00598

GROUNDWATER MONITORING
VALIDATED ANALYTICAL RESULTS FOR THE FOURTH QUARTER 1994
ASH LANDFILL, SENECA ARMY DEPOT

PREPARED FOR:
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1.1 Summary of Validated and Headspace Volatile Analysis Results

ASH LANDFILL FOURTH QUARTER 1994 GROUNDWATER MONITORING
SUMMARY OF VALIDATED VOLATILE ANALYSIS RESULTS (TCL AND 524.2)

	COMPOUND									
MONITORING WELL	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)	TOTAL VOCs (ug/l)
MW-36	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	ND
MW-40	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	ND
MW-63(MW-40 DUP)	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	ND
MW-47	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	ND
MW-56	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	ND
MW-30	1 U	1 U	2	1 U	1 U	1 U	1 U	1 U	1 U	2
FH-S	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	ND
FH-D	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	ND
BN-S	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	ND
MW-64(BN-S DUP)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	ND

Notes:

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

ASH LANDFILL FOURTH QUARTER 1994 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	3	3
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 FOURTH QUARTER 1994 GROUNDWATER MONITORING
VALIDATED VOLATILE ANALYSIS RESULTS (TCL)

COMPOUND	MATRIX LOCATION SAMPLE DATE ES ID LAB ID UNITS	WATER ASH 12/8/94 MW-36 243992	WATER ASH 12/8/94 MW-40 243993	WATER ASH 12/8/94 MW-63 243997 MW-40 DUP	WATER ASH 12/8/94 MW-47 243995	WATER ASH 12/8/94 MW-56 243996	WATER ASH 12/8/94 MW-40R 243994 RINSATE
VOLATILE ORGANICS							
Chloromethane	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl Chloride	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Methylene Chloride	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Carbon Disulfide	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethene	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethane	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethene (total)	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
2-Butanone	ug/L	10 U	10 U	10 U	10 U	10 U	4 J
1,1,1-Trichloroethane	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloropropane	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,3-Dichloropropene	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloroethane	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
trans-1,3-Dichloropropene	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Bromoform	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-Pentanone	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Toluene	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Styrene	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Xylene (total)	ug/L	10 U	10 U	10 U	10 U	10 U	10 U

NOTES:
ug/L = micrograms/liter
U = Not detected above the concentration shown
J = The concentration shown is an estimate of the actual concentration

ASH LANDFILL FOURTH QUARTER 1994 GROUNDWATER MONITORING
VALIDATED VOLATILE 524.2 ANALYSIS RESULTS

COMPOUND	MATRIX LOCATION SAMPLE DATE ES ID LAB ID UNITS	WATER ASH 12/8/94 BN-S 243988	WATER ASH 12/8/94 MW-64 243998 BN-S DUP	WATER ASH 12/8/94 FH-D 243989	WATER ASH 12/8/94 FH-S 243990	WATER ASH 12/8/94 MW-30 243991	WATER ASH 12/8/94 BN-S-R 243987 RINSATE
VOLATILE ORGANICS							
Dichlorodifluoromethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl Chloride	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
Trichlorofluoromethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
Acetone	ug/L	5 U	5 U	5 U	5 U	5 U	4 J
1,1-Dichloroethene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
Carbon Disulfide	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
Methylene Chloride	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
Methyl-t-Butyl Ether	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone	ug/L	5 U	5 U	5 U	5 U	5 U	2 J
2,2-Dichloropropane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
Bromochloromethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloropropene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
Carbon Tetrachloride	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
Benzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	ug/L	1 U	1 U	1 U	1 U	2	1 U
1,2-Dichloropropane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
Dibromomethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
4-Methyl-2-Pentanone	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
2-Hexanone	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
1,3-Dichloropropane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
Dibromochloromethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromoethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1,2-Tetrachloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
Xylene (Total)	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
Styrene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
Isopropylbenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U

ASH LANDFILL FOURTH QUARTER 1994 GROUNDWATER MONITORING
VALIDATED VOLATILE 524.2 ANALYSIS RESULTS

	MATRIX	WATER	WATER	WATER	WATER	WATER	WATER
	LOCATION	ASH	ASH	ASH	ASH	ASH	ASH
	SAMPLE DATE	12/8/94	12/8/94	12/8/94	12/8/94	12/8/94	12/8/94
	ES ID	BN-S	MW-64	FH-D	FH-S	MW-30	BN-S-R
	LAB ID	243988	243998	243989	243990	243991	243987
COMPOUND	UNITS		BN-S DUP				RINSATE
1,2,3-Trichloropropane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
Bromobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
n-Propylbenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
2-Chlorotoluene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
4-Chlorotoluene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
tert-Butylbenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
sec-Butylbenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
p-Isopropyltoluene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
n-Butylbenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-Chloropropane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
Hexachlorobutadiene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
Naphthalene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U

NOTES:
ug/L = micrograms/liter
U = Not detected above the concentration shown
J = The concentration shown is an estimate of the actual concentration

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

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: AQUATEC, INC. Contract: 93206

Lab Code: AQUAI Case No.: ASH SAS No.: SDG No.: 48410

	EPA SAMPLE NO.	SMC1 (TOL) #	SMC2 (BFB) #	SMC3 (DCE) #	OTHER	TOT OUT
01	VBLKW5	104	108	97		0
02	MW36	104	104	97		0
03	MW40	106	110	99		0
04	MW40MS	106	110	102		0
05	MW40MSD	106	110	102		0
06	MW40R	106	112	100		0
07	MW47	106	110	99		0
08	MW56	105	109	98		0
09	MW63	104	111	101		0
10	MSB	103	110	99		0
11						
12						
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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

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: AQUATEC, INC. Contract: 93206

Lab Code: AQUAI Case No.: ASH SAS No.: SDG No.: 48410

	EPA SAMPLE NO.	SMC1 (DCE)#	SMC2 (BFB)#	SMC3 (DCB)#	OTHER	TOT OUT
01	LFBLCOA1	98	101	104		0
02	VBLKW8	96	99	100		0
03	BN2R	97	96	99		0
04	BNS	94	100	101		0
05	FHD	94	98	101		0
06	FHS	96	99	101		0
07	MW30	99	98	101		0
08	MW64	98	96	100		0
09	VBLKX1	96	98	99		0
10	LFBLCOB1	101	100	102		0
11	TB128	99	104	105		0
12	TB129	96	102	103		0
13						
14						
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25						
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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

Aquatec, Inc.

RECOVERY REPORT

Client Name: WINDCO
Sample Matrix: LIQUID
Lab Smp Id: LFBLCOA1
Level: LOW
Data Type: MS DATA
SpikeList File: lfbv3ktCS2MTBE.spk
Method File: /chem/L.i/LCOA_524.2.b/524_2MOD.m
Misc Info: 100%

Client SDG: 48410
Fraction: VOA
Client Smp ID: LFBLCOA1
Operator: DAH
SampleType: MS
Quant Type: ISTD

	SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
1	Dichlorodifluorome	1	0.7	71.48	60-140
2	Chloromethane	1	0.8	76.29	60-140
3	Vinyl Chloride	1	0.8	79.23	60-140
4	Bromomethane	1	2	178.31*	60-140
5	Chloroethane	1	0.8	84.06	60-140
6	Trichlorofluoromet	1	1.0	96.34	60-140
7	1,1-Dichloroethene	1	1.0	99.55	60-140
8	Acetone	5	5	105.10	60-140
9	Carbon Disulfide	1	0.9	87.44	60-140
10	Methylene Chloride	1	1	103.65	60-140
11	trans-1,2-Dichloro	1	0.9	88.20	60-140
12	Methyl-t-Butyl Eth	1	0.9	90.61	60-140
13	1,1-Dichloroethane	1	1	104.06	60-140
14	2,2-Dichloropropan	1	1.0	98.20	60-140
15	cis-1,2-Dichloroet	1	1.0	95.17	60-140
16	2-Butanone	5	4	86.19	60-140
17	Bromochloromethane	1	1.0	99.05	60-140
19	Chloroform	1	1	102.02	60-140
20	1,1,1-Trichloroeth	1	1	100.56	60-140
21	Carbon Tetrachlori	1	0.9	91.66	60-140
22	1,1-Dichloropropen	1	1.0	99.56	60-140
24	Benzene	1	0.9	93.80	60-140
25	1,2-Dichloroethane	1	1.0	97.78	60-140
27	Trichloroethene	1	1.0	95.01	60-140
28	1,2-Dichloropropan	1	1.0	99.56	60-140
29	Dibromomethane	1	1	106.89	60-140
31	Bromodichlorometha	1	1.0	98.29	60-140
32	cis-1,3-Dichloropr	1	0.9	92.02	60-140
33	4-Methyl-2-Pentano	5	5	94.43	60-140
34	Toluene	1	0.9	91.38	60-140
35	trans-1,3-Dichloro	1	0.9	89.12	60-140
36	1,1,2-Trichloroeth	1	0.9	94.10	60-140
37	Tetrachloroethene	1	0.9	93.65	60-140
38	1,3-Dichloropropan	1	1.0	98.62	60-140
39	2-Hexanone	5	5	99.95	60-140
40	Dibromochlorometha	1	0.9	90.46	60-140

	SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
41	1,2-Dibromoethane	1	1	100.56	60-140
43	Chlorobenzene	1	0.9	94.75	60-140
44	1,1,1,2-Tetrachlor	1	1.0	95.04	60-140
45	Ethylbenzene	1	0.9	92.27	60-140
46	m- & p-Xylene	2	2	94.47	60-140
47	o-Xylene	1	0.9	91.09	60-140
M 48	Xylene (total)	3	3	95.56	60-140
49	Styrene	1	0.9	88.71	60-140
50	Bromoform	1	0.9	91.40	60-140
51	Isopropylbenzene	1	1.0	98.68	60-140
53	Bromobenzene	1	0.9	92.51	60-140
54	1,1,2,2-Tetrachlor	1	1	106.53	60-140
55	1,2,3-Trichloropro	1	1	105.27	60-140
56	n-Propylbenzene	1	0.9	89.72	60-140
57	2-Chlorotoluene	1	0.9	89.14	60-140
58	4-Chlorotoluene	1	0.9	87.65	60-140
59	1,3,5-Trimethylben	1	0.9	88.39	60-140
60	tert-Butylbenzene	1	0.9	92.14	60-140
61	1,2,4-Trimethylben	1	0.9	88.75	60-140
62	sec-Butylbenzene	1	0.8	85.29	60-140
63	1,3-Dichlorobenzen	1	0.9	92.32	60-140
65	p-Isopropyltoluene	1	0.9	90.98	60-140
66	1,4-Dichlorobenzen	1	1.0	97.89	60-140
68	1,2-Dichlorobenzen	1	0.9	93.21	60-140
69	n-Butylbenzene	1	1.0	96.32	60-140
70	1,2-Dibromo-3-Chlo	1	1	119.93	60-140
71	1,2,4-Trichloroben	1	1	102.07	60-140
72	Hexachlorobutadien	1	1	133.88	60-140
73	Naphthalene	1	1	101.46	60-140
74	1,2,3-Trichloroben	1	1.0	99.94	60-140

	SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 23	1,2-Dichloroethane	2	2	97.89	83-143
$ 52	Bromofluorobenzene	2	2	100.76	86-115
$ 67	1,2-Dichlorobenzen	2	2	104.17	80-120

Aquatec, Inc.

RECOVERY REPORT

Client Name: TRCEN2 Client SDG: 48410
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: LFBLCOB1 Client Smp ID: LFBLCOB1
Level: LOW Operator: CMP
Data Type: MS DATA SampleType: MS
SpikeList File: lfbv3ktCS2MTBE.spk Quant Type: ISTD
Method File: /chem/L.i/LCOB_524.2.b/524_2MOD.m
Misc Info: 100%

	SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
1	Dichlorodifluorome	1	0.7	70.05	60-140
2	Chloromethane	1	0.8	79.24	60-140
3	Vinyl Chloride	1	0.8	78.89	60-140
4	Bromomethane	1	1	146.61*	60-140
5	Chloroethane	1	1.0	98.79	60-140
6	Trichlorofluoromet	1	1	103.84	60-140
7	1,1-Dichloroethene	1	1	102.09	60-140
8	Acetone	5	9	184.84*	60-140
9	Carbon Disulfide	1	0.8	84.80	60-140
10	Methylene Chloride	1	1	107.67	60-140
11	trans-1,2-Dichloro	1	1	103.62	60-140
12	Methyl-t-Butyl Eth	1	0.9	94.10	60-140
13	1,1-Dichloroethane	1	1	110.46	60-140
14	2,2-Dichloropropan	1	1	104.05	60-140
15	cis-1,2-Dichloroet	1	1	105.57	60-140
16	2-Butanone	5	8	152.22*	60-140
17	Bromochloromethane	1	1	102.39	60-140
19	Chloroform	1	1	105.48	60-140
20	1,1,1-Trichloroeth	1	1	100.72	60-140
21	Carbon Tetrachlori	1	1.0	98.70	60-140
22	1,1-Dichloropropen	1	1.0	99.96	60-140
24	Benzene	1	1	100.86	60-140
25	1,2-Dichloroethane	1	1	104.33	60-140
27	Trichloroethene	1	1	102.36	60-140
28	1,2-Dichloropropan	1	1	108.24	60-140
29	Dibromomethane	1	1	103.89	60-140
31	Bromodichlorometha	1	1	103.62	60-140
32	cis-1,3-Dichloropr	1	1.0	98.05	60-140
33	4-Methyl-2-Pentano	5	5	101.88	60-140
34	Toluene	1	0.9	93.70	60-140
35	trans-1,3-Dichloro	1	1	101.38	60-140
36	1,1,2-Trichloroeth	1	1	107.88	60-140
37	Tetrachloroethene	1	1	100.82	60-140
38	1,3-Dichloropropan	1	1	107.65	60-140
39	2-Hexanone	5	7	135.11	60-140
40	Dibromochlorometha	1	1.0	98.01	60-140

		SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
	41	1,2-Dibromoethane	1	1	104.61	60-140
	43	Chlorobenzene	1	1.0	96.25	60-140
	44	1,1,1,2-Tetrachlor	1	1.0	98.12	60-140
	45	Ethylbenzene	1	1.0	96.94	60-140
	46	m- & p-Xylene	2	2	95.78	60-140
	47	o-Xylene	1	1.0	96.12	60-140
M	48	Xylene (total)	3	3	98.95	60-140
	49	Styrene	1	0.9	91.86	60-140
	50	Bromoform	1	0.9	91.11	60-140
	51	Isopropylbenzene	1	1	101.60	60-140
	53	Bromobenzene	1	1.0	95.21	60-140
	54	1,1,2,2-Tetrachlor	1	1	102.65	60-140
	55	1,2,3-Trichloropro	1	1	103.73	60-140
	56	n-Propylbenzene	1	0.9	92.80	60-140
	57	2-Chlorotoluene	1	0.9	93.97	60-140
	58	4-Chlorotoluene	1	0.9	90.35	60-140
	59	1,3,5-Trimethylben	1	0.9	93.63	60-140
	60	tert-Butylbenzene	1	0.9	94.67	60-140
	61	1,2,4-Trimethylben	1	1.0	95.21	60-140
	62	sec-Butylbenzene	1	0.8	84.83	60-140
	63	1,3-Dichlorobenzen	1	1.0	96.36	60-140
	65	p-Isopropyltoluene	1	1.0	96.10	60-140
	66	1,4-Dichlorobenzen	1	1.0	99.18	60-140
	68	1,2-Dichlorobenzen	1	1.0	96.64	60-140
	69	n-Butylbenzene	1	0.9	94.80	60-140
	70	1,2-Dibromo-3-Chlo	1	1	101.74	60-140
	71	1,2,4-Trichloroben	1	1.0	96.78	60-140
	72	Hexachlorobutadien	1	1	109.99	60-140
	73	Naphthalene	1	0.9	94.35	60-140
	74	1,2,3-Trichloroben	1	0.9	92.99	60-140

		SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$	23	1,2-Dichloroethane	2	2	100.66	83-143
$	52	Bromofluorobenzene	2	2	99.95	86-115
$	67	1,2-Dichlorobenzen	2	2	101.76	80-120

2.2 Matrix Spike/Matrix Spike Duplicates

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: AQUATEC, INC. Contract: 93206

Lab Code: AQUAI Case No.: ASH SAS No.: SDG No.: 48410

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	34	68	61-145
Trichloroethene	50	0	48	96	71-120
Benzene	50	0	46	92	76-127
Toluene	50	0	48	96	76-125
Chlorobenzene	50	0	50	100	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50	33	66	3	14	61-145
Trichloroethene	50	48	96	0	14	71-120
Benzene	50	46	92	0	11	76-127
Toluene	50	48	96	0	13	76-125
Chlorobenzene	50	50	100	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: _____

2.3 Method Blanks

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKW5

Lab Name: AQUATEC, INC. Contract: 93206

Lab Code: AQUAI Case No.: ASH SAS No.: SDG No.: 48410

Lab File ID: MCHB001IV.D Lab Sample ID: VBLKW5

Date Analyzed: 12/13/94 Time Analyzed: 1643

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	243992	M243992V.D	1740
02	MW40	243993	M243993V.D	1811
03	MW40MS	243993MS	M243993MSV.D	1839
04	MW40MSD	243993MD	M243993MDV.D	1906
05	MW40R	243994	M243994V.D	1935
06	MW47	243995	M243995V.D	2005
07	MW56	243996	M2343996V.D	2033
08	MW63	243997	M243997V.D	2101
09	MSB	MSB	MCHB002IV.D	0356
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COMMENTS:

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKW5

Lab Name: AQUATEC, INC. Contract: 93206

Lab Code: AQUAI Case No.: ASH SAS No.: SDG No.: 48410

Matrix: (soil/water) WATER Lab Sample ID: VBLKW5

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: MCHB001IV.D

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

% Moisture: not dec. _____ Date Analyzed: 12/13/94

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

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKW5

Lab Name: AQUATEC, INC. Contract: 93206

Lab Code: AQUAI Case No.: ASH SAS No.: SDG No.: 48410

Matrix: (soil/water) WATER Lab Sample ID: VBLKW5

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: MCHB001IV.D

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

% Moisture: not dec. _____ Date Analyzed: 12/13/94

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.

VBLKW8

Lab Name: AQUATEC, INC. Contract: 93206

Lab Code: AQUAI Case No.: ASH SAS No.: SDG No.: 48410

Lab File ID: LCOB002AV.D Lab Sample ID: VBLKW8

Date Analyzed: 12/15/94 Time Analyzed: 0001

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

Instrument ID: L

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LFBLCOA1	LFBLCOA1	LCOALFB1V.D	2327
02	BN2R	243987	L243987V.D	0535
03	BNS	243988	L243988V.D	0608
04	FHD	243989	L243989V.D	0641
05	FHS	243990	L243990V.D	0714
06	MW30	243991	L243991V.D	0747
07	MW64	243998	L243998V.D	0820
08				
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COMMENTS:

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKW8

Lab Name: AQUATEC, INC. Contract: 93206

Lab Code: AQUAI Case No.: ASH SAS No.: SDG No.: 48410

Matrix: (soil/water) WATER Lab Sample ID: VBLKW8

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: LCOB002AV.D

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

% Moisture: not dec. _____ Data Analyzed: 12/15/94

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	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl Chloride	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
67-64-1	Acetone	5	U
75-35-4	1,1-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-15-0	Carbon Disulfide	1	U
75-09-2	Methylene Chloride	1	U
1634-04-4	Methyl-t-Butyl Ether	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
78-93-3	2-Butanone	5	U
590-20-7	2,2-Dichloropropane	1	U
67-66-3	Chloroform	1	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
563-58-6	1,1-Dichloropropene	1	U
56-23-5	Carbon Tetrachloride	1	U
107-06-2	1,2-Dichloroethane	1	U
71-43-2	Benzene	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	1	U
74-95-3	Dibromomethane	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
10061-01-5	cis-1,3-Dichloropropene	1	U
108-88-3	Toluene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
591-78-6	2-Hexanone	5	U

1A-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKW8

Lab Name: AQUATEC, INC. Contract: 93206

Lab Code: AQUAI Case No.: ASH SAS No.: SDG No.: 48410

Matrix: (soil/water) WATER Lab Sample ID: VBLKW8

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: LCOB002AV.D

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

% Moisture: not dec. _____ Data Analyzed: 12/15/94

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
142-28-9	1,3-Dichloropropane	1	U
127-18-4	Tetrachloroethene	1	U
124-48-1	Dibromochloromethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
96-18-4	1,2,3-Trichloropropane	1	U
108-86-1	Bromobenzene	1	U
103-65-1	n-Propylbenzene	1	U
95-49-8	2-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
106-43-4	4-Chlorotoluene	1	U
98-06-6	tert-Butylbenzene	1	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	1	U
99-87-6	p-Isopropyltoluene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
104-51-8	n-Butylbenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-Chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	1	U
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKW8

Lab Name: AQUATEC, INC. Contract: 93206

Lab Code: AQUAI Case No.: ASH SAS No.: SDG No.: 48410

Matrix: (soil/water) WATER Lab Sample ID: VBLKW8

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: LCOB002AV.D

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

% Moisture: not dec. _____ Data Analyzed: 12/15/94

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
1.					
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKX1

Lab Name: AQUATEC, INC. Contract: 93206

Lab Code: AQUAI Case No.: ASH SAS No.: SDG No.: 48410

Matrix: (soil/water) WATER Lab Sample ID: VBLKX1

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: LCOB001BV.D

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

% Moisture: not dec. _____ Data Analyzed: 12/15/94

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	1	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl Chloride	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
67-64-1	Acetone	5	U
75-35-4	1,1-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-15-0	Carbon Disulfide	1	U
75-09-2	Methylene Chloride	1	U
1634-04-4	Methyl-t-Butyl Ether	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
78-93-3	2-Butanone	5	U
590-20-7	2,2-Dichloropropane	1	U
67-66-3	Chloroform	1	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
563-58-6	1,1-Dichloropropene	1	U
56-23-5	Carbon Tetrachloride	1	U
107-06-2	1,2-Dichloroethane	1	U
71-43-2	Benzene	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	1	U
74-95-3	Dibromomethane	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
10061-01-5	cis-1,3-Dichloropropene	1	U
108-88-3	Toluene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
591-78-6	2-Hexanone	5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKX1

Lab Name: AQUATEC, INC. Contract: 93206

Lab Code: AQUAI Case No.: ASH SAS No.: SDG No.: 48410

Matrix: (soil/water) WATER Lab Sample ID: VBLKX1

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: LCOB001BV.D

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

% Moisture: not dec. _____ Data Analyzed: 12/15/94

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
142-28-9	1,3-Dichloropropane	1	U
127-18-4	Tetrachloroethene	1	U
124-48-1	Dibromochloromethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-90-7	Chlorobenzene	1	U
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	Xylene (total)	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
96-18-4	1,2,3-Trichloropropane	1	U
108-86-1	Bromobenzene	1	U
103-65-1	n-Propylbenzene	1	U
95-49-8	2-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
106-43-4	4-Chlorotoluene	1	U
98-06-6	tert-Butylbenzene	1	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	1	U
99-87-6	p-Isopropyltoluene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
104-51-8	n-Butylbenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-Chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	1	U
91-20-3	Naphthalene	1	U
87-61-6	1,2,3-Trichlorobenzene	1	U

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EPA SAMPLE NO.

VBLKX1

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: AQUATEC, INC. Contract: 93206

Lab Code: AQUAI Case No.: ASH SAS No.: SDG No.: 48410

Matrix: (soil/water) WATER Lab Sample ID: VBLKX1

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: LCOB001BV.D

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

% Moisture: not dec. _____ Data Analyzed: 12/15/94

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
1.					
2.					
3.					
4.					
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