112035

APPENDIX I

ERT/REAC WELL SAMPLING PROGRAM: VOLATILE ORGANIC COMPOUNDS
NOVEMBER 9-12, 1987

Analytical Report

HEREFORD TOWNSHIP SITE

Berks County, Pennsylvania

December 10, 1987

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INTRODUCTION

On November 11, 1987, twenty-seven (27) water samples were received from the Hereford Township site, located in Berks County, Pa.
An additional four (4) samples were received on November 12, 1987. The analysis requested was volatile organics. The volatile organic analysis was performed by Weston - REAC personnel.

VOLATILE ORGANIC ANALYSIS

Instrument Parameters

The water samples were analyzed by purge and trap-FID-GC following the guidelines of EPA Methods 601 and 602 of the Federal Register. The following is a list of the test parameters:

Methylene Chloride	Trichloroethene
1,1-Dichloroethane	Benzene
1,1-Dichloroethene	Dibromochloromethane
trans-1,2-Dichloroethene	1,1,2-Trichloroethane
Chloroform	cis-1,3-Dichloropropene
1,2-Dichloroethane	Bromoform
1,1,1-Trichloroethane	1,1,2,2,-Tetrachloroethane
Carbon Tetrachloride	Tetrachloroethene
Bromodichloromethane	Toluene
1,2-Dichloropropane	Chlorobenzene
trans-1,3-Dichloropropene	Ethyl Benzene

Dibromochloromethane, 1,1,2-trichloroethane, and cis-1,3-dichloropropene are coeluting compounds,thus positive identification and quantification of these compounds are not possible.

Tetrachloroethene and 1,1,2,2-tetrachloroethane are also coeluting compounds. Since 1,1,2,2-tetrachloroethane is rarely encountered in environmental samples, all peaks falling within this retention time window have been identified and quantified as tetrachloroethene. Two different stocks of Supelco Purgeable A standard were analyzed during this analysis to determine the percent tetrachloroethene in the 1,1,2,2-tetrachloroethane-tetrachloroethene mixture. The percentage of tetrachloroethene in the standard mixture was 79.3% for samples analyzed on November 17, 1987. The percentage of the tetrachloroethene was 84.9% for samples analyzed on November 18 and 19, 1987.

A Tekmar Purge and Trap concentrator equipped with automatic liquid sampler and interfaced with a Hewlett-Packard 5840 Gas Chromatograph, ID number 111061, was used for this analysis. The instrument conditions were set as follows:

Oven Temp 1:	60° C
Time 1:	3.0 min
Rate:	8.0° C/min
Oven Temp 2:	210° C
Time 2:	10.0 min
Injection Temp:	225° C
FID Temp:	300° C
Chart Speed:	1.0 cm/min
Zero	10.0%
Slope Sen.:	0.07
Helium Flow:	34ml/min
Column:	6'x 2mm glass packed with 60/80 mesh Carbopak B coated with 1% SP-1000

Calibration Parameters

Method blanks and standards were prepared using 10 milliliters of nitrogen purged organic-free water. A five-point calibration range from 5 to 200 ug/L was prepared from Supelco Purgeable A and B standards and analyzed on Nov. 12, 1987. On Nov. 17, 1987, it was discovered that the curve would not be linear at the higher range. The detector could not handle the amount of nanograms (ng) needed for a 200 ug/L standard in a 10 milliliter sample. Therefore, a five-point calibration range from 5 to 100 ug/L was used. The curve consists of standards run on November 12 through November 17. The standards run prior to Nov. 17, 1987 were compared to each days daily 50 ug/L center standard. Relative error (Ec%) was also calculated. The standards run on Nov. 17, 1987 were compared to that days daily 25 ug/L center standard and relative error (Ec%) was calculated. The 25 ug/L daily standard for Nov. 19, 1987 had three compounds which were not within 10% of the standard curve (25 ug/L). These were trichloroethene - 13.6%, 1,2-dichloroethane - 17%, and the 3-coeluters - 18%.

Background contamination consisting of bromodichloromethane and toluene was found in the water blanks and bromochloromethane (BCM) samples. This was subtracted from all standards and samples before any calculations to determine sample concentration were performed. After subtraction of contamination, bromodichloromethane still remained out of control, even by linear regression. The BCM contamination was due to contaminated methanol used to prepare the surrogate standard. On Nov. 19, 1987 the system contamination was more pronounced in samples 9195, 9202, 9152, 9183, 9184, 9189, 9191, 9196, 9190 and 9194 for methylene chloride and bromodichloromethane, which were analyzed after 11 p.m.

The peak at the approximate retention time of 15.90 was attributed to hexane contamination. This was due to the dilution and analysis of samples for PCB samples which were performed concurrently in the laboratory.

Sample calculations were based on the response of a 25 ug/L daily standard according to the following equation:

$$\text{Sample conc. (ug/L)} = \frac{\text{S.R.}}{\text{Std. R.}} \times \text{Std. C.} \times \text{D.F.}$$

S.R. = Sample Response
Std. R. = Standard Response
Std. C. = Standard Concentration (ug/L)
D.F. = Dilution factor (ml/ml)

Table 1 presents the results for this analysis.

Determination of the Detection Limits

The theoretical detection limits were known from prior analyses and were confirmed by the analysis of Supelco A and B standards at the 2 ug/L level for all compounds except for bromoform which is 5 ug/L.

WELL ID--SAMPLE # KEY

WELL ID	NAME	SAMPLE #
R-1	Audolph	9208
R-5	Berry	9190
R-10	Clemmer	9185
R-11	Crum	9212
R-12	Debbern	9154
R-13	Dewart	9209
R-16	Eckert	9205
R-17	Finegan	9196
R-18	Flannery	9152
R-19	Fronheiser	9150
----	Geisinger #1	9204
R-20	Geisinger #2	9203
R-21	Grater	9151
R-22	Hausman	9211
R-23	Hill	9198
R-24	Hoffmeister	9199
R-25	Johnson	9188
R-26	Karolesky	9184
R-29	Meitzler, J.	9189
R-30	Meitzler, K.	9191
R-31	Miller, G.	9201
R-32	Miller, L.	9206
R-34	Moyer	9202
R-36	Sobjack	9207
R-37	Stephens	9210
R-38	Swavely	9197
R-39	Wagner (residence)	9195
R-40	Wagner (tenant)	9183
R-41	Wetzel, D.	9194
R-43	Woodland Mobile Home #1	9192
----	Woodland Mobile Home #2	9193

SAMPLE #--WELL ID KEY

SAMPLE #	WELL ID	NAME
9150	R-19	Fronheiser
9151	R-21	Grater
9152	R-18	Flannery
9154	R-12	Debbern
9183	R-40	Wagner (tenant)
9184	R-26	Karolesky
9185	R-10	Clemmer
9188	R-25	Johnson
9189	R-29	Meitzler, J.
9190	R-5	Berry
9191	R-30	Meitzler, K.
9192	R-43	Woodland Mobile Home #1
9193	----	Woodland Mobile Home #2
9194	R-41	Wetzel, D.
9195	R-39	Wagner (residence)
9196	R-17	Finegan
9197	R-38	Swavely
9198	R-23	Hill
9199	R-24	Hoffmeister
9201	R-31	Miller, G.
9202	R-34	Moyer
9203	R-20	Geisinger #2
9204	----	Geisinger #1
9205	R-16	Eckert
9206	R-32	Miller, L.
9207	R-36	Sobjack
9208	R-1	Audolph
9209	R-13	Dewart
9210	R-37	Stephens
9211	R-22	Hausman
9212	R-11	Crum

Table 1. Results of Volatile Organic Analysis

(concentrations reported as ug/L)

Parameter	9150	9192	9198	9204
Methylene Chloride	[2.9]	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND
Trans-1,2-Dichloroethene	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND
Trans-1,3-Dichloropropene	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND
Benzene	ND	ND	ND	ND
Dibromochloromethane*	ND	ND	ND	ND
1,1,2-Trichloroethane*	ND	ND	ND	ND
cis-1,3-Dichloropropene*	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane#	ND	ND	ND	ND
Tetrachloroethene#	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND
Ethyl Benzene	ND	ND	ND	ND

*,# denote coeluting compounds
[] denote an approximate value between the detection limit and the limit of quantification.

Table 1. Results of Volatile Organic Analysis (cont.)

(concentrations reported as ug/L)

Parameter	9205	9209	9210	9211	9212
Methylene Chloride	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND
Trans-1,2-Dichloroethene	ND	ND	ND	ND	ND
Chloroform	ND	ND	[3.4]	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND
Trans-1,3-Dichloropropene	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	[2.5]
Benzene	ND	ND	ND	ND	ND
Dibromochloromethane*	ND	ND	ND	ND	ND
1,1,2-Trichloroethane*	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene*	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane#	ND	ND	ND	ND	ND
Tetrachloroethene#	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND
Ethyl Benzene	ND	ND	ND	ND	ND

*,# denote coeluting compounds
[] denote an approximate value between the detection limit and the limit of quantification.

Table 1. Results of Volatile Organic Analysis (cont.)

(concentrations reported as ug/L)

Parameter	9203	9185	9197	9199
Methylene Chloride	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND
Trans-1,2-Dichloroethene	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND
Bromodichloromethane	[2.8]	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND
Trans-1,3-Dichloropropene	ND	ND	ND	ND
Trichloroethene	ND	21.1	6.0	ND
Benzene	ND	ND	ND	ND
Dibromochloromethane*	ND	ND	ND	ND
1,1,2-Trichloroethane*	ND	ND	ND	ND
cis-1,3-Dichloropropene*	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane#	ND	ND	ND	ND
Tetrachloroethene#	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND
Ethyl Benzene	ND	ND	ND	ND

*,# denote coeluting compounds
[] denote an approximate value between the detection limit and the limit of quantification.

Table 1. Results of Volatile Organic Analysis (cont.)

(concentrations reported as ug/L)

Parameter	9201	9154	9151	9195	9202
Dilution	1/10	1/10		1/100	1/100
Methylene Chloride	ND	ND	ND	[444+]	[406+]
1,1-Dichloroethene	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND
Trans-1,2-Dichloroethene	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND
Trans-1,3-Dichloropropene	ND	ND	ND	ND	ND
Trichloroethene	489	409	ND	1180	2790
Benzene	ND	ND	ND	ND	ND
Dibromochloromethane*	ND	ND	ND	ND	ND
1,1,2-Trichloroethane*	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene*	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane#	ND	ND	ND	ND	ND
Tetrachloroethene#	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND
Ethyl Benzene	ND	ND	ND	ND	ND

*,# denote coeluting compounds
[] denote an approximate value between the detection limit and the limit of quantification.
+ denotes contamination

Table 1. Results of Volatile Organic Analysis (cont.)

(concentrations reported as ug/L)

Parameter	9207	9208	9188	9193	9206
Dilution			1/10	1/10	
Methylene Chloride	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND
Trans-1,2-Dichloroethene	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND
Trans-1,3-Dichloropropene	ND	ND	ND	ND	ND
Trichloroethene	27.2	ND	366	90.5	ND
Benzene	ND	ND	ND	ND	ND
Dibromochloromethane*	ND	ND	ND	ND	ND
1,1,2-Trichloroethane*	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene*	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane#	ND	ND	ND	ND	ND
Tetrachloroethene#	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND
Ethyl Benzene	ND	ND	ND	ND	ND

*,# denote coeluting compounds
[] denote an approximate value between the detection limit and the limit of quantification.

Table 1. Results of Volatile Organic Analysis (cont.)

(concentrations reported as ug/L)

Parameter	9152	9183	9184	9189	9191
Dilution	1/100	1/100	1/100	1/100	1/200
Methylene Chloride	[423+]	[480+]	[481+]	[462+]	1040+
1,1-Dichloroethene	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND
Trans-1,2-Dichloroethene	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND
Trans-1,3-Dichloropropene	ND	ND	ND	ND	ND
Trichloroethene	[441]	[392]	[245]	564	8380
Benzene	ND	ND	ND	ND	ND
Dibromochloromethane*	ND	ND	ND	ND	ND
1,1,2-Trichloroethane*	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene*	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane#	ND	ND	ND	ND	ND
Tetrachloroethene#	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND
Ethyl Benzene	ND	ND	ND	ND	ND

*,# denote coeluting compounds
[] denote an approximate value between the detection limit and the limit of quantification.
+ denotes contamination

Table 1. Results of Volatile Organic Analysis (cont.)

(concentrations reported as ug/L)

Parameter	9196	9190	9194
Dilution	1/100	1/100	1/200
Methylene Chloride	[440+]	[492+]	1030+
1,1-Dichloroethene	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND
Trans-1,2-Dichloroethene	ND	ND	ND
Chloroform	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND
Bromodichloromethane	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND
Trans-1,3-Dichloropropene	ND	ND	ND
Trichloroethene	[343]	637	12200
Benzene	ND	ND	ND
Dibromochloromethane*	ND	ND	ND
1,1,2-Trichloroethane*	ND	ND	ND
cis-1,3-Dichloropropene*	ND	ND	ND
Bromoform	ND	ND	ND
1,1,2,2-Tetrachloroethane#	ND	ND	ND
Tetrachloroethene#	ND	ND	ND
Toluene	ND	ND	ND
Chlorobenzene	ND	ND	ND
Ethyl Benzene	ND	ND	ND

*,# denote coeluting compounds
[] denote an approximate value between the detection limit and the limit of quantification.
+ denotes contamination

QA/QC PROCEDURES

Volatile Organic Analysis

The surrogate standard recoveries for bromochloromethane are listed in Table 2. The recoveries range from 89.2% to 109%, all of which fall within acceptable limits.

The matrix spike of sample 9198 is shown on Table 3. The recoveries ranged from 83% for bromoform to 114% for methylene chloride. The recovery for bromodichloromethane was 188% and 196% due to system contamination. The matrix spikes for samples 9203 and 9151 are on Tables 4 and 5, respectively. The recoveries for sample 9203 ranged from 87% for 1,2-dichloroethane to 113% for chloroform. The bromodichloromethane was 220% and 230% due to system contamination. The recoveries for sample 9151 ranged from 90% for methylene chloride to 113% for bromoform. The bromodichloromethane was 192% and 230% due to system contamination. All recoveries except for bromodichlormethane are considered acceptable.

EMSL performance evaluation standard results are shown in Table 6. The recoveries ranged from 106% to 133% for the analysis on Nov. 16, 1987, with the recovery for bromodichloromethane being 167%. The percent recoveries for Nov. 18, 1987, ranged from 85.6% to 116% and the recovery for bromodichloromethane being 151%. As stated before, the high recoveries for bromodichloromethane were due to system contamination.

Table 2. Surrogate Standard Recoveries

for Volatile Organic Analysis

Date	Sample	% Recovery
11/12/87		
	5 ppb A and B	92.2
	10 ppb A and B	99.9
	50 ppb A and B	103
11/16/87		
	50 ppb A and B	104
	50 ppb A only	98.2
	100 ppb A and B	99.9
	EMSL 483 conc 3	107
11/17/87		
	25 ppb A and B	105
	50 ppb A and B	109
	9150	105
	9192	101
	9198	99.8
	9204	101
	9205	98.2
	9209	99.6
	9210	91.8
	9211	94.6
	9198 spike 10 ug/L	104
	9198 spike 10 ug/L	99.8
	9212	98.1
	9203	103
	25 ppb A and B	99.1

Table 2. Surrogate Standard Recoveries (con't)

for Volatile Organic Analysis

Date	Sample	% Recovery
11/18/87		
	25 ppb A and B	100
	9185	95.9
	9197	95.9
	9199	92.2
	9207	91.1
	9208	89.8
	EMSL WP483 conc 3	91.8
	9203 spike 10 ug/L	92.2
	9203 spike 10 ug/L	89.2
	50 ppb A only	96.2
	9188	94.9
11/19/87		
	9193	90.9
	9206	97.9
	9201	91.3
	9154	89.8
	25 ppb A and B	98.9
	9151	92.4
	9151 spike 10 ug/L	103
	9151 spike 10 ug/L	106
	9195	97.9
	9202	94.8
	9152	99.5
	9183	102
	9184	97.5
	9189	95.9
	9191	102
	9196	91.7
	9190	94.4
	9194	92.5
	2 ppb A and B	95.8

Table 4. Matrix Spike/Matrix Spike Duplicate Recoveries

(concentrations reported as ug/L)

Sample 9203

Parameter	Sample Conc.	Spike Added	Recovered Conc.		% Recovery		RPD
Methylene Chloride	ND	10	9.7	9.5	97	95	2.1
1,1-Dichloroethene	ND	10	9.6	9.1	96	91	5.3
1,1-Dichloroethane	ND	10	9.9	9.7	99	97	2.0
Trans-1,2-Dichloroethene	ND	10	9.8	9.2	98	92	6.3
Chloroform	ND	10	11.3	10.8	113	108	4.5
1,2-Dichloroethane	ND	10	9.6	8.7	96	87	9.8
1,1,1-Trichloroethane	ND	10	10.0	10.0	100	100	0.0
Carbon Tetrachloride	ND	10	9.8	9.5	98	95	3.1
Bromodichloromethane+	ND	10	22.0	23.0	220	230	4.4
1,2-Dichloropropane	ND	10	9.9	9.6	99	96	3.1
Trans-1,3-Dichloropropene	ND	10	9.4	8.7	94	87	7.7
Trichloroethene	ND	10	9.7	9.1	97	91	6.4
Benzene	ND	10	9.9	9.4	99	94	5.2
Dibromochloromethane*	ND	10	9.4	8.8	94	88	6.6
1,1,2-Trichloroethane*	ND	10	9.4	8.8	94	88	6.6
cis-1,3-Dichloropropene*	ND	10	9.4	8.8	94	88	6.6
Bromoform	ND	10	10.4	10.4	104	104	0.0
1,1,2,2-Tetrachloroethane#	ND	10	10.0	9.2	100	92	6.3
Tetrachloroethene#	ND	10	10.0	9.2	100	92	6.3
Toluene	ND	10	9.6	8.9	96	89	7.6
Chlorobenzene	ND	10	9.7	9.1	97	91	6.4
Ethyl Benzene	ND	10	10.0	9.3	100	93	7.3

*,# denote coeluting compounds
[] denotes an approximate value between the detection limit and the limit of quantification.
+ denotes contamination

Table 3. Matrix Spike/Matrix Spike Duplicate Recoveries

(concentrations reported as ug/L)

Sample 9198

Parameter	Sample Conc.	Spike Added	Recovered Conc.		% Recovery		RPD
Methylene Chloride	ND	10	11.4	9.6	114	96	17.1
1,1-Dichloroethene	ND	10	9.1	9.4	91	94	3.2
1,1-Dichloroethane	ND	10	9.2	9.4	92	94	2.2
Trans-1,2-Dichloroethene	ND	10	9.3	9.5	93	95	2.1
Chloroform	ND	10	9.7	10.2	97	102	5.0
1,2-Dichloroethane	ND	10	9.2	9.5	92	95	3.2
1,1,1-Trichloroethane	ND	10	9.4	10.1	94	101	7.2
Carbon Tetrachloride	ND	10	9.2	9.7	92	97	5.3
Bromodichloromethane+	ND	10	18.8	19.6	188	196	4.2
1,2-Dichloropropane	ND	10	9.3	9.6	93	96	3.2
Trans-1,3-Dichloropropene	ND	10	9.6	9.6	96	96	0.0
Trichloroethene	ND	10	10.4	9.6	104	96	8.0
Benzene	ND	10	9.5	9.6	95	96	1.0
Dibromochloromethane*	ND	10	9.4	9.7	94	97	3.1
1,1,2-Trichloroethane*	ND	10	9.4	9.7	94	97	3.1
cis-1,3-Dichloropropene*	ND	10	9.4	9.7	94	97	3.1
Bromoform	ND	10	8.3	8.3	83	83	0.0
1,1,2,2-Tetrachloroethane#	ND	10	9.7	10.7	97	107	9.8
Tetrachloroethene#	ND	10	9.7	10.7	97	107	9.8
Toluene	ND	10	10.2	9.8	102	98	4.0
Chlorobenzene	ND	10	10.7	9.7	107	97	9.8
Ethyl Benzene	ND	10	11.2	10.0	112	100	11.3

*,# denote coeluting compounds
[] denotes an approximate value between the detection limit and the limit of quantification.
+ denotes contamination

Table 5. Matrix Spike/Matrix Spike Duplicate Recoveries

(concentrations reported as ug/L)

Sample 9151

Parameter	Sample Conc.	Spike Added	Recovered Conc.		% Recovery		RPD
Methylene Chloride	ND	10	9.0	9.4	90	94	4.3
1,1-Dichloroethene	ND	10	9.9	10.4	99	104	4.9
1,1-Dichloroethane	ND	10	9.9	10.5	99	105	5.9
Trans-1,2-Dichloroethene	ND	10	9.9	10.3	99	103	4.0
Chloroform	ND	10	9.1	10.2	91	102	11.4
1,2-Dichloroethane	ND	10	10.1	10.8	101	108	6.7
1,1,1-Trichloroethane	ND	10	10.6	10.9	106	109	2.8
Carbon Tetrachloride	ND	10	10.3	10.7	103	107	3.8
Bromodichloromethane+	ND	10	23.0	19.2	230	192	18.0
1,2-Dichloropropane	ND	10	10.2	10.5	103	105	2.9
Trans-1,3-Dichloropropene	ND	10	10.2	10.4	102	104	1.9
Trichloroethene	ND	10	11.8	10.8	118	108	8.9
Benzene	ND	10	10.2	10.4	102	104	1.9
Dibromochloromethane*	ND	10	10.6	10.8	106	108	1.9
1,1,2-Trichloroethane*	ND	10	10.6	10.8	106	108	1.9
cis-1,3-Dichloropropene*	ND	10	10.6	10.8	106	108	1.9
Bromoform	ND	10	10.0	11.3	100	113	12.2
1,1,2,2-Tetrachloroethane#	ND	10	11.1	11.2	111	112	0.9
Tetrachloroethene#	ND	10	11.1	11.2	111	112	0.9
Toluene	ND	10	10.5	10.5	105	105	0.0
Chlorobenzene	ND	10	10.9	10.5	109	105	3.7
Ethyl Benzene	ND	10	11.1	10.7	111	107	3.7

*,# denote coeluting compounds
[] denotes an approximate value between the detection limit and the limit of quantification.
+ denotes contamination

Table 6. EMSL Performance Evaluation Analysis

(concentrations reported as ug/L)

Parameter	Recovered Conc.	True** Conc.	% Recovery
November 16, 1987			
Chloroform	82.9	75.0	111
1,2-Dichloroethane	20.6	15.5	133
1,1,1-Trichloroethane	11.3	9.5	119
Carbon Tetrachloride	30.3	28.0	108
Bromodichloromethane	12.5	7.5	167*
Trichloroethene	9.2	7.5	123
Bromoform	25.	19.5	128
Tetrachloroethene	13.3	12.5	106
November 18, 1987			
Chloroform	81.8	75.0	109.5
1,2-Dichloroethane	17.5	15.5	113
1,1,1-Trichloroethane	11.0	9.5	116
Carbon Tetrachloride	30.0	28.0	107
Bromodichloromethane	11.3	7.5	151*
Trichloroethene	7.3	7.5	97.3
Bromoform	16.7	19.5	85.6
Tetrachloroethene	12.9	12.5	103

** True value as determined by EMSL.

* High recovery due to system contamination

APPENDIX J

ERT/REAC WELL SAMPLING PROGRAM: VOLATILE ORGANIC COMPOUNDS
MAY 9-12, 1988

Analytical Report

HEREFORD TOWNSHIP
Hereford, PA

Prepared By:
Roy F. Weston/REAC

June 20, 1988

EPA Work Assignment Number: 0-14
Weston Work Order: 3347-01-01-1014
EPA Contract Number: 68-03-3482

Submitted to:
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AR100190

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Raw data from Intech Biolabs

INTRODUCTION

On May 11 and 12, 1988, sixty aqueous samples were received from the Hereford Township site in Pennsylvannia. Analysis for volatile organics was requested. The samples were shipped to Intech Biolabs for analysis.

PROCEDURE

The samples were analyzed according to EPA method 624. A summary of this method appears in Appendix A.

In samples 1646, 1649, 1655, and 1725, the concentration of the trichloroethylene exceeded the highest calibration curve standard, and the samples were not reanalyzed.

The blank values for the samples have been subtracted and appear in Table 1 subsequent to the slash with the recovered values.

WELL ID--SAMPLE # KEY

WELL ID		SAMPLE #
MW-1-OB		1635
MW-1.1-OB		1636
MW-1.2-OB		1637
MW-1-R		1638
MW-2.1-OB		1640
MW-2-R		1641
MW-2-DR		1642
MW-3-OB		1643
MW-3-DOB		1644
MW-4-OB		1645
MW-4-R		1646
MW-5-OB		1647
MW-5-DOB		1648
MW-5-R		1649
MW-6-OB		1650
MW-6-R		1651
MW-7-OB		1652
MW-7-R		1653
MW-7-DR		1654
MW-8-R		1655
R-1	Audolph	1717
R-2	Bechtel (deep)	1730
R-2A	Bechtel (shallow)	1729
R-3	Beckner	1713
R-5	Berry	1733
R-6	Brown	1748
R-7	Brungard	1744
R-8A	Camp Mensch Mill (camp)	1726
R-8	Camp Mensch Mill (caretaker)	1727
R-10	Clemmer	1720
R-11	Crum	1721
R-12	Debbern	1739
R-14	Donovan	1749
R-16	Eckert	1745
R-17	Finegan	1750
R-19	Fronheiser	1747
R-20	Geisinger #2	1724
R-21	Grater	1735
R-22	Hausman	1734
R-23	Hill	1728
R-24	Hoffmeister	1741
R-25	Johnson	1740
R-26	Karolesky	1719
R-27	Kearns (barn)	1742
R-27A	Kearns (residence)	1743
R-28	Kuhns	1746
R-29	Meitzler, J.	1732
R-30	Meitzler, K.	1738
R-31	Miller, G.	1731
R-32	Miller, L.	1723
R-34	Moyer	1715
R-35	Sanzo	1725
R-36	Sobjack	1718
R-37	Stephens	1714
R-38	Swavely	1716
R-39	Wagner (residence)	1737
R-40	Wagner (tenant)	1736
R-41	Wetzel, D.	1722
Treatment system effluent (MW-4-R)		1657
Field Blank (05/12/88)		1711

SAMPLE #--WELL ID KEY

SAMPLE #	WELL ID	
1635	MW-1-OB	
1636	MW-1.1-OB	
1637	MW-1.2-OB	
1638	MW-1-R	
1640	MW-2.1-OB	
1641	MW-2-R	
1642	MW-2-DR	
1643	MW-3-OB	
1644	MW-3-DOB	
1645	MW-4-OB	
1646	MW-4-R	
1647	MW-5-OB	
1648	MW-5-DOB	
1649	MW-5-R	
1650	MW-6-OB	
1651	MW-6-R	
1652	MW-7-OB	
1653	MW-7-R	
1654	MW-7-DR	
1655	MW-8-R	
1657	Treatment system effluent (MW-4-R)	
1711	Field Blank (05/12/88)	
1713	R-3	Beckner
1714	R-37	Stephens
1715	R-34	Moyer
1716	R-38	Swavely
1717	R-1	Audolph
1718	R-36	Sobjack
1719	R-26	Karolesky
1720	R-10	Clemmer
1721	R-11	Crum
1722	R-41	Wetzel, D.
1723	R-32	Miller, L.
1724	R-20	Geisinger #2
1725	R-35	Sanzo
1726	R-8A	Camp Mensch Mill (camp)
1727	R-8	Camp Mensch Mill (caretaker)
1728	R-23	Hill
1729	R-2A	Bechtel (shallow)
1730	R-2	Bechtel (deep)
1731	R-31	Miller, G.
1732	R-29	Meitzler, J.
1733	R-5	Berry
1734	R-22	Hausman
1735	R-21	Grater
1736	R-40	Wagner (tenant)
1737	R-39	Wagner (residence)
1738	R-30	Meitzler, K.
1739	R-12	Debbern
1740	R-25	Johnson
1741	R-24	Hoffmeister
1742	R-27	Kearns (barn)
1743	R-27A	Kearns (residence)
1744	R-7	Brungard
1745	R-16	Eckert
1746	R-28	Kuhns
1747	R-19	Fronheiser
1748	R-6	Brown
1749	R-14	Donovan
1750	R-17	Finegan

Table 1. Results of Volatile Organic Analysis
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/9/88 1635 10X DIL (500UL/5MLS)

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	100
BROMOMETHANE	ND	100
VINYL CHLORIDE	ND	100
CHLOROETHANE	ND	100
METHYLENECHLORIDE	127 /26 B	50
ACETONE	ND	1000
ACROLEIN	ND	200
ACRYLONITRILE	ND	200
CARBON DISULFIDE	ND	50
TRICHLOROFLUOROMETHANE	ND	50
1-1.DICHLOROETHENE	ND	50
1,1.DICHLOROETHANE	ND	50
TRANS1-2.DICHLOROETHENE	ND	50
CHLOROFORM	ND	50
1-2.DICHLOROETHANE	ND	100
2-BUTANONE	ND	1000
1-1-1.TRICHLOROETHANE	ND	50
CARBONTETRACHLORIDE	ND	50
VINYL ACETATE	ND	500
BROMODICHLOROMETHANE	ND	50
1-2.DICHLOROPROPANE	ND	50
TRANS1-3.DICHLOROPROPENE	ND	50
TRICHLOROETHYLENE	1027	50
BENZENE	ND	50
CIS1-3.DICHLOROPROPENE	ND	50
1-1-2.TRICHLOROETHANE	ND	50
CHLORODIBROMOMETHANE	ND	50
2-CHLOROETHYL VINYL ETHER	ND	50
BROMOFORM	ND	50
4-METHYL-2-PENTANONE	ND	500
2-HEXANONE	ND	500
1-1-2-2.TETRACHLOROETHYLENE	ND	50
1-1-2-2.TETRACHLOROETHANE	ND	50
TOLUENE	ND	50
CHLOROBENZENE	ND	50
ETHYLBENZENE	ND	50
STYRENE	ND	50
XYLENE	ND	50

AR100195

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/10/88 1636 100X DIL (50UL/5

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	1000
BROMOMETHANE	ND	1000
VINYL CHLORIDE	ND	1000
CHLOROETHANE	ND	1000
METHYLENECHLORIDE	ND	500
ACETONE	ND	10000
ACROLEIN	ND	2000
ACRYLONITRILE	ND	2000
CARBON DISULFIDE	ND	500
TRICHLOROFLUOROMETHANE	ND	500
1-1.DICHLOROETHENE	ND	500
1,1.DICHLOROETHANE	ND	500
TRANS1-2.DICHLOROETHENE	ND	500
CHLOROFORM	ND	500
1-2.DICHLOROETHANE	ND	1000
2-BUTANONE	ND	10000
1-1-1.TRICHLOROETHANE	ND	500
CARBONTETRACHLORIDE	ND	500
VINYL ACETATE	ND	5000
BROMODICHLOROMETHANE	ND	500
1-2.DICHLOROPROPANE	ND	500
TRANS1-3.DICHLOROPROPENE	ND	500
TRICHLOROETHYLENE	5748	500
BENZENE	ND	500
CIS1-3.DICHLOROPROPENE	ND	500
1-1-2.TRICHLOROETHANE	ND	500
CHLORODIBROMOMETHANE	ND	500
2-CHLOROETHYL VINYL ETHER	ND	500
BROMOFORM	ND	500
4-METHYL-2-PENTANONE	ND	5000
2-HEXANONE	ND	5000
1-1-2-2.TETRACHLOROETHYLENE	ND	500
1-1-2-2.TETRACHLOROETHANE	ND	500
TOLUENE	412/97 J B	500
CHLOROBENZENE	ND	500
ETHYLBENZENE	ND	500
STYRENE	ND	500
XYLENE	448/21 J B	500

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/10/88 1637 100X DIL (50UL/5

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	1000
BROMOMETHANE	ND	1000
VINYL CHLORIDE	ND	1000
CHLOROETHANE	ND	1000
METHYLENECHLORIDE	ND	500
ACETONE	ND	10000
ACROLEIN	ND	2000
ACRYLONITRILE	ND	2000
CARBON DISULFIDE	ND	500
TRICHLOROFLUOROMETHANE	ND	500
1-1.DICHLOROETHENE	ND	500
1,1.DICHLOROETHANE	ND	500
TRANS1-2.DICHLOROETHENE	ND	500
CHLOROFORM	ND	500
1-2.DICHLOROETHANE	ND	1000
2-BUTANONE	ND	10000
1-1-1.TRICHLOROETHANE	ND	500
CARBONTETRACHLORIDE	ND	500
VINYL ACETATE	ND	5000
BROMODICHLOROMETHANE	ND	500
1-2.DICHLOROPROPANE	ND	500
TRANS1-3.DICHLOROPROPENE	ND	500
TRICHLOROETHYLENE	6845	500
BENZENE	ND	500
CIS1-3.DICHLOROPROPENE	ND	500
1-1-2.TRICHLOROETHANE	ND	500
CHLORODIBROMOMETHANE	ND	500
2-CHLOROETHYL VINYL ETHER	ND	500
BROMOFORM	ND	500
4-METHYL-2-PENTANONE	ND	5000
2-HEXANONE	ND	5000
1-1-2-2.TETRACHLOROETHYLENE	ND	500
1-1-2-2.TETRACHLOROETHANE	ND	500
TOLUENE	387/72 J B	500
CHLOROBENZENE	ND	500
ETHYLBENZENE	ND	500
STYRENE	ND	500
XYLENE	242/ND J B	500

J - Concentration less than detection limit shown
B - Found in blank

AR100197

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/9/88 1638 100X DIL (50UL/5M

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	1000
BROMOMETHANE	ND	1000
VINYL CHLORIDE	ND	1000
CHLOROETHANE	ND	1000
METHYLENECHLORIDE	1560/550 B	500
ACETONE	ND	10000
ACROLEIN	ND	2000
ACRYLONITRILE	ND	2000
CARBON DISULFIDE	ND	500
TRICHLOROFLUOROMETHANE	310 J	500
1-1.DICHLOROETHENE	ND	500
1,1.DICHLOROETHANE	ND	500
TRANS1-2.DICHLOROETHENE	ND	500
CHLOROFORM	ND	500
1-2.DICHLOROETHANE	ND	1000
2-BUTANONE	ND	10000
1-1-1.TRICHLOROETHANE	ND	500
CARBONTETRACHLORIDE	ND	500
VINYL ACETATE	ND	5000
BROMODICHLOROMETHANE	ND	500
1-2.DICHLOROPROPANE	ND	500
TRANS1-3.DICHLOROPROPENE	ND	500
TRICHLOROETHYLENE	19630	500
BENZENE	ND	500
CIS1-3.DICHLOROPROPENE	ND	500
1-1-2.TRICHLOROETHANE	ND	500
CHLORODIBROMOMETHANE	ND	500
2-CHLOROETHYL VINYL ETHER	ND	500
BROMOFORM	ND	500
4-METHYL-2-PENTANONE	ND	5000
2-HEXANONE	ND	5000
1-1-2-2.TETRACHLOROETHYLENE	ND	500
1-1-2-2.TETRACHLOROETHANE	ND	500
TOLUENE	ND	500
CHLOROBENZENE	ND	500
ETHYLBENZENE	ND	500
STYRENE	ND	500
XYLENE	ND	500

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/11/88 001640 5MLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	10
BROMOMETHANE	ND	10
VINYL CHLORIDE	ND	10
CHLOROETHANE	ND	10
METHYLENECHLORIDE	ND	5
ACETONE	ND	100
ACROLEIN	ND	20
ACRYLONITRILE	ND	20
CARBON DISULFIDE	ND	5
TRICHLOROFLUOROMETHANE	ND	5
1-1.DICHLOROETHENE	ND	5
1,1.DICHLOROETHANE	ND	5
TRANS1-2.DICHLOROETHENE	ND	5
CHLOROFORM	ND	5
1-2.DICHLOROETHANE	ND	10
2-BUTANONE	ND	100
1-1-1.TRICHLOROETHANE	ND	5
CARBONTETRACHLORIDE	ND	5
VINYL ACETATE	ND	50
BROMODICHLOROMETHANE	ND	5
1-2.DICHLOROPROPANE	ND	5
TRANS1-3.DICHLOROPROPENE	ND	5
TRICHLOROETHYLENE	ND	5
BENZENE	ND	5
CIS1-3.DICHLOROPROPENE	ND	5
1-1-2.TRICHLOROETHANE	ND	5
CHLORODIBROMOMETHANE	ND	5
2-CHLOROETHYL VINYL ETHER	ND	5
BROMOFORM	ND	5
4-METHYL-2-PENTANONE	ND	50
2-HEXANONE	ND	50
1-1-2-2.TETRACHLOROETHYLENE	ND	5
1-1-2-2.TETRACHLOROETHANE	ND	5
TOLUENE	3/ND J B	5
CHLOROBENZENE	ND	5
ETHYLBENZENE	1 J	5
STYRENE	ND	5
XYLENE	4/ND J B	5

J - Concentration less then detection limit shown
B - Found in blank

AR100199

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/10/88 1641 5MLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	10
BROMOMETHANE	ND	10
VINYL CHLORIDE	ND	10
CHLOROETHANE	ND	10
METHYLENECHLORIDE	3 /ND J B	5
ACETONE	6 /ND J B	100
ACROLEIN	ND	20
ACRYLONITRILE	ND	20
CARBON DISULFIDE	ND	5
TRICHLOROFLUOROMETHANE	ND	5
1-1.DICHLOROETHENE	3/1 J B	5
1,1.DICHLOROETHANE	ND	5
TRANS1-2.DICHLOROETHENE	ND	5
CHLOROFORM	ND B	5
1-2.DICHLOROETHANE	ND	5
2-BUTANONE	ND	100
1-1-1.TRICHLOROETHANE	1 J	5
CARBONTETRACHLORIDE	ND	5
VINYL ACETATE	ND	50
BROMODICHLOROMETHANE	ND	5
1-2.DICHLOROPROPANE	ND	5
TRANS1-3.DICHLOROPROPENE	ND	5
TRICHLOROETHYLENE	4 /ND J B	5
BENZENE	ND	5
CIS1-3.DICHLOROPROPENE	ND	5
1-1-2.TRICHLOROETHANE	ND	5
CHLORODIBROMOMETHANE	ND	5
2-CHLOROETHYL VINYL ETHER	ND	5
BROMOFORM	ND	5
4-METHYL-2-PENTANONE	ND	50
2-HEXANONE	ND	50
1-1-2-2.TETRACHLOROETHYLENE	ND	5
1-1-2-2.TETRACHLOROETHANE	ND	5
TOLUENE	1 /ND J B	5
CHLOROBENZENE	ND	5
ETHYLBENZENE	ND	5
STYRENE	ND	5
XYLENE	ND B	5

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/10/88 1642 5MLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	10
BROMOMETHANE	ND	10
VINYL CHLORIDE	ND	10
CHLOROETHANE	ND	10
METHYLENECHLORIDE	6 /ND B	5
ACETONE	5 /ND J B	100
ACROLEIN	ND	20
ACRYLONITRILE	ND	20
CARBON DISULFIDE	ND	5
TRICHLOROFLUOROMETHANE	ND	5
1-1.DICHLOROETHENE	ND	5
1,1.DICHLOROETHANE	ND	5
TRANS1-2.DICHLOROETHENE	ND	5
CHLOROFORM	ND	5
1-2.DICHLOROETHANE	ND	5
2-BUTANONE	ND	100
1-1-1.TRICHLOROETHANE	ND	5
CARBONTETRACHLORIDE	ND	5
VINYL ACETATE	ND	50
BROMODICHLOROMETHANE	ND	5
1-2.DICHLOROPROPANE	ND	5
TRANS1-3.DICHLOROPROPENE	ND	5
TRICHLOROETHYLENE	3 /ND J B	5
BENZENE	ND	5
CIS1-3.DICHLOROPROPENE	ND	5
1-1-2.TRICHLOROETHANE	ND	5
CHLORODIBROMOMETHANE	ND	5
2-CHLOROETHYL VINYL ETHER	ND	5
BROMOFORM	ND	5
4-METHYL-2-PENTANONE	ND	50
2-HEXANONE	ND	50
1-1-2-2.TETRACHLOROETHYLENE	ND	5
1-1-2-2.TETRACHLOROETHANE	ND	5
TOLUENE	20	5
CHLOROBENZENE	ND	5
ETHYLBENZENE	5 J	5
STYRENE	ND	5
XYLENE	11	5

J - Concentration less then detection limit shown
B - Found in blank

AR100201

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/11/88 001643 5ML

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	10
BROMOMETHANE	ND	10
VINYL CHLORIDE	ND	10
CHLOROETHANE	ND	10
METHYLENECHLORIDE	ND	5
ACETONE	ND	100
ACROLEIN	ND	20
ACRYLONITRILE	ND	20
CARBON DISULFIDE	ND	5
TRICHLOROFLUOROMETHANE	ND	5
1-1.DICHLOROETHENE	ND	5
1,1.DICHLOROETHANE	ND	5
TRANS1-2.DICHLOROETHENE	ND	5
CHLOROFORM	ND	5
1-2.DICHLOROETHANE	ND	10
2-BUTANONE	ND	100
1-1-1.TRICHLOROETHANE	ND	5
CARBONTETRACHLORIDE	ND	5
VINYL ACETATE	ND	50
BROMODICHLOROMETHANE	ND	5
1-2.DICHLOROPROPANE	ND	5
TRANS1-3.DICHLOROPROPENE	ND	5
TRICHLOROETHYLENE	88	5
BENZENE	ND	5
CIS1-3.DICHLOROPROPENE	ND	5
1-1-2.TRICHLOROETHANE	ND	5
CHLORODIBROMOMETHANE	ND	5
2-CHLOROETHYL VINYL ETHER	ND	5
BROMOFORM	ND	5
4-METHYL-2-PENTANONE	ND	50
2-HEXANONE	ND	50
1-1-2-2.TETRACHLOROETHYLENE	ND	5
1-1-2-2.TETRACHLOROETHANE	ND	5
TOLUENE	8/5 B	5
CHLOROBENZENE	ND	5
ETHYLBENZENE	2 J	5
STYRENE	ND	5
XYLENE	7/2 B	5

J - Concentration less then detection limit shown
B - Found in blank

AR100202

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/10/88 1644 5MLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L		DETECTION LIMIT ug/L
CHLOROMETHANE	ND		10
BROMOMETHANE	ND		10
VINYL CHLORIDE	ND		10
CHLOROETHANE	ND		10
METHYLENECHLORIDE	6 /ND	B	5
ACETONE	ND	B	100
ACROLEIN	ND		20
ACRYLONITRILE	ND		20
CARBON DISULFIDE	ND		5
TRICHLOROFLUOROMETHANE	2	J	5
1-1.DICHLOROETHENE	ND		5
1,1.DICHLOROETHANE	ND		5
TRANS1-2.DICHLOROETHENE	ND		5
CHLOROFORM	ND		5
1-2.DICHLOROETHANE	ND		5
2-BUTANONE	ND		100
1-1-1.TRICHLOROETHANE	ND		5
CARBONTETRACHLORIDE	ND		5
VINYL ACETATE	ND		50
BROMODICHLOROMETHANE	ND		5
1-2.DICHLOROPROPANE	ND		5
TRANS1-3.DICHLOROPROPENE	ND		5
TRICHLOROETHYLENE	117 /114	B	5
BENZENE	ND		5
CIS1-3.DICHLOROPROPENE	ND		5
1-1-2.TRICHLOROETHANE	ND		5
CHLORODIBROMOMETHANE	ND		5
2-CHLOROETHYL VINYL ETHER	ND		5
BROMOFORM	ND		5
4-METHYL-2-PENTANONE	ND		50
2-HEXANONE	ND		50
1-1-2-2.TETRACHLOROETHYLENE	ND		5
1-1-2-2.TETRACHLOROETHANE	ND		5
TOLUENE	29		5
CHLOROBENZENE	ND		5
ETHYLBENZENE	3	J	5
STYRENE	ND		5
XYLENE	8		5

J - Concentration less then detection limit shown
B - Found in blank

AR100203

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/11/88 01645 50X DIL (100UL/

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	500
BROMOMETHANE	ND	500
VINYL CHLORIDE	ND	500
CHLOROETHANE	ND	500
METHYLENECHLORIDE	ND	250
ACETONE	ND	5000
ACROLEIN	ND	1000
ACRYLONITRILE	ND	1000
CARBON DISULFIDE	ND	250
TRICHLOROFLUOROMETHANE	ND	250
1-1.DICHLOROETHENE	ND	250
1,1.DICHLOROETHANE	ND	250
TRANS1-2.DICHLOROETHENE	ND	250
CHLOROFORM	ND	250
1-2.DICHLOROETHANE	ND	500
2-BUTANONE	ND	5000
1-1-1.TRICHLOROETHANE	ND	250
CARBONTETRACHLORIDE	ND	250
VINYL ACETATE	ND	2500
BROMODICHLOROMETHANE	ND	250
1-2.DICHLOROPROPANE	ND	250
TRANS1-3.DICHLOROPROPENE	ND	250
TRICHLOROETHYLENE	1960	250
BENZENE	ND	250
CIS1-3.DICHLOROPROPENE	ND	250
1-1-2.TRICHLOROETHANE	ND	250
CHLORODIBROMOMETHANE	ND	250
2-CHLOROETHYL VINYL ETHER	ND	250
BROMOFORM	ND	250
4-METHYL-2-PENTANONE	ND	2500
2-HEXANONE	ND	2500
1-1-2-2.TETRACHLOROETHYLENE	ND	250
1-1-2-2.TETRACHLOROETHANE	ND	250
TOLUENE	239/89 J B	250
CHLOROBENZENE	ND	250
ETHYLBENZENE	83 J	250
STYRENE	ND	250
XYLENE	247/160 J B	250

J - Concentration less then detection limit shown
B - Found in blank

AR100204

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON.REAC HEREFORD TWP 5/11/88 1646 10 X DIL

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	100
BROMOMETHANE	ND	100
VINYL CHLORIDE	ND	100
CHLOROETHANE	ND	100
METHYLENECHLORIDE	32/ND J B	50
ACETONE	31 J	1000
ACROLEIN	ND	200
ACRYLONITRILE	ND	200
CARBON DISULFIDE	ND	50
TRICHLOROFLUOROMETHANE	23 J	50
1-1.DICHLOROETHENE	53 /17 B	50
1,1.DICHLOROETHANE	ND	50
TRANS1-2.DICHLOROETHENE	ND	50
CHLOROFORM	ND	50
1-2.DICHLOROETHANE	ND	50
2-BUTANONE	ND	1000
1-1-1.TRICHLOROETHANE	16/ND J B	50
CARBONTETRACHLORIDE	ND	50
VINYL ACETATE	ND	500
BROMODICHLOROMETHANE	ND	50
1-2.DICHLOROPROPANE	ND	50
TRANS1-3.DICHLOROPROPENE	ND	50
TRICHLOROETHYLENE	2071 /2047 B	50
BENZENE	ND	50
CIS1-3.DICHLOROPROPENE	ND	50
1-1-2.TRICHLOROETHANE	ND	50
CHLORODIBROMOMETHANE	ND	50
2-CHLOROETHYL VINYL ETHER	ND	50
BROMOFORM	ND	50
4-METHYL-2-PENTANONE	ND	500
2-HEXANONE	ND	500
1-1-2-2.TETRACHLOROETHYLENE	13 J	50
1-1-2-2.TETRACHLOROETHANE	ND	50
TOLUENE	11/ND J B	50
CHLOROBENZENE	ND	50
ETHYLBENZENE	ND	50
STYRENE	ND	50
XYLENE	ND	50

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/10/88 1647 5MLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	10
BROMOMETHANE	ND	10
VINYL CHLORIDE	ND	10
CHLOROETHANE	ND	10
METHYLENECHLORIDE	5/ND J B	5
ACETONE	5/ND J B	100
ACRULEIN	ND	20
ACRYLONITRILE	ND	20
CARBON DISULFIDE	ND	5
TRICHLOROFLUOROMETHANE	ND	5
1-1.DICHLOROETHENE	ND	5
1,1.DICHLOROETHANE	ND	5
TRANS1-2.DICHLOROETHENE	ND	5
CHLOROFORM	ND	5
1-2.DICHLOROETHANE	ND	5
2-BUTANONE	ND	100
1-1-1.TRICHLOROETHANE	ND	5
CARBONTETRACHLORIDE	ND	5
VINYL ACETATE	ND	50
BROMODICHLOROMETHANE	ND	5
1-2.DICHLOROPROPANE	ND	5
TRANS1-3.DICHLOROPROPENE	ND	5
TRICHLOROETHYLENE	3/ND J B	5
BENZENE	ND	5
CIS1-3.DICHLOROPROPENE	ND	5
1-1-2.TRICHLOROETHANE	ND	5
CHLORODIBROMOMETHANE	ND	5
2-CHLOROETHYL VINYL ETHER	ND	5
BROMOFORM	ND	5
4-METHYL-2-PENTANONE	ND	50
2-HEXANONE	ND	50
1-1-2-2.TETRACHLOROETHYLENE	ND	5
1-1-2-2.TETRACHLOROETHANE	ND	5
TOLUENE	24	5
CHLOROBENZENE	ND	5
ETHYLBENZENE	ND	5
STYRENE	ND	5
XYLENE	ND	5

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/10/88 1648 5MLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	10
BROMOMETHANE	ND	10
VINYL CHLORIDE	ND	10
CHLOROETHANE	ND	10
METHYLENECHLORIDE	3 J B	5
ACETONE	8 /3 J B	100
ACROLEIN	ND	20
ACRYLONITRILE	ND	20
CARBON DISULFIDE	ND	5
TRICHLOROFLUOROMETHANE	ND	5
1-1.DICHLOROETHENE	4 /2 J B	5
1,1.DICHLOROETHANE	ND	5
TRANS1-2.DICHLOROETHENE	ND	5
CHLOROFORM	ND B	5
1-2.DICHLOROETHANE	ND	5
2-BUTANONE	ND	100
1-1-1.TRICHLOROETHANE	2 J	5
CARBONTETRACHLORIDE	ND	5
VINYL ACETATE	ND	50
BROMODICHLOROMETHANE	ND	5
1-2.DICHLOROPROPANE	ND	5
TRANS1-3.DICHLOROPROPENE	ND	5
TRICHLOROETHYLENE	73 /69 B	5
BENZENE	ND	5
CIS1-3.DICHLOROPROPENE	ND	5
1-1-2.TRICHLOROETHANE	ND	5
CHLORODIBROMOMETHANE	ND	5
2-CHLOROETHYL VINYL ETHER	ND	5
BROMOFORM	ND	5
4-METHYL-2-PENTANONE	ND	50
2-HEXANONE	ND	50
1-1-2-2.TETRACHLOROETHYLENE	ND	5
1-1-2-2.TETRACHLOROETHANE	ND	5
TOLUENE	1/ND J B	5
CHLOROBENZENE	ND	5
ETHYLBENZENE	ND	5
STYRENE	ND	5
XYLENE	ND B	5

J - Concentration less then detection limit shown
B - Found in blank

AR100207

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFOFD TWP 5/11/88 1649 20 X OIL

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L			DETECTION LIMIT ug/L
CHLOROMETHANE	ND			200
BROMOMETHANE	ND			200
VINYL CHLORIDE	ND			200
CHLOROETHANE	ND			200
METHYLENECHLORIDE	163 /48		B	100
ACETONE	ND			2000
ACROLEIN	ND			400
ACRYLONITRILE	ND			400
CARBON DISULFIDE	ND			100
TRICHLOROFLUOROMETHANE	38	J		100
1-1.DICHLOROETHENE	ND		B	100
1,1.DICHLOROETHANE	ND			100
TRANS1-2.DICHLOROETHENE	ND			100
CHLOROFORM	ND			100
1-2.DICHLOROETHANE	ND			100
2-BUTANONE	ND			2000
1-1-1.TRICHLOROETHANE	29	J	B	100
CARBONTETRACHLORIDE	ND			100
VINYL ACETATE	ND			1000
BROMODICHLOROMETHANE	ND			100
1-2.DICHLOROPROPANE	ND			100
TRANS1-3.DICHLOROPROPENE	ND			100
TRICHLOROETHYLENE	4064 /4019		B	100
BENZENE	ND			100
CIS1-3.DICHLOROPROPENE	ND			100
1-1-2.TRICHLOROETHANE	ND			100
CHLORODIBROMOMETHANE	ND			100
2-CHLOROETHYL VINYL ETHER	ND			100
BROMOFORM	ND			100
4-METHYL-2-PENTANONE	ND			1000
2-HEXANONE	ND			1000
1-1-2-2.TETRACHLOROETHYLENE	79	J		100
1-1-2-2.TETRACHLOROETHANE	ND			100
TOLUENE	ND			100
CHLOROBENZENE	ND			100
ETHYLBENZENE	ND			100
STYRENE	ND			100
XYLENE	ND			100

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/10/88 1650 5MLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	10
BROMOMETHANE	ND	10
VINYL CHLORIDE	ND	10
CHLOROETHANE	ND	10
METHYLENECHLORIDE	ND	5
ACETONE	ND	100
ACROLEIN	ND	20
ACRYLONITRILE	ND	20
CARBON DISULFIDE	ND	5
TRICHLOROFLUOROMETHANE	ND	5
1-1.DICHLOROETHENE	ND	5
1,1.DICHLOROETHANE	ND	5
TRANS1-2.DICHLOROETHENE	ND	5
CHLOROFORM	ND	5
1-2.DICHLOROETHANE	ND	10
2-BUTANONE	ND	100
1-1-1.TRICHLOROETHANE	ND	5
CARBONTETRACHLORIDE	ND	5
VINYL ACETATE	ND	50
BROMODICHLOROMETHANE	ND	5
1-2.DICHLOROPROPANE	ND	5
TRANS1-3.DICHLOROPROPENE	ND	5
TRICHLOROETHYLENE	ND	5
BENZENE	ND	5
CIS1-3.DICHLOROPROPENE	ND	5
1-1-2.TRICHLOROETHANE	ND	5
CHLORODIBROMOMETHANE	ND	5
2-CHLOROETHYL VINYL ETHER	ND	5
BROMOFORM	ND	5
4-METHYL-2-PENTANONE	ND	50
2-HEXANONE	ND	50
1-1-2-2.TETRACHLOROETHYLENE	ND	5
1-1-2-2.TETRACHLOROETHANE	ND	5
TOLUENE	6 /3 B	5
CHLOROBENZENE	ND	5
ETHYLBENZENE	ND	5
STYRENE	ND	5
XYLENE	6 /2 B	5

J - Concentration less then detection limit shown
B - Found in blank

AR100209

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/12/88 1651 5MLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	10
BROMOMETHANE	ND	10
VINYL CHLORIDE	ND	10
CHLOROETHANE	ND	10
METHYLENECHLORIDE	3/ND J B	5
ACETONE	6/1 J B	100
ACROLEIN	ND	20
ACRYLONITRILE	ND	20
CARBON DISULFIDE	ND	5
TRICHLOROFLUORUMETHANE	ND	5
1-1.DICHLOROETHENE	4/2 J B	5
1,1.DICHLOROETHANE	ND	5
TRANS1-2.DICHLOROETHENE	ND	5
CHLOROFORM	ND B	5
1-2.DICHLOROETHANE	ND	5
2-BUTANONE	ND	100
1-1-1.TRICHLOROETHANE	2 J	5
CARBONTETRACHLORIDE	ND	5
VINYL ACETATE	ND	50
BROMODICHLOROMETHANE	ND	5
1-2.DICHLOROPROPANE	ND	5
TRANS1-3.DICHLOROPROPENE	ND	5
TRICHLOROETHYLENE	35 B	5
BENZENE	3 J	5
CIS1-3.DICHLOROPROPENE	ND	5
1-1-2.TRICHLOROETHANE	ND	5
CHLORODIBROMOMETHANE	ND	5
2-CHLOROETHYL VINYL ETHER	ND	5
BROMOFORM	ND	5
4-METHYL-2-PENTANONE	ND	50
2-HEXANONE	ND	50
1-1-2-2.TETRACHLOROETHYLENE	ND	5
1-1-2-2.TETRACHLOROETHANE	ND	5
TOLUENE	3/1 J B	5
CHLOROBENZENE	ND	5
ETHYLBENZENE	ND	5
STYRENE	4 J	5
XYLENE	1/ND J B	5

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/11/88 01652 5ML

VOLATILE ORGANIC SCAN

Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	10
BROMOMETHANE	ND	10
VINYL CHLORIDE	ND	10
CHLOROETHANE	ND	10
METHYLENECHLORIDE	ND	5
ACETONE	ND	100
ACROLEIN	ND	20
ACRYLONITRILE	ND	20
CARBON DISULFIDE	ND	5
TRICHLOROFLUOROMETHANE	ND	5
1-1.DICHLOROETHENE	ND	5
1,1.DICHLOROETHANE	ND	5
TRANS1-2.DICHLOROETHENE	ND	5
CHLOROFORM	ND	5
1-2.DICHLOROETHANE	ND	10
2-BUTANONE	ND	100
1-1-1.TRICHLOROETHANE	ND	5
CARBONTETRACHLORIDE	ND	5
VINYL ACETATE	ND	50
BROMODICHLOROMETHANE	ND	5
1-2.DICHLOROPROPANE	ND	5
TRANS1-3.DICHLOROPROPENE	ND	5
TRICHLOROETHYLENE	ND	5
BENZENE	ND	5
CIS1-3.DICHLOROPROPENE	ND	5
1-1-2.TRICHLOROETHANE	ND	5
CHLORODIBROMOMETHANE	ND	5
2-CHLOROETHYL VINYL ETHER	ND	5
BROMOFORM	ND	5
4-METHYL-2-PENTANONE	ND	50
2-HEXANONE	ND	50
1-1-2-2.TETRACHLOROETHYLENE	ND	5
1-1-2-2.TETRACHLOROETHANE	ND	5
TOLUENE	3/ND J B	5
CHLOROBENZENE	ND	5
ETHYLBENZENE	ND	5
STYRENE	ND	5
XYLENE	1/ND J B	5

J - Concentration less then detection limit shown
B - Found in blank

AR100211

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/9/88 1653 5MLS .

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L		DETECTION LIMIT ug/L
CHLOROMETHANE	ND		10
BROMOMETHANE	ND		10
VINYL CHLORIDE	ND		10
CHLOROETHANE	ND		10
METHYLENECHLORIDE	ND		5
ACETONE	ND		100
ACROLEIN	ND		20
ACRYLONITRILE	ND		20
CARBON DISULFIDE	ND		5
TRICHLOROFLUOROMETHANE	ND		5
1-1.DICHLOROETHENE	ND		5
1,1.DICHLOROETHANE	ND		5
TRANS1-2.DICHLOROETHENE	ND		5
CHLOROFORM	ND		5
1-2.DICHLOROETHANE	ND		10
2-BUTANONE	ND		100
1-1-1.TRICHLOROETHANE	ND		5
CARBONTETRACHLORIDE	ND		5
VINYL ACETATE	ND		50
BROMODICHLOROMETHANE	ND		5
1-2.DICHLOROPROPANE	ND		5
TRANS1-3.DICHLOROPROPENE	ND		5
TRICHLOROETHYLENE	24		5
BENZENE	ND		5
CIS1-3.DICHLOROPROPENE	ND		5
1-1-2.TRICHLOROETHANE	ND		5
CHLORODIBROMOMETHANE	ND		5
2-CHLOROETHYL VINYL ETHER	ND		5
BROMOFORM	ND		5
4-METHYL-2-PENTANONE	ND		50
2-HEXANONE	ND		50
1-1-2-2.TETRACHLOROETHYLENE	ND		5
1-1-2-2.TETRACHLOROETHANE	ND		5
TOLUENE	2	J	5
CHLOROBENZENE	ND		5
ETHYLBENZENE	ND		5
STYRENE	ND		5
XYLENE	ND		5

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/11/88 1654 5MLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	10
BROMOMETHANE	ND	10
VINYL CHLORIDE	ND	10
CHLOROETHANE	ND	10
METHYLENECHLORIDE	3/ND J B	5
ACETONE	4 J	100
ACROLEIN	ND	20
ACRYLONITRILE	ND	20
CARBON DISULFIDE	ND	5
TRICHLOROFLUOROMETHANE	ND	5
1-1.DICHLOROETHENE	4/ND J B	5
1,1.DICHLOROETHANE	ND	5
TRANS1-2.DICHLOROETHENE	ND	5
CHLOROFORM	ND	5
1-2.DICHLOROETHANE	ND	5
2-BUTANONE	ND	100
1-1-1.TRICHLOROETHANE	2/ND J B	5
CARBONTETRACHLORIDE	ND	5
VINYL ACETATE	ND	50
BROMODICHLOROMETHANE	ND	5
1-2.DICHLOROPROPANE	ND	5
TRANS1-3.DICHLOROPROPENE	ND	5
TRICHLOROETHYLENE	32/30 B	5
BENZENE	ND	5
CIS1-3.DICHLOROPROPENE	ND	5
1-1-2.TRICHLOROETHANE	ND	5
CHLORODIBROMOMETHANE	ND	5
2-CHLOROETHYL VINYL ETHER	ND	5
BROMOFORM	ND	5
4-METHYL-2-PENTANONE	ND	50
2-HEXANONE	ND	50
1-1-2-2.TETRACHLOROETHYLENE	ND	5
1-1-2-2.TETRACHLOROETHANE	ND	5
TOLUENE	4/3 J B	5
CHLOROBENZENE	ND	5
ETHYLBENZENE	ND	5
STYRENE	ND	5
XYLENE	ND	5

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/9/88 1655 5MLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L			DETECTION LIMIT ug/L
CHLOROMETHANE	ND			10
BROMOMETHANE	ND			10
VINYL CHLORIDE	ND			10
CHLOROETHANE	ND			10
METHYLENECHLORIDE	3 /ND	J	B	5
ACETONE	11 /5	J	B	100
ACROLEIN	ND			20
ACRYLONITRILE	ND			20
CARBON DISULFIDE	ND			5
TRICHLOROFLUOROMETHANE	2	J		5
1-1.DICHLOROETHENE	4/2	J	B	5
1,1.DICHLOROETHANE	ND			5
TRANS1-2.DICHLOROETHENE	ND			5
CHLOROFORM	ND		B	5
1-2.DICHLOROETHANE	ND			5
2-BUTANONE	ND			100
1-1-1.TRICHLOROETHANE	1	J		5
CARBONTETRACHLORIDE	ND			5
VINYL ACETATE	ND			50
BROMODICHLOROMETHANE	ND			5
1-2.DICHLOROPROPANE	ND			5
TRANS1-3.DICHLOROPROPENE	ND			5
TRICHLOROETHYLENE	259		B	5
BENZENE	ND			5
CIS1-3.DICHLOROPROPENE	ND			5
1-1-2.TRICHLOROETHANE	ND			5
CHLORODIBROMOMETHANE	ND			5
2-CHLOROETHYL VINYL ETHER	ND			5
BROMOFORM	ND			5
4-METHYL-2-PENTANONE	ND			50
2-HEXANONE	ND			50
1-1-2-2.TETRACHLOROETHYLENE	2	J		5
1-1-2-2.TETRACHLOROETHANE	ND			5
TOLUENE	2 /1	J	B	5
CHLOROBENZENE	ND			5
ETHYLBENZENE	ND			5
STYRENE	ND			5
XYLENE	ND		B	5

J - Concentration less then detection limit shown
B - Found in blank

ARI00214

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/11/88 001657 5MLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	10
BROMOMETHANE	ND	10
VINYL CHLORIDE	ND	10
CHLOROETHANE	ND	10
METHYLENECHLORIDE	ND	5
ACETONE	ND	100
ACROLEIN	ND	20
ACRYLONITRILE	ND	20
CARBON DISULFIDE	ND	5
TRICHLOROFLUOROMETHANE	ND	5
1-1.DICHLOROETHENE	ND	5
1,1.DICHLOROETHANE	ND	5
TRANS1-2.DICHLOROETHENE	ND	5
CHLOROFORM	ND	5
1-2.DICHLOROETHANE	ND	10
2-BUTANONE	ND	100
1-1-1.TRICHLOROETHANE	ND	5
CARBONTETRACHLORIDE	ND	5
VINYL ACETATE	ND	50
BROMODICHLOROMETHANE	ND	5
1-2.DICHLOROPROPANE	ND	5
TRANS1-3.DICHLOROPROPENE	ND	5
TRICHLOROETHYLENE	ND	5
BENZENE	ND	5
CIS1-3.DICHLOROPROPENE	ND	5
1-1-2.TRICHLOROETHANE	ND	5
CHLORODIBROMOMETHANE	ND	5
2-CHLOROETHYL VINYL ETHER	ND	5
BROMOFORM	ND	5
4-METHYL-2-PENTANONE	ND	50
2-HEXANONE	ND	50
1-1-2-2.TETRACHLOROETHYLENE	ND	5
1-1-2-2.TETRACHLOROETHANE	ND	5
TOLUENE	3/NDJ B	5
CHLOROBENZENE	ND	5
ETHYLBENZENE	ND	5
STYRENE	ND	5
XYLENE	3/NDJ B	5

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/12/88 1711 5MLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	10
BROMOMETHANE	ND	10
VINYL CHLORIDE	ND	10
CHLOROETHANE	ND	10
METHYLENECHLORIDE	6 /2 B	5
ACETONE	ND	100
ACROLEIN	ND	20
ACRYLONITRILE	ND	20
CARBON DISULFIDE	ND	5
TRICHLOROFLUOROMETHANE	ND	5
1-1.DICHLOROETHENE	4 /ND J B	5
1,1.DICHLOROETHANE	ND	5
TRANS1-2.DICHLOROETHENE	ND	5
CHLOROFORM	ND	5
1-2.DICHLOROETHANE	ND	5
2-BUTANONE	ND	100
1-1-1.TRICHLOROETHANE	2 /ND J B	5
CARBONTETRACHLORIDE	ND	5
VINYL ACETATE	ND	50
BROMODICHLOROMETHANE	ND	5
1-2.DICHLOROPROPANE	ND	5
TRANS1-3.DICHLOROPROPENE	ND	5
TRICHLOROETHYLENE	2 /ND J B	5
BENZENE	ND	5
CIS1-3.DICHLOROPROPENE	ND	5
1-1-2.TRICHLOROETHANE	ND	5
CHLORODIBROMOMETHANE	ND	5
2-CHLOROETHYL VINYL ETHER	ND	5
BROMOFORM	ND	5
4-METHYL-2-PENTANONE	ND	50
2-HEXANONE	ND	50
1-1-2-2.TETRACHLOROETHYLENE	ND	5
1-1-2-2.TETRACHLOROETHANE	ND	5
TOLUENE	1/ND J B	5
CHLOROBENZENE	ND	5
ETHYLBENZENE	ND	5
STYRENE	ND	5
XYLENE	ND	5

J - Concentration less than detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/10/88 01713 5MLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	10
BROMOMETHANE	ND	10
VINYL CHLORIDE	ND	10
CHLOROETHANE	ND	10
METHYLENECHLORIDE	ND	5
ACETONE	ND	100
ACROLEIN	ND	20
ACRYLONITRILE	ND	20
CARBON DISULFIDE	ND	5
TRICHLOROFLUOROMETHANE	ND	5
1-1.DICHLOROETHENE	ND	5
1,1.DICHLOROETHANE	ND	5
TRANS1-2.DICHLOROETHENE	ND	5
CHLOROFORM	ND	5
1-2.DICHLOROETHANE	ND	10
2-BUTANONE	ND	100
1-1-1.TRICHLOROETHANE	ND	5
CARBONTETRACHLORIDE	ND	5
VINYL ACETATE	ND	50
BROMODICHLOROMETHANE	ND	5
1-2.DICHLOROPROPANE	ND	5
TRANS1-3.DICHLOROPROPENE	ND	5
TRICHLOROETHYLENE	ND	5
BENZENE	ND	5
CIS1-3.DICHLOROPROPENE	ND	5
1-1-2.TRICHLOROETHANE	ND	5
CHLORODIBROMOMETHANE	ND	5
2-CHLOROETHYL VINYL ETHER	ND	5
BROMOFORM	ND	5
4-METHYL-2-PENTANONE	ND	50
2-HEXANONE	ND	50
1-1-2-2.TETRACHLOROETHYLENE	ND	5
1-1-2-2.TETRACHLOROETHANE	ND	5
TOLUENE	ND	5
CHLOROBENZENE	ND	5
ETHYLBENZENE	ND	5
STYRENE	ND	5
XYLENE	ND	5

J - Concentration less than detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/10/88 01714 5MLS

VOLATILE ORGANIC SCAN

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	10
BROMOMETHANE	ND	10
VINYL CHLORIDE	ND	10
CHLOROETHANE	ND	10
METHYLENECHLORIDE	14	5
ACETONE	ND	100
ACROLEIN	ND	20
ACRYLONITRILE	ND	20
CARBON DISULFIDE	ND	5
TRICHLOROFLUOROMETHANE	ND	5
1-1.DICHLOROETHENE	ND	5
1,1.DICHLOROETHANE	ND	5
TRANS1-2.DICHLOROETHENE	ND	5
CHLOROFORM	ND	5
1-2.DICHLOROETHANE	ND	10
2-BUTANONE	ND	100
1-1-1.TRICHLOROETHANE	ND	5
CARBONTETRACHLORIDE	ND	5
VINYL ACETATE	ND	50
BROMODICHLOROMETHANE	ND	5
1-2.DICHLOROPROPANE	ND	5
TRANS1-3.DICHLOROPROPENE	ND	5
TRICHLOROETHYLENE	ND	5
BENZENE	ND	5
CIS1-3.DICHLOROPROPENE	ND	5
1-1-2.TRICHLOROETHANE	ND	5
CHLORODIBROMOMETHANE	ND	5
2-CHLOROETHYL VINYL ETHER	ND	5
BROMOFORM	ND	5
4-METHYL-2-PENTANONE	ND	50
2-HEXANONE	ND	50
1-1-2-2.TETRACHLOROETHYLENE	ND	5
1-1-2-2.TETRACHLOROETHANE	ND	5
TOLUENE	ND	5
CHLOROBENZENE	ND	5
ETHYLBENZENE	ND	5
STYRENE	ND	5
XYLENE	ND	5

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/10/88 01715 20X DIL (250UL/5MLS)

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	200
BROMOMETHANE	ND	200
VINYL CHLORIDE	ND	200
CHLOROETHANE	ND	200
METHYLENECHLORIDE	314/112 B	100
ACETONE	ND	2000
ACROLEIN	ND	400
ACRYLONITRILE	ND	400
CARBON DISULFIDE	ND	100
TRICHLOROFLUOROMETHANE	ND	100
1-1.DICHLOROETHENE	ND	100
1.1.DICHLOROETHANE	ND	100
TRANS1-2.DICHLOROETHENE	ND	100
CHLOROFORM	ND	100
1-2.DICHLOROETHANE	ND	200
2-BUTANONE	ND	2000
1-1-1.TRICHLOROETHANE	ND	100
CARBONTETRACHLORIDE	ND	100
VINYL ACETATE	ND	1000
BROMODICHLOROMETHANE	ND	100
1-2.DICHLOROPROPANE	ND	100
TRANS1-3.DICHLOROPROPENE	ND	100
TRICHLOROETHYLENE	1830	100
BENZENE	ND	100
CIS1-3.DICHLOROPROPENE	ND	100
1-1-2.TRICHLOROETHANE	ND	100
CHLORODIBROMOMETHANE	ND	100
2-CHLOROETHYL VINYL ETHER	ND	100
BROMOFORM	ND	100
4-METHYL-2-PENTANONE	ND	1000
2-HEXANONE	ND	1000
1-1-2-2.TETRACHLOROETHYLENE	ND	100
1-1-2-2.TETRACHLOROETHANE	ND	100
TOLUENE	ND	100
CHLOROBENZENE	ND	100
ETHYLBENZENE	ND	100
STYRENE	ND	100
XYLENE	ND	100

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/10/88 01716 5MLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	10
BROMOMETHANE	ND	10
VINYL CHLORIDE	ND	10
CHLOROETHANE	ND	10
METHYLENECHLORIDE	13	5
ACETONE	ND	100
ACROLEIN	ND	20
ACRYLONITRILE	ND	20
CARBON DISULFIDE	ND	5
TRICHLOROFLUOROMETHANE	ND	5
1-1.DICHLOROETHENE	ND	5
1,1.DICHLOROETHANE	ND	5
TRANS1-2.DICHLOROETHENE	ND	5
CHLOROFORM	ND	5
1-2.DICHLOROETHANE	ND	10
2-BUTANONE	ND	100
1-1-1.TRICHLOROETHANE	ND	5
CARBONTETRACHLORIDE	ND	5
VINYL ACETATE	ND	50
BROMODICHLOROMETHANE	ND	5
1-2.DICHLOROPROPANE	ND	5
TRANS1-3.DICHLOROPROPENE	ND	5
TRICHLOROETHYLENE	ND	5
BENZENE	ND	5
CIS1-3.DICHLOROPROPENE	ND	5
1-1-2.TRICHLOROETHANE	ND	5
CHLORODIBROMOMETHANE	ND	5
2-CHLOROETHYL VINYL ETHER	ND	5
BROMOFORM	ND	5
4-METHYL-2-PENTANONE	ND	50
2-HEXANONE	ND	50
-1-2-2.TETRACHLOROETHYLENE	ND	5
1-1-2-2.TETRACHLOROETHANE	ND	5
TOLUENE	ND	5
CHLOROBENZENE	ND	5
ETHYLBENZENE	ND	5
STYRENE	ND	5
XYLENE	ND	5

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/10/88 01717 5MLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	10
BROMOMETHANE	ND	10
VINYL CHLORIDE	ND	10
CHLOROETHANE	ND	10
METHYLENECHLORIDE	ND	5
ACETONE	ND	100
ACROLEIN	ND	20
ACRYLONITRILE	ND	20
CARBON DISULFIDE	ND	5
TRICHLOROFLUOROMETHANE	ND	5
1-1.DICHLOROETHENE	ND	5
1,1.DICHLOROETHANE	ND	5
TRANS1-2.DICHLOROETHENE	ND	5
CHLOROFORM	ND	5
1-2.DICHLOROETHANE	ND	10
2-BUTANONE	ND	100
1-1-1.TRICHLOROETHANE	ND	5
CARBONTETRACHLORIDE	ND	5
VINYL ACETATE	ND	50
BROMODICHLOROMETHANE	ND	5
1-2.DICHLOROPROPANE	ND	5
TRANS1-3.DICHLOROPROPENE	ND	5
TRICHLOROETHYLENE	ND	5
BENZENE	ND	5
CIS1-3.DICHLOROPROPENE	ND	5
1-1-2.TRICHLOROETHANE	ND	5
CHLORODIBROMOMETHANE	ND	5
2-CHLOROETHYL VINYL ETHER	ND	5
BROMOFORM	ND	5
4-METHYL-2-PENTANONE	ND	50
2-HEXANONE	ND	50
1-1-2-2.TETRACHLOROETHYLENE	ND	5
1-1-2-2.TETRACHLOROETHANE	ND	5
TOLUENE	ND	5
CHLOROBENZENE	ND	5
ETHYLBENZENE	ND	5
STYRENE	ND	5
XYLENE	ND	5

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/10/88 01718 5MLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	10
BROMOMETHANE	ND	10
VINYL CHLORIDE	ND	10
CHLOROETHANE	ND	10
METHYLENECHLORIDE	ND	5
ACETONE	ND	100
ACROLEIN	ND	20
ACRYLONITRILE	ND	20
CARBON DISULFIDE	ND	5
TRICHLOROFLUOROMETHANE	ND	5
1-1.DICHLOROETHENE	ND	5
1,1.DICHLOROETHANE	ND	5
TRANS1-2.DICHLOROETHENE	ND	5
CHLOROFORM	ND	5
1-2.DICHLOROETHANE	ND	10
2-BUTANONE	ND	100
1-1-1.TRICHLOROETHANE	ND	5
CARBONTETRACHLORIDE	ND	5
VINYL ACETATE	ND	50
BROMODICHLOROMETHANE	ND	5
1-2.DICHLOROPROPANE	ND	5
TRANS1-3.DICHLOROPROPENE	ND	5
TRICHLOROETHYLENE	26	5
BENZENE	ND	5
CIS1-3.DICHLOROPROPENE	ND	5
1-1-2.TRICHLOROETHANE	ND	5
CHLORODIBROMOMETHANE	ND	5
2-CHLOROETHYL VINYL ETHER	ND	5
BROMOFORM	ND	5
4-METHYL-2-PENTANONE	ND	50
2-HEXANONE	ND	50
1-1-2-2.TETRACHLOROETHYLENE	ND	5
1-1-2-2.TETRACHLOROETHANE	ND	5
TOLUENE	ND	5
CHLOROBENZENE	ND	5
ETHYLBENZENE	ND	5
STYRENE	ND	5
XYLENE	ND	5

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/10/88 01719 5MLS

VOLATILE ORGANIC SCAN

PARAMETERS	RESULTS ug/L		DETECTION LIMIT ug/L
CHLOROMETHANE	ND		10
BROMOMETHANE	ND		10
VINYL CHLORIDE	ND		10
CHLOROETHANE	ND		10
METHYLENECHLORIDE	ND	B	5
ACETONE	ND		100
ACROLEIN	ND		20
ACRYLONITRILE	ND		20
CARBON DISULFIDE	ND		5
TRICHLOROFLUOROMETHANE	ND		5
1-1.DICHLOROETHENE	ND		5
1,1.DICHLOROETHANE	ND		5
TRANS1-2.DICHLOROETHENE	ND		5
CHLOROFORM	ND		5
1-2.DICHLOROETHANE	ND		10
2-BUTANONE	ND		100
1-1-1.TRICHLOROETHANE	ND		5
CARBONTETRACHLORIDE	ND		5
VINYL ACETATE	ND		50
BROMODICHLOROMETHANE	ND		5
1-2.DICHLOROPROPANE	ND		5
TRANS1-3.DICHLOROPROPENE	ND		5
TRICHLOROETHYLENE	ND		5
BENZENE	ND		5
CIS1-3.DICHLOROPROPENE	ND		5
1-1-2.TRICHLOROETHANE	ND		5
CHLORODIBROMOMETHANE	ND		5
2-CHLOROETHYL VINYL ETHER	ND		5
BROMOFORM	ND		5
4-METHYL-2-PENTANONE	ND		50
2-HEXANONE	ND		50
1-1-2-2.TETRACHLOROETHYLENE	ND		5
1-1-2-2.TETRACHLOROETHANE	ND		5
TOLUENE	ND		5
CHLOROBENZENE	ND		5
ETHYLBENZENE	ND		5
STYRENE	ND		5
XYLENE	ND		5

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/10/88 01720 5MLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	10
BROMOMETHANE	ND	10
VINYL CHLORIDE	ND	10
CHLOROETHANE	ND	10
METHYLENECHLORIDE	7 /ND B	5
ACETONE	ND	100
ACROLEIN	ND	20
ACRYLONITRILE	ND	20
CARBON DISULFIDE	ND	5
TRICHLOROFLUOROMETHANE	ND	5
1-1.DICHLOROETHENE	ND	5
1,1.DICHLOROETHANE	ND	5
TRANS1-2.DICHLOROETHENE	ND	5
CHLOROFORM	ND	5
1-2.DICHLOROETHANE	ND	5
2-BUTANONE	ND	100
1-1-1.TRICHLOROETHANE	ND	5
CARBONTETRACHLORIDE	ND	5
VINYL ACETATE	ND	50
BROMODICHLOROMETHANE	ND	5
1-2.DICHLOROPROPANE	ND	5
TRANS1-3.DICHLOROPROPENE	ND	5
TRICHLOROETHYLENE	25 /24 B	5
BENZENE	ND	5
CIS1-3.DICHLOROPROPENE	ND	5
1-1-2.TRICHLOROETHANE	ND	5
CHLORODIBROMOMETHANE	ND	5
2-CHLOROETHYL VINYL ETHER	ND	5
BROMOFORM	ND	5
4-METHYL-2-PENTANONE	ND	50
2-HEXANONE	ND	50
1-1-2-2.TETRACHLOROETHYLENE	ND	5
1-1-2-2.TETRACHLOROETHANE	ND	5
TOLUENE	ND	5
CHLOROBENZENE	ND	5
ETHYLBENZENE	ND	5
STYRENE	ND	5
XYLENE	ND	5

J - Concentration less then detection limit shown
B - Found in blank

AR100224

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAL HEREFORD TWP 5/10/88 01/21 5MLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	10
BROMOMETHANE	ND	10
VINYL CHLORIDE	ND	10
CHLOROETHANE	ND	10
METHYLENECHLORIDE	7 /ND B	5
ACETONE	6 J	100
ACROLEIN	ND	20
ACRYLONITRILE	ND	20
CARBON DISULFIDE	ND	5
TRICHLOROFLUOROMETHANE	ND	5
1-1.DICHLOROETHENE	ND	5
1,1.DICHLOROETHANE	ND	5
TRANS1-2.DICHLOROETHENE	ND	5
CHLOROFORM	ND	5
1-2.DICHLOROETHANE	ND	5
2-BUTANONE	ND	100
1-1-1.TRICHLOROETHANE	ND	5
CARBONTETRACHLORIDE	ND	5
VINYL ACETATE	ND	5U
BROMODICHLOROMETHANE	ND	5
1-2.DICHLOROPROPANE	ND	5
TRANS1-3.DICHLOROPROPENE	ND	5
TRICHLOROETHYLENE	2 /NDJ B	5
BENZENE	ND	5
CIS1-3.DICHLOROPROPENE	ND	5
1-1-2.TRICHLOROETHANE	ND	5
CHLORODIBROMOMETHANE	ND	5
2-CHLOROETHYL VINYL ETHER	ND	5
BROMOFORM	ND	5
4-METHYL-2-PENTANONE	ND	5U
2-HEXANONE	ND	5U
1-1-2-2.TETRACHLOROETHYLENE	ND	5
1-1-2-2.TETRACHLOROETHANE	ND	5
TOLUENE	ND	5
CHLOROBENZENE	ND	5
ETHYLBENZENE	ND	5
STYRENE	ND	5
XYLENE	ND	5

J - Concentration less then detection limit shown
B - Found in blank

AR100225

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/10/88 01/22 50 X DIL

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	500
BROMOMETHANE	ND	500
VINYL CHLORIDE	ND	500
CHLOROETHANE	ND	500
METHYLENECHLORIDE	240/ND J B	250
ACETONE	275/ND J B	5000
ACROLEIN	ND	1000
ACRYLONITRILE	ND	1000
CARBON DISULFIDE	ND	250
TRICHLOROFLUOROMETHANE	101 J	250
1-1.DICHLOROETHENE	189/67 J B	250
1,1.DICHLOROETHANE	ND	250
TRANS1-2.DICHLOROETHENE	ND	250
CHLOROFORM	62/ND J B	250
1-2.DICHLOROETHANE	ND	250
2-BUTANONE	ND	5000
1-1-1.TRICHLOROETHANE	52 J	250
CARBONTETRACHLORIDE	ND	250
VINYL ACETATE	ND	2500
BROMODICHLOROMETHANE	ND	250
1-2.DICHLOROPROPANE	ND	250
TRANS1-3.DICHLOROPROPENE	ND	250
TRICHLOROETHYLENE	9596/9425 B	250
BENZENE	ND	250
CIS1-3.DICHLOROPROPENE	ND	250
1-1-2.TRICHLOROETHANE	ND	250
CHLORODIBROMOMETHANE	ND	250
2-CHLOROETHYL VINYL ETHER	ND	250
BROMOFORM	ND	250
4-METHYL-2-PENTANONE	ND	2500
2-HEXANONE	ND	2500
1-1-2-2.TETRACHLOROETHYLENE	224 J	250
1-1-2-2.TETRACHLOROETHANE	ND	250
TOLUENE	62/ND J B	250
CHLOROBENZENE	ND	250
ETHYLBENZENE	ND	250
STYRENE	ND	250
XYLENE	ND B	250

J - Concentration less than detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAL HEREFORD TWP 5/10/88 01/23 5MLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	10
BROMOMETHANE	ND	10
VINYL CHLORIDE	ND	10
CHLOROETHANE	ND	10
METHYLENECHLORIDE	5/ND J B	5
ACETONE	3/ND J B	100
ACROLEIN	ND	20
ACRYLONITRILE	ND	20
CARBON DISULFIDE	ND	5
TRICHLOROFLUOROMETHANE	ND	5
1-1.DICHLOROETHENE	ND	5
1,1.DICHLOROETHANE	ND	5
TRANS1-2.DICHLOROETHENE	ND	5
CHLOROFORM	ND	5
1-2.DICHLOROETHANE	ND	5
2-BUTANONE	ND	100
1-1-1.TRICHLOROETHANE	ND	5
CARBONTETRACHLORIDE	ND	5
VINYL ACETATE	ND	50
BROMODICHLOROMETHANE	ND	5
1-2.DICHLOROPROPANE	ND	5
TRANS1-3.DICHLOROPROPENE	ND	5
TRICHLOROETHYLENE	4/ND J B	5
BENZENE	ND	5
CIS1-3.DICHLOROPROPENE	ND	5
1-1-2.TRICHLOROETHANE	ND	5
CHLORODIBROMOMETHANE	ND	5
2-CHLOROETHYL VINYL ETHER	ND	5
BROMOFORM	ND	5
4-METHYL-2-PENTANONE	ND	50
2-HEXANONE	ND	50
1-1-2-2.TETRACHLOROETHYLENE	ND	5
1-1-2-2.TETRACHLOROETHANE	ND	5
TOLUENE	ND	5
CHLOROBENZENE	ND	5
ETHYLBENZENE	ND	5
STYRENE	ND	5
XYLENE	ND	5

J - Concentration less then detection limit shown
B - Found in blank

AR100227

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/10/88 01724 5MLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	10
BROMOMETHANE	ND	10
VINYL CHLORIDE	ND	10
CHLOROETHANE	ND	10
METHYLENECHLORIDE	12 /2 B	5
ACETONE	ND	100
ACROLEIN	ND	20
ACRYLONITRILE	ND	20
CARBON DISULFIDE	ND	5
TRICHLOROFLUOROMETHANE	ND	5
1-1.DICHLOROETHENE	ND	5
1.1.DICHLOROETHANE	ND	5
TRANS1-2.DICHLOROETHENE	ND	5
CHLOROFORM	ND	5
1-2.DICHLOROETHANE	ND	10
2-BUTANONE	ND	100
1-1-1.TRICHLOROETHANE	ND	5
CARBONTETRACHLORIDE	ND	5
VINYL ACETATE	ND	50
BROMODICHLOROMETHANE	ND	5
1-2.DICHLOROPROPANE	ND	5
TRANS1-3.DICHLOROPROPENE	ND	5
TRICHLOROETHYLENE	ND	5
BENZENE	ND	5
CIS1-3.DICHLOROPROPENE	ND	5
1-1-2.TRICHLOROETHANE	ND	5
CHLORODIBROMOMETHANE	ND	5
2-CHLOROETHYL VINYL ETHER	ND	5
BROMOFORM	ND	5
4-METHYL-2-PENTANONE	ND	50
2-HEXANONE	ND	50
1-1-2-2.TETRACHLOROETHYLENE	ND	5
1-1-2-2.TETRACHLOROETHANE	ND	5
TOLUENE	ND	5
CHLOROBENZENE	ND	5
ETHYLBENZENE	ND	5
STYRENE	ND	5
XYLENE	ND	5

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/10/88 01725 5MLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L		DETECTION LIMIT ug/L
CHLOROMETHANE	ND		10
BROMOMETHANE	ND		10
VINYL CHLORIDE	ND		10
CHLOROETHANE	ND		10
METHYLENECHLORIDE	ND	B	5
ACETONE	ND		100
ACROLEIN	ND		20
ACRYLONITRILE	ND		20
CARBON DISULFIDE	ND		5
TRICHLOROFLUOROMETHANE	3	J	5
1-1.DICHLOROETHENE	ND		5
1,1.DICHLOROETHANE	ND		5
TRANS1-2.DICHLOROETHENE	ND		5
CHLOROFORM	ND		5
1-2.DICHLOROETHANE	ND		10
2-BUTANONE	ND		100
1-1-1.TRICHLOROETHANE	ND		5
CARBONTETRACHLORIDE	ND		5
VINYL ACETATE	ND		50
BROMODICHLOROMETHANE	ND		5
1-2.DICHLOROPROPANE	ND		5
TRANS1-3.DICHLOROPROPENE	ND		5
TRICHLOROETHYLENE	316		5
BENZENE	ND		5
CIS1-3.DICHLOROPROPENE	ND		5
1-1-2.TRICHLOROETHANE	ND		5
CHLORODIBROMOMETHANE	ND		5
2-CHLOROETHYL VINYL ETHER	ND		5
BROMOFORM	ND		5
4-METHYL-2-PENTANONE	ND		50
2-HEXANONE	ND		50
1-1-2-2.TETRACHLOROETHYLENE	ND		5
1-1-2-2.TETRACHLOROETHANE	ND		5
TOLUENE	ND		5
CHLOROBENZENE	ND		5
ETHYLBENZENE	ND		5
STYRENE	ND		5
XYLENE	ND		5

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/10/88 01726 5MLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L		DETECTION LIMIT ug/L
CHLOROMETHANE	ND		10
BROMOMETHANE	ND		10
VINYL CHLORIDE	ND		10
CHLOROETHANE	ND		10
METHYLENECHLORIDE	ND	B	5
ACETONE	ND		100
ACROLEIN	ND		20
ACRYLONITRILE	ND		20
CARBON DISULFIDE	ND		5
TRICHLOROFLUOROMETHANE	ND		5
1-1.DICHLOROETHENE	ND		5
1,1.DICHLOROETHANE	ND		5
TRANS1-2.DICHLOROETHENE	ND		5
CHLOROFORM	ND		5
1-2.DICHLOROETHANE	ND		10
2-BUTANONE	ND		100
1-1-1.TRICHLOROETHANE	ND		5
CARBONTETRACHLORIDE	ND		5
VINYL ACETATE	ND		50
BROMODICHLOROMETHANE	ND		5
1-2.DICHLOROPROPANE	ND		5
TRANS1-3.DICHLOROPROPENE	ND		5
TRICHLOROETHYLENE	ND		5
BENZENE	ND		5
CIS1-3.DICHLOROPROPENE	ND		5
1-1-2.TRICHLOROETHANE	ND		5
CHLORODIBROMOMETHANE	ND		5
2-CHLOROETHYL VINYL ETHER	ND		5
BROMOFORM	ND		5
4-METHYL-2-PENTANONE	ND		50
2-HEXANONE	ND		50
1-1-2-2.TETRACHLOROETHYLENE	ND		5
1-1-2-2.TETRACHLOROETHANE	ND		5
TOLUENE	ND		5
CHLOROBENZENE	ND		5
ETHYLBENZENE	ND		5
STYRENE	ND		5
XYLENE	ND		5

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/10/88 01727 5MLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L		DETECTION LIMIT ug/L
CHLOROMETHANE	ND		10
BROMOMETHANE	ND		10
VINYL CHLORIDE	ND		10
CHLOROETHANE	ND		10
METHYLENECHLORIDE	ND	B	5
ACETONE	ND		100
ACROLEIN	ND		20
ACRYLONITRILE	ND		20
CARBON DISULFIDE	ND		5
TRICHLOROFLUOROMETHANE	ND		5
1-1.DICHLOROETHENE	ND		5
1,1.DICHLOROETHANE	ND		5
TRANS1-2.DICHLOROETHENE	ND		5
CHLOROFORM	ND		5
1-2.DICHLOROETHANE	ND		10
2-BUTANONE	ND		100
1-1-1.TRICHLOROETHANE	ND		5
CARBONTETRACHLORIDE	ND		5
VINYL ACETATE	ND		50
BROMODICHLOROMETHANE	ND		5
1-2.DICHLOROPROPANE	ND		5
TRANS1-3.DICHLOROPROPENE	ND		5
TRICHLOROETHYLENE	ND		5
BENZENE	ND		5
CIS1-3.DICHLOROPROPENE	ND		5
1-1-2.TRICHLOROETHANE	ND		5
CHLORODIBROMOMETHANE	ND		5
2-CHLOROETHYL VINYL ETHER	ND		5
BROMOFORM	ND		5
4-METHYL-2-PENTANONE	ND		50
2-HEXANONE	ND		50
1-1-2-2.TETRACHLOROETHYLENE	ND		5
1-1-2-2.TETRACHLOROETHANE	ND		5
TOLUENE	ND		5
CHLOROBENZENE	ND		5
ETHYLBENZENE	ND		5
STYRENE	ND		5
XYLENE	ND		5

J - Concentration less then detection limit shown
B - Found in blank

AR100231

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/10/88 01728 5MLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L		DETECTION LIMIT ug/L
CHLOROMETHANE	ND		10
BROMOMETHANE	ND		10
VINYL CHLORIDE	ND		10
CHLOROETHANE	ND		10
METHYLENECHLORIDE	ND	B	5
ACETONE	ND		100
ACROLEIN	ND		20
ACRYLONITRILE	ND		20
CARBON DISULFIDE	ND		5
TRICHLOROFLUOROMETHANE	ND		5
1-1.DICHLOROETHENE	ND		5
1.1.DICHLOROETHANE	ND		5
TRANS1-2.DICHLOROETHENE	ND		5
CHLOROFORM	ND		5
1-2.DICHLOROETHANE	ND		10
2-BUTANONE	ND		100
1-1-1.TRICHLOROETHANE	ND		5
CARBONTETRACHLORIDE	ND		5
VINYL ACETATE	ND		50
BROMODICHLOROMETHANE	ND		5
1-2.DICHLOROPROPANE	ND		5
TRANS1-3.DICHLOROPROPENE	ND		5
TRICHLOROETHYLENE	ND		5
BENZENE	ND		5
CIS1-3.DICHLOROPROPENE	ND		5
1-1-2.TRICHLOROETHANE	ND		5
CHLORODIBROMOMETHANE	ND		5
2-CHLOROETHYL VINYL ETHER	ND		5
BROMOFORM	ND		5
4-METHYL-2-PENTANONE	ND		50
2-HEXANONE	ND		50
1-1-2-2.TETRACHLOROETHYLENE	ND		5
1-1-2-2.TETRACHLOROETHANE	ND		5
TOLUENE	ND		5
CHLOROBENZENE	ND		5
ETHYLBENZENE	ND		5
STYRENE	ND		5
XYLENE	ND		5

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5-10-88 J1729 SMLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L		DETECTION LIMIT ug/L
CHLOROMETHANE	ND		10
BROMOMETHANE	ND		10
VINYL CHLORIDE	ND		10
CHLOROETHANE	ND		10
METHYLENECHLORIDE	ND	B	5
ACETONE	ND		100
ACROLEIN	ND		20
ACRYLONITRILE	ND		20
CARBON DISULFIDE	ND		5
TRICHLOROFLUOROMETHANE	ND		5
1-1.DICHLOROETHENE	ND		5
1,1.DICHLOROETHANE	ND		5
TRANS1-2.DICHLOROETHENE	ND		5
CHLOROFORM	ND		5
1-2.DICHLOROETHANE	ND		10
2-BUTANONE	ND		100
1-1-1.TRICHLOROETHANE	ND		5
CARBONTETRACHLORIDE	ND		5
VINYL ACETATE	ND		50
BROMODICHLOROMETHANE	ND		5
1-2.DICHLOROPROPANE	ND		5
TRANS1-3.DICHLOROPROPENE	ND		5
TRICHLOROETHYLENE	ND		5
BENZENE	ND		5
CIS1-3.DICHLOROPROPENE	ND		5
1-1-2.TRICHLOROETHANE	ND		5
CHLORODIBROMOMETHANE	ND		5
2-CHLOROETHYL VINYL ETHER	ND		5
BROMOFORM	ND		5
4-METHYL-2-PENTANONE	ND		50
2-HEXANONE	ND		50
1-1-2-2.TETRACHLOROETHYLENE	ND		5
1-1-2-2.TETRACHLOROETHANE	ND		5
TOLUENE	9		5
CHLOROBENZENE	ND		5
ETHYLBENZENE	ND		5
STYRENE	ND		5
XYLENE	ND		5

J - Concentration less than detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/10/88 01730 SMLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L		DETECTION LIMIT ug/L
CHLOROMETHANE	ND		10
BROMOMETHANE	ND		10
VINYL CHLORIDE	ND		10
CHLOROETHANE	ND		10
METHYLENECHLORIDE	ND	B	5
ACETONE	ND		100
ACROLEIN	ND		20
ACRYLONITRILE	ND		20
CARBON DISULFIDE	ND		5
TRICHLOROFLUOROMETHANE	ND		5
1-1.DICHLOROETHENE	ND		5
1.1.DICHLOROETHANE	ND		5
TRANS1-2.DICHLOROETHENE	ND		5
CHLOROFORM	ND		5
1-2.DICHLOROETHANE	ND		10
2-BUTANONE	ND		100
1-1-1.TRICHLOROETHANE	ND		5
CARBONTETRACHLORIDE	ND		5
VINYL ACETATE	ND		50
BROMODICHLOROMETHANE	ND		5
1-2.DICHLOROPROPANE	ND		5
TRANS1-3.DICHLOROPROPENE	ND		5
TRICHLOROETHYLENE	ND		5
BENZENE	ND		5
CIS1-3.DICHLOROPROPENE	ND		5
1-1-2.TRICHLOROETHANE	ND		5
CHLORODIBROMOMETHANE	ND		5
2-CHLOROETHYL VINYL ETHER	ND		5
BROMOFORM	ND		5
4-METHYL-2-PENTANONE	ND		50
2-HEXANONE	ND		50
1-1-2-2.TETRACHLOROETHYLENE	ND		5
1-1-2-2.TETRACHLOROETHANE	ND		5
TOLUENE	12		5
CHLOROBENZENE	ND		5
ETHYLBENZENE	ND		5
STYRENE	ND		5
XYLENE	2	J	5

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/10/88 01731 10X DIL (500UL/

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	100
BROMOMETHANE	ND	100
VINYL CHLORIDE	ND	100
CHLOROETHANE	ND	100
METHYLENECHLORIDE	146	50
ACETONE	ND	1000
ACROLEIN	ND	200
ACRYLONITRILE	ND	200
CARBON DISULFIDE	ND	50
TRICHLOROFLUOROMETHANE	57	50
1-1.DICHLOROETHENE	ND	50
1,1.DICHLOROETHANE	ND	50
TRANS1-2.DICHLOROETHENE	ND	50
CHLOROFORM	ND	50
1-2.DICHLOROETHANE	ND	100
2-BUTANONE	ND	1000
1-1-1.TRICHLOROETHANE	ND	50
CARBONTETRACHLORIDE	ND	50
VINYL ACETATE	ND	500
BROMODICHLOROMETHANE	ND	50
1-2.DICHLOROPROPANE	ND	50
TRANS1-3.DICHLOROPROPENE	ND	50
TRICHLOROETHYLENE	771	50
BENZENE	ND	50
CIS1-3.DICHLOROPROPENE	ND	50
1-1-2.TRICHLOROETHANE	ND	50
CHLORODIBROMOMETHANE	ND	50
2-CHLOROETHYL VINYL ETHER	ND	50
BROMOFORM	ND	50
4-METHYL-2-PENTANONE	ND	500
2-HEXANONE	ND	500
1-1-2-2.TETRACHLOROETHYLENE	ND	50
1-1-2-2.TETRACHLOROETHANE	ND	50
TOLUENE	191/160 B	50
CHLOROBENZENE	ND	50
ETHYLBENZENE	53	50
STYRENE	ND	50
XYLENE	166/123 B	50

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/9/88 01732 10X DIL (500UL/5

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	100
BROMOMETHANE	ND	100
VINYL CHLORIDE	ND	100
CHLOROETHANE	ND	100
METHYLENECHLORIDE	ND	50
ACETONE	ND	1000
ACROLEIN	ND	200
ACRYLONITRILE	ND	200
CARBON DISULFIDE	ND	50
TRICHLOROFLUOROMETHANE	ND	50
1-1.DICHLOROETHENE	ND	50
1,1.DICHLOROETHANE	ND	50
TRANS1-2.DICHLOROETHENE	ND	50
CHLOROFORM	ND	50
1-2.DICHLOROETHANE	ND	100
2-BUTANONE	ND	1000
1-1-1.TRICHLOROETHANE	ND	50
CARBONTETRACHLORIDE	ND	50
VINYL ACETATE	ND	500
BROMODICHLOROMETHANE	ND	50
1-2.DICHLOROPROPANE	ND	50
TRANS1-3.DICHLOROPROPENE	ND	50
TRICHLOROETHYLENE	839	50
BENZENE	ND	50
CIS1-3.DICHLOROPROPENE	ND	50
1-1-2.TRICHLOROETHANE	ND	50
CHLORODIBROMOMETHANE	ND	50
2-CHLOROETHYL VINYL ETHER	ND	50
BROMOFORM	ND	50
4-METHYL-2-PENTANONE	ND	500
2-HEXANONE	ND	500
1-1-2-2.TETRACHLOROETHYLENE	ND	50
1-1-2-2.TETRACHLOROETHANE	ND	50
TOLUENE	ND	50
CHLOROBENZENE	ND	50
ETHYLBENZENE	ND	50
STYRENE	ND	50
XYLENE	ND	50

J - Concentration less than detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/9/88 01733 5X DIL (1ML/5MLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	50
BROMOMETHANE	ND	50
VINYL CHLORIDE	ND	50
CHLOROETHANE	ND	50
METHYLENECHLORIDE	62 /12 B	25
ACETONE	ND	500
ACROLEIN	ND	100
ACRYLONITRILE	ND	100
CARBON DISULFIDE	ND	25
TRICHLOROFLUOROMETHANE	ND	25
1-1.DICHLOROETHENE	ND	25
1,1.DICHLOROETHANE	ND	25
TRANS1-2.DICHLOROETHENE	ND	25
CHLOROFORM	ND	25
1-2.DICHLOROETHANE	ND	50
2-BUTANONE	ND	500
1-1-1.TRICHLOROETHANE	ND	25
CARBONTETRACHLORIDE	ND	25
VINYL ACETATE	ND	250
BROMODICHLOROMETHANE	ND	25
1-2.DICHLOROPROPANE	ND	25
TRANS1-3.DICHLOROPROPENE	ND	25
TRICHLOROETHYLENE	347	25
BENZENE	ND	25
CIS1-3.DICHLOROPROPENE	ND	25
1-1-2.TRICHLOROETHANE	ND	25
CHLORODIBROMOMETHANE	ND	25
2-CHLOROETHYL VINYL ETHER	ND	25
BROMOFORM	ND	25
4-METHYL-2-PENTANONE	ND	250
2-HEXANONE	ND	250
1-1-2-2.TETRACHLOROETHYLENE	ND	25
1-1-2-2.TETRACHLOROETHANE	ND	25
TOLUENE	ND	25
CHLOROBENZENE	ND	25
ETHYLBENZENE	ND	25
STYRENE	ND	25
XYLENE	ND	25

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/9/88 01734 5MLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	10
BROMOMETHANE	ND	10
VINYL CHLORIDE	ND	10
CHLOROETHANE	ND	10
METHYLENECHLORIDE	ND	5
ACETONE	ND	100
ACROLEIN	ND	20
ACRYLONITRILE	ND	20
CARBON DISULFIDE	ND	5
TRICHLOROFLUOROMETHANE	ND	5
1-1.DICHLOROETHENE	ND	5
1,1.DICHLOROETHANE	ND	5
TRANS1-2.DICHLOROETHENE	ND	5
CHLOROFORM	ND	5
1-2.DICHLOROETHANE	ND	10
2-BUTANONE	ND	100
1-1-1.TRICHLOROETHANE	ND	5
CARBONTETRACHLORIDE	ND	5
VINYL ACETATE	ND	50
BROMODICHLOROMETHANE	ND	5
1-2.DICHLOROPROPANE	ND	5
TRANS1-3.DICHLOROPROPENE	ND	5
TRICHLOROETHYLENE	ND	5
BENZENE	ND	5
CIS1-3.DICHLOROPROPENE	ND	5
1-1-2.TRICHLOROETHANE	ND	5
CHLORODIBROMOMETHANE	ND	5
2-CHLOROETHYL VINYL ETHER	ND	5
BROMOFORM	ND	5
4-METHYL-2-PENTANONE	ND	50
2-HEXANONE	ND	50
1-1-2-2.TETRACHLOROETHYLENE	ND	5
1-1-2-2.TETRACHLOROETHANE	ND	5
TOLUENE	ND	5
CHLOROBENZENE	ND	5
ETHYLBENZENE	ND	5
STYRENE	ND	5
XYLENE	ND	5

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP. 5/9/88 01735 5MLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	10
BROMOMETHANE	ND	10
VINYL CHLORIDE	ND	10
CHLOROETHANE	ND	10
METHYLENECHLORIDE	ND	5
ACETONE	ND	100
ACROLEIN	ND	20
ACRYLONITRILE	ND	20
CARBON DISULFIDE	ND	5
TRICHLOROFLUOROMETHANE	ND	5
1-1.DICHLOROETHENE	ND	5
,1.DICHLOROETHANE	ND	5
TRANS1-2.DICHLOROETHENE	ND	5
CHLOROFORM	ND	5
1-2.DICHLOROETHANE	ND	10
2-BUTANONE	ND	100
1-1-1.TRICHLOROETHANE	ND	5
CARBONTETRACHLORIDE	ND	5
VINYL ACETATE	ND	50
BROMODICHLOROMETHANE	ND	5
1-2.DICHLOROPROPANE	ND	5
TRANS1-3.DICHLOROPROPENE	ND	5
TRICHLOROETHYLENE	ND	5
BENZENE	ND	5
CIS1-3.DICHLOROPROPENE	ND	5
1-1-2.TRICHLOROETHANE	ND	5
CHLORODIBROMOMETHANE	ND	5
2-CHLOROETHYL VINYL ETHER	ND	5
BROMOFORM	ND	5
4-METHYL-2-PENTANONE	ND	50
2-HEXANONE	ND	50
1-1-2-2.TETRACHLOROETHYLENE	ND	5
1-1-2-2.TETRACHLOROETHANE	ND	5
TOLUENE	1 J	5
CHLOROBENZENE	ND	5
ETHYLBENZENE	ND	5
STYRENE	ND	5
XYLENE	ND	5

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/9/88 01736 20X DIL (250UL/5

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	200
BROMOMETHANE	ND	200
VINYL CHLORIDE	ND	200
CHLOROETHANE	ND	200
METHYLENECHLORIDE	ND	100
ACETONE	ND	2000
ACROLEIN	ND	400
ACRYLONITRILE	ND	400
CARBON DISULFIDE	ND	100
TRICHLOROFLUOROMETHANE	ND	100
1-1.DICHLOROETHENE	ND	100
1,1.DICHLOROETHANE	ND	100
TRANS1-2.DICHLOROETHENE	ND	100
CHLOROFORM	ND	100
1-2.DICHLOROETHANE	ND	200
2-BUTANONE	ND	2000
1-1-1.TRICHLOROETHANE	ND	100
CARBONTETRACHLORIDE	ND	100
VINYL ACETATE	ND	1000
BROMODICHLOROMETHANE	ND	100
1-2.DICHLOROPROPANE	ND	100
TRANS1-3.DICHLOROPROPENE	ND	100
TRICHLOROETHYLENE	1414	100
BENZENE	ND	100
CIS1-3.DICHLOROPROPENE	ND	100
1-1-2.TRICHLOROETHANE	ND	100
CHLORODIBROMOMETHANE	ND	100
2-CHLOROETHYL VINYL ETHER	ND	100
BROMOFORM	ND	100
4-METHYL-2-PENTANONE	ND	1000
2-HEXANONE	ND	1000
1-1-2-2.TETRACHLOROETHYLENE	ND	100
1-1-2-2.TETRACHLOROETHANE	ND	100
TOLUENE	ND	100
CHLOROBENZENE	ND	100
ETHYLBENZENE	ND	100
STYRENE	ND	100
XYLENE	ND	100

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/9/88 01737 20X DIL (250UL/5

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	200
BROMOMETHANE	ND	200
VINYL CHLORIDE	ND	200
CHLOROETHANE	ND	200
METHYLENECHLORIDE	ND	100
ACETONE	ND	2000
ACROLEIN	ND	400
ACRYLONITRILE	ND	400
CARBON DISULFIDE	ND	100
TRICHLOROFLUOROMETHANE	ND	100
1-1.DICHLOROETHENE	ND	100
1,1.DICHLOROETHANE	ND	100
TRANS1-2.DICHLOROETHENE	ND	100
CHLOROFORM	ND	100
1-2.DICHLOROETHANE	ND	200
2-BUTANONE	ND	2000
1-1-1.TRICHLOROETHANE	ND	100
CARBONTETRACHLORIDE	ND	100
VINYL ACETATE	ND	1000
BROMODICHLOROMETHANE	ND	100
1-2.DICHLOROPROPANE	ND	100
TRANS1-3.DICHLOROPROPENE	ND	100
TRICHLOROETHYLENE	1890	100
BENZENE	ND	100
CIS1-3.DICHLOROPROPENE	ND	100
1-1-2.TRICHLOROETHANE	ND	100
CHLORODIBROMOMETHANE	ND	100
2-CHLOROETHYL VINYL ETHER	ND	100
BROMOFORM	ND	100
4-METHYL-2-PENTANONE	ND	1000
2-HEXANONE	ND	1000
1-1-2-2.TETRACHLOROETHYLENE	ND	100
1-1-2-2.TETRACHLOROETHANE	ND	100
TOLUENE	ND	100
CHLOROBENZENE	ND	100
ETHYLBENZENE	ND	100
STYRENE	ND	100
XYLENE	ND	100

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/9/88 01738 50X DIL (100UL/5

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	500
BROMOMETHANE	ND	500
VINYL CHLORIDE	ND	500
CHLOROETHANE	ND	500
METHYLENECHLORIDE	ND	250
ACETONE	ND	5000
ACROLEIN	ND	1000
ACRYLONITRILE	ND	1000
CARBON DISULFIDE	ND	250
TRICHLOROFLUOROMETHANE	ND	250
1-1.DICHLOROETHENE	ND	250
1,1.DICHLOROETHANE	ND	250
TRANS1-2.DICHLOROETHENE	ND	250
CHLOROFORM	ND	250
1-2.DICHLOROETHANE	ND	500
2-BUTANONE	ND	5000
1-1-1.TRICHLOROETHANE	ND	250
CARBONTETRACHLORIDE	ND	250
VINYL ACETATE	ND	2500
BROMODICHLOROMETHANE	ND	250
1-2.DICHLOROPROPANE	ND	250
TRANS1-3.DICHLOROPROPENE	ND	250
TRICHLOROETHYLENE	7221	250
BENZENE	ND	250
CIS1-3.DICHLOROPROPENE	ND	250
1-1-2.TRICHLOROETHANE	ND	250
CHLORODIBROMOMETHANE	ND	250
2-CHLOROETHYL VINYL ETHER	ND	250
BROMOFORM	ND	250
4-METHYL-2-PENTANONE	ND	2500
2-HEXANONE	ND	2500
1-1-2-2.TETRACHLOROETHYLENE	ND	250
1-1-2-2.TETRACHLOROETHANE	ND	250
TOLUENE	ND	250
CHLOROBENZENE	ND	250
ETHYLBENZENE	ND	250
STYRENE	ND	250
XYLENE	ND	250

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/9/88 01739 5X DIL (1ML/5MLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	50
BROMOMETHANE	ND	50
VINYL CHLORIDE	ND	50
CHLOROETHANE	ND	50
METHYLENECHLORIDE	ND	25
ACETONE	ND	500
ACROLEIN	ND	100
ACRYLONITRILE	ND	100
CARBON DISULFIDE	ND	25
TRICHLOROFLUOROMETHANE	ND	25
1-1.DICHLOROETHENE	ND	25
1,1.DICHLOROETHANE	ND	25
TRANS1-2.DICHLOROETHENE	ND	25
CHLOROFORM	ND	25
1-2.DICHLOROETHANE	ND	50
2-BUTANONE	ND	500
1-1-1.TRICHLOROETHANE	ND	25
CARBONTETRACHLORIDE	ND	25
VINYL ACETATE	ND	250
BROMODICHLOROMETHANE	ND	25
1-2.DICHLOROPROPANE	ND	25
TRANS1-3.DICHLOROPROPENE	ND	25
TRICHLOROETHYLENE	318	25
BENZENE	ND	25
CIS1-3.DICHLOROPROPENE	ND	25
1-1-2.TRICHLOROETHANE	ND	25
CHLORODIBROMOMETHANE	ND	25
2-CHLOROETHYL VINYL ETHER	ND	25
BROMOFORM	ND	25
4-METHYL-2-PENTANONE	ND	250
2-HEXANONE	ND	250
1-1-2-2.TETRACHLOROETHYLENE	ND	25
1-1-2-2.TETRACHLOROETHANE	ND	25
TOLUENE	ND	25
CHLOROBENZENE	ND	25
ETHYLBENZENE	ND	25
STYRENE	ND	25
XYLENE	ND	25

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/9/88 01740 5X DIL (1ML/5MLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	50
BROMOMETHANE	ND	50
VINYL CHLORIDE	ND	50
CHLOROETHANE	ND	50
METHYLENECHLORIDE	ND	25
ACETONE	ND	500
ACROLEIN	ND	100
ACRYLONITRILE	ND	100
CARBON DISULFIDE	ND	25
TRICHLOROFLUOROMETHANE	ND	25
1-1.DICHLOROETHENE	ND	25
1,1.DICHLOROETHANE	ND	25
TRANS1-2.DICHLOROETHENE	ND	25
CHLOROFORM	ND	25
1-2.DICHLOROETHANE	ND	50
2-BUTANONE	ND	500
1-1-1.TRICHLOROETHANE	ND	25
CARBONTETRACHLORIDE	ND	25
VINYL ACETATE	ND	250
BROMODICHLOROMETHANE	ND	25
1-2.DICHLOROPROPANE	ND	25
TRANS1-3.DICHLOROPROPENE	ND	25
TRICHLOROETHYLENE	586	25
BENZENE	ND	25
CIS1-3.DICHLOROPROPENE	ND	25
1-1-2.TRICHLOROETHANE	ND	25
CHLORODIBROMOMETHANE	ND	25
2-CHLOROETHYL VINYL ETHER	ND	25
BROMOFORM	ND	25
4-METHYL-2-PENTANONE	ND	250
2-HEXANONE	ND	250
1-1-2-2.TETRACHLOROETHYLENE	ND	25
1-1-2-2.TETRACHLOROETHANE	ND	25
TOLUENE	ND	25
CHLOROBENZENE	ND	25
ETHYLBENZENE	ND	25
STYRENE	ND	25
XYLENE	ND	25

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP. 5/9/88 01741 SMLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	10
BROMOMETHANE	ND	10
VINYL CHLORIDE	ND	10
CHLOROETHANE	ND	10
METHYLENECHLORIDE	ND	5
ACETONE	ND	100
ACROLEIN	ND	20
ACRYLONITRILE	ND	20
CARBON DISULFIDE	ND	5
TRICHLOROFLUOROMETHANE	ND	5
1-1.DICHLOROETHENE	ND	5
1,1.DICHLOROETHANE	ND	5
TRANS1-2.DICHLOROETHENE	ND	5
CHLOROFORM	ND	5
1-2.DICHLOROETHANE	ND	10
2-BUTANONE	ND	100
1-1-1.TRICHLOROETHANE	ND	5
CARBONTETRACHLORIDE	ND	5
VINYL ACETATE	ND	50
BROMODICHLOROMETHANE	ND	5
1-2.DICHLOROPROPANE	ND	5
TRANS1-3.DICHLOROPROPENE	ND	5
TRICHLOROETHYLENE	ND	5
BENZENE	ND	5
CIS1-3.DICHLOROPROPENE	ND	5
1-1-2.TRICHLOROETHANE	ND	5
CHLORODIBROMOMETHANE	ND	5
2-CHLOROETHYL VINYL ETHER	ND	5
BROMOFORM	ND	5
4-METHYL-2-PENTANONE	ND	50
2-HEXANONE	ND	50
1-1-2-2.TETRACHLOROETHYLENE	ND	5
1-1-2-2.TETRACHLOROETHANE	ND	5
TOLUENE	ND	5
CHLOROBENZENE	ND	5
ETHYLBENZENE	ND	5
STYRENE	ND	5
XYLENE	ND	5

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP. 5/9/88 01742 5MLS

VOLATILE ORGANIC SCAN

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	10
BROMOMETHANE	ND	10
VINYL CHLORIDE	ND	10
CHLOROETHANE	ND	10
METHYLENECHLORIDE	ND	5
ACETONE	ND	100
ACROLEIN	ND	20
ACRYLONITRILE	ND	20
CARBON DISULFIDE	ND	5
TRICHLOROFLUOROMETHANE	ND	5
1-1.DICHLOROETHENE	ND	5
1,1.DICHLOROETHANE	ND	5
TRANS1-2.DICHLOROETHENE	ND	5
CHLOROFORM	ND	5
1-2.DICHLOROETHANE	ND	10
2-BUTANONE	ND	100
1-1-1.TRICHLOROETHANE	ND	5
CARBONTETRACHLORIDE	ND	5
VINYL ACETATE	ND	50
BROMODICHLOROMETHANE	ND	5
1-2.DICHLOROPROPANE	ND	5
TRANS1-3.DICHLOROPROPENE	ND	5
TRICHLOROETHYLENE	ND	5
BENZENE	ND	5
CIS1-3.DICHLOROPROPENE	ND	5
1-1-2.TRICHLOROETHANE	ND	5
CHLORODIBROMOMETHANE	ND	5
2-CHLOROETHYL VINYL ETHER	ND	5
BROMOFORM	ND	5
4-METHYL-2-PENTANONE	ND	5
2-HEXANONE	ND	50
1-1-2-2.TETRACHLOROETHYLENE	ND	50
1-1-2-2.TETRACHLOROETHANE	ND	5
TOLUENE	ND	5
CHLOROBENZENE	ND	5
ETHYLBENZENE	ND	5
STYRENE	ND	5
XYLENE	ND	5

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP. 5/9/88 01743 5MLS

VOLATILE ORGANIC SCAN

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	10
BROMOMETHANE	ND	10
VINYL CHLORIDE	ND	10
CHLOROETHANE	ND	10
METHYLENECHLORIDE	18	5
ACETONE	ND	100
ACROLEIN	ND	20
ACRYLONITRILE	ND	20
CARBON DISULFIDE	ND	5
TRICHLOROFLUOROMETHANE	ND	5
1-1.DICHLOROETHENE	ND	5
1,1.DICHLOROETHANE	ND	5
TRANS1-2.DICHLOROETHENE	ND	5
CHLOROFORM	ND	5
1-2.DICHLOROETHANE	ND	10
2-BUTANONE	ND	100
1-1-1.TRICHLOROETHANE	ND	5
CARBONTETRACHLORIDE	ND	5
VINYL ACETATE	ND	50
BROMODICHLOROMETHANE	ND	5
1-2.DICHLOROPROPANE	ND	5
TRANS1-3.DICHLOROPROPENE	ND	5
TRICHLOROETHYLENE	ND	5
BENZENE	ND	5
CIS1-3.DICHLOROPROPENE	ND	5
1-1-2.TRICHLOROETHANE	ND	5
CHLORODIBROMOMETHANE	ND	5
2-CHLOROETHYL VINYL ETHER	ND	5
BROMOFORM	ND	5
4-METHYL-2-PENTANONE	ND	50
2-HEXANONE	ND	50
1-1-2-2.TETRACHLOROETHYLENE	ND	5
1-1-2-2.TETRACHLOROETHANE	ND	5
TOLUENE	ND	5
CHLOROBENZENE	ND	5
ETHYLBENZENE	ND	5
STYRENE	ND	5
XYLENE	ND	5

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP. 5/9/88 01744 5MLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	10
BROMOMETHANE	ND	10
VINYL CHLORIDE	ND	10
CHLOROETHANE	ND	10
METHYLENECHLORIDE	21	5
ACETONE	ND	100
ACROLEIN	ND	20
ACRYLONITRILE	ND	20
CARBON DISULFIDE	ND	5
TRICHLOROFLUOROMETHANE	ND	5
1-1.DICHLOROETHENE	ND	5
1,1.DICHLOROETHANE	ND	5
TRANS1-2.DICHLOROETHENE	ND	5
CHLOROFORM	ND	5
1-2.DICHLOROETHANE	ND	10
2-BUTANONE	ND	100
1-1-1.TRICHLOROETHANE	ND	5
CARBONTETRACHLORIDE	ND	5
VINYL ACETATE	ND	50
BROMODICHLOROMETHANE	ND	5
1-2.DICHLOROPROPANE	ND	5
TRANS1-3.DICHLOROPROPENE	ND	5
TRICHLOROETHYLENE	ND	5
BENZENE	ND	5
CIS1-3.DICHLOROPROPENE	ND	5
1-1-2.TRICHLOROETHANE	ND	5
CHLORODIBROMOMETHANE	ND	5
2-CHLOROETHYL VINYL ETHER	ND	5
BROMOFORM	ND	5
4-METHYL-2-PENTANONE	ND	50
2-HEXANONE	ND	50
1-1-2-2.TETRACHLOROETHYLENE	ND	5
1-1-2-2.TETRACHLOROETHANE	ND	5
TOLUENE	ND	5
CHLOROBENZENE	ND	5
ETHYLBENZENE	ND	5
STYRENE	ND	5
XYLENE	ND	5

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP. 5/9/88 01745 5MLS

VOLATILE ORGANIC SCAN

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	10
BROMOMETHANE	ND	10
VINYL CHLORIDE	ND	10
CHLOROETHANE	ND	10
METHYLENECHLORIDE	ND	5
ACETONE	ND	100
ACROLEIN	ND	20
ACRYLONITRILE	ND	20
CARBON DISULFIDE	ND	5
TRICHLOROFLUOROMETHANE	ND	5
1-1.DICHLOROETHENE	ND	5
1,1.DICHLOROETHANE	ND	5
TRANS1-2.DICHLOROETHENE	ND	5
CHLOROFORM	ND	5
1-2.DICHLOROETHANE	ND	10
2-BUTANONE	ND	100
1-1-1.TRICHLOROETHANE	ND	5
CARBONTETRACHLORIDE	ND	5
VINYL ACETATE	ND	50
BROMODICHLOROMETHANE	ND	5
1-2.DICHLOROPROPANE	ND	5
TRANS1-3.DICHLOROPROPENE	ND	5
TRICHLOROETHYLENE	ND	5
BENZENE	ND	5
CIS1-3.DICHLOROPROPENE	ND	5
1-1-2.TRICHLOROETHANE	ND	5
CHLORODIBROMOMETHANE	ND	5
2-CHLOROETHYL VINYL ETHER	ND	5
BROMOFORM	ND	5
4-METHYL-2-PENTANONE	ND	50
2-HEXANONE	ND	50
1-1-2-2.TETRACHLOROETHYLENE	ND	5
1-1-2-2.TETRACHLOROETHANE	ND	5
TOLUENE	ND	5
CHLOROBENZENE	ND	5
ETHYLBENZENE	ND	5
STYRENE	ND	5
XYLE	ND	5

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP. 5/9/88 01746 5MLS

VOLATILE ORGANIC SCAN

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	10
BROMOMETHANE	ND	10
VINYL CHLORIDE	ND	10
CHLOROETHANE	ND	10
METHYLENECHLORIDE	17	5
ACETONE	ND	100
ACROLEIN	ND	20
ACRYLONITRILE	ND	20
CARBON DISULFIDE	ND	5
TRICHLOROFLUOROMETHANE	ND	5
1-1.DICHLOROETHENE	ND	5
1,1.DICHLOROETHANE	ND	5
TRANS1-2.DICHLOROETHENE	ND	5
CHLOROFORM	ND	5
1-2.DICHLOROETHANE	ND	10
2-BUTANONE	ND	100
1-1-1.TRICHLOROETHANE	ND	5
CARBONTETRACHLORIDE	ND	5
VINYL ACETATE	ND	50
BROMODICHLOROMETHANE	ND	5
1-2.DICHLOROPROPANE	ND	5
TRANS1-3.DICHLOROPROPENE	ND	5
TRICHLOROETHYLENE	24	5
BENZENE	ND	5
CIS1-3.DICHLOROPROPENE	ND	5
1-1-2.TRICHLOROETHANE	ND	5
CHLORODIBROMOMETHANE	ND	5
2-CHLOROETHYL VINYL ETHER	ND	5
BROMOFORM	ND	5
4-METHYL-2-PENTANONE	ND	50
2-HEXANONE	ND	50
1-1-2-2.TETRACHLOROETHYLENE	ND	5
1-1-2-2.TETRACHLOROETHANE	ND	5
TOLUENE	ND	5
CHLOROBENZENE	ND	5
ETHYLBENZENE	ND	5
STYRENE	ND	5
XYLENE	ND	5

J - Concentration less than detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/9/88 01747 5MLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	10
BROMOMETHANE	ND	10
VINYL CHLORIDE	ND	10
CHLOROETHANE	ND	10
METHYLENECHLORIDE	ND	5
ACETONE	ND	100
ACROLEIN	ND	20
ACRYLONITRILE	ND	20
CARBON DISULFIDE	ND	5
TRICHLOROFLUOROMETHANE	ND	5
1-1.DICHLOROETHENE	ND	5
1,1.DICHLOROETHANE	ND	5
TRANS1-2.DICHLOROETHENE	ND	5
CHLOROFORM	ND	5
1-2.DICHLOROETHANE	ND	10
2-BUTANONE	ND	100
1-1-1.TRICHLOROETHANE	ND	5
CARBONTETRACHLORIDE	ND	5
VINYL ACETATE	ND	50
BROMODICHLOROMETHANE	ND	5
1-2.DICHLOROPROPANE	ND	5
TRANS1-3.DICHLOROPROPENE	ND	5
TRICHLOROETHYLENE	ND	5
BENZENE	ND	5
CIS1-3.DICHLOROPROPENE	ND	5
1-1-2.TRICHLOROETHANE	ND	5
CHLORODIBROMOMETHANE	ND	5
2-CHLOROETHYL VINYL ETHER	ND	5
BROMOFORM	ND	5
4-METHYL-2-PENTANONE	ND	50
2-HEXANONE	ND	50
1-1-2-2.TETRACHLOROETHYLENE	ND	5
1-1-2-2.TETRACHLOROETHANE	ND	5
TOLUENE	ND	5
CHLOROBENZENE	ND	5
ETHYLBENZENE	ND	5
STYRENE	ND	5
XYLENE	ND	5

J - Concentration less than detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/9/88 01748 5MLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	10
BROMOMETHANE	ND	10
VINYL CHLORIDE	ND	10
CHLOROETHANE	ND	10
METHYLENECHLORIDE	ND	5
ACETONE	ND	100
ACROLEIN	ND	20
ACRYLONITRILE	ND	20
CARBON DISULFIDE	ND	5
TRICHLOROFLUOROMETHANE	ND	5
1-1.DICHLOROETHENE	ND	5
1,1.DICHLOROETHANE	ND	5
TRANS1-2.DICHLOROETHENE	ND	5
CHLOROFORM	ND	5
1-2.DICHLOROETHANE	ND	10
2-BUTANONE	ND	100
1-1-1.TRICHLOROETHANE	ND	5
CARBONTETRACHLORIDE	ND	5
VINYL ACETATE	ND	50
BROMODICHLOROMETHANE	ND	5
1-2.DICHLOROPROPANE	ND	5
TRANS1-3.DICHLOROPROPENE	ND	5
TRICHLOROETHYLENE	ND	5
BENZENE	ND	5
CIS1-3.DICHLOROPROPENE	ND	5
1-1-2.TRICHLOROETHANE	ND	5
CHLORODIBROMOMETHANE	ND	5
2-CHLOROETHYL VINYL ETHER	ND	5
BROMOFORM	ND	5
4-METHYL-2-PENTANONE	ND	50
2-HEXANONE	ND	50
1-1-2-2.TETRACHLOROETHYLENE	ND	5
1-1-2-2.TETRACHLOROETHANE	ND	5
TOLUENE	ND	5
CHLOROBENZENE	ND	5
ETHYLBENZENE	ND	5
STYRENE	ND	5
XYLENE	ND	5

J - Concentration less than detection limit (estimated)
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/9/88 01749 5MLS

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	10
BROMOMETHANE	ND	10
VINYL CHLORIDE	ND	10
CHLOROETHANE	ND	10
METHYLENECHLORIDE	ND	5
ACETONE	ND	100
ACROLEIN	ND	20
ACRYLONITRILE	ND	20
CARBON DISULFIDE	ND	5
TRICHLOROFLUOROMETHANE	ND	5
1-1.DICHLOROETHENE	ND	5
1,1.DICHLOROETHANE	ND	5
TRANS1-2.DICHLOROETHENE	ND	5
CHLOROFORM	ND	5
1-2.DICHLOROETHANE	ND	10
2-BUTANONE	ND	100
1-1-1.TRICHLOROETHANE	ND	5
CARBONTETRACHLORIDE	ND	5
VINYL ACETATE	ND	50
BROMODICHLOROMETHANE	ND	5
1-2.DICHLOROPROPANE	ND	5
TRANS1-3.DICHLOROPROPENE	ND	5
TRICHLOROETHYLENE	ND	5
BENZENE	ND	5
CIS1-3.DICHLOROPROPENE	ND	5
1-1-2.TRICHLOROETHANE	ND	5
CHLORODIBROMOMETHANE	ND	5
2-CHLOROETHYL VINYL ETHER	ND	5
BROMOFORM	ND	5
4-METHYL-2-PENTANONE	ND	50
2-HEXANONE	ND	50
1-1-2-2.TETRACHLOROETHYLENE	ND	5
1-1-2-2.TETRACHLOROETHANE	ND	5
TOLUENE	ND	5
CHLOROBENZENE	ND	5
ETHYLBENZENE	ND	5
STYRENE	ND	5
XYLENE	ND	5

J - Concentration less then detection limit shown
B - Found in blank

Table 1. Results of Volatile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample I.D.: WESTON REAC HEREFORD TWP 5/9/88 01750 10X DIL (500UL/5

VOLATILE ORGANIC SCAN Page 1

PARAMETERS	RESULTS ug/L	DETECTION LIMIT ug/L
CHLOROMETHANE	ND	100
BROMOMETHANE	ND	100
VINYL CHLORIDE	ND	100
CHLOROETHANE	ND	100
METHYLENECHLORIDE	ND	50
ACETONE	ND	1000
ACROLEIN	ND	200
ACRYLONITRILE	ND	200
CARBON DISULFIDE	ND	50
TRICHLOROFLUOROMETHANE	ND	50
1-1.DICHLOROETHENE	ND	50
1,1.DICHLOROETHANE	ND	50
TRANS1-2.DICHLOROETHENE	ND	50
CHLOROFORM	ND	50
1-2.DICHLOROETHANE	ND	100
2-BUTANONE	ND	1000
1-1-1.TRICHLOROETHANE	ND	50
CARBONTETRACHLORIDE	ND	50
VINYL ACETATE	ND	500
BROMODICHLOROMETHANE	ND	50
1-2.DICHLOROPROPANE	ND	50
TRANS1-3.DICHLOROPROPENE	ND	50
TRICHLOROETHYLENE	1280	50
BENZENE	ND	50
CIS1-3.DICHLOROPROPENE	ND	50
1-1-2.TRICHLOROETHANE	ND	50
CHLORODIBROMOMETHANE	ND	50
2-CHLOROETHYL VINYL ETHER	ND	50
BROMOFORM	ND	50
4-METHYL-2-PENTANONE	ND	500
2-HEXANONE	ND	500
1-1-2-2.TETRACHLOROETHYLENE	ND	50
1-1-2-2.TETRACHLOROETHANE	ND	50
TOLUENE	ND	50
CHLOROBENZENE	ND	50
ETHYLBENZENE	ND	50
STYRENE	ND	50
XYLENE	ND	50

J - Concentration less then detection limit shown
B - Found in blank

QA/QC PROCEDURE

Table 2 lists the surrogate standard recoveries for toluene-d_8, 4-bromofluorobenzene (BFB), and 1,2-dichloroethane-d_4. All surrogate standard recoveries were within acceptable limits, except the recovery of BFB, which slightly exceeded acceptable QC limits in 17 out of 249 runs.

The matrix spike duplicate results are summarized in Table 3. All recoveries and relative percent differences are within acceptable QC limits, except for the percent recoveries of 1,1-dichloroethene and trichloroethene in the matrix spike duplicate of 1720.

The response factors for bromoform and 1,1,2,2-tetrachloroethane were slightly below acceptable critera for instruments 1 and 3 on several days.

TABLE 2. SURROGATE STANDARD RECOVERIES

Inst.	Sample No.	% Toluene-d8	% BFB	% 1,2-Dichloroethane-D4
	QC Limit	90-100	70-114	70-114
#3	Blank 5/17	104	93.2	76.4
#3	Blank 5/18	102	100	82.3
#1	Blank 5/19	95.3	105	104
#3	Blank 5/19	104	94.4	84.4
#1	Blank 5/20	95.8	105	103
#3	Blank 5/20	102	103	89.9
#1	Blank 5/23	96.8	108	103
#3	Blank 5/23	105	122	111
#1	Blank 5/24	93.9	105	101
#3	Blank 5/24	106	102	90.6
#1	Blank 5/25	97.3	101	95.1
	1713	102	115	104
	1714	101	114	101
	1715	101	114	102
	1716	102	112	100
	1717	101	114	98.6
	1718	102	114	102
	1719	102	116	103
	1720	94.4	105	105
	1721	93.8	105	105
	1722	93.0	108	104
	1723	92.3	107	107
	1724	101	116	102
	1725	100	117	109
	1726	101	113	102
	1727	101	115	102
	1728	103	117	105
	1729	102	115	102
	1730	101	110	101
	1731	103	123	108
	1732	103	111	99.4
	1733	102	110	98.5
	1734	101	114	100
	1735	103	108	95.3
	1736	100	111	98.9
	1737	103	116	101
	1738	102	116	103
	1739	103	112	104
	1740	100	111	98.7
	1741	107	112	106

BFB - 4-Bromofluorobenzene

rd:eh/ANALYTIC/HERE-2

TABLE 2. SURROGATE STANDARD RECOVERIES (CONT'D)

Inst.	Sample No.	% Toluene-d8	% BFB	% 1,2-Dichloroethane-D4
	QC Limit	90-100	70-114	70-114
	1742	103	115	101
	1743	103	111	96.1
	1744	101	109	97.4
	1745	102	110	93.5
	1746	104	112	95.2
	1747	102	111	98.2
	1748	99.0	113	97.6
	1749	102	112	102
	1650	102	116	105
	1657	98.0	116	103
	1640	102	119	109
	1643	100	121	112
	1646	103	117	111
	1652	103	123	112
	1655	96.0	108	105
	1653	100	115	107
	1650	102	120	113
	1648	92.7	92.7	103
	1647	93.8	107	104
	1644	96.7	110	104
	1642	93.9	105	108
	1641	92.7	108	106
	1638	105	113	103
	1637	100	118	106
	1636	99.9	121	108
	1635	101	111	99.3
	1654	97.2	100	87.6
	1651	93.6	106	104
	1749	93.2	101	97.1
	1646	93.1	104	95.4
	1711	93.8	95.8	96.0
	1718/spike	99.3	111	101
	1718/dup spike	100	110	97.3
	1742/spike	101	110	95.5
	1742/dup spike	99.4	108	99.6
	1749/spike	99.9	111	104
	1749/dup spike	100	109	105
	1650/spike	100	117	107
	1650/dup spike	99.8	115	109
	1720/spike	96.3	106	105
	1720/dup spike	95.4	107	105
	1711/spike	94.0	103	97.6
	1711/dup spike	103	105	98.4

BFB - 4-Bromofluorobenzene

rd:eh/ANALYTIC/HERE-2

TABLE 3. MATRIX SPIKE DUPLICATE RESULTS

(Concentrations reported as ug/L)

Fraction	Compound	Conc. Spike Added (ug/l)	Sample Result	Conc. MS	% REC	Conc. MSD	% REC	RPD	QC Limits RPD	QC Limits Recovery
VOA	1,1-Dichloroethene	50	ND	59.8	120	56.9	114	4.97	14	61-145
	Trichloroethene	50	26.48	56.6	113	55.3	111	2.32	14	71-120
SAMPLE NO.	Chlorobenzene	50	ND	46.1	92.2	47.8	95.6	3.62	13	75-130
	Toluene	50	ND	46.2	92.4	46.9	93.8	1.50	13	76-125
1718	Benzene	50	ND	47.5	95.0	48.8	97.6	2.69	11	76-127

ADVISORY LIMITS

RPD: VOAs 0 out of 5; outside QC limits Recovery: VOAs 0 out of 10; outside QC limits

rd:eh/ANALYTIC/HERE-2

AR100258

TABLE 3. MATRIX SPIKE DUPLICATE RESULTS (CONT'D)

(Concentrations reported as ug/L)

Fraction	Compound	Conc. Spike Added (ug/l)	Sample Result	Conc. MS	% REC	Conc. MSD	% REC	RPD	QC Limits RPD	QC Limits Recovery
VOA	1,1-Dichloroethene	50	ND	74.7	149	73.3	147	1.89	14	61-145
	Trichloroethene	50	25.2	64.7	129	64.8	130	0.15	14	71-120
SAMPLE NO.	Chlorobenzene	50	ND	55.9	112	56.3	113	0.71	13	75-130
	Toluene	50	ND	56.2	112	56.4	113	0.36	13	76-125
1720	Benzene	50	ND	61.9	124	62.7	125	1.28	11	76-127

ADVISORY LIMITS

RPD: VOAs 0 out of 5 ; outside QC limits RECOVERY: VOAs 4 out of 10 ; outside QC limits

rd:eh/ANALYTIC/HERE-2

TABLE 3. MATRIX SPIKE DUPLICATE RESULTS (CONT'D)

(Concentrations reported as ug/L)

Fraction	Compound	Conc. Spike Added (ug/l)	Sample Result	Conc. MS	% REC	Conc. MSD	% REC	RPD	QC Limits RPD	QC Limits Recovery
VOA	1,1-Dichloroethene	50	ND	61.4	123	67.1	134	8.87	14	61-145
	Trichloroethene	50	ND	54.7	109	59.0	118	7.56	14	71-120
SAMPLE NO.	Chlorobenzene	50	ND	49.6	99.2	48.9	97.8	1.42	13	75-130
	Toluene	50	ND	50.1	100	51.0	102	1.78	13	76-125
1650	Benzene	50	ND	51.0	102	52.1	104	2.13	11	76-127

ADVISORY LIMITS

RPD: VOAs 0 out of 5 ; outside QC limits RECOVERY: VOAs 0 out of 10 ; outside QC limits

rd:eh/ANALYTIC/HERE-2

AR100260

TABLE 3. MATRIX SPIKE DUPLICATE RESULTS (CONT'D)

(Concentrations reported as ug/L)

Fraction	Compound	Conc. Spike Added (ug/l)	Sample Result	Conc. MS	% REC	Conc. MSD	% REC	RPD	QC Limits RPD	QC Limits Recovery
VOA	1,1-Dichloroethene	50	ND	63.7	127	61.9	124	2.87	14	61-145
	Trichloroethene	50	ND	56.2	112	54.2	108	3.62	14	71-120
SAMPLE NO.	Chlorobenzene	50	ND	49.0	98.0	47.4	94.8	3.32	13	75-130
	Toluene	50	ND	49.3	98.6	47.2	94.4	4.35	13	76-125
1749	Benzene	50	ND	50.0	100	49.0	98.0	2.02	11	76-127

ADVISORY LIMITS

RPD: VOAs 0 out of 5 ; outside QC limits RECOVERY: VOAs 0 out of 10 ; outside QC limits

rd:eh/ANALYTIC/HERE-2

TABLE 3. MATRIX SPIKE DUPLICATE RESULTS (CONT'D)

(Concentrations reported as ug/L)

Fraction	Compound	Conc. Spike Added (ug/l)	Sample Result	Conc. MS	% REC	Conc. MSD	% REC	RPD	QC Limits RPD	QC Limits Recovery
VOA	1,1-Dichloroethene	50	ND	62.0	124	70.4	140	12.6	14	61-145
	Trichloroethene	50	ND	63.2	126	59.1	118	6.70	14	71-120
SAMPLE NO.	Chlorobenzene	50	ND	51.5	103	53.4	106	3.62	13	75-130
	Toluene	50	6.01	58.3	105	58.1	104	0.96	13	76-125
1742	Benzene	50	ND	54.3	108	54.2	108	0.18	11	76-127

ADVISORY LIMITS

RPD: VOAs 0 out of 5 ; outside QC limits RECOVERY: VOAs 0 out of 10 ; outside QC limits

rd:eh/ANALYTIC/HERE-2

AR100262

TABLE 3. MATRIX SPIKE DUPLICATE RESULTS (CONT'D)

(Concentrations reported as ug/L)

Fraction	Compound	Conc. Spike Added (ug/l)	Sample Result	Conc. MS	% REC	Conc. MSD	% REC	RPD	QC Limits RPD	QC Limits Recovery
VOA	1,1-Dichloroethene	50	3.67	57.0	114	52.7	105	7.84	14	61-145
	Trichloroethene	50	2.45	59.6	119	59.8	120	0.34	14	71-120
SAMPLE NO.	Chlorobenzene	50	ND	52.1	104	53.3	107	2.28	13	75-130
	Toluene	50	1.17	50.7	101	51.8	104	2.15	13	76-125
1711	Benzene	50	ND	52.5	105	52.5	105	0.00	11	76-127

ADVISORY LIMITS

RPD: VOAs 0 out of 5 ; outside QC limits RECOVERY: VOAs 0 out of 10 ; outside QC limits

rd:eh/ANALYTIC/HERE-2

AR100263

APPENDIX K

PUMP TEST TIME SERIES SAMPLING: 10-1000 MIN.

Analytical Report

HEREFORD TOWNSHIP
Hereford, PA

Prepared By:
Roy F. Weston/REAC

June 22, 1988

EPA Work Assignment Number: 0-14
Weston Work Order: 3347-01-01-1014
EPA Contract Number: 68-03-3482

Submitted to:
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Correspondance

Appendix A

Data Package from Weston Analytics

INTRODUCTION

Eleven samples were received from the Hereford Township Site in Bucks County, Pennsylvannia on May 25, 1988. The analysis for volatile organic was performed by Weston Analytics.

PROCEDURES

The samples were analyzed according to EPA methods 601 and 602. The percent recoveries of the surrogate bromochloromethane could not be confirmed from the raw data. Additional information is required from the laboratory to confirm the percent recoveries.

SAMPLE #--SAMPLE ID KEY

SAMPLE ID	SAMPLE #
Wellhead: 10 min	1787
Wellhead: 60 min	1788
Wellhead: 100 min	1789
Wellhead: 300 min	1790
Wellhead: 300 min [duplicate]	1794
Wellhead: 500 min	1793
Wellhead: 850 min	1795
Wellhead: 1000 min	1797
Treatment system discharge: 112 min	1792
Treatment system discharge: 400 min	1798
Treatment system discharge: 940 min	1796

SAMPLE #	SAMPLE ID
1787	Wellhead: 10 min
1788	Wellhead: 60 min
1789	Wellhead: 100 min
1790	Wellhead: 300 min
1794	Wellhead: 300 min [duplicate]
1793	Wellhead: 500 min
1795	Wellhead: 850 min
1797	Wellhead: 1000 min
1792	Treatment system discharge: 112 min
1798	Treatment system discharge: 400 min
1796	Treatment system discharge: 940 min

Table 1. Results of Volatile Organic Analysis
(concentrations reported as ug/L)

Sample Information	Cust ID:	1787	1788	1789	1790	1794	1793
	RFW#:	001	002	003	004	005	006
	Matrix:	Water	Water	Water	Water	Water	Water
	D.F.:	50	50	50	50	50	50
	Units:	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
Surrogate Recovery (%)	Bromochloromethane:	95 %	100 %	91 %	92 %	79 %	88 %
	aaa-Trifluorotoluene:	109 %	112 %	105 %	102 %	98 %	100 %
		fl	fl	fl	fl	fl	fl
Chloromethane		100 U	100 U	100 U	100 U	100 U	100 U
Bromomethane		100 U	100 U	100 U	100 U	100 U	100 U
Dichlorodifluoromethane		50 U	50 U	50 U	50 U	50 U	50 U
Vinyl Chloride		100 U	100 U	100 U	100 U	100 U	100 U
Chloroethane		100 U	100 U	100 U	100 U	100 U	100 U
Methylene Chloride		200 U	200 U	200 U	200 U	200 U	200 U
Trichlorofluoromethane		50 U	50 U	50 U	50 U	50 U	50 U
1,1-Dichloroethene		50 U	50 U	50 U	50 U	50 U	50 U
1,1-Dichloroethane		50 U	50 U	50 U	50 U	50 U	50 U
Trans-1,2-Dichloroethene		50 U	50 U	50 U	50 U	50 U	50 U
Chloroform		50 U	50 U	50 U	50 U	50 U	50 U
1,2-Dichloroethane		50 U	50 U	50 U	50 U	50 U	50 U
1,1,1-Trichloroethane		50 U	50 U	50 U	50 U	50 U	50 U
Carbon Tetrachloride		50 U	50 U	50 U	50 U	50 U	50 U
Bromodichloromethane		50 U	50 U	50 U	50 U	50 U	50 U
1,2-Dichloropropane		50 U	50 U	50 U	50 U	50 U	50 U
Trans-1,3-Dichloropropene		50 U	50 U	50 U	50 U	50 U	50 U
Trichloroethene		990	930	920	880	900	880
Dibromochloromethane		50 U	50 U	50 U	50 U	50 U	50 U
1,1,2-Trichloroethane		50 U	50 U	50 U	50 U	50 U	50 U
Benzene		50 U	50 U	50 U	50 U	50 U	50 U
cis-1,3-Dichloropropene		50 U	50 U	50 U	50 U	50 U	50 U
2-Chloroethylvinylether		50 U	50 U	50 U	50 U	50 U	50 U
Bromoform		50 U	50 U	50 U	50 U	50 U	50 U
Tetrachloroethene		50 U	50 U	50 U	50 U	50 U	50 U
1,1,2,2-Tetrachloroethane		50 U	50 U	50 U	50 U	50 U	50 U
Toluene		50 U	50 U	50 U	50 U	50 U	50 U
Chlorobenzene		50 U	50 U	50 U	50 U	50 U	50 U
Ethylbenzene		50 U	50 U	50 U	50 U	50 U	50 U
Total Xylenes		50 U	50 U	50 U	50 U	50 U	50 U
1,2-Dichlorobenzene		50 U	50 U	50 U	50 U	50 U	50 U
1,3-Dichlorobenzene		50 U	50 U	50 U	50 U	50 U	50 U
1,4-Dichlorobenzene		50 U	50 U	50 U	50 U	50 U	50 U

U=Analyzed, not detected. B=Present in blank. NRP=Not Reported
J=Present at less than detection limit. NR=Not requested.

Table 1. Results of Volacile Organic Analysis (cont.)
(concentrations reported as ug/L)

Sample Information	Cust ID:	1795	1797	1792	1798	1796	BLANK
	RFW#:	007	008	009	010	011	BLANK
	Matrix:	Water	Water	Water	Water	Water	Water
	D.F.:	50	50	1	1	1	1
	Units:	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
Surrogate Recovery (%)	Bromochloromethane:	86 %	84 %	87 %	90 %	100 %	96 %
	aaa-Trifluorotoluene:	98 %	92 %	102 %	95 %	101 %	112 %
		fl	fl	fl	fl	fl	fl
Chloromethane		100 U	100 U	2 U	2 U	2 U	2 U
Bromomethane		100 U	100 U	2 U	2 U	2 U	2 U
Dichlorodifluoromethane		50 U	50 U	1 U	1 U	1 U	1 U
Vinyl Chloride		100 U	100 U	2 U	2 U	2 U	2 U
Chloroethane		100 U	100 U	2 U	2 U	2 U	2 U
Methylene Chloride		200 U	200 U	4 U	4 U	4 U	4 U
Trichlorofluoromethane		50 U	50 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene		50 U	50 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane		50 U	50 U	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene		50 U	50 U	1 U	1 U	1 U	1 U
Chloroform		50 U	50 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane		50 U	50 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane		50 U	50 U	1 U	1 U	1 U	1 U
Carbon Tetrachloride		50 U	50 U	1 U	1 U	1 U	1 U
Bromodichloromethane		50 U	50 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane		50 U	50 U	1 U	1 U	1 U	1 U
Trans-1,3-Dichloropropene		50 U	50 U	1 U	1 U	1 U	1 U
Trichloroethene		900	890	1 U	1 U	1 U	1 U
Dibromochloromethane		50 U	50 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane		50 U	50 U	1 U	1 U	1 U	1 U
Benzene		50 U	50 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene		50 U	50 U	1 U	1 U	1 U	1 U
2-Chloroethylvinylether		50 U	50 U	1 U	1 U	1 U	1 U
Bromoform		50 U	50 U	1 U	1 U	1 U	1 U
Tetrachloroethene		50 U	50 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane		50 U	50 U	1 U	1 U	1 U	1 U
Toluene		50 U	50 U	1 U	1 U	1 U	1 U
Chlorobenzene		50 U	50 U	1 U	1 U	1 U	1 U
Ethylbenzene		50 U	50 U	1 U	1 U	1 U	1 U
Total Xylenes		50 U	50 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene		50 U	50 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene		50 U	50 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene		50 U	50 U	1 U	1 U	1 U	1 U

U=Analyzed, not detected. B=Present in blank. NRP=Not Reported
J=Present at less than detection limit. NR=Not requested.

QA/QC PROCEDURES

Table 2 lists the surrogate standard recoveries for bromochloromethane and aaa-trifluorotoluene. All recoveries are within acceptable QC limits.

A matrix spike duplicate was performed on sample 1789. The percent recoveries of the carbon tetrachloride in the matrix spike and matrix spike duplicate are not within the QC limits. Additionally, the recoveries of chlorobenzene in the matrix spike and ethyl benzene in the matrix spike duplicate are not within the QC limits. The results are listed in Table 3.

Table 2. Surrogate Standard Recoveries

Sample No.	Bromochloromethane	Aaa-Trifluorotoluene
1787	95	109
1788	100	112
1789	91	105
1790	92	102
1794	79	98
1793	88	100
1795	86	98
1797	84	92
1792	87	102
1798	90	95
1798 MS	95	92
1798 MSD	74	74
1796	100	101

Table 3. Results of Matrix Spike Duplicate Analysis

(concentrations reported as ug/L)

Sample No. 1798

Parameter	Sample Conc.	Spike Conc.	MS Rec. Conc.	MS % Recovery	MSD Rec. Conc.	MSD % Recovery	RPD
Trans-1,3-dichloroethene	1U	7.46	7.75	103	6.84	91	12.5
Carbon Tetrachloride	1U	7.46	4.97	67*	4.3	58*	14.5
Benzene	1U	7.46	6.57	88	5.54	74	17.0
Chlorobenzene	1U	7.46	13.1	176*	9.12	123	42.7
Ethylbenzene	1U	7.46	5.97	80	4.37	59*	11.6

* denotes a recovery that is not within the acceptable QC limits as submitted by the laboratory.

APPENDIX L

PUMP TEST TIME SERIES SAMPLING: 1440-2880 MIN.

Analytical Report

HEREFORD TOWNSHIP
Hereford, PA

Prepared By:
Roy F. Weston/REAC

June 30, 1988

EPA Work Assignment Number: 0-14
Weston Work Order: 3347-01-01-1014
EPA Contract Number: 68-03-3482

Submitted to:
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AR100275

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Calibration Curve
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INTRODUCTION

On May 27, 1988, eight samples from the Hereford Site in Pennsylvania were received. The analysis for volatile organics was performed by REAC personnel.

PROCEDURE

The samples were analyzed according to CLP procedures. The analytical method can be found in Appendix A. The results are listed in Table 1.

SAMPLE #--SAMPLE ID KEY

SAMPLE #	SAMPLE ID
1799	Wellhead: 2400 min
1800	Wellhead: 1440 min
1801	Wellhead: 2000 min
1802	Wellhead: 2880 min
1803	Treatment system discharge: 1440 min
1804	Treatment system discharge: 2000 min
1806	Treatment system discharge: 2880 min
1807	Treatment system discharge: 2400 min

SAMPLE ID	SAMPLE #
Wellhead: 1440 min	1800
Wellhead: 2000 min	1801
Wellhead: 2400 min	1799
Wellhead: 2880 min	1802
Treatment system discharge: 1440 min	1803
Treatment system discharge: 2000 min	1804
Treatment system discharge: 2400 min	1807
Treatment system discharge: 2880 min	1806

TABLE 1. RESULTS OF VOLATILE ORGANIC ANALYSIS

(Concentrations reported as ug/L)

Parameter	1799	1800	1801	1802	1803	1804	1806	1807
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U
Bromomethane	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl Chloride	10U	10U	10U	10U	10U	10U	10U	10U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U
Methylene Chloride	5U	5U	5U	5U	5U	5U	5U	5U
Acetone	10U	10U	10U	10U	10U	10U	10U	23
Carbon Disulfide	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethene (total)	5U	5U	5U	5U	5U	5U	5U	5U
Chloroform	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
2-Butanone	10U	10U	10U	10U	10U	10U	10U	10U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Carbon Tetrachloride	5U	5U	5U	5U	5U	5U	5U	5U
Vinyl Acetate	10U	10U	10U	10U	10U	10U	10U	10U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	1300	1400	1400	1200	8	8	3J	150
Dibromochloromethane	5U	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Benzene	5U	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-pentanone	10U	10U	10U	10U	10U	10U	10U	10U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U
Tetrachloroethene	18	5U	5U	18	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U	5U	5U	5U
Xylene (total)	5U	5U	5U	5U	5U	5U	5U	5U

u - compound was analyzed for but not detected at the value that precedes it.

j - compound was detected at levels below the practical quantitation limit. The level reported is approximate.

rd:eh/ANALYTIC/HERE-2

QA/QC PROCEDURE

A matrix spike duplicate was performed on sample 1803. The results are summarized in Table 2. All percent recoveries and relative percent differences are within acceptable QC limits.

The surrogate standards toluene-d_8, bromofluorobenzene, and 1,2-dichloroethane-d_4 were added to each sample and blank. The percent recoveries of the surrogates are listed in Table 3. All recoveries are within acceptable QC limits.

TABLE 2. RESULTS OF MATRIX SPIKE/MATRIX SPIKE DUPLICATE ANALYSIS

Sample #1803 (Concentrations reported in ug/L)

Parameter	Sample Results	Spike Conc	MS Results	MSD Results	MS % Recovery	MSD % Recovery	RPD
2) Chloromethane	u	50.00	58.74	65.03	117.48	130.06	10.2
3) Bromomethane	u	50.00	44.79	48.15	89.58	96.30	7.2
4) Vinyl chloride	u	50.00	47.87	48.20	95.74	96.40	0.7
5) Chloroethane	u	50.00	45.15	47.72	90.30	95.44	5.5
6) Methylene chloride	u	50.00	43.51	47.46	87.02	94.92	8.7
7) Acetone	u	50.00	69.69	47.30	139.38	94.60	38.3
8) Carbon disulfide	u	50.00	49.82	52.45	99.64	104.90	5.1
9) 1,1-Dichloroethene	u	50.00	48.99	47.50	97.98	95.00	3.1
10) 1,1-Dichloroethane	u	50.00	48.28	48.17	96.56	96.34	0.2
11) trans-1,2-Dichloroethene	u	50.00	47.18	46.80	94.36	93.60	0.8
12) Chloroform	u	50.00	47.71	48.84	95.42	97.68	2.3
14) 1,2-Dichloroethane	u	50.00	47.51	48.53	95.02	97.06	2.1
16) 2-Butanone	u	50.00	52.26	51.60	104.52	103.20	1.3
17) 1,1,1-Trichloroethane	u	50.00	49.65	52.41	99.30	104.82	5.4
18) Carbon tetrachloride	u	50.00	49.34	51.43	98.68	102.86	4.1
19) Vinyl acetate	u	50.00	15.74	26.41	31.48	52.82	50.6
20) Bromodichloromethane	u	50.00	50.02	52.14	100.04	104.28	4.2
21) 1,2-Dichloropropane	u	50.00	48.21	50.27	96.42	100.54	4.2
22) trans-1,3-Dichloropropene	u	50.00	43.36	46.99	86.72	93.98	8.0
23) Trichloroethene	7.98	50.00	52.37	54.59	88.78	93.22	4.2
24) Dibromochloromethane	u	50.00	50.55	53.68	101.10	107.36	6.0
25) 1,1,2-Trichloroethane	u	50.00	49.46	51.99	98.92	103.98	5.0
26) Benzene	u	50.00	48.03	51.10	96.06	102.20	6.2
27) cis-1,3-Dichloropropene	u	50.00	42.47	44.95	84.94	89.90	5.7
28) 2-Chloroethylvinyl ether	u	50.00	48.19	50.67	96.38	101.34	5.0
29) Bromoform	u	50.00	49.29	51.37	98.58	102.74	4.1
31) 2-Hexanone	u	50.00	50.88	52.07	101.76	104.14	2.3
32) 4-Methyl-2-pentanone	u	50.00	52.60	51.26	105.20	102.52	2.6
33) Tetrachloroethene	u	50.00	48.51	47.18	97.02	94.36	2.8
34) 1,1,2,2-Tetrachloroethane	u	50.00	50.34	47.93	100.68	95.86	4.9
36) Toluene	u	50.00	48.79	47.39	97.58	94.78	2.9
37) Chlorobenzene	u	50.00	47.42	48.44	94.84	96.88	2.1
38) Ethylbenzene	u	50.00	45.32	47.80	90.64	95.60	5.3
40) Styrene	u	50.00	45.50	46.81	91.00	93.62	2.8
41) Xylenes	u	50.00	45.99	48.16	91.98	96.32	4.6

MS Denotes matrix spike.
MSD Denotes matrix spike duplicate.
RPD Denotes relative percent difference.

TABLE 3. WATER VOLATILE SURROGATE RECOVERY

EPA Sample No.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	TOT OUT
1799	96.2	95.6	88.2	0
1799 1/10	99.2	96.3	94.0	0
1800	99.8	94.9	90.1	0
1800 1/10	98.8	97.4	90.4	0
1801	94.9	92.6	90.7	0
1801 1/10	94.9	99.0	93.1	0
1802	100.7	92.4	92.9	0
1802 1/10	98.4	94.4	89.7	0
1803	95.1	91.9	91.7	0
1804	100.9	96.5	98.5	0
1806	105.4	101.6	101.2	0
1807	99.6	95.7	93.0	0
1803 Matrix Spike	102.1	93.6	94.7	0
1803 Matrix Spike Dup	95.6	95.6	94.8	0
EMSL Conc. 2	98.7	95.9	95.7	0
EMSL Conc. 1	100.4	96.9	87.4	0
5/27 Blank A0053	96.4	96.3	92.4	0
6/1 Blank A0070	91.0	98.4	76.5	0
6/2 Blank A0089	102.2	102.3	98.0	0
6/3 Blank A0105	94.4	97.3	94.3	0
6/8 Blank A0115	100.0	99.5	89.6	0

	QC LIMITS
S1 (TOL) = Toluene-d8	(88-110)
S2 (BFB) = Bromofluorobenzene	(86-115)
S3 (DCE) = 1,2-Dichloroethane-d4	(76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

rd:eh/ANALYTIC/HERE-2

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

EDISON, NEW JERSEY 08837

September 6, 1988

MEMORANDUM

SUBJECT: Final Hydrogeologic Study; Hereford Township Site

FROM: Martin E. Mortensen, Geologist
Environmental Response Branch

TO: Vince Zenone
EPA Region III

Gerry Heston
EPA Region III

Enclosed are three copies of the Final Hydrogeologic Report of the Hereford Township Site. A system model is being developed at the University of Texas under the direction of the US EPA Robert S. Kerr Laboratory in Oklahoma. This will be submitted later as an addendum to this study.

We have clearly identified the source of the contamination to be the Crossley Farms property on Blackhead Hill. We have also delineated the extent of contamination (see Fig. 15) from Blackhead Hill to the village of Dale. The contamination plume has reached equilibrium largely due to dilution at its lower end.

We recommend the remedial office be brought in for a final decision on site remediation. If a pump and treat system is desired, the remedial office should be consulted following the submission of our model. Otherwise, either a water utility will be needed or the continued maintenance of well head systems.

Enclosures

cc: R. Nadeau
M. Snoparsky