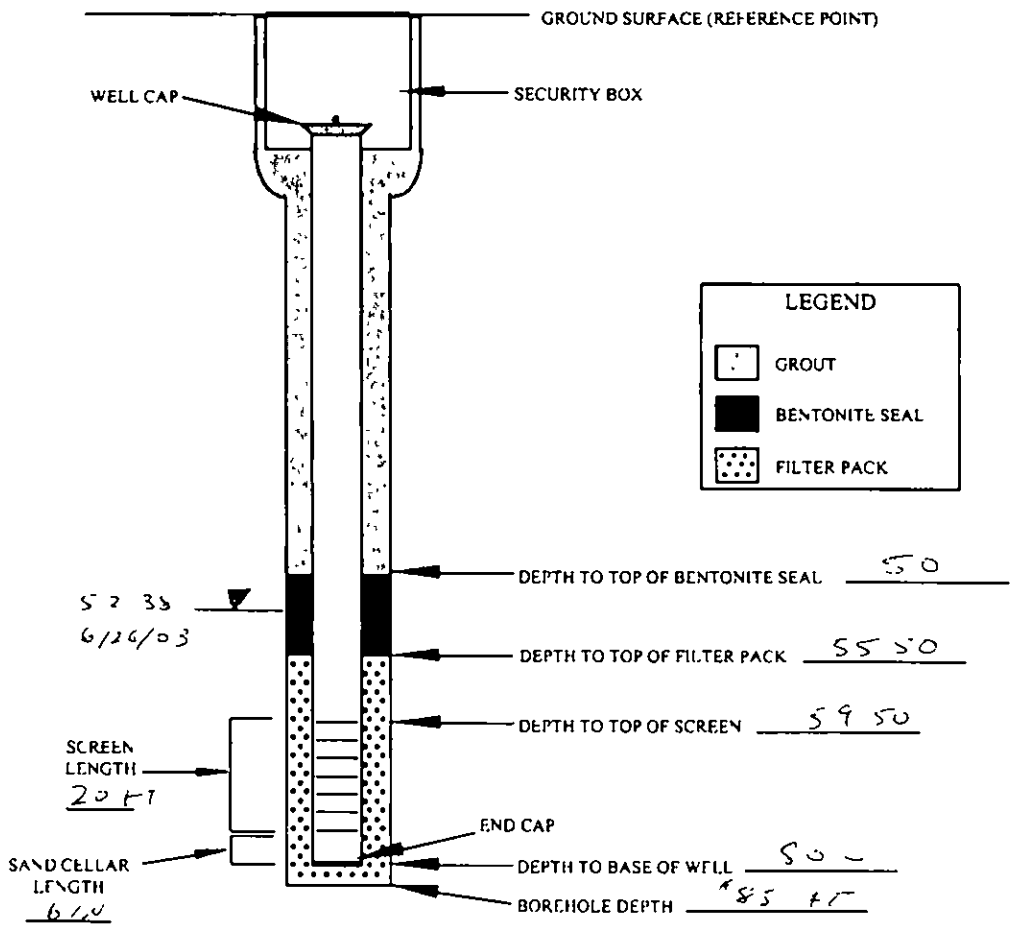
DISCREPANCIES

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE K. SMITH
DRILLING CONTRACTOR BOART / LONGYEAR
DRILLING TECHNIQUE. SONIC
AUGER SIZE AND TYPE 6 IN CONTINUOUS
BOREHOLE IDENTIFICATION MW-130
BOREHOLE DIAMETER 6 IN
WELL IDENTIFICATION MW-130
WELL CONSTRUCTION START DATE 6/25/03
WELL CONSTRUCTION COMPLETE DATE 6/25/03
SCREEN MATERIAL. PVC
SCREEN DIAMETER 2 IN
STRATUM-SCREENED INTERVAL (FT) 20 FT
CASING MATERIAL: SCH 40 PVC
CASING DIAMETER 2 IN

TYPE OF FILTER PACK #2 SAND
GRADIATION
AMOUNT OF FILTER PACK USED SEE DIAGRAM
TYPE OF BENTONITE HOLEPLUG
AMOUNT BENTONITE USED SEE DIAGRAM
TYPE OF CEMENT BENTONITE/CEMENT
AMOUNT CEMENT USED SEE DIAGRAM
GROUT MATERIALS USED
DIMENSIONS OF SECURITY BOX: 8 IN
TYPE OF WELL CAP LOCKING
TYPE OF END CAP 6 IN FLAT
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



* BOREHOLE COLLAPSED TO 80 FT AS CASING WAS ADVANCED

NOT TO SCALE

INSTALLED BY Jon Weeks INSTALLATION OBSERVED BY K Smith

DISCREPANCIES

ATTACHMENT 4

WELL DEVELOPMENT LOGS

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID MW-128
SHEET 1 of 1

PROJECT NAME DOMT PROJECT NO 25X81138 DATE 6/28/03

LOCATION MEMPHIS, TN DATE INSTALLED 6/27/03

TOTAL DEPTH (FTOC) 75.3' CASING DIAMETER 2 IN

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☑ Pumping ☐ Describe

Equipment decontaminated prior to development ☑ Yes ☐ NO

Describe

EQUIPMENT NUMBERS. HORIBA U-22 W/ FLOW THRU CELL

pH Meter EC Meter Turbidity Meter Thermometer

CASING VOLUME INFORMATION

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION

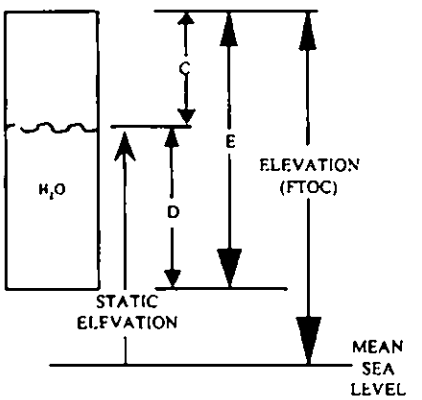
Measured Well Depth (B) 75.3 ft

Measured Water Level Depth (C) 36.5 ft

Length of Static Water Column (D) 75.3 (B) - 36.5 (C) = 38.8 ft

Casing Water Volume (E) = 0.16 (A) x 38.8 (D) = 6.21 gal

Total Purge Volume = 75 (gal)



Date	Time	Water Level (FTOC)	Volume Removed (gal)	pH	EC	Temperature F or (C)	Turbidity/ Sand (ppm)	Comments
6/27	1245	36.5	0	7.8	.129	28.30	>999	
	1255		8.3	8.0	152	27.12	719	
	1300		16.6	7.39	.159	26.65	427	
	1310		24.9	7.11	.163	26.35	599	
	1315		33.2	6.96	.171	26.21	262	
	1320		41.5	6.84	.173	26.17	108	
	1325		49.8	6.81	.183	26.11	162	
	1330		58.1	6.71	.190	25.87	899	
	1335		66.4	6.72	.193	25.60	157	
↓	1340	4.0 66	75	6.70	.192	25.56	123	

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID MW-129
SHEET 1 of 1

PROJECT NAME DOMT PROJECT NO C5X5110 DATE 6/26/03

LOCATION MEMPHIS, TN DATE INSTALLED 6/24/03

TOTAL DEPTH (FTOC) 79.73 CASING DIAMETER 2 IN

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☒ Pumping ☐ Describe

Equipment decontaminated prior to development ☒ Yes ☐ NO

Describe

EQUIPMENT NUMBERS. HORIBA U-22 METER W/ FLOW THRU CELL

pH Meter EC Meter Turbidity Meter Thermometer

CASING VOLUME INFORMATION.

Casing ID (inch)	10	15	20	22	30	40	43	50	60	70	80
Unit Casing Volume (A) (gal/ft)	004	009	016	02	037	065	075	10	15	20	26

PURGING INFORMATION.

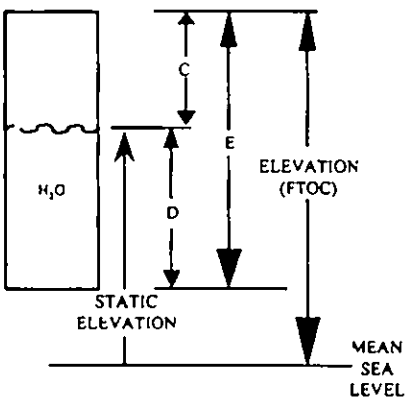
Measured Well Depth (B) 79.73 ft

Measured Water Level Depth (C) 53.20 ft

Length of Static Water Colume (D) 79.73 (B) − 53.20 (C) = 26.53 ft

Casing Water Volume (E) = 0.16 (A) x 26.53 (D) = 4.24 gal

Total Purge Volume = 80 (gal)



Date	Time	Water Level (FTOC)	Volume Removed (gal)	pH	EC	Temperature F or (C)	Turbidity/ Sand (ppm)	Comments
6/26	1220	53.20	0	8.7	287	27.4	734	
	1225		6.55	9.8	618	24.2	325	
	1230		13.1	8.8	272	23.1	727	
	1235		19.65	8.4	272	22.85	518	
	1240		26.2	8.1	280	22.42	791	
	1245		32.75	8.0	284	22.74	654	
	1250		39.30	7.9	321	22.49	436	
	1255		45.85	7.8	338	22.46	320	
	1300		52.4	7.8	.351	22.42	150	
	1325		80	7.69	374	22.64	142	

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID MW-13
SHEET 1 of 1

PROJECT NAME DOMT PROJECT NO 05X51108 DATE 6/26/03

LOCATION MEMPHIS, TN DATE INSTALLED 6/25/03

TOTAL DEPTH (FTOC) 19 50 CASING DIAMETER 2 IN

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☒ Pumping ☐ Describe

Equipment decontaminated prior to development ☒ Yes ☐ NO

Describe

EQUIPMENT NUMBERS. HORIBA MU 22 W/ FLOW-THRU CELL

pH Meter EC Meter Turbidity Meter Thermometer

CASING VOLUME INFORMATION.

Casing ID (inch)	1 0	1 5	2 0	2 2	3 0	4 0	4 3	5 0	6 0	7 0	8 0
Unit Casing Volume (A) (gal/ft)	0 04	0 09	0 16	0 2	0 37	0 65	0 75	1 0	1 5	2 0	2 6

PURGING INFORMATION.

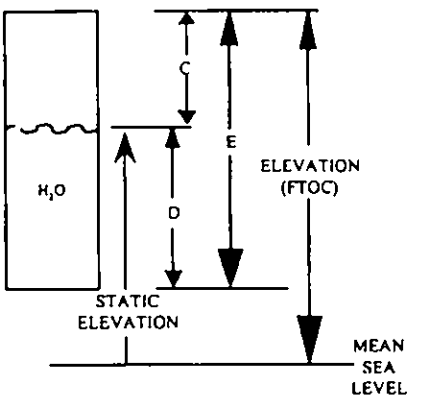
Measured Well Depth (B) 19 50 ft.

Measured Water Level Depth (C) 52.38 ft

Length of Static Water Colume (D) 195 (B) - 52.38 (C) = 2712 ft

Casing Water Volume (E) = 0 16 (A) x 2712 (D) = 4 33 gal

Total Purge Volume = 85 (gal)



Date	Time	Water Level (FTOC)	Volume Removed (gal)	pH	EC	Temperature F or C	Turbidity/ Sand (ppm)	Comments
6/26	1355	52 38	0	7 71	231	2 1 04	>999	
	1405		13 10	7 72	.252	24 00	>999	
	1410		19 65	7 21	.224	23 58	463	
	1415		26 20	7 10	222	23.91	486	
	1420		32.75	6 88	.217	23 78	266	
	1425		58 95	6 76	206	23 75	170	
	1450		72 05	6 63	.204	24 11	139	
	1455		78 60	6 62	203	23 98	134	
	1500		85	6 61	202	23 99	134	

ATTACHMENT 5

ANALYTICAL RESULTS SUMMARY

TABLE 1
Analytical Results for TCL Volatile Organics
on Select Monitoring Wells
28 July 2003

Sample Identification Number			MW-7		MW-8	MW-9	MW-29			Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7 1999)
Laboratory & Lab Sample ID No			307551-01	307551-02	0307751-04	0307751-03	307551-05	307551-06	307551-07		
Date Sample Collected			28-Jul-03	28-Jul-03	28-Jul-03	28-Jul-03	28-Jul-03	28-Jul-03	28-Jul-03		
Sample Depth Interval			67 2 - 69 2	72 2 - 74 2	63 9 - 65 9	77 5 - 79 5	39 3 - 41 3	44 3 - 46 3	49 3 - 51 3		
Laboratory Analyses	DL	Units									
TCL Volatile Organics (Method 8260B)											
Acetone	1	ug/L	ND	ND	ND	ND	ND	ND	ND	NS	6100
Benzene	1	ug/L	ND	ND	ND	ND	ND	ND	ND	5	0 32
Bromodichloromethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	NS	0 17
Carbon Disulfide	1	ug/L	ND	ND	ND	18 7	ND	ND	ND	NS	1000
Carbon Tetrachloride	1	ug/L	2 99	ND	ND	ND	ND	ND	ND	5	0 16
Chlorobenzene	1	ug/L	ND	ND	ND	ND	ND	ND	ND	100	110
Chloroform	1	ug/L	9 11	ND	ND	1 15	ND	ND	ND	NS	0 15
Chloromethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	NS	3 6
1 1 Dichloroethane	1	ug/L	ND	1 17	ND	ND	1 04	1 06	1 21	NS	800
1 2 Dichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	5	0 12
1 1 Dichloroethene	1	ug/L	4 06	23 9	1 58	ND	19 5	20 5	20 7	7	0 044
Trans 1 2 Dichloroethene	1	ug/L	0 803 J	ND	ND	ND	ND	ND	ND	100	120
Cis 1 2 Dichloroethene	1	ug/L	2 58	ND	ND	ND	ND	ND	ND	70	61
Methylene Chloride	1	ug/L	ND	ND	ND	ND	ND	ND	ND	NS	4 1
1 1 2 2 Tetrachloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	NS	0 053
Tetrachloroethene	1	ug/L	2 26	32 3	1 6	ND	20 9	21 7	21	5	1 1
Toluene	1	ug/L	ND	ND	ND	ND	ND	ND	ND	1000	750
1 2 4 Trichlorobenzene	1	ug/L	ND	ND	ND	ND	ND	ND	ND	70	190
1 1 1 Trichloroethane	1	ug/L	ND	0 965 J	ND	ND	2 28	2 21	2 06	200	540
1 1 2 Trichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	5	0 19
Trichloroethene	1	ug/L	46 3	19 9	1 51	1 54	22 5	23 8	20 8	5	1 6
Vinyl Chloride	1	ug/L	ND	ND	ND	ND	ND	ND	ND	2	0 019

Only compounds detected are listed
ug/L = micrograms per liter
DL = Detection Limit
TCL = Target Compound List
BDL = Below Detection Limit
MCL = Maximum Contaminant Level - Primary Drinking Water Standards
RBCs = Risk Based Contaminants
NS = no standard ND = not performed
NA = not available

J = Estimated value - presence of the compound was confirmed but less than the reported DL

TABLE 1
Analytical Results for TCL Volatile Organics
on Select Monitoring Wells
28 July 2003

Sample Identification Number			MW-128				MW-129			MW-130				Maximum Contaminant Level (MCL)-Primary Drinking Water Standard	USEPA Region III RBCs-Tap Water (October 7, 1998)
Laboratory & Lab Sample ID No			030-551-09	307551-10	307551-11	307551-13	307551-14	307551-15	307551-16	307551-17	307551-18	307551-19	307551-20		
Date Sample Collected			28-Jul-03	28-Jul-03	28-Jul-03	28-Jul-03	28-Jul-03	28-Jul-03	28-Jul-03	28-Jul-03	28-Jul-03	28-Jul-03	28-Jul-03		
Sample Depth Interval			55-25 - 57-25	60-25 - 62-25	65-25 - 67-25	70-25 - 72-25	65-5 - 67-5	70-5 - 72-5	75-5 - 77-5	60 - 62	65-67	70 - 72	75 - 77		
Laboratory Analyses	DL	Units													
TCL Volatile Organics (Method 8260B)															
Acetone	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	6100
Benzene	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	0.32
Bromodichloromethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	0.17
Carbon Disulfide	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	1000
Carbon Tetrachloride	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	0.16
Chlorobenzene	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	110
Chloroform	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	0.15
Chloromethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	3.6
1,1-Dichloroethane	1	ug/L	ND	ND	ND	ND	3.37	3.19	4.05	2.02	2.27	2.18	2.47	NS	800
1,2-Dichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	0.12
1,1-Dichloroethene	1	ug/L	5.32	4.94	4.84	3.77	33.8	33.2	41	36.5	40.7	38.9	41.1	7	0.044
Trans-1,2-Dichloroethene	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	120
Cis-1,2-Dichloroethene	1	ug/L	ND	ND	ND	ND	ND	ND	ND	0.483 J	0.497 J	0.504 J	0.544 J	70	61
Methylene Chloride	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	4.1
1,1,2,2-Tetrachloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	0.053
Tetrachloroethene	1	ug/L	ND	ND	ND	ND	6.44	8.85	21.3	62.9	69.7	63.8	71.6	5	1.1
Toluene	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1000	750
1,2,4-Trichlorobenzene	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	70	190
1,1,1-Trichloroethane	1	ug/L	ND	ND	ND	ND	1.99	1.98	2.8	3.55	4.03	3.68	4.29	200	540
1,1,2-Trichloroethane	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	0.19
Trichloroethene	1	ug/L	2.17	1.56	1.64	ND	8.75	9.71	14.5	48.5	51.2	48.1	54	5	1.8
Vinyl Chloride	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2	0.019

Only compounds detected are listed
ug/L = micrograms per liter
DL = Detection Limit
TCL = Target Compound List
BDL = Below Detection Limit
MCL = Maximum Contaminant Level - Primary Drinking Water Standards
RBCs = Risk Based Contaminants
NS = no standard NP = not performed
NA = not available

J = Estimated value - presence of the compound was confirmed but less than the reported DL

ATTACHMENT 6

ANALYTICAL RESULTS LABORATORY DATA SHEETS

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

Founded 1972

August 8, 2003

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

Ref: Analytical Testing
ETC Order # 0307551
Project Description Memphis Depot

Project Number C5X51108

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	#TN00012
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.[1]
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)

1 Estimated values are not reported for the following common laboratory contaminants

Acetone
Methylene Chloride
Toluene
Bis(2-ethylhexyl)phthalate
Sodium
Zinc

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

743 29

ANALYTICAL SUMMARY/CROSS REFERENCE TABLE

Client Name Jacobs
Site ID Memphis Depot C5X51108

ETC Sample ID	Field ID	Sample Date	Matrix	Method	Method Description
030755101	MW-7-1	07/28/03	AQUEOUS	8260B	GC/MS Volatile Organics
030755102	MW-7-2	07/28/03	AQUEOUS	8260B	GC/MS Volatile Organics
030755103	MW-9-1	07/28/03	AQUEOUS	8260B	GC/MS Volatile Organics
030755104	MW-8-1	07/28/03	AQUEOUS	8260B	GC/MS Volatile Organics
030755105	MW-29-1	07/28/03	AQUEOUS	8260B	GC/MS Volatile Organics
030755106	MW-29-2	07/28/03	AQUEOUS	8260B	GC/MS Volatile Organics
030755107	MW-29-3	07/28/03	AQUEOUS	8260B	GC/MS Volatile Organics
030755108	FB-1	07/28/03	AQUEOUS	8260B	GC/MS Volatile Organics
030755109	MW-128-1	07/28/03	AQUEOUS	8260B	GC/MS Volatile Organics
030755110	MW-128-2	07/28/03	AQUEOUS	8260B	GC/MS Volatile Organics
030755111	MW-128-3	07/28/03	AQUEOUS	8260B	GC/MS Volatile Organics
030755112	MW-128-300	07/28/03	AQUEOUS	8260B	GC/MS Volatile Organics
030755113	MW-128-4	07/28/03	AQUEOUS	8260B	GC/MS Volatile Organics
030755114	MW-129-1	07/28/03	AQUEOUS	8260B	GC/MS Volatile Organics
030755115	MW-129-2	07/28/03	AQUEOUS	8260B	GC/MS Volatile Organics
030755116	MW-129-3	07/28/03	AQUEOUS	8260B	GC/MS Volatile Organics
030755117	MW-130-1	07/28/03	AQUEOUS	8260B	GC/MS Volatile Organics
030755118	MW-130-2	07/28/03	AQUEOUS	8260B	GC/MS Volatile Organics
030755119	MW-130-3	07/28/03	AQUEOUS	8260B	GC/MS Volatile Organics
030755120	MW-130-4	07/28/03	AQUEOUS	8260B	GC/MS Volatile Organics
030755121	MW-130-400	07/28/03	AQUEOUS	8260B	GC/MS Volatile Organics
030755122	Trip Blank	07/28/03	AQUEOUS	8260B	GC/MS Volatile Organics

7/31/03 JB

000002

Environmental Testing & Consulting, Inc.

Login
Chain-of-Custody

31 ETC
Environmental Testing & Consulting, Inc.
743 2924 Walnut Grove Rd.
Memphis, TN 38111
(901)327-2750 FAX (901)327-6334

CHAIN OF CUSTODY RECORD

ETC Work Order : 0307551

Company Name: JACOBS ENG
Phone # 931 393 6448 | Fax Results
Fax # 931 393 6211 | RUSH
Project/Site: MEMPHIS DEPOT | FID # | Ice
PO # |
Project # CSXS1108
Project Manager/Contact: KRAIG SMITH

Matrix
1 Wastewater 4 Sludge
2 Aqueous 5 Oil/Solvent
3 Soil/Sediment 6 Other

Analysis Requested (Note special detection limits or methods)

# of cont.	Sample ID/ Number	Depth	Sample Date	Sample Time	Matrix	Type Grab/Comp	VOC	Comments
3	MW-7-1		7/28/03	1245	Water	Grab	X	
	MW-7-2			1250				
	MW-9-1			1300				
	MW-8-1			1315				
	MW-24-1			1330				
	MW-29-2			1335				
	MW-24-3			1340				
	FB-1			1415				
	MW-128-1			1435				
	MW-128-2			1440				
	MW-128-3			1444				

Sampled By: K. Smith
Method of Shipment: Hand Deliver
Blank/Cooler Temp: <4°C
Remarks: EDDs

	DATE	TIME		DATE	TIME	Sample Delivery Group ID
RELINQUISHED BY (sign)	7/28/03	1605	RECEIVED BY (sign)			
RELINQUISHED BY (sign)	DATE	TIME	RECEIVED BY (sign)	DATE	TIME	
RELINQUISHED BY (sign)	DATE	TIME	RECEIVED BY LAB (print/sign)	7/28/03	1605	

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\QCISLOP\COCO896.XLS

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 : 0307551

743 32

Company Name	JACOBS
Project/Site	Memphis Depot
Project #	CSXS1108
Project Manager/Contact	K. SMITH
Phone #	931 393 6448
Fax #	931 393 6219
FID # :	
PO #	
Fax Results	
RUSH	
Ice	

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	VOC	Comments
3	MW-128-300	1	7/28/03	1444	Water	Grab	X	
* ↓	MW-128-4		↓	1445	↓	↓	↓	ID Change per K. Smith. [initials] 7/29
↓	MW-129-1		↓	1500	↓	↓	↓	
↓	MW-129-2		↓	1505	↓	↓	↓	
↓	MW-129-3		↓	1510	↓	↓	↓	
↓	MW-130-1		↓	1515	↓	↓	↓	
↓	MW-130-2		↓	1517	↓	↓	↓	
↓	MW-130-3		↓	1520	↓	↓	↓	
↓	MW-130-4		↓	1522	↓	↓	↓	
↓	MW-130-450		↓	1522	↓	↓	↓	
↓	Trip Blank		↓		↓	↓	↓	Analyze Per K. Smith. [initials] 7/29

Sampled By	Method of Shipment	Blank/Cooler Temp	Remarks
K. Smith	Hand Deliver	<4°C [initials]	EDDs

RELINQUISHED BY (sign)	DATE	TIME	RECEIVED BY (sign)	DATE	TIME
[signature]	7/28/03	1605			
RELINQUISHED BY (sign)	DATE	TIME	RECEIVED BY (sign)	DATE	TIME
RELINQUISHED BY (sign)	DATE	TIME	RECEIVED BY LAB (print/sign)	DATE	TIME
			R Barger [signature]	7/28/03	1605

Sample Delivery Group ID

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:\QAQC\SLOP\COC0995.XLS

Environmental Testing & Consulting, Inc.
Cooler Receipt Form

Date/Time Received 7/28/03-16:05
Date/Time Checked In 7/28/03-16 05
Carrier/Bill# Client Hand-Delivered

LIMS# 0307-551
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- bags, ice, bubble wrap	Yes
6.	Chain of Custody filled out properly?	No
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?	No
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
7/29/03-Trip Blank not listed on Chain. Analyze per Kraig Smith.
Sample MW-129-4 on chain should be MW-128-4 per Kraig Smith

Validated Date and Time of Sample Receipt (VDTSR)

Environmental Testing & Consulting, Inc.

Sample Reports

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

743 35

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

Site ID: Memphis Depot

FID #

Date Arrived: 07/28/03
ETC Order Number: 0307551

ETC Lab ID: 0307551-01
Field ID: MW-7-1

Matrix : AQUEOUS
Sample Date : 07/28/03 12:45:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				08/01/03		LS	8260B 5030B
QC Batch	V308011						
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	2 99	ug/L	1 00				
Chlorobenzene	ND	ug/L	1 00				
Chlorodibromomethane	ND	ug/L	1.00				
Chloroethane	ND	ug/L	1 00				
Chloroform	601E	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	4 06	ug/L	1 00				
trans-1,2-Dichloroethene	0 803J	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	2 26	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	46 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	2 98	ug/L	1 00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	89	84	115
S2 - Toluene-d8	87	69	133
S3 - 4-Bromofluorobenzene	90	80	120
S4 - 1,2-Dichloroethane-d4	75	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits ** - Method Detection Limit

CLIENT SAMPLE NO.

030755101

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

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix: (soil/water) WATER Lab Sample ID: 030755101

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1201012

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

% Moisture: not dec. _____ Date Analyzed: 08/01/03

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.					
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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: 07/28/03
ETC Order Number: 0307551

ETC Lab ID: 0307551-01
Field ID: MW-7-1-DIL

Matrix: AQUEOUS
Sample Date: 07/28/03 12:45:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				08/02/03		LS	8260B 5030B
QC Batch	V308021						
Dilution Factor	20						
Chloroform	911	ug/L	20.0				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	92	84	115
S2 - Toluene-d8	92	69	133
S3 - 4-Bromofluorobenzene	91	80	120
S4 - 1,2-Dichloroethane-d4	74	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits ** - Method Detection Limit

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

CLIENT SAMPLE NO.

030755101

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix: (soil/water) WATER Lab Sample ID: 030755101

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1001012

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

% Moisture: not dec. _____ Date Analyzed: 08/02/03

GC Column: ID: 2.00 (mm) Dilution Factor: 20.0

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.					
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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: 07/28/03
ETC Order Number: 0307551

ETC Lab ID: 0307551-02
Field ID: MW-7-2

Matrix: AQUEOUS
Sample Date: 07/28/03 12:50:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				08/01/03	LS	8260B 5030B
QC Batch	V308011					
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	1 17	ug/L	1 00			
1,2-Dichloroethane	ND	ug/L	1.00			
1,1-Dichloroethene	23 9	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	32.3	ug/L	1 00			
Toluene	ND	ug/L	2 00			
1,1,1-Trichloroethane	0 965J	ug/L	1 00			
1,1,2-Trichloroethane	ND	ug/L	1 00			
Trichloroethene	19 9	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	91	84	115
S2 - Toluene-d8	88	69	133
S3 - 4-Bromofluorobenzene	94	80	120
S4 - 1 2-Dichloroethane-d4	72	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits * - Method Detection Limit

743 40

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

CLIENT SAMPLE NO.

030755102

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix: (soil/water) WATER Lab Sample ID: 030755102

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

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

% Moisture: not dec. _____ Date Analyzed: 08/01/03

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
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ENVIRONMENTAL TESTING & CONSULTING, INC.

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

743 41

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

Site ID: Memphis Depot

FID #

Date Arrived: 07/28/03
ETC Order Number: 0307551

ETC Lab ID: 0307551-03
Field ID: MW-9-1

Matrix : AQUEOUS
Sample Date: 07/28/03 13:00:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				08/01/03		LS	8260B 5030B
QC Batch	V308011						
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	18 7	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 15	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	1 54	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	91	84	115
S2 - Toluene-d8	92	69	133
S3 - 4-Bromofluorobenzene	86	80	120
S4 - 1,2-Dichloroethane-d4	72	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits ** - Method Detection Limit

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

CLIENT SAMPLE NO.
030755103

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix: (soil/water) WATER Lab Sample ID: 030755103

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1401014

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

% Moisture: not dec. _____ Date Analyzed: 08/01/03

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
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2.					
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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: 07/28/03
ETC Order Number: 0307551

ETC Lab ID: 0307551-04
Field ID: MW-8-1

Matrix: AQUEOUS
Sample Date: 07/28/03 13:15:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				08/01/03		LS	8260B 5030B
QC Batch	V308011						
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	1 58	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	1 60	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 51	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	88	84	115
S2 - Toluene-d8	91	69	133
S3 - 4-Bromofluorobenzene	91	80	120
S4 - 1,2-Dichloroethane-d4	71	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits ** - Method Detection Limit

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

CLIENT SAMPLE NO.
030755104

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix: (soil/water) WATER Lab Sample ID: 030755104

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1501015

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

% Moisture: not dec. _____ Date Analyzed: 08/01/03

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.					
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ENVIRONMENTAL TESTING & CONSULTING, INC.

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

743 45

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

Site ID: Memphis Depot

FID #

Date Arrived: 07/28/03
ETC Order Number: 0307551

ETC Lab ID: 0307551-05
Field ID: MW-29-1

Matrix: AQUEOUS
Sample Date: 07/28/03 13:30:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				08/01/03		LS	8260B 5030B
QC Batch	V308011						
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	1 04	ug/L	1 00				
1,2-Dichloroethane	ND	ug/L	1 00				
1,1-Dichloroethene	19 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	20 9	ug/L	1 00				
Toluene	ND	ug/L	2 00				
1,1,1-Trichloroethane	2 28	ug/L	1 00				
1,1,2-Trichloroethane	ND	ug/L	1 00				
Trichloroethene	22 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	ND	ug/L	1 00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	90	84	115
S2 - Toluene-d8	89	69	133
S3 - 4-Bromofluorobenzene	93	80	120
S4 - 1,2-Dichloroethane-d4	72	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits ** - Method Detection Limit

FORM 1 743 46 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

030755105

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix: (soil/water) WATER Lab Sample ID: 030755105

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1601016

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

% Moisture: not dec. _____ Date Analyzed: 08/01/03

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
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2.					
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ENVIRONMENTAL TESTING & CONSULTING, INC.

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

743 47

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

Site ID: Memphis Depot

FID #

Date Arrived: 07/28/03
ETC Order Number: 0307551

ETC Lab ID: 0307551-06
Field ID: MW-29-2

Matrix: AQUEOUS
Sample Date : 07/28/03 13:35:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				08/02/03	LS	8260B 5030B
QC Batch	V308021					
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	1 05	ug/L	1 00			
1,2-Dichloroethane	ND	ug/L	1 00			
1,1-Dichloroethene	20 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	21 7	ug/L	1 00			
Toluene	ND	ug/L	2 00			
1,1,1-Trichloroethane	2 21	ug/L	1 00			
1,1,2-Trichloroethane	ND	ug/L	1 00			
Trichloroethene	23 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	ND	ug/L	1 00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	94	84	115
S2 - Toluene-d8	90	69	133
S3 - 4-Bromofluorobenzene	94	80	120
S4 - 1,2-Dichloroethane-d4	74	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits ** - Method Detection Limit

743 48

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

CLIENT SAMPLE NO.

030755106

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix: (soil/water) WATER Lab Sample ID: 030755106

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1101013

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

% Moisture: not dec. _____ Date Analyzed: 08/02/03

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.					
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ENVIRONMENTAL TESTING & CONSULTING, INC. 743 49

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: 07/28/03
ETC Order Number: 0307551

ETC Lab ID: 0307551-07
Field ID: MW-29-3

Matrix: AQUEOUS
Sample Date: 07/28/03 13:40:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				08/01/03		LS	8260B 5030B
QC Batch	V308011						
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	1 21	ug/L	1 00				
1,2-Dichloroethane	ND	ug/L	1 00				
1,1-Dichloroethene	20 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	21 0	ug/L	1 00				
Toluene	ND	ug/L	2 00				
1,1,1-Trichloroethane	2 06	ug/L	1 00				
1,1,2-Trichloroethane	ND	ug/L	1 00				
Trichloroethene	20 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	ND	ug/L	1 00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	93	84	115
S2 - Toluene-d8	90	69	133
S3 - 4-Bromofluorobenzene	96	80	120
S4 - 1,2-Dichloroethane-d4	75	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits ** - Method Detection Limit

743 50

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

CLIENT SAMPLE NO.
030755107

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix: (soil/water) WATER Lab Sample ID: 030755107

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1701017

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

% Moisture: not dec. _____ Date Analyzed: 08/01/03

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.					
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6.					
7.					
8.					
9.					
10.					
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ENVIRONMENTAL TESTING & CONSULTING, INC.

743 51

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: 07/28/03
ETC Order Number: 0307551

ETC Lab ID: 0307551-08
Field ID : FB-1

Matrix : AQUEOUS
Sample Date : 07/28/03 14:15:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				08/01/03		LS	8260B 5030B
QC Batch	V308011						
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	91	84	115
S2 - Toluene-d8	91	69	133
S3 - 4-Bromofluorobenzene	90	80	120
S4 - 1,2-Dichloroethane-d4	75	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits " - Method Detection

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

CLIENT SAMPLE NO.

030755108

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix: (soil/water) WATER Lab Sample ID: 030755108

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1801018

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

% Moisture: not dec. _____ Date Analyzed: 08/01/03

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.					
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ENVIRONMENTAL TESTING & CONSULTING, INC.

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

743 53

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

Site ID: Memphis Depot

FID #

Date Arrived: 07/28/03
ETC Order Number: 0307551

ETC Lab ID: 0307551-09
Field ID : MW-128-1

Matrix: AQUEOUS
Sample Date : 07/28/03 14:35:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				08/02/03		LS	8260B 5030B
QC Batch	V308021						
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	5 32	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	2 17	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	96	84	115
S2 - Toluene-d8	94	69	133
S3 - 4-Bromofluorobenzene	91	80	120
S4 - 1,2-Dichloroethane-d4	77	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits * - Method Detection Limit

743 54

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

CLIENT SAMPLE NO.
030755109

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix: (soil/water) WATER Lab Sample ID: 030755109

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1201014

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

% Moisture: not dec. _____ Date Analyzed: 08/02/03

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

743 55

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

Site ID: Memphis Depot

FID #

Date Arrived: 07/28/03
ETC Order Number: 0307551

ETC Lab ID: 0307551-10
Field ID: MW-128-2

Matrix : AQUEOUS
Sample Date : 07/28/03 14:40:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				08/02/03		LS	8260B 5030B
QC Batch	V308021						
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	4 94	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 56	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	96	84	115
S2 - Toluene-d8	94	69	133
S3 - 4-Bromofluorobenzene	92	80	120
S4 - 1,2-Dichloroethane-d4	75	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits ** - Method Detection Limit

FORM 1 743 56 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

030755110

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix: (soil/water) WATER Lab Sample ID: 030755110

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1301015

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

% Moisture: not dec. _____ Date Analyzed: 08/02/03

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.					
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ENVIRONMENTAL TESTING & CONSULTING, INC.

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

743 57

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

Site ID: Memphis Depot

FID #

Date Arrived: 07/28/03
ETC Order Number: 0307551

ETC Lab ID: 0307551-11
Field ID: MW-128-3

Matrix : AQUEOUS
Sample Date: 07/28/03 14:44:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				08/02/03		LS	8260B 5030B
QC Batch	V308021						
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	4 84	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 64	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	91	84	115
S2 - Toluene-d8	96	69	133
S3 - 4-Bromofluorobenzene	92	80	120
S4 - 1,2-Dichloroethane-d4	74	58	131

Data Validator

ND - Not Detected Q Recovery Outside QC Limits * - Method Detection Limit

743 58

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

CLIENT SAMPLE NO.
030755111

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix: (soil/water) WATER Lab Sample ID: 030755111

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1401016

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

% Moisture: not dec. _____ Date Analyzed: 08/02/03

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.					
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7.					
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10.					
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ENVIRONMENTAL TESTING & CONSULTING, INC. 743 59

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: 07/28/03
ETC Order Number: 0307551

ETC Lab ID: 0307551-12
Field ID : MW-128-300

Matrix: AQUEOUS
Sample Date: 07/28/03 14:44:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				08/02/03		LS	8260B 5030B
QC Batch	V308021						
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	4 92	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 71	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	96	84	115
S2 - Toluene-d8	94	69	133
S3 - 4-Bromofluorobenzene	92	80	120
S4 - 1,2-Dichloroethane d4	77	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits * - Method Detection Limit

FORM 1 743 60 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

030755112

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix: (soil/water) WATER Lab Sample ID: 030755112

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1501017

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

% Moisture: not dec. _____ Date Analyzed: 08/02/03

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.					
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30.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

743 61

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

Site ID: Memphis Depot

FID #

Date Arrived: 07/28/03
ETC Order Number: 0307551

ETC Lab ID: 0307551-13
Field ID: MW-128-4

Matrix : AQUEOUS
Sample Date: 07/28/03 14:45:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				08/02/03		LS	8260B 5030B
QC Batch	V308021						
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	3 77	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	94	69	133
S3 - 4-Bromofluorobenzene	92	80	120
S4 - 1,2-Dichloroethane-d4	78	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits ** - Method Detection Limit

743 62

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

CLIENT SAMPLE NO.
030755113

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix: (soil/water) WATER Lab Sample ID: 030755113

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1601018

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

% Moisture: not dec. _____ Date Analyzed: 08/02/03

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.					
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13.					
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27.					
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29.					
30.					

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: 07/28/03
ETC Order Number: 0307551

ETC Lab ID: 0307551-14
Field ID: MW-129-1

Matrix: AQUEOUS
Sample Date: 07/28/03 15:00:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				08/02/03		LS	8260B 5030B
QC Batch	V308021						
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	3 37	ug/L	1 00				
1,2-Dichloroethane	ND	ug/L	1 00				
1,1-Dichloroethene	33 8	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	6 44	ug/L	1 00				
Toluene	ND	ug/L	2 00				
1,1,1-Trichloroethane	1 99	ug/L	1 00				
1,1,2-Trichloroethane	ND	ug/L	1 00				
Trichloroethene	8 75	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	96	84	115
S2 - Toluene-d8	92	69	133
S3 - 4-Bromofluorobenzene	94	80	120
S4 - 1 2-Dichloroethane-d4	78	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits ' Method Detection Limit

743 64

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

CLIENT SAMPLE NO.
030755114

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix: (soil/water) WATER Lab Sample ID: 030755114

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1701019

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

% Moisture: not dec. _____ Date Analyzed: 08/02/03

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.					

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: 07/28/03
ETC Order Number: 0307551

ETC Lab ID: 0307551-15
Field ID: MW-129-2

Matrix: AQUEOUS
Sample Date: 07/28/03 15:05:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				08/02/03		LS	8260B 5030B
QC Batch	V308021						
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	3 19	ug/L	1 00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	33 2	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	8 85	ug/L	1 00				
Toluene	ND	ug/L	2 00				
1,1,1-Trichloroethane	1 98	ug/L	1 00				
1,1,2-Trichloroethane	ND	ug/L	1 00				
Trichloroethene	9 71	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	92	69	133
S3 - 4-Bromofluorobenzene	88	80	120
S4 - 1,2-Dichloroethane-d4	79	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits * - Method Detection Limit

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

CLIENT SAMPLE NO.

030755115

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix: (soil/water) WATER Lab Sample ID: 030755115

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1801020

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

% Moisture: not dec. _____ Date Analyzed: 08/02/03

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.					
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28.					
29.					
30.					

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: 07/28/03
ETC Order Number: 0307551

ETC Lab ID: 0307551-16
Field ID : MW-129-3

Matrix: AQUEOUS
Sample Date : 07/28/03 15:10:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				08/03/03		LS	8260B 5030B
QC Batch	V308031						
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	4 05	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1 00				
1,1-Dichloroethene	41.0	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	21 3	ug/L	1 00				
Toluene	ND	ug/L	2 00				
1,1,1-Trichloroethane	2.80	ug/L	1 00				
1,1,2-Trichloroethane	ND	ug/L	1 00				
Trichloroethene	14.5	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	ND	ug/L	1 00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	92	84	115
S2 - Toluene-d8	87	69	133
S3 - 4-Bromofluorobenzene	91	80	120
S4 - 1,2-Dichloroethane-d4	73	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits ' ' - Method Detection Limit

FORM 1 743 68 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

030755116

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix: (soil/water) WATER Lab Sample ID: 030755116

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0601007

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

% Moisture: not dec. _____ Date Analyzed: 08/03/03

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.					
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28.					
29.					
30.					

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: 07/28/03
ETC Order Number: 0307551

ETC Lab ID: 0307551-17
Field ID: MW-130-1

Matrix: AQUEOUS
Sample Date: 07/28/03 15:15:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				08/03/03	LS	8260B 5030B
QC Batch	V308031					
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	2.02	ug/L	1.00			
1,2-Dichloroethane	ND	ug/L	1 00			
1,1-Dichloroethene	36 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	62 9	ug/L	1 00			
Toluene	ND	ug/L	2 00			
1,1,1-Trichloroethane	3 55	ug/L	1 00			
1,1,2-Trichloroethane	ND	ug/L	1 00			
Trichloroethene	48 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	0 463J	ug/L	1 00			

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	97	84	115
S2 - Toluene-d8	87	69	133
S3 - 4-Bromofluorobenzene	95	80	120
S4 - 1,2-Dichloroethane-d4	76	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits ** - Method Detection Limit

743 70 CLIENT SAMPLE NO.

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

030755117

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix: (soil/water) WATER Lab Sample ID: 030755117

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0801009

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

% Moisture: not dec. _____ Date Analyzed: 08/03/03

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.					
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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: 07/28/03
ETC Order Number: 0307551

ETC Lab ID: 0307551-18
Field ID: MW-130-2

Matrix : AQUEOUS
Sample Date : 07/28/03 15:17:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				08/03/03		LS	8260B 5030B
QC Batch	V308031						
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	2 27	ug/L	1 00				
1,2-Dichloroethane	ND	ug/L	1 00				
1,1-Dichloroethene	40 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	69 7	ug/L	1 00				
Toluene	ND	ug/L	2 00				
1,1,1-Trichloroethane	4 03	ug/L	1 00				
1,1,2-Trichloroethane	ND	ug/L	1 00				
Trichloroethene	51 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	0 497J	ug/L	1 00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	95	84	115
S2 - Toluene-d8	90	69	133
S3 - 4-Bromofluorobenzene	90	80	120
S4 - 1,2-Dichloroethane-d4	76	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits " - Method Detection Limit

743 72

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

CLIENT SAMPLE NO.

030755118

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix: (soil/water) WATER Lab Sample ID: 030755118

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1001011

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

% Moisture: not dec. _____ Date Analyzed: 08/03/03

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.					
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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: 07/28/03
ETC Order Number: 0307551

ETC Lab ID: 0307551-19
Field ID: MW-130-3

Matrix : AQUEOUS
Sample Date : 07/28/03 15:20:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				08/03/03		LS	8260B 5030B
QC Batch	V308031						
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	2.18	ug/L	1 00				
1,2-Dichloroethane	ND	ug/L	1.00				
1,1-Dichloroethene	38 9	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	63 8	ug/L	1 00				
Toluene	ND	ug/L	2 00				
1,1,1-Trichloroethane	3 68	ug/L	1 00				
1,1,2-Trichloroethane	ND	ug/L	1 00				
Trichloroethene	48 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 504J	ug/L	1 00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	100	84	115
S2 - Toluene-d8	88	69	133
S3 - 4-Bromofluorobenzene	93	80	120
S4 - 1,2-Dichloroethane-d4	79	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits * - Method Detection

743 74

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

CLIENT SAMPLE NO.
030755119

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix: (soil/water) WATER Lab Sample ID: 030755119

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1201013

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

% Moisture: not dec. _____ Date Analyzed: 08/03/03

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
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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: 07/28/03
ETC Order Number: 0307551

ETC Lab ID: 0307551-20
Field ID : MW-130-4

Matrix · AQUEOUS
Sample Date · 07/28/03 15:22:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				08/03/03		LS	8260B 5030B
QC Batch	V308031						
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	2 47	ug/L	1.00				
1,2-Dichloroethane	ND	ug/L	1 00				
1,1-Dichloroethene	41.1	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	71 6	ug/L	1 00				
Toluene	ND	ug/L	2 00				
1,1,1-Trichloroethane	4 29	ug/L	1 00				
1,1,2-Trichloroethane	ND	ug/L	1 00				
Trichloroethene	54 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	0 544J	ug/L	1 00				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	93	84	115
S2 - Toluene-d8	89	69	133
S3 - 4-Bromofluorobenzene	90	80	120
S4 - 1,2-Dichloroethane-d4	79	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits ** - Method Detection Limit

FORM 1 743 76 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

030755120

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix: (soil/water) WATER Lab Sample ID: 030755120

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1401015

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

% Moisture: not dec. _____ Date Analyzed: 08/03/03

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.					
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ENVIRONMENTAL TESTING & CONSULTING, INC.

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

743 77

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

Site ID: Memphis Depot

FID #

Date Arrived: 07/28/03
ETC Order Number: 0307551

ETC Lab ID: 0307551-21
Field ID: MW-130-400

Matrix: AQUEOUS
Sample Date: 07/28/03 15:22:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				08/03/03		LS	8260B 5030B
QC Batch	V308031						
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	36 2	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	2 36	ug/L	1 00				
1,2-Dichloroethane	ND	ug/L	1 00				
1,1-Dichloroethene	41 1	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	74 5	ug/L	1 00				
Toluene	ND	ug/L	2 00				
1,1,1-Trichloroethane	3 94	ug/L	1 00				
1,1,2-Trichloroethane	ND	ug/L	1 00				
Trichloroethene	53 9	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	96	84	115
S2 - Toluene-d8	94	69	133
S3 - 4-Bromofluorobenzene	94	80	120
S4 - 1,2-Dichloroethane-d4	81	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits ** - Method Detection Limit

743 78

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

CLIENT SAMPLE NO.

030755121

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix: (soil/water) WATER Lab Sample ID: 030755121

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 1501016

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

% Moisture: not dec. _____ Date Analyzed: 08/03/03

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.					
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6.					
7.					
8.					

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

743 79

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

Site ID: Memphis Depot

FID #

Date Arrived: 07/28/03
ETC Order Number: 0307551

ETC Lab ID: 0307551-22
Field ID: Trip Blank

Matrix: AQUEOUS
Sample Date: 07/28/03

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
GC/MS Volatile Organics				08/02/03		LS	8260B 5030B
QC Batch	V308021						
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	95	84	115
S2 - Toluene-d8	95	69	133
S3 - 4-Bromofluorobenzene	91	80	120
S4 - 1,2-Dichloroethane-d4	75	58	131

Data Validator

ND - Not Detected Q - Recovery Outside QC Limits * - Method Detection Limit

743 80

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

CLIENT SAMPLE NO.
030755122

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix: (soil/water) WATER Lab Sample ID: 030755122

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0901011

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

% Moisture: not dec. _____ Date Analyzed: 08/02/03

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
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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 # 0307-551

SAMPLE PRESERVATION

All water samples preserved with HCl to pH < 2 (verified at analysis) and maintained at 4oC until analysis

HOLDING TIMES

Sample Analysis All samples analyzed within 14 days of collection

METHOD

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

QUALITY CONTROL

QC Batch	Form 4 Summary
V308011	V3080111LB
V308021	V3080211LB
V308031	V3080311LB

System Monitoring Compounds FORM 2
Surrogate recoveries within QC limits

Method Blank FORM 4
V3080111LB
V3080211LB
V3080311LB
Target analytes were not detected in the method blank

Laboratory Control Sample FORM 3
V3080111LCS
V3080211LCS
V3080311LCS
All target analyte acceptance criteria met

Matrix Spike / Matrix Spike Dup FORM 3

Batch V308011		
0307-551-08	RPD	All analytes within QC limits
FB-1	Spike Recovery	All analytes within QC limits

Refer to Laboratory Control Sample(s) for system verification

Batch V308021		
0307-551-15	RPD	All analytes within QC limits
MW-129-2	Spike Recovery	All analytes within QC limits *

*Chloroform was flagged for high recovery in the MS MSD recovery was within QC limits Refer to Laboratory Control Sample(s) for system verification

Batch V308031		
0307-551-20	RPD	All analytes within QC limits *
MW-130-4	Spike Recovery	All analytes within QC limits *

*Tetrachloroethene was flagged for low recovery in the MS MSD recovery was within QC limits RPDs for multiple analytes were flagged as outside QC limits due to high recoveries in the MSD MS recoveries were within QC limits Refer to Laboratory Control Sample(s) for system verification

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

Client Name Jacobs
Project Name Memphis Defense Depot

ETC Order # 0307-551

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

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 performed, as indicated on the result sheets, to bring target analyte(s) within calibration range

Project Manager

FORM 2
WATER VOA-GCMS SYSTEM MONITORING COMPOUND RECOVERY

743 84

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

	CLIENT SAMPLE NO.	SMC1 (DFM) #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER (DCE) #	TOT OUT
01	V3080111LCS	84	92	81	71	0
02	V3080111LB	84	84	87	62	0
03	030755101	89	87	90	75	0
04	030755102	91	88	94	72	0
05	030755103	91	92	86	72	0
06	030755104	88	91	91	71	0
07	030755105	90	89	93	72	0
08	030755107	93	90	96	75	0
09	030755108	91	91	90	75	0
10	030755108MS	85	96	86	75	0
11	030755108MSD	84	93	88	72	0
12	V3080211LCS	87	94	81	76	0
13	V3080211LB	95	84	88	71	0
14	030755122	95	95	91	75	0
15	030755101	92	92	91	74	0
16	030755106	94	90	94	74	0
17	030755109	96	94	91	77	0
18	030755110	96	94	92	75	0
19	030755111	91	96	92	74	0
20	030755112	96	94	92	77	0
21	030755113	97	94	92	78	0
22	030755114	96	92	94	78	0
23	030755115	98	92	88	79	0
24	030755115MS	93	98	88	84	0
25	030755115MSD	88	96	82	84	0
26	V3080311LCS	85	91	82	76	0
27	V3080311LB	92	90	90	68	0
28	030755116	92	87	91	73	0
29	030755117	97	87	95	76	0
30	030755118	95	90	90	76	0

		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 2
WATER VOA-GCMS SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

	CLIENT SAMPLE NO.	SMC1 (DFM) #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER (DCE) #	TOT OUT
01	030755119	100	88	93	79	0
02	030755120	93	89	90	79	0
03	030755121	96	94	94	81	0
04	030755120MS	90	97	83	79	0
05	030755120MSD	89	96	83	80	0
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		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 4 743 86 CLIENT SAMPLE NO.

VOA-GCMS METHOD BLANK SUMMARY

V3080111LB

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Lab File ID: 0302004J Lab Prep Batch: V308011

Date Analyzed: 08/01/03 Time Analyzed: 1404

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

Instrument ID: VOC3 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	V3080111LCS	11LCS	0201002LCSJ	1155
02	030755101	030755101	1201012	1854
03	030755102	030755102	1301013	1924
04	030755103	030755103	1401014	1955
05	030755104	030755104	1501015	2025
06	030755105	030755105	1601016	2055
07	030755107	030755107	1701017	2125
08	030755108	030755108	1801018	2155
09	030755108MS	MS	1901019J	2225
10	030755108MSD	MSD	2001020J	2255
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COMMENTS:

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FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.: V3080111LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix: (soil/water) WATER Lab Prep Batch: V308011

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0302004J

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

% Moisture: not dec. _____ Date Analyzed: 08/01/03

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

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FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.
V3080111LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix: (soil/water) WATER Lab Prep Batch: V308011

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0302004J

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

% Moisture: not dec. _____ Date Analyzed: 08/01/03

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

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V3080111LB

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix: (soil/water) WATER Lab Prep Batch: V308011

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0302004J

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

% Moisture: not dec. _____ Date Analyzed: 08/01/03

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 1 743 00 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

V3080111LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

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

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0302004J

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

% Moisture: not dec. _____ Date Analyzed: 08/01/03

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
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FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC. Lab Prep Batch: V308011

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix Spike - Sample No.: V3080111LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Acetone	100.0		145.8	146	59-151
Benzene	100.0		90.42	90	72-124
Bromodichloromethane	100.0		89.94	90	68-119
Bromoform	100.0		90.55	90	66-136
2-Butanone	100.0		131.4	131	55-151
Bromomethane	100.0		84.57	84	40-134
Carbon Disulfide	100.0		72.99	73	60-133
Carbon Tetrachloride	100.0		84.81	85	64-123
Chlorobenzene	100.0		84.26	84	77-112
Chlorodibromomethane	100.0		89.78	90	72-118
Chloroethane	100.0		83.98	84	64-142
Chloroform	100.0		92.89	93	70-115
Chloromethane	100.0		89.10	89	58-139
1,1-Dichloroethane	100.0		86.21	86	76-118
1,2-Dichloroethane	100.0		93.02	93	62-124
1,1-Dichloroethene	100.0		80.16	80	69-121
cis-1,2-Dichloroethene	100.0		90.62	91	76-114
trans-1,2-Dichloroethen	100.0		86.44	86	72-121
1,2-Dichloropropane	100.0		88.56	88	64-133
cis-1,3-Dichloropropene	100.0		101.3	101	77-120
trans-1,3-Dichloroprope	100.0		103.2	103	73-124
Ethylbenzene	100.0		87.27	87	77-111
2-Hexanone	100.0		128.0	128	53-144
Methylene Chloride	100.0		87.35	87	76-115
4-Methyl-2-Pentanone	100.0		106.8	107	42-144
Styrene	100.0		91.54	92	77-117
1,1,2,2-Tetrachloroetha	100.0		110.2	110	67-126
Tetrachloroethene	100.0		83.32	83	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 LAB CONTROL SAMPLE

Lab Name: ETC, INC. Lab Prep Batch: V308011

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix Spike - Sample No.: V3080111LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
1,1,1-Trichloroethane	100.0		85.55	86	63-122
Toluene	100.0		90.34	90	77-115
1,1,2-Trichloroethane	100.0		100.4	100	69-117
Trichloroethene	100.0		89.69	90	75-113
Vinyl Acetate	100.0		88.98	89	28-146
Vinyl Chloride	100.0		84.64	85	65-134
Xylene-mp	200.0		172.1	86	77-115
Xylene-o	100.0		84.77	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: 0 out of 36 outside limits

COMMENTS: _____

FORM 3
WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

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Lab Name: ETC, INC. Lab Prep Batch: V308011

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix Spike - Sample No.: 030755108

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Acetone	100.0	0.000	73.00	73	59-151
Benzene	100.0	0.000	91.93	92	72-124
Bromodichloromethane	100.0	0.000	92.04	92	68-119
Bromoform	100.0	0.000	87.11	87	66-136
2-Butanone	100.0	0.000	91.21	91	55-151
Bromomethane	100.0	0.000	87.49	87	40-134
Carbon Disulfide	100.0	0.000	86.83	87	60-133
Carbon Tetrachloride	100.0	0.000	94.48	94	64-123
Chlorobenzene	100.0	0.000	85.35	85	77-112
Chlorodibromomethane	100.0	0.000	91.45	91	72-118
Chloroethane	100.0	0.000	88.67	89	64-142
Chloroform	100.0	0.000	102.4	102	70-115
Chloromethane	100.0	0.000	85.81	86	58-139
1,1-Dichloroethane	100.0	0.000	93.44	93	76-118
1,2-Dichloroethane	100.0	0.000	95.52	96	62-124
1,1-Dichloroethene	100.0	0.000	95.12	95	69-121
cis-1,2-Dichloroethene	100.0	0.000	96.50	96	76-114
trans-1,2-Dichloroethen	100.0	0.000	91.98	92	72-121
1,2-Dichloropropane	100.0	0.000	89.65	90	64-133
cis-1,3-Dichloropropene	100.0	0.000	97.66	98	77-120
trans-1,3-Dichloroprope	100.0	0.000	97.33	97	73-124
Ethylbenzene	100.0	0.000	85.89	86	77-111
2-Hexanone	100.0	0.000	89.67	90	53-144
Methylene Chloride	100.0	0.000	95.49	95	76-115
4-Methyl-2-Pentanone	100.0	0.000	94.34	94	42-144
Styrene	100.0	0.000	89.23	89	77-117
1,1,2,2-Tetrachloroetha	100.0	0.000	101.2	101	67-126
Tetrachloroethene	100.0	0.000	86.15	86	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: V308011

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix Spike - Sample No.: 030755108

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
1,1,1-Trichloroethane	100.0	0.000	95.88	96	63-122
Toluene	100.0	0.000	90.64	91	77-115
1,1,2-Trichloroethane	100.0	0.000	98.44	98	69-117
Trichloroethene	100.0	0.000	92.88	93	75-113
Vinyl Acetate	100.0	0.000	77.80	78	28-146
Vinyl Chloride	100.0	0.000	87.80	88	65-134
Xylene-mp	200.0	0.000	175.2	88	77-115
Xylene-o	100.0	0.000	89.68	90	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: V308011

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix Spike - Sample No.: 030755108

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Acetone	100.0	75.17	75	3	20	59-151
Benzene	100.0	100.8	101	9	20	72-124
Bromodichloromethane	100.0	95.43	95	3	20	68-119
Bromoform	100.0	98.92	99	13	20	66-136
2-Butanone	100.0	97.34	97	6	20	55-151
Bromomethane	100.0	97.34	97	11	20	40-134
Carbon Disulfide	100.0	101.1	101	15	20	60-133
Carbon Tetrachloride	100.0	98.42	98	4	20	64-123
Chlorobenzene	100.0	97.22	97	13	20	77-112
Chlorodibromomethane	100.0	90.30	90	1	20	72-118
Chloroethane	100.0	94.76	95	6	20	64-142
Chloroform	100.0	105.2	105	3	20	70-115
Chloromethane	100.0	91.22	91	6	20	58-139
1,1-Dichloroethane	100.0	98.17	98	5	20	76-118
1,2-Dichloroethane	100.0	97.98	98	2	20	62-124
1,1-Dichloroethene	100.0	104.2	104	9	20	69-121
cis-1,2-Dichloroethene	100.0	101.9	102	6	20	76-114
trans-1,2-Dichloroethen	100.0	104.2	104	12	20	72-121
1,2-Dichloropropane	100.0	97.04	97	7	20	64-133
cis-1,3-Dichloropropene	100.0	105.0	105	7	20	77-120
trans-1,3-Dichloroprope	100.0	102.8	103	6	20	73-124
Ethylbenzene	100.0	97.30	97	12	20	77-111
2-Hexanone	100.0	96.24	96	6	20	53-144
Methylene Chloride	100.0	101.7	102	7	20	76-115
4-Methyl-2-Pentanone	100.0	102.9	103	9	20	42-144
Styrene	100.0	97.23	97	9	20	77-117
1,1,2,2-Tetrachloroetha	100.0	106.9	107	6	20	67-126
Tetrachloroethene	100.0	91.60	92	7	20	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: V308011

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix Spike - Sample No.: 030755108

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,1-Trichloroethane	100.0	98.17	98	2	20	63-122
Toluene	100.0	98.36	98	7	20	77-115
1,1,2-Trichloroethane	100.0	103.2	103	5	20	69-117
Trichloroethene	100.0	101.0	101	8	20	75-113
Vinyl Acetate	100.0	82.60	83	6	20	28-146
Vinyl Chloride	100.0	93.34	93	6	20	65-134
Xylene-mp	200.0	193.3	97	10	20	77-115
Xylene-o	100.0	98.64	99	10	20	77-115

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

* Values outside of QC limits

RPD: 0 out of 36 outside limits
Spike Recovery: 0 out of 72 outside limits

COMMENTS: _____

FORM 4
VOA-GCMS METHOD BLANK SUMMARY

743 97 CLIENT SAMPLE NO.

V3080211LB

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Lab File ID: 0302005J Lab Prep Batch: V308021

Date Analyzed: 08/02/03 Time Analyzed: 1438

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

Instrument ID: VOC3 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	V3080211LCS	11LCS	0201002LCSJ	1215
02	030755122	030755122	0901011	1739
03	030755101	030755101	1001012	1809
04	030755106	030755106	1101013	1839
05	030755109	030755109	1201014	1909
06	030755110	030755110	1301015	1939
07	030755111	030755111	1401016	2009
08	030755112	030755112	1501017	2039
09	030755113	030755113	1601018	2109
10	030755114	030755114	1701019	2139
11	030755115	030755115	1801020	2209
12	030755115MS	MS	1901021J	2239
13	030755115MSD	MSD	2001022J	2309
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COMMENTS:

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V3080211LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix: (soil/water) WATER Lab Prep Batch: V308021

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0302005J

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

% Moisture: not dec. _____ Date Analyzed: 08/02/03

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.

V3080211LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix: (soil/water) WATER Lab Prep Batch: V308021

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0302005J

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

% Moisture: not dec. _____ Date Analyzed: 08/02/03

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

743 100

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.
V3080211LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix: (soil/water) WATER Lab Prep Batch: V308021

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0302005J

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

% Moisture: not dec. _____ Date Analyzed: 08/02/03

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

743 101

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

CLIENT SAMPLE NO.

V3080211LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

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

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0302005J

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

% Moisture: not dec. _____ Date Analyzed: 08/02/03

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.					
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FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC. Lab Prep Batch: V308021

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix Spike - Sample No.: V3080211LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Acetone	100.0		109.5	110	59-151
Benzene	100.0		94.82	95	72-124
Bromodichloromethane	100.0		88.20	88	68-119
Bromoform	100.0		79.37	79	66-136
2-Butanone	100.0		97.78	98	55-151
Bromomethane	100.0		92.85	93	40-134
Carbon Disulfide	100.0		64.43	64	60-133
Carbon Tetrachloride	100.0		82.80	83	64-123
Chlorobenzene	100.0		78.35	78	77-112
Chlorodibromomethane	100.0		87.71	88	72-118
Chloroethane	100.0		93.15	93	64-142
Chloroform	100.0		98.70	99	70-115
Chloromethane	100.0		100.6	101	58-139
1,1-Dichloroethane	100.0		87.38	87	76-118
1,2-Dichloroethane	100.0		94.95	95	62-124
1,1-Dichloroethene	100.0		80.72	81	69-121
cis-1,2-Dichloroethene	100.0		92.84	93	76-114
trans-1,2-Dichloroethen	100.0		84.00	84	72-121
1,2-Dichloropropane	100.0		93.29	93	64-133
cis-1,3-Dichloropropene	100.0		100.3	100	77-120
trans-1,3-Dichloroprope	100.0		100.5	100	73-124
Ethylbenzene	100.0		80.64	81	77-111
2-Hexanone	100.0		97.78	98	53-144
Methylene Chloride	100.0		90.33	90	76-115
4-Methyl-2-Pentanone	100.0		88.18	88	42-144
Styrene	100.0		84.81	85	77-117
1,1,2,2-Tetrachloroetha	100.0		102.0	102	67-126
Tetrachloroethene	100.0		79.10	79	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 LAB CONTROL SAMPLE

Lab Name: ETC, INC. Lab Prep Batch: V308021

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix Spike - Sample No.: V3080211LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
1,1,1-Trichloroethane	100.0		89.28	89	63-122
Toluene	100.0		86.01	86	77-115
1,1,2-Trichloroethane	100.0		97.35	97	69-117
Trichloroethene	100.0		88.42	88	75-113
Vinyl Acetate	100.0		84.51	84	28-146
Vinyl Chloride	100.0		96.60	97	65-134
Xylene-mp	200.0		163.0	82	77-115
Xylene-o	100.0		81.11	81	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: 0 out of 36 outside limits

COMMENTS: _____

FORM 3
WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ETC,INC. Lab Prep Batch: V308021

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix Spike - Sample No.: 030755115

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Acetone	100.0	0.000	77.82	78	59-151
Benzene	100.0	0.000	114.8	115	72-124
Bromodichloromethane	100.0	0.000	102.9	103	68-119
Bromoform	100.0	0.000	98.89	99	66-136
2-Butanone	100.0	0.000	100.8	101	55-151
Bromomethane	100.0	0.000	94.69	95	40-134
Carbon Disulfide	100.0	0.000	80.78	81	60-133
Carbon Tetrachloride	100.0	0.000	102.3	102	64-123
Chlorobenzene	100.0	0.000	95.37	95	77-112
Chlorodibromomethane	100.0	0.000	101.7	102	72-118
Chloroethane	100.0	0.000	99.47	99	64-142
Chloroform	100.0	0.000	119.4	119*	70-115
Chloromethane	100.0	0.000	95.60	96	58-139
1,1-Dichloroethane	100.0	3.19	109.0	106	76-118
1,2-Dichloroethane	100.0	0.000	114.0	114	62-124
1,1-Dichloroethene	100.0	33.25	130.0	97	69-121
cis-1,2-Dichloroethene	100.0	0.000	110.3	110	76-114
trans-1,2-Dichloroethen	100.0	0.000	95.97	96	72-121
1,2-Dichloropropane	100.0	0.000	105.2	105	64-133
cis-1,3-Dichloropropene	100.0	0.000	114.0	114	77-120
trans-1,3-Dichloroprope	100.0	0.000	112.2	112	73-124
Ethylbenzene	100.0	0.000	102.3	102	77-111
2-Hexanone	100.0	0.000	97.97	98	53-144
Methylene Chloride	100.0	0.000	105.9	106	76-115
4-Methyl-2-Pentanone	100.0	0.000	99.01	99	42-144
Styrene	100.0	0.000	102.5	102	77-117
1,1,2,2-Tetrachloroetha	100.0	0.000	109.6	110	67-126
Tetrachloroethene	100.0	8.85	101.4	92	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: V308021

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix Spike - Sample No.: 030755115

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
1,1,1-Trichloroethane	100.0	1.98	108.7	107	63-122
Toluene	100.0	0.000	103.1	103	77-115
1,1,2-Trichloroethane	100.0	0.000	113.6	114	69-117
Trichloroethene	100.0	9.71	112.3	102	75-113
Vinyl Acetate	100.0	0.000	79.89	80	28-146
Vinyl Chloride	100.0	0.000	94.91	95	65-134
Xylene-mp	200.0	0.000	200.4	100	77-115
Xylene-o	100.0	0.000	102.8	103	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: V308021

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix Spike - Sample No.: 030755115

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Acetone	100.0	70.78	71	9	20	59-151
Benzene	100.0	103.3	103	11	20	72-124
Bromodichloromethane	100.0	93.83	94	9	20	68-119
Bromoform	100.0	86.45	86	14	20	66-136
2-Butanone	100.0	94.33	94	7	20	55-151
Bromomethane	100.0	88.88	89	6	20	40-134
Carbon Disulfide	100.0	76.35	76	6	20	60-133
Carbon Tetrachloride	100.0	90.72	91	11	20	64-123
Chlorobenzene	100.0	86.18	86	10	20	77-112
Chlorodibromomethane	100.0	95.04	95	7	20	72-118
Chloroethane	100.0	88.77	89	11	20	64-142
Chloroform	100.0	104.8	105	12	20	70-115
Chloromethane	100.0	85.66	86	11	20	58-139
1,1-Dichloroethane	100.0	96.05	93	13	20	76-118
1,2-Dichloroethane	100.0	98.51	98	15	20	62-124
1,1-Dichloroethene	100.0	116.4	83	16	20	69-121
cis-1,2-Dichloroethene	100.0	101.2	101	8	20	76-114
trans-1,2-Dichloroethen	100.0	93.08	93	3	20	72-121
1,2-Dichloropropane	100.0	96.35	96	9	20	64-133
cis-1,3-Dichloropropene	100.0	105.4	105	8	20	77-120
trans-1,3-Dichloroprope	100.0	105.3	105	6	20	73-124
Ethylbenzene	100.0	91.23	91	11	20	77-111
2-Hexanone	100.0	94.74	95	3	20	53-144
Methylene Chloride	100.0	95.76	96	10	20	76-115
4-Methyl-2-Pentanone	100.0	97.59	98	1	20	42-144
Styrene	100.0	94.80	95	7	20	77-117
1,1,2,2-Tetrachloroetha	100.0	106.9	107	3	20	67-126
Tetrachloroethene	100.0	92.47	84	9	20	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: V308021

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix Spike - Sample No.: 030755115

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,1-Trichloroethane	100.0	94.77	93	14	20	63-122
Toluene	100.0	95.05	95	8	20	77-115
1,1,2-Trichloroethane	100.0	103.8	104	9	20	69-117
Trichloroethene	100.0	104.0	94	8	20	75-113
Vinyl Acetate	100.0	73.38	73	9	20	28-146
Vinyl Chloride	100.0	83.49	83	13	20	65-134
Xylene-mp	200.0	178.9	89	12	20	77-115
Xylene-o	100.0	91.19	91	12	20	77-115

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

* Values outside of QC limits

RPD: 0 out of 36 outside limits
Spike Recovery: 1 out of 72 outside limits

COMMENTS: _____

FORM 4
VOA-GCMS METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

V3080311LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Lab File ID: 0302004J Lab Prep Batch: V308031

Date Analyzed: 08/03/03 Time Analyzed: 1404

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

Instrument ID: VOC3 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	V3080311LCS	11LCS	0201003LCSJ	1213
02	030755116	030755116	0601007	1534
03	030755117	030755117	0801009	1635
04	030755118	030755118	1001011	1736
05	030755119	030755119	1201013	1837
06	030755120	030755120	1401015	1937
07	030755121	030755121	1501016	2008
08	030755120MS	MS	1801019J	2139
09	030755120MSD	MSD	1901020J	2209
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COMMENTS:

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V3080311LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix: (soil/water) WATER Lab Prep Batch: V308031

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0302004J

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

% Moisture: not dec. _____ Date Analyzed: 08/03/03

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

743 110

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.
V3080311LB

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix: (soil/water) WATER Lab Prep Batch: V308031

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0302004J

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

% Moisture: not dec. _____ Date Analyzed: 08/03/03

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

743 111

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V3080311LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix: (soil/water) WATER Lab Prep Batch: V308031

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0302004J

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

% Moisture: not dec. _____ Date Analyzed: 08/03/03

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 1 743 112 CLIENT SAMPLE NO.

VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

V3080311LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

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

Sample wt/vol: 10.00 (g/mL) ML Lab File ID: 0302004J

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

% Moisture: not dec. _____ Date Analyzed: 08/03/03

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.					
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FORM 3
WATER VOA-GCMS LAB CONTROL SAMPLE

743 113

Lab Name: ETC, INC. Lab Prep Batch: V308031

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix Spike - Sample No.: V3080311LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Acetone	100.0		110.5	110	59-151
Benzene	100.0		95.86	96	72-124
Bromodichloromethane	100.0		83.18	83	68-119
Bromoform	100.0		81.38	81	66-136
2-Butanone	100.0		97.48	97	55-151
Bromomethane	100.0		76.22	76	40-134
Carbon Disulfide	100.0		87.48	87	60-133
Carbon Tetrachloride	100.0		84.54	84	64-123
Chlorobenzene	100.0		81.92	82	77-112
Chlorodibromomethane	100.0		82.55	82	72-118
Chloroethane	100.0		81.48	81	64-142
Chloroform	100.0		93.04	93	70-115
Chloromethane	100.0		82.20	82	58-139
1,1-Dichloroethane	100.0		90.25	90	76-118
1,2-Dichloroethane	100.0		87.47	87	62-124
1,1-Dichloroethene	100.0		90.30	90	69-121
cis-1,2-Dichloroethene	100.0		95.96	96	76-114
trans-1,2-Dichloroethen	100.0		96.57	96	72-121
1,2-Dichloropropane	100.0		87.16	87	64-133
cis-1,3-Dichloropropene	100.0		94.03	94	77-120
trans-1,3-Dichloroprope	100.0		93.22	93	73-124
Ethylbenzene	100.0		81.62	82	77-111
2-Hexanone	100.0		99.66	100	53-144
Methylene Chloride	100.0		91.15	91	76-115
4-Methyl-2-Pentanone	100.0		84.93	85	42-144
Styrene	100.0		85.61	86	77-117
1,1,2,2-Tetrachloroetha	100.0		97.96	98	67-126
Tetrachloroethene	100.0		82.02	82	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 LAB CONTROL SAMPLE

743 114

Lab Name: ETC, INC. Lab Prep Batch: V308031

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix Spike - Sample No.: V3080311LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
1,1,1-Trichloroethane	100.0		85.03	85	63-122
Toluene	100.0		85.97	86	77-115
1,1,2-Trichloroethane	100.0		92.42	92	69-117
Trichloroethene	100.0		90.55	90	75-113
Vinyl Acetate	100.0		90.77	91	28-146
Vinyl Chloride	100.0		81.08	81	65-134
Xylene-mp	200.0		167.3	84	77-115
Xylene-o	100.0		84.30	84	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: 0 out of 36 outside limits

COMMENTS: _____

FORM 3
WATER VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

743 115

Lab Name: ETC, INC. Lab Prep Batch: V308031

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix Spike - Sample No.: 030755120

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Acetone	100.0	0.000	65.08	65	59-151
Benzene	100.0	0.000	104.0	104	72-124
Bromodichloromethane	100.0	0.000	97.14	97	68-119
Bromoform	100.0	0.000	78.90	79	66-136
2-Butanone	100.0	0.000	85.04	85	55-151
Bromomethane	100.0	0.000	92.63	93	40-134
Carbon Disulfide	100.0	0.000	88.88	89	60-133
Carbon Tetrachloride	100.0	0.000	95.29	95	64-123
Chlorobenzene	100.0	0.000	78.96	79	77-112
Chlorodibromomethane	100.0	0.000	91.86	92	72-118
Chloroethane	100.0	0.000	95.47	95	64-142
Chloroform	100.0	0.000	113.7	114	70-115
Chloromethane	100.0	0.000	87.14	87	58-139
1,1-Dichloroethane	100.0	2.47	104.8	102	76-118
1,2-Dichloroethane	100.0	0.000	104.9	105	62-124
1,1-Dichloroethene	100.0	41.10	137.0	96	69-121
cis-1,2-Dichloroethene	100.0	0.544	105.0	104	76-114
trans-1,2-Dichloroethen	100.0	0.000	98.69	99	72-121
1,2-Dichloropropane	100.0	0.000	96.94	97	64-133
cis-1,3-Dichloropropene	100.0	0.000	104.9	105	77-120
trans-1,3-Dichloroprope	100.0	0.000	102.6	103	73-124
Ethylbenzene	100.0	0.000	83.03	83	77-111
2-Hexanone	100.0	0.000	82.86	83	53-144
Methylene Chloride	100.0	0.000	106.3	106	76-115
4-Methyl-2-Pentanone	100.0	0.000	85.75	86	42-144
Styrene	100.0	0.000	84.27	84	77-117
1,1,2,2-Tetrachloroetha	100.0	0.000	99.47	99	67-126
Tetrachloroethene	100.0	71.56	139.7	68*	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

743 116

Lab Name: ETC, INC. Lab Prep Batch: V308031

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix Spike - Sample No.: 030755120

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
1,1,1-Trichloroethane	100.0	4.29	106.2	102	63-122
Toluene	100.0	0.000	92.48	92	77-115
1,1,2-Trichloroethane	100.0	0.000	100.9	101	69-117
Trichloroethene	100.0	53.97	137.5	84	75-113
Vinyl Acetate	100.0	0.000	77.00	77	28-146
Vinyl Chloride	100.0	0.000	95.46	95	65-134
Xylene-mp	200.0	0.000	168.8	84	77-115
Xylene-o	100.0	0.000	87.22	87	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: V308031

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix Spike - Sample No.: 030755120

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Acetone	100.0	89.81	90	32*	20	59-151
Benzene	100.0	126.1	126*	19	20	72-124
Bromodichloromethane	100.0	114.2	114	16	20	68-119
Bromoform	100.0	102.4	102	25*	20	66-136
2-Butanone	100.0	114.4	114	29*	20	55-151
Bromomethane	100.0	117.5	118	24*	20	40-134
Carbon Disulfide	100.0	118.5	118	28*	20	60-133
Carbon Tetrachloride	100.0	112.3	112	16	20	64-123
Chlorobenzene	100.0	102.7	103	26*	20	77-112
Chlorodibromomethane	100.0	111.1	111	19	20	72-118
Chloroethane	100.0	118.1	118	22*	20	64-142
Chloroform	100.0	133.2	133*	15	20	70-115
Chloromethane	100.0	104.1	104	18	20	58-139
1,1-Dichloroethane	100.0	128.2	126*	21*	20	76-118
1,2-Dichloroethane	100.0	126.4	126*	18	20	62-124
1,1-Dichloroethene	100.0	171.3	130*	30*	20	69-121
cis-1,2-Dichloroethene	100.0	127.0	126*	19	20	76-114
trans-1,2-Dichloroethen	100.0	125.9	126*	24*	20	72-121
1,2-Dichloropropane	100.0	116.5	116	18	20	64-133
cis-1,3-Dichloropropene	100.0	126.3	126*	18	20	77-120
trans-1,3-Dichloroprope	100.0	121.8	122	17	20	73-124
Ethylbenzene	100.0	103.8	104	22*	20	77-111
2-Hexanone	100.0	106.8	107	25*	20	53-144
Methylene Chloride	100.0	133.0	133*	22*	20	76-115
4-Methyl-2-Pentanone	100.0	112.0	112	26*	20	42-144
Styrene	100.0	105.2	105	22*	20	77-117
1,1,2,2-Tetrachloroetha	100.0	129.4	129*	26*	20	67-126
Tetrachloroethene	100.0	166.9	95	33*	20	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

743 118

Lab Name: ETC,INC. Lab Prep Batch: V308031

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Matrix Spike - Sample No.: 030755120

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,1-Trichloroethane	100.0	122.1	118	14	20	63-122
Toluene	100.0	113.0	113	20	20	77-115
1,1,2-Trichloroethane	100.0	122.7	123*	20	20	69-117
Trichloroethene	100.0	165.2	111	28*	20	75-113
Vinyl Acetate	100.0	95.40	95	21*	20	28-146
Vinyl Chloride	100.0	115.6	116	20	20	65-134
Xylene-mp	200.0	213.1	106	23*	20	77-115
Xylene-o	100.0	109.6	110	23*	20	77-115

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

* Values outside of QC limits

RPD: 21 out of 36 outside limits
Spike Recovery: 12 out of 72 outside limits

COMMENTS: _____

Environmental Testing & Consulting, Inc.

Quality Control Reports
Level III
GC/MS Volatiles

743 120

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

Sequence ID: V308011 Matrix: H2O HBN: _____ Analyst _____

Date: 8-2-03 Super _____

Applicable ETC Order Nos. for this sequence:

0307-550-1 0307-537-1 0307-487-1

0307-471-1 0307-499-1, 2

0307-551-1-5, 7, 8

Validated

1. BFB Daily 12-Hour Tune Meets Criteria. No analyses begins until criteria are met. (SOP) ✓
2. Initial Calibration Verification Criteria - Method : V307312, 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 1, MEK 1, 2-CEVE ✓
   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 : V308011CB3 ✓
   Analyze daily or for each analytical batch (20 samples):
   List compounds identified in Method Blank w/concentration.
   Flag final results "B-Detected in Blank"
   Methylene 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?
   0307-551-5 MS, MSD
   0188 - PPD #4 1176 - Acetone outside limits ✓
6. Laboratory Control Samples included in this sequence : ✓
   Must contain all Target Analytes. 0188
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.: 0307551

Lab File ID: 0102002 BFB Injection Date: 08/01/03

Instrument ID: VOC3 BFB Injection Time: 1137

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	18.3
75	30.0 - 60.0% of mass 95	43.6
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	73.1
175	5.0 - 9.0% of mass 174	5.7 (7.8)1
176	95.0 - 101.0% of mass 174	71.5 (97.8)1
177	5.0 - 9.0% of mass 176	5.1 (7.1)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	V3080111LCS	11LCS	0201002LCSJ	08/01/03	1155
02	CCV100PPB		0201002J	08/01/03	1155
03	V3080111LB	11LB	0302004J	08/01/03	1404
04	030755101	030755101	1201012	08/01/03	1854
05	030755102	030755102	1301013	08/01/03	1924
06	030755103	030755103	1401014	08/01/03	1955
07	030755104	030755104	1501015	08/01/03	2025
08	030755105	030755105	1601016	08/01/03	2055
09	030755107	030755107	1701017	08/01/03	2125
10	030755108	030755108	1801018	08/01/03	2155
11	030755108MS	MS	1901019J	08/01/03	2225
12	030755108MSD	MSD	2001020J	08/01/03	2255
13					
14					
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20					
21					
22					

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Instrument ID: VOC3 Calibration Date: 08/01/03 Time: 1155

Lab File ID: 0201002J Init. Calib. Date(s): 07/31/03 07/31/03

Heated Purge: (Y/N) Y Init. Calib. Times: 1652 2154

GC Column: ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d	
Acetone	145.8	100.0	AVRG	45.8	30.0	<-
Benzene	90.42	100.0	AVRG	9.6	30.0	
Bromodichloromethane	89.94	100.0	LINR	10.1	30.0	
Bromoform	90.55	100.0	AVRG	9.4	30.0	
2-Butanone	131.4	100.0	AVRG	31.4	30.0	<-
Bromomethane	84.57	100.0	AVRG	15.4	30.0	
Carbon Disulfide	72.99	100.0	AVRG	27.0	30.0	
Carbon Tetrachloride	84.81	100.0	AVRG	15.2	30.0	
Chlorobenzene	84.26	100.0	AVRG	15.7	30.0	
Chlorodibromomethane	89.78	100.0	AVRG	10.2	30.0	
Chloroethane	83.98	100.0	AVRG	16.0	30.0	
Chloroform	92.89	100.0	LINR	7.1	20.0	
Chloromethane	89.10	100.0	AVRG	10.9	30.0	
1,1-Dichloroethane	86.21	100.0	AVRG	13.8	30.0	
1,2-Dichloroethane	93.02	100.0	AVRG	7.0	30.0	
1,1-Dichloroethene	80.16	100.0	AVRG	19.8	20.0	
cis-1,2-Dichloroethene	90.62	100.0	AVRG	9.4	30.0	
trans-1,2-Dichloroethene	86.44	100.0	AVRG	13.6	30.0	
1,2-Dichloropropane	88.56	100.0	AVRG	11.4	20.0	
cis-1,3-Dichloropropene	101.3	100.0	AVRG	1.3	30.0	
trans-1,3-Dichloropropene	103.2	100.0	AVRG	3.2	30.0	
Ethylbenzene	87.27	100.0	AVRG	12.7	20.0	
2-Hexanone	128.0	100.0	AVRG	28.0	30.0	
Methylene Chloride	87.35	100.0	LINR	12.6	30.0	
4-Methyl-2-Pentanone	106.8	100.0	AVRG	6.8	30.0	
Styrene	91.54	100.0	AVRG	8.5	30.0	
1,1,2,2-Tetrachloroethane	110.2	100.0	AVRG	10.2	30.0	
Tetrachloroethene	83.32	100.0	AVRG	16.7	30.0	
1,1,1-Trichloroethane	85.55	100.0	AVRG	14.4	30.0	
Toluene	90.34	100.0	AVRG	9.7	20.0	
1,1,2-Trichloroethane	100.4	100.0	AVRG	0.4	30.0	
Trichloroethene	89.69	100.0	AVRG	10.3	30.0	
Vinyl Acetate	88.98	100.0	AVRG	11.0	30.0	
Vinyl Chloride	84.64	100.0	AVRG	15.4	20.0	
Xylene-mp	172.1	200.0	AVRG	14.0	30.0	
Xylene-o	84.77	100.0	AVRG	15.2	30.0	

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Instrument ID: VOC3 Calibration Date: 08/01/03 Time: 1155

Lab File ID: 0201002J Init. Calib. Date(s): 07/31/03 07/31/03

Heated Purge: (Y/N) Y Init. Calib. Times: 1652 2154

GC Column: ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
Dibromofluoromethane	42.29	50.00	AVRG	15.4	30.0
Toluene-d8	46.19	50.00	AVRG	7.6	30.0
Bromofluorobenzene	40.60	50.00	AVRG	18.8	30.0
1,2-Dichloroethane-d4	35.39	50.00	AVRG	29.2	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.: 0307551

Lab File ID (Standard): 0201002J Date Analyzed: 08/01/03

Instrument ID: VOC3 Time Analyzed: 1155

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	942023	6.67	1268045	7.22	1169104	9.31
	UPPER LIMIT	1884046	7.17	2536090	7.72	2338208	9.81
	LOWER LIMIT	471012	6.17	634023	6.72	584552	8.81
	CLIENT SAMPLE NO.						
01	V3080111LB	1022016	6.67	1345595	7.22	1188472	9.32
02	030755101	770092	6.67	1109521	7.22	1007499	9.31
03	030755102	823218	6.68	1116646	7.22	1010781	9.31
04	030755103	821485	6.67	1100965	7.22	993041	9.31
05	030755104	636744	6.67	836335	7.22	754130	9.31
06	030755105	796136	6.67	1087630	7.22	930317	9.31
07	030755107	765810	6.67	1046088	7.22	960224	9.31
08	030755108	754341	6.67	1032201	7.22	919462	9.31
09	030755108MS	807534	6.67	1104524	7.22	1030179	9.31
10	030755108MSD	840090	6.67	1132979	7.22	1005984	9.31
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.: 0307551

Lab File ID (Standard): 0201002J Date Analyzed: 08/01/03

Instrument ID: VOC3 Time Analyzed: 1155

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

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	390345	11.09				
	UPPER LIMIT	780690	11.59				
	LOWER LIMIT	195173	10.59				
	CLIENT SAMPLE NO.						
01	V3080111LB	472599	11.09				
02	030755101	389647	11.09				
03	030755102	384042	11.09				
04	030755103	386669	11.09				
05	030755104	304939	11.10				
06	030755105	387735	11.09				
07	030755107	387464	11.09				
08	030755108	358651	11.09				
09	030755108MS	366240	11.09				
10	030755108MSD	365575	11.09				
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.

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

Sequence ID: V308021 Matrix: H2O HBN: _____ Analyst _____

Date: 8-4-03 Super _____

Applicable ETC Order Nos. for this sequence:
0307-562-1 0307-563-1 0307-565-1
0307-551-1, 6, 9-15, 22

Validated

1. BFB Daily 12-Hour Tune Meets Criteria. No analyses begins until criteria are met. (SOP) ✓
2. Initial Calibration Verification Criteria - Method : V307312.826am
   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 : V308021LCB ✓
   Analyze daily or for each analytical batch (20 samples):
   List compounds identified in Method Blank w/concentration.
   Flag final result "B-Detected in Blank"
   TCLP BLK 729-1 Methylene Chloride BDL

5. Matrix Spike/Matrix Spike Duplicates included in this sequence : A ✓
   Analyze daily or for each matrix (ms/msd per 20 samples of same matrix)
   List MS/MSD(s) performed with any failures :
   0307-551-15MS, MSD
   A 0188-RPD, 51/76-Recoveries outside limits ✓

6. Laboratory Control Samples included in this sequence : ✓
   Must contain all Target Analytes. 0188

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.: 0307551

Lab File ID: 0101001 BFB Injection Date: 08/02/03

Instrument ID: VOC3 BFB Injection Time: 1154

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	21.8
75	30.0 - 60.0% of mass 95	48.5
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	8.2
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	85.3
175	5.0 - 9.0% of mass 174	6.7 (7.8)1
176	95.0 - 101.0% of mass 174	85.8 (100.6)1
177	5.0 - 9.0% of mass 176	5.5 (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	V3080211LCS	11LCS	0201002LCSJ	08/02/03	1215
02	CCV100PPB		0201002J	08/02/03	1215
03	V3080211LB	11LB	0302005J	08/02/03	1438
04	030755122	030755122	0901011	08/02/03	1739
05	030755101	030755101	1001012	08/02/03	1809
06	030755106	030755106	1101013	08/02/03	1839
07	030755109	030755109	1201014	08/02/03	1909
08	030755110	030755110	1301015	08/02/03	1939
09	030755111	030755111	1401016	08/02/03	2009
10	030755112	030755112	1501017	08/02/03	2039
11	030755113	030755113	1601018	08/02/03	2109
12	030755114	030755114	1701019	08/02/03	2139
13	030755115	030755115	1801020	08/02/03	2209
14	030755115MS	MS	1901021J	08/02/03	2239
15	030755115MSD	MSD	2001022J	08/02/03	2309
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.: 0307551

Instrument ID: VOC3 Calibration Date: 08/02/03 Time: 1215

Lab File ID: 0201002J Init. Calib. Date(s): 07/31/03 07/31/03

Heated Purge: (Y/N) Y Init. Calib. Times: 1652 2154

GC Column: ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d	
Acetone	109.5	100.0	AVRG	9.5	30.0	
Benzene	94.82	100.0	AVRG	5.2	30.0	
Bromodichloromethane	88.20	100.0	LINR	11.8	30.0	
Bromoform	79.37	100.0	AVRG	20.6	30.0	
2-Butanone	97.78	100.0	AVRG	2.2	30.0	
Bromomethane	92.85	100.0	AVRG	7.2	30.0	
Carbon Disulfide	64.43	100.0	AVRG	35.6	30.0	<-
Carbon Tetrachloride	82.80	100.0	AVRG	17.2	30.0	
Chlorobenzene	78.35	100.0	AVRG	21.6	30.0	
Chlorodibromomethane	87.71	100.0	AVRG	12.3	30.0	
Chloroethane	93.15	100.0	AVRG	6.8	30.0	
Chloroform	98.70	100.0	LINR	1.3	20.0	
Chloromethane	100.6	100.0	AVRG	0.6	30.0	
1,1-Dichloroethane	87.38	100.0	AVRG	12.6	30.0	
1,2-Dichloroethane	94.95	100.0	AVRG	5.0	30.0	
1,1-Dichloroethene	80.72	100.0	AVRG	19.3	20.0	
cis-1,2-Dichloroethene	92.84	100.0	AVRG	7.2	30.0	
trans-1,2-Dichloroethene	84.00	100.0	AVRG	16.0	30.0	
1,2-Dichloropropane	93.29	100.0	AVRG	6.7	20.0	
cis-1,3-Dichloropropene	100.3	100.0	AVRG	0.3	30.0	
trans-1,3-Dichloropropene	100.5	100.0	AVRG	0.5	30.0	
Ethylbenzene	80.64	100.0	AVRG	19.4	20.0	
2-Hexanone	97.78	100.0	AVRG	2.2	30.0	
Methylene Chloride	90.33	100.0	LINR	9.7	30.0	
4-Methyl-2-Pentanone	88.18	100.0	AVRG	11.8	30.0	
Styrene	84.81	100.0	AVRG	15.2	30.0	
1,1,2,2-Tetrachloroethane	102.0	100.0	AVRG	2.0	30.0	
Tetrachloroethene	79.10	100.0	AVRG	20.9	30.0	
1,1,1-Trichloroethane	89.28	100.0	AVRG	10.7	30.0	
Toluene	86.01	100.0	AVRG	14.0	20.0	
1,1,2-Trichloroethane	97.35	100.0	AVRG	2.6	30.0	
Trichloroethene	88.42	100.0	AVRG	11.6	30.0	
Vinyl Acetate	84.51	100.0	AVRG	15.5	30.0	
Vinyl Chloride	96.60	100.0	AVRG	3.4	20.0	
Xylene-mp	163.0	200.0	AVRG	18.5	30.0	
Xylene-o	81.11	100.0	AVRG	18.9	30.0	

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Instrument ID: VOC3 Calibration Date: 08/02/03 Time: 1215

Lab File ID: 0201002J Init. Calib. Date(s): 07/31/03 07/31/03

Heated Purge: (Y/N) Y Init. Calib. Times: 1652 2154

GC Column: ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
Dibromofluoromethane	43.66	50.00	AVRG	12.7	30.0
Toluene-d8	46.80	50.00	AVRG	6.4	30.0
Bromofluorobenzene	40.71	50.00	AVRG	18.6	30.0
1,2-Dichloroethane-d4	38.14	50.00	AVRG	23.7	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.: 0307551

Lab File ID (Standard): 0201002J Date Analyzed: 08/02/03

Instrument ID: VOC3 Time Analyzed: 1215

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	873004	6.67	1230707	7.22	1150033	9.31
	UPPER LIMIT	1746008	7.17	2461414	7.72	2300066	9.81
	LOWER LIMIT	436502	6.17	615354	6.72	575017	8.81
	CLIENT SAMPLE NO.						
01	V3080211LB	1003724	6.68	1394598	7.22	1196861	9.31
02	030755122	726501	6.68	995192	7.22	974905	9.31
03	030755101	751896	6.68	1047811	7.22	957526	9.31
04	030755106	731494	6.67	1018703	7.22	921264	9.31
05	030755109	761881	6.68	1048521	7.22	981756	9.31
06	030755110	680436	6.68	951867	7.22	897634	9.31
07	030755111	711046	6.67	970791	7.22	939786	9.31
08	030755112	640766	6.67	888173	7.22	850318	9.31
09	030755113	621247	6.67	878157	7.22	858411	9.31
10	030755114	674443	6.67	967341	7.22	905627	9.31
11	030755115	694805	6.67	975325	7.22	938932	9.31
12	030755115MS	685053	6.67	1012794	7.22	928499	9.31
13	030755115MSD	848260	6.67	1208318	7.22	1127478	9.31
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.: 0307551

Lab File ID (Standard): 0201002J Date Analyzed: 08/02/03

Instrument ID: VOC3 Time Analyzed: 1215

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

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	391125	11.09				
	UPPER LIMIT	782250	11.59				
	LOWER LIMIT	195563	10.59				
	CLIENT SAMPLE NO.						
01	V3080211LB	436220	11.10				
02	030755122	378031	11.09				
03	030755101	373055	11.10				
04	030755106	368729	11.09				
05	030755109	378554	11.10				
06	030755110	357805	11.10				
07	030755111	366941	11.09				
08	030755112	330084	11.10				
09	030755113	332276	11.10				
10	030755114	348365	11.09				
11	030755115	350964	11.09				
12	030755115MS	350231	11.09				
13	030755115MSD	391784	11.09				
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.

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

Sequence ID: V308031 Matrix: H_2O HBN: ______ Analyst SS
Date: 8-4-03 Super M
Applicable ETC Order Nos. for this sequence: 0307-527-5,7 0308-020-2
0307-551-16-21

Validated

1. BFB Daily 12-Hour Tune Meets Criteria. No analyses begins until criteria are met. (SOP) ✓
2. Initial Calibration Verification Criteria - Method V307312,8260M ✓
   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 : V3080311LB ✓
   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 : 0307-551-20 MS, MSD
   * 58/88 RPD 84/176 recoveries outside limits
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)

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Lab File ID: 0102002 BFB Injection Date: 08/03/03

Instrument ID: VOC3 BFB Injection Time: 1155

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	19.9
75	30.0 - 60.0% of mass 95	42.5
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.2
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	95.1
175	5.0 - 9.0% of mass 174	7.0 (7.3)1
176	95.0 - 101.0% of mass 174	95.5 (100.4)1
177	5.0 - 9.0% of mass 176	6.1 (6.3)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	V3080311LCS	11LCS	0201003LCSJ	08/03/03	1213
02	CCV100PPB		0201003J	08/03/03	1213
03	V3080311LB	11LB	0302004J	08/03/03	1404
04	030755116	030755116	0601007	08/03/03	1534
05	030755117	030755117	0801009	08/03/03	1635
06	030755118	030755118	1001011	08/03/03	1736
07	030755119	030755119	1201013	08/03/03	1837
08	030755120	030755120	1401015	08/03/03	1937
09	030755121	030755121	1501016	08/03/03	2008
10	030755120MS	MS	1801019J	08/03/03	2139
11	030755120MSD	MSD	1901020J	08/03/03	2209
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.: 0307551

Instrument ID: VOC3 Calibration Date: 08/03/03 Time: 1213

Lab File ID: 0201003J Init. Calib. Date(s): 07/31/03 07/31/03

Heated Purge: (Y/N) Y Init. Calib. Times: 1652 2154

GC Column: ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
Acetone	110.5	100.0	AVRG	10.5	30.0
Benzene	95.86	100.0	AVRG	4.1	30.0
Bromodichloromethane	83.18	100.0	LINR	16.8	30.0
Bromoform	81.38	100.0	AVRG	18.6	30.0
2-Butanone	97.48	100.0	AVRG	2.5	30.0
Bromomethane	76.22	100.0	AVRG	23.8	30.0
Carbon Disulfide	87.48	100.0	AVRG	12.5	30.0
Carbon Tetrachloride	84.54	100.0	AVRG	15.5	30.0
Chlorobenzene	81.92	100.0	AVRG	18.1	30.0
Chlorodibromomethane	82.55	100.0	AVRG	17.4	30.0
Chloroethane	81.48	100.0	AVRG	18.5	30.0
Chloroform	93.04	100.0	LINR	7.0	20.0
Chloromethane	82.20	100.0	AVRG	17.8	30.0
1,1-Dichloroethane	90.25	100.0	AVRG	9.8	30.0
1,2-Dichloroethane	87.47	100.0	AVRG	12.5	30.0
1,1-Dichloroethene	90.30	100.0	AVRG	9.7	20.0
cis-1,2-Dichloroethene	95.96	100.0	AVRG	4.0	30.0
trans-1,2-Dichloroethene	96.57	100.0	AVRG	3.4	30.0
1,2-Dichloropropane	87.16	100.0	AVRG	12.8	20.0
cis-1,3-Dichloropropene	94.03	100.0	AVRG	6.0	30.0
trans-1,3-Dichloropropene	93.22	100.0	AVRG	6.8	30.0
Ethylbenzene	81.62	100.0	AVRG	18.4	20.0
2-Hexanone	99.66	100.0	AVRG	0.3	30.0
Methylene Chloride	91.15	100.0	LINR	8.8	30.0
4-Methyl-2-Pentanone	84.93	100.0	AVRG	15.1	30.0
Styrene	85.61	100.0	AVRG	14.4	30.0
1,1,2,2-Tetrachloroethane	97.96	100.0	AVRG	2.0	30.0
Tetrachloroethene	82.02	100.0	AVRG	18.0	30.0
1,1,1-Trichloroethane	85.03	100.0	AVRG	15.0	30.0
Toluene	85.97	100.0	AVRG	14.0	20.0
1,1,2-Trichloroethane	92.42	100.0	AVRG	7.6	30.0
Trichloroethene	90.55	100.0	AVRG	9.4	30.0
Vinyl Acetate	90.77	100.0	AVRG	9.2	30.0
Vinyl Chloride	81.08	100.0	AVRG	18.9	20.0
Xylene-mp	167.3	200.0	AVRG	16.4	30.0
Xylene-o	84.30	100.0	AVRG	15.7	30.0

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 0307551

Instrument ID: VOC3 Calibration Date: 08/03/03 Time: 1213

Lab File ID: 0201003J Init. Calib. Date(s): 07/31/03 07/31/03

Heated Purge: (Y/N) Y Init. Calib. Times: 1652 2154

GC Column: ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
Dibromofluoromethane	42.35	50.00	AVRG	15.3	30.0
Toluene-d8	45.65	50.00	AVRG	8.7	30.0
Bromofluorobenzene	41.06	50.00	AVRG	17.9	30.0
1,2-Dichloroethane-d4	38.02	50.00	AVRG	24.0	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.: 0307551

Lab File ID (Standard): 0201003J Date Analyzed: 08/03/03

Instrument ID: VOC3 Time Analyzed: 1213

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	1098777	6.67	1555823	7.21	1411816	9.30
	UPPER LIMIT	2197554	7.17	3111646	7.71	2823632	9.80
	LOWER LIMIT	549389	6.17	777912	6.71	705908	8.80
	CLIENT SAMPLE NO.						
01	V3080311LB	865131	6.67	1182727	7.22	1139608	9.31
02	030755116	688113	6.67	964012	7.22	876022	9.31
03	030755117	790843	6.68	1117857	7.22	1013132	9.31
04	030755118	706968	6.68	1001618	7.22	939361	9.31
05	030755119	758940	6.67	1093247	7.22	989192	9.31
06	030755120	701286	6.67	1010004	7.22	900992	9.31
07	030755121	670332	6.67	933911	7.22	891203	9.31
08	030755120MS	783932	6.67	1122625	7.22	1100591	9.31
09	030755120MSD	716120	6.67	1038049	7.22	970955	9.31
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.: 0307551

Lab File ID (Standard): 0201003J Date Analyzed: 08/03/03

Instrument ID: VOC3 Time Analyzed: 1213

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

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	487380	11.09				
	UPPER LIMIT	974760	11.59				
	LOWER LIMIT	243690	10.59				
	CLIENT SAMPLE NO.						
01	V3080311LB	429230	11.09				
02	030755116	337323	11.09				
03	030755117	414306	11.10				
04	030755118	365118	11.10				
05	030755119	375125	11.09				
06	030755120	344106	11.09				
07	030755121	351890	11.09				
08	030755120MS	377695	11.09				
09	030755120MSD	330008	11.09				
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 : 04-Aug-2003 14:27

Lisa Savage 8-4-03 11/8/9/03 RW 8/5/03

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 31-JUL-2003 16:52 SRN: 02-7-23-1
End Cal Date : 31-JUL-2003 21:54 02-7-23-10
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc3.i\V308011.B\v307312.8260.m
Cal Date : 04-Aug-2003 13:22 Lisa

Calibration File Names:
Level 1: \\ETCBDC\DD\chem\voc3.i\V307312.B\0301005.D
Level 2: \\ETCBDC\DD\chem\voc3.i\V307312.B\0401006.D
Level 3: \\ETCBDC\DD\chem\voc3.i\V307312.B\0601008.D
Level 4: \\ETCBDC\DD\chem\voc3.i\V307312.B\0701009.D
Level 5: \\ETCBDC\DD\chem\voc3.i\V307312.B\0801010.D
Level 6: \\ETCBDC\DD\chem\voc3.i\V307312.B\0901011.D
Level 7: \\ETCBDC\DD\chem\voc3.i\V307312.B\1001012.D
Level 8: \\ETCBDC\DD\chem\voc3.i\V307312.B\1101013.D
Level 9: \\ETCBDC\DD\chem\voc3.i\V307312.B\1201014.D
Level 10: \\ETCBDC\DD\chem\voc3.i\V307312.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	0.92326	0.78885	1.03936	0.90383	0.93868	0.90464					
	0.99542	0.85976	0.98234	0.90434			AVRG		0.92405		7.70229

743 138

0091111

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 31-JUL-2003 16:52
End Cal Date : 31-JUL-2003 21:54
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc3.i\V308011.B\v307312.8260.m
Cal Date : 04-Aug-2003 13:22 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	1.02318	1.05830	1.16079	0.96739	1.00629	0.94761					
	1.04319	0.87926	0.99246	0.91162			AVRG		0.99901		8.03143
3 Vinyl Chloride	0.62520	0.67950	0.79749	0.68298	0.65910	0.61782					
	0.66138	0.56520	0.63109	0.57600			AVRG		0.64958		10.08171
4 Bromomethane	0.54500	0.55780	0.49034	0.42391	0.44254	0.45481					
	0.50081	0.44376	0.50434	0.47224			AVRG		0.48355		9.20757
5 Chloroethane	0.35652	0.37909	0.37839	0.32336	0.32362	0.31806					
	0.34381	0.29459	0.33708	0.31233			AVRG		0.33669		8.30835
6 Acrolein	*****	*****	*****	0.01658	0.01912	0.01892					
	0.01993	0.01820	0.01670	0.02051			AVRG		0.01857		8.11397

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 31-JUL-2003 16:52
End Cal Date : 31-JUL-2003 21:54
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc3.i\V308011.B\v307312.8260.m
Cal Date : 04-Aug-2003 13:22 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	0.93722	0.89288	1.06774	0.93914	0.91082	0.88337					
	0.95124	0.79708	0.88850	0.78972			AVRG		0.90577		8.76139
8 Acetonitrile	1135	10717	38388	130487	298038	674341					
	758913	1057142	1210810	1677454			LINR	0.19996	0.04662		0.99681
9 Acetone	*****	*****	*****	0.19325	0.16410	0.18152					
	0.17462	0.16183	0.15405	0.16725			AVRG		0.17095		7.74515
10 Furan	*****	1.05670	1.09052	0.99464	0.94469	0.95643					
	1.01708	0.86496	0.90294	0.82148			AVRG		0.96105		9.20141
11 1,1-Dichloroethene	0.43902	0.44422	0.47136	0.42248	0.40647	0.40939					
	0.45653	0.39076	0.43039	0.39845			AVRG		0.42691		6.13439

743 140

99113

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 31-JUL-2003 16:52
End Cal Date : 31-JUL-2003 21:54
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc3.i\V308011.B\v307312.8260.m
Cal Date : 04-Aug-2003 13:22 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 10200	0 09636	0 10359					
	0 10922	0 10099	0 09577	0 11559			AVRG		0 10336		6.82046
13 Iodomethane	*****	*****	0 87956	0 92302	0 91227	0 91555					
	0 99533	0 85751	0 95463	0 86329			AVRG		0 91265		5 12046
14 Methylene Chloride	15141	18839	44815	126652	278732	574681					
	671809	858756	1063256	1274357			LINR	-0 07143	0.37317		0 99408
15 1,1,2-trichloro-1,2,2-trifluo	0 43542	0 50445	0 50876	0 42533	0 43293	0.43304					
	0 46637	0 39689	0 44179	0 40359			AVRG		0 44486		8 49861
16 Allyl chloride	*****	1 06728	0.89461	0 88264	0 83195	0 83582					
	0 90199	0 75589	0 80956	0 75352			AVRG		0 85925		11 08110

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 31-JUL-2003 16:52
End Cal Date : 31-JUL-2003 21:54
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc3.i\V308011.B\v307312.8260.m
Cal Date : 04-Aug-2003 13:22 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 51231	1 55744	1 72680	1 46989	1 42953	1 49872					
	1 62403	1 41585	1 54781	1 41696			AVRG		1 51993		6.52189
18 trans-1,2-Dichloroethene	0 49978	0.51695	0 59368	0.52475	0 50484	0 51426					
	0 56467	0 48752	0.51621	0 47259			AVRG		0 51952		6.86321
19 Methyl-tertbutyl-Ether	0 83657	0 80105	1 11090	0 99437	0 90490	0 96547					
	1 04798	0 91026	0 96222	0 97253			AVRG		0 95063		9 73096
20 Propionitrile	0 03865	0 04726	0 05830	0.04715	0 04397	0 04970					
	0 05428	0 04929	0 05143	0 05630			AVRG		0 04963		11 80711
21 1,1-Dichloroethane	0 92916	0.96935	1 11624	0 99938	0 91210	0 92607					
	0 99638	0 86388	0 91918	0.85354			AVRG		0 94853		8 06671

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 31-JUL-2003 16:52
End Cal Date : 31-JUL-2003 21:54
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc3.i\V308011.B\v307312.8260.m
Cal Date : 04-Aug-2003 13:22 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	*****	*****	0.86246	0.72815	0 65846	0 69878					
	0 72108	0.64261	0 68589	0 69111			AVRG		0 71107		9 50103
23 Chloroprene	0 89417	0 98694	1.07471	0 96400	0 91265	0 89571					
	0 97339	0 81742	0 86746	0 77592			AVRG		0 91624		9 51572
24 2-Butanone	*****	*****	0 04208	0 05262	0.04618	0 04712					
	0 05433	0 04553	0 05230	0 05805			AVRG		0 04978		10 76186
25 Hexane	*****	*****	83605	263436	630397	1260996					
	1445814	*****	*****	*****			LINR	-0.02473	0 74910		0 99735
26 Di isopropyl ether	1 86480	1.99362	2 35325	2 05959	1 87550	1 83630					
	1 96244	1 65313	1 71221	1 58580			AVRG		1.88967		11.74508

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 31-JUL-2003 16:52
End Cal Date : 31-JUL-2003 21:54
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc3.i\V308011.B\v307312.8260.m
Cal Date : 04-Aug-2003 13:22 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 30622	0 32144	0 38548	0.30983	0 27867	0 29794					
	0 30736	0 26979	0 27584	0 27864			AVRG		0 30312		11 14397
28 cis-1,2-Dichloroethene	0 54586	0 57374	0 68405	0.55171	0 52191	0 53362					
	0 56613	0.48938	0 53196	0 49302			AVRG		0 54914		9 99482
29 Ethyl Acetate	*****	*****	0.48893	0.39412	0 41104	0 47211					
	0 47786	0 45759	0 47815	0.52352			AVRG		0 46292		9 07107
30 Bromochloromethane	0 25846	0 27563	0 32203	0 28076	0 29031	0 27936					
	0 30158	0 25962	0 27873	0 26335			AVRG		0 28098		7 02495
31 Chloroform	*****	23825	86706	294194	690272	1374817					
	1599805	2008049	2423522	*****			LINR	-0 05451	0 89292		0 99128

Average = 17.8

743 144

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 31-JUL-2003 16:52
End Cal Date : 31-JUL-2003 21:54
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc3.i\V308011.B\v307312.8260.m
Cal Date : 04-Aug-2003 13:22 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 02500	0 02165	0 01936	0 02089					
	0 02231	0 02034	0 02030	0 02182			AVRG		0 02146		8 03174
33 2,2-Dichloropropane	0 81829	0 92799	0 91020	0.79434	0.74041	0 74303					
	0 80217	0 68771	0 72567	0 65744			AVRG		0 78073		11 33113
35 Tetrahydrofuran	*****	*****	0 20199	0 21346	0 19750	0 21461					
	0 22997	0.21687	0 22981	0 25135			AVRG		0.21944		7 87069
38 1,2-Dichloroethane	0 72066	0 73500	0.80580	0 73573	0 69080	0 72164					
	0 75075	0 64382	0 67480	0 64364			AVRG		0 71226		7 05337
39 1 1 1-Trichloroethane	0 86033	0 94996	1 07994	0 96053	0 94891	0 92226					
	0 99587	0 84376	0 91807	0 82896			AVRG		0 93086		8 10309

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 31-JUL-2003 16:52
End Cal Date : 31-JUL-2003 21:54
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\voc3.i\V308011.B\v307312.8260.m
Cal Date : 04-Aug-2003 13:22 Lisa

Compound	0 5000000 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	Coefficients m1	Coefficients m2	%RSD or R^2
40 1,1-Dichloropropene	0 51692	0 71468	0 83602	0 73934	0 73854	0 74347					
	0 78803	0 68560	0 72586	0 66540			AVRG		0 71539		11 84395
41 Carbon Tetrachloride	0 82477	0 82683	0 99223	0 88748	0 86966	0 87560					
	0 94158	0 79670	0.87864	0 80122			AVRG		0 86947		7 11963
42 Benzene	1 88020	1.87135	2 13063	1 79044	1 71985	1 70839					
	1 81210	1 56160	1.70116	1 54988			AVRG		1 77256		9 54306
44 Dibromomethane	0 25299	0 35186	0 35008	0 30974	0 28432	0 28751					
	0 30587	0 26213	0 26337	0 24999			AVRG		0 29179		12 79299
45 1 2-Dichloropropane	0 48935	0 45312	0 47212	0 39444	0 39961	0.39726					
	0 42033	0.35412	0 36843	0 33462			AVRG		0 40834		12 41753

Coefficients m1	m2	%RSD or R^2
0.41806		11 18520
0.57391		0 99778
1 07366		9 65742
0 18768		9 12305
0.00233		5 63587

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

: 31-JUL-2003 16:52
: 31-JUL-2003 21:54
: ISTD
: 4.00
: HP RTE
: \\ETCBDC\DD\chem\voc3.i\V308011.B\v307312.8260.m
: 04-Aug-2003 13:22 Lisa

	0 5000000 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	Coefficients m1	Coefficients m2	%RSD or R^2
ether	*****	*****	3126	15119	53136	142166					
	168888	246856	286688	413459			LINR	0 22842	0 08604		0 99138
ne	0 60221	0 56720	0 74322	0 64060	0 62171	0 64576					
	0 67214	0 57587	0 59483	0.55218			AVRG		0 62157		9 17231
	*****	*****	0 54393	0 45149	0 44297	0 48706					
	0 48519	0 43557	0.42870	0 45142			AVRG		0 46579		8 17700
ppene	0 50454	0 45240	0 60081	0 55255	0 53320	0 55156					
	0 57752	0 48481	0 50381	0 47718			AVRG		0 52384		9 01378
e	0 24989	0 31874	0.32293	0 29401	0 28028	0 28010					
	0 29676	0 25305	0 25834	0 24750			AVRG		0 28016		9 93981

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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	0.22932	0.23126	0.23576	0.20714	0.19657	0.21044					
	0.21399	0.19094	0.19343	0.19121			AVRG		0.21001		8.22376
58 Toluene	0.94400	1.00315	1.01564	0.83648	0.83160	0.81336					
	0.85068	0.73693	0.76716	0.69876			AVRG		0.84978		12.65674
59 1,3-Dichloropropane	0.44445	0.51567	0.61409	0.54807	0.50814	0.50768					
	0.52837	0.45335	0.46517	0.44698			AVRG		0.50320		10.61675
60 2-Hexanone	*****	*****	0.40095	0.33123	0.32077	0.35085					
	0.34421	0.32537	0.30262	0.33614			AVRG		0.33902		8.57481
61 Chlorodibromomethane	*****	0.66629	0.60527	0.54553	0.53802	0.52705					
	0.55066	0.47106	0.47917	0.45734			AVRG		0.53782		12.43264

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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							
62 1,2-Dibromoethane	0 39046	0 39348	0 50750	0 41266	0 40756	0.44067					
	0 45323	0 39552	0 39872	0 38958			AVRG		0 41894		9 05050
63 Tetrachloroethene	0 49667	0 47254	0 50757	0 41713	0 40323	0.39207					
	0 40775	0 34243	0 36343	*****			AVRG		0 42253		13 66890
64 1,1,1,2-Tetrachloroethane	0 44479	0 51211	0 55101	0 48885	0 47063	0 49733					
	0 54589	0 44651	0 48559	0 43841			AVRG		0 48811		8 17924
66 Chlorobenzene	1 20619	1 23171	1 28085	1 01621	0 99125	1 05054					
	1 16185	0 96041	1 05214	0 95761			AVRG		1 09088		10 91804
67 Ethylbenzene	2 13974	2 08341	2 13061	1.71526	1 70796	1 76185					
	1 91378	1 56880	1 71502	1 56325			AVRG		1 82997		12 12169

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Compound	0 5000000 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	m2	%RSD or R^2
68 Xylene-mp	0 74070	0 76935	0 75454	0.62201	0 60504	0 59238					
	0 65106	0 53516	0 59101	0 53341			AVRG		0 63947		13 66041
69 Bromoform	*****	0 46637	0 43562	0 41827	0 40151	0 43641					
	0 47806	0 40028	0 42042	0 40421			AVRG		0 42902		6 53341
70 trans-1,4-Dichloro-2-butene	*****	0 08260	0 12762	0 12557	0 12397	0 13432					
	0 14273	0 12481	0 13090	0 12833			AVRG		0 12454		13.47029
71 Styrene	0 98354	1 04161	1 18608	0 95218	0 94717	0 97013					
	1 08147	0 88830	0.97968	0 88342			AVRG		0 99136		9 20643
72 Xylene o	*****	0 70709	0 77526	0 60918	0 57327	0 56783					
	0 62963	0 51755	0 55788	0 50267			AVRG		0 60448		14 65248

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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	1.06204	1.07746	1.14647	0.91875	0.84382	0.93107					
	0.98305	0.85752	0.89929	0.88218			AVRG		0.96016		10.74466
74 cis-1,4-Dichloro-2-butene	*****	0.11332	0.14251	0.12242	0.11339	0.12365					
	0.13705	0.11278	0.11837	0.12084			AVRG		0.12270		8.61744
75 1,2,3-Trichloropropane	*****	0.13766	0.15155	0.12592	0.11139	0.11751					
	0.12598	0.10518	0.10891	0.10841			AVRG		0.12139		12.75596
76 Isopropylbenzene	1.82249	1.99944	2.01289	1.71276	1.68089	1.62279					
	1.78922	1.45116	1.59219	1.41371			AVRG		1.70975		11.88407
78 Bromobenzene	0.50619	0.54709	0.55728	0.48296	0.47577	0.48137					
	0.54099	0.45221	0.48458	0.43870			AVRG		0.49671		8.11213

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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 21714	2 31643	1 97478	1 90320	1 84094					
	2 05597	1 65738	1 79325	1 60850			AVRG		1 92973		12 35423
80 2-Chlororoluene	*****	1 45260	1 40856	1 11508	1 12513	1 11761					
	1 20581	1 00912	1 10825	1 00844			AVRG		1 17229		13 54091
81 4-Chlorotoluene	*****	1 47951	1 57022	1 27654	1 18832	1 16586					
	1 31309	1 08594	1 17072	1 04717			AVRG		1 25526		13 93778
82 1,3,5-Trimethylbenzene	12740	26713	134219	454900	1099633	2063390					
	2289582	3034402	3581383	*****			LINR	-0 03969	1 14225		0.99032
83 1,2,4-Trimethylbenzene	13172	27934	133703	461600	1127930	2117883					
	2334136	*****	*****	*****			LINR	-0 00509	1 27206		0 99722

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	120 0000 Level 7	150 0000 Level 8	170 0000 Level 9	200 0000 Level 10							
85 tert-Butylbenzene	1 31169	1.32226	1 30533	1 14063	1 10741	1 07010					
	1 16894	0 95669	1 04765	0 93432			AVRG		1 13650		12 48245
86 sec-Butylbenzene	2 11270	2 17033	2 12647	1 85385	1 74175	1 68256					
	1 86357	1 49448	1 64408	1 45165			AVRG		1 81414		14 26380
87 4-Isopropyltoluene	13353	25041	124422	437441	1066966	1950471					
	2184419	*****	*****	*****			LINR	-0 00709	1 18465		0 99613
89 1,3-Dichlorobenzene	1 91842	1 96580	1 96327	1 67008	1 59270	1 57337					
	1.76690	1.51710	1 63645	1 46939			AVRG		1 70735		10 88277
90 1,4-Dichlorobenzene	2 06629	1 97209	1 97748	1 52228	1.54513	1 56524					
	1 69858	1 46487	1 61790	1 44498			AVRG		1 68748		13 74845

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Compound	0 5000000 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	Coefficients m1	Coefficients m2	%RSD or R^2
91 1,2-Dichlorobenzene	1 62323	1 69163	1.80692	1 46586	1 46873	1 47183					
	1 61537	1 38339	1 51329	1 37439			AVRG		1 54147		9 03888
92 n-Butylbenzene	3 26743	3 03223	3 20732	2 92773	2 92273	2.90846					
	3 10889	2 57942	2 88128	2 54970			AVRG		2 93852		8 04454
93 1 2-Dibromo-3-chloropropane	*****	*****	0 15534	0 15081	0 14650	0 17468					
	0 18274	0 16349	0 17468	0 18453			AVRG		0 16660		8 79382
94 .,2,4-Trichlorobenzene	1 23315	1 17438	1 21263	1 14315	1 16298	1 24830					
	1 31183	1 15627	1 28990	*****			AVRG		1 21473		4 99015
95 Naphthalene	*****	*****	1 99457	1 76829	1 67266	1 77040					
	1 97680	1.74414	1 90033	1 81565			AVRG		1 83036		6 30670

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	120 0000 Level 7	150 0000 Level 8	170 0000 Level 9	200 0000 Level 10							
96 Hexachlorobutadiene	967	4293	27514	109658	271367	525640					
	590282	777849	954031	+++++			LINR	0 02091	0 80006		0 99196
97 1,2,3-Trichlorobenzene	+++++	1 11626	1 05599	0 99395	1.00697	1 06669					
	1 16563	1.01729	1 14766	1 04761			AVRG		1.06867		5 78189
$ 34 Dibromofluoromethane	+++++	+++++	+++++	0 61485	0 65093	0.68758					
	0 70936	0 66718	+++++	+++++			AVRG		0 66598		5 40879
$ 37 1,2-Dichloroethane-d4	0 82529	0 65806	0 68343	0 61497	0 59286	0 66410					
	0 75364	0 59868	0 67315	0 64732			AVRG		0 67115		10 65713
$ 56 Toluene-d8	+++++	+++++	1.36782	1 26256	1 27246	1 24874					
	1 39188	1 15256	1 15270	1 09798			AVRG		1 24334		8 40196

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	120.0000 Level 7	150.0000 Level 8	170.0000 Level 9	200.0000 Level 10							
$ 77 Bromofluorobenzene	*****	*****	0.56133	0.50296	0.48534	0.48514					
	0.59438	0.46948	0.47521	0.46474			AVRG		0.50482		9.38645

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

FINAL PAGE

ADMINISTRATIVE RECORD

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