ASH-01-003

00534

GROUNDWATER MONITORING
VALIDATED ANALYTICAL RESULTS FOR THE FIRST QUARTER 1995
ASH LANDFILL, SENECA ARMY DEPOT

PREPARED FOR:
U.S. Army Corps of Engineers
Huntsville, Alabama

PREPARED BY:

Parsons Engineering Science, Inc.
Boston, Massachusetts

April 1995
D#12

PARSONS ENGINEERING SCIENCE, INC.

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April 4, 1995
725980-01004

Mr. Randall Battaglia
ATTN: SDSSE-HE
Seneca Army Depot Activity
Romulus, New York, 14541-5001

SUBJECT: **First Quarter Groundwater Monitoring for 1995**
Ash Landfill, Seneca Army Depot Activity, Romulus, New York

Dear Mr. Battaglia:

Enclosed are the analytical results for the first quarter of 1995 for groundwater monitoring of selected monitoring wells at the Ash Landfill at the Seneca Army Depot Activity (SEDA). The analytical results are divided into two major groups: volatile organics and QA/QC data (Sections 1 and 2 in the attached document). This is the fourth and last quarter of groundwater monitoring that will be performed under the existing Scope of Work (SOW) issued as Annex AC, Delivery Order 0029, to the current Parsons Engineering Science, Inc. (Parsons ES) Contract DACA87-92-D-0022.

This quarter's program incorporates the modifications to the groundwater monitoring program, approved by the New York State Department of Environmental Conservation (NYSDEC) on December 6, 1993. The proposed changes were based on the dimensions of the existing groundwater plume and were intended to monitor the migration, if any, of the plume. Under this plan, selected wells were sampled and analyzed for Volatile Organic Compounds (VOC) using NYSDEC Contract Laboratory Procedures (CLP). The off-site farmhouse wells were sampled and analyzed for VOCs following the methods described in EPA's Method 524.2. Several on-site monitoring wells were also analyzed using headspace techniques. NSYDEC CLP and EPA Method 524.2 analyses were performed by Inchcape Laboratories Inc. and headspace analyses were performed by Parsons ES personnel.

Chemical analysis data of the groundwater from wells on-site indicate no VOCs were detected in the samples, except that trichloroethene was detected at 1 ug/L in MW-30 using the headspace analysis technique. Groundwater from this well was split and analyzed using EPA Method 524.2. The laboratory analysis detected trichloroethene at 0.6ug/L. Previous analyses of groundwater from MW-30 detected trichloroethene at concentrations of 0.8, 15 and 3 ug/L using the headspace analysis technique during the second, third and fourth quarters of 1994, respectively. A split sample from MW-30 was analyzed using EPA Method 524.2during the fourth quarter of 1994 and trichloroethene was determined to be present at 2 ug/L.

Using EPA Method 524.2 analyses, no VOCs were detected in the drinking water samples from the three farmhouse wells.

Please call me at (617) 859-2492 if you have any questions.

Sincerely,

PARSONS ENGINEERING SCIENCE, INC.

Michael Duchesneau, P.E.
Project Manager

MD/cmf/D#12

Enclosure

cc: Ms. L. Percifield, MRD-Lab, 1 copy
Ms. D. Richards, USACE, 2 copies
Mr. A. Struzeki, DESCOM, 1 copy

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1.1 Summary of Validated and Headspace Volatile Analysis Results

ASH LANDFILL FIRST QUARTER 1995 GROUNDWATER MONITORING
SUMMARY OF VALIDATED VOLATILE ANALYSIS RESULTS (TCL AND 524.2)

	COMPOUND									
RING L	1,2-DCE (ug/l)	1,1-DCE (ug/l)	TCE (ug/l)	Vinyl Chloride (ug/l)	Chloroform (ug/l)	1,2-DCA (ug/l)	Methylene Chloride (ug/l)	Styrene (ug/l)	Benzene (ug/l)	TOTA (
	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	
	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	
40 DUP)	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	
	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	
	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	
	0.5 U	0.5 U	0.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
S DUP)	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	

1,2-DCE = 1,2-Dichloroethene (total)
TCE = Trichloroethene
1,2-DCA = 1,2-Dichloroethane
1,1-DCE = 1,1-Dichloroethene

U = Not detected above the concentration shown
ND = Not Detected
ug/l = micrograms per liter

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ASH LANDFILL FIRST QUARTER 1995 GROUNDWATER MONITORING
SUMMARY OF GROUNDWATER HEADSPACE VOLATILE ANALYSIS RESULTS

	COMPOUND				
MONITORING WELL	Vinyl chloride ug/l	1,1-DCE ug/l	Trans-1,2-DCE ug/l	TCE ug/l	TOTAL VOCs ug/l
PT-11	100U	1U	1U	1U	ND
PT-19	100U	1U	1U	1U	ND
PT-27	100U	1U	1U	1U	ND
MW-30	100U	1U	1U	1	1
MW-45	100U	1U	1U	1U	ND
MW-48	100U	1U	1U	1U	ND
MW-59	100U	1U	1U	1U	ND
MW-60	100U	1U	1U	1U	ND

NOTES:

Analysis performed on PHOTOVAC 10S50 GC
1,1-DCE = 1,1-Dichloroethene
Trans-1,2-DCE = Trans-1,2-dichloroethene
TCE = Trichloroethene
U = Not detected above concentration shown
ND = Not detected
ug/l = microgram per liter

1.2 Validated Volatile Analysis Results (TCL and 524.2)

ASH LANDFILL FIRST QUARTER 1995 GROUNDWATER MONITORING
VALIDATED VOLATILE ANALYSIS RESULTS (TCL)

	MATRIX	WATER	WATER	WATER	WATER	WATER	
	LOCATION	ASH	ASH	ASH	ASH	ASH	
	SAMPLE DATE	3/16/95	3/17/95	3/17/95	3/16/95	3/16/95	
	ES ID	MW-36	MW-40	MW-63	MW-47	MW-56	
	LAB ID	251176	251178	251182	251180	251181	
OMPOUND	UNITS			MW-40 DUP			
GANICS							
e	ug/L	10 U	10 U	10 U	10 U	10 U	10
e	ug/L	10 U	10 U	10 U	10 U	10 U	10
	ug/L	10 U	10 U	10 U	10 U	10 U	10
	ug/L	10 U	10 U	10 U	10 U	10 U	10
oride	ug/L	10 U	10 U	10 U	10 U	10 U	10
	ug/L	10 U	10 U	10 U	10 U	10 U	10
le	ug/L	10 U	10 U	10 U	10 U	10 U	10
ene	ug/L	10 U	10 U	10 U	10 U	10 U	10
ane	ug/L	10 U	10 U	10 U	10 U	10 U	10
ene (total)	ug/L	10 U	10 U	10 U	10 U	10 U	10
	ug/L	10 U	10 U	10 U	10 U	10 U	10
ane	ug/L	10 U	10 U	10 U	10 U	10 U	10
	ug/L	10 U	10 U	10 U	10 U	10 U	10
ethane	ug/L	10 U	10 U	10 U	10 U	10 U	10
hloride	ug/L	10 U	10 U	10 U	10 U	10 U	10
methane	ug/L	10 U	10 U	10 U	10 U	10 U	10
pane	ug/L	10 U	10 U	10 U	10 U	10 U	10
opropene	ug/L	10 U	10 U	10 U	10 U	10 U	10
e	ug/L	10 U	10 U	10 U	10 U	10 U	10
methane	ug/L	10 U	10 U	10 U	10 U	10 U	10
ethane	ug/L	10 U	10 U	10 U	10 U	10 U	10
	ug/L	10 U	10 U	10 U	10 U	10 U	10
oropropene	ug/L	10 U	10 U	10 U	10 U	10 U	10
	ug/L	10 U	10 U	10 U	10 U	10 U	10
tanone	ug/L	10 U	10 U	10 U	10 U	10 U	10
	ug/L	10 U	10 U	10 U	10 U	10 U	10
ene	ug/L	10 U	10 U	10 U	10 U	10 U	10
loroethane	ug/L	10 U	10 U	10 U	10 U	10 U	10
	ug/L	10 U	10 U	10 U	10 U	10 U	10
e	ug/L	10 U	10 U	10 U	10 U	10 U	10
	ug/L	10 U	10 U	10 U	10 U	10 U	10
	ug/L	10 U	10 U	10 U	10 U	10 U	10
	ug/L	10 U	10 U	10 U	10 U	10 U	10

ograms/liter
ected above the concentration shown

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ASH LANDFILL FIRST QUARTER 1995 GROUNDWATER MONITORING
VALIDATED VOLATILE 524.2 ANALYSIS RESULTS

	MATRIX	WATER	WATER	WATER	WATER	WATER	WATER
	LOCATION	ASH	ASH	ASH	ASH	ASH	ASH
	SAMPLE DATE	3/16/95	3/16/95	3/16/95	3/16/95	3/17/95	3/16/95
	ES ID	BN-S	MW-64	FH-D	FH-S	MW-30	BN-S-R
	LAB ID	251172	251183	251173	251174	251175	251171
POUND	UNITS		BN-S DUP				RINSATE
ANICS							
ethane	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
thane	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
e	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
ethene	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
de	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
er	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
e	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
hene	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
ne	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
ane	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
ane	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
ne	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
ride	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
e	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.6	0.5 U
ne	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
thane	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
hone	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
opene	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
propene	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
ane	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
ne	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
e	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
thane	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
ne	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
roethane	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
.	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
roethane	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

ASH LANDFILL FIRST QUARTER 1995 GROUNDWATER MONITORING
VALIDATED VOLATILE 524.2 ANALYSIS RESULTS

	MATRIX	WATER	WATER	WATER	WATER	WATER	WATER
	LOCATION	ASH	ASH	ASH	ASH	ASH	ASH
	SAMPLE DATE	3/16/95	3/16/95	3/16/95	3/16/95	3/17/95	3/16/95
	ES ID	BN-S	MW-64	FH-D	FH-S	MW-30	BN-S-R
	LAB ID	251172	251183	251173	251174	251175	251171
IPOUND	UNITS		BN-S DUP				RINSATE
opane	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
nzene	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
nzene	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
e	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
e	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
ene	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
ene	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
ene	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
loropropane	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
nzene	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
ene	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
nzene	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

rams/liter
ed above the concentration shown

Section 2.0
QA/QC Data

2.1 Surrogate Spike Recoveries

2.2 Matrix Spike/Matrix Spike Duplicates

2.3 Method Blanks

2.1 Surrogate Spike Recoveries

2A
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: AQUATEC, INC. Contract: 93206

Lab Code: AQUAI Case No.: 93206 SAS No.: SDG No.: 49994

	EPA SAMPLE NO.	SMC1 (TOL) #	SMC2 (BFB) #	SMC3 (DCE) #	OTHER	TOT OUT
01	VBLKP4	97	103	96		0
02	MW36	97	106	99		0
03	MW40R	97	105	99		0
04	MW40	98	105	98		0
05	MW47	101	108	102		0
06	MW56	98	107	100		0
07	MW63	98	107	99		0
08	MW40MS	97	105	98		0
09	MW40MSD	96	106	97		0
10	MSB	97	104	96		0
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

	QC LIMITS
SMC1 (TOL) = Toluene-d8	(88-110)
SMC2 (BFB) = Bromofluorobenzene	(86-115)
SMC3 (DCE) = 1,2-Dichloroethane-d4	(76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: AQUATEC, INC. Contract: 93206

Lab Code: AQUAI Case No.: 93206 SAS No.: SDG No.: 49994

	EPA SAMPLE NO.	SMC1 (DCE)#	SMC2 (BFB)#	SMC3 (DCB)#	OTHER	TOT OUT
01	MCVFLFB1	92	94	89		0
02	VBLKP9	106	98	101		0
03	BNSR	91	95	92		0
04	BNS	106	99	104		0
05	FHD	107	98	104		0
06	FHS	110	96	102		0
07	MW30	110	97	102		0
08	MW64	113	99	105		0
09	TB316	109	96	100		0
10	TB317	109	97	101		0
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

	QC LIMITS
SMC1 (DCE) = 1,2-Dichloroethane-d4	(83-143)
SMC2 (BFB) = Bromofluorobenzene	(86-115)
SMC3 (DCB) = 1,2-Dichlorobenzene-d4	(80-120)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

2.2 Matrix Spike/Matrix Spike Duplicates

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: AQUATEC, INC. Contract: 93206

Lab Code: AQUAI Case No.: 93206 SAS No.: SDG No.: 49994

Matrix Spike - EPA Sample No.: MW40

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	50	0	36	72	61-145
Trichloroethene	50	0	49	98	71-120
Benzene	50	0	50	100	76-127
Toluene	50	0	49	98	76-125
Chlorobenzene	50	0	52	104	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50	37	74	3	14	61-145
Trichloroethene	50	49	98	0	14	71-120
Benzene	50	50	100	0	11	76-127
Toluene	50	49	98	0	13	76-125
Chlorobenzene	50	52	104	0	13	75-130

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

* Values outside of QC limits

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

COMMENTS: _____

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: AQUATEC, INC. Contract: 93206

Lab Code: AQUAI Case No.: 93206 SAS No.: SDG No.: 49994

Matrix Spike - EPA Sample No.: MSB

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	50		35	70	61-145
Trichloroethene	50		48	96	71-120
Benzene	50		50	100	76-127
Toluene	50		48	96	76-125
Chlorobenzene	50		51	102	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.

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 5 outside limits

COMMENTS: _____

Report Date: 27-Mar-1995 13:05

Aquatec, Inc.

RECOVERY REPORT

Contract: 93206
Client Name: ENGSC2
Sample Matrix: LIQUID
Lab Smp Id: MCVFLFB1
Level: LOW

Case No.: 93206
Client SDG: 49994
Fraction: VOA
Client Smp ID: MCVFLFB1
Operator: CMP

	SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
1	Dichlorodifluorome	1	0.9	90.55	60-140
2	Chloromethane	1	0.8	81.00	60-140
3	Vinyl Chloride	1	0.8	84.75	60-140
4	Bromomethane	1	1	102.91	60-140
5	Chloroethane	1	1	108.44	60-140
6	Trichlorofluoromet	1	1.0	97.85	60-140
7	1,1-Dichloroethene	1	1	106.38	60-140
8	Acetone	5	4	86.85	60-140
10	Methylene Chloride	1	0.9	94.27	60-140
11	trans-1,2-Dichloro	1	1	101.32	60-140
12	Methyl-t-Butyl Eth	1	0.9	92.36	60-140
13	1,1-Dichloroethane	1	1	103.82	60-140
14	2,2-Dichloropropan	1	1	107.43	60-140
15	cis-1,2-Dichloroet	1	0.9	86.62	60-140
16	2-Butanone	5	4	76.17	60-140
17	Bromochloromethane	1	0.9	90.76	60-140
19	Chloroform	1	1	103.34	60-140
20	1,1,1-Trichloroeth	1	1.0	98.37	60-140
21	Carbon Tetrachlori	1	1.0	97.75	60-140
22	1,1-Dichloropropen	1	1	109.08	60-140
24	Benzene	1	1	104.80	60-140
25	1,2-Dichloroethane	1	0.9	86.10	60-140
27	Trichloroethene	1	1	103.16	60-140
28	1,2-Dichloropropan	1	0.9	94.71	60-140
29	Dibromomethane	1	0.9	91.85	60-140
31	Bromodichlorometha	1	1.0	99.44	60-140
32	cis-1,3-Dichloropr	1	0.9	89.01	60-140
33	4-Methyl-2-Pentano	5	4	81.20	60-140
34	Toluene	1	1.0	99.80	60-140
35	trans-1,3-Dichloro	1	0.8	84.93	60-140
36	1,1,2-Trichloroeth	1	0.9	86.78	60-140
37	Tetrachloroethene	1	1	102.78	60-140
38	1,3-Dichloropropan	1	1.0	95.13	60-140
39	2-Hexanone	5	4	86.75	60-140
40	Dibromochlorometha	1	0.9	86.07	60-140
41	1,2-Dibromoethane	1	0.9	91.46	60-140

Report Date: 27-Mar-1995 13:05

SPIKE	COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
43	Chlorobenzene	1	1.0	97.64	60-140
44	1,1,1,2-Tetrachlor	1	1	104.04	60-140
45	Ethylbenzene	1	1	102.79	60-140
46	m- & p-Xylene	2	2	99.69	60-140
47	o-Xylene	1	1	102.26	60-140
M 48	Xylene (total)	3	3	102.53	60-140
49	Styrene	1	0.9	91.95	60-140
50	Bromoform	1	0.8	84.24	60-140
51	Isopropylbenzene	1	1	109.74	60-140
53	Bromobenzene	1	1.0	96.05	60-140
54	1,1,2,2-Tetrachlor	1	0.9	92.87	60-140
55	1,2,3-Trichloropro	1	0.8	75.05	60-140
56	n-Propylbenzene	1	1	104.98	60-140
57	2-Chlorotoluene	1	1.0	95.37	60-140
58	4-Chlorotoluene	1	1.0	97.92	60-140
59	1,3,5-Trimethylben	1	1.0	99.35	60-140
60	tert-Butylbenzene	1	1	107.50	60-140
61	1,2,4-Trimethylben	1	0.9	94.38	60-140
62	sec-Butylbenzene	1	1.0	99.09	60-140
63	1,3-Dichlorobenzen	1	0.9	91.75	60-140
65	p-Isopropyltoluene	1	1	105.92	60-140
66	1,4-Dichlorobenzen	1	1	103.11	60-140
68	1,2-Dichlorobenzen	1	0.9	92.51	60-140
69	n-Butylbenzene	1	1	107.68	60-140
70	1,2-Dibromo-3-Chlo	1	0.9	91.97	60-140
71	1,2,4-Trichloroben	1	0.9	92.34	60-140
72	Hexachlorobutadien	1	1	101.22	60-140
73	Naphthalene	1	0.8	84.81	60-140
74	1,2,3-Trichloroben	1	0.9	89.44	60-140

2.3 Method Blanks

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKP4

Lab Name: AQUATEC, INC. Contract: 93206

Lab Code: AQUAI Case No.: 93206 SAS No.: SDG No.: 49994

Lab File ID: MCLB001LV.D Lab Sample ID: VBLKP4

Date Analyzed: 03/21/95 Time Analyzed: 1708

GC Column:CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

Instrument ID: M

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	MW36	251176	M251176V.D	2004
02	MW40R	251177	M251177V.D	2032
03	MW40	251178	M251178V.D	2101
04	MW47	251180	M251180V.D	2144
05	MW56	251181	M251181V.D	2206
06	MW63	251182	M251182V.D	2234
07	MW40MS	251178MS	M251178MSV.D	2303
08	MW40MSD	251178MD	M251178MDV.D	2331
09	MSB	251179	M251179V.D	0001
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COMMENTS:

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKP4

Lab Name: AQUATEC, INC. Contract: 93206

Lab Code: AQUAI Case No.: 93206 SAS No.: SDG No.: 49994

Matrix: (soil/water) WATER Lab Sample ID: VBLKP4

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: MCLB001LV.D

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

% Moisture: not dec. _____ Date Analyzed: 03/21/95

GC Column:CAP ID: 0.53 (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
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VBLKP4

Lab Name: AQUATEC, INC. Contract: 93206

Lab Code: AQUAI Case No.: 93206 SAS No.: SDG No.: 49994

Matrix: (soil/water) WATER Lab Sample ID: VBLKP4

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: MCLB001LV.D

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

% Moisture: not dec. _____ Date Analyzed: 03/21/95

GC Column:CAP ID: 0.53 (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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VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKP9

Lab Name: AQUATEC, INC. Contract: 93206

Lab Code: AQUAI Case No.: 93206 SAS No.: SDG No.: 49994

Lab File ID: MCVB001FV.D Lab Sample ID: VBLKP9

Date Analyzed: 03/23/95 Time Analyzed: 0904

GC Column:CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

Instrument ID: M

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	MCVFLFB1	MCVFLFB1	MCVFLFB1V.D	0825
02	BNSR	251171	M251171V.D	0956
03	BNS	251172	M251172V.D	1025
04	FHD	251173	M251173V.D	1101
05	FHS	251174	M251174V.D	1137
06	MW30	251175	M251175V.D	1212
07	MW64	251183	M251183V.D	1247
08	TB316	251184	M251184V.D	1322
09	TB317	251185	M251185V.D	1358
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COMMENTS:

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKP9

Lab Name: AQUATEC, INC. Contract: 93206

Lab Code: AQUAI Case No.: 93206 SAS No.: SDG No.: 49994

Matrix: (soil/water) WATER Lab Sample ID: VBLKP9

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: MCVB001FV.D

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

% Moisture: not dec. _____ Data Analyzed: 03/23/95

GC Column:CAP ID: 0.53 (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
75-71-8	Dichlorodifluoromethane	0.5	U
74-87-3	Chloromethane	0.5	U
75-01-4	Vinyl Chloride	0.5	U
74-83-9	Bromomethane	0.5	U
75-00-3	Chloroethane	0.5	U
75-69-4	Trichlorofluoromethane	0.5	U
67-64-1	Acetone	5	U
75-35-4	1,1-Dichloroethene	0.5	U
156-60-5	trans-1,2-Dichloroethene	0.5	U
75-09-2	Methylene Chloride	0.5	U
1634-04-4	Methyl-t-Butyl Ether	0.5	U
75-34-3	1,1-Dichloroethane	0.5	U
156-59-2	cis-1,2-Dichloroethene	0.5	U
78-93-3	2-Butanone	5	U
590-20-7	2,2-Dichloropropane	0.5	U
67-66-3	Chloroform	0.5	U
74-97-5	Bromochloromethane	0.5	U
71-55-6	1,1,1-Trichloroethane	0.5	U
563-58-6	1,1-Dichloropropene	0.5	U
56-23-5	Carbon Tetrachloride	0.5	U
107-06-2	1,2-Dichloroethane	0.5	U
71-43-2	Benzene	0.5	U
79-01-6	Trichloroethene	0.5	U
78-87-5	1,2-Dichloropropane	0.5	U
75-27-4	Bromodichloromethane	0.5	U
74-95-3	Dibromomethane	0.5	U
108-10-1	4-Methyl-2-Pentanone	5	U
10061-01-5	cis-1,3-Dichloropropene	0.5	U
108-88-3	Toluene	0.5	U
10061-02-6	trans-1,3-Dichloropropene	0.5	U
79-00-5	1,1,2-Trichloroethane	0.5	U
591-78-6	2-Hexanone	5	U
142-28-9	1,3-Dichloropropane	0.5	U

1A-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKP9

Lab Name: AQUATEC, INC. Contract: 93206

Lab Code: AQUAI Case No.: 93206 SAS No.: SDG No.: 49994

Matrix: (soil/water) WATER Lab Sample ID: VBLKP9

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: MCVB001FV.D

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

% Moisture: not dec. _____ Data Analyzed: 03/23/95

GC Column:CAP ID: 0.53 (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
127-18-4	Tetrachloroethene	0.5	U
124-48-1	Dibromochloromethane	0.5	U
106-93-4	1,2-Dibromoethane	0.5	U
108-90-7	Chlorobenzene	0.5	U
630-20-6	1,1,1,2-Tetrachloroethane	0.5	U
100-41-4	Ethylbenzene	0.5	U
1330-20-7	Xylene (total)	0.5	U
100-42-5	Styrene	0.5	U
75-25-2	Bromoform	0.5	U
98-82-8	Isopropylbenzene	0.5	U
79-34-5	1,1,2,2-Tetrachloroethane	0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	U
108-86-1	Bromobenzene	0.5	U
103-65-1	n-Propylbenzene	0.5	U
95-49-8	2-Chlorotoluene	0.5	U
108-67-8	1,3,5-Trimethylbenzene	0.5	U
106-43-4	4-Chlorotoluene	0.5	U
98-06-6	tert-Butylbenzene	0.5	U
95-63-6	1,2,4-Trimethylbenzene	0.5	U
135-98-8	sec-Butylbenzene	0.5	U
99-87-6	p-Isopropyltoluene	0.5	U
541-73-1	1,3-Dichlorobenzene	0.5	U
106-46-7	1,4-Dichlorobenzene	0.5	U
104-51-8	n-Butylbenzene	0.5	U
95-50-1	1,2-Dichlorobenzene	0.5	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.5	U
120-82-1	1,2,4-Trichlorobenzene	0.5	U
87-68-3	Hexachlorobutadiene	0.5	U
91-20-3	Naphthalene	0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	U

1E

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VBLKP9

Lab Name: AQUATEC, INC. Contract: 93206

Lab Code: AQUAI Case No.: 93206 SAS No.: SDG No.: 49994

Matrix: (soil/water) WATER Lab Sample ID: VBLKP9

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: MCVB001FV.D

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

% Moisture: not dec. _____ Data Analyzed: 03/23/95

GC Column:CAP ID: 0.53 (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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