GREAT WESTERN MALTING CO. SOIL GAS SURVEY
VANCOUVER, WASHINGTON
SEPTEMBER 1992

by Pamela B. Marti
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Washington State Department of Ecology
Environmental Investigations and Laboratory Services Program
Toxics, Compliance and Ground Water Investigations Section
Olympia, Washington 98504-7710

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SUMMARY

Soil gas and ground water samples were collected as part of a preliminary Site Hazard Assessment (SHA) in September 1992, at the Great Western Malting Co. (GWMC) in Vancouver, Washington. Trichloroethylene (TCE) has been detected in two GWMC production wells since 1989. Soil gas samples were collected from 33 stations to provide information on possible source areas of the TCE contamination. A portable gas chromatograph was used to analyze the soil gas samples in the field. Trichloroethylene was tentatively identified at 6 of 33 sample stations (18% detection frequency). Estimated TCE concentrations ranged from 10 to 170 ppb. Peaks for other organic compounds were recorded on the gas chromatograph but could not be identified. Ground water samples were collected from four production wells and four monitoring wells and analyzed in the laboratory. Trichloroethylene and tetrachloroethylene (PERC) were detected in two production wells (#4 and #5) and two monitoring wells (DMMW-2 and DMMW-3).

INTRODUCTION

The study objectives, site background and site hydrogeology are discussed below.

Objectives

Survey objectives were to determine if the contaminants TCE and PERC are migrating onto the GWMC property from an off-site source. Tasks conducted to meet this objective were:

- Conduct an on-site and boundary soil gas survey using a portable gas chromatograph to provide information on possible source areas of TCE and PERC contamination; and
- Collect ground water samples for volatile organics analysis from four on-site production wells and four boundary monitoring wells.

Site Background

In 1989, trichloroethylene (TCE) and tetrachloroethylene (PERC) were detected in two Great Western Malting Co. (GWMC) wells, #4 and #5. The company produces barley malt which is sold to many western breweries. Water from well #4 is used as process water; water from well #5 is used as cooling water during malt production. Both wells pump continuously at approximately 2500 gpm. The GWMC has been testing these wells, in addition to two other wells (#2 and #3) on its property since 1989. To date TCE and PERC have only been found in wells #4 and #5. September 1992 test results found TCE at 90 ppb in well #5 and at 35 ppb in well #4. The GWMC has leased property from the Port of Vancouver (POV), Washington since the 1930s (Figure 1). There is no evidence that either substance has ever been released by GWMC or by any prior occupant of the property. It is suspected that the substances are migrating onto the leased property from an off-site source or sources.

Site Hydrogeology

The site hydrogeology consists of a shallow alluvial aquifer at a depth of 20 to 40 feet which overlies the Troutdale Formation. Static water level is about 30 feet below ground surface. Great Western's production wells are thought to be screened in the upper Troutdale Formation. This member of the formation consists of cemented sandy gravel. The well log for GWMC well #5 shows sand with increasing amounts of clay to a depth of 50 feet, a confining clay and gravel layer to 69 feet, and interlayered gravel and sand to the bottom of the hole (128 feet). Four monitoring wells were installed approximately 1000 feet north of GWMC. These wells also appear to be in the upper Troutdale Formation. Regional ground water flow is thought to be generally southward towards the Columbia River. The Columbia River is about 200 feet south of GWMC.

Great Western's four production wells pump at continuous rates of 1500 to 2500 gallons per minute (gpm). The production wells probably have a significant influence on local ground water flow direction. Given the large pumping rates, the proximity of the wells to the Columbia River, and the absence of the confining layer in well DMMW-3; the alluvial aquifer, the upper Troutdale Formation and the Columbia River are probably hydraulically connected.

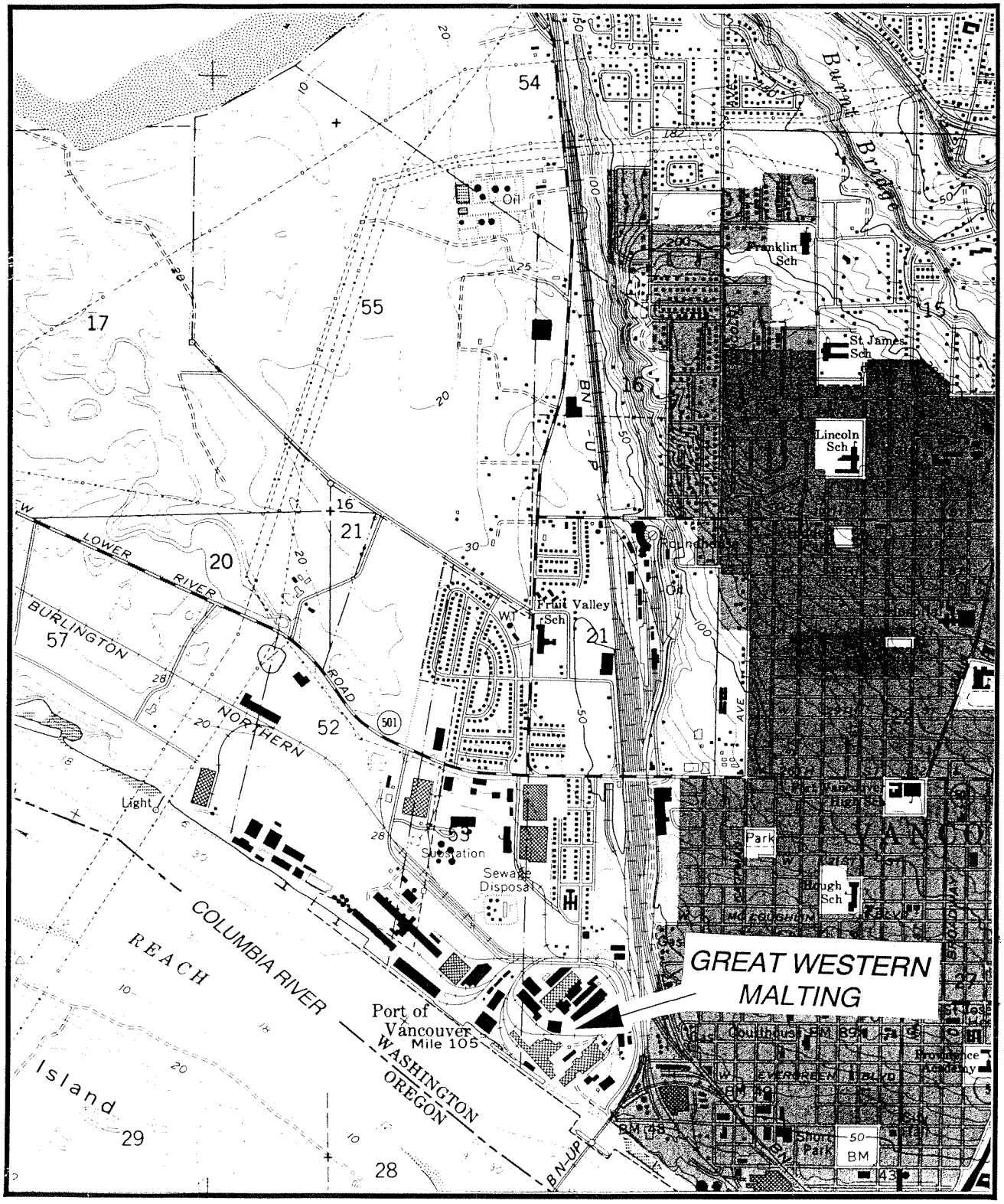

Figure 1: Site Map

METHODS

Sample Collection

Pam Marti and Denis Erickson conducted ground water sampling on September 2-3, 1992. Soil gas sampling was conducted on September 8-11, 1992, by Pam Marti, Bernard Strong and Edward Canapary. Weather conditions were warm and clear for all sampling.

Soil Gas Sampling

Soil gas sample results are useful for determining the extent of contamination for analytes that partition to the gas phase. Trichloroethylene is considered a good compound for soil gas identification of ground water contamination because of its high vapor pressure and low aqueous solubility (Marrin, 1987).

Soil gas samples were obtained from 33 stations (Figure 2) using portable sampling equipment. Sample stations in paved areas were first drilled with an electric percussion drill equipped with a 1½ inch asphalt bit. A pilot hole was advanced to the required depth by driving a 1/2-inch diameter, solid steel rod. After removing the pilot hole rod, a stainless steel retractable soil gas sampling tip (Retract-a-Tip) was driven into the pilot hole. The retractable tip was then pulled back (about 2 inches) to expose the sampling screen. Soil gas samples were withdrawn using a suction pump through 3/16-inch ID teflon tubing and collected under vacuum pressure in 1 liter Tedlar bags.

Depth profile sampling was conducted at two sample stations, GWMC-29 and GWMC-11, to determine an appropriate sample depth. Soil gas samples were collected at approximately two foot intervals down to nine and six feet, respectively. Based on depth profile results and time considerations, soil gas samples were obtained from a depth of three feet.

Soil gas samples were analyzed in the field using a portable gas chromatograph (Sentex Scentograph Plus), equipped with an Argon Ionization Detector (AID) and a 12' 10% SP-1000 (80/100 mesh) packed column. Prior to sample analysis the gas chromatograph was calibrated using a mixture of 1.01 ppm benzene and 1.52 ppm trichloroethylene. An industrial solvents chemical compound library (Sentex) was used to identify on-site contaminants. Only the 19 compounds that exist on the library could potentially be identified. These compounds are listed in Appendix A.

Operating parameters such as sample time, temperature, and chart duration were adjusted in the field to maximize results. Hard copies of all soil gas analyses, as well as operating parameter information are included in Appendix A.

All non-dedicated down-hole equipment was decontaminated between test holes using sequential washes of tap water with Liquinox® detergent, de-ionized water, and laboratory grade methanol. Retractable tips were completely disassembled for cleaning and decontaminated between holes. Teflon® tubing was discarded between test holes.

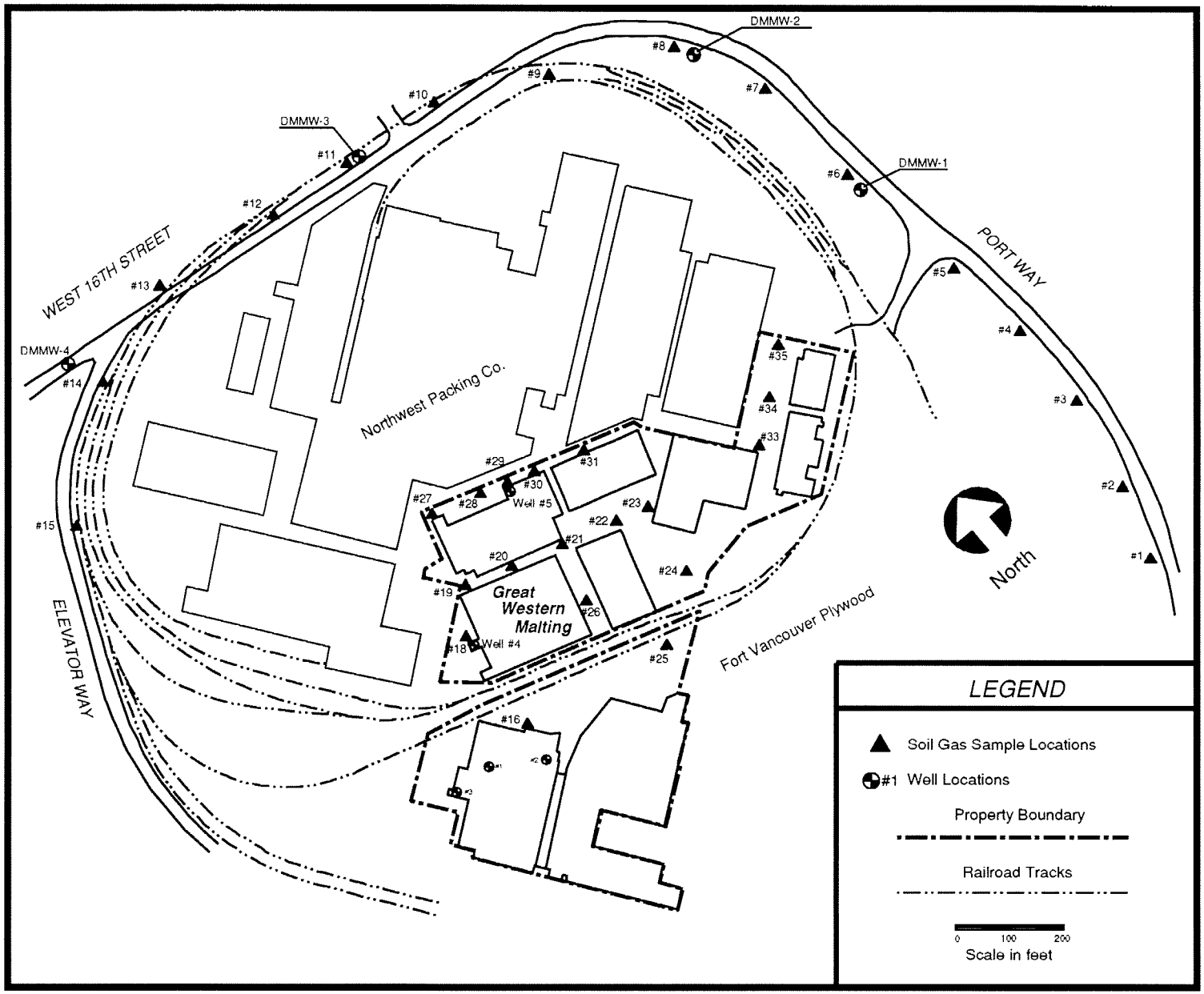

Figure 2: Great Western Malting Ground Water and Soil Gas Sample Locations

Test holes were plugged using hydrated bentonite. Overlying fill and asphalt cover (cold mix) were placed as necessary.

Ground Water Sampling

Ground water samples were collected from four GWMC production wells and four monitoring wells (Figure 2). Since on-site production wells are pumped continuously, purging was not necessary. Field measurements of pH, temperature and specific conductance were taken prior to sampling. Samples were collected from the tap nearest the well.

Prior to sample collection, static water level measurements were obtained from the four monitoring wells using an electronic water level indicator. Monitoring wells were purged with a 4-inch stainless steel Grundfos submersible pump. The wells were purged a minimum of three well volumes, and until field measurements stabilized. Samples were collected using decontaminated, bottom-emptying teflon bailers. Bailers were pre-cleaned with sequential washes of Liquinox®, hot tap water, 10% nitric acid, distilled-deionized water and pesticide-grade acetone. After cleaning, bailers were air-dried and wrapped in aluminum foil.

All ground water samples were collected and analyzed for volatile organics. Samples were collected free of headspace, preserved with 1:1 hydrochloric acid, and analyzed using EPA Method #8240 (EPA 1986).

Quality Assurance

Soil Gas

In general, the soil gas results obtained during the study, are considered to be good and usable. Soil gas quality assurance samples consisted of calibration and quality control standards, duplicates, and blanks. The gas chromatograph was calibrated at least once every five analytical runs with a standard pressurized mixture of 1.01 ppm benzene and 1.52 ppm trichloroethylene. A quality control standard which consisted of a Tedlar bag filled with the benzene/trichloroethylene calibration mixture was used to estimate analytical accuracy. Duplicate samples (repeat analyses of the same sample) were analyzed for approximately 10% of all soil gas samples. In general, duplicate results were good. Blank samples were run periodically to ensure that no contamination of the analytical system had occurred.

After review of the soil gas data it appears that silastic tubing used to connect the sample bags to the gas chromatograph contributed to false positive readings of chloroform and carbon tetrachloride. All identification of these two compounds should be disregarded.

Ground Water Samples

Karin Feddersen of the Manchester Laboratory evaluated quality assurance results which are included in Appendix B. The quality of the organic results are good and acceptable for use.

Methylene chloride and acetone were detected at or near the detection limit in the method blanks, matrix spikes and samples. These detections were attributed to laboratory contamination. Spike recoveries for most analytes were within acceptable limits of 75-125%. Duplicate samples collected from well #5 (well #6) provide an estimate of combined field and laboratory precision. The numeric comparison of duplicate results is expressed as the relative percent difference or RPD. RPDs are the ratio of the difference and the mean of the duplicate results expressed as a percentage. The RPDs for duplicate samples collected from well #5 were less than 5%.

RESULTS AND DISCUSSION

Soil Gas

Trichloroethylene (TCE) was tentatively identified on the Great Western site. Peaks for other organic compounds were observed on the chromatographs but could not be identified using the gas chromatograph chemical library. Table 1 presents a summary of the soil gas survey results. The distribution of the compounds is discussed below.

Trichloroethylene was tentatively identified at 6 (18%) of the 33 sample stations. Estimated TCE concentrations ranged from 10 to 170 ppb. Trichloroethylene was detected predominately on-site near wells #4 and #5, as shown in Figure 3. Trichloroethylene was also detected at two other sample stations, GWMC-6 next to well DMMW-1 at 10 ppb and at GWMC-25 in the southeast part of the study area at 20 ppb.

TCE was detected at profile sample station GWMC-29, located next to well #5. Samples were collected at 2, 5, and 9 feet below ground surface (bgs). Trichloroethylene concentrations decreased with depth from 170 ppb, 140 ppb, and 110 ppb, respectively. Typically, decreasing concentrations indicates a surface source, such as a spill. However, given the fact that the ground water is contaminated and the site is extensively paved, it is my opinion that the pavement is probably acting as a trap to the upward migration of contaminants.

A second profile soil gas sample (GWMC-11) was collected next to monitoring well DMMW-3. Trichloroethylene was detected in well DMMW-3, but was not detected in the soil gas samples. One reason TCE may not have been detected is due to the perched water approximately 15 feet below ground surface (see DMMW-3 well log). The perched water may be acting as a barrier to the upward migration of soil gas.

The distribution of TCE near wells #4 and #5 does not eliminate the possibility of an on-site source. However, in my opinion, the soil gas and ground water data suggests that the contamination is likely from an off-site source(s). The occurrence of TCE at wells #4 and #5 is probably the result of a combination of factors. First, the pumping wells probably have a considerable influence on the local ground water flow direction. Both wells pump at a constant rate of 2500 gpm. This high pumping rate most likely induces the convergence of

Table 1: Summary of Soil-Gas Results collected September 1992 from Great Western Malting Company Vancouver, WA

NOTE: **Reported results were determined using a Sentex portable gas chromatograph. Analytes are considered tentatively identified and concentrations are estimates.**

Sample #	Sample I.D.	Depth (feet)	TCE Retention Time (seconds)	TCE Estimated Concentration (ppb)		Compound A* Retention Time (seconds)	Compound A* Estimated Concentration (ppb)		Unknowns Retention Time (seconds)	Unknowns Estimated Concentration (ppb)	
2	GWMC-29a	2	176	170	NJ	208	80	NJ	265	250	NJ
									419	30	NJ
5	GWMC-29b	5	181	140	NJ	-	-		273	110	NJ
6	GWMC-29c	9	177	110	NJ	-	-		-	-	
12	GWMC-28	3	181	140	NJ	-	-		-	-	
13	GWMC-27	3	182	80	NJ	213	130	NJ	-	-	
20	GWMC-19	3	181	80	NJ	-	-		-	-	
27	GWMC-23	3	-	-		218	200	NJ	96	30	NJ
31	GWMC-6	3	179	10	NJ	-	-		359	20	NJ
62	GWMC-3	3	-	-		-	-		294	40	NJ
72	GWMC-34	3	-	-		201	40	NJ	-	-	
73	GWMC-33	3	-	-		202	70	NJ	-	-	
77	GWMC-25	3	169	20	NJ	-	-		-	-	

NJ = Tentatively identified compound. Associated numerical result is an estimate.

* - Compound A was identified as 1,1,2,2-tetrachloroethane using the GC's chemical library. It is referred to in this report as Compound A since the identification was not confirmed by a direct calibration.

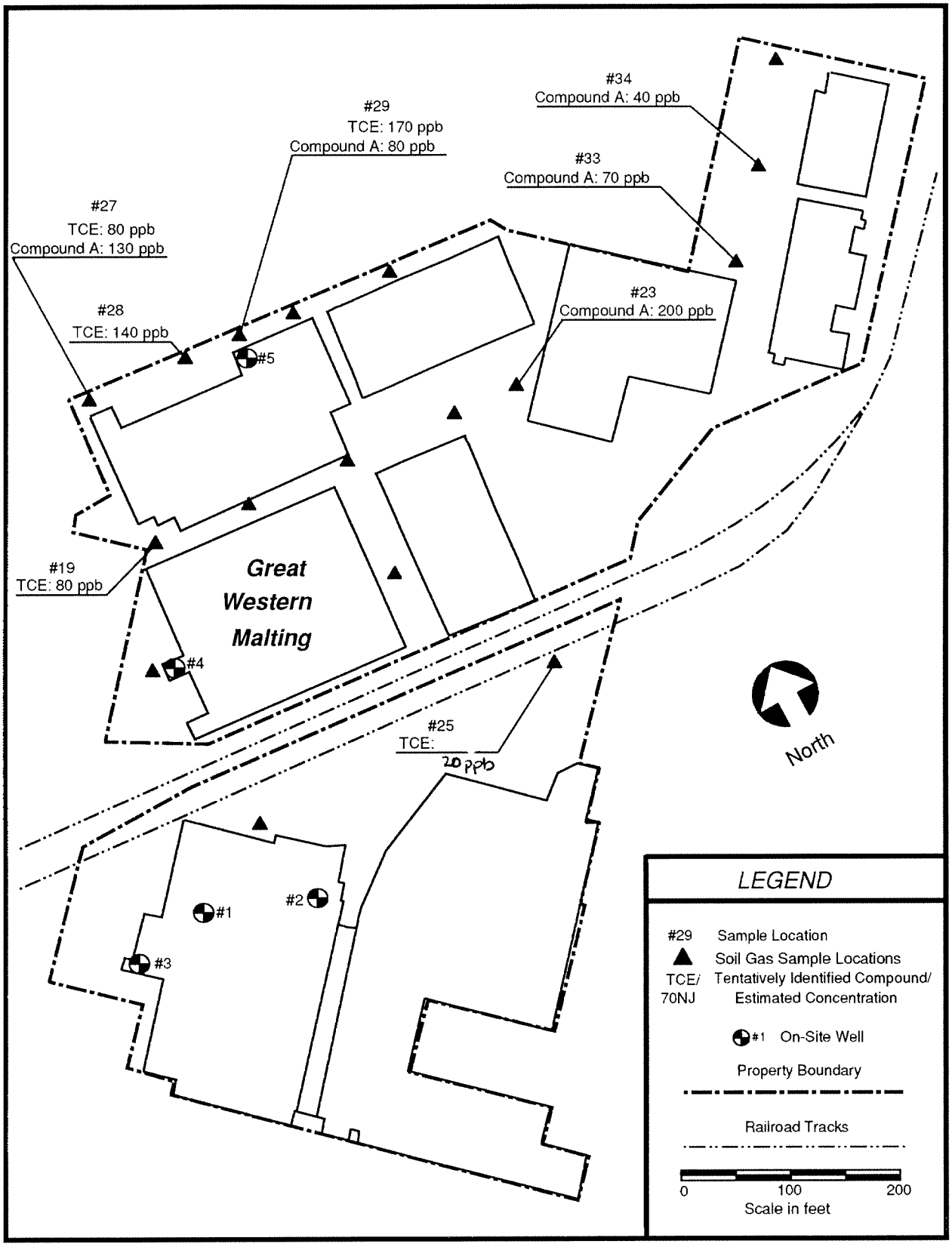

Figure 3: Great Western Malting Sample Stations and Results

ground water flow to these wells. Second, the large paved area of the site is probably acting as a barrier to the upward migration of gaseous contaminants. Also, the high TCE concentration in monitoring well DMMW-3 suggests a possible off-site source(s).

A second compound was tentatively identified in five soil gas samples near well #5 and the POV maintenance shops. The compound was identified as 1,1,2,2-tetrachloroethane using the chemical library. It is referred to in this report as Compound A since the identification was not confirmed by a direct calibration. Estimated concentrations of Compound A ranged from 40 ppb to 130 ppb. This compound was also detected near the co-generation plant in sample GWMC-23 at an estimated concentration of 200 ppb.

Ground Water Samples

Ground water samples were collected to define the contaminant concentrations at the time of the soil gas survey. It was noted that field measured temperature readings from the production wells increased the closer the wells were to the Columbia River. This also suggests that the production wells influence local ground water flow direction. Trichloroethylene concentrations are similar to those reported in previous samples from the production wells and monitoring wells. Trichloroethylene was detected in wells #5, #4, DMMW-3 and DMMW-2 at concentrations of 82 ppb, 29 ppb, 94 ppb and 11 ppb, respectively. Sample results are shown in Table 2. Low concentrations of tetrachloroethylene; cis,1,2-dichloroethene and 1,1,1-trichloroethane were detected in wells #5, #4, and DMMW-3. Estimated concentrations of 1,1-dichloroethane; trans-1,2-dichloroethene and chloroform were detected at the detection limit.

Table 2
Summary of Volatile Organic Results from Ground Water Samples collected September 1992 at
Great Western Malting Vancouver, Washington

Well Identification	Well #5 (ppb)	Well #4 (ppb)	Well #2 (ppb)	Well #3 (ppb)	DMMW-1 (ppb)	DMMW-2 (ppb)	DMMW-3 (ppb)	DMMW-4 (ppb)
Trichloroethylene	82	29	5 U	5 U	5 U	11	94	5 U
Tetrachloroethylene	12	4 J	5 U	5 U	5 U	5 U	10	5 U
cis,1,2-dichloroethene	8	4 J	5 U	5 U	5 U	5 U	8	5 U
1,1,1-Trichloroethane	8	2 J	5 U	5 U	5 U	5 U	7	5 U
1,1-Dichloroethane	1 J	1 U	5 U	5 U	5 U	5 U	1 J	5 U
Trans-1,2-Dichloroethene	1 J	1 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	5 U	1 U	5 U	5 U	5 U	1 J	5 U	5 U

U: The analyte was not detected at or above the associated value.
J: The associated numerical value is an estimated quantity.

CONCLUSIONS

1) Trichloroethylene was detected in 6 (18%) of 33 sample stations. Trichloroethylene was detected predominately near wells #4 and #5. The occurrence of TCE in soil gas samples near wells #4 and #5 is likely the result of a combination of two factors: a) convergence of contaminated ground water flow induced by the production wells; and b) entrapment of gaseous contaminants by the overlying pavement.

2) A second compound, Compound A (1,1,2,2-tetrachloroethane) was tentatively identified in five soil gas samples near well #5 and the POV maintenance shops. Estimated concentrations ranged from 40 ppb to 130 ppb.

3) Trichloroethylene was detected in ground water samples from wells #5, #4, DMMW-3, and DMMW-2 at concentrations of 82 ppb, 29 ppb, 94 ppb, and 11 ppb respectively.

4) High TCE concentrations in well DMMW-3 suggest that contamination is from an off-site source(s) to the north.

RECOMMENDATIONS

1) Great Western Malting's consultant Dames & Moore has prepared a report that estimates the effect of the production wells on local ground water flow direction (Dames & Moore, 1993). This report should be reviewed and if appropriate, used as an aid in the identification of suspected off-site sources.

2) Soil gas and soil sampling surveys should be conducted at suspected off-site source areas on an individual basis.

3) Resample soil gas station GWMC-29. Samples should be collected at greater depths to determine if TCE detections are from a surface spill or the entrapment of gaseous contaminants by the pavement.

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Huntamer, D. and J. Hyre, 1991. Manchester Environmental Laboratory - Laboratory Users Manual. July 1991.

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Washington State Department of Ecology, Great Western Malting Files.

APPENDIX A

Great Western Malting
Soil Gas Chromatographs
September 8–11, 1992

INDUSTRIAL SOLVENT COMPOUND LIBRARY

Order of Compound Elution		Retention Time
Isooctane	(ISOOCTAN)	103 sec
1,1 Dichloroethylene	(1,1 DCE)	116 sec
Carbon Disulfide	(CARB DS)	124 sec
Acetone	(ACETONE)	146 sec
t-1,2 Dichloroethylene	(T1,2 DCE)	161 sec
Carbon Tetrachloride	(CARB TET)	181 sec
Methyl Ethyl Ketone	(MEK)	192 sec
Methylene Chloride	(METH CL)	207 sec
Benzene	(BENZENE)	236 sec
Trichloroethylene	(TCE)	272 sec
Chloroform	(CH FORM)	288 sec
1,1,2,2 Tetrachloroethane	(1122 TCA)	318 sec
Toluene	(TOLUENE)	351 sec
Ethylbenzene	(ETH BENZ)	515 sec
p-Xylene	(p-XYLENE)	547 sec
m-Xylene	(m-XYLENE)	568 sec
o-Xylene	(o-XYLENE)	704 sec
1,1,2-Trichloroethane	(112 TCA)	961 sec
Styrene	(STYRENE)	997 sec

Soil-Gas Results collected September, 1992 from Great Western Malting Vancouver, WA

NOTE: Analytes are considered tentatively identified and concentrations are estimates.

Sample #	Sample I.D.	Depth (feet)	TCE Retention Time (seconds)	TCE Conc. (ppb) (estimate)	Compound A Retention Time (seconds)	Compound A Conc. (ppb) (estimate)	Unknowns Retention Time (seconds)	Unknowns Conc. (ppb) (estimate)	Carbon Tetrachloride Retention Time (seconds)	Carbon Tetrachloride Conc. (ppb) (estimate)	Chloroform Retention Time (seconds)	Chloroform Conc. (ppb) (estimate)
2	GWMC-29a	2	176	170	208	80	194*	180	118	810	–	–
							265	250				
							419	30				
5	GWMC-29b	5	181	140	–	–	273	110	121	1330	201	2190
6	GWMC-29c	9	177	110	–	–	118**	2900	–	–	195	4920
8	GWMC-30	3	–	–	–	–	–	–	121	950	200	1480
11	GWMC-31	3	–	–	–	–	–	–	120	840	197	1460
12	GWMC-28	3	181	140	–	–	–	–	120	870	198	3160
13	GWMC-27	3	182	80	213	130	–	–	121	1310	198	2150
20	GWMC-19	3	181	80			201*	210	120	1490		
21	GWMC-18	3	–	–	–	–	202*	80	121	450	–	–
22	GWMC-20	3	–	–	–	–	203*	80	121	360	–	–
23	GWMC-21	3	–	–	–	–	204*	160	122	520	–	–
25	GWMC-22	3	–	–	–	–	95	0	122	1140	–	–
							205*	410				
26	GWMC-26	3	–	–	–	–	95	0	123	1030	–	–
							206*	440				
27	GWMC-23	3			218	200	96	30 (acetone)	123	660		
							206	260				
31	GWMC-6	3	179	10	–	–	231	10	120	770	198	2510
							359	20 (eth benz)				
32	GWMC-7	3	–	–	–	–	–	–	120	880	198	2670
33	GWMC-8	3	–	–	–	–	–	–	121	40	199	290
34	GWMC-9	3	–	–	–	–	–	–	121	1830	199	3970
39	GWMC-10	3	–	–	–	–	–	–	114	690	188	840
40	GWMC-10dup	3	–	–	–	–	220	10 (toluene)	115	930	189	1600
41	GWMC-11a	2	–	–	–	–	–	–	114	560	188	990
42	GWMC-11b	4	–	–	–	–	–	–	115	450	189	900
43	GWMC-11c	6	–	–	–	–	–	–	115	410	189	840
46	GWMC-12	3	–	–	–	–	–	–	115	500	188	990
47	GWMC-13	3	–	–	–	–	–	–	115	1080	189	2980
48	GWMC-14	3	–	–	–	–	–	–	115	610	189	1820
51	GWMC-15	3	–	–	–	–	–	–	116	550	190	2020
54	GWMC-5	3	–	–	–	–	191*	1290	116	2230	–	–
61	GWMC-4	3	–	–	–	–	–	–	118	1310	193	3780
62	GWMC-3	3	–	–	–	–	–	–	119	1170	194	4150
64	GWMC-3dup	3	–	–	–	–	294	40	119	1020	194	2920
66	GWMC-2	3	–	–	–	–	–	–	120	1320	195	4840
67	GWMC-1	3	–	–	–	–	–	–	120	920	196	4630
72	GWMC-34	3	–	–	201	40	–	–	114	420	186	1260
73	GWMC-33dup	3	–	–	202	70	–	–	114	330	187	770
75	GWMC-35	3	–	–	–	–	–	–	114	330	186	1300
76	GWMC-24	3	–	–	–	–	–	–	114	450	187	1290
77	GWMC-25	3	169	20	–	–	219	20 (toluene)	114	1000	187	3400
78	GWMC-16	3	–	–	–	–	–	–	114	340	187	1010
79	GWMC-16dup	3	–	–	–	–	–	–	114	280	187	1260

* = Chloroform ** = Carbon Tetrachloride

SCENTOGRAPH TRACE PRINOUT

TRACE #1 DATE: Wed Sep 09 14:20:34 1992

CHANNEL: 1 NAME: BTCE

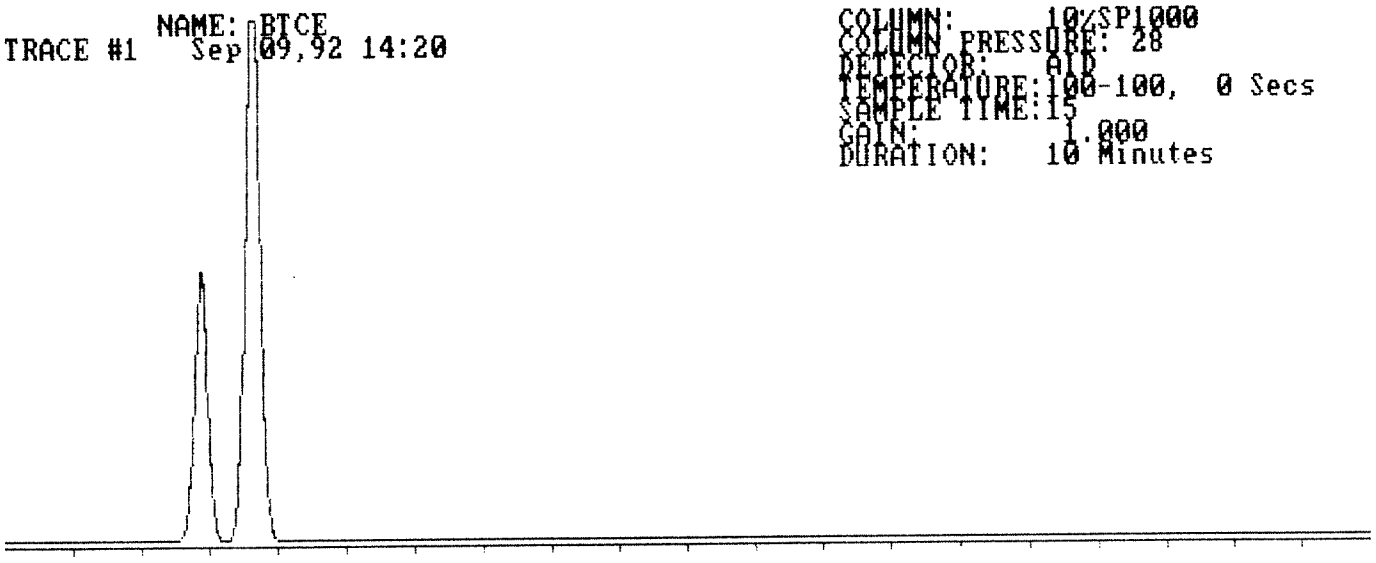
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	BENZENE	151	1306712	1.010 PPM
2	TCE	174	3184679	1.520 PPM

TOTAL AREA: 4491391



SCENTOGRAPH TRACE PRINOUT

TRACE #2 DATE: Wed Sep 09 14:42:27 1992

CHANNEL: 1 NAME: GWMC-29a

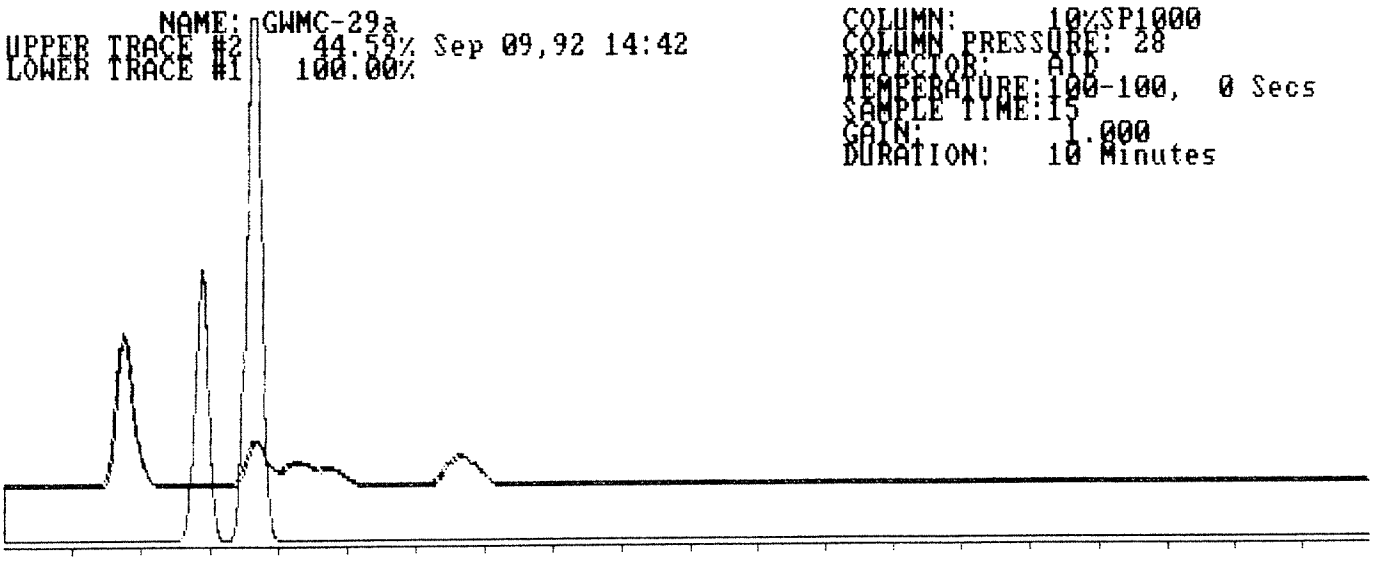
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	118	914512	0.813 PPM
2	TCE	176	360530	0.172 PPM
3	UNKNOWN	194	238829	0.185 PPM
4	1122 TCA#	208	131371	0.081 PPM
5	UNKNOWN	265	323213	0.250 PPM
6	UNKNOWN	419	34211	0.026 PPM

TOTAL AREA: 2002666



SCENTOGRAPH TRACE PRINOUT

TRACE #3 DATE: Wed Sep 09 15:01:14 1992

CHANNEL: 1 NAME: BTCE

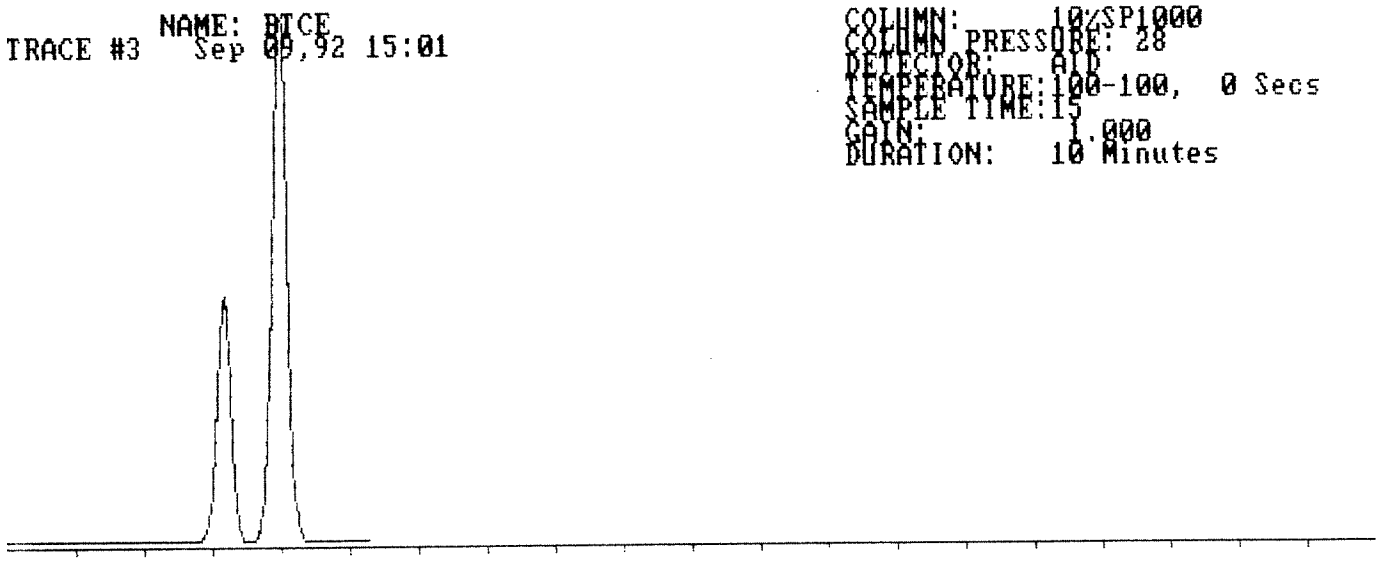
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	BENZENE	160	1250420	1.010 PPM
2	TCE	184	2983391	1.520 PPM

TOTAL AREA: 4233811



SCENTOGRAPH TRACE PRINOUT

TRACE #4 DATE: Wed Sep 09 15:05:24 1992

CHANNEL: 1 NAME:

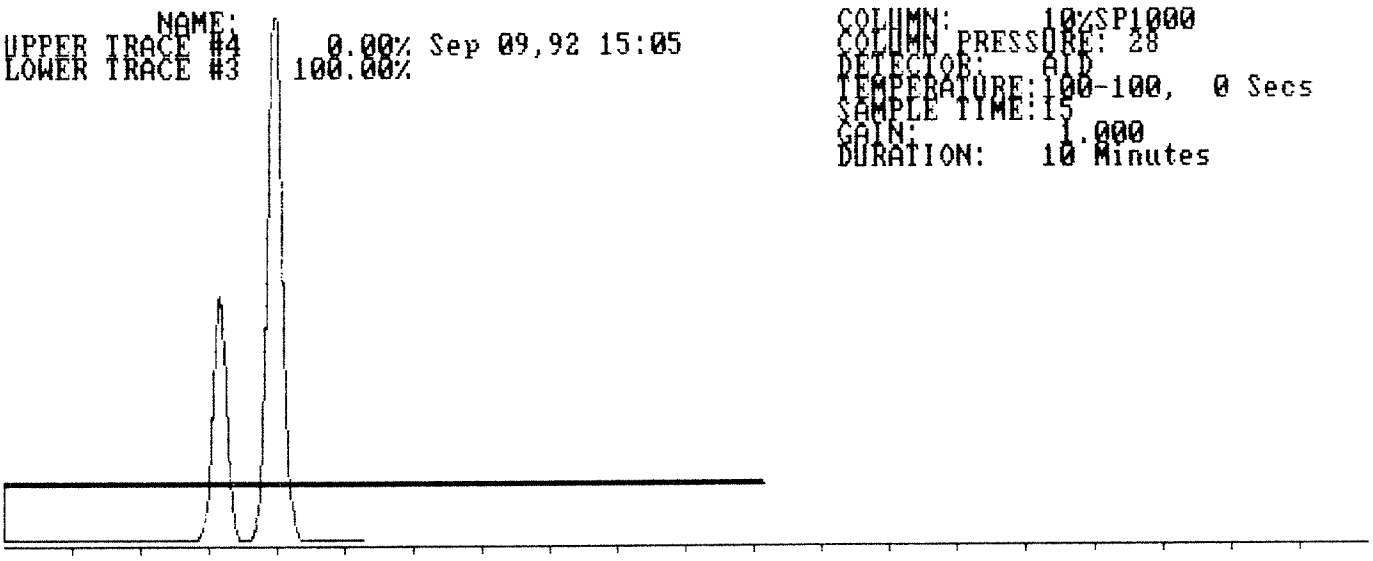
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION

TOTAL AREA: 0



SCENTOGRAPH TRACE PRINOUT

TRACE #5 DATE: Wed Sep 09 15:12:44 1992

CHANNEL: 1 NAME: GWMC-29b

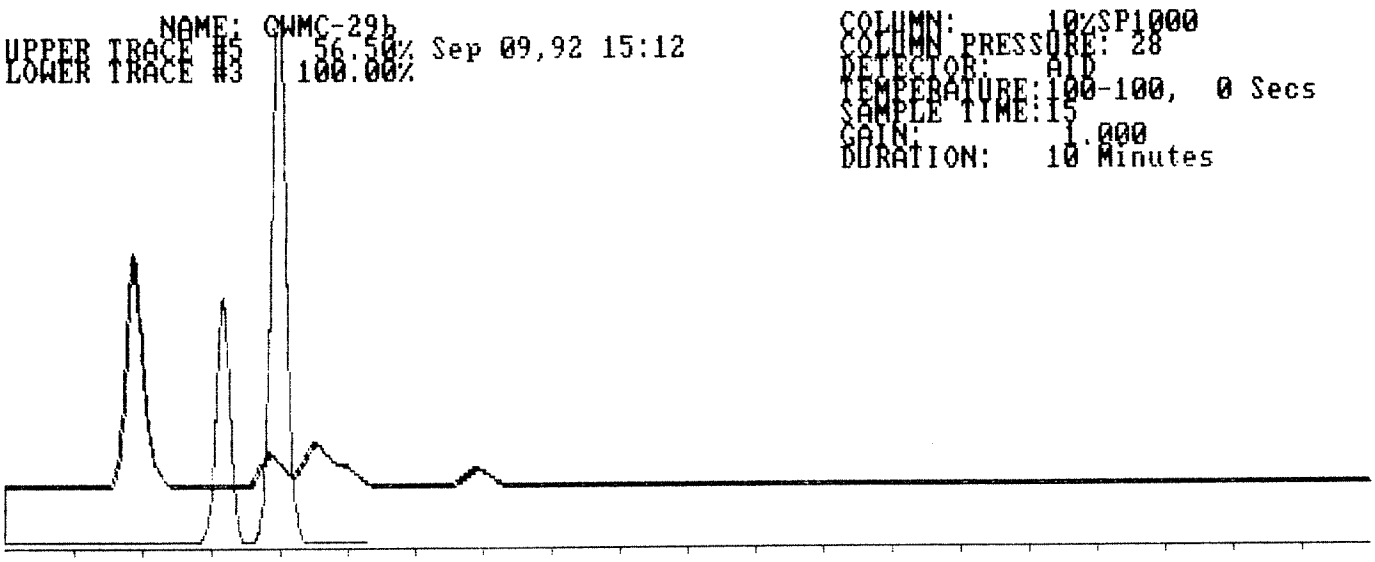
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	121	1434786	1.333 PPM
2	TCE	181	274957	0.140 PPM
3	CL FORM#	201	543332	2.194 PPM
4	UNKNOWN	273	138917	0.112 PPM

TOTAL AREA: 2391992



SCENTOGRAPH TRACE PRINOUT

TRACE #6 DATE: Wed Sep 09 15:25:04 1992

CHANNEL: 1 NAME: GWMC-29c

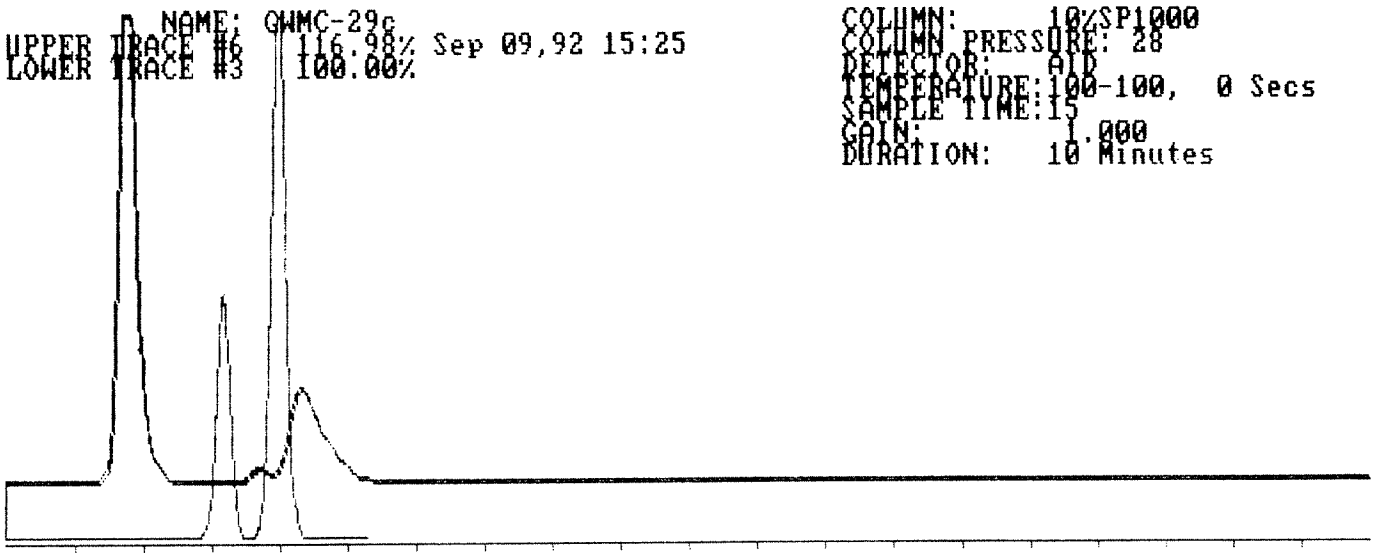
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	UNKNOWN	118	3586681	2.897 PPM
2	UNKNOWN	177	138493	0.112 PPM
3	CL FORM#	195	1217742	4.918 PPM
4	UNKNOWN	263	9767	0.008 PPM

TOTAL AREA: 4952683



SCENTOGRAPH TRACE PRINOUT

TRACE #7 DATE: Wed Sep 09 17:31:49 1992

CHANNEL: 1 NAME: BTCE

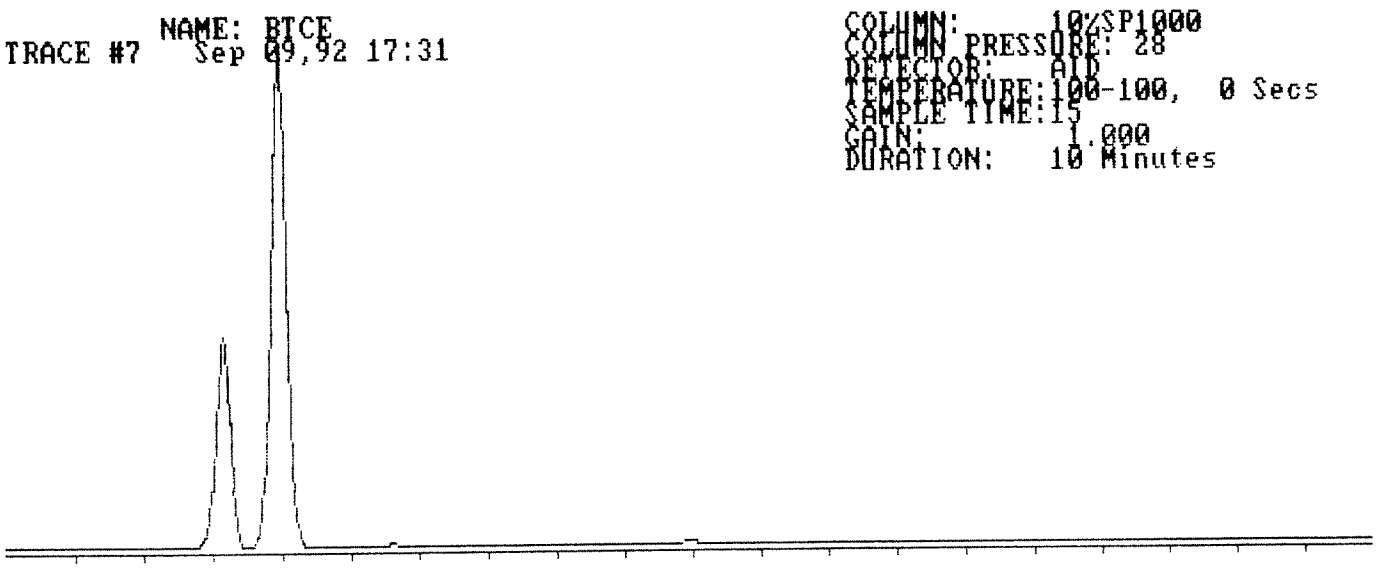
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	BENZENE	159	1075477	1.010 PPM
2	TCE	183	2737220	1.520 PPM
3	M-XYLENE	234	89641	0.000 PPM
4		365	99863	0.000 PPM

TOTAL AREA: 4002201



SCENTOGRAPH TRACE PRINOUT

TRACE #8 DATE: Wed Sep 09 18:00:45 1992

CHANNEL: 1 NAME: GWMC-30

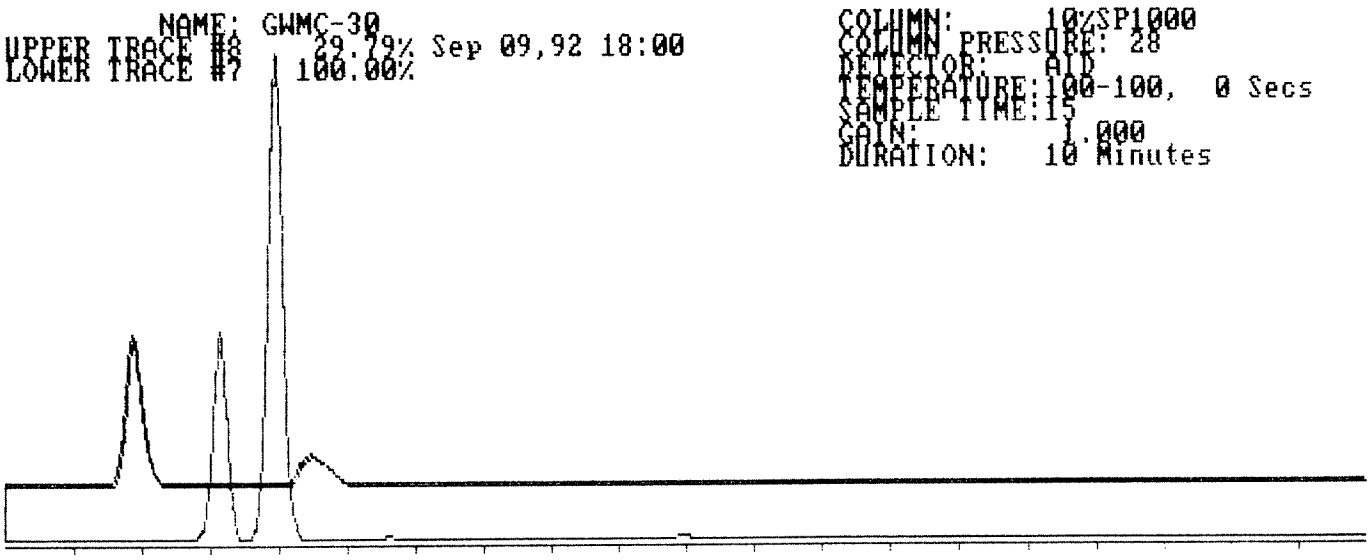
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	121	876628	0.947 PPM
2	CL FORM#	200	315457	1.481 PPM

TOTAL AREA: 1192085



SCENTOGRAPH TRACE PRINOUT

TRACE #9 DATE: Wed Sep 09 18:25:43 1992

CHANNEL: 1 NAME: BTCE

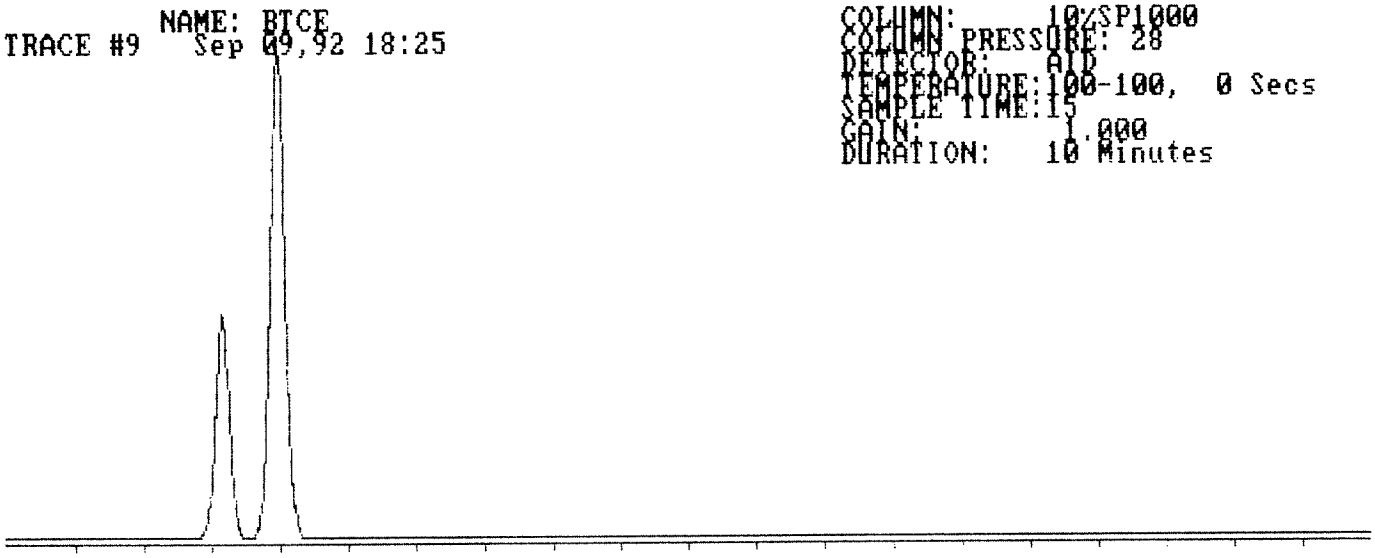
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	BENZENE	159	1144225	1.010 PPM
2	TCE	184	2698187	1.520 PPM

TOTAL AREA: 3842412



SCENTOGRAPH TRACE PRINOUT

TRACE #10 DATE: Wed Sep 09 18:39:43 1992

CHANNEL: 1 NAME:

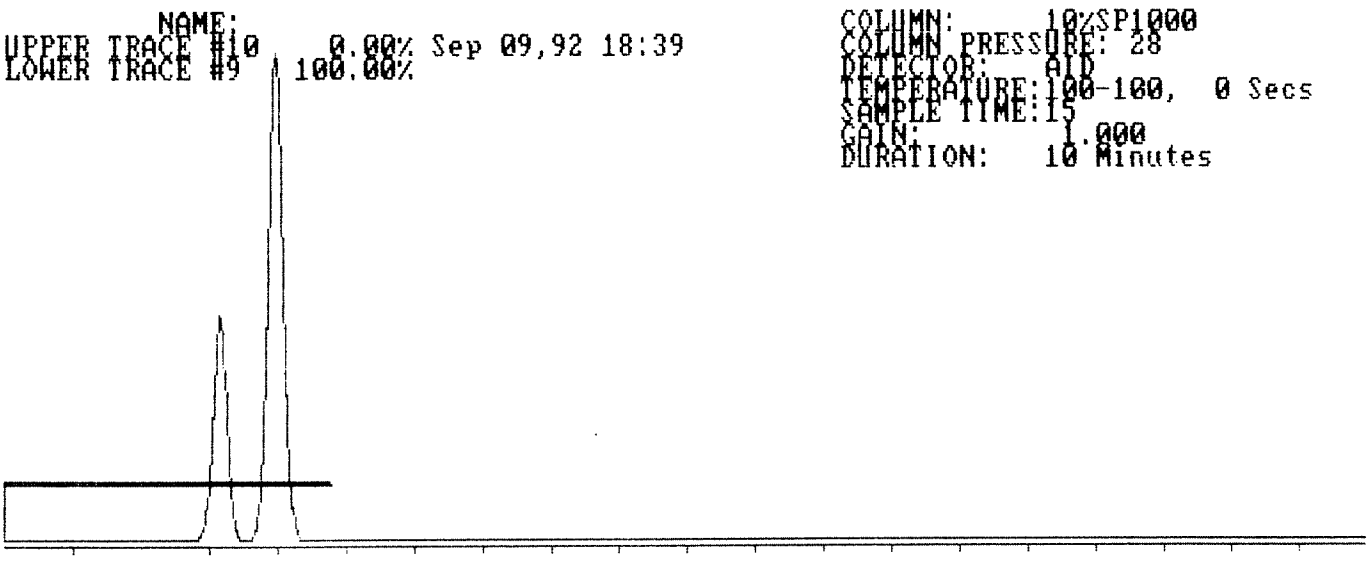
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION

TOTAL AREA: 0



SCENTOGRAPH TRACE PRINOUT

TRACE #11 DATE: Wed Sep 09 18:43:52 1992

CHANNEL: 1 NAME: GWMC-31

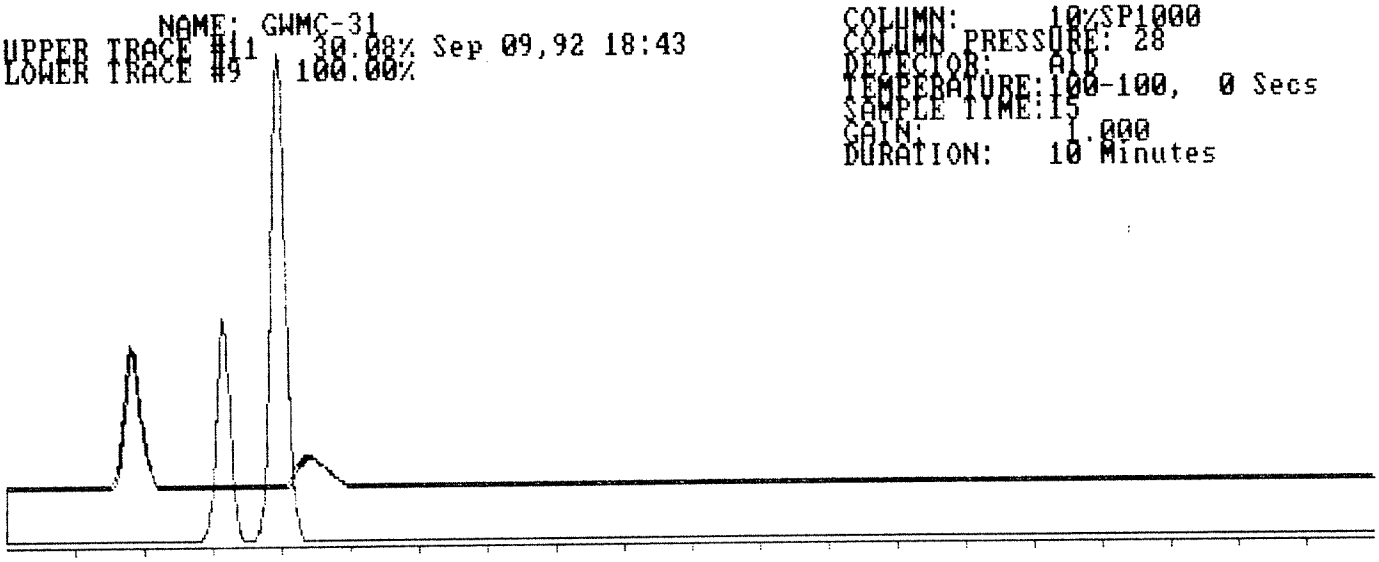
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	120	824268	0.837 PPM
2	CL FORM#	197	331581	1.463 PPM

TOTAL AREA: 1155849



SCENTOGRAPH TRACE PRINOUT

TRACE #12 DATE: Wed Sep 09 19:08:38 1992

CHANNEL: 1 NAME: GWMC-28

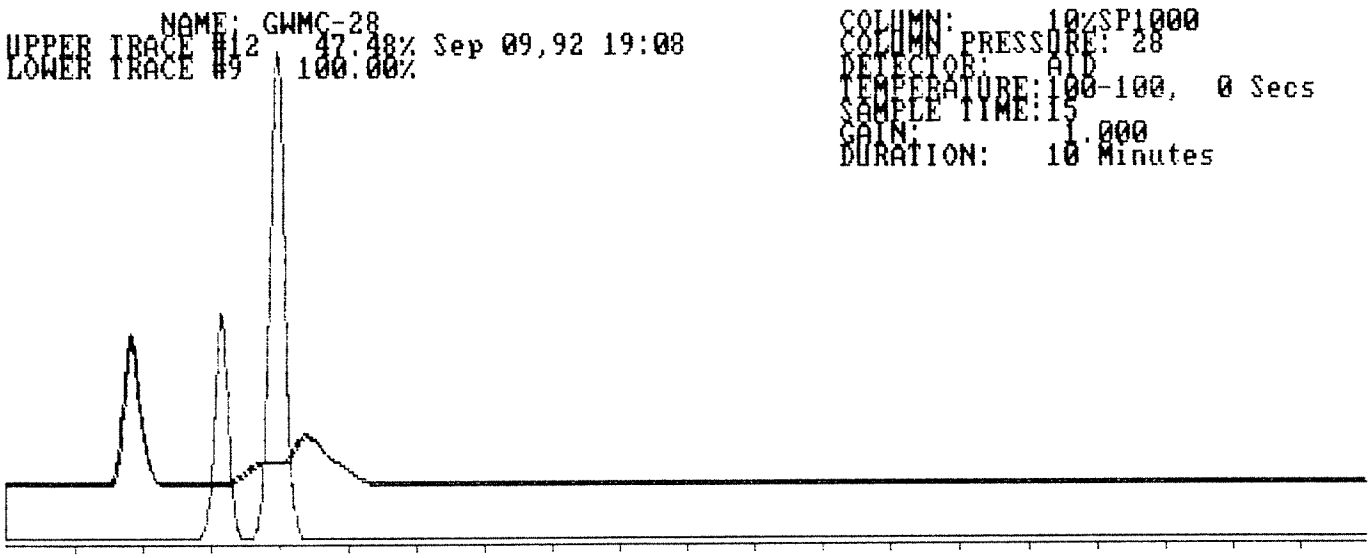
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	120	859390	0.872 PPM
2	TCE	181	247844	0.140 PPM
3	CL FORM#	198	717034	3.165 PPM

TOTAL AREA: 1824268



SCENTOGRAPH TRACE PRINOUT

TRACE #13 DATE: Wed Sep 09 19:46:11 1992

CHANNEL: 1 NAME: GWMC-27

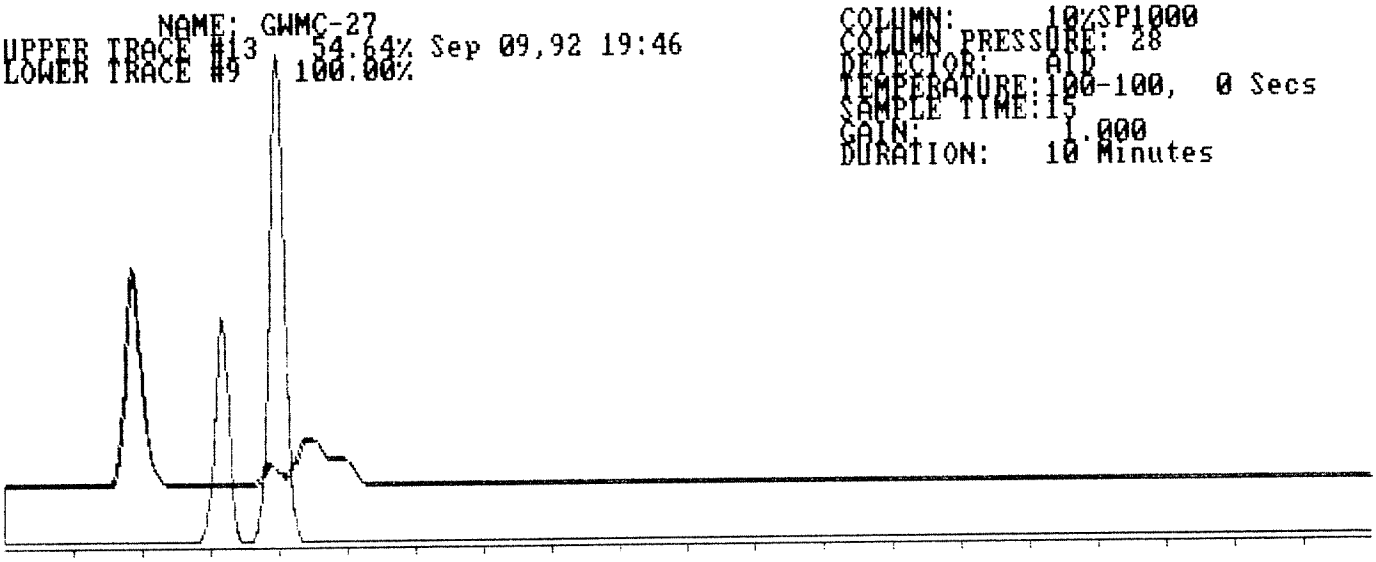
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	121	1294272	1.314 PPM
2	TCE	182	138369	0.078 PPM
3	CL FORM#	198	487167	2.150 PPM
4	1122 TCA#	213	179575	0.127 PPM

TOTAL AREA: 2099383



SCENTOGRAPH TRACE PRINOUT

TRACE #14 DATE: Thu Sep 10 11:10:20 1992

CHANNEL: 1 NAME: BTCE

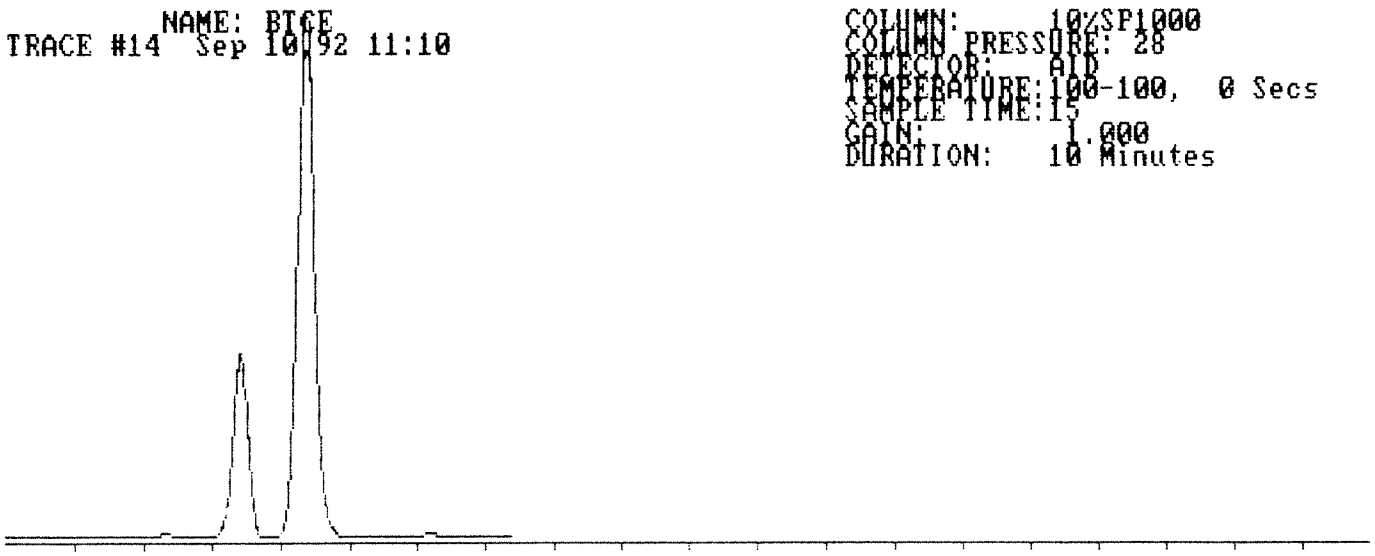
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	BENZENE	134	11068	1.010 PPM
2	TCE	167	1004162	1.520 PPM
3	M-XYLENE	195	3267497	0.000 PPB
4		251	73032	0.000 PPB

TOTAL AREA: 4355759



SCENTOGRAPH TRACE PRINOUT

TRACE #15 DATE: Thu Sep 10 11:15:40 1992

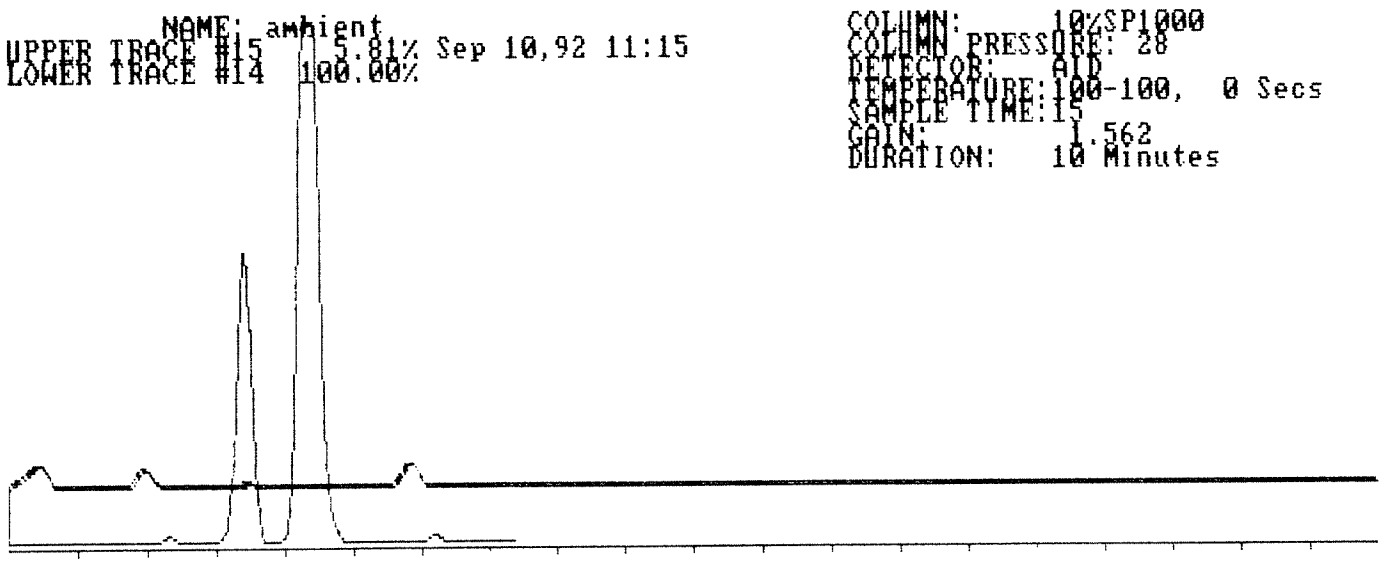
CHANNEL: 1 NAME: ambient

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	UNKNOWN	78	97572	8.904 PPM
2	UNKNOWN	124	59747	5.452 PPM
3	TCE	170	17443	0.026 PPM
4	UNKNOWN	240	78287	7.144 PPM
	TOTAL AREA:		253049	



SCENTOGRAPH TRACE PRINOUT

TRACE #16 DATE: Thu Sep 10 11:29:43 1992

CHANNEL: 1 NAME: ambient

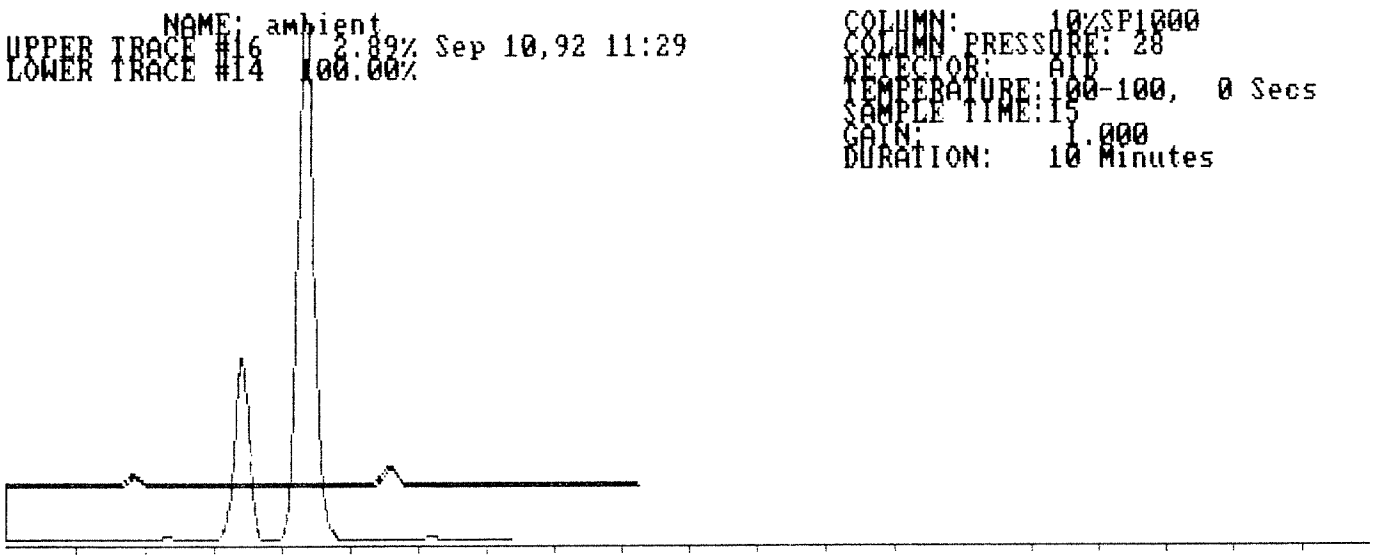
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	METH CL#	121	35719	0.326 PPM
2	UNKNOWN	233	90042	8.217 PPM

TOTAL AREA: 125761



SCENTOGRAPH TRACE PRINOUT

TRACE #17 DATE: Thu Sep 10 11:35:56 1992

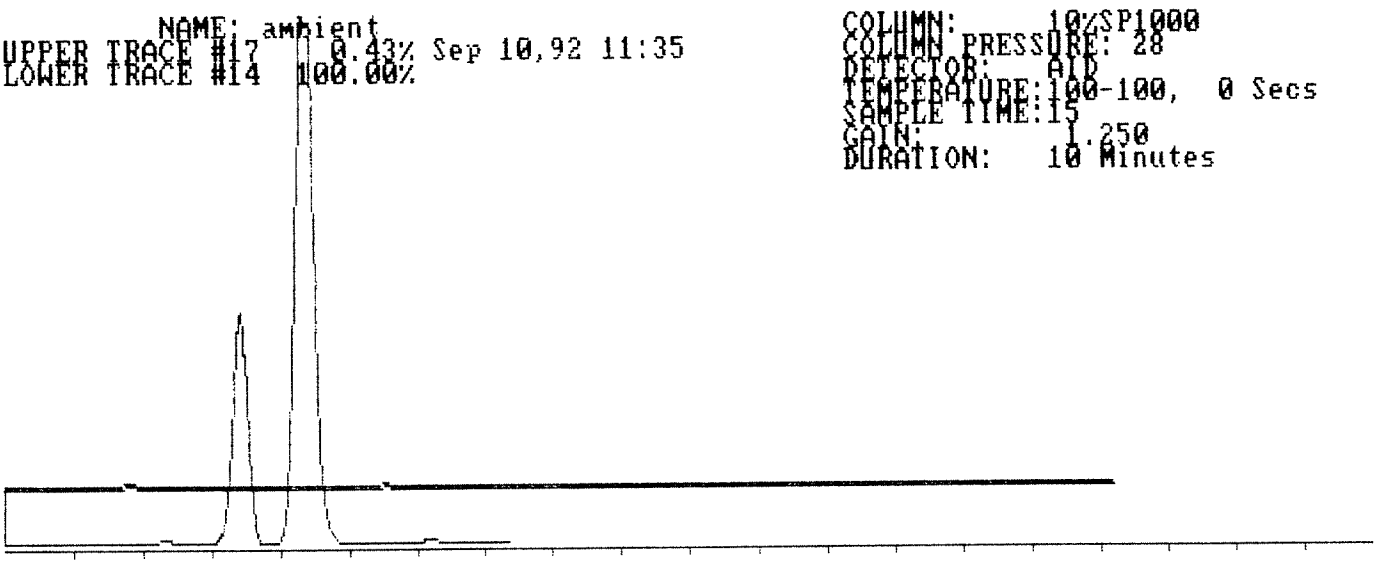
CHANNEL: 1 NAME: ambient

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	METH CL#	120	11767	0.107 PPM
2	UNKNOWN	232	6933	0.633 PPM
	TOTAL AREA:		18700	



SCENTOGRAPH TRACE PRINOUT

TRACE #18 DATE: Thu Sep 10 11:45:38 1992

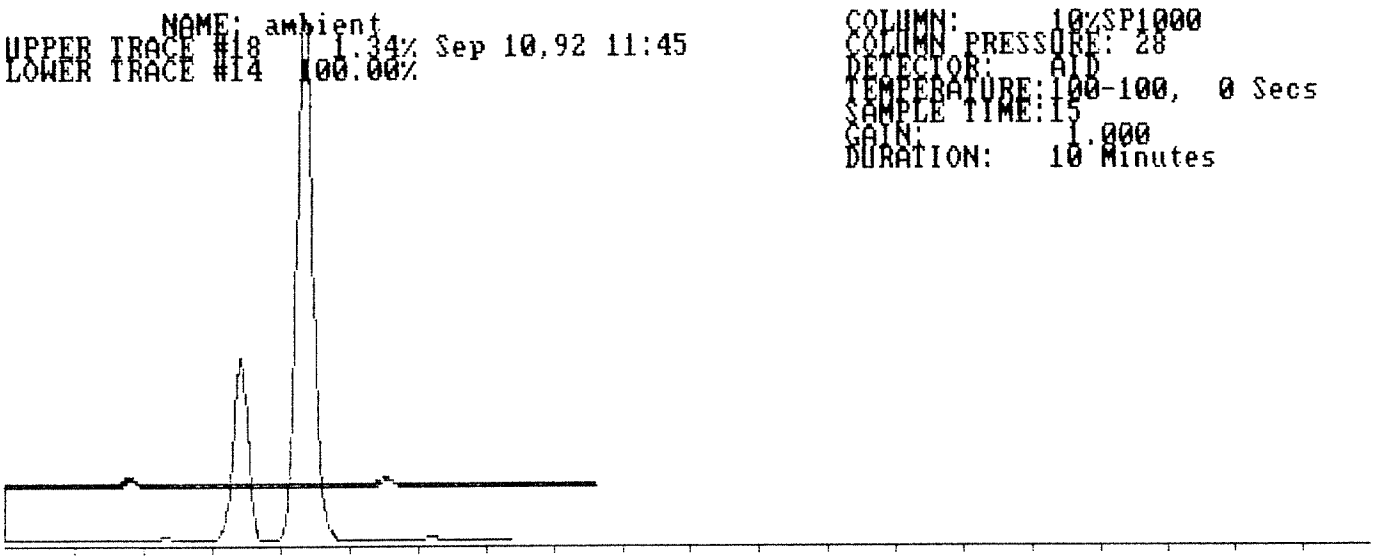
CHANNEL: 1 NAME: ambient

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	METH CL#	120	26592	0.243 PPM
2	UNKNOWN	232	31721	2.895 PPM
	TOTAL AREA:		58313	



SCENTOGRAPH TRACE PRINOUT

TRACE #19 DATE: Thu Sep 10 11:51:39 1992

CHANNEL: 1 NAME: BTCE

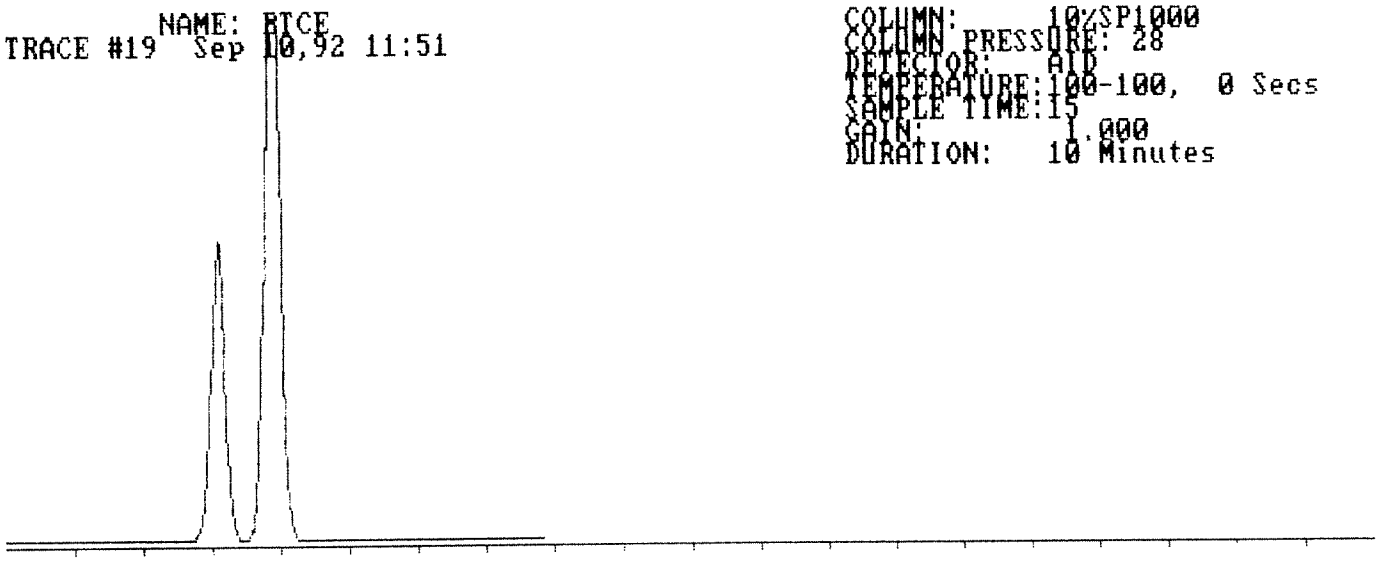
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	BENZENE	157	1514103	1.010 PPM
2	TCE	181	3780286	1.520 PPM

TOTAL AREA: 5294389



SCENTOGRAPH TRACE PRINOUT

TRACE #20 DATE: Thu Sep 10 11:57:20 1992

CHANNEL: 1 NAME: GWMC-19

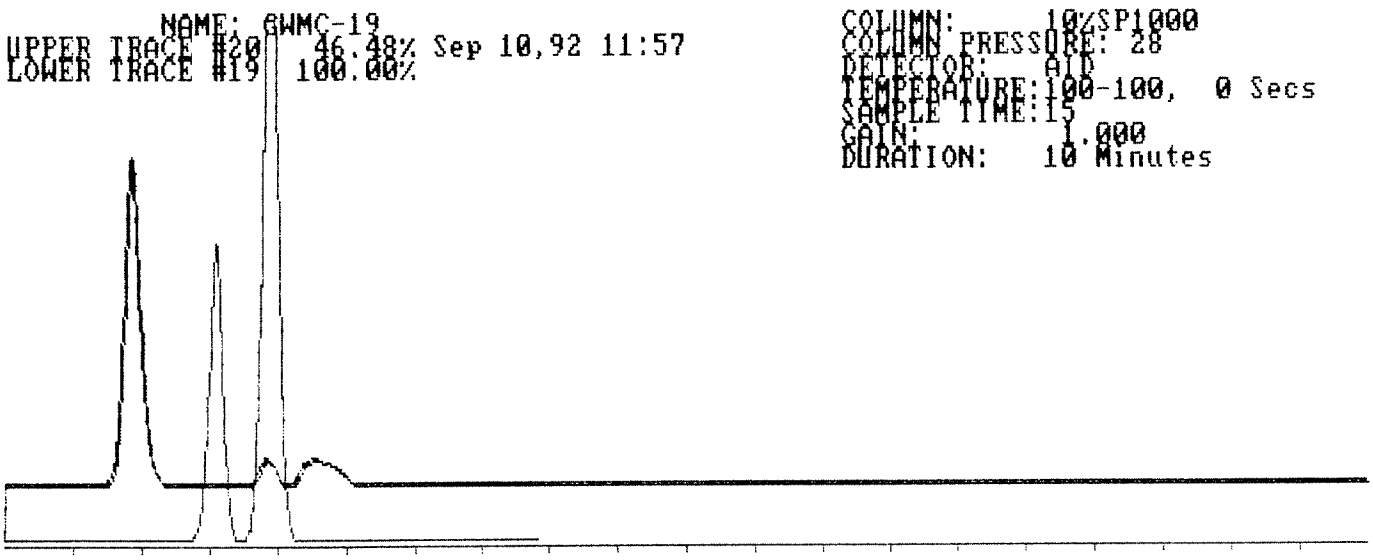
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	120	1946272	1.493 PPM
2	TCE	181	198992	0.080 PPM
3	UNKNOWN	201	315510	0.210 PPM

TOTAL AREA: 2460774



SCENTOGRAPH TRACE PRINOUT

TRACE #21 DATE: Thu Sep 10 12:18:19 1992

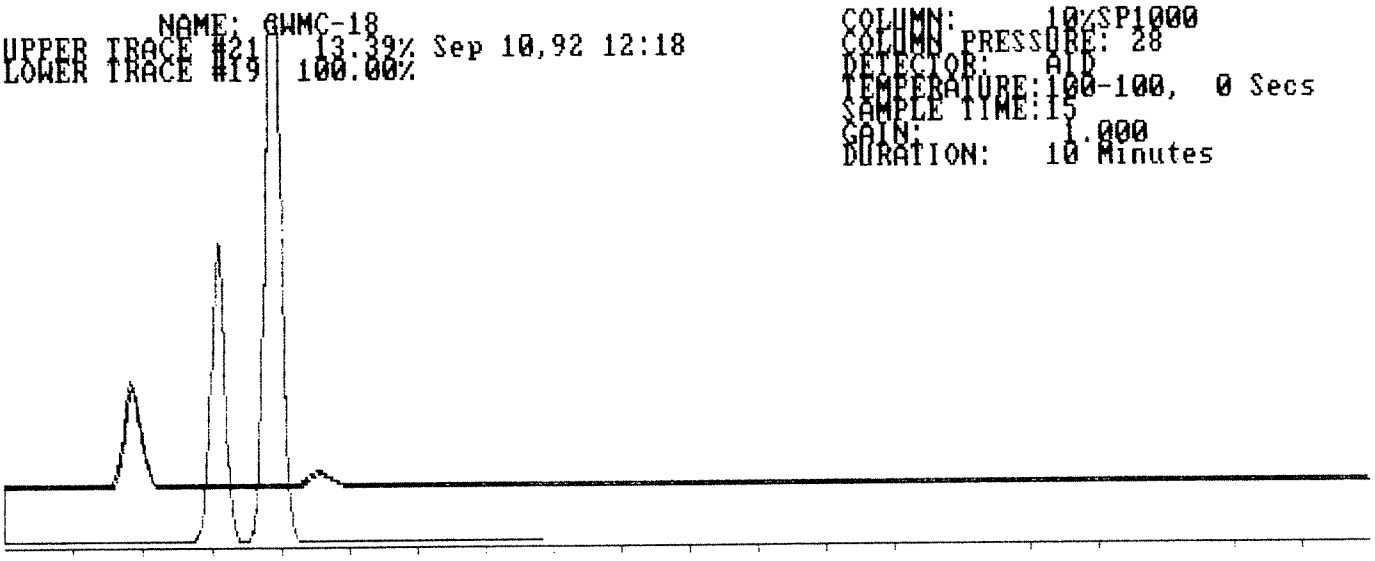
CHANNEL: 1 NAME: GWMC-18

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	121	591079	0.453 PPM
2	UNKNOWN	202	117795	0.079 PPM
	TOTAL AREA:		708874	



SCENTOGRAPH TRACE PRINOUT

TRACE #22 DATE: Thu Sep 10 12:44:24 1992

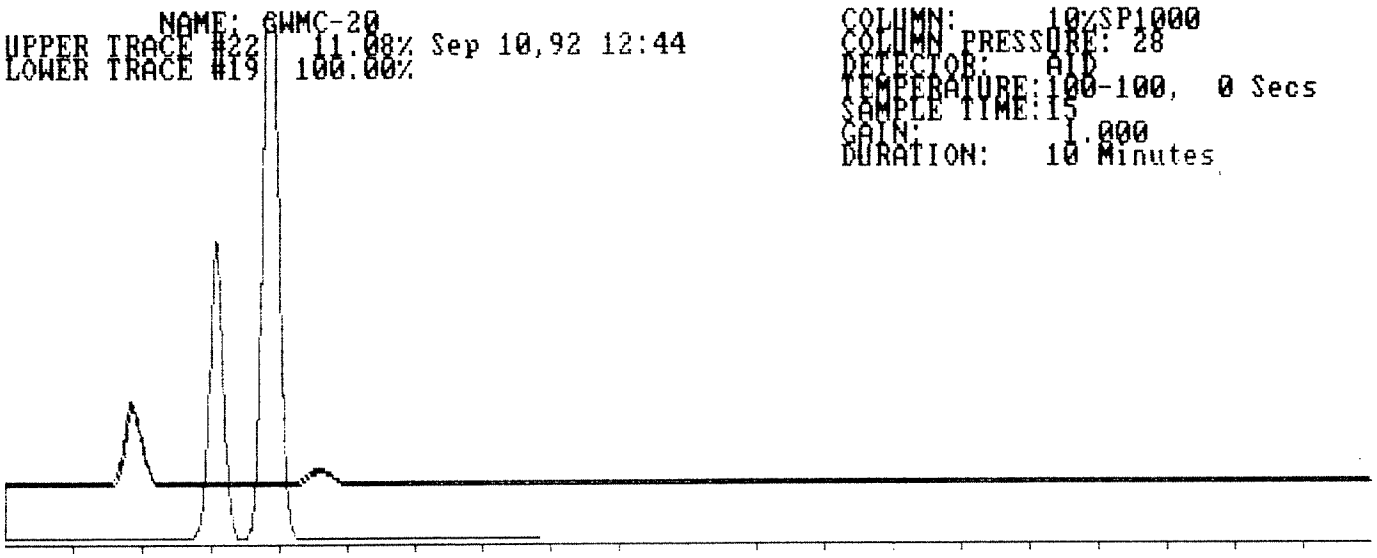
CHANNEL: 1 NAME: GWMC-20

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	121	467708	0.359 PPM
2	UNKNOWN	203	118841	0.079 PPM
	TOTAL AREA:		586549	



SCENTOGRAPH TRACE PRINOUT

TRACE #23 DATE: Thu Sep 10 13:16:04 1992

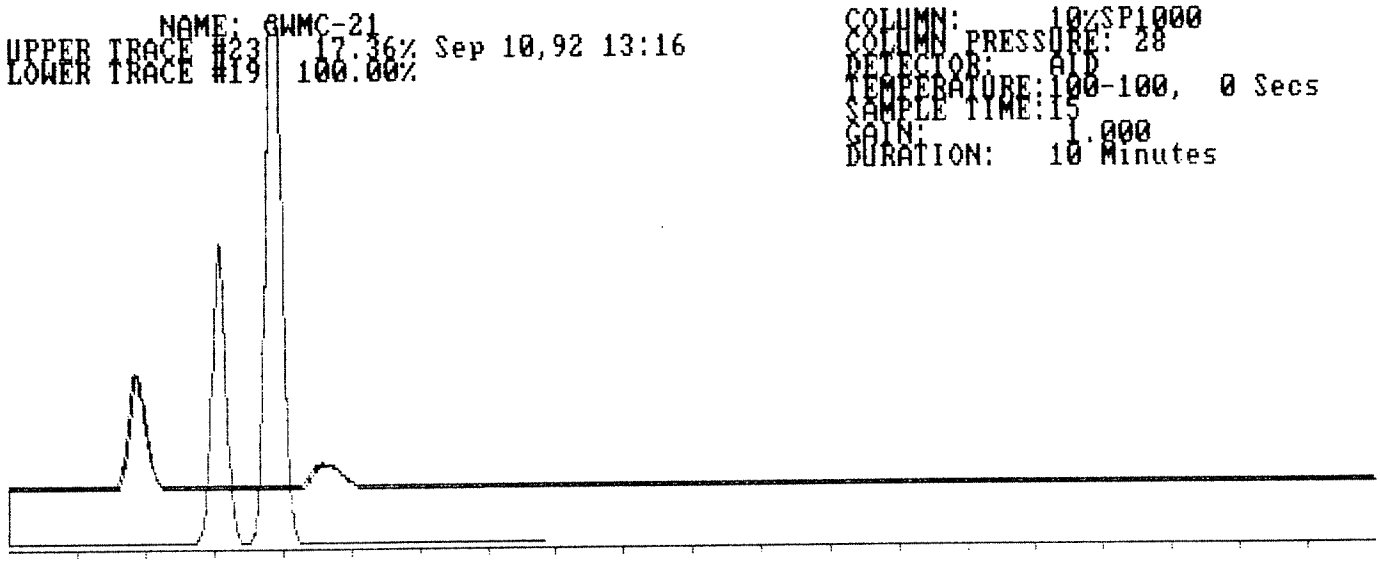
CHANNEL: 1 NAME: GWMC-21

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	122	674417	0.517 PPM
2	UNKNOWN	204	244830	0.163 PPM
	TOTAL AREA:		919247	



SCENTOGRAPH TRACE PRINOUT

TRACE #24 DATE: Thu Sep 10 13:48:54 1992

CHANNEL: 1 NAME: BTCE

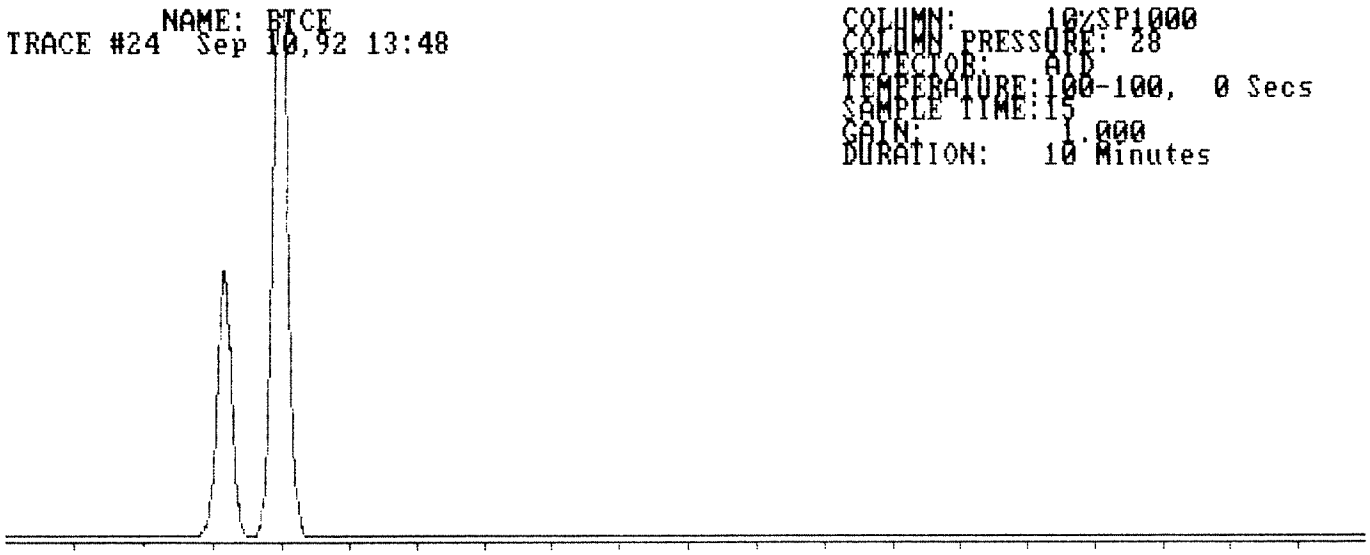
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	BENZENE	160	1403799	1.010 PPM
2	TCE	184	3475405	1.520 PPM

TOTAL AREA: 4879204



SCENTOGRAPH TRACE PRINOUT

TRACE #25 DATE: Thu Sep 10 14:10:33 1992

CHANNEL: 1 NAME: GWMC-22

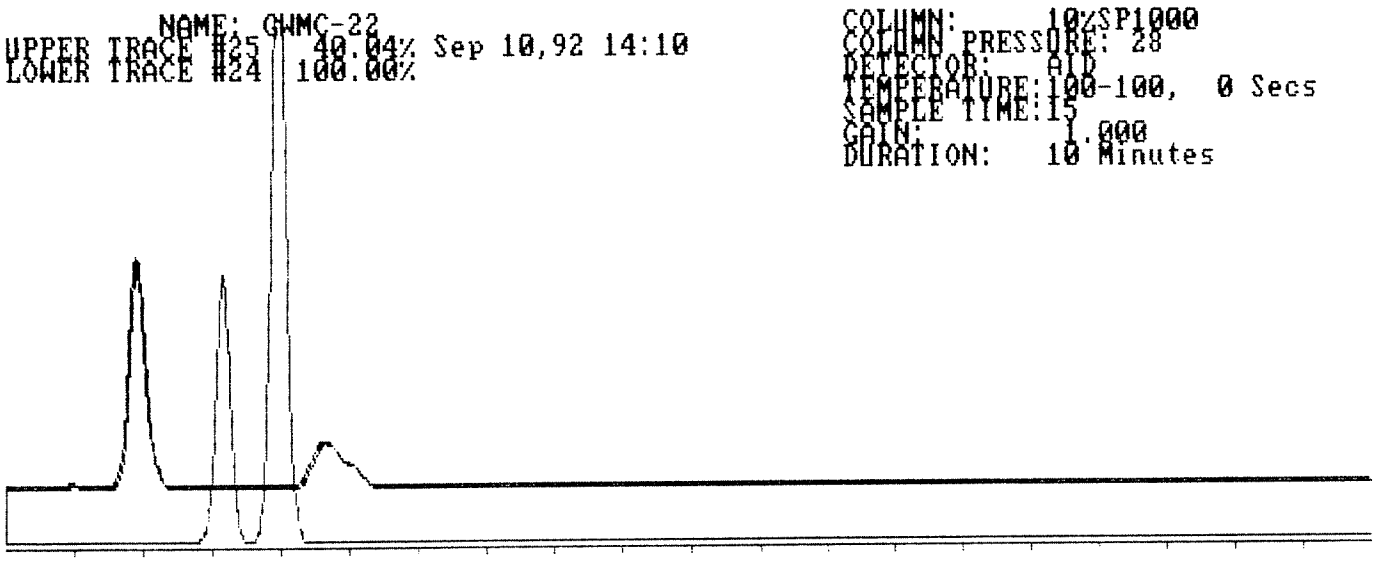
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	UNKNOWN	95	4995	0.004 PPM
2	CARB TET#	122	1374969	1.138 PPM
3	UNKNOWN	205	573902	0.413 PPM

TOTAL AREA: 1953866



SCENTOGRAPH TRACE PRINOUT

TRACE #26 DATE: Thu Sep 10 14:38:54 1992

CHANNEL: 1 NAME: GWMC-26

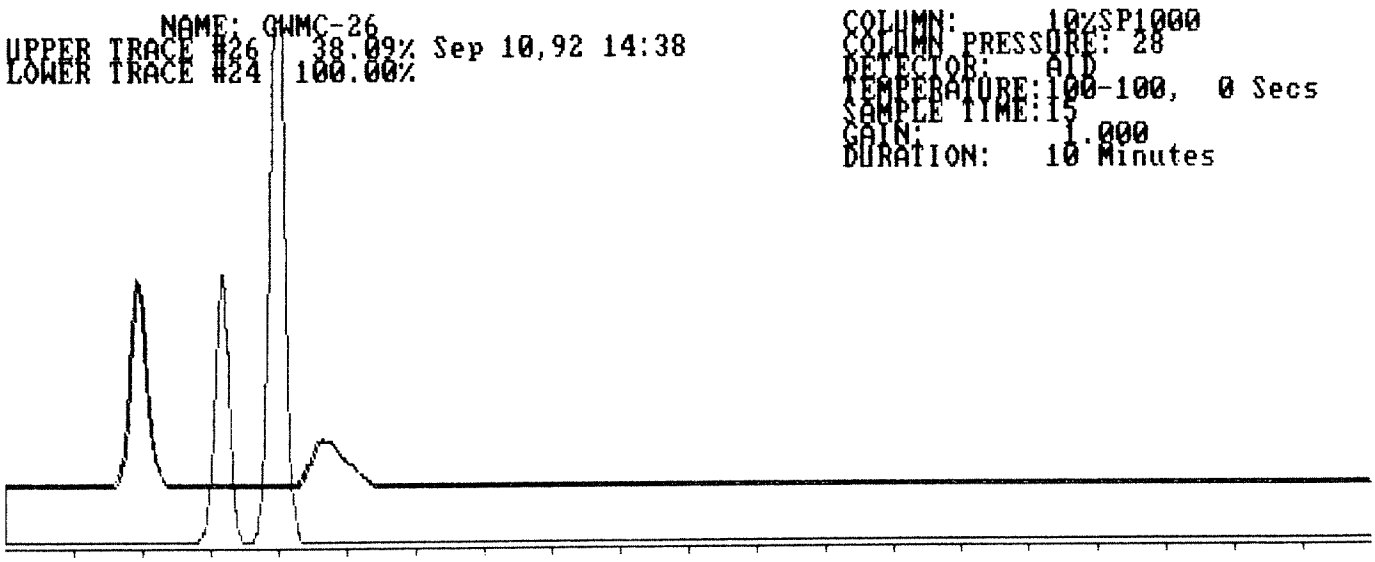
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	UNKNOWN	95	2701	0.002 PPM
2	CARB TET#	123	1246698	1.032 PPM
3	UNKNOWN	206	609114	0.438 PPM

TOTAL AREA: 1858513



SCENTOGRAPH TRACE PRINOUT

TRACE #27 DATE: Thu Sep 10 15:12:15 1992

CHANNEL: 1 NAME: GWMC-23

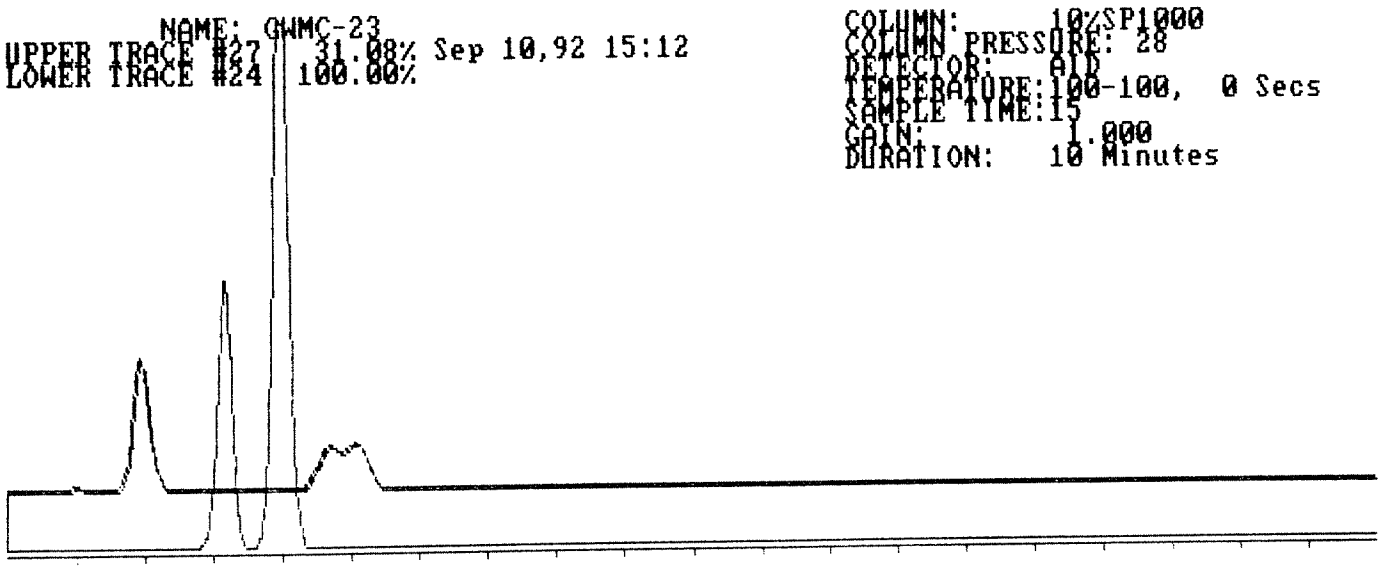
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	ACETONE#	96	7286	0.033 PPM
2	CARB TET#	123	791822	0.655 PPM
3	UNKNOWN	206	362208	0.261 PPM
4	1122 TCA#	218	355029	0.204 PPM

TOTAL AREA: 1516345



SCENTOGRAPH TRACE PRINOUT

TRACE #28 DATE: Thu Sep 10 15:25:29 1992

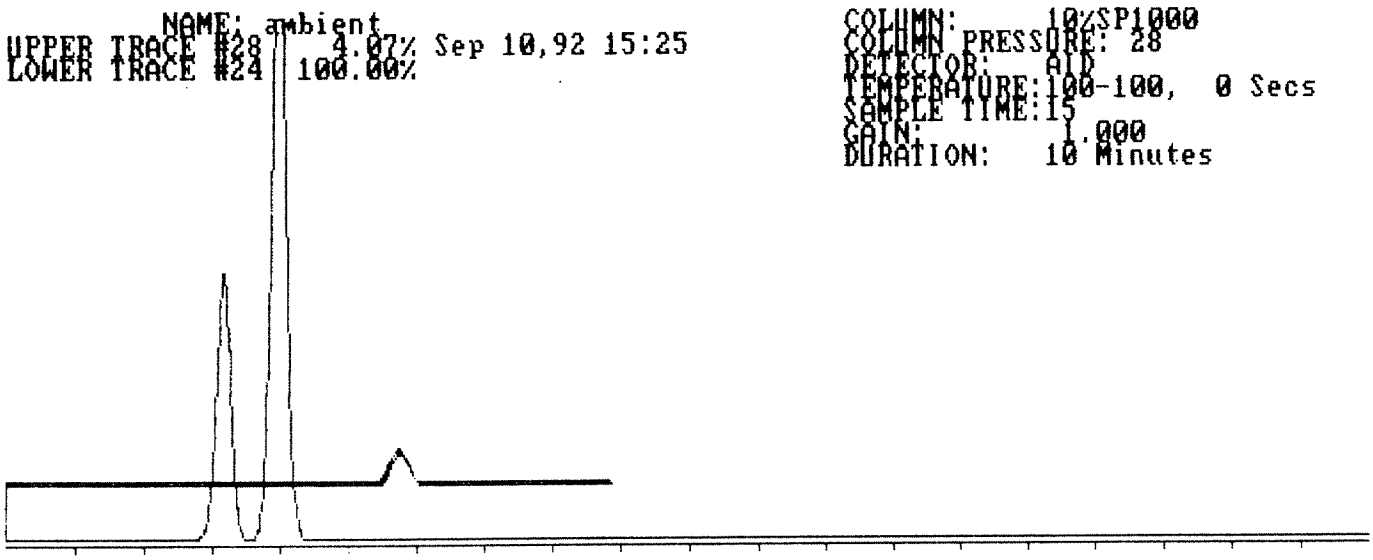
CHANNEL: 1 NAME: ambient

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	TOLUENE#	238	198709	0.114 PPM
	TOTAL AREA:		198709	



SCENTOGRAPH TRACE PRINOUT

TRACE #29 DATE: Thu Sep 10 15:36:56 1992

CHANNEL: 1 NAME: BTCE

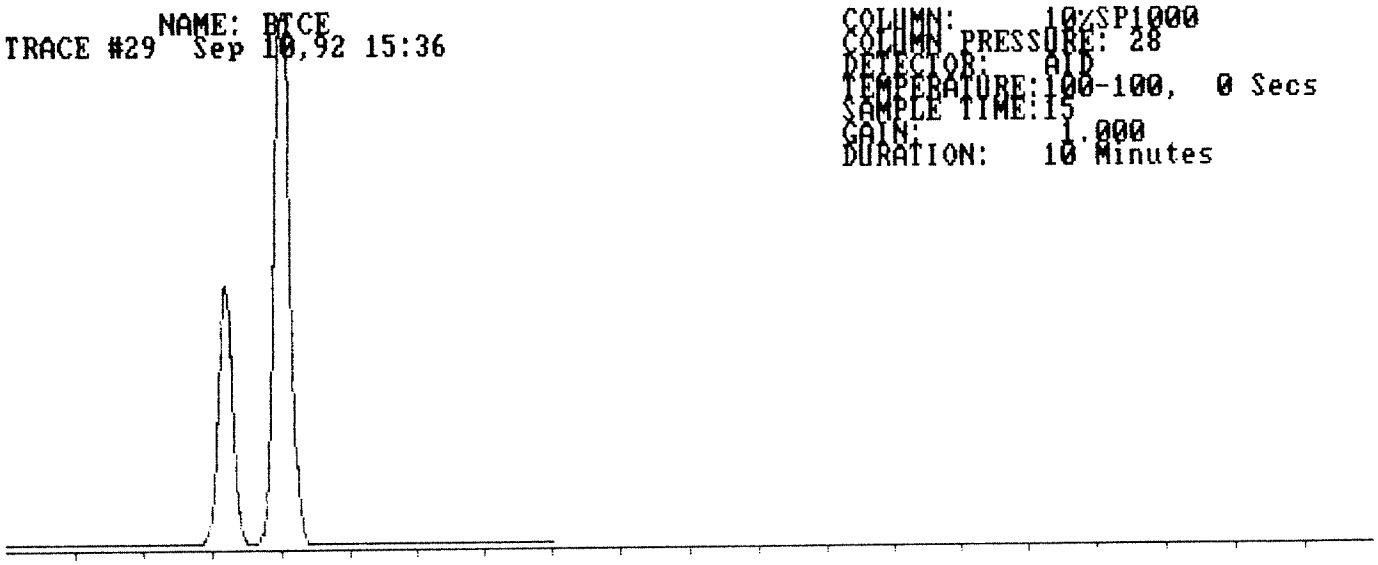
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	BENZENE	161	1324821	1.010 PPM
2	TCE	185	3249336	1.520 PPM

TOTAL AREA: 4574157



SCENTOGRAPH TRACE PRINOUT

TRACE #30 DATE: Thu Sep 10 15:42:35 1992

CHANNEL: 1 NAME: ambient

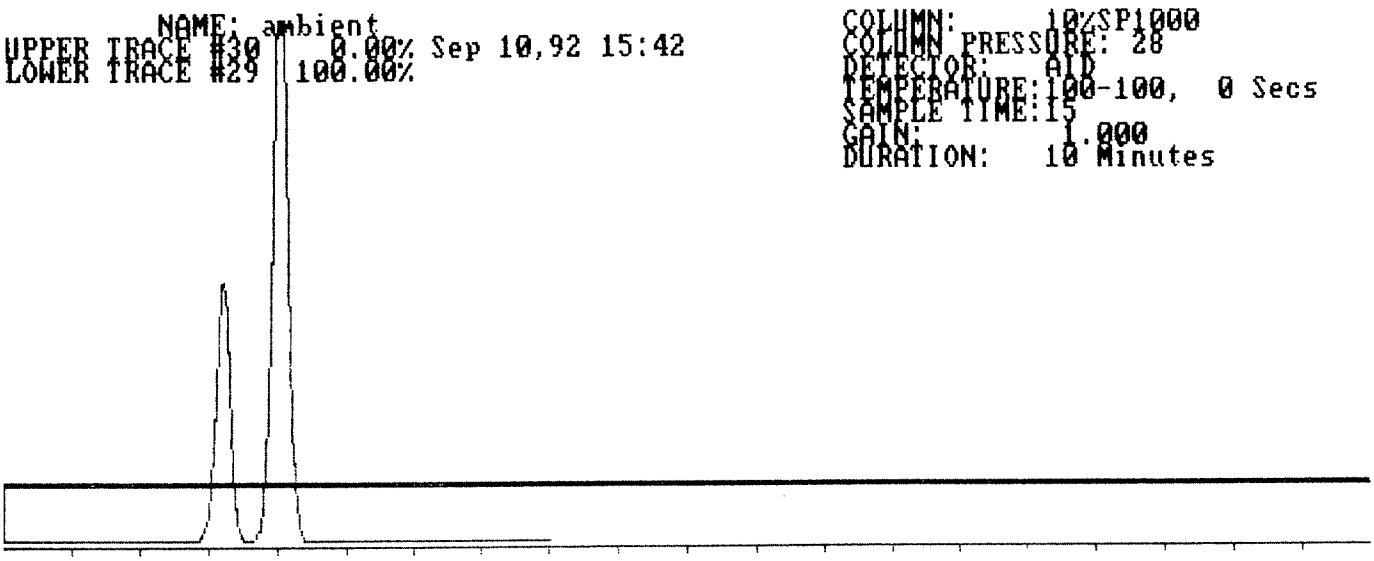
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION

TOTAL AREA: 0



SCENTOGRAPH TRACE PRINOUT

TRACE #31 DATE: Thu Sep 10 17:48:21 1992

CHANNEL: 1 NAME: GWMC-6

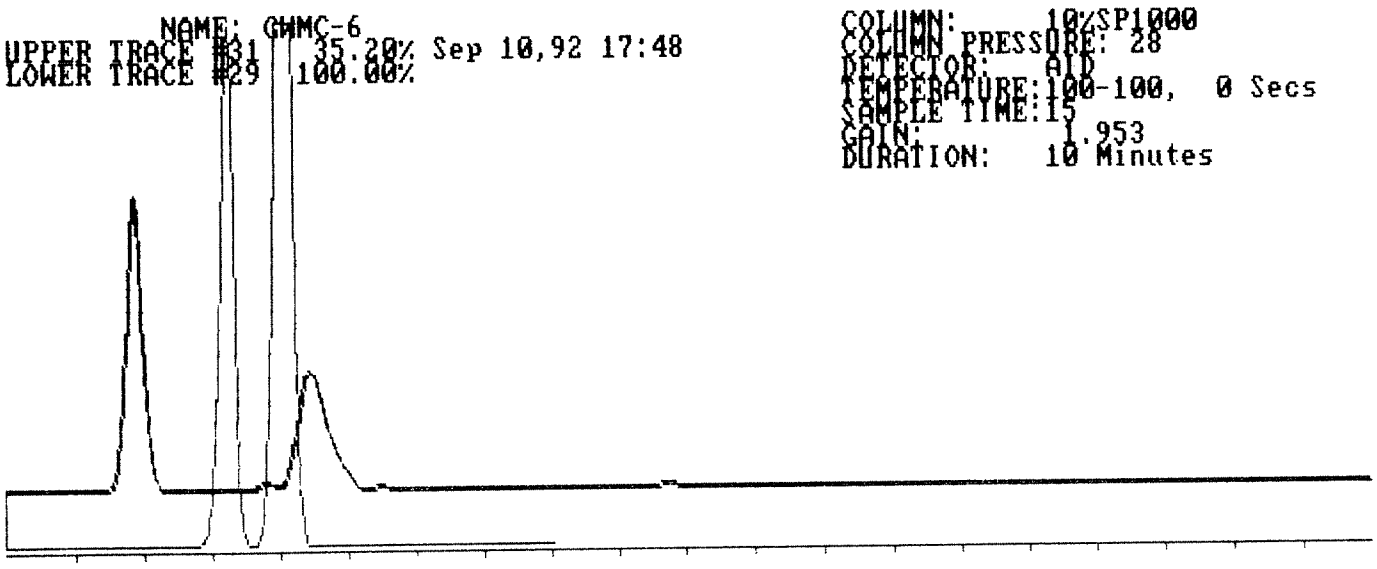
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	120	876514	0.768 PPM
2	TCE#	179	47839	0.007 PPM
3	CL FORM#	198	658905	2.512 PPM
4	UNKNOWN	231	13697	0.010 PPM
5	ETH BENZ#	359	13240	0.019 PPM

TOTAL AREA: 1610195



SCENTOGRAPH TRACE PRINOUT

TRACE #32 DATE: Thu Sep 10 18:21:05 1992

CHANNEL: 1 NAME: GWMC-7

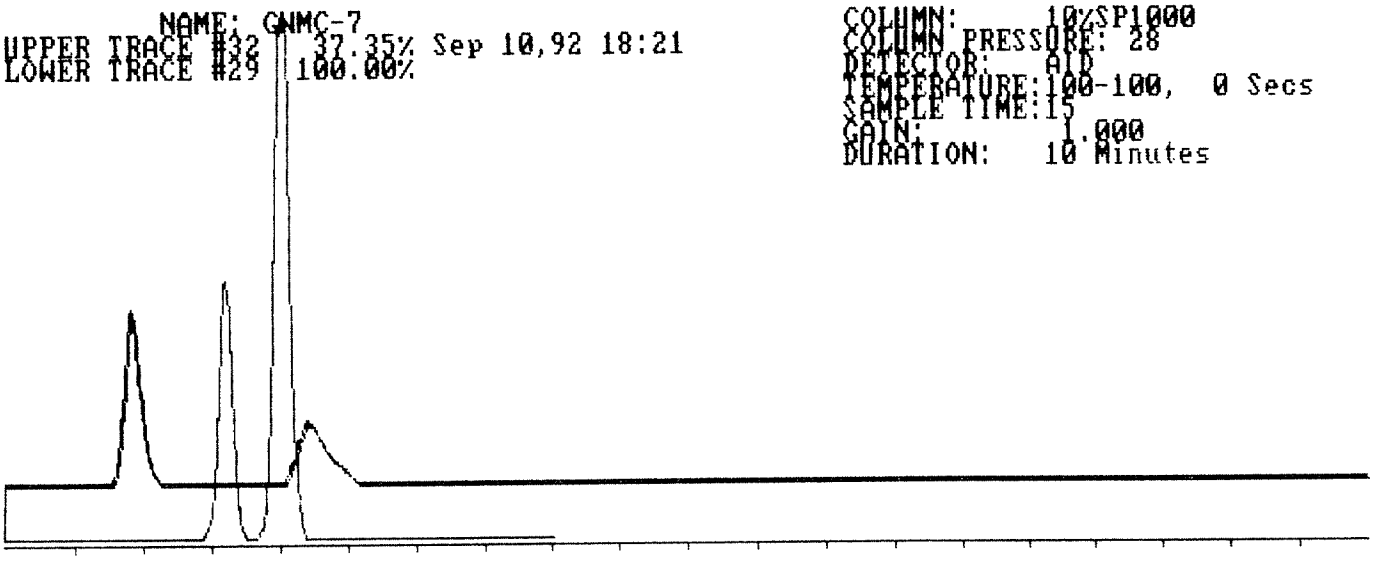
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	120	1007536	0.883 PPM
2	CL FORM#	198	700696	2.671 PPM

TOTAL AREA: 1708232



SCENTOGRAPH TRACE PRINOUT

TRACE #33 DATE: Thu Sep 10 19:14:54 1992

CHANNEL: 1 NAME: GWMC-8

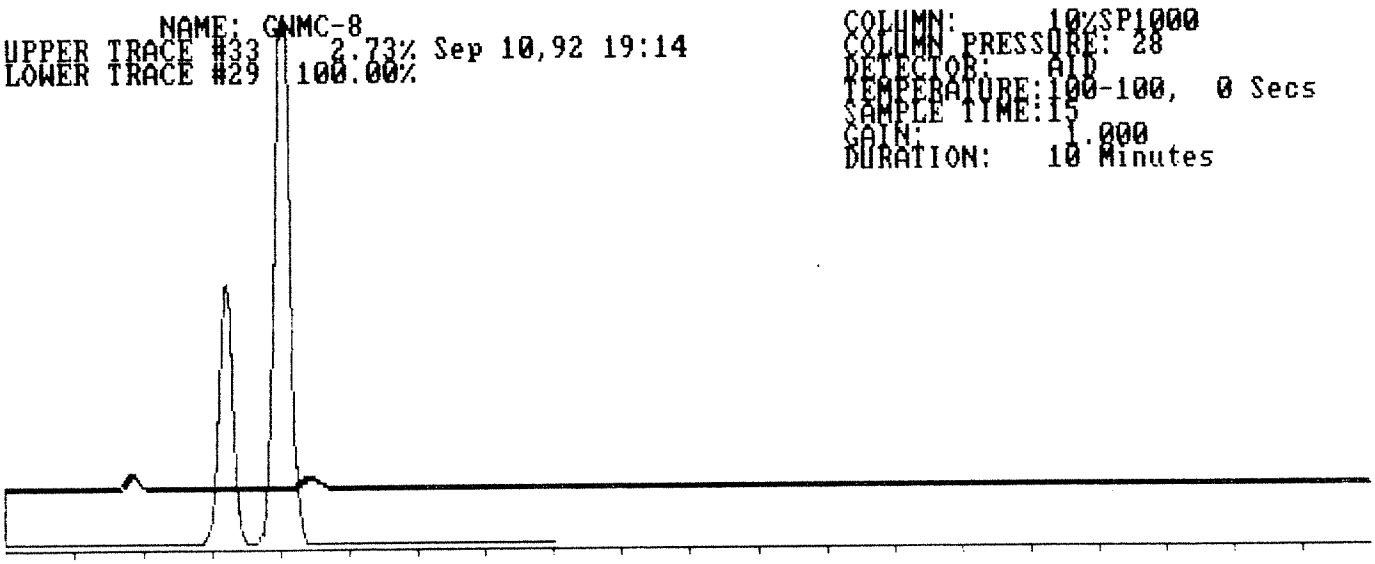
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	121	49435	0.043 PPM
2	CL FORM#	199	75224	0.287 PPM

TOTAL AREA: 124659



SCENTOGRAPH TRACE PRINOUT

TRACE #34 DATE: Thu Sep 10 19:40:23 1992

CHANNEL: 1 NAME: GWMC-9

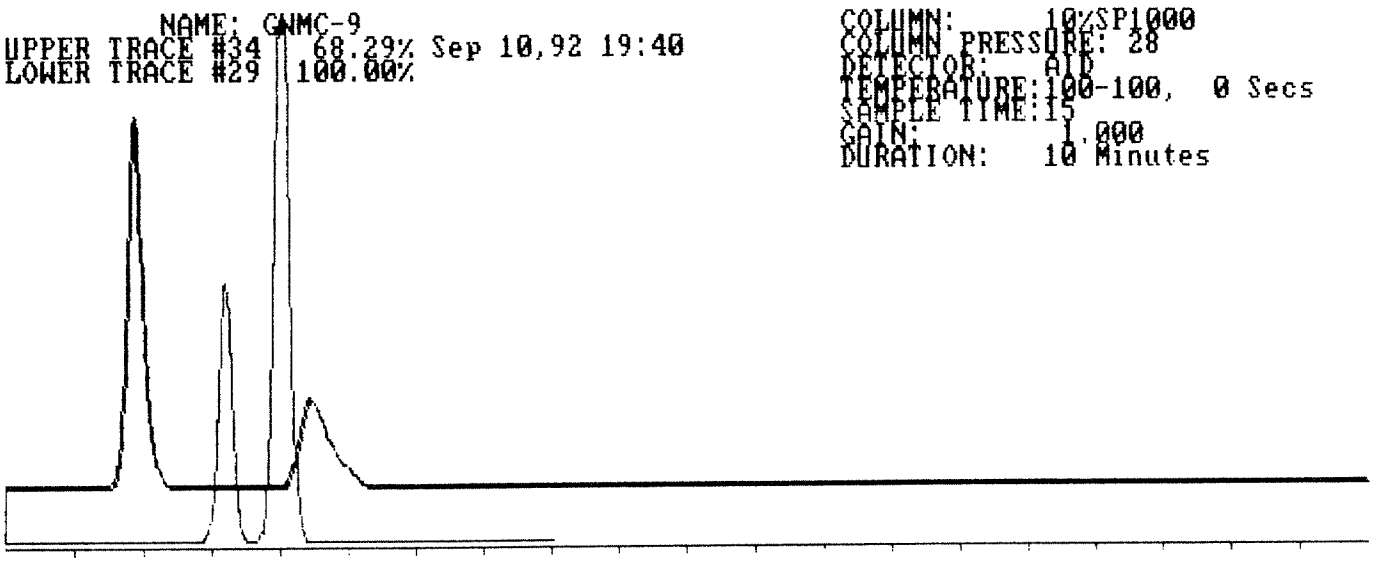
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	121	2081060	1.825 PPM
2	CL FORM#	199	1042409	3.973 PPM

TOTAL AREA: 3123469



SCENTOGRAPH TRACE PRINOUT

TRACE #35 DATE: Fri Sep 11 10:29:43 1992

CHANNEL: 1 NAME: BTCE

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

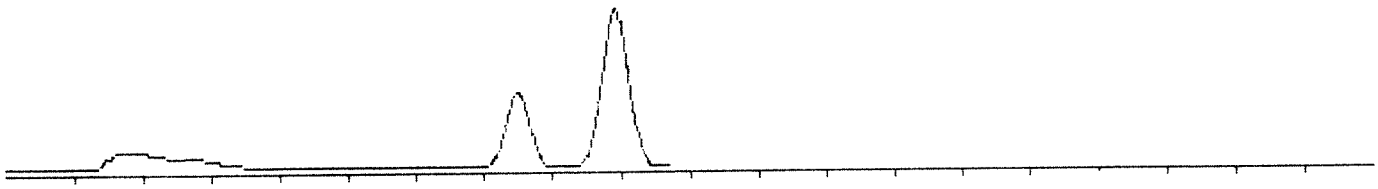
TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	BENZENE	117	532447	1.010 PPM
2	TCE	290	671162	1.520 PPM
3	M-XYLENE	332	1555478	0.000 PPM

TOTAL AREA: 2759087

TRACE #35 NAME: BTCE
Sep 11,92 10:29

COLUMN: 10%SP1000
COLUMN PRESSURE: 28
DETECTOR: AID
TEMPERATURE: 100-100, 0 Secs
SAMPLE TIME: 15
GAIN: 1.000
DURATION: 10 Minutes



SCENTOGRAPH TRACE PRINOUT

TRACE #36 DATE: Fri Sep 11 10:37:01 1992

CHANNEL: 1 NAME: BTCE

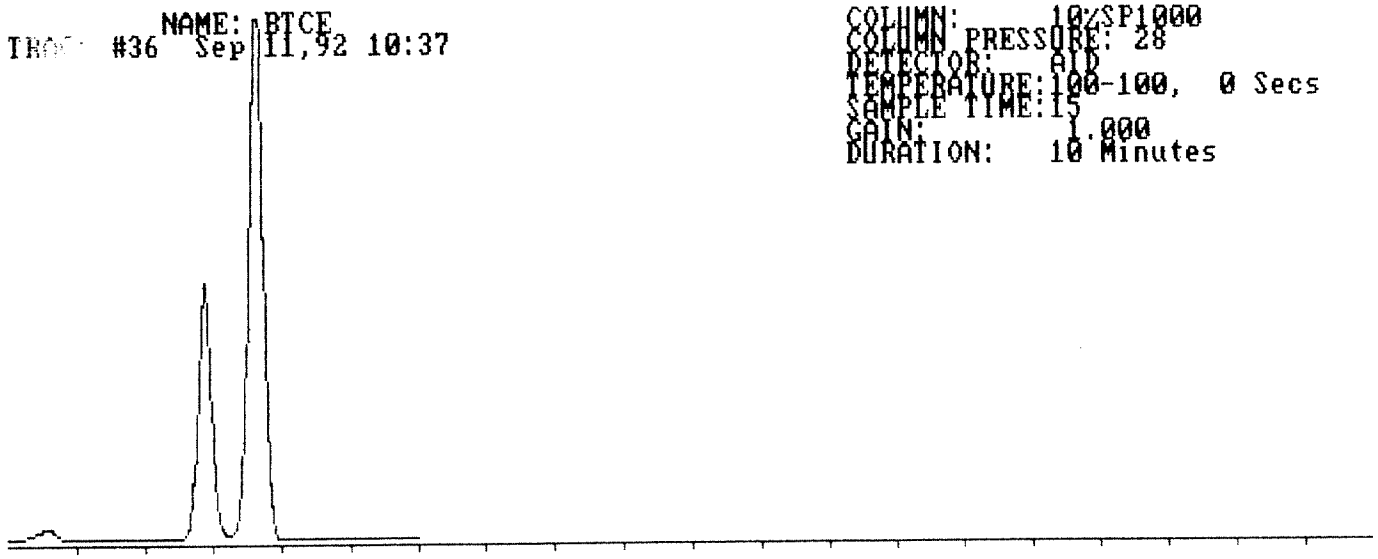
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	BENZENE	83	72342	1.010 PPM
2	TCE	151	1278018	1.520 PPM
3	M-XYLENE	173	2925021	0.000 PPM

TOTAL AREA: 4275381



SCENTOGRAPH TRACE PRINOUT

TRACE #37 DATE: Fri Sep 11 10:41:39 1992

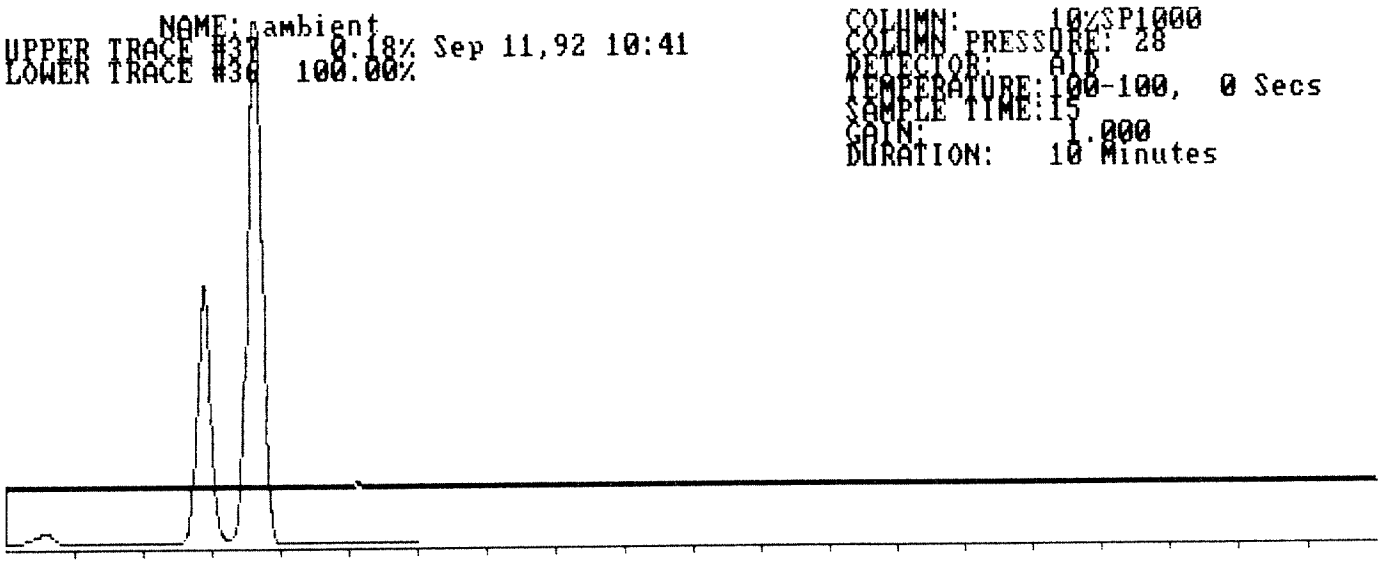
CHANNEL: 1 NAME: ambient

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	UNKNOWN	220	7523	0.105 PPM
	TOTAL AREA:		7523	



SCENTOGRAPH TRACE PRINOUT

TRACE #38 DATE: Fri Sep 11 11:27:23 1992

CHANNEL: 1 NAME: BTCE

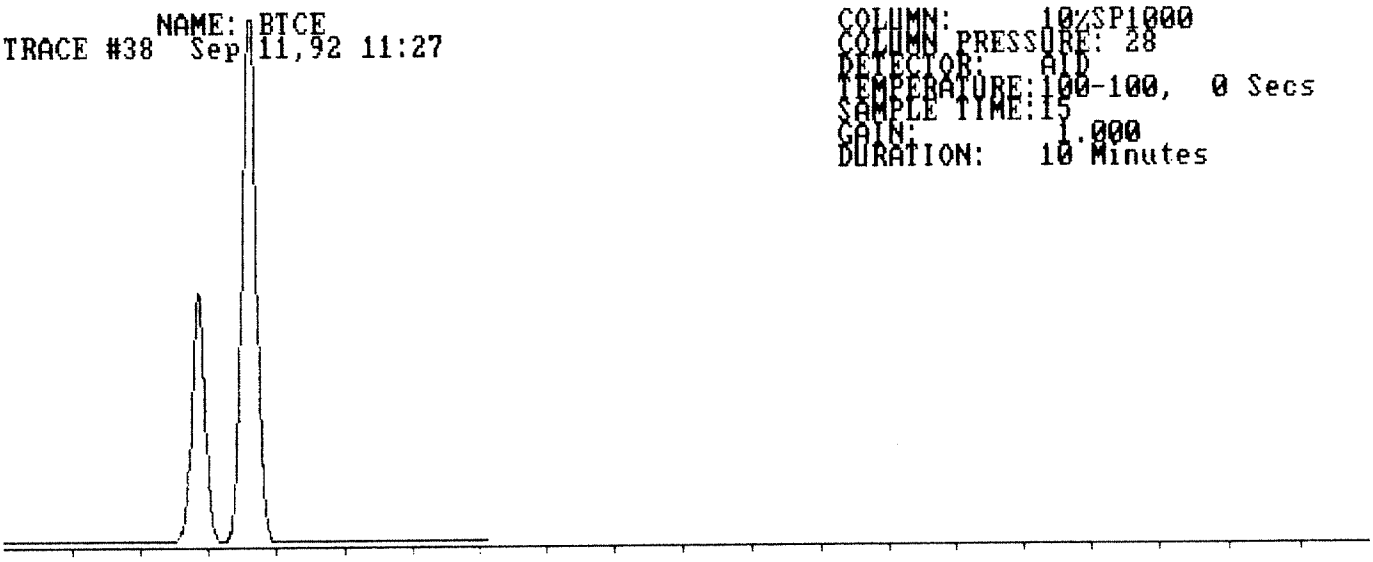
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	BENZENE	151	1223493	1.010 PPM
2	TCE	173	2964270	1.520 PPM

TOTAL AREA: 4187763



SCENTOGRAPH TRACE PRINOUT

TRACE #39 DATE: Fri Sep 11 11:32:42 1992

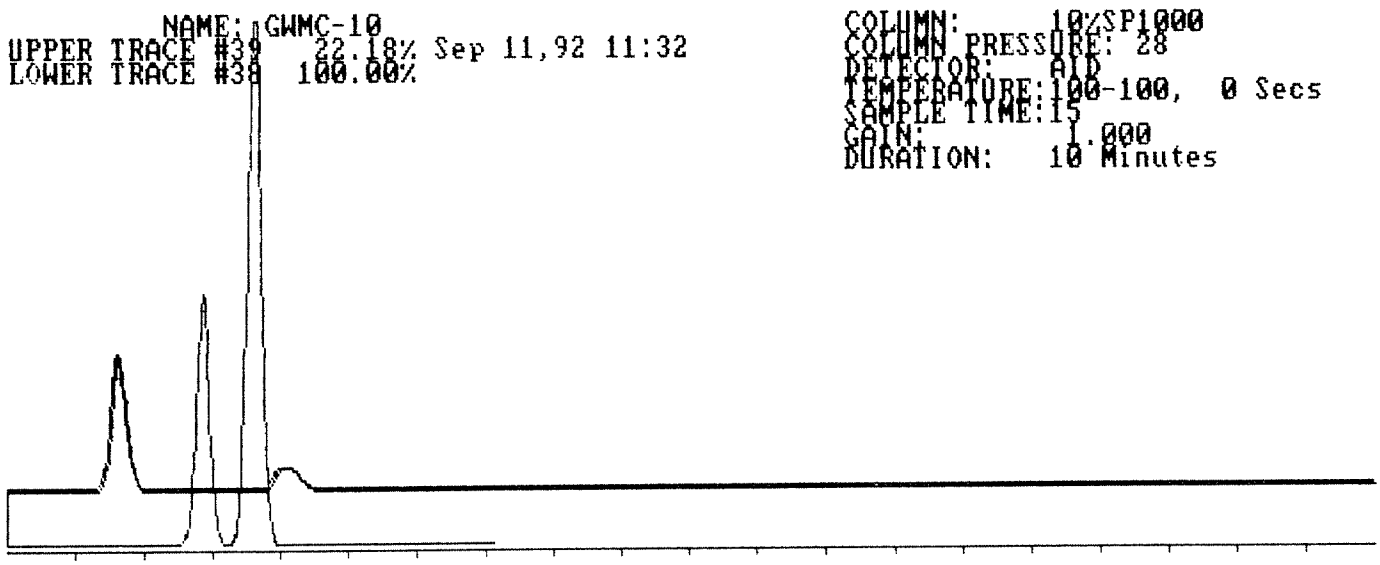
CHANNEL: 1 NAME: GWMC-10

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	114	725564	0.689 PPM
2	CL FORM#	188	203241	0.839 PPM
	TOTAL AREA:		928805	



SCENTOGRAPH TRACE PRINOUT

TRACE #40 DATE: Fri Sep 11 12:26:44 1992

CHANNEL: 1 NAME: GWMC-10DUP

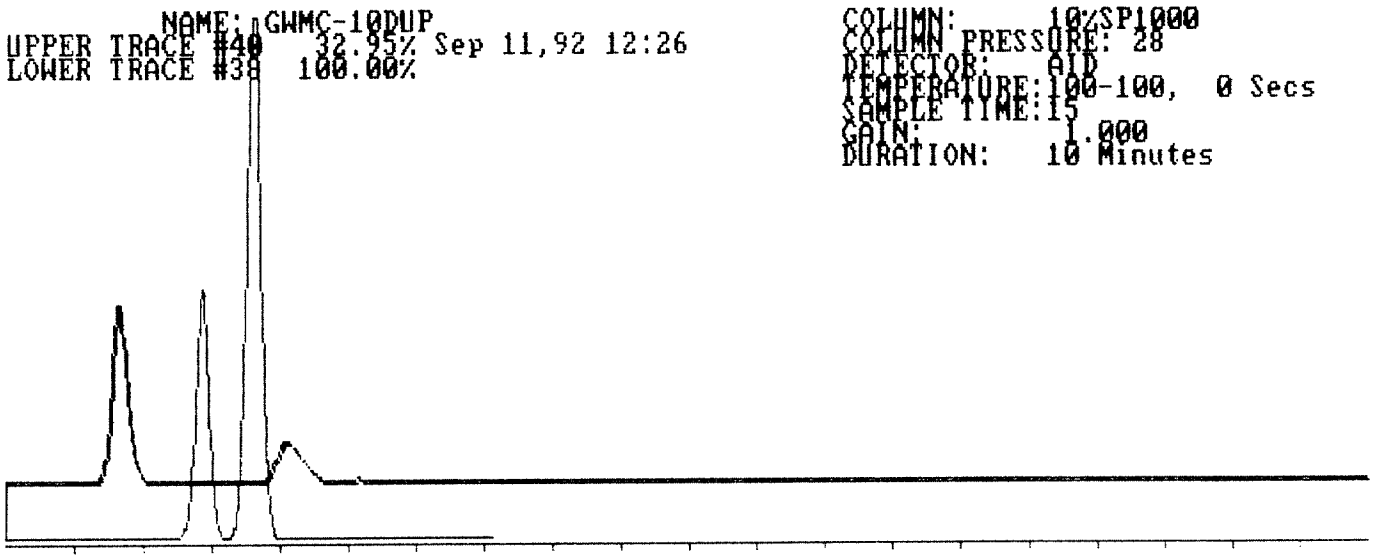
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	115	983085	0.933 PPM
2	CL FORM#	189	388000	1.601 PPM
3	TOLUENE#	220	8818	0.006 PPM

TOTAL AREA: 1379903



SCENTOGRAPH TRACE PRINOUT

TRACE #41 DATE: Fri Sep 11 12:38:53 1992

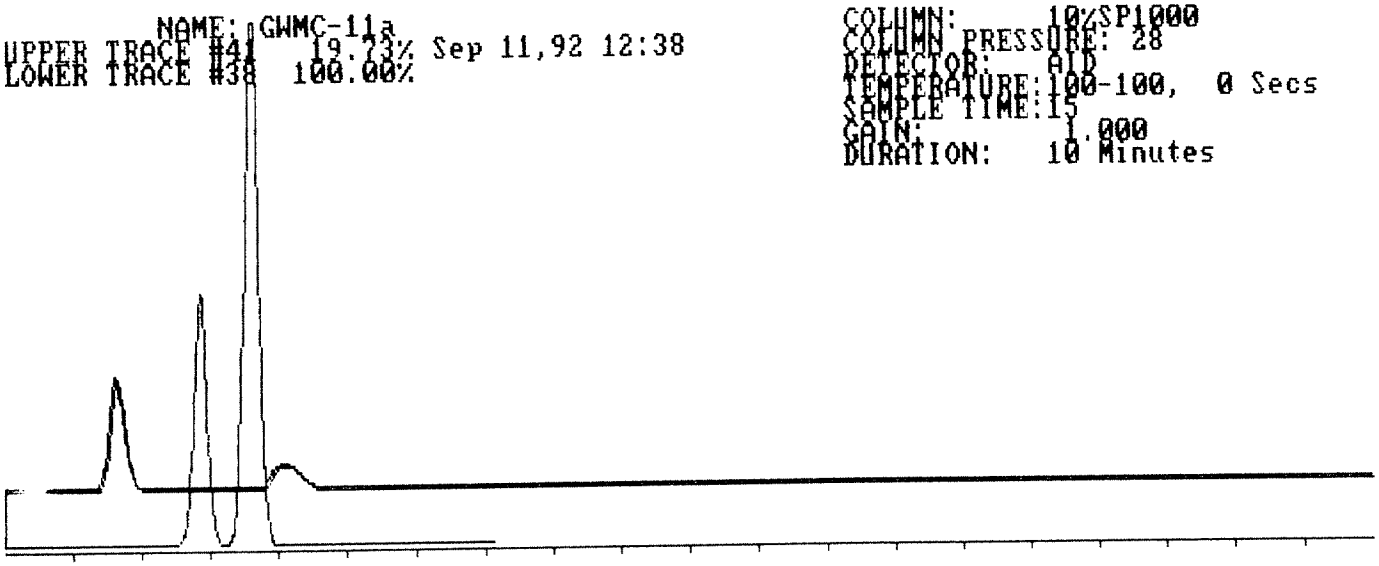
CHANNEL: 1 NAME: GWMC-11a

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	114	585477	0.556 PPM
2	CL FORM#	188	240565	0.993 PPM
	TOTAL AREA:		826042	



SCENTOGRAPH TRACE PRINOUT

TRACE #42 DATE: Fri Sep 11 12:50:36 1992

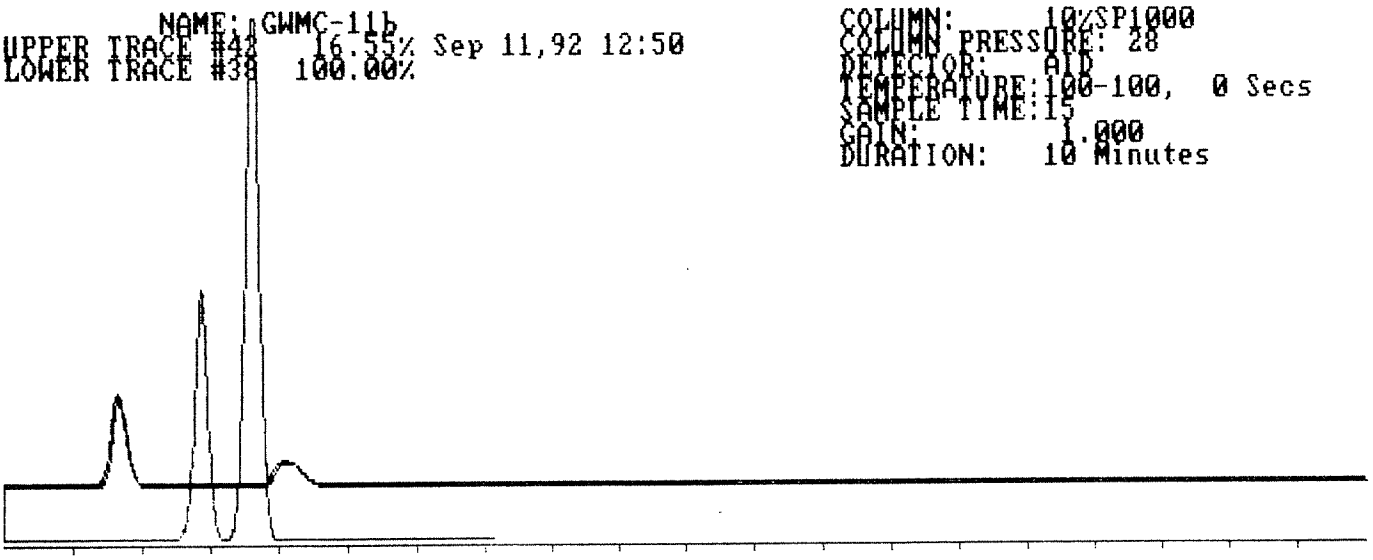
CHANNEL: 1 NAME: GWMC-11b

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	115	475381	0.451 PPM
2	CL FORM#	189	217865	0.899 PPM
	TOTAL AREA:		693246	



SCENTOGRAPH TRACE PRINOUT

TRACE #43 DATE: Fri Sep 11 13:02:19 1992

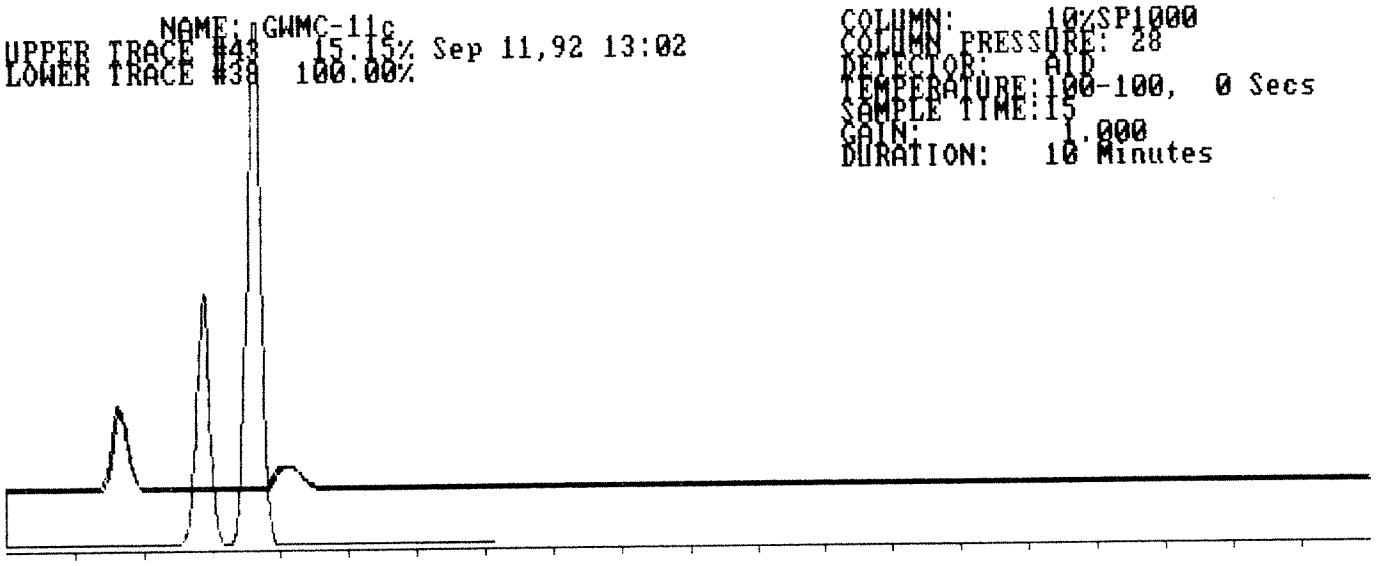
CHANNEL: 1 NAME: GWMC-11c

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	115	431519	0.410 PPM
2	CL FORM#	189	203021	0.838 PPM
	TOTAL AREA:		634540	



SCENTOGRAPH TRACE PRINOUT

TRACE #44 DATE: Fri Sep 11 13:15:35 1992

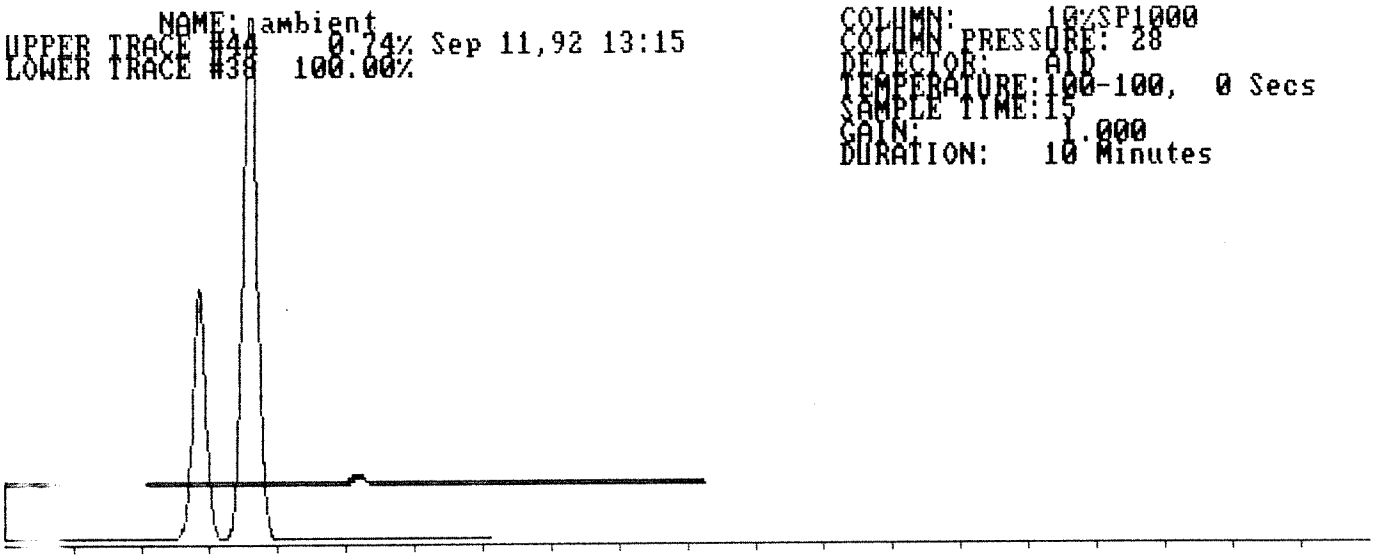
CHANNEL: 1 NAME: ambient

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	TOLUENE#	222	30981	0.020 PPM
	TOTAL AREA:		30981	



SCENTOGRAPH TRACE PRINOUT

TRACE #45 DATE: Fri Sep 11 13:22:17 1992

CHANNEL: 1 NAME: BTCE

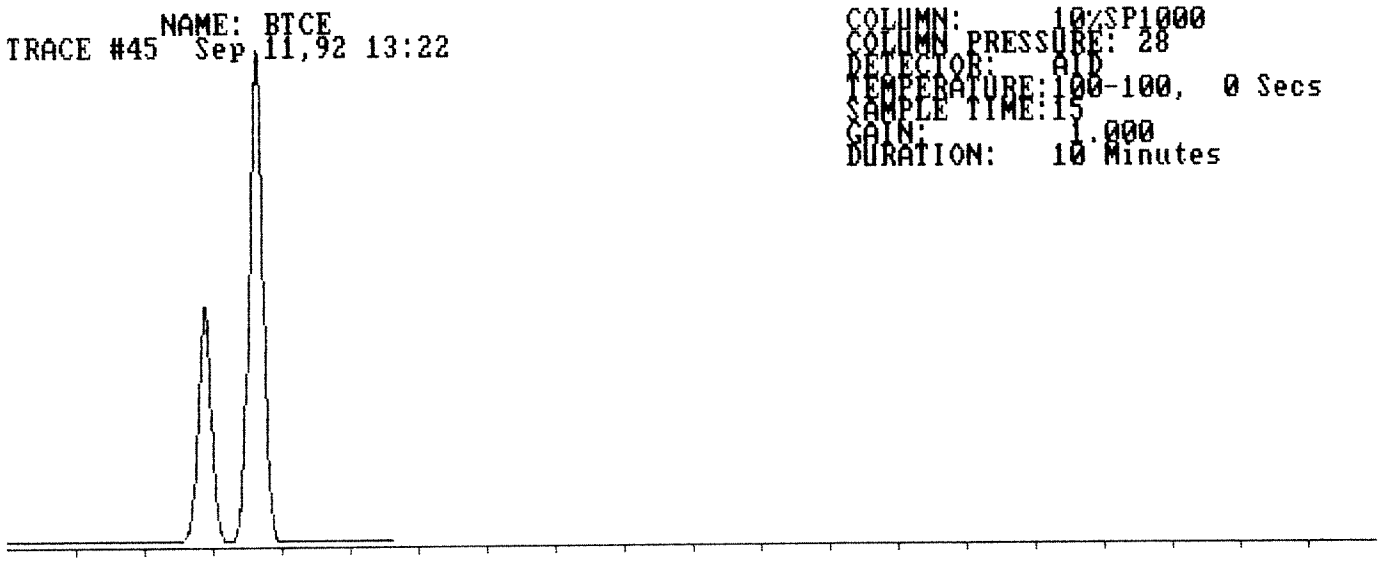
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	BENZENE	151	1136021	1.010 PPM
2	TCE	173	2565262	1.520 PPM

TOTAL AREA: 3701283



SCENTOGRAPH TRACE PRINOUT

TRACE #46 DATE: Fri Sep 11 13:26:54 1992

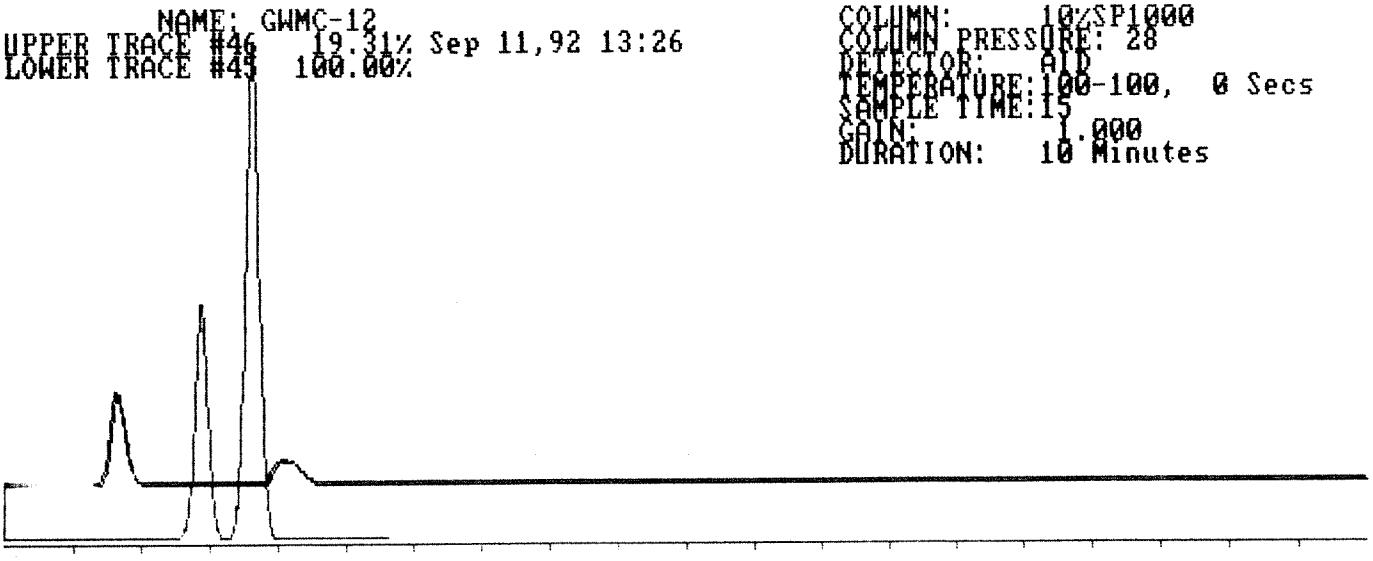
CHANNEL: 1 NAME: GWMC-12

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	115	492260	0.503 PPM
2	CL FORM#	188	222371	0.989 PPM
	TOTAL AREA:		714631	



SCENTOGRAPH TRACE PRINOUT

TRACE #47 DATE: Fri Sep 11 13:50:16 1992

CHANNEL: 1 NAME: GWMC-13

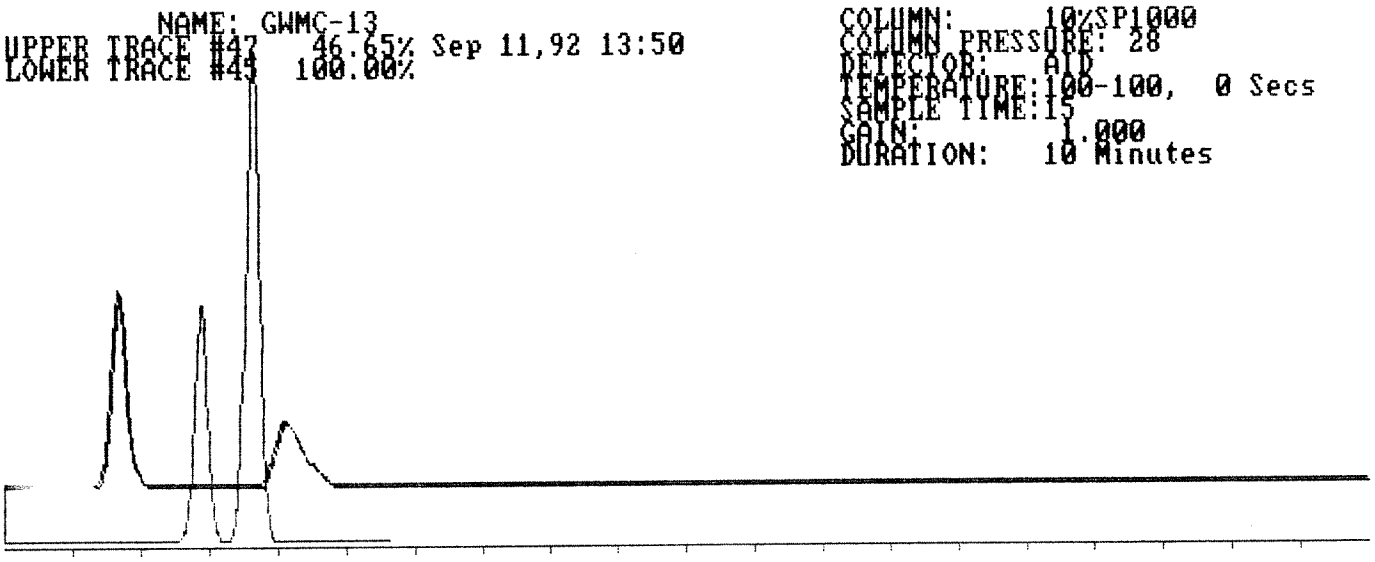
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	115	1055301	1.079 PPM
2	CL FORM#	189	671284	2.984 PPM

TOTAL AREA: 1726585



SCENTOGRAPH TRACE PRINOUT

TRACE #48 DATE: Fri Sep 11 14:19:19 1992

CHANNEL: 1 NAME: GWMC-14

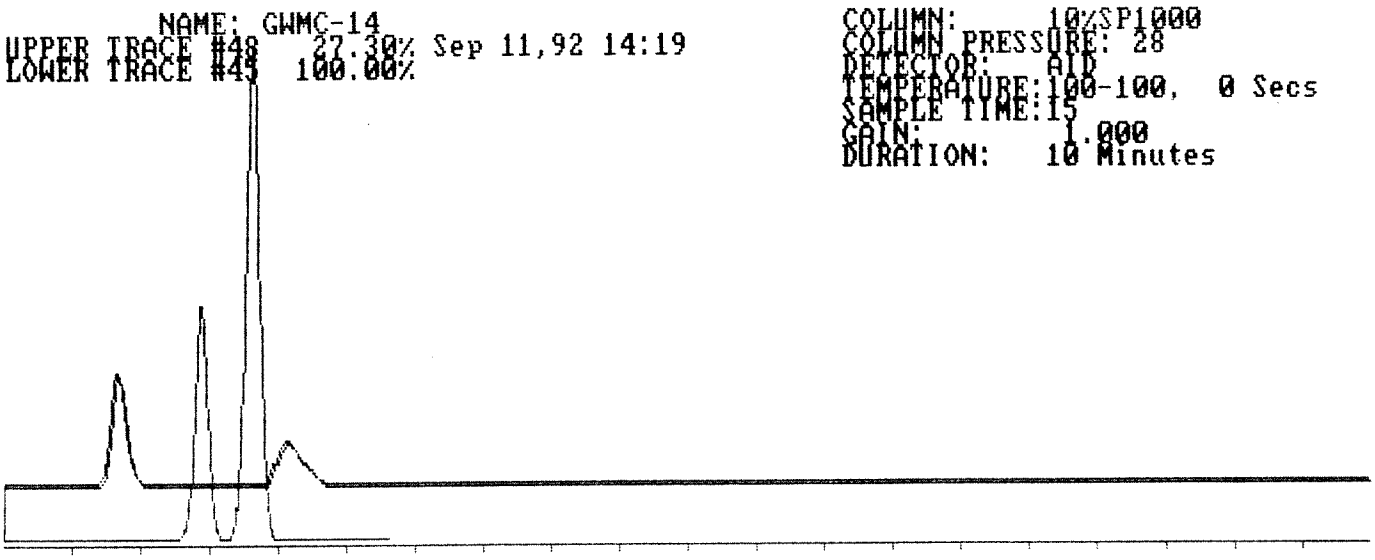
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	115	601284	0.615 PPM
2	CL FORM#	189	409332	1.820 PPM

TOTAL AREA: 1010616



SCENTOGRAPH TRACE PRINOUT

TRACE #49 DATE: Fri Sep 11 14:45:02 1992

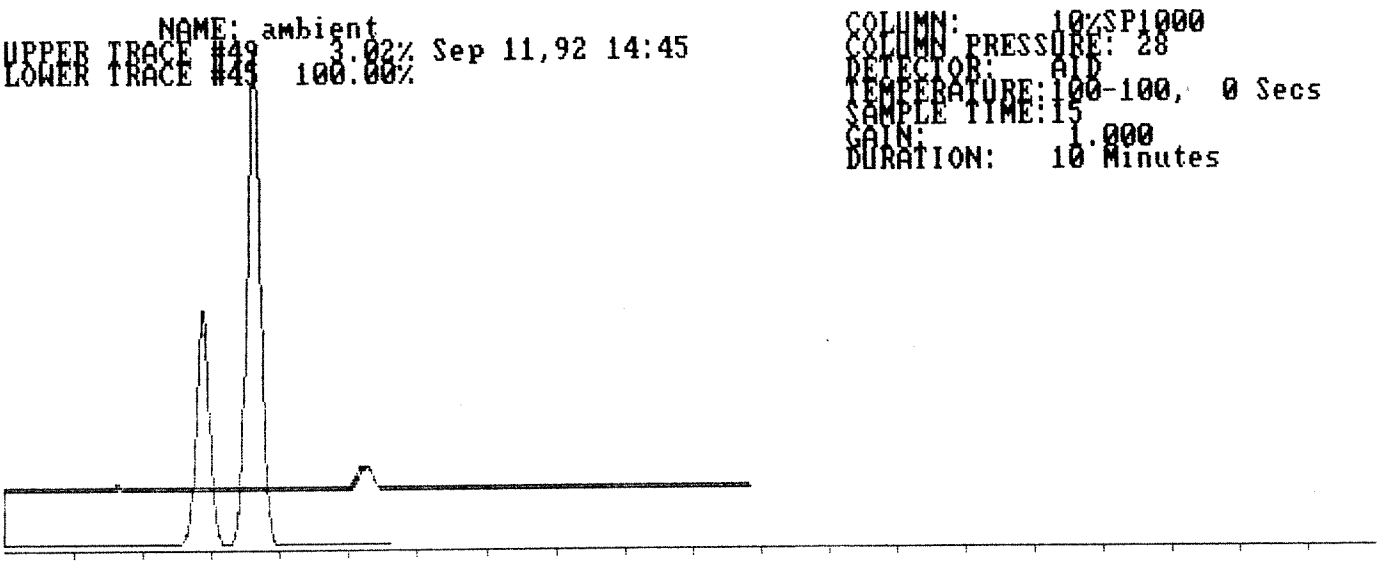
CHANNEL: 1 NAME: ambient

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	115	5491	0.006 PPM
2	TOLUENE#	223	106283	0.076 PPM
	TOTAL AREA:		111774	



SCENTOGRAPH TRACE PRINOUT

TRACE #50 DATE: Fri Sep 11 14:52:49 1992

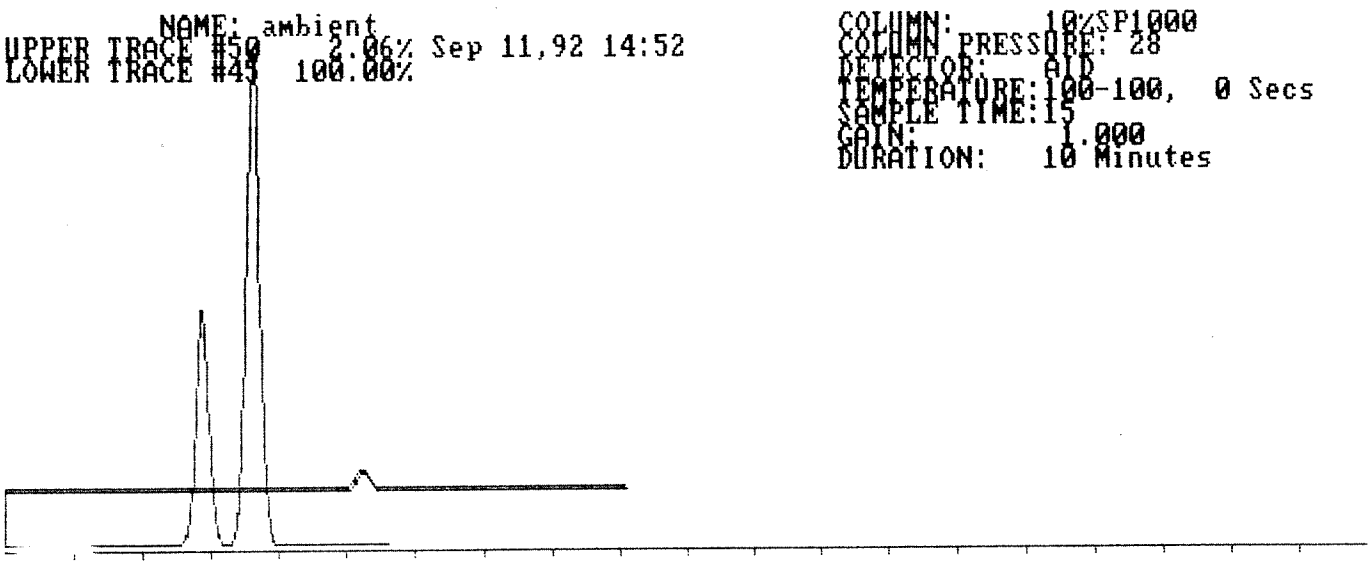
CHANNEL: 1 NAME: ambient

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	TOLUENE#	223	76378	0.054 PPM
	TOTAL AREA:		76378	



SCENTOGRAPH TRACE PRINOUT

TRACE #51 DATE: Fri Sep 11 14:59:33 1992

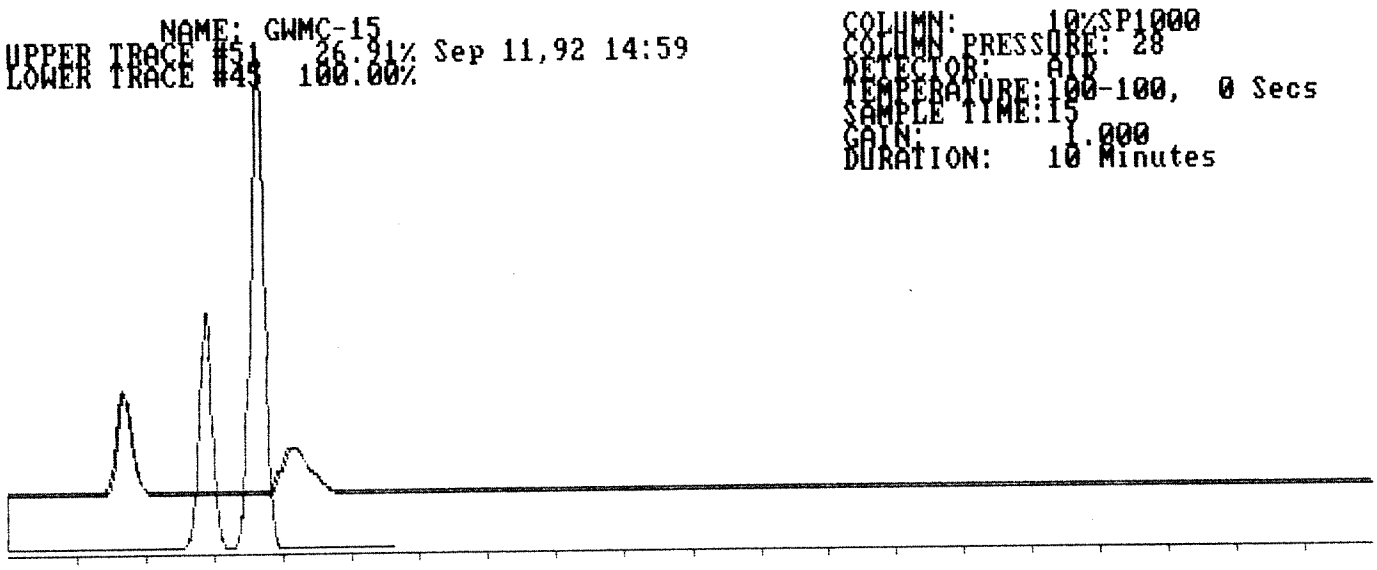
CHANNEL: 1 NAME: GWMC-15

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	116	541900	0.554 PPM
2	CL FORM#	190	454165	2.019 PPM
	TOTAL AREA:		996065	



SCENTOGRAPH TRACE PRINOUT

TRACE #52 DATE: Fri Sep 11 15:27:14 1992

CHANNEL: 1 NAME: RINSE-BLANK

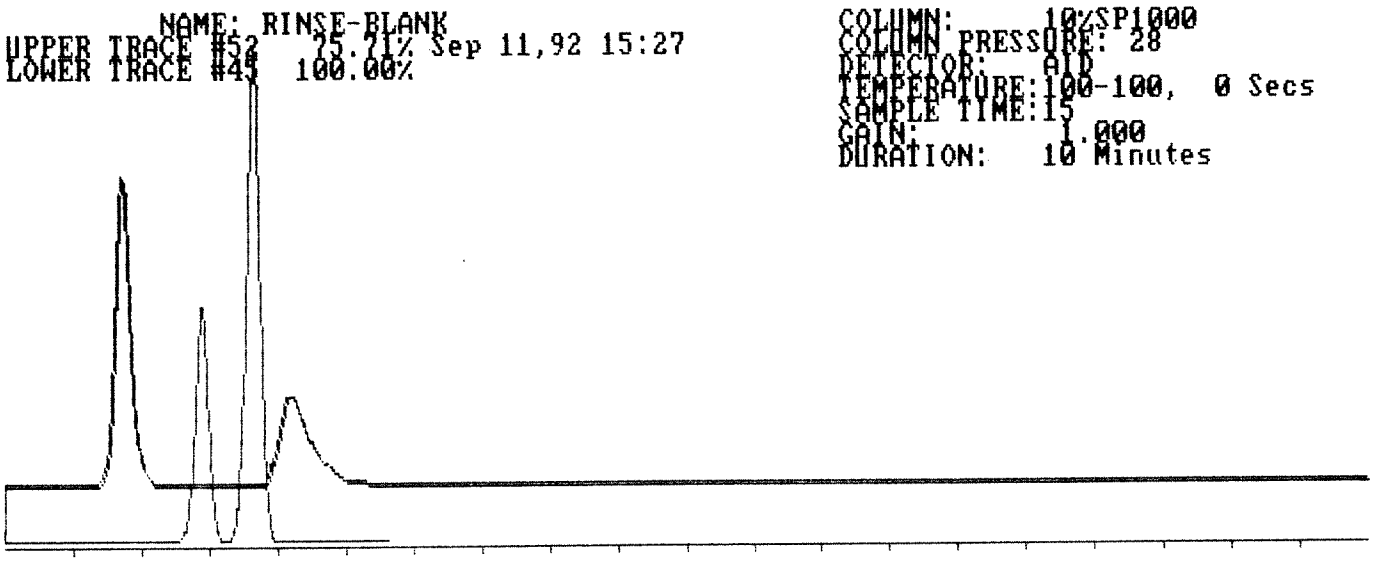
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	116	1705488	1.744 PPM
2	UNKNOWN	191	1085043	0.965 PPM
3	TOLUENE#	222	11806	0.008 PPM

TOTAL AREA: 2802337



SCENTOGRAPH TRACE PRINOUT

TRACE #53 DATE: Fri Sep 11 15:38:51 1992

CHANNEL: 1 NAME: ambient

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	116	7805	0.008 PPM
2	TOLUENE#	224	16044	0.011 PPM
	TOTAL AREA:		23849	

NAME: ambient

UPPER TRACE #53 0.64% Sep 11,92 15:38

LOWER TRACE #45 100.00%

COLUMN: 10%SP1000

COLUMN PRESSURE: 28

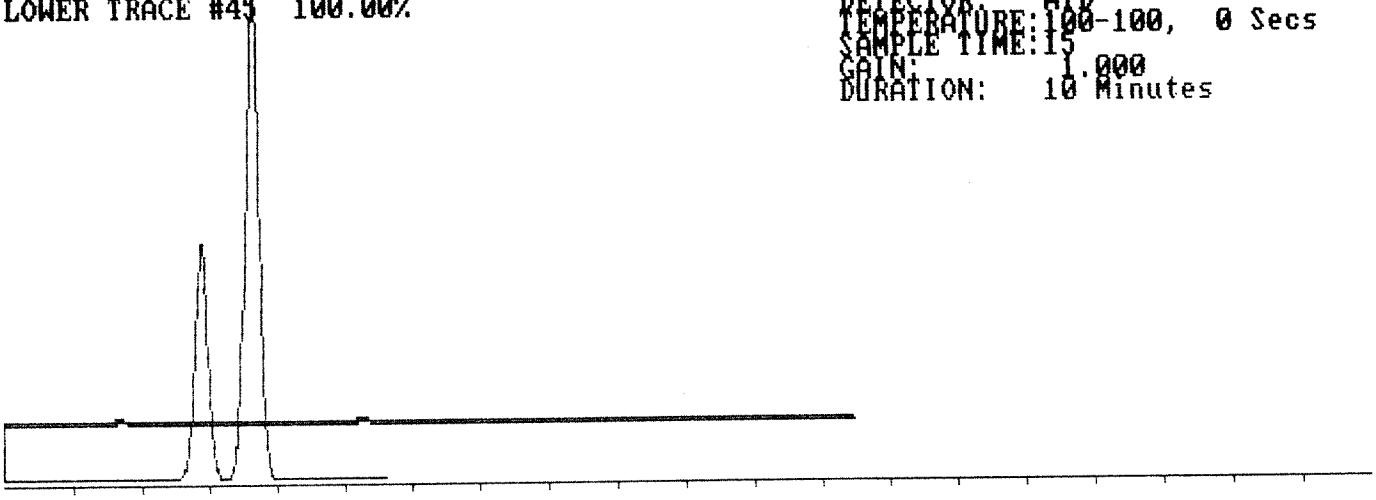
DETECTOR: AID

TEMPERATURE: 100-100, 0 Secs

SAMPLE TIME: 15

GAIN: 1.000

DURATION: 10 Minutes



SCENTOGRAPH TRACE PRINOUT

TRACE #54 DATE: Fri Sep 11 15:46:50 1992

CHANNEL: 1 NAME: GWMC-5

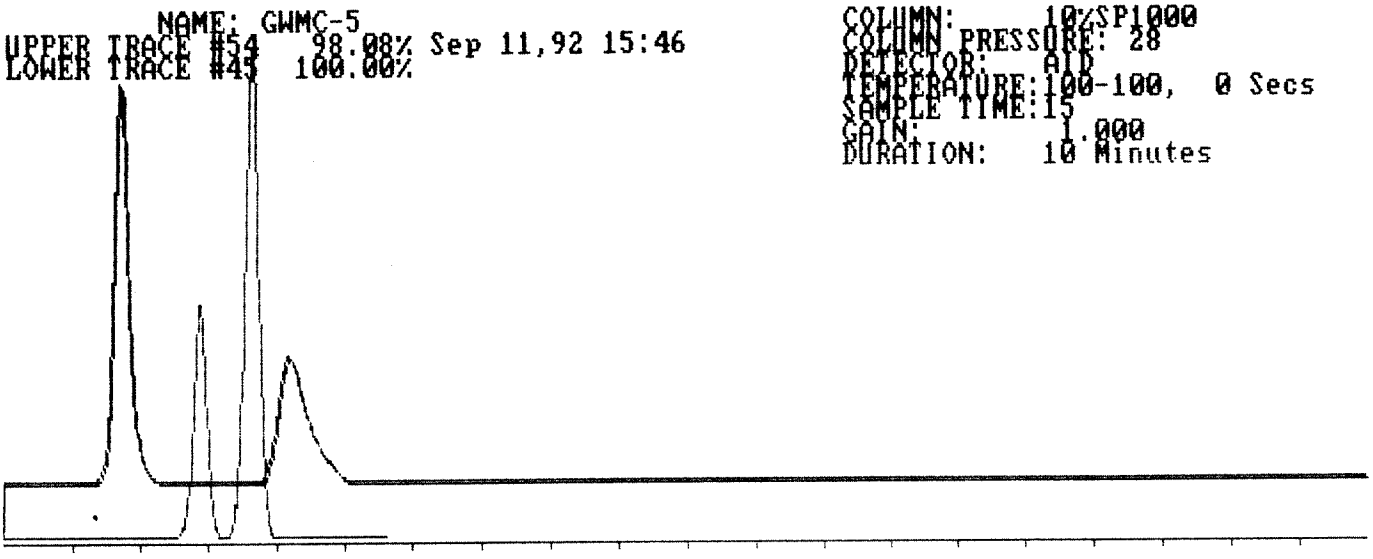
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	116	2183871	2.233 PPM
2	UNKNOWN	191	1446485	1.286 PPM

TOTAL AREA: 3630356



SCENTOGRAPH TRACE PRINOUT

TRACE #55 DATE: Fri Sep 11 16:59:35 1992

CHANNEL: 1 NAME: BTCE

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

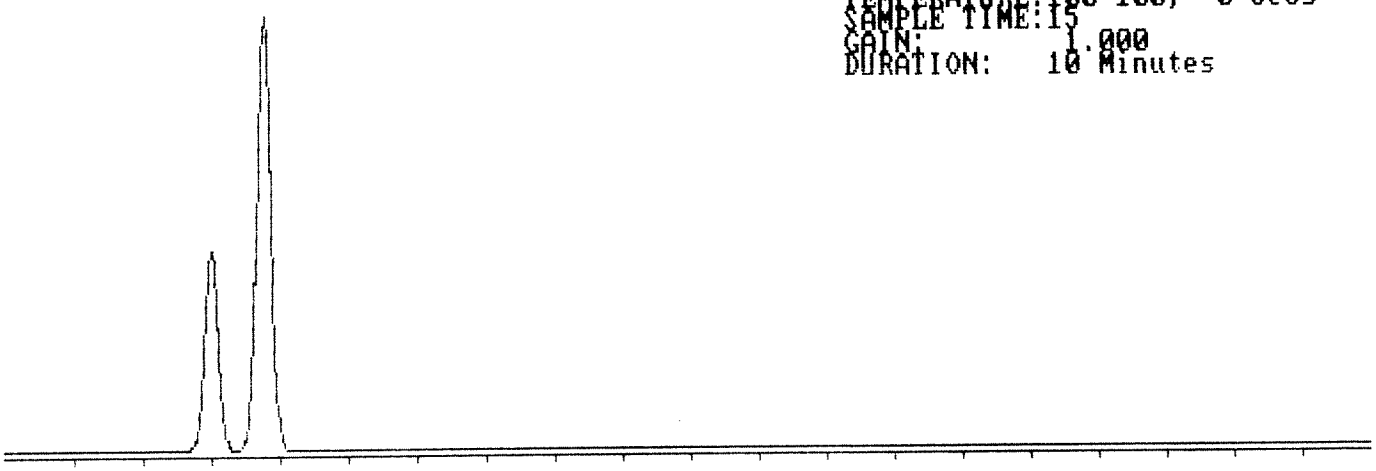
TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	BENZENE	155	995092	1.010 PPM
2	TCE	177	2312643	1.520 PPM

TOTAL AREA: 3307735

NAME: BTCE
TRACE #55 Sep 11,92 16:59

COLUMN: 10%SP1000
COLUMN PRESSURE: 28
DETECTOR: AID
TEMPERATURE: 100-100, 0 Secs
SAMPLE TIME: 15
GAIN: 1.000
DURATION: 10 Minutes



SCENTOGRAPH TRACE PRINOUT

TRACE #56 DATE: Fri Sep 11 17:11:48 1992

CHANNEL: 1 NAME: calblank

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	117	1528150	1.784 PPM
2	CL FORM#	192	882107	4.477 PPM

TOTAL AREA: 2410257

NAME: calblank

UPPER TRACE #56 22.87% Sep 11,92 17:11

LOWER TRACE #55 100.00%

COLUMN: 10%SP1000

COLUMN PRESSURE: 28

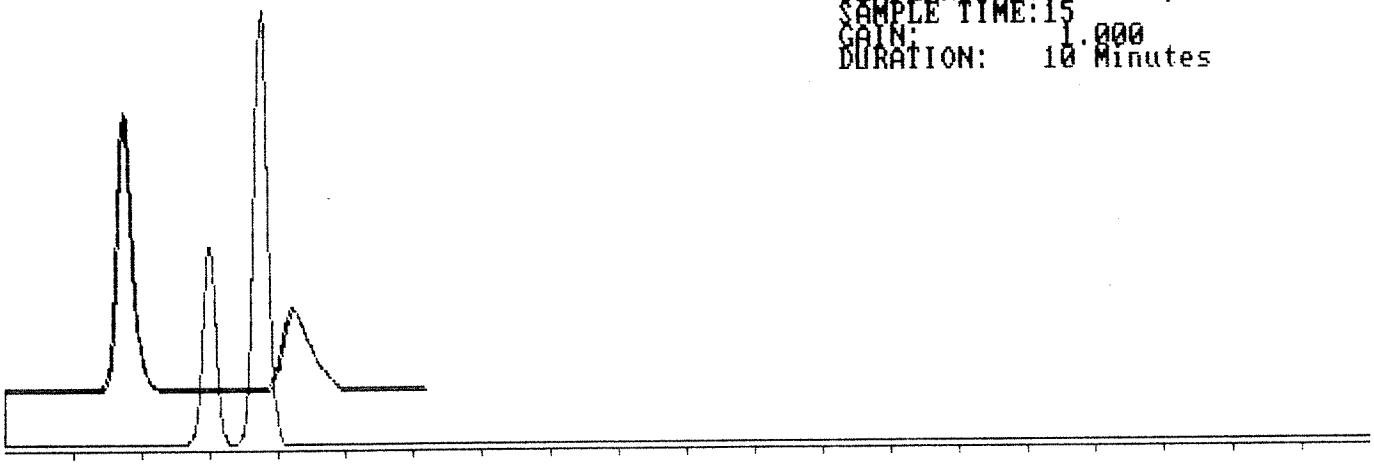
DETECTOR: AID

TEMPERATURE: 100-100, 0 Secs

SAMPLE TIME: 15

GAIN: 1.000

DURATION: 10 Minutes



SCENTOGRAPH TRACE PRINOUT

TRACE #57 DATE: Fri Sep 11 17:16:41 1992

CHANNEL: 1 NAME: calblank2

COLUMN: 10%SP1000 DETECTOR: AID

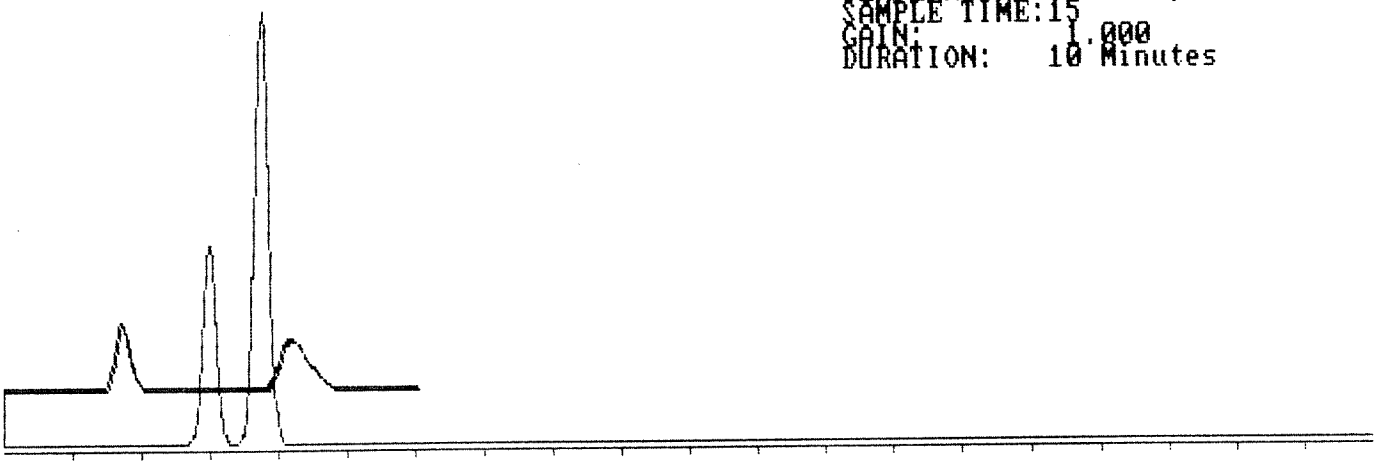
COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	117	330530	0.386 PPM
2	CL FORM#	191	511401	2.595 PPM
	TOTAL AREA:		841931	

NAME: calblank2
UPPER TRACE #57 25.45% Sep 11,92 17:16
LOWER TRACE #55 100.00%

COLUMN: 10%SP1000
COLUMN PRESSURE: 28
DETECTOR: AID
TEMPERATURE: 100-100, 0 Secs
SAMPLE TIME: 15
GAIN: 1.000
DURATION: 10 Minutes



SCENTOGRAPH TRACE PRINOUT

TRACE #58 DATE: Fri Sep 11 17:21:44 1992

CHANNEL: 1 NAME: calblank3

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

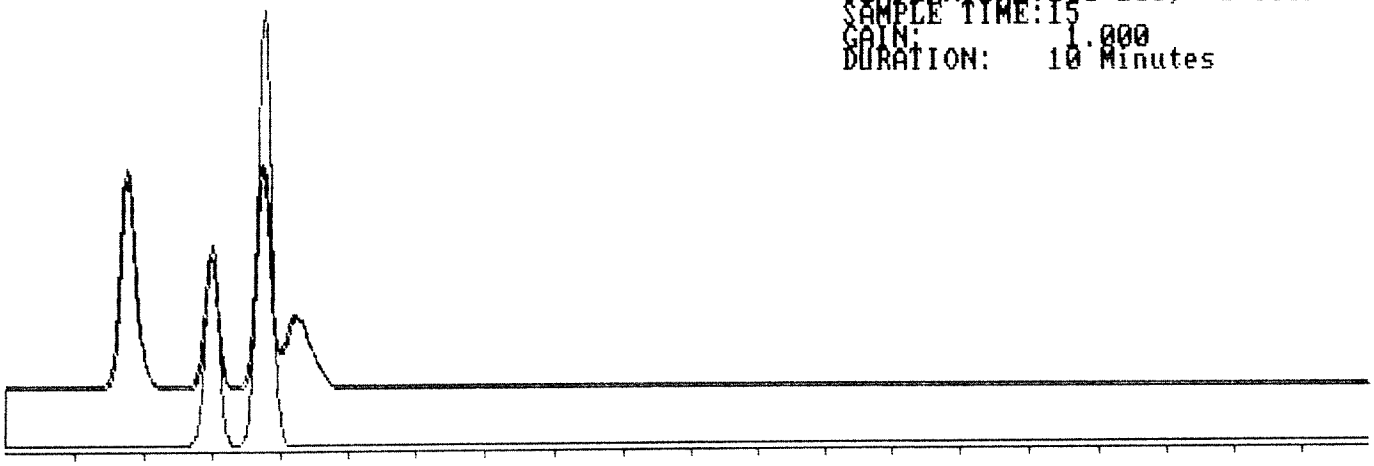
TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	118	1208031	1.410 PPM
2	BENZENE	155	664339	0.674 PPM
3	TCE	177	1239785	0.815 PPM
4	CL FORM#	192	658200	3.340 PPM

TOTAL AREA: 3770355

NAME: calblank3
UPPER TRACE #58 113.99% Sep 11,92 17:21
LOWER TRACE #55 100.00%

COLUMN: 10%SP1000
COLUMN PRESSURE: 28
DETECTOR: AID
TEMPERATURE: 100-100, 0 Secs
SAMPLE TIME: 15
GAIN: 1.000
DURATION: 10 Minutes



SCENTOGRAPH TRACE PRINOUT

TRACE #59 DATE: Fri Sep 11 17:52:46 1992

CHANNEL: 1 NAME: ambient

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	TOLUENE#	228	750525	0.609 PPM
	TOTAL AREA:		750525	

NAME: ambient

UPPER TRACE #59 22.69% Sep 11,92 17:52

LOWER TRACE #55 100.00%

COLUMN: 10%SP1000

COLUMN PRESSURE: 28

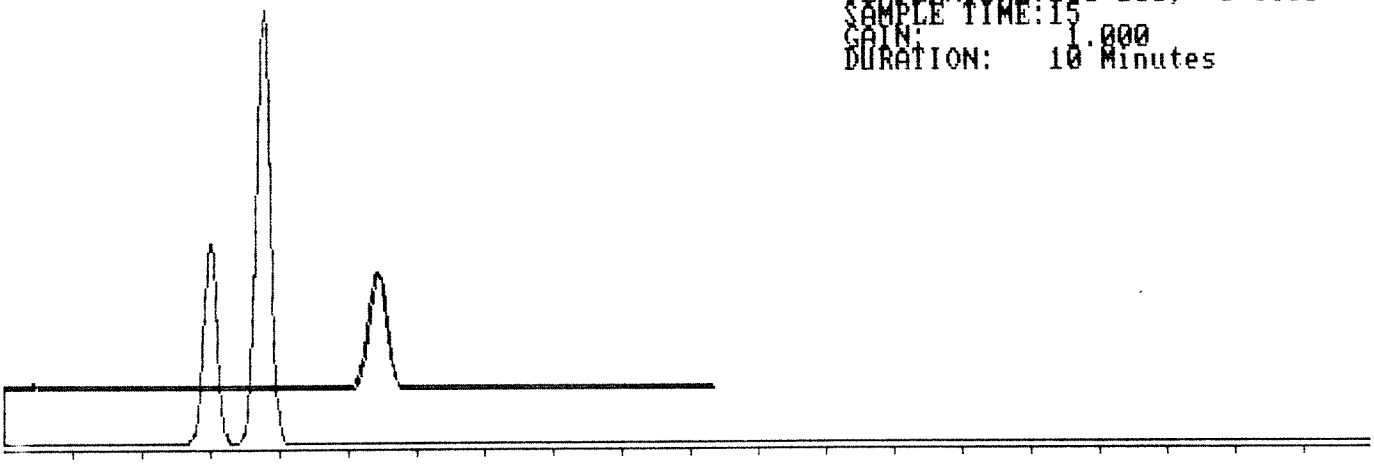
DETECTOR: AID

TEMPERATURE: 100-100, 0 Secs

SAMPLE TIME: 15

GAIN: 1.000

DURATION: 10 Minutes



SCENTOGRAPH TRACE PRINOUT

TRACE #60 DATE: Fri Sep 11 17:59:57 1992

CHANNEL: 1 NAME: calblank4

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

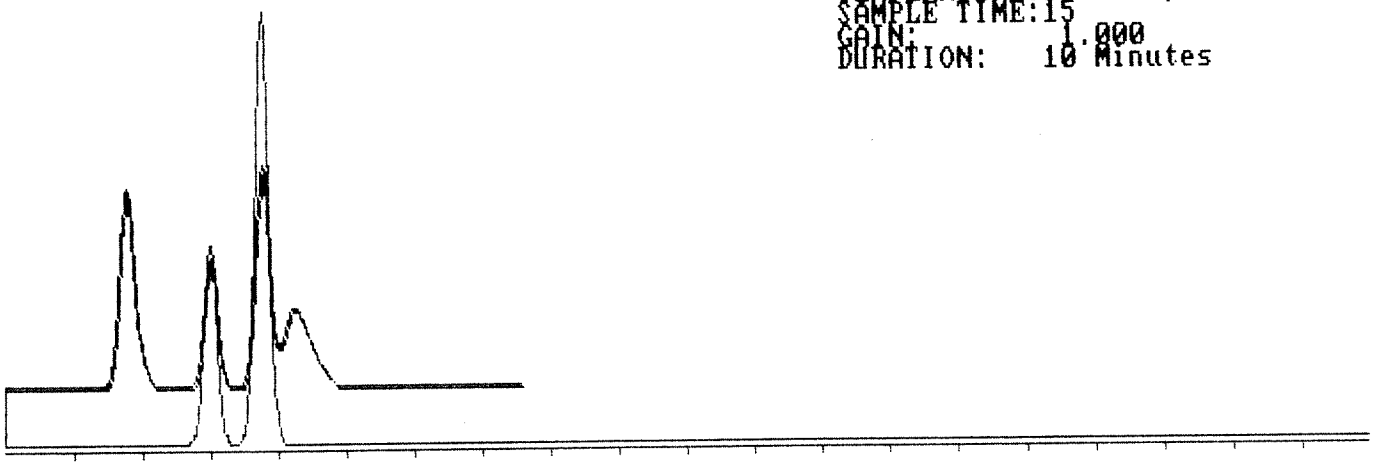
TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	118	1113703	1.300 PPM
2	BENZENE	156	646905	0.657 PPM
3	TCE	178	1238624	0.814 PPM
4	CL FORM#	193	790877	4.014 PPM

TOTAL AREA: 3790109

NAME: calblank4
UPPER TRACE #60 114.58% Sep 11,92 17:59
LOWER TRACE #55 100.00%

COLUMN: 10%SP1000
COLUMN PRESSURE: 28
DETECTOR: AID
TEMPERATURE: 100-100, 0 Secs
SAMPLE TIME: 15
GAIN: 1.000
DURATION: 10 Minutes



SCENTOGRAPH TRACE PRINOUT

TRACE #61 DATE: Fri Sep 11 18:05:46 1992

CHANNEL: 1 NAME: GWMC4

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	118	1120400	1.308 PPM
2	CL FORM#	193	744929	3.780 PPM

TOTAL AREA: 1865329

NAME: GWMC4

UPPER TRACE #61 56.39% Sep 11,92 18:05

LOWER TRACE #55 100.00%

COLUMN: 10%SP1000

COLUMN PRESSURE: 28

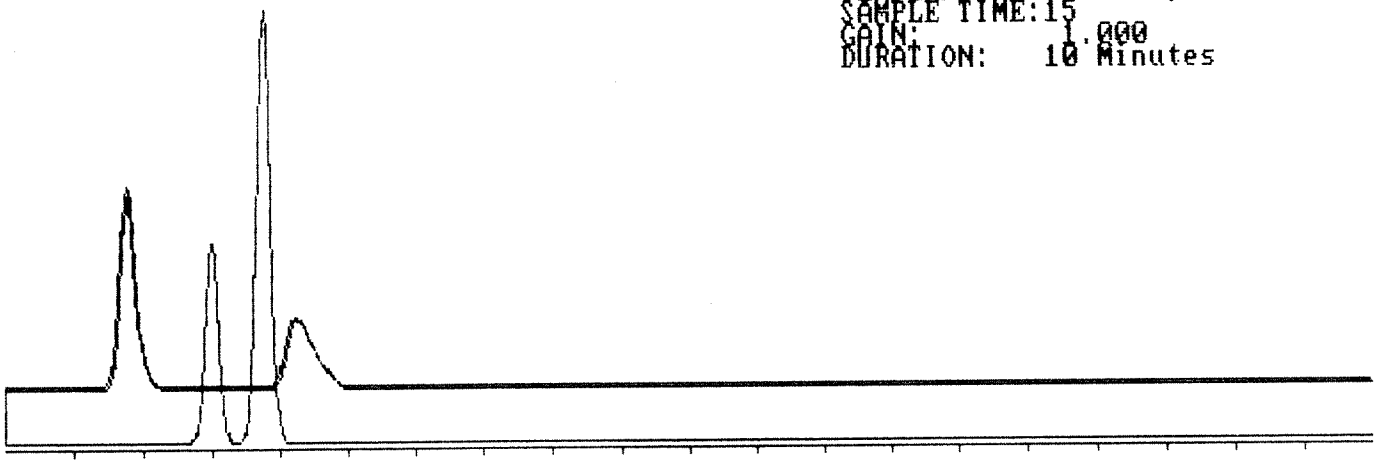
DETECTOR: AID

TEMPERATURE: 100-100, 0 Secs

SAMPLE TIME: 15

GAIN: 1.000

DURATION: 10 Minutes



SCENTOGRAPH TRACE PRINOUT

TRACE #62 DATE: Fri Sep 11 18:32:26 1992

CHANNEL: 1 NAME: GWMC3

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

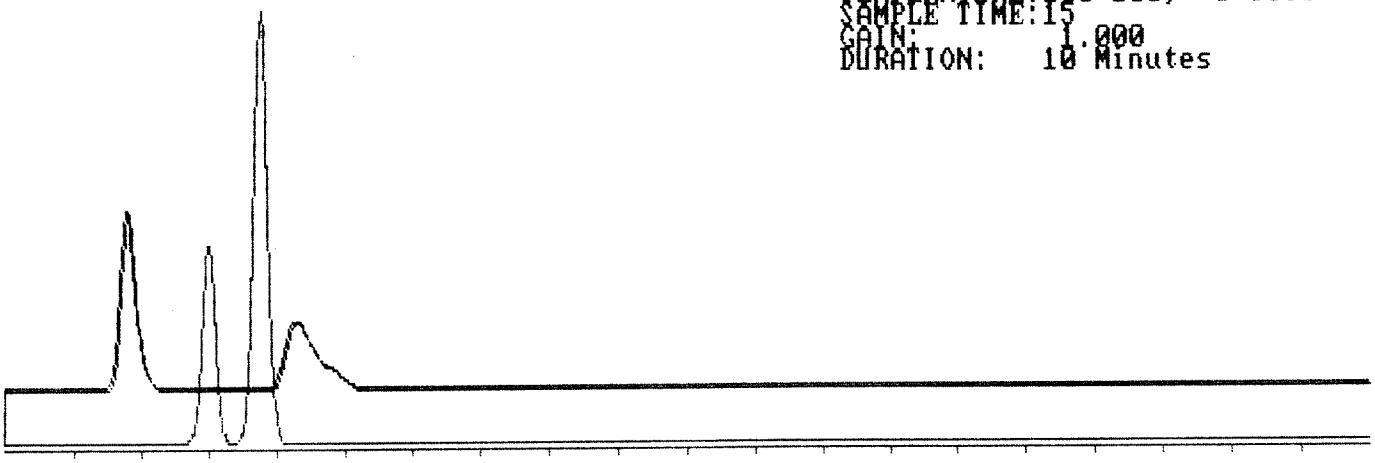
TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	119	1002178	1.170 PPM
2	CL FORM#	194	817184	4.147 PPM

TOTAL AREA: 1819362

NAME: GWMC3
UPPER TRACE #62 55.00% Sep 11,92 18:32
LOWER TRACE #55 100.00%

COLUMN: 10%SP1000
COLUMN PRESSURE: 28
DETECTOR: AID
TEMPERATURE: 100-100, 0 Secs
SAMPLE TIME: 15
GAIN: 1.000
DURATION: 10 Minutes



SCENTOGRAPH TRACE PRINOUT

TRACE #63 DATE: Fri Sep 11 18:44:37 1992

CHANNEL: 1 NAME: ambient

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	118	6442	0.008 PPM
2	TOLUENE#	229	24451	0.020 PPM
	TOTAL AREA:		30893	

NAME: ambient

UPPER TRACE #63 0.93% Sep 11,92 18:44

LOWER TRACE #55 100.00%

COLUMN: 10%SP1000

COLUMN PRESSURE: 28

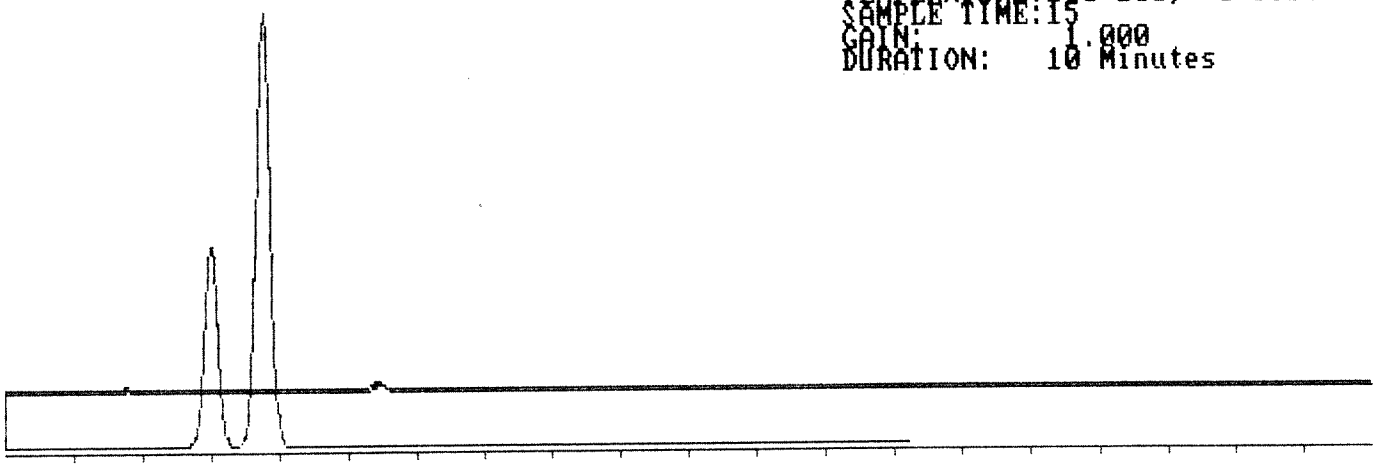
DETECTOR: AID

TEMPERATURE: 100-100, 0 Secs

SAMPLE TIME: 15

GAIN: 1.000

DURATION: 10 Minutes



SCENTOGRAPH TRACE PRINOUT

TRACE #64 DATE: Fri Sep 11 18:57:38 1992

CHANNEL: 1 NAME: GWMC-3DUP

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

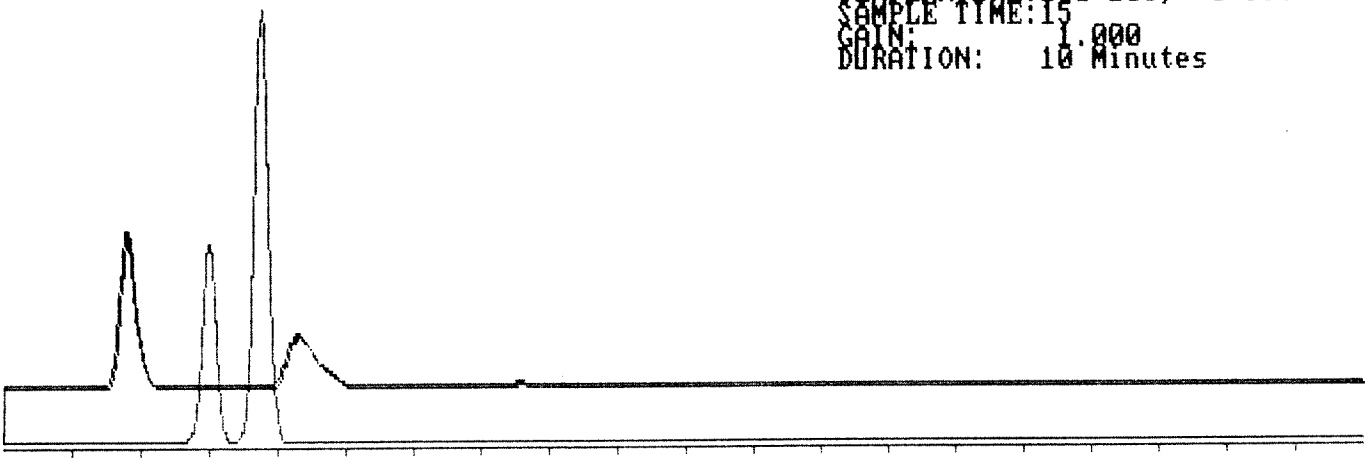
TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	119	877692	1.024 PPM
2	CL FORM#	194	575688	2.922 PPM
3	UNKNOWN	294	39748	0.040 PPM

TOTAL AREA: 1493128

NAME: GWMC-3DUP
UPPER TRACE #64 45.14% Sep 11,92 18:57
LOWER TRACE #55 100.00%

COLUMN: 10%SP1000
COLUMN PRESSURE: 28
DETECTOR: AID
TEMPERATURE: 100-100, 0 Secs
SAMPLE TIME: 15
GAIN: 1.000
DURATION: 10 Minutes



SCENTOGRAPH TRACE PRINOUT

TRACE #65 DATE: Fri Sep 11 19:17:42 1992

CHANNEL: 1 NAME: BTCE

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

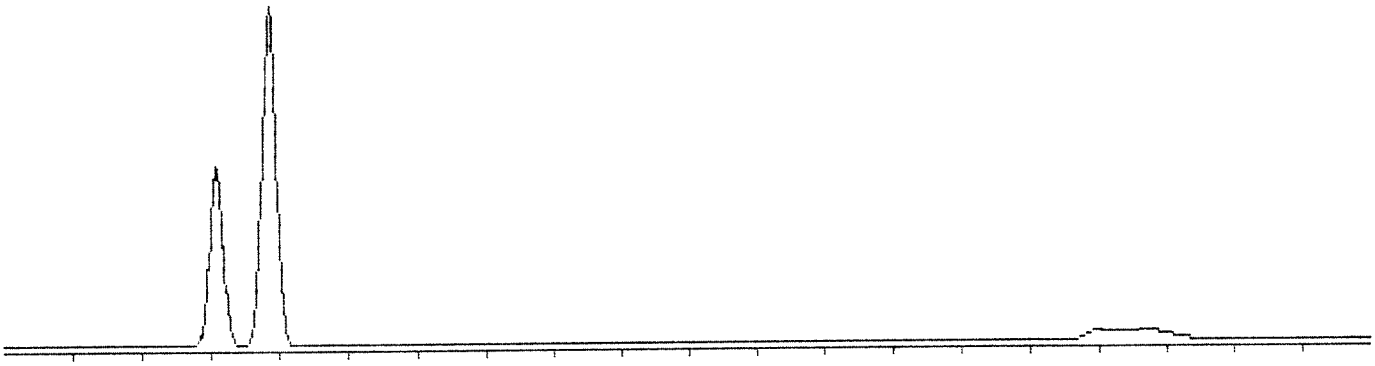
TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	BENZENE	157	903790	1.010 PPM
2	TCE	180	1833805	1.520 PPM
3	M-XYLENE	554	361522	0.000 PPM

TOTAL AREA: 3099117

NAME: BTCE
TRACE #65 Sep 11,92 19:17

COLUMN: 10%SP1000
COLUMN PRESSURE: 28
DETECTOR: AID
TEMPERATURE: 100-100, 0 Secs
SAMPLE TIME: 15
GAIN: 1.000
DURATION: 10 Minutes



SCENTOGRAPH TRACE PRINOUT

TRACE #66 DATE: Fri Sep 11 19:45:18 1992

CHANNEL: 1 NAME: GWMC-2

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

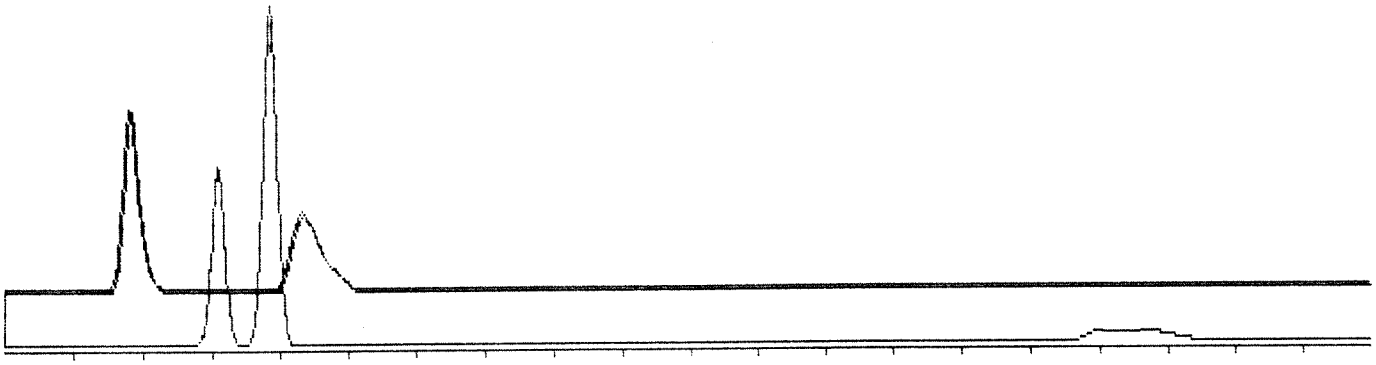
TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	120	1026438	1.319 PPM
2	CL FORM#	195	865532	4.836 PPM

TOTAL AREA: 1891970

NAME: GWMC-2
UPPER TRACE #66 61.05% Sep 11,92 19:45
LOWER TRACE #65 100.00%

COLUMN: 10%SP1000
COLUMN PRESSURE: 28
DETECTOR: AID
TEMPERATURE: 100-100, 0 Secs
SAMPLE TIME: 15
GAIN: 1.000
DURATION: 10 Minutes



SCENTOGRAPH TRACE PRINOUT

TRACE #67 DATE: Fri Sep 11 20:15:09 1992

CHANNEL: 1 NAME: GWMC-1

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

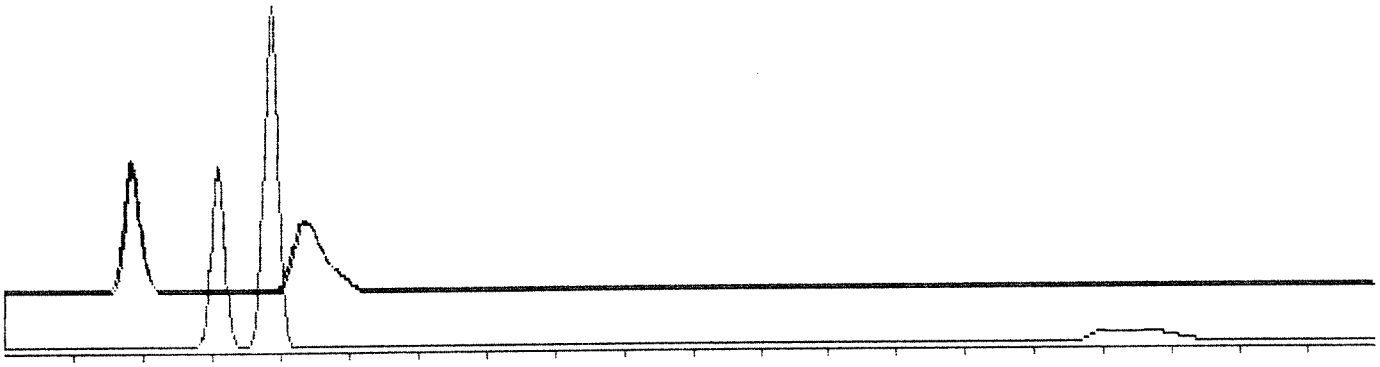
TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	120	716680	0.921 PPM
2	CL FORM#	196	828723	4.631 PPM

TOTAL AREA: 1545403

NAME: GWMC-1
UPPER TRACE #67 49.87% Sep 11,92 20:15
LOWER TRACE #65 100.00%

COLUMN: 10%SP1000
COLUMN PRESSURE: 28
DETECTOR: AID
TEMPERATURE: 100-100, 0 Secs
SAMPLE TIME: 15
GAIN: 1.000
DURATION: 10 Minutes



SCENTOGRAPH TRACE PRINOUT

TRACE #68 DATE: Sat Sep 12 10:35:13 1992

CHANNEL: 1 NAME: BTCE

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

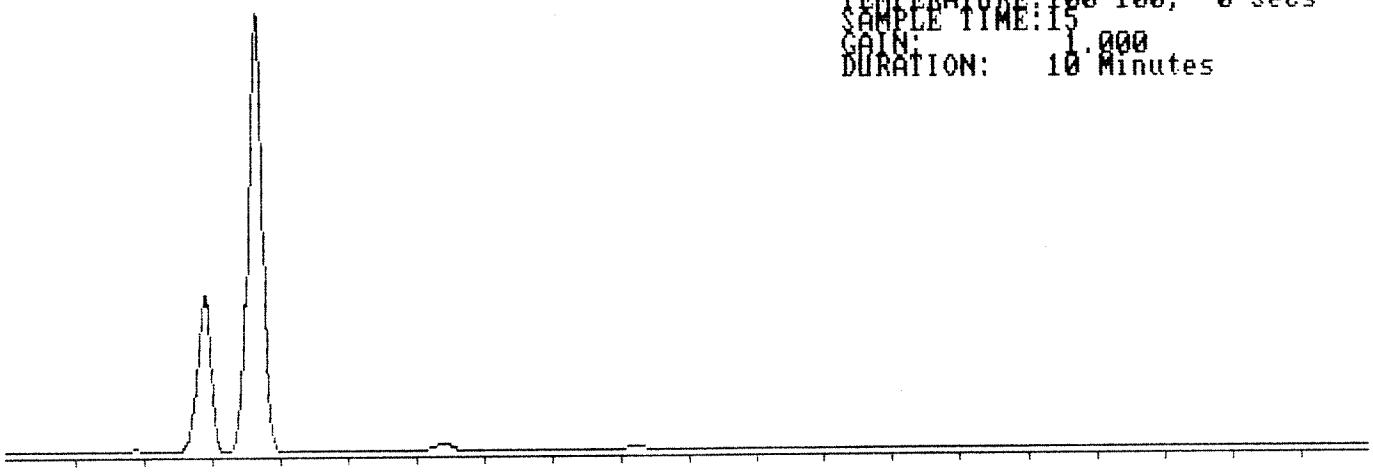
TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	BENZENE	122	5954	1.010 PPM
2	TCE	151	770064	1.520 PPM
3	M-XYLENE	173	2323358	0.000 PPM
4		257	104285	0.000 PPM

TOTAL AREA: 3203661

NAME: BTCE
TRACE #68 Sep 12,92 10:35

COLUMN: 10%SP1000
COLUMN PRESSURE: 28
DETECTOR: AID
TEMPERATURE: 100-100, 0 Secs
SAMPLE TIME: 15
GAIN: 1.000
DURATION: 10 Minutes



SCENTOGRAPH TRACE PRINOUT

TRACE #69 DATE: Sat Sep 12 11:06:38 1992

CHANNEL: 1 NAME: GWMC-33

COLUMN: 10%SP1000 DETECTOR: AID

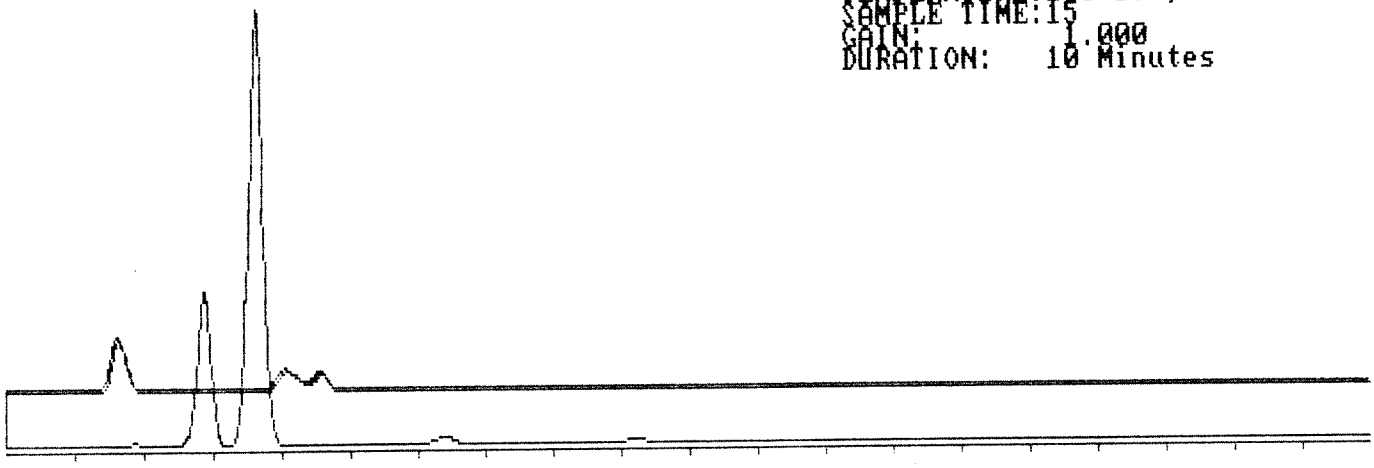
COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	UNKNOWN	114	264359	44.844 PPM
2	TOLUENE#	187	146428	19.871 PPM
3	UNKNOWN	203	84670	14.363 PPM
	TOTAL AREA:		495457	

NAME: GWMC-33
UPPER TRACE #69 15.30% Sep 12,92 11:06
LOWER TRACE #68 100.00%

COLUMN: 10%SP1000
COLUMN PRESSURE: 28
DETECTOR: AID
TEMPERATURE: 100-100, 0 Secs
SAMPLE TIME: 15
GAIN: 1.000
DURATION: 10 Minutes



SCENTOGRAPH TRACE PRINOUT

TRACE #70 DATE: Sat Sep 12 11:43:55 1992

CHANNEL: 1 NAME: ambient

COLUMN: 10%SP1000 DETECTOR: AID

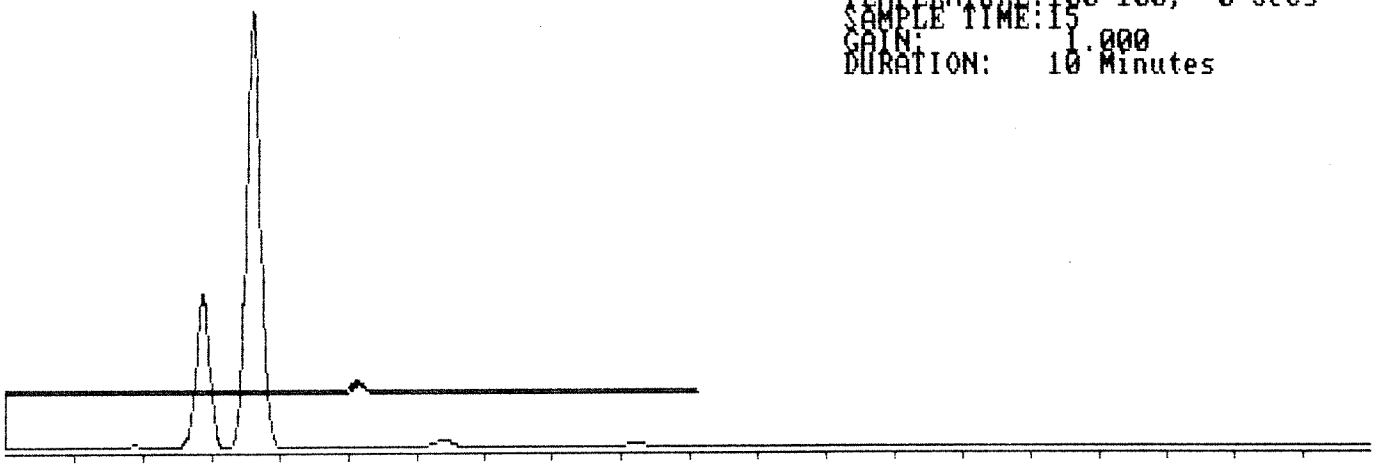
COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	UNKNOWN	220	36292	6.156 PPM
	TOTAL AREA:		36292	

NAME: ambient
UPPER TRACE #70 1.12% Sep 12,92 11:43
LOWER TRACE #68 100.00%

COLUMN: 10%SP1000
COLUMN PRESSURE: 28
DETECTOR: AID
TEMPERATURE: 100-100, 0 Secs
SAMPLE TIME: 15
GAIN: 1.000
DURATION: 10 Minutes



SCENTOGRAPH TRACE PRINOUT

TRACE #71 DATE: Sat Sep 12 11:51:28 1992

CHANNEL: 1 NAME: BTCE

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

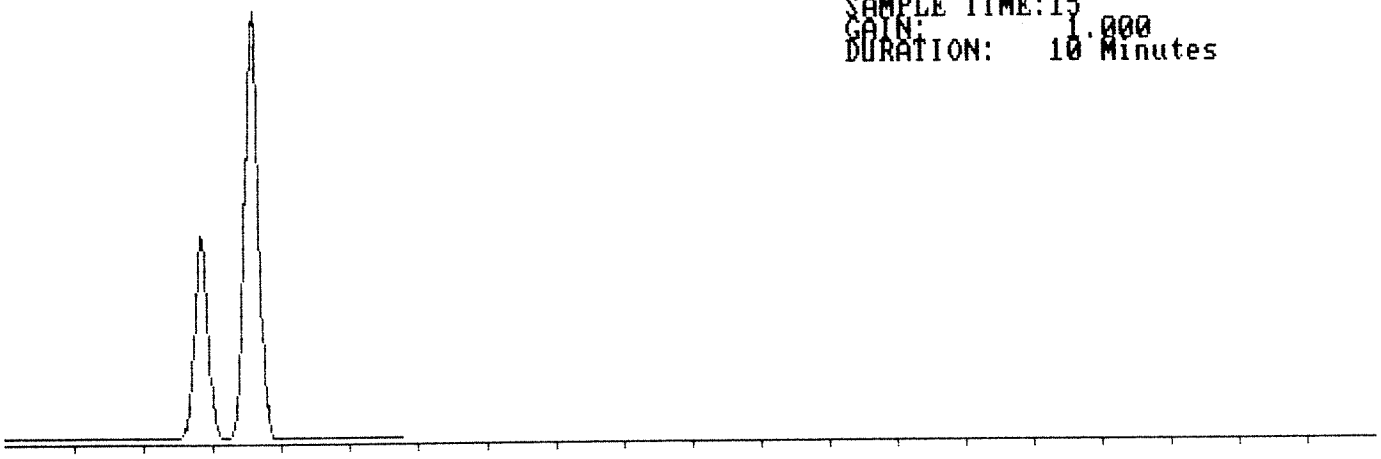
TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	BENZENE	150	975979	1.010 PPM
2	TCE	172	2216832	1.520 PPM

TOTAL AREA: 3192811

NAME: BTCE
TRACE #71 Sep 12,92 11:51

COLUMN: 10%SP1000
COLUMN PRESSURE: 28
DETECTOR: AID
TEMPERATURE: 100-100, 0 Secs
SAMPLE TIME: 15
GAIN: 1.000
DURATION: 10 Minutes



SCENTOGRAPH TRACE PRINOUT

TRACE #72 DATE: Sat Sep 12 11:56:01 1992

CHANNEL: 1 NAME: GWMC-33

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	114	350686	0.417 PPM
2	CL FORM#	186	242872	1.257 PPM
3	1122 TCA#	201	43533	0.036 PPM
	TOTAL AREA:		637091	

NAME: GWMC-33

UPPER TRACE #72 19.95% Sep 12,92 11:56

LOWER TRACE #71 100.00%

COLUMN: 10%SP1000

COLUMN PRESSURE: 28

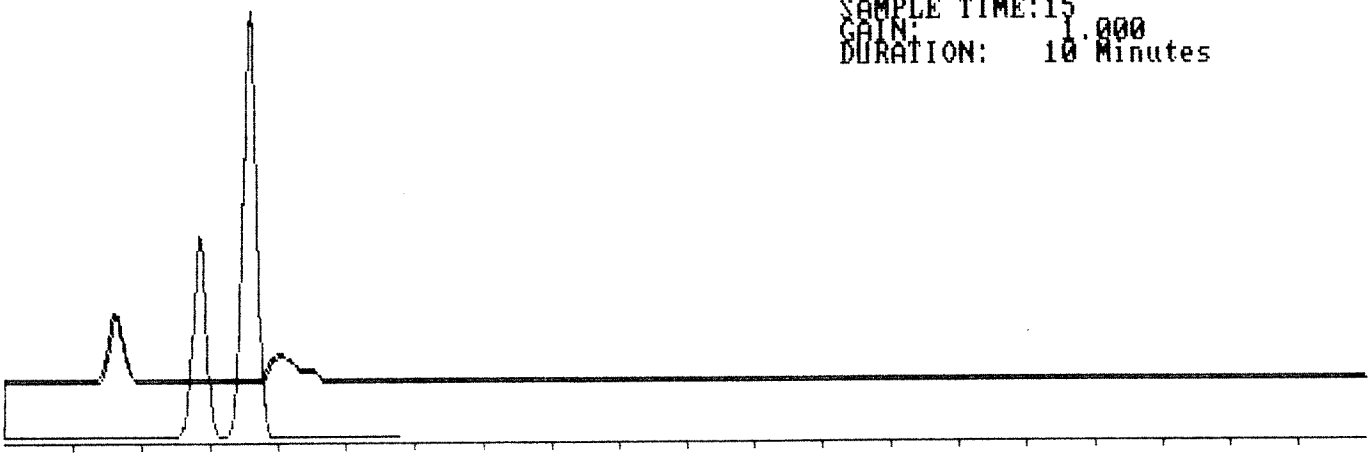
DETECTOR: AID

TEMPERATURE: 100-100, 0 Secs

SAMPLE TIME: 15

GAIN: 1.000

DURATION: 10 Minutes



SCENTOGRAPH TRACE PRINOUT

TRACE #73 DATE: Sat Sep 12 12:20:03 1992

CHANNEL: 1 NAME: GWMC-33DUP

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	114	281193	0.335 PPM
2	CL FORM#	187	148946	0.771 PPM
3	1122 TCA#	202	87899	0.073 PPM
	TOTAL AREA:		518038	

NAME: GWMC-33DUP

UPPER TRACE #73 16.23% Sep 12,92 12:20

LOWER TRACE #71 100.00%

COLUMN: 10%SP1000

COLUMN PRESSURE: 28

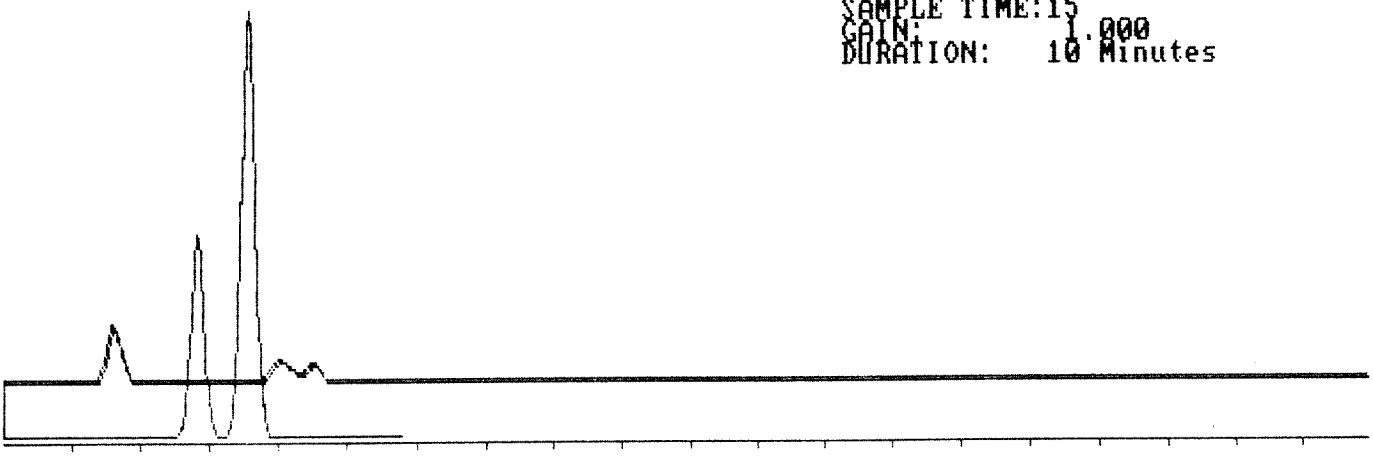
DETECTOR: AID

TEMPERATURE: 100-100, 0 Secs

SAMPLE TIME: 15

GAIN: 1.000

DURATION: 10 Minutes



SCENTOGRAPH TRACE PRINOUT

TRACE #74 DATE: Sat Sep 12 12:31:49 1992

CHANNEL: 1 NAME: CALBLANK5

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

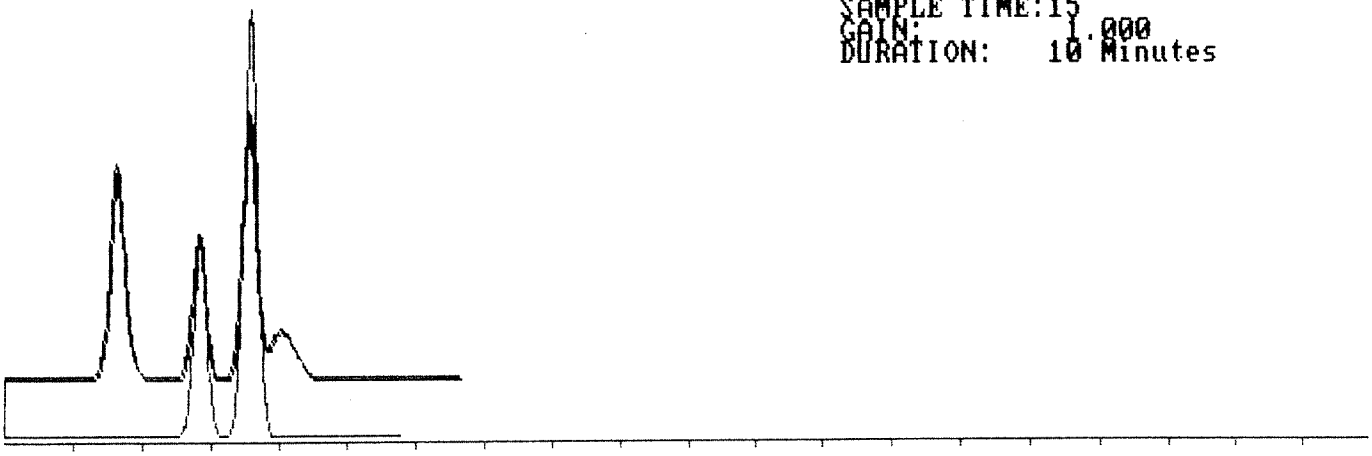
TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	114	1151863	1.371 PPM
2	BENZENE	150	721298	0.746 PPM
3	TCE	172	1464718	1.004 PPM
4	CL FORM#	186	400246	2.071 PPM

TOTAL AREA: 3738125

NAME: CALBLANK5
UPPER TRACE #74 117.08% Sep 12,92 12:31
LOWER TRACE #71 100.00%

COLUMN: 10%SP1000
COLUMN PRESSURE: 28
DETECTOR: AID
TEMPERATURE: 100-100, 0 Secs
SAMPLE TIME: 15
GAIN: 1.000
DURATION: 10 Minutes



SCENTOGRAPH TRACE PRINOUT

TRACE #75 DATE: Sat Sep 12 12:36:48 1992

CHANNEL: 1 NAME: GWMC-35

COLUMN: 10%SP1000 DETECTOR: AID

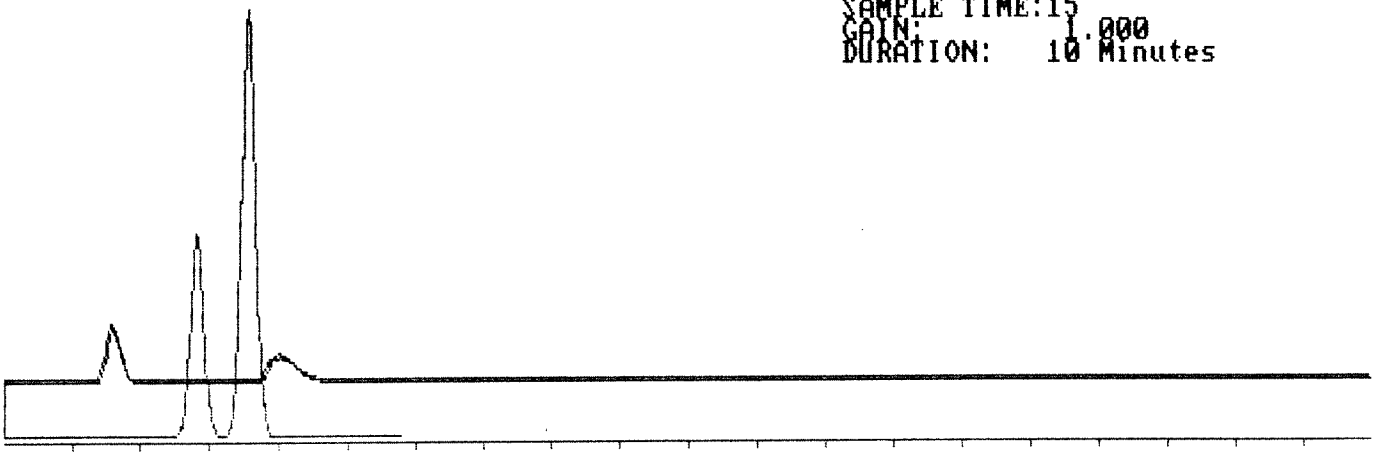
COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	114	275896	0.328 PPM
2	CL FORM#	186	251058	1.299 PPM
	TOTAL AREA:		526954	

NAME: GWMC-35
UPPER TRACE #75 16.50% Sep 12,92 12:36
LOWER TRACE #71 100.00%

COLUMN: 10%SP1000
COLUMN PRESSURE: 28
DETECTOR: AID
TEMPERATURE: 100-100, 0 Secs
SAMPLE TIME: 15
GAIN: 1.000
DURATION: 10 Minutes



SCENTOGRAPH TRACE PRINOUT

TRACE #76 DATE: Sat Sep 12 13:07:25 1992

CHANNEL: 1 NAME: GWMC-24

COLUMN: 10%SP1000 DETECTOR: AID

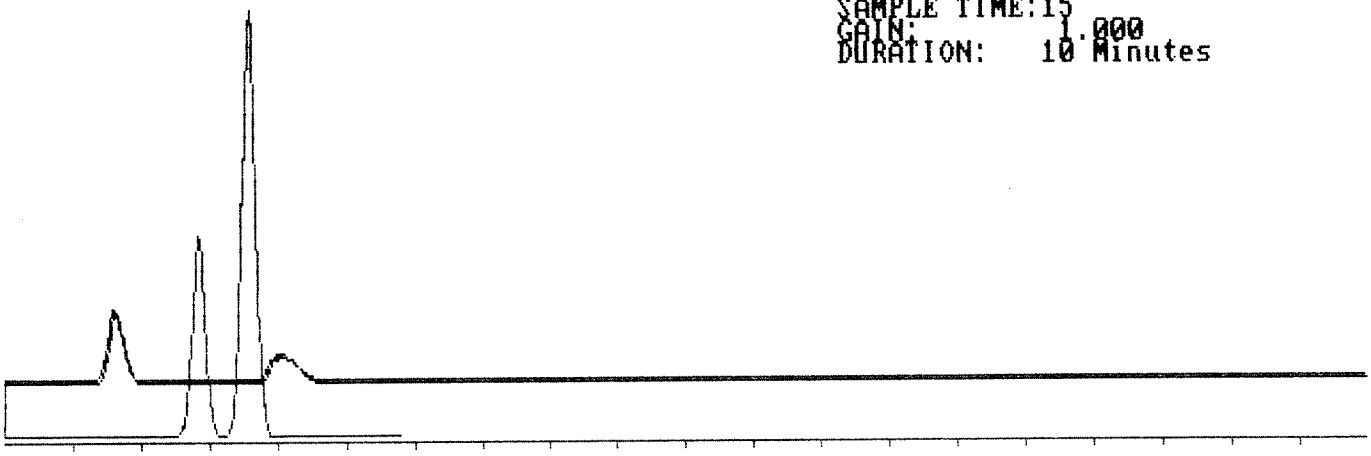
COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	114	375588	0.447 PPM
2	CL FORM#	187	250097	1.294 PPM
	TOTAL AREA:		625685	

NAME: GWMC-24
UPPER TRACE #76 19.60% Sep 12,92 13:07
LOWER TRACE #71 100.00%

COLUMN: 10%SP1000
COLUMN PRESSURE: 28
DETECTOR: AID
TEMPERATURE: 100-100, 0 Secs
SAMPLE TIME: 15
GAIN: 1.000
DURATION: 10 Minutes



SCENTOGRAPH TRACE PRINOUT

TRACE #77 DATE: Sat Sep 12 13:38:32 1992

CHANNEL: 1 NAME: GWMC-25

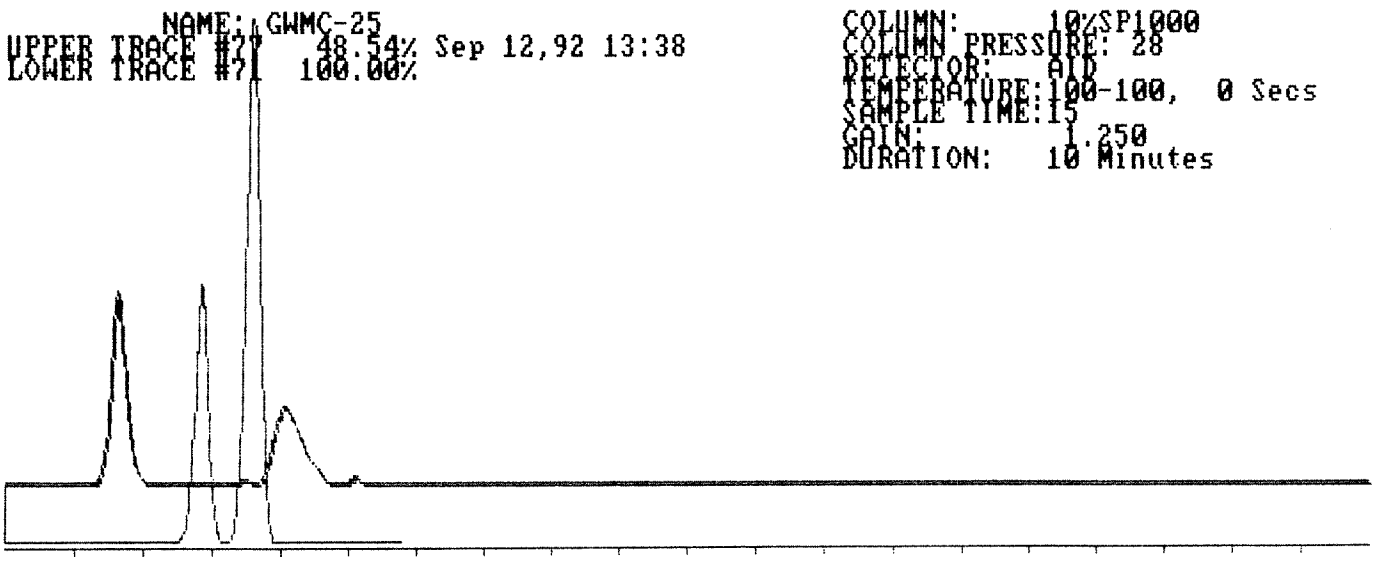
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	114	839339	0.999 PPM
2	TCE	169	34302	0.024 PPM
3	CL FORM#	187	657806	3.404 PPM
4	TOLUENE#	219	18472	0.015 PPM

TOTAL AREA: 1549919



SCENTOGRAPH TRACE PRINOUT

TRACE #78 DATE: Sat Sep 12 14:06:48 1992

CHANNEL: 1 NAME: GWMC-16

COLUMN: 10%SP1000 DETECTOR: AID

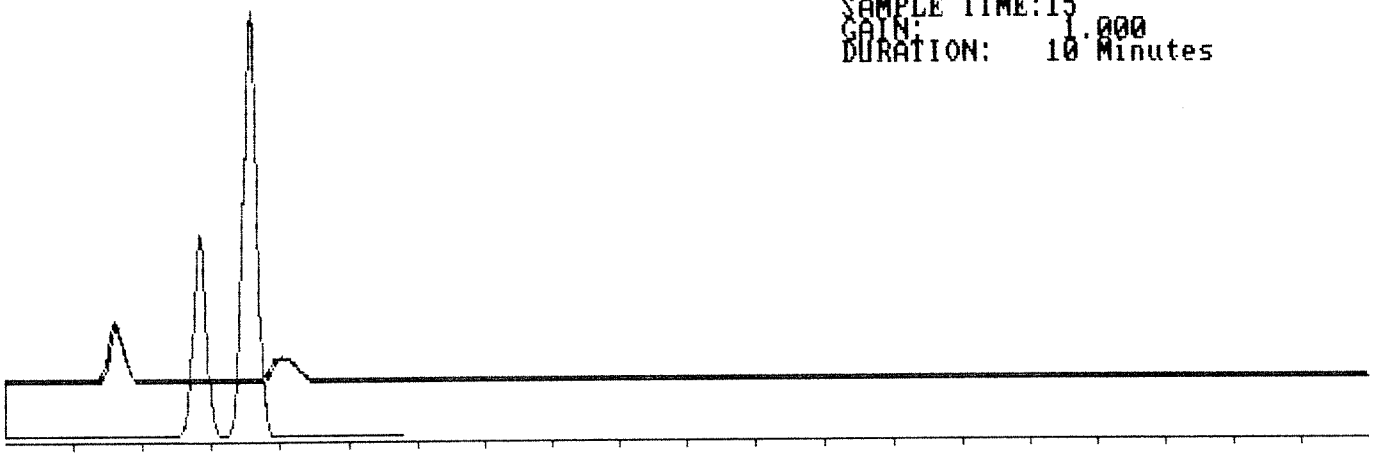
COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	114	286015	0.340 PPM
2	CL FORM#	187	195754	1.013 PPM
	TOTAL AREA:		481769	

NAME: GWMC-16
UPPER TRACE #78 15.09% Sep 12,92 14:06
LOWER TRACE #71 100.00%

COLUMN: 10%SP1000
COLUMN PRESSURE: 28
DETECTOR: AID
TEMPERATURE: 100-100, 0 Secs
SAMPLE TIME: 15
GAIN: 1.000
DURATION: 10 Minutes



SCENTOGRAPH TRACE PRINOUT

TRACE #79 DATE: Sat Sep 12 14:18:29 1992

CHANNEL: 1 NAME: GWMC-16DUP

COLUMN: 10%SP1000 DETECTOR: AID

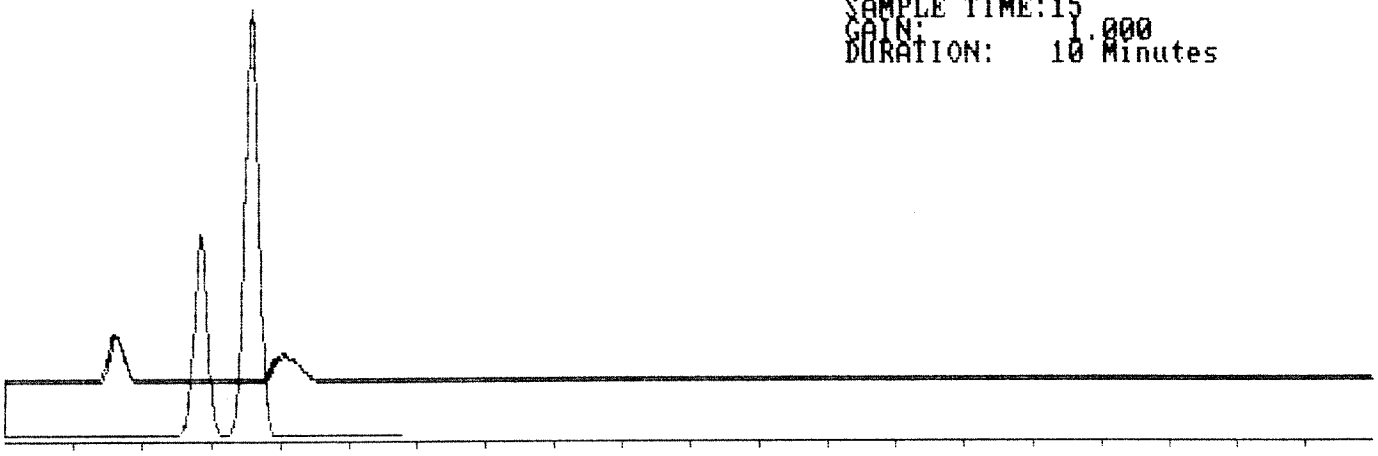
COLUMN PRESSURE: 28

TEMPERATURE: 100 INHIBIT TIME: 65 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	CARB TET#	114	236283	0.281 PPM
2	CL FORM#	187	243457	1.260 PPM
	TOTAL AREA:		479740	

NAME: GWMC-16DUP
UPPER TRACE #79 15.03% Sep 12,92 14:18
LOWER TRACE #71 100.00%

COLUMN: 10%SP1000
COLUMN PRESSURE: 28
DETECTOR: AID
TEMPERATURE: 100-100, 0 Secs
SAMPLE TIME: 15
GAIN: 1.000
DURATION: 10 Minutes



APPENDIX B

Great Western Malting
Ground Water Sample Results
September 2–3, 1992

State of Washington Department of Ecology
Manchester Environmental Laboratory
7411 Beach Dr. East Port Orchard WA. 98366

Data Review
September 25, 1992

Project:	**Great Western Malting**
Sample:	368080 through 368089
Laboratory:	Pacific Northwest Environmental Laboratory, Inc. 4337
By:	Karin Feddersen KF
Through	Stuart Magoon SM

Case Summary

These samples were received at the Manchester Environmental Laboratory on September 4, 1992, and transported to Pacific Northwest Environmental Laboratory, Inc. on September 4, 1992 for volatile organic analysis.

These analyses were reviewed for qualitative and quantitative accuracy, validity, and usefulness.

There is no need to assimilate the "dilution factor" or "sample wt/vol" into the final values reported; these calculations have already been figured into the reported values.

Where the term "EPA SAMPLE NO." appears, take this to mean DOE Laboratory number. These forms are from the SOW for the U.S. EPA CLP and any reference to the EPA is unintentional.

DATA QUALIFIER DEFINITIONS

U - The analyte was not detected at or above the reported result.

UJ - The analyte was not detected at or above the reported estimated result.

J - The associated numerical result is an estimated quantity.

NJ - There is evidence that the analyte is present. The associated numerical result is an estimate.

Volatiles

Holding Times:

These samples were analyzed within the SW-846 recommended holding time.

Method Blanks:

Methylene chloride was detected at 8 ug/L in the method blank (VBLKAS) corresponding to the samples and the matrix spike duplicate, and acetone was detected at 3 ug/L.
Methylene chloride and acetone were also detected in the samples at varying concentrations, all low. Therefore, the methylene chloride and acetone detected in these samples is most likely due to laboratory contamination and not native to the samples. All sample results for methylene chloride and acetone have been changed (qualifier "U") to indicate that methylene chloride and acetone were not detected at or above the reported result.

A second method blank was analyzed for the matrix spike only. Methylene chloride was detected in this method blank (VBLKAT) at 3 ug/L. Methylene chloride was detected in the matrix spike at 1 ug/L, well below the quantitation limit. The result for methylene chloride has therefore been changed (qualifier "U") to indicate that methylene chloride was not detected at or above the reported result.

GC/MS Tuning and Calibration:

Calibration against Bromofluorobenzene (BFB) is acceptable for the initial calibration, continuing calibration and all associated sample analyses.

Initial Calibration:

The initial calibration met the minimum response criteria of greater than 0.05 for the average relative response. The % Relative Standard Deviation for each analyte was within the maximum of 30%.

Continuing Calibration:

The average relative response factor for all the target analytes were all above the minimums, and the percent deviation between the initial and continuing calibration standards was within the maximum of 25%, with several exceptions, none of which affected the target analytes detected.

Surrogates:

All surrogate recoveries for this sample and the associated method blank, are reasonable, acceptable, and within QC limits.

Volatiles (cont.)

Matrix Spikes (MS/MSD):

Matrix spike recovery and precision data are reasonable, acceptable, and within QC limits.

Sample Data:

These results are acceptable for use as amended.

ETC / NatEx
Pacific Northwest Environmental Laboratory, Inc.
6645 - 185th Avenue NE, Suite 100
Redmond, WA 98052
(206) 885-0083
FAX (206) 883-8528

Stuart Magoon
WDOE
7411 Beach Drive East
Port Orchard, WA 98366

September 22, 1992

NARRATIVE FOR PNELI 4337

Enclosed are the analytical results for the samples received on September 4, 1992 of the ~~GT~~ Great KF Western Malting project. The samples were received as follows:

CLIENT ID	PNELI ID	DATE COLLECTED
368080	4337-01	09-02-92
368081	4337-02	09-02-92
368082	4337-03	09-02-92
368083	4337-04	09-02-92
368084	4337-05	09-02-92
368085	4337-06	09-03-92
368086	4337-07	09-03-92
368087	4337-08	09-03-92
368088	4337-09	09-03-92
368089	4337-10	09-03-92

Listed below are anomalies and narratives associated with the receipt and/or analysis of these samples.

Sample Receiving

All sample numbers on the Chain-of-Custody had eight characters with a prefix of "92". However, the sample numbers on the sample labels and tags listed the sample numbers without the "92" prefix. The samples were processed without the "92" prefix.

Pam Covey of WDOE was notified verbally of the above sample receiving anomalies.

Volatiles by GC/MS Method 8240, Test Methods for Evaluating Solid Waste, United States Environmental Protection Agency, SW-846, 3rd Ed., 1986.

There were no anomalies associated with the analysis of these samples and their associated QC.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designee, as verified by the following signature.

Sincerely,

Enclosures

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

368080

Lab Name: PNELI Contract: GTWESTMALT

Lab Code: PNELI Case No.: 4337 SAS No.: SDG No.: 368080

Matrix: (soil/water) WATER Lab Sample ID: 4337-01

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A1951

Level: (low/med) LOW Date Received: 09/04/92

% Moisture: not dec. Date Analyzed: 09/08/92

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	~~B~~ U KF
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	1	J
156-60-5	trans-1,2-Dichloroethene	1	J
156-59-2	cis-1,2-Dichloroethene	8	
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	7	
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	80	
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	11	
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

368080

Lab Name: PNELI Contract: GTWESTMALT

Lab Code: PNELI Case No.: 4337 SAS No.: SDG No.: 368080

Matrix: (soil/water) WATER Lab Sample ID: 4337-01

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A1951

Level: (low/med) LOW Date Received: 09/04/92

% Moisture: not dec. Date Analyzed: 09/08/92

Column (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

368081

Lab Name: PNELI Contract: GTWESTMALT

Lab Code: PNELI Case No.: 4337 SAS No.: _____ SDG No.: 368080

Matrix: (soil/water) WATER Lab Sample ID: 4337-02

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A1952

Level: (low/med) LOW Date Received: 09/04/92

% Moisture: not dec. ____ Date Analyzed: 09/08/92

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q	
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	U	
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	5 ~~B~~	~~B~~ U	KF
67-64-1	Acetone	10	U	
75-15-0	Carbon Disulfide	5	U	
75-35-4	1,1-Dichloroethene	5	U	
75-34-3	1,1-Dichloroethane	1	J	
156-60-5	trans-1,2-Dichloroethene	1	J	
156-59-2	cis-1,2-Dichloroethene	8		
67-66-3	Chloroform	5	U	
107-06-2	1,2-Dichloroethane	5	U	
78-93-3	2-Butanone	10	U	
71-55-6	1,1,1-Trichloroethane	8		
56-23-5	Carbon Tetrachloride	5	U	
108-05-4	Vinyl Acetate	10	U	
75-27-4	Bromodichloromethane	5	U	
78-87-5	1,2-Dichloropropane	5	U	
10061-01-5	cis-1,3-Dichloropropene	5	U	
79-01-6	Trichloroethene	82		
124-48-1	Dibromochloromethane	5	U	
79-00-5	1,1,2-Trichloroethane	5	U	
71-43-2	Benzene	5	U	
10061-02-6	trans-1,3-Dichloropropene	5	U	
75-25-2	Bromoform	5	U	
108-10-1	4-Methyl-2-Pentanone	10	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	12		
79-34-5	1,1,2,2-Tetrachloroethane	5	U	
108-88-3	Toluene	5	U	
108-90-7	Chlorobenzene	5	U	
100-41-4	Ethylbenzene	5	U	
100-42-5	Styrene	5	U	
1330-20-7	Xylene (total)	5	U	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

368081

Lab Name: PNELI Contract: GTWESTMALT

Lab Code: PNELI Case No.: 4337 SAS No.: _____ SDG No.: 368080

Matrix: (soil/water) WATER Lab Sample ID: 4337-02

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A1952

Level: (low/med) LOW Date Received: 09/04/92

% Moisture: not dec. ____ Date Analyzed: 09/08/92

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 556672	Cyclotetrasiloxane, octameth	13.25	3.0	~~JN~~ NJ

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

368082

Lab Name: PNELI Contract: GTWESTMALT

Lab Code: PNELI Case No.: 4337 SAS No.: _____ SDG No.: 368080

Matrix: (soil/water) WATER Lab Sample ID: 4337-03

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A1953

Level: (low/med) LOW Date Received: 09/04/92

% Moisture: not dec. ____ Date Analyzed: 09/08/92

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5 ~~6~~	~~B~~ U
67-64-1	Acetone	10 ~~4~~	~~B~~ U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
156-59-2	cis-1,2-Dichloroethene	4	J
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	2	J
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	29	
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	4	J
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

KF

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

368082

Lab Name: PNELI Contract: GTWESTMALT

Lab Code: PNELI Case No.: 4337 SAS No.: _____ SDG No.: 368080

Matrix: (soil/water) WATER Lab Sample ID: 4337-03

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A1953

Level: (low/med) LOW Date Received: 09/04/92

% Moisture: not dec. ____ Date Analyzed: 09/08/92

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

368083

Lab Name: PNELI Contract: GTWESTMALT

Lab Code: PNELI Case No.: 4337 SAS No.: _____ SDG No.: 368080

Matrix: (soil/water) WATER Lab Sample ID: 4337-04

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A1962

Level: (low/med) LOW Date Received: 09/04/92

% Moisture: not dec. ____ Date Analyzed: 09/08/92

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q	
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	U	
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	5	~~B~~ U	KF
67-64-1	Acetone	10	U	
75-15-0	Carbon Disulfide	5	U	
75-35-4	1,1-Dichloroethene	5	U	
75-34-3	1,1-Dichloroethane	5	U	
156-60-5	trans-1,2-Dichloroethene	5	U	
156-59-2	cis-1,2-Dichloroethene	5	U	
67-66-3	Chloroform	5	U	
107-06-2	1,2-Dichloroethane	5	U	
78-93-3	2-Butanone	10	U	
71-55-6	1,1,1-Trichloroethane	5	U	
56-23-5	Carbon Tetrachloride	5	U	
108-05-4	Vinyl Acetate	10	U	
75-27-4	Bromodichloromethane	5	U	
78-87-5	1,2-Dichloropropane	5	U	
10061-01-5	cis-1,3-Dichloropropene	5	U	
79-01-6	Trichloroethene	5	U	
124-48-1	Dibromochloromethane	5	U	
79-00-5	1,1,2-Trichloroethane	5	U	
71-43-2	Benzene	5	U	
10061-02-6	trans-1,3-Dichloropropene	5	U	
75-25-2	Bromoform	5	U	
108-10-1	4-Methyl-2-Pentanone	10	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	5	U	
79-34-5	1,1,2,2-Tetrachloroethane	5	U	
108-88-3	Toluene	5	U	
108-90-7	Chlorobenzene	5	U	
100-41-4	Ethylbenzene	5	U	
100-42-5	Styrene	5	U	
1330-20-7	Xylene (total)	5	U	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

368083

Lab Name: PNELI_____ Contract: GTWESTMALT_

Lab Code: PNELI__ Case No.: 4337__ SAS No.: _____ SDG No.: 368080

Matrix: (soil/water) WATER_ Lab Sample ID: 4337-04_____

Sample wt/vol: __5.0 (g/mL) ML__ Lab File ID: A1962_____

Level: (low/med) LOW___ Date Received: 09/04/92

% Moisture: not dec. ____ Date Analyzed: 09/08/92

Column (pack/cap) CAP___ Dilution Factor: 1.0_____

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L_

Number TICs found: __0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

368084

Lab Name: PNELI Contract: GTWESTMALT

Lab Code: PNELI Case No.: 4337 SAS No.: _____ SDG No.: 368080

Matrix: (soil/water) WATER Lab Sample ID: 4337-05

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A1955

Level: (low/med) LOW Date Received: 09/04/92

% Moisture: not dec. ____ Date Analyzed: 09/08/92

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5 ~~2~~	~~BJ~~ KF
67-64-1	Acetone	18	~~BJ~~ KF
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

368084

Lab Name: PNELI Contract: GTWESTMALT

Lab Code: PNELI Case No.: 4337 SAS No.: _____ SDG No.: 368080

Matrix: (soil/water) WATER Lab Sample ID: 4337-05

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A1955

Level: (low/med) LOW Date Received: 09/04/92

% Moisture: not dec. ____ Date Analyzed: 09/08/92

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 556672	Cyclotetrasiloxane, octameth	13.26	6.0	~~JN~~ NJ

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

368084MS

Lab Name: PNELI_____ Contract: GTWESTMALT_

Lab Code: PNELI__ Case No.: 4337__ SAS No.: _____ SDG No.: 368080

Matrix: (soil/water) WATER_ Lab Sample ID: 4337-05MS____

Sample wt/vol: __5.0 (g/mL) ML__ Lab File ID: A1971_____

Level: (low/med) LOW___ Date Received: 09/04/92

% Moisture: not dec. ____ Date Analyzed: 09/09/92

Column: (pack/cap) CAP___ Dilution Factor: 1.0_____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L_	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5 ~~1~~	~~B~~ ~~J~~ u
67-64-1	Acetone	22	u
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

368084MSD

Lab Name: PNELI Contract: GTWESTMALT

Lab Code: PNELI Case No.: 4337 SAS No.: SDG No.: 368080

Matrix: (soil/water) WATER Lab Sample ID: 4337-05MSD

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A1964

Level: (low/med) LOW Date Received: 09/04/92

% Moisture: not dec. Date Analyzed: 09/08/92

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5 ~~4~~	~~B~~JU
67-64-1	Acetone	17	~~B~~U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

KP

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

368085

Lab Name: PNELI Contract: GTWESTMALT

Lab Code: PNELI Case No.: 4337 SAS No.: SDG No.: 368080

Matrix: (soil/water) WATER Lab Sample ID: 4337-06

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A1956

Level: (low/med) LOW Date Received: 09/04/92

% Moisture: not dec. Date Analyzed: 09/08/92

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	~~5~~	~~B~~ U
67-64-1	Acetone	10 ~~5~~	~~B~~ U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	1	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	11	
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

368085

Lab Name: PNELI Contract: GTWESTMALT

Lab Code: PNELI Case No.: 4337 SAS No.: SDG No.: 368080

Matrix: (soil/water) WATER Lab Sample ID: 4337-06

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A1956

Level: (low/med) LOW Date Received: 09/04/92

% Moisture: not dec. Date Analyzed: 09/08/92

Column (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

368086

Lab Name: PNELI Contract: GTWESTMALT

Lab Code: PNELI Case No.: 4337 SAS No.: _____ SDG No.: 368080

Matrix: (soil/water) WATER Lab Sample ID: 4337-07

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A1957

Level: (low/med) LOW Date Received: 09/04/92

% Moisture: not dec. ____ Date Analyzed: 09/08/92

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5 ~~2~~	~~B~~M MF
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

368086

Lab Name: PNELI Contract: GTWESTMALT

Lab Code: PNELI Case No.: 4337 SAS No.: _____ SDG No.: 368080

Matrix: (soil/water) WATER Lab Sample ID: 4337-07

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A1957

Level: (low/med) LOW Date Received: 09/04/92

% Moisture: not dec. ____ Date Analyzed: 09/08/92

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	1.51	4.0	~~JN~~ NJ

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

368087

Lab Name: PNELI Contract: GTWESTMALT

Lab Code: PNELI Case No.: 4337 SAS No.: _____ SDG No.: 368080

Matrix: (soil/water) WATER Lab Sample ID: 4337-08

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A1965

Level: (low/med) LOW Date Received: 09/04/92

% Moisture: not dec. ____ Date Analyzed: 09/08/92

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5 ~~2~~	~~B~~ U KF
67-64-1	Acetone	10 ~~1~~	~~B~~ U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

368087

Lab Name: PNELI_____ Contract: GTWESTMALT_

Lab Code: PNELI__ Case No.: 4337__ SAS No.: _____ SDG No.: 368080

Matrix: (soil/water) WATER_ Lab Sample ID: 4337-08_____

Sample wt/vol: __5.0 (g/mL) ML__ Lab File ID: A1965_____

Level: (low/med) LOW___ Date Received: 09/04/92

% Moisture: not dec. ____ Date Analyzed: 09/08/92

Column (pack/cap) CAP___ Dilution Factor: 1.0_____

Number TICs found: __0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L_

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

368088

Lab Name: PNELI Contract: GTWESTMALT

Lab Code: PNELI Case No.: 4337 SAS No.: _____ SDG No.: 368080

Matrix: (soil/water) WATER Lab Sample ID: 4337-09

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A1959

Level: (low/med) LOW Date Received: 09/04/92

% Moisture: not dec. ____ Date Analyzed: 09/08/92

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	54	~~BBU~~ KF
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	1	J
156-60-5	trans-1,2-Dichloroethene	5	U
156-59-2	cis-1,2-Dichloroethene	8	
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	7	
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	94	
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

368088

Lab Name: PNELI Contract: GTWESTMALT

Lab Code: PNELI Case No.: 4337 SAS No.: _____ SDG No.: 368080

Matrix: (soil/water) WATER Lab Sample ID: 4337-09

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A1959

Level: (low/med) LOW Date Received: 09/04/92

% Moisture: not dec. ____ Date Analyzed: 09/08/92

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

368089

Lab Name: PNELI Contract: GTWESTMALT

Lab Code: PNELI Case No.: 4337 SAS No.: _____ SDG No.: 368080

Matrix: (soil/water) WATER Lab Sample ID: 4337-10

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A1960

Level: (low/med) LOW Date Received: 09/04/92

% Moisture: not dec. ____ Date Analyzed: 09/08/92

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5 ~~2~~	~~B~~/4 KF
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	1	J
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

368089

Lab Name: PNELI Contract: GTWESTMALT

Lab Code: PNELI Case No.: 4337 SAS No.: _____ SDG No.: 368080

Matrix: (soil/water) WATER Lab Sample ID: 4337-10

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A1960

Level: (low/med) LOW Date Received: 09/04/92

% Moisture: not dec. ____ Date Analyzed: 09/08/92

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

2A
WATER VOLATILE SURROGATE RECOVERY

Lab Name: PNELI_____ Contract: GTWESTMALT_ _____

Lab Code: PNELI__ Case No.: 4337__ SAS No.: _____ SDG No.: 368080

	EPA SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
01	368080	103	109	103	0	0
02	368081	108	115	104	0	0
03	368082	109	108	107	0	0
04	368083	105	109	110	0	0
05	368084	104	106	103	0	0
06	368085	110	108	109	0	0
07	368086	108	111	112	0	0
08	368087	109	106	112	0	0
09	368088	104	108	107	0	0
10	368089	103	104	108	0	0
11	368084MS	106	105	106	0	0
12	368084MSD	109	111	109	0	0
13	VBLKAS	102	104	95	0	0
14	VBLKAT	101	98	100	0	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

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: PNELI_____ Contract: GTWESTMALT_ _____

Lab Code: PNELI__ Case No.: 4337__ SAS No.: _____ SDG No.: 368080

Matrix Spike - EPA Sample No.: 368084_____ _____

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene_____	50.0	0	46.8	94	61-145
Trichloroethene_____	50.0	0	53.8	108	71-120
Benzene_____	50.0	0	53.3	107	76-127
Toluene_____	50.0	0	53.7	107	76-125
Chlorobenzene_____	50.0	0	55.8	112	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene_____	50.0	42.7	85	10	14	61-145
Trichloroethene_____	50.0	53.8	108	0	14	71-120
Benzene_____	50.0	52.6	105	2	11	76-127
Toluene_____	50.0	55.3	111	-4	13	76-125
Chlorobenzene_____	50.0	57.5	115	-3	13	75-130

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

* Values outside of QC limits

RPD: __0 out of __5 outside limits _ _
Spike Recovery: __0 out of _10 outside limits _ __

COMMENTS: 4337-05 368084
INST.ID:HPMSD-A (30M

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: PNELI_____ Contract: GTWESTMALT_ _____

Lab Code: PNELI__ Case No.: 4337__ SAS No.: _____ SDG No.: 368080

Lab File ID: A1949_____ Lab Sample ID: VBLKAS_____

Date Analyzed: 09/08/92 Time Analyzed: 0943____

Matrix: (soil/water) WATER_ Level: (low/med) LOW___

Instrument ID: HPMSD-A_ _____

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	368080	4337-01	A1951	1051
02	368081	4337-02	A1952	1123
03	368082	4337-03	A1953	1155
04	368083	4337-04	A1962	1642
05	368084	4337-05	A1955	1259
06	368085	4337-06	A1956	1330
07	368086	4337-07	A1957	1402
08	368087	4337-08	A1965	1818
09	368088	4337-09	A1959	1506
10	368089	4337-10	A1960	1538
11	368084MSD	4337-05MSD	A1964	1746

COMMENTS: VBLKAS
INST.ID:HPMSD-A (30M

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: PNELI_____ Contract: GTWESTMALT_ _____

Lab Code: PNELI__ Case No.: 4337__ SAS No.: _____ SDG No.: 368080

Lab File ID: A1970_____ Lab Sample ID: VBLKAT_____

Date Analyzed: 09/09/92 Time Analyzed: 0956____

Matrix: (soil/water) WATER_ Level: (low/med) LOW___

Instrument ID: HPMSD-A_ _____

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	368084MS	4337-05MS	A1971	1035

COMMENTS: VBLKAT
INST.ID:HPMSD-A (30M

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Method Blank 1 VBLKAS KF

Lab Name: PNELI Contract: GTWESTMALT

Lab Code: PNELI Case No.: 4337 SAS No.: _____ SDG No.: 368080

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

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A1949

Level: (low/med) LOW Date Received: 09/04/92

% Moisture: not dec. ____ Date Analyzed: 09/08/92

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	8	
67-64-1	Acetone	3	U KF
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Method Blank 1 VBLKAS

Lab Name: PNELI Contract: GTWESTMALT

Lab Code: PNELI Case No.: 4337 SAS No.: _____ SDG No.: 368080

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

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A1949

Level: (low/med) LOW Date Received: 09/04/92

% Moisture: not dec. ____ Date Analyzed: 09/08/92

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Method Blank 2 KE
VBLKAT

Lab Name: PNELI_____ Contract: GTWESTMALT_

Lab Code: PNELI__ Case No.: 4337__ SAS No.: _____ SDG No.: 368080

Matrix: (soil/water) WATER_ Lab Sample ID: VBLKAT_____

Sample wt/vol: __5.0 (g/mL) ML__ Lab File ID: A1970_____

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

% Moisture: not dec. ____ Date Analyzed: 09/09/92

Column (pack/cap) CAP___ Dilution Factor: 1.0_____

Number TICs found: __0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L_

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Method Blank 2 VBLKAT KF

Lab Name: PNELI Contract: GTWESTMALT

Lab Code: PNELI Case No.: 4337 SAS No.: _____ SDG No.: 368080

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

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A1970

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

% Moisture: not dec. ____ Date Analyzed: 09/09/92

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q	
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	U	
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	3	u	KF
67-64-1	Acetone	10	U	
75-15-0	Carbon Disulfide	5	U	
75-35-4	1,1-Dichloroethene	5	U	
75-34-3	1,1-Dichloroethane	5	U	
156-60-5	trans-1,2-Dichloroethene	5	U	
156-59-2	cis-1,2-Dichloroethene	5	U	
67-66-3	Chloroform	5	U	
107-06-2	1,2-Dichloroethane	5	U	
78-93-3	2-Butanone	10	U	
71-55-6	1,1,1-Trichloroethane	5	U	
56-23-5	Carbon Tetrachloride	5	U	
108-05-4	Vinyl Acetate	10	U	
75-27-4	Bromodichloromethane	5	U	
78-87-5	1,2-Dichloropropane	5	U	
10061-01-5	cis-1,3-Dichloropropene	5	U	
79-01-6	Trichloroethene	5	U	
124-48-1	Dibromochloromethane	5	U	
79-00-5	1,1,2-Trichloroethane	5	U	
71-43-2	Benzene	5	U	
10061-02-6	trans-1,3-Dichloropropene	5	U	
75-25-2	Bromoform	5	U	
108-10-1	4-Methyl-2-Pentanone	10	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	5	U	
79-34-5	1,1,2,2-Tetrachloroethane	5	U	
108-88-3	Toluene	5	U	
108-90-7	Chlorobenzene	5	U	
100-41-4	Ethylbenzene	5	U	
100-42-5	Styrene	5	U	
1330-20-7	Xylene (total)	5	U	

2A
WATER VOLATILE SURROGATE RECOVERY

Lab Name: PNELI_____ Contract: GTWESTMALT_ _____

Lab Code: PNELI__ Case No.: 4337__ SAS No.: _____ SDG No.: 368080

	EPA SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
01	368080	103	109	103	0	0
02	368081	108	115	104	0	0
03	368082	109	108	107	0	0
04	368083	105	109	110	0	0
05	368084	104	106	103	0	0
06	368085	110	108	109	0	0
07	368086	108	111	112	0	0
08	368087	109	106	112	0	0
09	368088	104	108	107	0	0
10	368089	103	104	108	0	0
11	368084MS	106	105	106	0	0
12	368084MSD	109	111	109	0	0
13	VBLKAS	102	104	95	0	0
14	VBLKAT	101	98	100	0	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

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: PNELI_____ Contract: GTWESTMALT_ _____

Lab Code: PNELI__ Case No.: 4337__ SAS No.: _____ SDG No.: 368080

Matrix Spike - EPA Sample No.: 368084_____ _____

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene_____	50.0	0	46.8	94	61-145
Trichloroethene_____	50.0	0	53.8	108	71-120
Benzene_____	50.0	0	53.3	107	76-127
Toluene_____	50.0	0	53.7	107	76-125
Chlorobenzene_____	50.0	0	55.8	112	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene_____	50.0	42.7	85	10	14	61-145
Trichloroethene_____	50.0	53.8	108	0	14	71-120
Benzene_____	50.0	52.6	105	2	11	76-127
Toluene_____	50.0	55.3	111	+4 *	13	76-125
Chlorobenzene_____	50.0	57.5	115	+3 *	13	75-130

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

* Values outside of QC limits

RPD: __0 out of __5 outside limits _ _

Spike Recovery: __0 out of _10 outside limits _ __

COMMENTS: 4337-05 368084
INST.ID:HPMSD-A (30M

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: PNELI_____ Contract: GTWESTMALT_ _____

Lab Code: PNELI__ Case No.: 4337__ SAS No.: _____ SDG No.: 368080

Lab File ID: A1949_____ Lab Sample ID: VBLKAS_____

Date Analyzed: 09/08/92 Time Analyzed: 0943____

Matrix: (soil/water) WATER_ Level:(low/med) LOW___

Instrument ID: HPMSD-A_ _____

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	368080	4337-01	A1951	1051
02	368081	4337-02	A1952	1123
03	368082	4337-03	A1953	1155
04	368083	4337-04	A1962	1642
05	368084	4337-05	A1955	1259
06	368085	4337-06	A1956	1330
07	368086	4337-07	A1957	1402
08	368087	4337-08	A1965	1818
09	368088	4337-09	A1959	1506
10	368089	4337-10	A1960	1538
11	368084MSD	4337-05MSD	A1964	1746

COMMENTS: VBLKAS
INST.ID:HPMSD-A (30M

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: PNELI_____ Contract: GTWESTMALT_ _____

Lab Code: PNELI__ Case No.: 4337__ SAS No.: _____ SDG No.: 368080

Lab File ID: A1970_____ Lab Sample ID: VBLKAT_____

Date Analyzed: 09/09/92 Time Analyzed: 0956____

Matrix: (soil/water) WATER_ Level: (low/med) LOW___

Instrument ID: HPMSD-A_ _____

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	368084MS	4337-05MS	A1971	1035

COMMENTS: VBLKAT
INST.ID:HPMSD-A (30M