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*Carolyn
Pina -
Springer*

US ENVIRONMENTAL PROTECTION AGENCY
60 Westview Street
Lexington, MA. 02173

DATE: July 20, 1998

SUBJECT: **NUTMEG VALLEY**
- Volatile Organic Analysis by GC/MS

FROM: Joseph Montanaro, EIA

TO: Carolyn Pina-Springer, SEA & John Mullaney, USGS

THRU: ^{DB}William J. Andrade, Ph. D., Analytical Specialist

PROJECT NUMBER: 98493

DATES(S) SAMPLES RECEIVED BY THE LABORATORY: 07/07/98

SAMPLE NUMBERS: WC67, WC101, WC108, WC109, WC110, 98493-Trip Blank

ANALYTICAL PROCEDURE:

EPA Method 524.2, Methods for the Determination of Organic Compounds
in Drinking Water - Supplement III, EPA/600/R-95/131, August 1995,
Modified.

QUALITY ASSURANCE

1. A laboratory blank was analyzed prior to sample analysis.
2. Each sample was spiked with three surrogate compounds
at 5 ppb concentration. The results for the surrogate
recoveries are reported for each sample.
3. One sample WC109, was spiked in duplicate to determine
laboratory precision and accuracy.

DATA FILE: j:\chemistry\reports\voa\98493dw.wk4

ANALYTICAL PARAMETERS
PURGEABLE ORGANIC ANALYSIS

INSTRUMENTS: Varion Archon Purge and Trap Autosampler
 Tekmar LSC 2000
 Finnigan INCOS-50 XL

PURGE CONDITIONS:

Gas:	Helium
Purge Time and Flow:	8 min., 40 ml/min
Dry Purge Time and Flow:	4 min., 40 ml/min
Trap:	25 cm stainless steel (1/8 in. OD) packed with Carbopack B (10 cm), Carboxen 1000 (6 cm), and Carboxen 1001 (1 cm)
Desorption Time,Flow,Temperature:	1 min, 40 ml/min., 250 C
Bake out cycle:	8 min. at 260 C

CHROMATOGRAPHIC CONDITIONS:

Column:	Restek 502.2 40 M length, 0.18 mm id, 1.0 df (um)
Program:	Initial 35 C programmed at 8 C/min to 220 C and held 220 C for 7 minutes.
Injector and Transfer Temperatures:	200 C
Carrier Gas and Flow:	Helium, 15 ml/min

MASS SPECTROMETER CONDITIONS:

Electron Energy:	70 eV
Mass Range:	35-300 amu
Scan Rate:	1.5 seconds

US ENVIRONMENTAL PROTECTION AGENCY
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PROJECT AND REPORT FORM

Chemist Reviewing Data: William J. Andrade

Method Modification: None

Limitation of Data: None

Laboratory Blank Problems: None

Instrument Performance Problems: None

Surrogate or Spike Recovery Problems:

The RPD for 1,1-dichloroethylene, vinyl chloride, and 1,1,1-trichloroethylene are slightly elevated. The recovery of surrogate compound 1,2-dichlorobenzene-d4 was below the acceptable range in sample WC108.

Additional Comments:

Several compounds in the continuous calibration standard did not meet the acceptable criteria. None of these compounds were observed in the samples and should not affect the data.

MATRIX SPIKE DUPLICATE ANALYSIS

FACILITY SAMPLED: NUTMEG VALLEY

SAMPLE NUMBER: WC109

FILE NAME(S): 07108E31 & 07108E32

DATE OF ANALYSIS: 07/10/98

ACCURACY

COMPOUND	AVERAGE % RECOVERY	ACCEPTABLE RANGE ₂
1,1 Dichloroethylene	87	50-150
Chloroform	84	62-128
1,2 Dichloroethane	78	57-141
1,1,1 Trichloroethane	78	51-142
Carbon tetrachloride	72	60-139
Bromodichloromethane	72	44-133
Trichloroethylene	82	65-132
Benzene	92	67-132
Dibromochloromethane	56	36-125
Bromoform	52	25-118
1,4 Dichlorobenzene	82	55-102
Vinyl Chloride	87	44-170

PRECISION

COMPOUND	#1 % RECOV	#2 % RECOVERY	RPD	ACCEPTABLE RANGE ₂
1,1 Dichloroethylene	76	98	25 ₁	0-15
Chloroform	78	86	14	0-23
1,2 Dichloroethane	72	83	14	0-36
1,1,1 Trichloroethane	70	86	20 ₁	0-19
Carbon tetrachloride	70	74	6	0-17
Bromodichloromethane	67	77	14	0-33
Trichloroethylene	76	89	15	0-44
Benzene	83	100	18	0-24
Dibromochloromethane	50	63	23	0-41
Bromoform	50	54	8	0-65
1,4 Dichlorobenzene	75	88	16	0-25
Vinyl Chloride	76	98	25 ₁	0-19

₁=out of range

₂=quality control acceptance criteria as per laboratory

FACILITY SAMPLED: NUTMEG VALLEY

US ENVIRONMENTAL PROTECTION AGENCY

REGION I LABORATORY

GC/MS PURGEABLE ORGANIC ANALYSIS - DRINKING WATER

SAMPLE ID: Lab Blank
 FILE NAME(S): 07108E24
 DATE OF ANALYSIS: 07/10/98

DILUTION FACTOR(S): 1

CAS No.	Compound	Conc. (ug/L)	Reporting Limits (ug/L)	MCL'S (ug/L)	QUALIFIER
REGULATED VOC'S					
75-01-4	Vinyl Chloride	ND	1	2	
75-35-4	1,1 Dichloroethylene	ND	1	7	
107-06-2	1,2 Dichloroethane	ND	1	5	
71-55-6	1,1,1 Trichloroethane	ND	1	200	
56-23-5	Carbon Tetrachloride	ND	1	5	
79-01-6	Trichloroethylene	ND	1	5	
71-43-2	Benzene	ND	1	5	
106-46-7	1,4, Dichlorobenzene	ND	1	75	
75-09-2	Methylene Chloride	ND	1	5	
156-59-2	c-1,2-Dichloroethylene	ND	1	70	
156-60-5	t-1,2-Dichloroethylene	ND	1	100	
78-87-5	1,2-Dichloropropane	ND	1	5	
79-00-5	1,1,2-Trichloroethane	ND	1	5	
127-18-4	Tetrachloroethylene	ND	1	5	
108-88-3	Toluene	ND	1	1000	
108-90-7	Chlorobenzene	ND	1	100	
100-41-4	Ethylbenzene	ND	1	700	
100-42-5	Styrene	ND	1	100	
95-50-1	1,2- Dichlorobenzene	ND	1	600	
1330-20-7	Total Xylenes	ND	2	10000	
120-82-1	1,2,4 Trichlorobenzene	ND	1	70	
TRIHALOMETHANES					
67-66-3	Chloroform	ND	1		
75-27-4	Dichlorobromomethane	ND	1		
124-48-1	Dibromochloromethane	ND	1		
75-25-2	Bromoform	ND	1		
-----	Total Trihalomethanes	ND	1	100	
UNREGULATED VOC'S				MCLG'S (ug/L)	
74-87-3	Chloromethane	ND	1		
74-83-9	Bromomethane	ND	1		
74-97-5	Bromochloromethane	ND	1		
75-00-3	Chloroethane	ND	1		
75-69-4	Trichlorofluoromethane	ND	1		
75-34-3	1,1-Dichloroethane	ND	1		
10061-02-6	t-1,3-Dichloropropene	ND	1		
10061-01-5	c-1,3-Dichloropropene	ND	1		
563-58-6	1,1-Dichloropropene	ND	1		

US ENVIRONMENTAL PROTECTION AGENCY
REGION I LABORATORY
GC/MS PURGEABLE ORGANIC ANALYSIS - DRINKING WATER

SAMPLE ID:	Lab Blank UNREGULATED VOC'S	Conc. (ug/L)	Reporting Limits (ug/L)	MCLG's (ug/L)	QUALIFIER
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108-86-1	Bromobenzene	ND	1		
79-34-5	1,1,2,2-Tetrachloroethane	ND	1		
630-20-6	1,1,1,2-Tetrachloroethane	ND	1		
103-65-1	n-Propyl Benzene	ND	1		
104-51-8	n-Butyl Benzene	ND	1		
135-98-8	sec-Butylbenzene	ND	1		
98-06-6	tert-Butylbenzene	ND	1		
541-73-1	1,3-Dichlorobenzene	ND	1		
74-95-3	Dibromomethane	ND	1		
75-71-8	Dichlorodifluoromethane	ND	1		
142-28-9	1,3-Dichloropropane	ND	1		
590-20-7	2,2-Dichloropropane	ND	1		
87-68-3	Hexachlorobutadiene	ND	1		
98-82-8	Isopropylbenzene	ND	1		
96-18-4	1,2,3-Trichloropropane	ND	1		
99-87-6	1,4 Isopropyl toluene (para)	ND	1		
91-20-3	Naphthalene	ND	1		
87-61-6	1,2,3 Trichlorobenzene	ND	1		
95-63-6	1,2,4 Trimethylbenzene	ND	1		
108-67-8	1,3,5 Trimethylbenzene	ND	1		
95-49-8	2-Chlorotoluene	ND	1		
106-43-4	4-Chlorotoluene	ND	1		

OTHER COMPOUNDS QUANTITATED

76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1		
67-64-1	Acetone	ND	10		
75-15-0	Carbon Disulfide	ND	3		
78-93-3	2-Butanone (MEK)	ND	20		
591-10-6	2-Hexanone	ND	2		
108-10-1	4-Methyl-2-Pentanone (MIBK)	ND	2		
109-99-9	Tetrahydrofuran (THF)	ND	7		
60-29-7	Ethyl Ether	ND	3		
106-93-4	1,2-Dibromoethane (EDB)	ND	1		
96-12-8	1,2-Dibromo-3-chloropropane	ND	1		

QUALITY CONTROL		Percent	Confidence
Surrogate Compounds		Recoveries	Limits
2199-69-1	1,2-Dichlorobenzene-D4	88	60-123
2037-26-5	Toluene-D8	99	80-117
460-00-4	4-Bromofluorobenzene	92	65-118

ND=Not Detected above the reporting limit.

RL=Reporting Limit

J=Approximate

NA=Not available due to dilution or interference

B=analyte is associated with lab blank

MCL=Maximum Contaminant Level

MCLG=Maximum Contaminant Level Goal

E=estimated value exceeds the calibration range

L=estimated value is below the calibration range

±=quality control acceptance criteria as per lab

FACILITY SAMPLED: NUTMEG VALLEY

US ENVIRONMENTAL PROTECTION AGENCY

REGION I LABORATORY

GC/MS PURGEABLE ORGANIC ANALYSIS - DRINKING WATER

SAMPLE ID: WC67

DILUTION FACTOR(S): 1

FILE NAME(S): 07108E26

PRESERVATIVE: Cool to 4 C

DATE OF COLLECTION: 07/06/98

Acidified to pH <2

DATE OF ANALYSIS: 07/10/98

CAS No.	Compound	Conc. (ug/L)	Reporting Limits (ug/L)	MCL'S (ug/L)	QUALIFIER
REGULATED VOC'S					
75-01-4	Vinyl Chloride	ND	1	2	
75-35-4	1,1 Dichloroethylene	ND	1	7	
107-06-2	1,2 Dichloroethane	ND	1	5	
71-55-6	1,1,1 Trichloroethane	ND	1	200	
56-23-5	Carbon Tetrachloride	ND	1	5	
79-01-6	Trichloroethylene	ND	1	5	
71-43-2	Benzene	ND	1	5	
106-46-7	1,4, Dichlorobenzene	ND	1	75	
75-09-2	Methylene Chloride	ND	1	5	
156-59-2	c-1,2-Dichloroethylene	ND	1	70	
156-60-5	t-1,2-Dichloroethylene	ND	1	100	
78-87-5	1,2-Dichloropropane	ND	1	5	
79-00-5	1,1,2-Trichloroethane	ND	1	5	
127-18-4	Tetrachloroethylene	ND	1	5	
108-88-3	Toluene	ND	1	1000	
108-90-7	Chlorobenzene	ND	1	100	
100-41-4	Ethylbenzene	ND	1	700	
100-42-5	Styrene	ND	1	100	
95-50-1	1,2- Dichlorobenzene	ND	1	600	
1330-20-7	Total Xylenes	ND	2	10000	
120-82-1	1,2,4 Trichlorobenzene	ND	1	70	
TRIHALOMETHANES					
67-66-3	Chloroform	ND	1		
75-27-4	Dichlorobromomethane	ND	1		
124-48-1	Dibromochloromethane	ND	1		
75-25-2	Bromoform	ND	1		
-----	Total Trihalomethanes	ND	1	100	
UNREGULATED VOC'S				MCLG'S (ug/L)	
74-87-3	Chloromethane	ND	1		
74-83-9	Bromomethane	ND	1		
74-97-5	Bromochloromethane	ND	1		
75-00-3	Chloroethane	ND	1		
75-69-4	Trichlorofluoromethane	ND	1		
75-34-3	1,1-Dichloroethane	ND	1		
10061-02-6	t-1,3-Dichloropropene	ND	1		
10061-01-5	c-1,3-Dichloropropene	ND	1		
563-58-6	1,1-Dichloropropene	ND	1		

US ENVIRONMENTAL PROTECTION AGENCY
REGION I LABORATORY
GC/MS PURGEABLE ORGANIC ANALYSIS - DRINKING WATER

SAMPLE ID:	WC67		Reporting		
	UNREGULATED VOC'S	Conc.	Limits	MCLG's	QUALIFIER
		(ug/L)	(ug/L)	(ug/L)	

108-86-1	Bromobenzene	ND	1
79-34-5	1,1,2,2-Tetrachloroethane	ND	1
630-20-6	1,1,1,2-Tetrachloroethane	ND	1
103-65-1	n-Propyl Benzene	ND	1
104-51-8	n-Butyl Benzene	ND	1
135-98-8	sec-Butylbenzene	ND	1
98-06-6	tert-Butylbenzene	ND	1
541-73-1	1,3-Dichlorobenzene	ND	1
74-95-3	Dibromomethane	ND	1
75-71-8	Dichlorodifluoromethane	ND	1
142-28-9	1,3-Dichloropropane	ND	1
590-20-7	2,2-Dichloropropane	ND	1
87-68-3	Hexachlorobutadiene	ND	1
98-82-8	Isopropylbenzene	ND	1
96-18-4	1,2,3-Trichloropropane	ND	1
99-87-6	1,4 Isopropyl toluene (para)	ND	1
91-20-3	Naphthalene	ND	1
87-61-6	1,2,3 Trichlorobenzene	ND	1
95-63-6	1,2,4 Trimethylbenzene	ND	1
108-67-8	1,3,5 Trimethylbenzene	ND	1
95-49-8	2-Chlorotoluene	ND	1
106-43-4	4-Chlorotoluene	ND	1

OTHER COMPOUNDS QUANTITATED

76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1
67-64-1	Acetone	ND	10
75-15-0	Carbon Disulfide	ND	3
78-93-3	2-Butanone (MEK)	ND	20
591-10-6	2-Hexanone	ND	2
108-10-1	4-Methyl-2-Pentanone (MIBK)	ND	2
109-99-9	Tetrahydrofuran (THF)	ND	7
60-29-7	Ethyl Ether	ND	3
106-93-4	1,2-Dibromoethane (EDB)	ND	1
96-12-8	1,2-Dibromo-3-chloropropane	ND	1

QUALITY CONTROL	Percent	Confidence
Surrogate Compounds	Recoveries	Limits
2199-69-1 1,2-Dichlorobenzene-D4	93	60-123
2037-26-5 Toluene-D8	99	80-117
460-00-4 4-Bromofluorobenzene	98	65-118

ND=Not Detected above the reporting limit.
RL=Reporting Limit
J=Approximate
NA=Not available due to dilution or interference
B=analyte is associated with lab blank

MCL=Maximum Contaminant Level
MCLG=Maximum Contaminant Level Goal
E=estimated value exceeds the calibration range
L=estimated value is below the calibration range
z=quality control acceptance criteria as per lab

FACILITY SAMPLED: NUTMEG VALLEY

US ENVIRONMENTAL PROTECTION AGENCY

REGION I LABORATORY

GC/MS PURGEABLE ORGANIC ANALYSIS - DRINKING WATER

SAMPLE ID: WC101

FILE NAME(S): 07108E27

DATE OF COLLECTION: 07/06/98

DATE OF ANALYSIS: 07/10/98

DILUTION FACTOR(S): 1

PRESERVATIVE: Cool to 4 C

Acidified to pH <2

CAS No.	Compound	Conc. (ug/L)	Reporting Limits (ug/L)	MCL'S (ug/L)	QUALIFIER
REGULATED VOC'S					
75-01-4	Vinyl Chloride	ND	1	2	
75-35-4	1,1 Dichloroethylene	ND	1	7	
107-06-2	1,2 Dichloroethane	ND	1	5	
71-55-6	1,1,1 Trichloroethane	ND	1	200	
56-23-5	Carbon Tetrachloride	ND	1	5	
79-01-6	Trichloroethylene	10	1	5	
71-43-2	Benzene	ND	1	5	
106-46-7	1,4, Dichlorobenzene	ND	1	75	
75-09-2	Methylene Chloride	ND	1	5	
156-59-2	c-1,2-Dichloroethylene	1	1	70	L
156-60-5	t-1,2-Dichloroethylene	ND	1	100	
78-87-5	1,2-Dichloropropane	ND	1	5	
79-00-5	1,1,2-Trichloroethane	ND	1	5	
127-18-4	Tetrachloroethylene	ND	1	5	
108-88-3	Toluene	ND	1	1000	
108-90-7	Chlorobenzene	ND	1	100	
100-41-4	Ethylbenzene	ND	1	700	
100-42-5	Styrene	ND	1	100	
95-50-1	1,2- Dichlorobenzene	ND	1	600	
1330-20-7	Total Xylenes	ND	2	10000	
120-82-1	1,2,4 Trichlorobenzene	ND	1	70	
TRIHALOMETHANES					
67-66-3	Chloroform	ND	1		
75-27-4	Dichlorobromomethane	ND	1		
124-48-1	Dibromochloromethane	ND	1		
75-25-2	Bromoform	ND	1		
-----	Total Trihalomethanes	ND	1	100	
UNREGULATED VOC'S				MCLG'S (ug/L)	
74-87-3	Chloromethane	ND	1		
74-83-9	Bromomethane	ND	1		
74-97-5	Bromochloromethane	ND	1		
75-00-3	Chloroethane	ND	1		
75-69-4	Trichlorofluoromethane	ND	1		
75-34-3	1,1-Dichloroethane	ND	1		
10061-02-6	t-1,3-Dichloropropene	ND	1		
10061-01-5	c-1,3-Dichloropropene	ND	1		
563-58-6	1,1-Dichloropropene	ND	1		

US ENVIRONMENTAL PROTECTION AGENCY
REGION I LABORATORY
GC/MS PURGEABLE ORGANIC ANALYSIS - DRINKING WATER

SAMPLE ID:	WC101		Reporting		
	UNREGULATED VOC'S	Conc.	Limits	MCLG's	QUALIFIER
		(ug/L)	(ug/L)	(ug/L)	

108-86-1	Bromobenzene	ND	1
79-34-5	1,1,2,2-Tetrachloroethane	ND	1
630-20-6	1,1,1,2-Tetrachloroethane	ND	1
103-65-1	n-Propyl Benzene	ND	1
104-51-8	n-Butyl Benzene	ND	1
135-98-8	sec-Butylbenzene	ND	1
98-06-6	tert-Butylbenzene	ND	1
541-73-1	1,3-Dichlorobenzene	ND	1
74-95-3	Dibromomethane	ND	1
75-71-8	Dichlorodifluoromethane	ND	1
142-28-9	1,3-Dichloropropane	ND	1
590-20-7	2,2-Dichloropropane	ND	1
87-68-3	Hexachlorobutadiene	ND	1
98-82-8	Isopropylbenzene	ND	1
96-18-4	1,2,3-Trichloropropane	ND	1
99-87-6	1,4 Isopropyl toluene (para)	ND	1
91-20-3	Naphthalene	ND	1
87-61-6	1,2,3 Trichlorobenzene	ND	1
95-63-6	1,2,4 Trimethylbenzene	ND	1
108-67-8	1,3,5 Trimethylbenzene	ND	1
95-49-8	2-Chlorotoluene	ND	1
106-43-4	4-Chlorotoluene	ND	1

OTHER COMPOUNDS QUANTITATED

76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1
67-64-1	Acetone	ND	10
75-15-0	Carbon Disulfide	ND	3
78-93-3	2-Butanone (MEK)	ND	20
591-10-6	2-Hexanone	ND	2
108-10-1	4-Methyl-2-Pentanone (MIBK)	ND	2
109-99-9	Tetrahydrofuran (THF)	ND	7
60-29-7	Ethyl Ether	ND	3
106-93-4	1,2-Dibromoethane (EDB)	ND	1
96-12-8	1,2-Dibromo-3-chloropropane	ND	1

QUALITY CONTROL	Percent	Confidence
Surrogate Compounds	Recoveries	Limits
2199-69-1 1,2-Dichlorobenzene-D4	94	60-123
2037-26-5 Toluene-D8	109	80-117
460-00-4 4-Bromofluorobenzene	103	65-118

ND=Not Detected above the reporting limit.	MCL=Maximum Contaminant Level
RL=Reporting Limit	MCLG=Maximum Contaminant Level Goal
J=Approximate	E=estimated value exceeds the calibration range
NA=Not available due to dilution or interference	L=estimated value is below the calibration range
B=analyte is associated with lab blank	±=quality control acceptance criteria as per lab

US ENVIRONMENTAL PROTECTION AGENCY
REGION I LABORATORY
GC/MS PURGEABLE ORGANIC ANALYSIS - DRINKING WATER

SAMPLE ID: WC101

TENTATIVELY IDENTIFIED COMPOUNDS

2-methoxy-2-methyl Propanone

FACILITY SAMPLED: NUTMEG VALLEY

US ENVIRONMENTAL PROTECTION AGENCY

REGION I LABORATORY

GC/MS PURGEABLE ORGANIC ANALYSIS - DRINKING WATER

SAMPLE ID: WC108

DILUTION FACTOR(S): 1

FILE NAME(S): 07108E28

PRESERVATIVE: Cool to 4 C

DATE OF COLLECTION: 07/06/98

Acidified to pH <2

DATE OF ANALYSIS: 07/11/98

CAS No.	Compound	Conc. (ug/L)	Reporting Limits (ug/L)	MCL'S (ug/L)	QUALIFIER
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REGULATED VOC'S

75-01-4	Vinyl Chloride	ND	1	2	
75-35-4	1,1 Dichloroethylene	ND	1	7	
107-06-2	1,2 Dichloroethane	ND	1	5	
71-55-6	1,1,1 Trichloroethane	ND	1	200	
56-23-5	Carbon Tetrachloride	ND	1	5	
79-01-6	Trichloroethylene	ND	1	5	
71-43-2	Benzene	ND	1	5	
106-46-7	1,4, Dichlorobenzene	ND	1	75	
75-09-2	Methylene Chloride	ND	1	5	
156-59-2	c-1,2-Dichloroethylene	ND	1	70	
156-60-5	t-1,2-Dichloroethylene	ND	1	100	
78-87-5	1,2-Dichloropropane	ND	1	5	
79-00-5	1,1,2-Trichloroethane	ND	1	5	
127-18-4	Tetrachloroethylene	ND	1	5	
108-88-3	Toluene	ND	1	1000	
108-90-7	Chlorobenzene	ND	1	100	
100-41-4	Ethylbenzene	ND	1	700	
100-42-5	Styrene	ND	1	100	
95-50-1	1,2- Dichlorobenzene	ND	1	600	
1330-20-7	Total Xylenes	ND	2	10000	
120-82-1	1,2,4 Trichlorobenzene	ND	1	70	

TRIHALOMETHANES

67-66-3	Chloroform	ND	1		
75-27-4	Dichlorobromomethane	ND	1		
124-48-1	Dibromochloromethane	ND	1		
75-25-2	Bromoform	ND	1		
-----	Total Trihalomethanes	ND	1	100	

UNREGULATED VOC'S

				MCLG'S (ug/L)
74-87-3	Chloromethane	ND	1	
74-83-9	Bromomethane	ND	1	
74-97-5	Bromochloromethane	ND	1	
75-00-3	Chloroethane	ND	1	
75-69-4	Trichlorofluoromethane	ND	1	
75-34-3	1,1-Dichloroethane	ND	1	
10061-02-6	t-1,3-Dichloropropene	ND	1	
10061-01-5	c-1,3-Dichloropropene	ND	1	
563-58-6	1,1-Dichloropropene	ND	1	

US ENVIRONMENTAL PROTECTION AGENCY
REGION I LABORATORY
GC/MS PURGEABLE ORGANIC ANALYSIS - DRINKING WATER

SAMPLE ID:	WC108		Reporting		
	UNREGULATED VOC'S	Conc.	Limits	MCLG's	QUALIFIER
		(ug/L)	(ug/L)	(ug/L)	

108-86-1	Bromobenzene	ND	1
79-34-5	1,1,2,2-Tetrachloroethane	ND	1
630-20-6	1,1,1,2-Tetrachloroethane	ND	1
103-65-1	n-Propyl Benzene	ND	1
104-51-8	n-Butyl Benzene	ND	1
135-98-8	sec-Butylbenzene	ND	1
98-06-6	tert-Butylbenzene	ND	1
541-73-1	1,3-Dichlorobenzene	ND	1
74-95-3	Dibromomethane	ND	1
75-71-8	Dichlorodifluoromethane	ND	1
142-28-9	1,3-Dichloropropane	ND	1
590-20-7	2,2-Dichloropropane	ND	1
87-68-3	Hexachlorobutadiene	ND	1
98-82-8	Isopropylbenzene	ND	1
96-18-4	1,2,3-Trichloropropane	ND	1
99-87-6	1,4 Isopropyl toluene (para)	ND	1
91-20-3	Naphthalene	ND	1
87-61-6	1,2,3 Trichlorobenzene	ND	1
95-63-6	1,2,4 Trimethylbenzene	ND	1
108-67-8	1,3,5 Trimethylbenzene	ND	1
95-49-8	2-Chlorotoluene	ND	1
106-43-4	4-Chlorotoluene	ND	1

OTHER COMPOUNDS QUANTITATED

76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1
67-64-1	Acetone	ND	10
75-15-0	Carbon Disulfide	ND	3
78-93-3	2-Butanone (MEK)	ND	20
591-10-6	2-Hexanone	ND	2
108-10-1	4-Methyl-2-Pentanone (MIBK)	ND	2
109-99-9	Tetrahydrofuran (THF)	ND	7
60-29-7	Ethyl Ether	ND	3
106-93-4	1,2-Dibromoethane (EDB)	ND	1
96-12-8	1,2-Dibromo-3-chloropropane	ND	1

QUALITY CONTROL	Percent	Confidence
Surrogate Compounds	Recoveries	Limits
2199-69-1 1,2-Dichlorobenzene-D4	321	60-123
2037-26-5 Toluene-D8	96	80-117
460-00-4 4-Bromofluorobenzene	96	65-118

ND=Not Detected above the reporting limit.

RL=Reporting Limit

J=Approximate

NA=Not available due to dilution or interference

B=analyte is associated with lab blank

MCL=Maximum Contaminant Level

MCLG=Maximum Contaminant Level Goal

E=estimated value exceeds the calibration range

L=estimated value is below the calibration range

±=quality control acceptance criteria as per lab

FACILITY SAMPLED: NUTMEG VALLEY

US ENVIRONMENTAL PROTECTION AGENCY

REGION I LABORATORY

GC/MS PURGEABLE ORGANIC ANALYSIS - DRINKING WATER

SAMPLE ID: WC109

DILUTION FACTOR(S): 1

FILE NAME(S): 07108E29

PRESERVATIVE: Cool to 4 C

DATE OF COLLECTION: 07/06/98

Acidified to pH <2

DATE OF ANALYSIS: 07/11/98

CAS No.	Compound	Conc. (ug/L)	Reporting Limits (ug/L)	MCL'S (ug/L)	QUALIFIER
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REGULATED VOC'S

75-01-4	Vinyl Chloride	ND	1	2	
75-35-4	1,1 Dichloroethylene	ND	1	7	
107-06-2	1,2 Dichloroethane	ND	1	5	
71-55-6	1,1,1 Trichloroethane	ND	1	200	
56-23-5	Carbon Tetrachloride	ND	1	5	
79-01-6	Trichloroethylene	ND	1	5	
71-43-2	Benzene	ND	1	5	
106-46-7	1,4, Dichlorobenzene	ND	1	75	
75-09-2	Methylene Chloride	ND	1	5	
156-59-2	c-1,2-Dichloroethylene	ND	1	70	
156-60-5	t-1,2-Dichloroethylene	ND	1	100	
78-87-5	1,2-Dichloropropane	ND	1	5	
79-00-5	1,1,2-Trichloroethane	ND	1	5	
127-18-4	Tetrachloroethylene	ND	1	5	
108-88-3	Toluene	ND	1	1000	
108-90-7	Chlorobenzene	ND	1	100	
100-41-4	Ethylbenzene	ND	1	700	
100-42-5	Styrene	ND	1	100	
95-50-1	1,2- Dichlorobenzene	ND	1	600	
1330-20-7	Total Xylenes	ND	2	10000	
120-82-1	1,2,4 Trichlorobenzene	ND	1	70	

TRIHALOMETHANES

67-66-3	Chloroform	ND	1		
75-27-4	Dichlorobromomethane	ND	1		
124-48-1	Dibromochloromethane	ND	1		
75-25-2	Bromoform	ND	1		
-----	Total Trihalomethanes	ND	1	100	

UNREGULATED VOC'S

				MCLG'S (ug/L)
74-87-3	Chloromethane	ND	1	
74-83-9	Bromomethane	ND	1	
74-97-5	Bromochloromethane	ND	1	
75-00-3	Chloroethane	ND	1	
75-69-4	Trichlorofluoromethane	ND	1	
75-34-3	1,1-Dichloroethane	ND	1	
10061-02-6	t-1,3-Dichloropropene	ND	1	
10061-01-5	c-1,3-Dichloropropene	ND	1	
563-58-6	1,1-Dichloropropene	ND	1	

US ENVIRONMENTAL PROTECTION AGENCY
REGION I LABORATORY
GC/MS PURGEABLE ORGANIC ANALYSIS - DRINKING WATER

SAMPLE ID:	WC109	Reporting		
	UNREGULATED VOC'S	Conc.	Limits	MCLG's
		(ug/L)	(ug/L)	(ug/L)
				QUALIFIER
108-86-1	Bromobenzene	ND	1	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1	
103-65-1	n-Propyl Benzene	ND	1	
104-51-8	n-Butyl Benzene	ND	1	
135-98-8	sec-Butylbenzene	ND	1	
98-06-6	tert-Butylbenzene	ND	1	
541-73-1	1,3-Dichlorobenzene	ND	1	
74-95-3	Dibromomethane	ND	1	
75-71-8	Dichlorodifluoromethane	ND	1	
142-28-9	1,3-Dichloropropane	ND	1	
590-20-7	2,2-Dichloropropane	ND	1	
87-68-3	Hexachlorobutadiene	ND	1	
98-82-8	Isopropylbenzene	ND	1	
96-18-4	1,2,3-Trichloropropane	ND	1	
99-87-6	1,4 Isopropyl toluene (para)	ND	1	
91-20-3	Naphthalene	ND	1	
87-61-6	1,2,3 Trichlorobenzene	ND	1	
95-63-6	1,2,4 Trimethylbenzene	ND	1	
108-67-8	1,3,5 Trimethylbenzene	ND	1	
95-49-8	2-Chlorotoluene	ND	1	
106-43-4	4-Chlorotoluene	ND	1	

OTHER COMPOUNDS QUANTITATED

76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1
67-64-1	Acetone	ND	10
75-15-0	Carbon Disulfide	ND	3
78-93-3	2-Butanone (MEK)	ND	20
591-10-6	2-Hexanone	ND	2
108-10-1	4-Methyl-2-Pentanone (MIBK)	ND	2
109-99-9	Tetrahydrofuran (THF)	ND	7
60-29-7	Ethyl Ether	ND	3
106-93-4	1,2-Dibromoethane (EDB)	ND	1
96-12-8	1,2-Dibromo-3-chloropropane	ND	1

QUALITY CONTROL	Percent	Confidence
Surrogate Compounds	Recoveries	Limits
2199-69-1 1,2-Dichlorobenzene-D4	88	60-123
2037-26-5 Toluene-D8	91	80-117
460-00-4 4-Bromofluorobenzene	94	65-118

ND=Not Detected above the reporting limit.
RL=Reporting Limit
J=Approximate
NA=Not available due to dilution or interference
B=analyte is associated with lab blank

MCL=Maximum Contaminant Level
MCLG=Maximum Contaminant Level Goal
E=estimated value exceeds the calibration range
L=estimated value is below the calibration range
z=quality control acceptance criteria as per lab

FACILITY SAMPLED: NUTMEG VALLEY

US ENVIRONMENTAL PROTECTION AGENCY

REGION I LABORATORY

GC/MS PURGEABLE ORGANIC ANALYSIS - DRINKING WATER

SAMPLE ID: WC110

DILUTION FACTOR(S): 1

FILE NAME(S): 07108E30

PRESERVATIVE: Cool to 4 C

DATE OF COLLECTION: 07/06/98

Acidified to pH <2

DATE OF ANALYSIS: 07/11/98

CAS No.	Compound	Conc. (ug/L)	Reporting Limits (ug/L)	MCL'S (ug/L)	QUALIFIER
REGULATED VOC'S					
75-01-4	Vinyl Chloride	ND	1	2	
75-35-4	1,1 Dichloroethylene	ND	1	7	
107-06-2	1,2 Dichloroethane	ND	1	5	
71-55-6	1,1,1 Trichloroethane	ND	1	200	
56-23-5	Carbon Tetrachloride	ND	1	5	
79-01-6	Trichloroethylene	ND	1	5	
71-43-2	Benzene	ND	1	5	
106-46-7	1,4, Dichlorobenzene	ND	1	75	
75-09-2	Methylene Chloride	ND	1	5	
156-59-2	c-1,2-Dichloroethylene	ND	1	70	
156-60-5	t-1,2-Dichloroethylene	ND	1	100	
78-87-5	1,2-Dichloropropane	ND	1	5	
79-00-5	1,1,2-Trichloroethane	ND	1	5	
127-18-4	Tetrachloroethylene	ND	1	5	
108-88-3	Toluene	ND	1	1000	
108-90-7	Chlorobenzene	ND	1	100	
100-41-4	Ethylbenzene	ND	1	700	
100-42-5	Styrene	ND	1	100	
95-50-1	1,2- Dichlorobenzene	ND	1	600	
1330-20-7	Total Xylenes	ND	2	10000	
120-82-1	1,2,4 Trichlorobenzene	ND	1	70	
TRIHALOMETHANES					
67-66-3	Chloroform	ND	1		
75-27-4	Dichlorobromomethane	ND	1		
124-48-1	Dibromochloromethane	ND	1		
75-25-2	Bromoform	ND	1		
-----	Total Trihalomethanes	ND	1	100	
UNREGULATED VOC'S				MCLG'S (ug/L)	
74-87-3	Chloromethane	ND	1		
74-83-9	Bromomethane	ND	1		
74-97-5	Bromochloromethane	ND	1		
75-00-3	Chloroethane	ND	1		
75-69-4	Trichlorofluoromethane	ND	1		
75-34-3	1,1-Dichloroethane	ND	1		
10061-02-6	t-1,3-Dichloropropene	ND	1		
10061-01-5	c-1,3-Dichloropropene	ND	1		
563-58-6	1,1-Dichloropropene	ND	1		

US ENVIRONMENTAL PROTECTION AGENCY
REGION I LABORATORY
GC/MS PURGEABLE ORGANIC ANALYSIS - DRINKING WATER

SAMPLE ID:	WC110		Reporting		
	UNREGULATED VOC'S	Conc.	Limits	MCLG's	QUALIFIER
		(ug/L)	(ug/L)	(ug/L)	

108-86-1	Bromobenzene	ND	1
79-34-5	1,1,2,2-Tetrachloroethane	ND	1
630-20-6	1,1,1,2-Tetrachloroethane	ND	1
103-65-1	n-Propyl Benzene	ND	1
104-51-8	n-Butyl Benzene	ND	1
135-98-8	sec-Butylbenzene	ND	1
98-06-6	tert-Butylbenzene	ND	1
541-73-1	1,3-Dichlorobenzene	ND	1
74-95-3	Dibromomethane	ND	1
75-71-8	Dichlorodifluoromethane	ND	1
142-28-9	1,3-Dichloropropane	ND	1
590-20-7	2,2-Dichloropropane	ND	1
87-68-3	Hexachlorobutadiene	ND	1
98-82-8	Isopropylbenzene	ND	1
96-18-4	1,2,3-Trichloropropane	ND	1
99-87-6	1,4 Isopropyl toluene (para)	ND	1
91-20-3	Naphthalene	ND	1
87-61-6	1,2,3 Trichlorobenzene	ND	1
95-63-6	1,2,4 Trimethylbenzene	ND	1
108-67-8	1,3,5 Trimethylbenzene	ND	1
95-49-8	2-Chlorotoluene	ND	1
106-43-4	4-Chlorotoluene	ND	1

OTHER COMPOUNDS QUANTITATED

76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1
67-64-1	Acetone	ND	10
75-15-0	Carbon Disulfide	ND	3
78-93-3	2-Butanone (MEK)	ND	20
591-10-6	2-Hexanone	ND	2
108-10-1	4-Methyl-2-Pentanone (MIBK)	ND	2
109-99-9	Tetrahydrofuran (THF)	ND	7
60-29-7	Ethyl Ether	ND	3
106-93-4	1,2-Dibromoethane (EDB)	ND	1
96-12-8	1,2-Dibromo-3-chloropropane	ND	1

QUALITY CONTROL	Percent	Confidence
Surrogate Compounds	Recoveries	Limits
2199-69-1 1,2-Dichlorobenzene-D4	96	60-123
2037-26-5 Toluene-D8	101	80-117
460-00-4 4-Bromofluorobenzene	104	65-118

ND=Not Detected above the reporting limit.
RL=Reporting Limit
J=Approximate
NA=Not available due to dilution or interference
B=analyte is associated with lab blank

MCL=Maximum Contaminant Level
MCLG=Maximum Contaminant Level Goal
E=estimated value exceeds the calibration range
L=estimated value is below the calibration range
±=quality control acceptance criteria as per lab

FACILITY SAMPLED: NUTMEG VALLEY

US ENVIRONMENTAL PROTECTION AGENCY

REGION I LABORATORY

GC/MS PURGEABLE ORGANIC ANALYSIS - DRINKING WATER

SAMPLE ID: 98493-Trip Blank

FILE NAME(S): 07108E25

DATE OF COLLECTION: 07/06/98

DATE OF ANALYSIS: 07/11/98

DILUTION FACTOR(S): 1

PRESERVATIVE: Cool to 4 C

Acidified to pH <2

CAS No.	Compound	Conc. (ug/L)	Reporting Limits (ug/L)	MCL'S (ug/L)	QUALIFIER
REGULATED VOC'S					
75-01-4	Vinyl Chloride	ND	1	2	
75-35-4	1,1 Dichloroethylene	ND	1	7	
107-06-2	1,2 Dichloroethane	ND	1	5	
71-55-6	1,1,1 Trichloroethane	ND	1	200	
56-23-5	Carbon Tetrachloride	ND	1	5	
79-01-6	Trichloroethylene	ND	1	5	
71-43-2	Benzene	ND	1	5	
106-46-7	1,4, Dichlorobenzene	ND	1	75	
75-09-2	Methylene Chloride	ND	1	5	
156-59-2	c-1,2-Dichloroethylene	ND	1	70	
156-60-5	t-1,2-Dichloroethylene	ND	1	100	
78-87-5	1,2-Dichloropropane	ND	1	5	
79-00-5	1,1,2-Trichloroethane	ND	1	5	
127-18-4	Tetrachloroethylene	ND	1	5	
108-88-3	Toluene	ND	1	1000	
108-90-7	Chlorobenzene	ND	1	100	
100-41-4	Ethylbenzene	ND	1	700	
100-42-5	Styrene	ND	1	100	
95-50-1	1,2- Dichlorobenzene	ND	1	600	
1330-20-7	Total Xylenes	ND	2	10000	
120-82-1	1,2,4 Trichlorobenzene	ND	1	70	
TRIHALOMETHANES					
67-66-3	Chloroform	ND	1		
75-27-4	Dichlorobromomethane	ND	1		
124-48-1	Dibromochloromethane	ND	1		
75-25-2	Bromoform	ND	1		
-----	Total Trihalomethanes	ND	1	100	
UNREGULATED VOC'S				MCLG'S (ug/L)	
74-87-3	Chloromethane	ND	1		
74-83-9	Bromomethane	ND	1		
74-97-5	Bromochloromethane	ND	1		
75-00-3	Chloroethane	ND	1		
75-69-4	Trichlorofluoromethane	ND	1		
75-34-3	1,1-Dichloroethane	ND	1		
10061-02-6	t-1,3-Dichloropropene	ND	1		
10061-01-5	c-1,3-Dichloropropene	ND	1		
563-58-6	1,1-Dichloropropene	ND	1		

US ENVIRONMENTAL PROTECTION AGENCY
REGION I LABORATORY
GC/MS PURGEABLE ORGANIC ANALYSIS - DRINKING WATER

SAMPLE ID:	98493-Trip Blank	Reporting		
	UNREGULATED VOC'S	Limits	MCLG's	QUALIFIER
		(ug/L)	(ug/L)	

108-86-1	Bromobenzene	ND	1
79-34-5	1,1,2,2-Tetrachloroethane	ND	1
630-20-6	1,1,1,2-Tetrachloroethane	ND	1
103-65-1	n-Propyl Benzene	ND	1
104-51-8	n-Butyl Benzene	ND	1
135-98-8	sec-Butylbenzene	ND	1
98-06-6	tert-Butylbenzene	ND	1
541-73-1	1,3-Dichlorobenzene	ND	1
74-95-3	Dibromomethane	ND	1
75-71-8	Dichlorodifluoromethane	ND	1
142-28-9	1,3-Dichloropropane	ND	1
590-20-7	2,2-Dichloropropane	ND	1
87-68-3	Hexachlorobutadiene	ND	1
98-82-8	Isopropylbenzene	ND	1
96-18-4	1,2,3-Trichloropropane	ND	1
99-87-6	1,4 Isopropyl toluene (para)	ND	1
91-20-3	Naphthalene	ND	1
87-61-6	1,2,3 Trichlorobenzene	ND	1
95-63-6	1,2,4 Trimethylbenzene	ND	1
108-67-8	1,3,5 Trimethylbenzene	ND	1
95-49-8	2-Chlorotoluene	ND	1
106-43-4	4-Chlorotoluene	ND	1

OTHER COMPOUNDS QUANTITATED

76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1
67-64-1	Acetone	ND	10
75-15-0	Carbon Disulfide	ND	3
78-93-3	2-Butanone (MEK)	ND	20
591-10-6	2-Hexanone	ND	2
108-10-1	4-Methyl-2-Pentanone (MIBK)	ND	2
109-99-9	Tetrahydrofuran (THF)	ND	7
60-29-7	Ethyl Ether	ND	3
106-93-4	1,2-Dibromoethane (EDB)	ND	1
96-12-8	1,2-Dibromo-3-chloropropane	ND	1

QUALITY CONTROL	Percent	Confidence
Surrogate Compounds	Recoveries	Limits
2199-69-1 1,2-Dichlorobenzene-D4	89	60-123
2037-26-5 Toluene-D8	96	80-117
460-00-4 4-Bromofluorobenzene	95	65-118

ND=Not Detected above the reporting limit.	MCL=Maximum Contaminant Level
RL=Reporting Limit	MCLG=Maximum Contaminant Level Goal
J=Approximate	E=estimated value exceeds the calibration range
NA=Not available due to dilution or interference	L=estimated value is below the calibration range
B=analyte is associated with lab blank	z=quality control acceptance criteria as per lab