93-e40

DEPARTMENT OF ECOLOGY 18-3000GW

July 12, 1993

TO: Patty Martin
Toxics Cleanup Program

FROM: Pam Marti PM
Toxics, Compliance and Ground Water Investigations Section, EILS

SUBJECT: Memorandum on Soil Gas Sampling at Lincoln Apartments - Port Angeles, Washington

The attached report summarizes the findings from our sampling at Lincoln Apartments in Spring 1993.

Potential source areas of petroleum contamination were identified at two locations: Round-the-Clock Deli by the gasoline tanks, and north of the Arco station on 8th Street. High concentrations of several contaminants were detected in the soil gas samples at these locations. Total petroleum hydrocarbons (as gasoline, WTPH-G) were detected at 4.6 mg/kg in a soil sample near the gas tank at Round-the-Clock Deli. This is below the cleanup standards as established by the Model Toxics Control Act Regulations, WAC 173-340.

Primary gasoline compounds (benzene, toluene, ethylbenzene, and xylenes (BTEX)), were also tentatively identified at other soil gas sites in the study area but at low concentrations (generally less than 1 ppm). Weathered gasoline and lube oil were identified in soil adjacent to Lincoln Apartments. High concentrations of BTEX and 19.5 mg/L WTPH-G were detected in the water samples from the sump in the basement of the apartments. BTEX concentrations exceeded ground water cleanup standards as defined by the Model Toxics Control Act.

I look forward to providing any soil gas services to you in the future. If you have any questions or comments, please call me at 586-8138.

PM:krc
Attachment

cc: Bill Yake
Denis Erickson

LINCOLN APARTMENTS SOIL GAS SURVEY
PORT ANGELES, WASHINGTON
MARCH & APRIL 1993

by Pamela B. Marti
June 1993

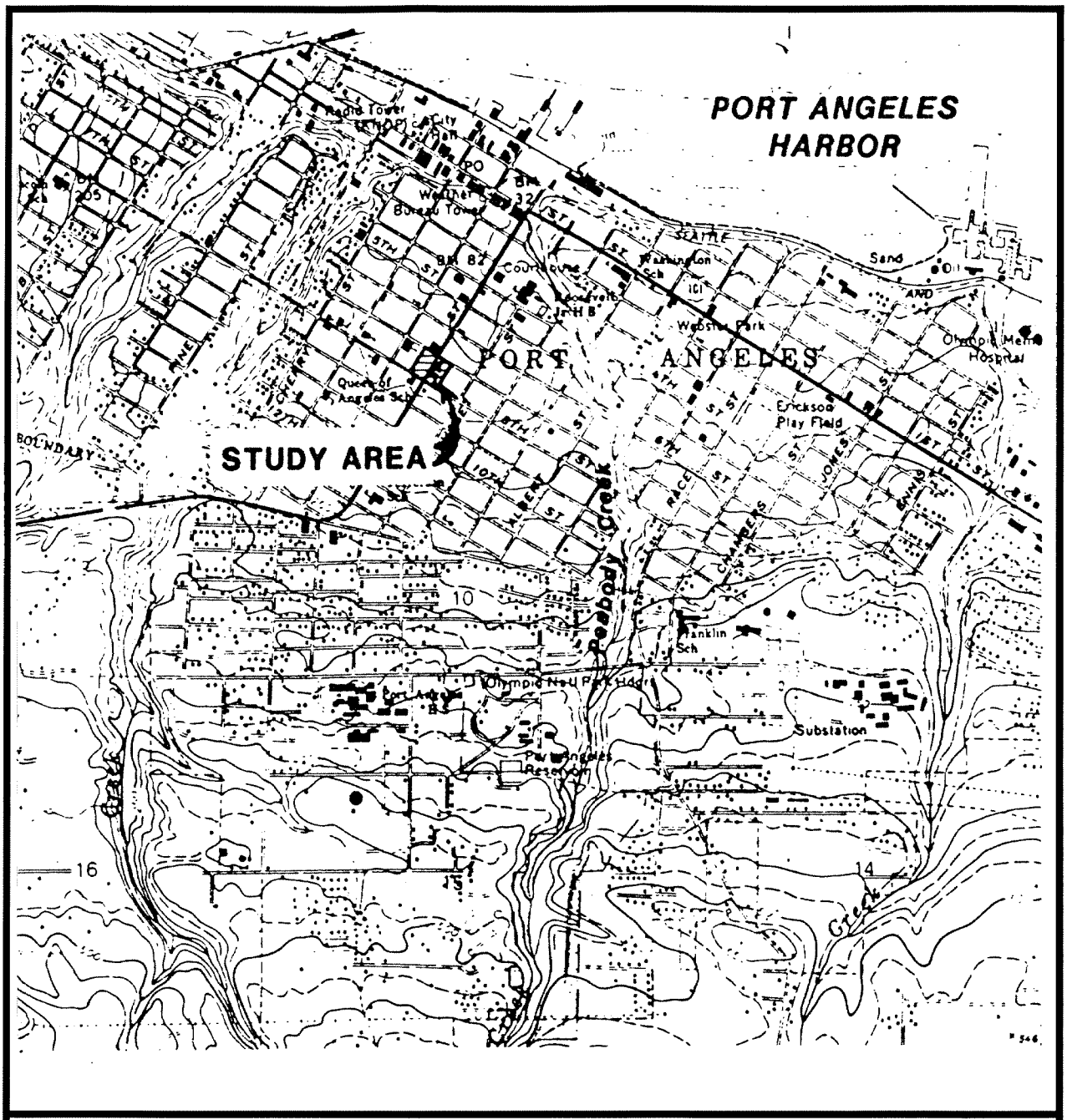
Washington State Department of Ecology
Environmental Investigations and Laboratory Services Program
Toxics, Compliance and Ground Water Investigations Section
Olympia, Washington 98504-7710

Water Body No. WA-18-3000-GW

SUMMARY

Soil gas, soil, and water samples were collected in the spring of 1993, in the vicinity of Lincoln Apartments, Port Angeles, Washington (Figure 1) as part of a leaking underground storage tank (LUST) system investigation. In the early 1980's, subsurface fuel contamination was discovered in the crawl space/basement of Lincoln Apartments. Water samples collected from a sump in the basement confirmed that the water was contaminated with gasoline. Although there are several gas stations within the immediate area, the most likely source of the fuel contamination appears to be Round-the-Clock Deli, located about 200 feet southwest of the apartments (GeoEngineers 1988). Underground gasoline tanks on the Deli property have leaked in the past. Although the leaks were repaired, suspected contaminated soil was never removed. Local ground water flow is thought to be northeast toward Peabody Creek. The objective of the soil gas survey was to determine if Round-the-Clock Deli was a source of fuel contamination beneath Lincoln Apartments. Other potential source areas were also investigated. A total of 20 soil gas samples, six soil samples and two water samples from the sump were collected and tested. Soil gas samples were analyzed in the field using a portable gas chromatograph.

Potential source areas of petroleum contamination were identified at two locations: Round-the-Clock Deli by the gasoline tanks, and north of the Arco station on 8th Street. High concentrations of several contaminants were detected in the soil gas samples at these locations. Total petroleum hydrocarbons (as gasoline, WTPH-G) were detected at 4.6 mg/kg in a soil sample near the gas tank at Round-the-Clock Deli. This is below the cleanup standards as established by the Model Toxics Control Act Regulations, WAC 173-340.



Reference: USGS 7.5' Topographic Quadrangle Map. "Port Angeles, Wash."

Figure 1: Site Map

Primary gasoline compounds (benzene, toluene, ethylbenzene, and xylenes (BTEX)), were identified at other soil gas stations in the study area but at low concentrations (generally less than 1 ppm). Weathered gasoline and lube oil were identified in soil adjacent to Lincoln Apartments. High concentrations of BTEX and 19.5 mg/L WTPH-G were detected in the water samples from the sump in the basement of the apartments. BTEX concentrations exceeded ground water cleanup standards as defined by the Model Toxics Control Act. Based on all of the sample results it appears that Round-the-Clock Deli is one of two potential sources for the petroleum contamination beneath Lincoln Apartments. The Arco station is a second possible source area.

METHODS

Sample Collection

Twenty soil gas, six soil, and two water samples were collected and tested. Sample locations are shown in Figure 2. Soil gas samples were collected up- and downgradient of Round-the-Clock Deli and Lincoln Apartments between 7th Street and 9th Street. Local ground water flow is thought to be northeast toward Peabody Creek (Figure 1). Sample locations were selected to include three former gas stations (Round-the-Clock Deli and two abandoned stations) and one existing station (ARCO). Soil samples were collected from sample stations with suspected contamination at Round-the-Clock Deli and adjacent to Lincoln Apartments. Water samples were collected from the sump beneath the apartments.

Pam Marti, Denis Erickson, and Patty Martin collected soil samples on March 9, 1993. Weather conditions were cool and clear. Soil gas samples were collected on April 13-16, 1993, by Pam Marti and Denis Erickson. Weather conditions were cool and rainy. Additional soil gas samples were collected on April 29-30, 1993, by Pam Marti, Denis Erickson, and Bernard Strong. Weather conditions were cool and overcast.

Soil Gas Sampling

Soil gas samples were obtained using portable sampling equipment. Sample stations in paved areas were 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. Initially, a manifold was used in sample collection. The sample probe was purged off one line and sampled off another. Due to cross contamination, the manifold was discarded.

Depth profile sampling was conducted at the first sample station, LNA1, to determine an appropriate sample depth. Soil gas samples were collected at three-foot intervals to a depth

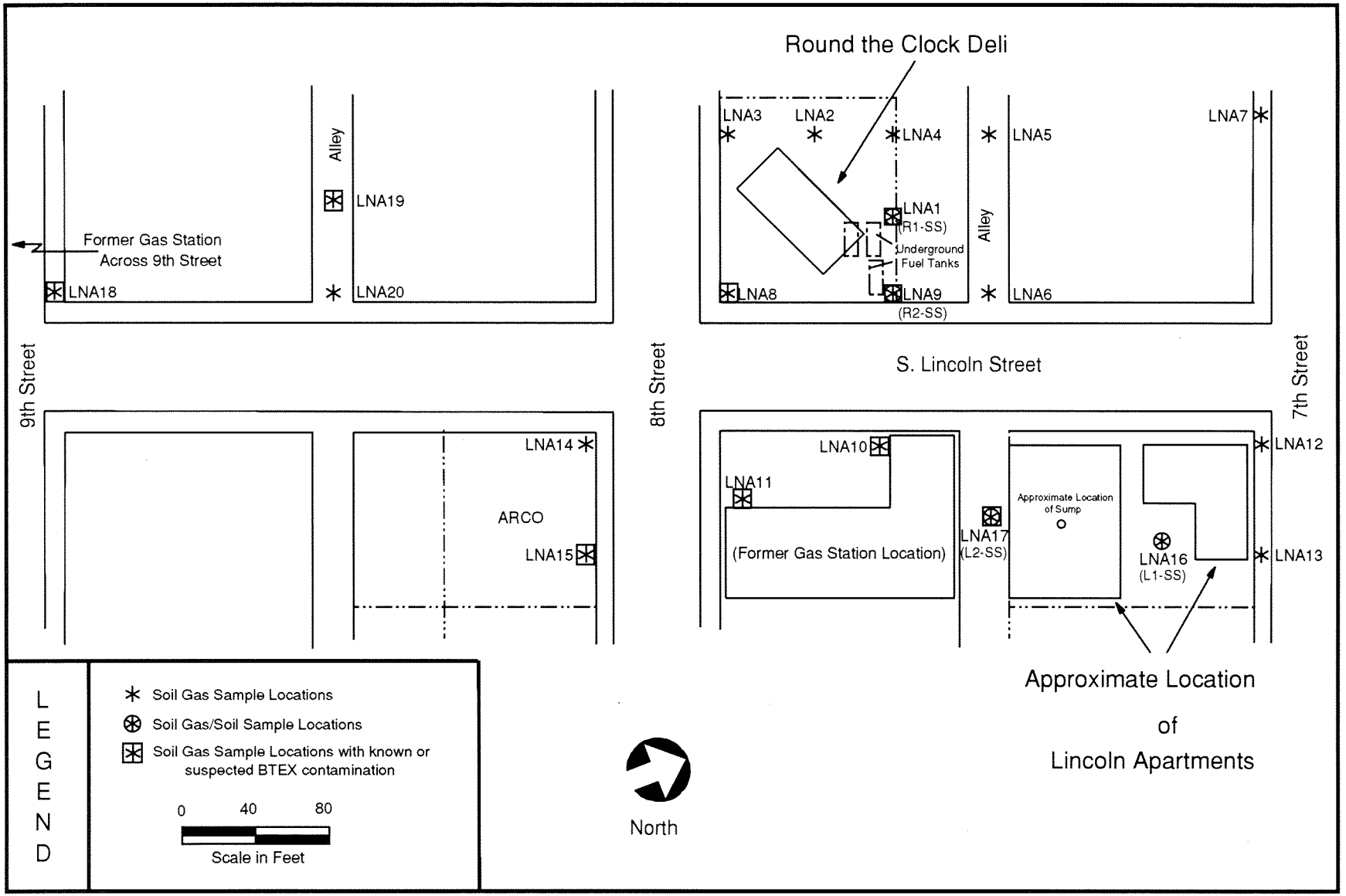


Figure 2: Lincoln Apartments - Soil Gas, Soil, and Sump Sample Locations

of nine feet. Based on depth profile results, seven feet was selected as the sample depth. Sample depth was adjusted to accommodate obstructions in the subsurface and wet soil conditions.

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-foot, 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 gasoline constituents of toluene, ethylbenzene and p-, m-, and o-xylene. Operating parameters such as sample time, temperature, and chart duration were adjusted to maximize results. Copies of soil gas analyses, as well as operating parameter information are included in Appendix A.

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

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

Soil and Water Sampling

Soil samples were collected using a JMC portable soil sampler. A hollow, 3-foot-long, one-inch diameter sampling tube fitted with a stainless steel liner was driven through the soil column. For deeper samples, extensions were attached to the sampling tube and driven to the required depth. The sampling tube was then pulled from the hole and the liner removed. Soil samples corresponding to the soil gas sample depth were extracted from the liner, emptied into a stainless steel beaker, mixed and then transferred to 4-ounce glass jars. All downhole soil sampling equipment and stainless steel beakers were decontaminated using a tap water/Liquinox® wash and sequential rinses with deionized water and methanol. Test holes were plugged using hydrated bentonite. Overlying fill and asphalt cover (cold mix) were placed as necessary.

Two water samples from the sump were collected in two 40 mL glass vials with teflon lined septa lids and preserved with two drops of 1:1 hydrochloric acid.

Upon sample collection and proper labeling, soil and water samples were stored on ice in an ice chest and transported to the laboratory within the required holding time. Chain-of-custody was maintained on all samples using Manchester Laboratory protocols (Ecology, 1991). Soil samples were analyzed for volatile organic compounds (VOCs), total petroleum hydrocarbons (WTPH-G) and hydrocarbon identification (HCID). The water samples were analyzed for VOCs and WTPH-G.

Quality Assurance Samples

Soil Gas

In general, soil gas results are considered to be good and usable. Soil gas quality assurance samples consisted of calibration, 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. Duplicate samples (repeat analyses of the same sample) were analyzed for at least 10% of all soil gas samples. Blank samples were run periodically to ensure that no contamination of the analytical system had occurred. Since sample results were determined using a portable gas chromatograph all reported analytes are considered tentatively identified and concentrations are estimates.

Soil and Water Samples

Karin Feddersen of the Manchester Laboratory evaluated laboratory quality assurance results which are included in Appendix B. The quality of the organic results is good. Acetone was detected below the quantitation limit in one soil method blank and in the soil samples. The acetone is attributed to laboratory contamination. Spike recoveries were within acceptable limits of 75-125%. Relative percent difference (%RPD) for the spike and spike duplicates were within $\pm$20%.

RESULTS AND DISCUSSION

Potential source areas of petroleum contamination were identified at two locations: at Round-the-Clock Deli by the gasoline tanks, and north of the Arco station on 8th Street. Primary gasoline compounds (benzene, toluene, ethylbenzene and xylenes (BTEX)) were also identified at other sample stations but at much lower concentrations. Table 1 presents a summary of the soil gas survey results. Sample chromatograms are included in Appendix A. Table 2 presents a summary of the soil and sump samples. Distribution of the identified compounds is discussed below.

Round-the-Clock Deli

Contamination was detected predominately at Round-the-Clock Deli near the old gas tanks at sample stations LNA1 and LNA9, as shown in Figure 2. Depth profile soil gas samples were collected at the first station, LNA1, at three, six, and nine feet below ground surface (bgs). Although little was detected from one to six feet bgs, high concentrations of several contaminants were detected below six feet (See chromatogram #168). A soil boring described several feet of clayey silty sands in this area. Based on the profile results, samples were collected at seven feet. Several more volatile contaminants were detected in the soil gas samples from station LNA9 (See chromatogram #192). Due to the high contaminant concentrations in both of these samples, the standard analysis sample time was reduced.

Table 1: Summary of Soil-Gas Results collected Spring 1993 from Lincoln Apartments Port Angeles, 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)	Benzene Retention Time (sec.)	Benzene Estimated Conc. (ppm)	TCE Retention Time (sec.)	TCE Estimated Conc. (ppm)	Toluene Retention Time (sec.)	Toluene Estimated Conc. (ppm)	Ethylbenzene Retention Time (sec.)	Ethylbenzene Estimated Conc. (ppm)	Xylenes Retention Time (sec.)	Xylenes Estimated Conc. (ppm)	Unknowns Retention Time (sec.)	Unknowns Estimated Conc. (ppm)
168	LNA1c	9	167	323 NJ	–	–	242	535 NJ	–	–	385	1392(m) NJ	56	879 NJ
											482	81(o) NJ	93	32 NJ
													113	8.1 NJ
													130	5.7 NJ
													534	3.4 NJ
													577	25 NJ
													637	3.7 NJ
													696	23 NJ
													771	12 NJ
133	LNA2	7	–	–	–	–	–	–	–	–	–	–	–	–
131	LNA3	6	–	–	–	–	–	–	–	–	–	–	–	–
136	LNA4	7	–	–	–	–	–	–	–	–	–	–	–	–
139	LNA5	6	–	–	–	–	–	–	–	–	–	–	–	–
148	LNA6	7	–	–	–	–	–	–	–	–	–	–	125	0.04 NJ
													217	0.03 NJ
66	LNA7	6	–	–	–	–	–	–	–	–	–	–	–	–
190	LNA8	3.5	–	–	190	0.06 NJ	–	–	–	–	–	–	136	0.01 NJ
192	LNA9	7	–	–	193	0.5 NJ	–	–	–	–	388	0.2(p) NJ	65	616 NJ
													81	35 NJ
													92	84 NJ
													116	9.0 NJ
													135	4.7 NJ
													159	7.9 NJ
47	LNA10	5	–	–	191	0.05 NJ	233	0.2 NJ	–	–	397	0.1(m) NJ	–	–
48	LNA11	3	–	–	191	0.01 NJ	–	–	–	–	400	0.03(m) NJ	252	0.01 NJ
184	LNA11	5	–	–	–	–	–	–	–	–	–	–	–	–
54	LNA12	7	–	–	–	–	–	–	–	–	–	–	–	–
65	LNA13	7	–	–	–	–	–	–	–	–	–	–	–	–
78	LNA14	3	–	–	–	–	–	–	–	–	–	–	–	–
79	LNA15	1	–	–	–	–	–	–	–	–	–	–	249	0.01 NJ
164	LNA15	4.5	165	6.3 NJ	–	–	–	–	363	1.1 NJ	–	–	61	445 NJ
													77	31 NJ
													90	18 NJ
													113	6.1 NJ
													133	2.4 NJ
92	LNA16	6	–	–	–	–	272	0.009 NJ	–	–	–	–	135	0.007 NJ
													166	0.001 NJ
93	LNA17	3	–	–	–	–	–	–	–	–	–	–	129	0.05 NJ
													223	0.06 NJ
99	LNA18	3	164	0.02 NJ	–	–	–	–	–	–	–	–	124	0.02 NJ
													220	0.02 NJ
100	LNA19	3.5	–	–	–	–	246	0.006 NJ	–	–	391	0.2(p) NJ	187	0.01 NJ
											489	0.05(o) NJ		
180	LNA20	6	–	–	–	–	–	–	–	–	–	–	–	–

(o) = ortho-xylene (p) = para-xylene (m) = meta-xylene

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

Table 2
Summary of Soil and Water Sample Results collected March 1993 at
Lincoln Apartments, Port Angeles, Washington

Sample Station Sample Identification Matrix Sample Depth Units	LNA1 R1-SSc Soil (6-9' bgs) (mg/kg)	LNA1 R1-SSa Soil (1-3' bgs) (µg/kg)	LNA9 R2-SSb Soil (3-6' bgs) (mg/kg)	LNA9 R2-SSb Soil (3-6' bgs) (µg/kg)	LNA16 L1-SSc Soil (6-9' bgs) (µg/kg)	LNA17 L2-SSb Soil (3-6' bgs) (Qualitative)	Sump Water (mg/L)	Sump Water (µg/L)
[1]Volatile Organics	NT	ND	NT	ND	ND	NT	NT	
Benzene		10 U		10 U	10 U			5000
Toluene		10 U		10 U	10 U			1300
Ethylbenzene		10 U		10 U	10 U			800
Total Xylenes		10 U		10 U	10 U			3200
[2]WTPH-G	4.6	NT	ND	NT	NT	NT	19.5	NT
[3]HCID	NT	NT	NT	NT	NT	Weathered Gasoline and Lube Oil	NT	NT

U: The analyte was not detected at or above the associated value.
NT: Not Tested
ND: Not Detected
bgs: Below Ground Surface

References:

[1]Volatile Organics Method #8240: EPA, 1986. Test Methods for Evaluating Solid Waste, SW-846. Office of Emergency Response, Washington D.C.

[2]WTPH-G: Total Petroleum Hydrocarbon-Gasoline. Washington Department of Ecology Manchester Laboratory Manual 1991.

[3]HCID: Hydrocarbon Identification. Washington Department of Ecology Manchester Laboratory Manual, 1991.

Two soil samples were collected from station LNA1 (Table 2). One sample was collected from one to three feet bgs and analyzed for priority pollutant volatile organics. No volatile organics were detected in this sample. The second sample was collected from six to nine feet bgs and analyzed for total petroleum hydrocarbons - gasoline (WTPH-G). WTPH-G was detected at 4.6 mg/kg. This is below the 100 mg/kg cleanup standard as defined by the Model Toxics Control Act (MTCA). Soil samples were also collected from station LNA9. Two samples were collected from three to six feet bgs. One sample was analyzed for volatile organics, the other for WTPH-G. Nothing was detected in either sample.

A soil gas sample from station LNA8 located at the northwest corner of Lincoln and 8th Street showed detections two contaminants; trichloroethylene and an unknown. Although concentrations were low, the sample equipment (which was covered with wet grey clay) had a strong hydrocarbon odor when it was removed from the sample hole. Due to saturated conditions at 6 feet, the sample was collected at 3.5 feet. The strong hydrocarbon odor may indicate contamination beneath six feet bgs.

Arco Station on 8th Street

A second potential source area of petroleum contamination is the ARCO station. Two soil gas samples were collected north of the Arco station. A soil gas sample from station LNA15, collected at 4.5 feet bgs, had high concentrations of lighter contaminants (See chromatogram #164). Standard analysis sample time was reduced for this sample due to the high contaminant concentrations. No contaminants were detected in a soil gas sample collected at three feet bgs from station LNA14 on the southeast corner of Lincoln and 8th.

Other Sampling Stations

Two compounds were detected at low levels from station LNA17. This station was located in a small gully directly upgradient of Lincoln Apartments. Although neither detection was identified as gasoline compounds, an HCID analysis of a soil sample collected from this station indicates the presence of weathered gasoline and lube oil. A strong hydrocarbon odor was also present on both the sample equipment and in the air.

Contaminants were identified in soil gas samples from other sample stations but at low concentrations (generally less than 1 ppm). Gasoline compounds, BTEX, were detected at low concentrations near both of the former gas stations. Contaminants were detected north of the station on the corner of Lincoln Street and 9th Street and on the property of the station directly south of Lincoln Apartments. No contaminants were detected north of Lincoln Apartments and along the west property line of Round-the-Clock Deli.

Trichloroethylene was detected at low concentrations (less than 1 ppm) in soil gas samples from four stations: LNA8, LNA9, LNA10, and LNA11.

Two water samples collected from the sump in the Lincoln Apartments basement were analyzed for volatile organics and WTPH-G. High concentrations of benzene (5000 μg/L), toluene (1300 μg/L), ethylbenzene (800 μg/L), and total xylene (3200 μg/L) and 19.5 mg/L WTPH-G were detected. BTEX concentrations exceeded ground water cleanup standards as defined by the Model Toxics Control Act (MTCA). Ground water cleanup levels under MTCA for the BTEX compounds are; benzene (5.0 μg/L), toluene (40.0 μg/L), ethylbenzene (30.0 μg/L), and xylene (20.0 μg/L).

REFERENCES

EPA, 1986. Test Methods for Evaluating Solid Waste, SW-846. Office of Emergency Response, Washington, D.C.

GeoEngineers, 1988. Report of Preliminary Geotechnical Services/Subsurface Fuel Contamination Lincoln Apartments; Port Angeles, Washington for the Washington State Department of Ecology.

Washington State Department of Ecology, 1991. Manchester Environmental Laboratory - Laboratory Users Manual. Edited by D. Huntamer and J. Hyre.

APPENDIX A

Lincoln Apartments
Select Soil Gas Chromatograms
Spring 1993

*** ANALYSIS *** PRESS <esc> TO STOP OR ANY OTHER KEY TO CONTINUE ***

TRACE	DATE	TIME	C/A	PEAK	CONCNT	RT	AREA	NAME	
1	Apr 15,93	12:53	C	BENZENE	1.01 PPM	131	2272	BTCE	
1			C	TCE	1.52 PPM	166	614744		
2	Apr 15,93	12:58	C	BENZENE	1.01 PPM	166	577910	BTCE	
2			C	TCE	1.52 PPM	193	1330722		
3	Apr 15,93	13:02	A	UNKNOWN	0.02 PPM	97	10045	LNA2	
3			A	[redacted]unk	0.04 PPM	114	25981		PBM
3			A	[redacted]unk	0.05 PPM	130	34231		PBM
3			A	UNKNOWN	0.06 PPM	157	31816		
3			A	TCE	0.05 PPM	190	43178		
3			A	TOLUENE#	0.07 PPM	249	53629		
3			A	m-XYLENE#	0.99 PPM	397	336666		
3			A	o-XYLENE#	0.24 PPM	494	72944		
3			A	UNKNOWN	0.31 PPM	593	175517		
3			A	[redacted]unk	0.13 PPM	655	20877		PBM
3			A	UNKNOWN	0.28 PPM	794	157726		
4	Apr 15,93	13:18	A	BENZENE	0.41 PPM	167	233814	spike	
4			A	TOLUENE#	1.70 PPM	251	1213109		
4			A	ETH BENZ#	0.85 PPM	372	256192		
4			A	m-XYLENE#	2.41 PPM	398	984014		
4			A	o-XYLENE#	0.32 PPM	496	97373		
5	Apr 15,93	13:31	C	BENZENE	1.01 PPM	166	1171689	BTCE	

*** ANALYSIS *** PRESS <esc> TO STOP OR ANY OTHER KEY TO CONTINUE ***

TRACE	DATE	TIME	C/A	PEAK	CONCNT	RT	AREA	NAME	
5			C	TCE	1.52 PPM	193	2664982		
6	Apr 15,93	13:36	A	UNKNOWN	0.06 PPM	97	65840	LNA2-2	
6			A	[redacted]unk	0.02 PPM	111	34772		PBM
6			A	[redacted]unk	0.06 PPM	129	63231		PBM
6			A	UNKNOWN	0.07 PPM	157	80163		
6			A	TCE	0.06 PPM	189	108940		
6			A	TOLUENE#	0.07 PPM	249	100879		
6			A	m-XYLENE#	1.41 PPM	397	976900		
6			A	o-XYLENE#	0.35 PPM	494	214050		
6			A	UNKNOWN	0.02 PPM	549	22607		
6			A	UNKNOWN	0.54 PPM	594	620830		
6			A	[redacted]unk	0.27 PPM	657	85977		PBM
6			A	[redacted]unk	0.25 PPM	716	27498		PBM
6			A	UNKNOWN	0.52 PPM	798	604728		
7	Apr 15,93	13:55	A	[redacted]unk	0.00 PPM	114	7068	LNA3	PBM
7			A	[redacted]unk	0.00 PPM	129	3531		PBM
7			A	UNKNOWN	0.01 PPM	156	6015		
7			A	TCE	0.02 PPM	190	30090		
7			A	TOLUENE#	0.04 PPM	251	62565		
7			A	m-XYLENE#	0.51 PPM	397	355198		
7			A	o-XYLENE#	0.08 PPM	496	50944		

*** ANALYSIS *** PRESS <esc> TO STOP OR ANY OTHER KEY TO CONTINUE ***

TRACE	DATE	TIME	C/A	PEAK	CONCNT	RT	AREA	NAME
7			A	UNKNOWN	0.07 PPM	594	84285	
7			A	UNKNOWN	0.06 PPM	801	65915	

8	Apr 15,93 14:12	A	TOLUENE#	0.02 PPM	251	25283	ambient
9	Apr 15,93 14:32	A	TCE	0.00 PPM	191	2882	ambient
9		A	TOLUENE#	0.01 PPM	252	14668	
9		A	m-XYLENE#	0.02 PPM	400	18360	
10	Apr 15,93 14:40	A	TOLUENE#	0.01 PPM	253	8111	ambient
11	Apr 15,93 14:49	A	UNKNOWN	0.00 PPM	98	302	LNA3dup
11		A [redacted]unk		0.01 PPM	116	9027	PBM
11		A	UNKNOWN	0.01 PPM	157	6573	
11		A	TCE	0.01 PPM	191	12099	
11		A	TOLUENE#	0.02 PPM	252	33699	
11		A	m-XYLENE#	0.25 PPM	400	205278	
11		A	o-XYLENE#	0.06 PPM	501	39025	
11		A	UNKNOWN	0.08 PPM	600	90620	
11		A	UNKNOWN	0.05 PPM	805	54083	
12	Apr 15,93 15:08	A	TOLUENE#	0.02 PPM	254	36137	ambient
12		A	m-XYLENE#	0.04 PPM	405	31790	
13	Apr 15,93 15:16	A	BENZENE	0.00 PPM	164	3783	ambient
13		A	TOLUENE#	0.02 PPM	248	35559	
14	Apr 15,93 15:24	C	BENZENE	1.01 PPM	166	576891	BTCE

*** ANALYSIS *** PRESS <esc> TO STOP OR ANY OTHER KEY TO CONTINUE ***

TRACE	DATE	TIME	C/A	PEAK	CONCNT	RT	AREA	NAME	
14			C	TCE	1.52 PPM	193	1261807		
15	Apr 15,93 15:29		A	UNKNOWN	0.00 PPM	98	1647	LNA4	
15			A	m-XYLENE#	0.15 PPM	396	50388		
16	Apr 15,93 15:46		C	BENZENE	1.01 PPM	165	1027703	BTCE	
16			C	TCE	1.52 PPM	192	2320932		
17	Apr 15,93 15:51		A [redacted]unk		0.13 PPM	124	111321	LNA4-2	PBM
17			A [redacted]unk		0.03 PPM	215	42649		PBM
17			A	TOLUENE#	0.01 PPM	249	15533		
17			A	m-XYLENE#	0.25 PPM	395	181969		
17			A	UNKNOWN	0.03 PPM	588	33681		
18	Apr 15,93 16:08		C	BENZENE	1.01 PPM	165	1362297	BTCE	
18			C	TCE	1.52 PPM	192	3015061		
19	Apr 15,93 16:14		A [redacted]unk		0.06 PPM	124	68751	LNA4-3	PBM
19			A	TCE	0.02 PPM	188	31406		
19			A	UNKNOWN	0.04 PPM	213	54523		
19			A	TOLUENE#	0.01 PPM	248	19821		
19			A	m-XYLENE#	0.34 PPM	395	327097		
19			A	o-XYLENE#	0.07 PPM	491	48893		
19			A	UNKNOWN	0.06 PPM	589	77598		
19			A	UNKNOWN	0.03 PPM	793	43473		
20	Apr 15,93 17:24		C	BENZENE	1.01 PPM	161	1147026	BTCE	

*** ANALYSIS *** PRESS <esc> TO STOP OR ANY OTHER KEY TO CONTINUE ***

TRACE	DATE	TIME	C/A	PEAK	CONCNT	RT	AREA	NAME	
20			C	TCE	1.52 PPM	187	2618772		
21	Apr 15,93 17:28		A [redacted]unk		0.03 PPM	130	44760	ambient	PBM
21			A	TOLUENE#	0.01 PPM	242	13456		
22	Apr 15,93 17:47		A	TOLUENE#	0.01 PPM	243	11842	ambient	
23	Apr 15,93 17:56		A [redacted]unk		0.09 PPM	121	84992	LNA5	PBM
23			A	UNKNOWN	0.01 PPM	151	15879		
23			A	TCE	0.02 PPM	183	38098		
23			A	UNKNOWN	0.03 PPM	209	32096		

23			A	TOLUENE#	0.04 PPM	244	52289	
23			A	m-XYLENE#	0.77 PPM	386	621515	
23			A	o-XYLENE#	0.15 PPM	480	92429	
23			A	UNKNOWN	0.24 PPM	577	278178	
23			A	UNKNOWN	0.22 PPM	770	251111	
24	Apr 15,93	18:12	A	m-XYLENE#	0.02 PPM	385	11616	ambient
25	Apr 15,93	18:39	A	TCE	0.01 PPM	185	13716	LNA6
25			A	TOLUENE#	0.03 PPM	246	45121	
25			A	p-XYLENE#	0.02 PPM	366	17452	
25			A	m-XYLENE#	0.25 PPM	389	203038	
25			A	o-XYLENE#	0.04 PPM	483	21721	
25			A	UNKNOWN	0.04 PPM	579	40116	
26	Apr 15,93	19:17	C	BENZENE	1.01 PPM	170	1230755	BTCE

*** ANALYSIS *** PRESS <esc> TO STOP OR ANY OTHER KEY TO CONTINUE ***

TRACE	DATE	TIME	C/A	PEAK	CONCNT	RT	AREA	NAME	
26			C	TCE	1.52 PPM	199	2784924		
27	Apr 15,93	19:59	A	UNKNOWN	0.24 PPM	124	293203	LNA7	
27			A	TCE#	0.01 PPM	190	35281		
27			A	UNKNOWN	0.08 PPM	216	92831		
27			A	TOLUENE#	0.05 PPM	250	78881		
27			A	m-XYLENE#	0.63 PPM	396	455165		
27			A	o-XYLENE#	0.07 PPM	495	42702		
27			A	UNKNOWN	0.06 PPM	593	68699		
27			A	UNKNOWN	0.02 PPM	797	28415		
28	Apr 15,93	20:36	C	BENZENE	1.01 PPM	177	739148	BTCE	
28			C	TCE	1.52 PPM	208	1574017		
29	Apr 15,93	20:48	C	BENZENE	1.01 PPM	173	504085	BTCE	
29			C	TCE	1.52 PPM	202	1118758		
30	Apr 16,93	12:06	C	BENZENE	1.01 PPM	198	417865	BTCE	
30			C	TCE	1.52 PPM	238	1375388		
31	Apr 16,93	12:11	C	BENZENE	1.01 PPM	181	799017	BTCE	
31			C	TCE	1.52 PPM	214	1974802		
32	Apr 16,93	12:42	A	[redacted]unk	1.65 PPM	78	52302	LNA8	PBM
32			A	[redacted]unk	0.06 PPM	87	60159		PBM
32			A	[redacted]unk	0.66 PPM	95	113952		PBM
32			A	[redacted]unk	1.32 PPM	114	168470		PBM

*** ANALYSIS *** PRESS <esc> TO STOP OR ANY OTHER KEY TO CONTINUE ***

TRACE	DATE	TIME	C/A	PEAK	CONCNT	RT	AREA	NAME	
32			A	[redacted]unk	0.08 PPM	122	76242		PBM
32			A	[redacted]unk	0.29 PPM	135	201487		PBM
32			A	[redacted]unk	0.00 PPM	153	29650		PBM
32			A	UNKNOWN	0.25 PPM	189	195168		
32			A	TCE	0.01 PPM	211	19426		
32			A	[redacted]unk	0.06 PPM	248	58682		PBM
32			A	UNKNOWN	0.12 PPM	371	96147		
32			A	ETH BENZ#	0.88 PPM	395	367451		
32			A	UNKNOWN	0.07 PPM	492	55835		
32			A	UNKNOWN	0.04 PPM	591	33376		
33	Apr 16,93	12:59	A	[redacted]unk	0.02 PPM	250	17628	ambient	PBM
34	Apr 16,93	13:16	A		0.00 PPB	60	0	ambient	
35	Apr 16,93	13:24	C	BENZENE	1.01 PPM	162	559624	BTCE	
35			C	TCE	1.52 PPM	189	1257167		

36	Apr 16,93	13:40	A		0.00 PPB	60	0	LNA9 (PRE-HEATED GC)
37	Apr 16,93	13:47	A [redacted]unk		0.48 PPM	88	58286	ambient PBM
37			A [redacted]unk		0.13 PPM	97	11435	PBM
37			A UNKNOWN		0.08 PPM	154	42137	
37			A UNKNOWN		0.78 PPM	229	429668	
37			A UNKNOWN		0.08 PPM	307	43971	
37			A p-XYLENE#		1.74 PPM	377	801696	

*** ANALYSIS *** PRESS <esc> TO STOP OR ANY OTHER KEY TO CONTINUE ***

TRACE	DATE	TIME	C/A	PEAK	CONCNT	RT	AREA	NAME
37			A UNKNOWN		0.38 PPM	540	209191	
37			A UNKNOWN		0.06 PPM	635	35629	
37			A UNKNOWN		0.42 PPM	726	232752	
38	Apr 16,93	14:04	A [redacted]unk		0.91 PPM	68	20217	ambient PBM
38			A [redacted]unk		0.03 PPM	78	17385	PBM
38			A UNKNOWN		0.01 PPM	89	6873	
38			A UNKNOWN		0.06 PPM	115	31508	
38			A [redacted]unk		0.01 PPM	131	6586	PBM
39	Apr 16,93	14:12	A [redacted]unk		0.30 PPM	68	6606	ambient PBM
39			A [redacted]unk		0.01 PPM	79	9943	PBM
40	Apr 16,93	14:17	A		0.00 PPB	60	0	ambient
41	Apr 16,93	14:31	A UNKNOWN		0.05 PPM	63	25035	LNA9-2
41			A [redacted]unk		0.02 PPM	79	17055	PBM
41			A UNKNOWN		0.02 PPM	116	9576	
42	Apr 16,93	14:43	A		0.00 PPB	60	0	ambient
43	Apr 16,93	14:48	C BENZENE		1.01 PPM	162	927505	BTCE
43			C TCE		1.52 PPM	189	2077141	
44	Apr 16,93	14:54	A UNKNOWN		0.01 PPM	66	13144	MBLANK (MANIFOLD)
44			A [redacted]unk		0.02 PPM	77	24161	PBM
44			A UNKNOWN		0.01 PPM	95	12562	
44			A [redacted]unk		0.08 PPM	112	96350	PBM

*** ANALYSIS *** PRESS <esc> TO STOP OR ANY OTHER KEY TO CONTINUE ***

TRACE	DATE	TIME	C/A	PEAK	CONCNT	RT	AREA	NAME
44			A [redacted]unk		0.06 PPM	128	67039	PBM
44			A UNKNOWN		0.24 PPM	153	219783	
44			A TCE		0.06 PPM	187	85629	
44			A TOLUENE#		0.01 PPM	244	14568	
44			A m-XYLENE#		0.11 PPM	388	69307	
44			A UNKNOWN		0.03 PPM	582	23984	
45	Apr 16,93	15:11	A		0.00 PPB	60	0	ambient
46	Apr 16,93	15:21	A		0.00 PPB	60	0	BLANK (WITHOUT MANIFOLD)
47	Apr 16,93	16:21	A TCE		0.05 PPM	191	72288	LNA10
47			A TOLUENE#		0.22 PPM	233	253570	
47			A m-XYLENE#		0.10 PPM	397	62586	
48	Apr 16,93	17:13	A TCE		0.01 PPM	191	15555	LNA11
48			A UNKNOWN		0.01 PPM	252	8414	
48			A m-XYLENE#		0.03 PPM	400	21420	
48			[redacted]					
48			[redacted]					PBM
48			[redacted]					
49	Apr 16,93	17:46	C BENZENE		1.01 PPM	176	1191664	BTCE
49			C TCE		1.52 PPM	207	2747436	
50	Apr 16,93	17:51	A [redacted]unk		0.02 PPM	109	4353	LNA11-2 PBM

*** ANALYSIS *** PRESS <esc> TO STOP OR ANY OTHER KEY TO CONTINUE ***

TRACE	DATE	TIME	C/A	PEAK	CONCNT	RT	AREA	NAME	
50			A	UNKNOWN	0.02 PPM	499	22741		
50			A	UNKNOWN	0.01 PPM	955	8043		
51	Apr 16,93	18:07	C	BENZENE	1.01 PPM	167	1302415	BTCE	
51			C	TCE	1.52 PPM	195	2999339		
52	Apr 16,93	18:12	A		0.00 PPB	60	0	LNA11-3	
53	Apr 16,93	18:22	A	[redacted]unk	0.08 PPM	219	132703	LNA10-2	PBM
53			A	UNKNOWN	0.04 PPM	237	47713		
54	Apr 16,93	18:39	A		0.00 PPB	60	0	LNA12	
55	Apr 16,93	18:58	A		0.00 PPB	60	0	LNA1c-4 (PECKED EK)	
56	Apr 16,93	19:02	A	[redacted]unk	0.02 PPM	112	35809	ambient	PBM
56			A	BENZENE	227.92 PPM	169	293905084		
56			A	[redacted]unk	0.86 PPM	229	1389854		PBM
56			A	TOLUENE#	0.50 PPM	252	808195		
56			A	UNKNOWN	9.58 PPM	285	12347877		
56			A	UNKNOWN	1.42 PPM	341	1833966		
56			A	p-XYLENE#	14.84 PPM	386	15943605		
56			A	UNKNOWN	1.07 PPM	449	1376676		
56			A	o-XYLENE#	2.31 PPM	505	1565906		
56			A	UNKNOWN	5.40 PPM	592	6961478		
56			A	[redacted]unk	1.47 PPM	665	527581		PBM
56			A	UNKNOWN	0.17 PPM	786	223673		

*** ANALYSIS *** PRESS <esc> TO STOP OR ANY OTHER KEY TO CONTINUE ***

TRACE	DATE	TIME	C/A	PEAK	CONCNT	RT	AREA	NAME	
56			A	UNKNOWN	0.06 PPM	857	71927		
57	Apr 16,93	19:18	A	UNKNOWN [redacted]		214	[redacted]	ambient	PBM
57			A	TOLUENE#	0.06 PPM	252	97336		
57			A	m-XYLENE#	0.56 PPM	400	515819		
57			A	o-XYLENE#	0.10 PPM	498	68142		
57			A	UNKNOWN	0.03 PPM	599	43404		
58	Apr 16,93	19:29	A	TOLUENE#	0.05 PPM	253	74165	ambient	
58			A	m-XYLENE#	0.31 PPM	402	286306		
59	Apr 16,93	19:36	A	[redacted]unk	0.00 PPM	145	26018	ambient	PBM
59			A	TOLUENE#	0.02 PPM	253	31460		
59			A	m-XYLENE#	0.11 PPM	401	98011		
60	Apr 16,93	19:45	A	TOLUENE#	0.02 PPM	253	28613	13	
60			A	m-XYLENE#	0.13 PPM	401	124087		
61	Apr 16,93	20:14	C	BENZENE	1.01 PPM	173	1379193	BTCE	
61			C	TCE	1.52 PPM	203	3167022		
62	Apr 16,93	20:19	A	TOLUENE#	0.01 PPM	260	11187	ambient	
62			A	m-XYLENE#	0.04 PPM	413	32447		
63	Apr 16,93	20:29	A	TOLUENE#	0.01 PPM	256	13017	ambient	
64	Apr 16,93	20:38	A		0.00 PPB	60	0	ambient	
65	Apr 16,93	20:44	A	[redacted]		255	[redacted] O	LNA13	PBM
66	Apr 16,93	21:04	A	[redacted]		254	[redacted] O	LNA7(Day2)	PBM

*** ANALYSIS *** PRESS <esc> TO STOP OR ANY OTHER KEY TO CONTINUE ***

TRACE	DATE	TIME	C/A	PEAK	CONCNT	RT	AREA	NAME	
66			A	[redacted]		404	[redacted] O		PBM
67	Apr 16,93	23:06	C	BENZENE	1.01 PPM	87	65709	BTCE	

67			C	TCE	1.52 PPM	105	147300	
68	Apr	16,93 23:22	A	UNKNOWN	0.44 PPM	404	28911	ambient
69	Apr	16,93 23:39	A	ETH BENZ#	0.06 PPM	188	2134	ambient
69			A	UNKNOWN	0.08 PPM	249	5485	
69			A	UNKNOWN	0.33 PPM	395	21410	
70	Apr	16,93 23:52	A	UNKNOWN	0.08 PPM	250	5314	ambient
71	Apr	17,93 00:04	A		0.00 PPB	60	0	ambient
72	Apr	17,93 00:15	C	BENZENE	1.01 PPM	158	963759	BTCE
72			C	TCE	1.52 PPM	183	1896743	
73	Apr	17,93 00:21	A	UNKNOWN	0.00 PPM	201	4390	LNA13dup
74	Apr	17,93 00:52	A	[redacted]unk	0.01 PPM	120	8496	LNA7dup PBM
74			A	TCE	0.01 PPM	183	18381	
74			A	UNKNOWN	0.02 PPM	205	23129	
74			A	TOLUENE#	0.01 PPM	241	9347	
74			A	m-XYLENE#	0.06 PPM	384	43877	
75	Apr	17,93 01:09	A	TOLUENE#	0.00 PPM	242	4874	ambient
76	Apr	17,93 12:18	C	BENZENE	1.01 PPM	191	904248	BTCE
76			C	TCE	1.52 PPM	228	2592211	
77	Apr	17,93 12:24	C	BENZENE	1.01 PPM	176	1399138	BTCE

*** ANALYSIS *** PRESS <esc> TO STOP OR ANY OTHER KEY TO CONTINUE ***

TRACE	DATE	TIME	C/A	PEAK	CONCNT	RT	AREA	NAME
77			C	TCE	1.52 PPM	208	3509052	
78	Apr	17,93 12:32	A		0.00 PPB	60	0	LNA14
79	Apr	17,93 12:55	A	UNKNOWN	0.01 PPM	249	20202	LNA15
80	Apr	17,93 13:12	A		0.00 PPB	60	0	LNA15-2
81	Apr	17,93 13:22	A	[redacted]unk	0.55 PPM	74	30403	ambient PBM
81			A	UNKNOWN	0.03 PPM	288	38860	
82	Apr	17,93 13:50	C	BENZENE	1.01 PPM	172	1710532	BTCE
82			C	TCE	1.52 PPM	202	4242039	
83	Apr	17,93 13:54	A	UNKNOWN	0.01 PPM	158	16744	ambient
83			A	TOLUENE#	0.00 PPM	258	6811	
84	Apr	17,93 14:06	A	TOLUENE#	0.00 PPM	254	529	ambient
85	Apr	17,93 14:13	A		0.00 PPB	60	0	ambient
86	Apr	17,93 14:23	C	BENZENE	1.01 PPM	170	599993	BTCE
86			C	TCE	1.52 PPM	198	1325748	
87	Apr	17,93 14:27	A		0.00 PPB	60	0	LNA16
88	Apr	17,93 14:37	C	BENZENE	1.01 PPM	169	1147264	BTCE
88			C	TCE	1.52 PPM	197	2566057	
89	Apr	17,93 14:43	C	BENZENE	1.01 PPM	169	1081792	BTCE
89			C	TCE	1.52 PPM	197	2416919	
90	Apr	17,93 14:47	A		0.00 PPB	60	0	LNA16-2
91	Apr	17,93 15:20	C	BENZENE	1.01 PPM	183	1072456	BTCE

*** ANALYSIS *** PRESS <esc> TO STOP OR ANY OTHER KEY TO CONTINUE ***

TRACE	DATE	TIME	C/A	PEAK	CONCNT	RT	AREA	NAME
91			C	TCE	1.52 PPM	215	2223035	
92	Apr	17,93 15:24	A	UNKNOWN	0.01 PPM	135	7810	LNA16-3
92			A	[redacted]unk	0.00 PPM	166	13743	PBM
92			A	TOLUENE#	0.01 PPM	272	12490	
93	Apr	17,93 15:43	A	[redacted]unk	0.05 PPM	129	61686	LNA17 PBM
93			A	[redacted]unk	0.06 PPM	223	12355	PBM
94	Apr	17,93 16:36	C	BENZENE	1.01 PPM	161	1080072	BTCE
94			C	TCE	1.52 PPM	187	2450289	

95	Apr 17,93	16:48	C	BENZENE	1.01	PPM	161	1273700	BTCE	
95			C	TCE	1.52	PPM	188	2848680		
96	Apr 17,93	16:53	A		0.00	PPB	60	0	ambient	
97	Apr 17,93	17:14	A	[redacted]	0.01	PPM	120	5579	LNA18	PBM
97			A	BENZENE	0.00	PPM	160	4371		
98	Apr 17,93	17:34	C	BENZENE	1.01	PPM	169	1968719	BTCE	
98			C	TCE	1.52	PPM	197	4149702		
99	Apr 17,93	17:40	A	UNKNOWN	0.01	PPM	124	28338	LNA18-2	
99			A	BENZENE	0.02	PPM	164	31679		
99			A	[redacted]	0.02	PPM	220	53659		PBM
100	Apr 17,93	18:25	A	UNKNOWN	0.01	PPM	187	21804	LNA19	
100			A	TOLUENE#	0.01	PPM	246	13549		
100			A	p-XYLENE#	0.22	PPM	391	364087		

*** ANALYSIS *** PRESS <esc> TO STOP OR ANY OTHER KEY TO CONTINUE ***

TRACE	DATE	TIME	C/A	PEAK	CONCNT		RT	AREA	NAME	
100			A	o-XYLENE#	0.05	PPM	489	48013		
101	Apr 18,93	14:31	C	BENZENE	1.01	PPM	193	301321	BTCE	
101			C	TCE	1.52	PPM	230	705025		
102	Apr 18,93	14:38	C	BENZENE	1.01	PPM	177	431768	BTCE	
102			C	TCE	1.52	PPM	208	773616		
103	Apr 18,93	14:45	A		0.00	PPB	60	0	LNA15-3 (PREHEAD GC)	
104	Apr 18,93	15:03	A	UNKNOWN	0.56	PPM	63	239336	ambient	
104			A	[redacted]	5.42	PPM	77	92691		PBM
105	Apr 18,93	15:19	A	UNKNOWN	0.19	PPM	64	81602	ambient	
105			A	[redacted]	2.30	PPM	77	39343		PBM
105			A	[redacted]	0.24	PPM	92	22131		PBM
105			A	[redacted]	0.02	PPM	117	9143		PBM
105			A	[redacted]	0.02	PPM	146	13516		PBM
105			A	UNKNOWN	0.03	PPM	170	11098		
105			A	TOLUENE#	0.01	PPM	255	7360		
106	Apr 18,93	15:31	A	UNKNOWN	0.03	PPM	69	13225	ambient	
106			A	[redacted]	0.22	PPM	77	3834		PBM
106			A	[redacted]	0.15	PPM	92	13566		PBM
106			A	[redacted]	0.07	PPM	148	37745		PBM
107	Apr 18,93	15:42	A	[redacted]	0.04	PPM	93	3878	ambient	PBM
107			A	[redacted]	0.06	PPM	148	35813		PBM

*** ANALYSIS *** PRESS <esc> TO STOP OR ANY OTHER KEY TO CONTINUE ***

TRACE	DATE	TIME	C/A	PEAK	CONCNT		RT	AREA	NAME	
107			A	BENZENE#	0.01	PPM	172	3020		
108	Apr 18,93	15:57	A	[redacted]	0.03	PPM	94	2787	ambient	PBM
109	Apr 18,93	16:08	A		0.00	PPB	60	0	ambient	
110	Apr 18,93	16:17	C	BENZENE	1.01	PPM	57	26167	BTCE (CALIBRATION OFF)	
110			C	TCE	1.52	PPM	177	258969		
111	Apr 18,93	16:22	A	[redacted]					LNA15-4 PBM	
111			A	[redacted]						
111			A	[redacted]						
111			A	[redacted]						
111			A	[redacted]						
111			A	[redacted]						
111			A	[redacted]						
111			A	[redacted]						
112	Apr 18,93	17:03	C	BENZENE	1.01	PPM	69	573629	BTCE (CALIBRATION OFF)	

112			C TCE	1.52 PPM	84	132126		
113	Apr 18,93	17:07	A [redacted]				ambient	PBM ↓
113			A [redacted]					
113			A [redacted]					
113			A [redacted]					
114	Apr 18,93	17:11	A [redacted]				ambient	
114			A [redacted]					

*** ANALYSIS *** PRESS <esc> TO STOP OR ANY OTHER KEY TO CONTINUE ***

TRACE	DATE	TIME	C/A	PEAK	CONCNT	RT	AREA	NAME	
114			A	[redacted]					PBM ↓
115	Apr 18,93	17:14	A	[redacted]				ambient	
115			A	[redacted]					
116	Apr 18,93	17:18	A	[redacted]				ambient	
116			A	[redacted]					
117	Apr 18,93	17:21	A	[redacted]				ambient	
118	Apr 18,93	17:25	A	[redacted]				ambeint	
119	Apr 18,93	17:28	C	BENZENE	1.01 PPM	184	123693	BTCE	
119			C	TCE	1.52 PPM	213	217293		
120	Apr 18,93	17:35	A	UNKNOWN	949.56 PPM	75	116290552	LNA15-5	
120			A	UNKNOWN	75.27 PPM	86	9218506		
120			A	[redacted] unk	148.36 PPM	100	3949743		PBM
120			A	[redacted] unk	12.09 PPM	127	1850335		PBM
120			A	[redacted] unk	3.62 PPM	149	591335		PBM
120			A	[redacted] unk	0.15 PPM	162	184381		PBM
120			A	BENZENE	15.44 PPM	185	1891279		
121	Apr 18,93	17:51	A	UNKNOWN	31.27 PPM	72	3829211	ambient	
121			A	[redacted] unk	8.55 PPM	87	1309599		PBM
121			A	UNKNOWN	3.33 PPM	102	407235		
121			A	[redacted] unk	8.45 PPM	111	166933		PBM
121			A	[redacted] unk	0.98 PPM	129	150133		PBM

*** ANALYSIS *** PRESS <esc> TO STOP OR ANY OTHER KEY TO CONTINUE ***

TRACE	DATE	TIME	C/A	PEAK	CONCNT	RT	AREA	NAME	
121			A	BENZENE	0.33 PPM	186	40826		
122	Apr 18,93	17:55	A	UNKNOWN	0.92 PPM	71	112971	ambient	
122			A	UNKNOWN	0.28 PPM	86	34640		
122			A	UNKNOWN	0.18 PPM	102	22642		
123	Apr 18,93	17:59	A	UNKNOWN	0.06 PPM	71	7699	ambient	
123			A	UNKNOWN	0.04 PPM	86	5285		
124	Apr 18,93	18:02	A	UNKNOWN	0.05 PPM	71	6109	ambient	
124			A	UNKNOWN	0.05 PPM	86	5665		
124			A	UNKNOWN	0.07 PPM	102	8906		
125	Apr 18,93	18:06	A	UNKNOWN	0.04 PPM	86	5499	ambient	
126	Apr 18,93	18:09	A		0.00 PPB	60	0	ambient	
127	Apr 30,93	15:34	C	BENZENE	1.01 PPM	167	1053117	BTCE	
127			C	TCE	1.52 PPM	194	2354454		
128	Apr 30,93	15:38	A		0.00 PPB	60	0	ambient	
129	Apr 30,93	15:56	A	[redacted] unk	0.21 PPM	666	61102	LNA3(Day2)	
129			A	UNKNOWN	0.06 PPM	770	61617		PBM
130	Apr 30,93	16:13	C	BENZENE	1.01 PPM	169	1885086	BTCE	
130			C	TCE	1.52 PPM	196	4094891		
131	Apr 30,93	16:18	A		0.00 PPB	60	0	LNA3(D2-2)	
132	Apr 30,93	16:37	C	BENZENE	1.01 PPM	172	1152583	BTCE	

132			C TCE	1.52 PPM	200	2519145	

*** ANALYSIS *** PRESS <esc> TO STOP OR ANY OTHER KEY TO CONTINUE ***

TRACE	DATE	TIME	C/A	PEAK	CONCNT	RT	AREA	NAME
133	Apr 30,93	16:46	A		0.00 PPB	60	0	LNA2(Day2)
134	Apr 30,93	17:07	A	BENZENE	0.38 PPM	174	437910	spike
134			A	TOLUENE#	0.23 PPM	263	328223	
134			A	p-XYLENE#	0.18 PPM	392	170346	
134			A	m-XYLENE#	0.75 PPM	418	609118	
135	Apr 30,93	17:22	A		0.00 PPB	60	0	ambient
136	Apr 30,93	17:35	A		0.00 PPB	60	0	LNA4(Day2)
137	Apr 30,93	17:52	C	BENZENE	1.01 PPM	161	1990154	BTCE
137			C	TCE	1.52 PPM	187	4207461	
138	Apr 30,93	17:57	A	UNKNOWN	0.01 PPM	894	10752	LNA4(D2-2)
139	Apr 30,93	18:16	A		0.00 PPB	60	0	LNA5(Day2)
140	Apr 30,93	18:33	C	BENZENE	1.01 PPM	52	85527	BTCE (CALIBRATION OFF)
140			C	TCE	1.52 PPM	169	173936	
141	Apr 30,93	18:39	A	[redacted]				LNA9-3 PBM ↓
141			A	[redacted]				
141			A	[redacted]				
141			A	[redacted]				
141			A	[redacted]				
141			A	[redacted]				
141			A	[redacted]				
141			A	[redacted]				

*** ANALYSIS *** PRESS <esc> TO STOP OR ANY OTHER KEY TO CONTINUE ***

TRACE	DATE	TIME	C/A	PEAK	CONCNT	RT	AREA	NAME
141			A	[redacted]				PBM ↓
142	Apr 30,93	18:56	A	[redacted]				ambient
142			A	[redacted]				
142			A	[redacted]				
142			A	[redacted]				
142			A	[redacted]				
142			A	[redacted]				
143	Apr 30,93	19:01	A	[redacted]				ambient
143			A	[redacted]				
143			A	[redacted]				
143			A	[redacted]				
143			A	[redacted]				
143			A	[redacted]				
144	Apr 30,93	19:05	A	[redacted]				ambient
144			A	[redacted]				
144			A	[redacted]				
144			A	[redacted]				
144			A	[redacted]				
144			A	[redacted]				
145	Apr 30,93	19:09	A	[redacted]				ambient
145			A	[redacted]				

*** ANALYSIS *** PRESS <esc> TO STOP OR ANY OTHER KEY TO CONTINUE ***

TRACE	DATE	TIME	C/A	PEAK	CONCNT	RT	AREA	NAME

145		A [redacted]					
145		A [redacted]					
145		A [redacted]					
146	Apr 30,93 19:14	A [redacted]					ambient
146		A [redacted]					
146		A [redacted]					
146		A [redacted]					
146		A [redacted]					
147	Apr 30,93 19:29	C BENZENE	1.01	PPM	168	1924475	BTCE
147		C TCE	1.52	PPM	195	3863792	
148	Apr 30,93 19:34	A [redacted]unk	0.04	PPM	125	61336	LNA6(Day2) PBM
148		A UNKNOWN	0.02	PPM	217	47258	
149	Apr 30,93 21:22	C BENZENE	1.01	PPM	34	15109	BTCE (CALIBRATION OFF)
149		C TCE	1.52	PPM	55	17049212	
150	Apr 30,93 23:00	C [redacted]					BTCE
150		C [redacted]					
151	Apr 30,93 23:05	A [redacted]					ambient
152	Apr 30,93 23:14	A [redacted]					ambient
153	Apr 30,93 23:25	A [redacted]					ambient
154	Apr 30,93 23:29	A [redacted]					ambient
155	Apr 30,93 23:34	C BENZENE	1.01	PPM	162	178750	BTCE

*** ANALYSIS *** PRESS <esc> TO STOP OR ANY OTHER KEY TO CONTINUE ***

TRACE	DATE	TIME	C/A	PEAK	CONCNT		RT	AREA	NAME
155			C	TCE	1.52	PPM	187	330752	
156	Apr 30,93	23:41	A	UNKNOWN	786.44	PPM	61	139184842	LNA9-4
156			A	[redacted]unk	204.64	PPM	78	45272134	PBM
156			A	[redacted]unk	47.71	PPM	88	1835606	PBM
156			A	[redacted]unk	1.54	PPM	111	341727	PBM
157	Apr 30,93	23:51	A	UNKNOWN	33.33	PPM	62	5898435	ambient
157			A	[redacted]unk	7.05	PPM	78	1560349	PBM
157			A	UNKNOWN	1.04	PPM	89	183550	
157			A	[redacted]unk	0.33	PPM	113	73122	PBM
158	May 01,93	00:01	A	UNKNOWN	0.78	PPM	63	138811	ambient
158			A	[redacted]unk	17.19	PPM	69	121658	PBM
158			A	[redacted]unk	0.60	PPM	78	132308	PBM
158			A	UNKNOWN	0.15	PPM	89	26871	
158			A	[redacted]unk	0.24	PPM	114	52406	PBM
159	May 01,93	00:08	A	UNKNOWN	0.30	PPM	62	52777	ambient
159			A	UNKNOWN	0.24	PPM	89	42198	
159			A	[redacted]unk	0.19	PPM	113	42672	PBM
159			A	UNKNOWN	0.04	PPM	154	6852	
160	May 01,93	00:20	A	UNKNOWN	0.09	PPM	63	16027	ambient
160			A	[redacted]unk	3.42	PPM	69	24195	PBM
160			A	[redacted]unk	0.11	PPM	79	23985	PBM

*** ANALYSIS *** PRESS <esc> TO STOP OR ANY OTHER KEY TO CONTINUE ***

TRACE	DATE	TIME	C/A	PEAK	CONCNT		RT	AREA	NAME
160			A	UNKNOWN	0.15	PPM	89	26756	
160			A	[redacted]unk	0.15	PPM	114	32480	PBM
161	May 01,93	00:24	A	UNKNOWN	[redacted]		63	[redacted]	ambient
161			A	UNKNOWN	0.08	PPM	89	14627	
162	May 01,93	00:28	A	[redacted]unk	0.02	PPM	113	5072	ambient PBM

163	May 01,93 00:32	A [redacted] unk	0.02	PPM	80	4802	ambient	PBM
163		A UNKNOWN	0.00	PPM	89	575		
164	May 01,93 00:39	A UNKNOWN	445.14	PPM	61	78780560	LNA15-6	
164		A [redacted] unk	30.54	PPM	77	6755340		PBM
164		A UNKNOWN	17.67	PPM	90	3127130		
164		A [redacted] unk	8.11	PPM	113	1350634		PBM
164		A [redacted] unk	2.40	PPM	133	566947		PBM
164		A BENZENE	6.34	PPM	165	1122495		
164		A ETH BENZ#	1.07	PPM	363	99306		
165	May 01,93 00:47	A UNKNOWN	13.06	PPM	64	2311228	ambient	
165		A [redacted] unk	3.75	PPM	77	829864		PBM
165		A UNKNOWN	0.86	PPM	90	152394		
165		A [redacted] unk	0.08	PPM	114	18767		PBM
165		A BENZENE	0.07	PPM	165	13081		
166	May 01,93 00:54	A UNKNOWN	0.19	PPM	63	32936	ambient	
166		A [redacted] unk	0.04	PPM	77	9144		PBM

*** ANALYSIS *** PRESS <esc> TO STOP OR ANY OTHER KEY TO CONTINUE ***

TRACE	DATE	TIME	C/A	PEAK	CONCNT		RT	AREA	NAME	
167	May 01,93 00:58		A		0.00	PPB	53	0	ambient	
168	May 01,93 01:03		A	UNKNOWN	878.85	PPM	56	155538968	LNA1c-5	
168			A	UNKNOWN	32.34	PPM	93	5723329		
168			A	[redacted] unk	8.13	PPM	113	1798971		PBM
168			A	[redacted] unk	5.74	PPM	130	1353399		PBM
168			A	BENZENE#	322.72	PPM	167	57114258		
168			A	TOLUENE#	534.73	PPM	242	118296118		
168			A	m-XYLENE#	1392.19	PPM	385	146661112		
168			A	o-XYLENE#	80.64	PPM	482	7511665		
168			A	UNKNOWN	3.36	PPM	534	594900		
168			A	UNKNOWN	24.70	PPM	577	4371606		
168			A	UNKNOWN	3.70	PPM	637	655445		
168			A	[redacted] unk	23.08	PPM	696	389029		PBM
168			A	UNKNOWN	12.32	PPM	771	2179999		
169	May 01,93 01:20		A	UNKNOWN	66.03	PPM	65	11685349	ambient	
169			A	[redacted] unk	7.04	PPM	80	1557164		PBM
169			A	UNKNOWN	3.31	PPM	93	586535		
169			A	[redacted] unk	9.16	PPM	100	261467		PBM
169			A	UNKNOWN	0.61	PPM	116	107273		
169			A	UNKNOWN	8.85	PPM	168	1565482		
169			A	UNKNOWN	18.37	PPM	250	3250463		

*** ANALYSIS *** PRESS <esc> TO STOP OR ANY OTHER KEY TO CONTINUE ***

TRACE	DATE	TIME	C/A	PEAK	CONCNT		RT	AREA	NAME	
169			A	p-XYLENE#	3.33	PPM	368	491529		
169			A	m-XYLENE#	13.31	PPM	392	1682778		
169			A	o-XYLENE#	3.72	PPM	486	346908		
169			A	UNKNOWN	0.35	PPM	580	62140		
170	May 01,93 01:36		A	UNKNOWN	5.28	PPM	66	933872	ambient	
170			A	[redacted] unk	3.90	PPM	82	187643		PBM
170			A	UNKNOWN	0.33	PPM	93	58870		
170			A	[redacted] unk	1.06	PPM	101	30117		PBM
170			A	UNKNOWN	0.19	PPM	116	33738		
170			A	UNKNOWN	2.21	PPM	169	391026		
170			A	UNKNOWN	6.91	PPM	251	1223380		

170		A	p-XYLENE#	1.38 PPM	371	203451	
170		A	m-XYLENE#	5.30 PPM	394	670413	
170		A	o-XYLENE#	1.36 PPM	489	127036	
171	May 01,93 01:49	A	UNKNOWN	0.05 PPM	56	8441	ambient
171		A	UNKNOWN	0.72 PPM	66	128261	
171		A	UNKNOWN	0.30 PPM	93	52458	
171		A	[redacted]unk	0.99 PPM	101	28140	PBM
171		A	UNKNOWN	0.12 PPM	117	21505	
171		A	UNKNOWN	0.75 PPM	170	132943	
171		A	UNKNOWN	3.51 PPM	253	620525	

*** ANALYSIS *** PRESS <esc> TO STOP OR ANY OTHER KEY TO CONTINUE ***

TRACE	DATE	TIME	C/A	PEAK	CONCNT	RT	AREA	NAME
171			A	p-XYLENE#	0.74 PPM	373	109871	
171			A	m-XYLENE#	2.80 PPM	395	354124	
171			A	o-XYLENE#	0.43 PPM	491	39841	
172	May 01,93 01:58		A	UNKNOWN	0.06 PPM	66	9775	ambient
172			A	UNKNOWN	0.11 PPM	93	19377	
172			A	[redacted]unk	0.20 PPM	101	5848	PBM
172			A	UNKNOWN	0.01 PPM	117	1675	
172			A	UNKNOWN	0.30 PPM	170	52759	
172			A	UNKNOWN	1.99 PPM	253	351696	
172			A	m-XYLENE#	2.19 PPM	396	276838	
172			A	o-XYLENE#	0.22 PPM	490	20680	
173	May 01,93 02:07		A	UNKNOWN	24268.06 PPM	94	-1893	ambient
173			A	[redacted]unk	0.05 PPM	102	1340	PBM
173			A	UNKNOWN	1.67 PPM	253	295531	
173			A	p-XYLENE#	0.15 PPM	373	22005	
173			A	m-XYLENE#	0.85 PPM	399	108029	
174	May 01,93 02:14		A	UNKNOWN	0.84 PPM	255	148892	ambient
174			A	m-XYLENE#	0.33 PPM	397	41431	
175	May 01,93 02:22		A	UNKNOWN	0.57 PPM	255	101395	ambient
176	May 01,93 11:50		C	BENZENE	1.01 PPM	140	1639	BTCE
176			C	TCE	1.52 PPM	194	364319	

*** ANALYSIS *** PRESS <esc> TO STOP OR ANY OTHER KEY TO CONTINUE ***

TRACE	DATE	TIME	C/A	PEAK	CONCNT	RT	AREA	NAME
177	May 01,93 11:56		A	TOLUENE#	5.34 PPM	207	10828	ambient
177			A	UNKNOWN	7.35 PPM	238	11923	
177			A	UNKNOWN	12.44 PPM	271	20191	
178	May 01,93 12:04		A		0.00 PPB	53	0	ambient
179	May 01,93 12:13		C	BENZENE	1.01 PPM	163	1133894	BTCE
179			C	TCE	1.52 PPM	190	2621488	
180	May 01,93 12:18		A		0.00 PPB	53	0	LNA20
181	May 01,93 12:29		C	BENZENE	1.01 PPM	162	2055050	BTCE
181			C	TCE	1.52 PPM	188	4395174	
182	May 01,93 12:34		A	m-XYLENE#	[redacted]	389	[redacted]	LNA20-2 PBM
183	May 01,93 12:51		C	BENZENE	1.01 PPM	163	1176020	BTCE
183			C	TCE	1.52 PPM	190	2598855	
184	May 01,93 13:00		A		0.00 PPB	53	0	LNA11(Day2)
185	May 01,93 13:14		C	BENZENE	1.01 PPM	163	1944538	BTCE
185			C	TCE	1.52 PPM	190	4046560	
186	May 01,93 13:19		A		0.00 PPB	53	0	LNA11(D2-2)
187	May 01,93 13:32		C	BENZENE	1.01 PPM	165	1135250	BTCE

187		C TCE	1.52 PPM	191	2457575		
188	May 01,93 13:38	A [redacted] unk	0.01 PPM	136	8831	LNA8(Day2)	PBM
188		A TCE	0.04 PPM	187	68626		
189	May 01,93 13:51	C BENZENE	1.01 PPM	164	1873058	BTCE	

*** ANALYSIS *** PRESS <esc> TO STOP OR ANY OTHER KEY TO CONTINUE ***

TRACE	DATE	TIME	C/A	PEAK	CONCNT	RT	AREA	NAME	
189			C	TCE	1.52 PPM	191	3859737		
190	May 01,93 13:55		A	[redacted] unk	0.01 PPM	136	27582	LNA8(D2-2)	PBM
190			A	TCE	0.06 PPM	190	151668		
191	May 01,93 14:04		C	BENZENE	1.01 PPM	169	144464	BTCE	
191			C	TCE	1.52 PPM	196	333627		
192	May 01,93 14:09		A	UNKNOWN	616.22 PPM	65	88140724	LNA9(Day2)	
192			A	[redacted] unk	34.60 PPM	81	6186365		PBM
192			A	[redacted] unk	84.30 PPM	92	2621384		PBM
192			A	[redacted] unk	9.03 PPM	116	1614034		PBM
192			A	[redacted] unk	4.71 PPM	135	898952		PBM
192			A	UNKNOWN	7.88 PPM	159	1126478		
192			A	TCE	0.48 PPM	193	105835		
192			A	p-XYLENE#	0.23 PPM	388	27662		
193	May 01,93 14:23		A	UNKNOWN	17.47 PPM	65	2499459	ambient	
193			A	[redacted] unk	2.91 PPM	81	519636		PBM
193			A	[redacted] unk	2.84 PPM	92	88333		PBM
193			A	[redacted] unk	0.51 PPM	118	91472		PBM
194	May 01,93 14:32		A	UNKNOWN	0.19 PPM	65	26847	ambient	
194			A	[redacted] unk	2.93 PPM	71	16753		PBM
194			A	[redacted] unk	0.35 PPM	91	10984		PBM
194			A	[redacted] unk	0.11 PPM	117	19855		PBM

*** ANALYSIS *** PRESS ANY KEY TO RETURN TO MENU ***

TRACE	DATE	TIME	C/A	PEAK	CONCNT	RT	AREA	NAME
195	May 01,93 14:36		A		0.00 PPB	53	0	ambient

SCENTOGRAPH TRACE PRINOUT

TRACE #47 DATE: Fri Apr 16 16:21:36 1993

CHANNEL: 1 NAME: LNA10

COLUMN: 10%SP1000 DETECTOR: AID

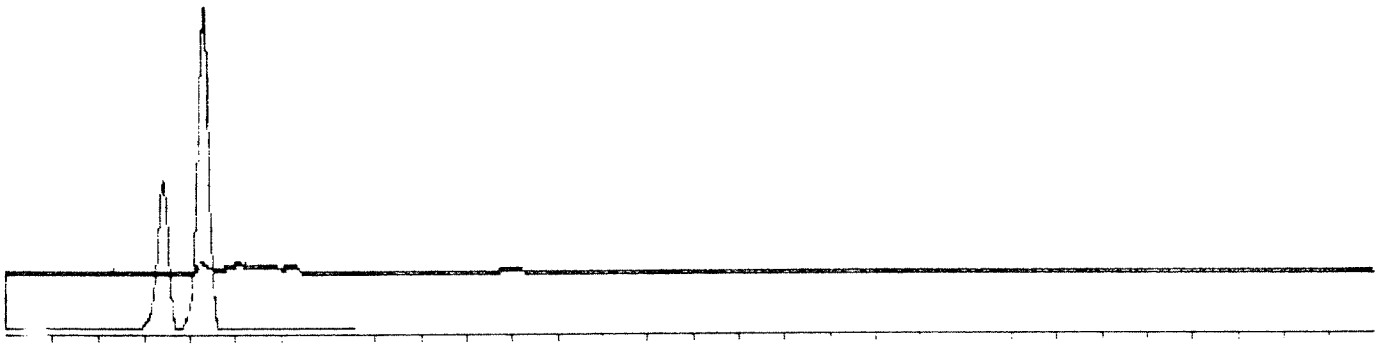
COLUMN PRESSURE: 26

TEMPERATURE: 100 INHIBIT TIME: 60 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	TCE	191	72288	0.053 PPM
2	TOLUENE#	233	253570	0.221 PPM
3	m-XYLENE#	397	62586	0.095 PPM
	TOTAL AREA:		388444	

NAME: LNA10
UPPER TRACE #47 12.93% Apr 16,93 16:21
LOWER TRACE #43 100.00%

COLUMN: 10%SP1000
COLUMN PRESSURE: 26
DETECTOR: AID
TEMPERATURE: 100-100, 0 Secs
SAMPLE TIME: 10
GAIN: 1.000
DURATION: 15 Minutes



SCENTOGRAPH TRACE PRINOUT

TRACE #48 DATE: Fri Apr 16 17:13:15 1993

CHANNEL: 1 NAME: LNA11

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 26

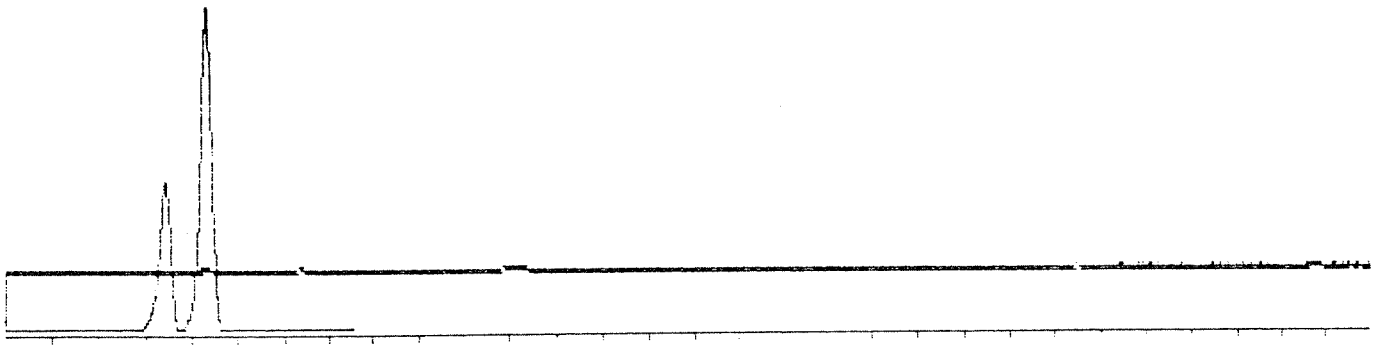
TEMPERATURE: 100 INHIBIT TIME: 60 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	TCE	191	15555	0.011 PPM
2	UNKNOWN	252	8414	0.009 PPM
3	m-XYLENE#	400	21420	0.033 PPM
~~4~~	~~UNKNOWN~~	~~885~~	~~36206~~	~~0.040 PPM~~ PBM
~~5~~	~~UNKNOWN~~	~~943~~	~~24976~~	~~0.028 PPM~~ PBM
~~6~~	~~UNKNOWN~~	~~979~~	~~67974~~	~~0.074 PPM~~ PBM

TOTAL AREA: ~~174625~~ 45389

NAME: LNA11
UPPER TRACE #48 5.81% Apr 16,93 17:13
LOWER TRACE #43 100.00%

COLUMN: 10%SP1000
COLUMN PRESSURE: 26
DETECTOR: AID
TEMPERATURE: 100-100, 0 Secs
SAMPLE TIME: 10
GAIN: 1.000
DURATION: 15 Minutes



SCENTOGRAPH TRACE PRINOUT

TRACE #54 DATE: Fri Apr 16 18:39:34 1993

CHANNEL: 1 NAME: LNA12

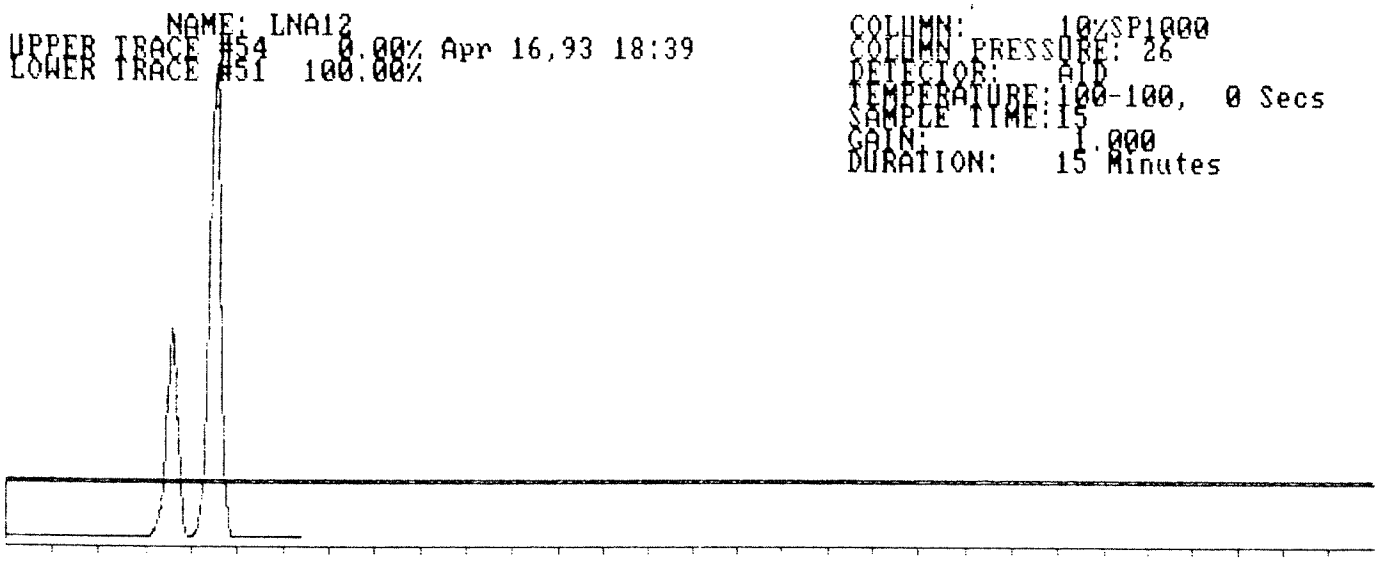
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 26

TEMPERATURE: 100 INHIBIT TIME: 60 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION

TOTAL AREA: 0



SCENTOGRAPH TRACE PRINOUT

TRACE #65 DATE: Fri Apr 16 20:44:10 1993

CHANNEL: 1 NAME: LNA13

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 26

TEMPERATURE: 100 INHIBIT TIME: 60 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	TOLUENE	165	9887	0.006 PPM

TOTAL AREA: 9887 0

NAME: LNA13

UPPER TRACE #65 0.22% Apr 16,93 20:44

LOWER TRACE #61 100.00%

COLUMN: 10%SP1000

COLUMN PRESSURE: 26

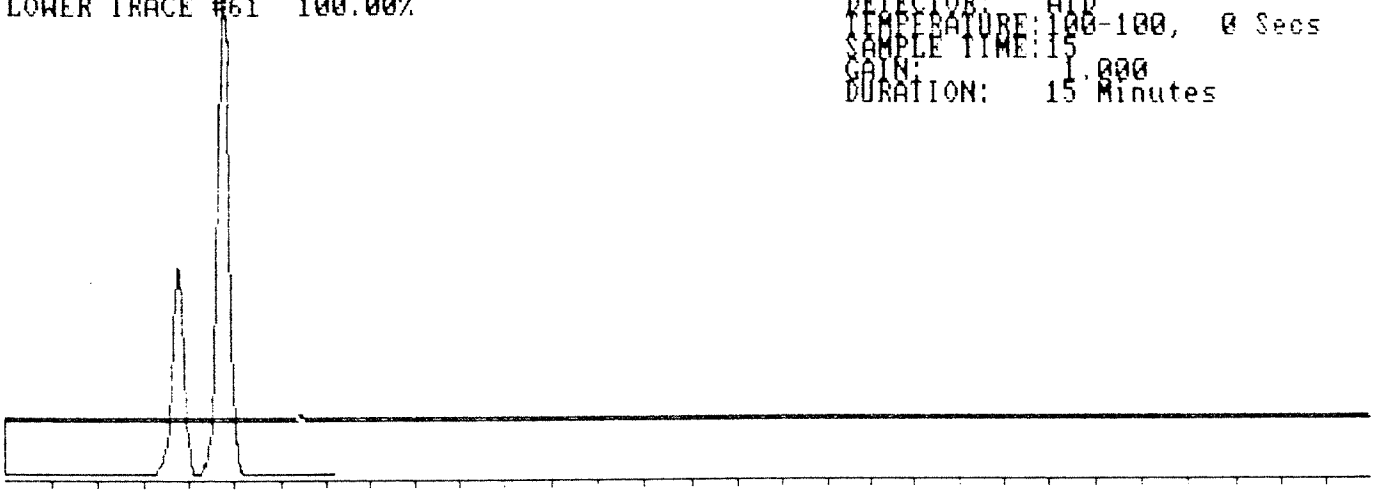
DETECTOR: AID

TEMPERATURE: 100-100, 0 Secs

SAMPLE TIME: 15

GAIN: 1.000

DURATION: 15 Minutes



SCENTOGRAPH TRACE PRINOUT

TRACE #66 DATE: Fri Apr 16 21:04:09 1993

CHANNEL: 1 NAME: LNA7(Day2)

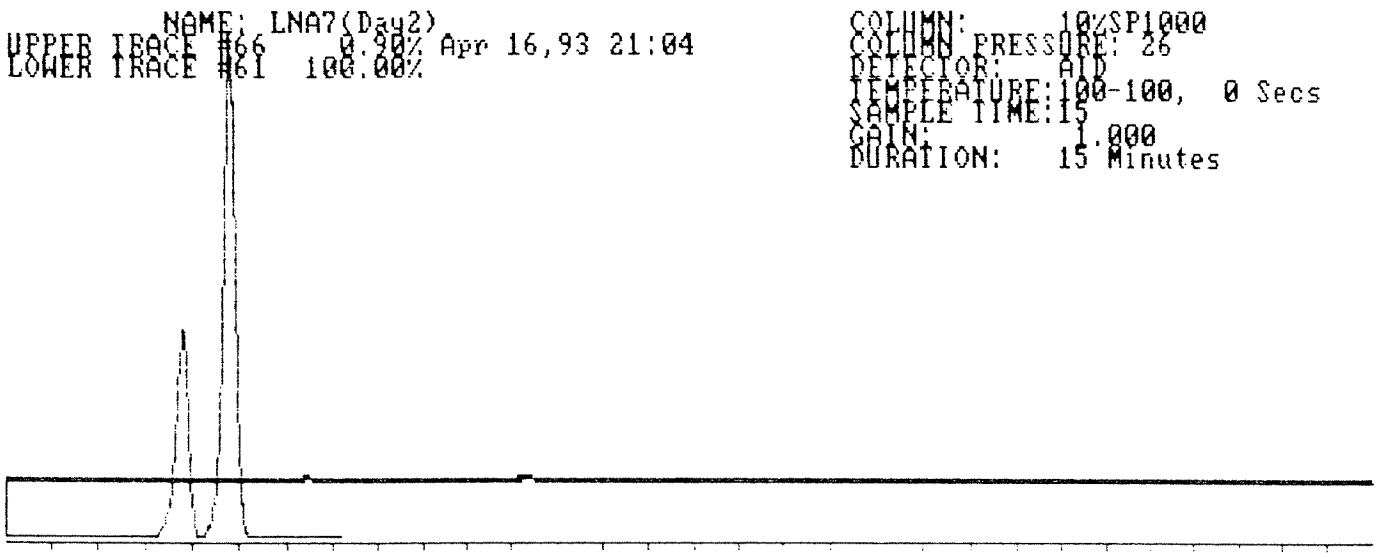
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 26

TEMPERATURE: 100 INHIBIT TIME: 60 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	~~TOLUENE#~~	~~254~~	~~10712~~	~~0.006 PPM~~ PPM
2	~~M-XYLENE#~~	~~404~~	~~30389~~	~~0.037 PPM~~ PPM

TOTAL AREA: ~~41101~~ 0



SCENTOGRAPH TRACE PRINOUT

TRACE #78 DATE: Sat Apr 17 12:32:33 1993

CHANNEL: 1 NAME: LNA14

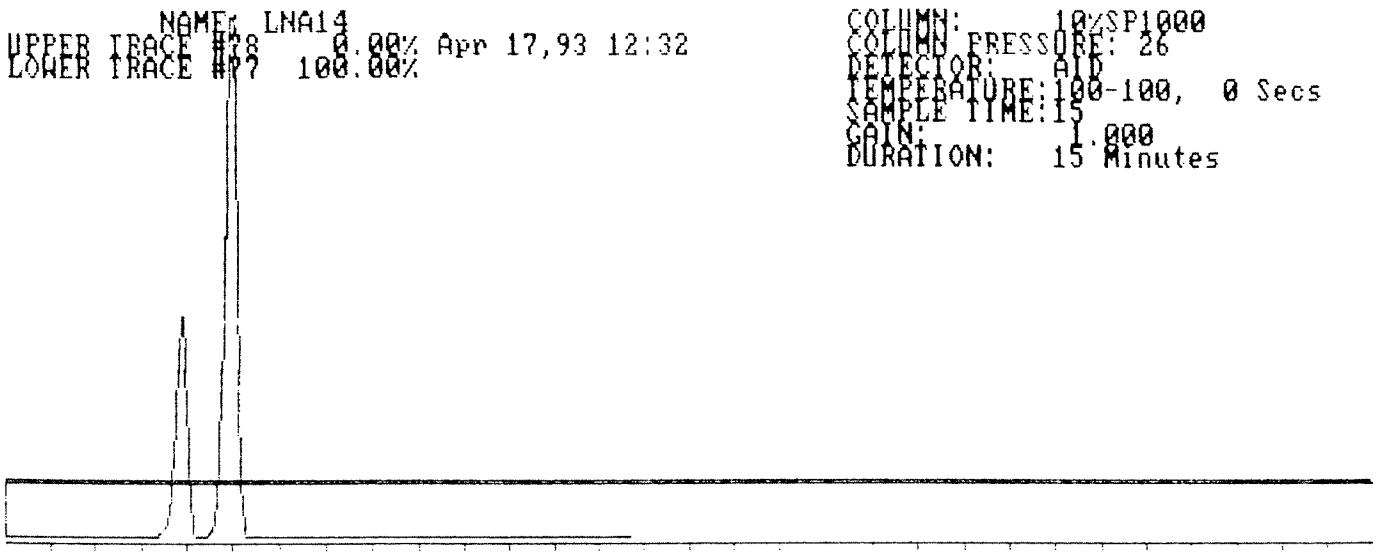
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 26

TEMPERATURE: 100 INHIBIT TIME: 60 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION

TOTAL AREA: 0



SCENTOGRAPH TRACE PRINOUT

TRACE #79 DATE: Sat Apr 17 12:55:32 1993

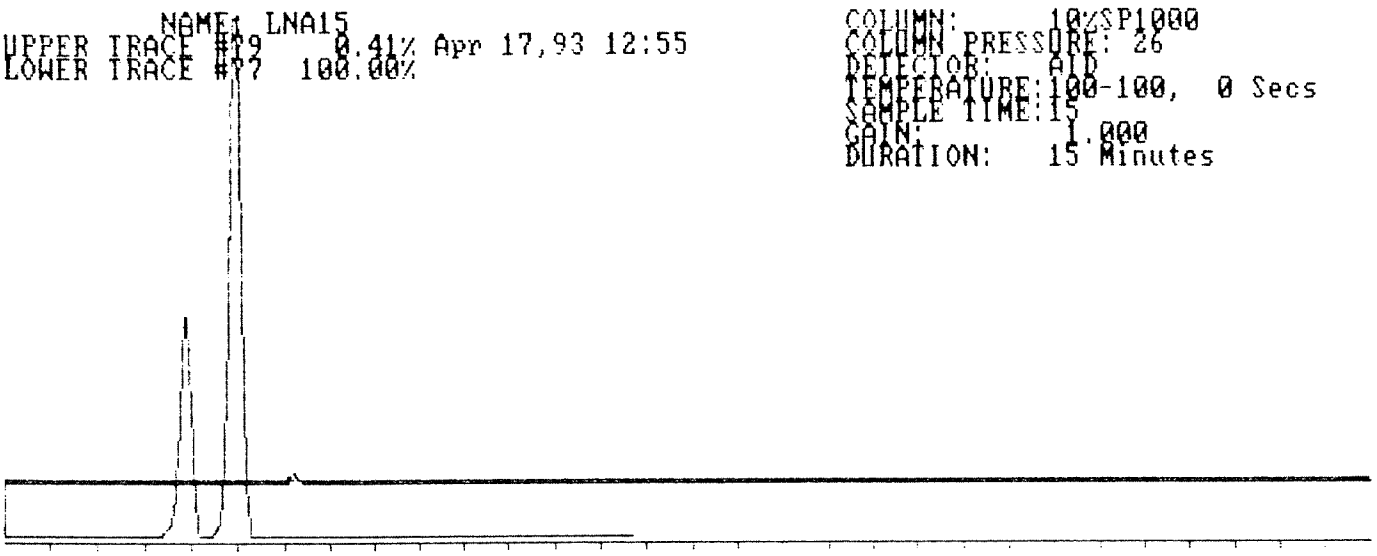
CHANNEL: 1 NAME: LNA15

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 26

TEMPERATURE: 100 INHIBIT TIME: 60 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	UNKNOWN	249	20202	0.015 PPM
	TOTAL AREA:		20202	



SCENTOGRAPH TRACE PRINOUT

TRACE #92 DATE: Sat Apr 17 15:24:57 1993

CHANNEL: 1 NAME: LNA16-3

COLUMN: 10%SP1000 DETECTOR: AID

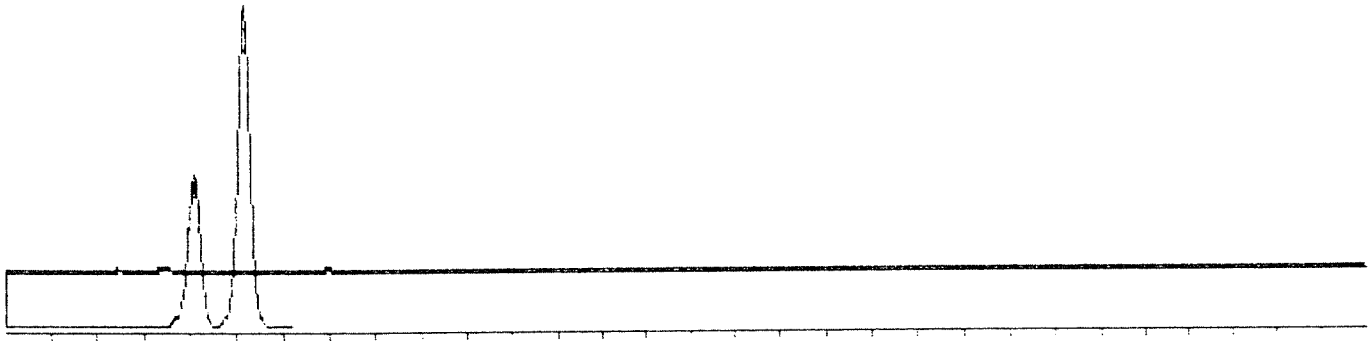
COLUMN PRESSURE: 26

TEMPERATURE: 100 INHIBIT TIME: 60 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	UNKNOWN	135	7810	0.007 PPM
2	[redacted] unk	166	13743	0.001 PPM
3	TOLUENE#	272	12490	0.009 PPM
	TOTAL AREA:		34043	

NAME: LNA16-3
UPPER TRACE #92 1.03% Apr 17,93 15:24
LOWER TRACE #91 100.00%

COLUMN: 10%SP1000
COLUMN PRESSURE: 26
DETECTOR: AID
TEMPERATURE: 100-100, 0 Secs
SAMPLE TIME: 15
GAIN: 1.000
DURATION: 15 Minutes



SCENTOGRAPH TRACE PRINOUT

TRACE #93 DATE: Sat Apr 17 15:43:58 1993

CHANNEL: 1 NAME: LNA17

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 26

TEMPERATURE: 100 INHIBIT TIME: 60 Seconds

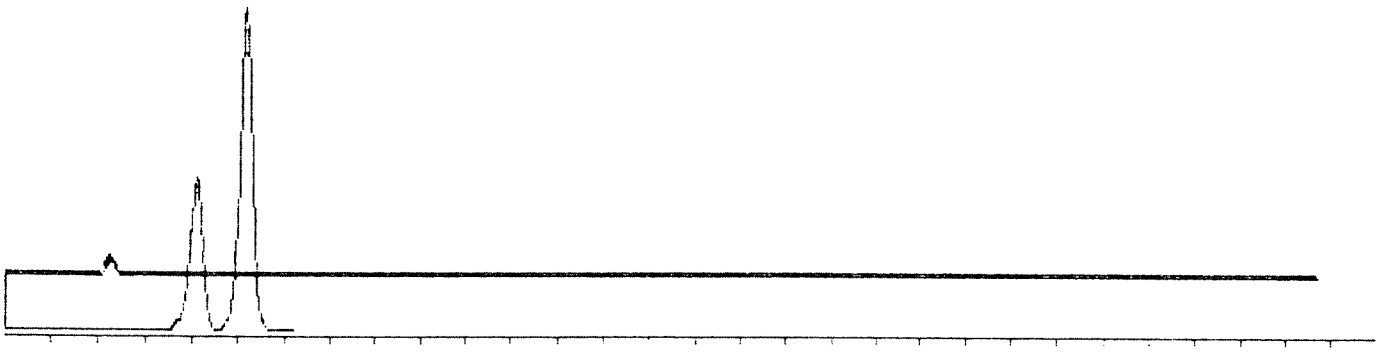
PEAK#	NAME	RT	AREA	CONCENTRATION
1	[redacted] unk	129	61686	0.046 PPM
2	[redacted] unk	223	12355	0.058 PPM
	TOTAL AREA:		74041	

NAME: LNA17

UPPER TRACE #93 2.25% Apr 17,93 15:43

LOWER TRACE #91 100.00%

COLUMN: 10%SP1000
COLUMN PRESSURE: 26
DETECTOR: AID
TEMPERATURE: 100-100, 0 Secs
SAMPLE TIME: 15
GAIN: 1.000
DURATION: 15 Minutes



SCENTOGRAPH TRACE PRINOUT

TRACE #99 DATE: Sat Apr 17 17:40:50 1993

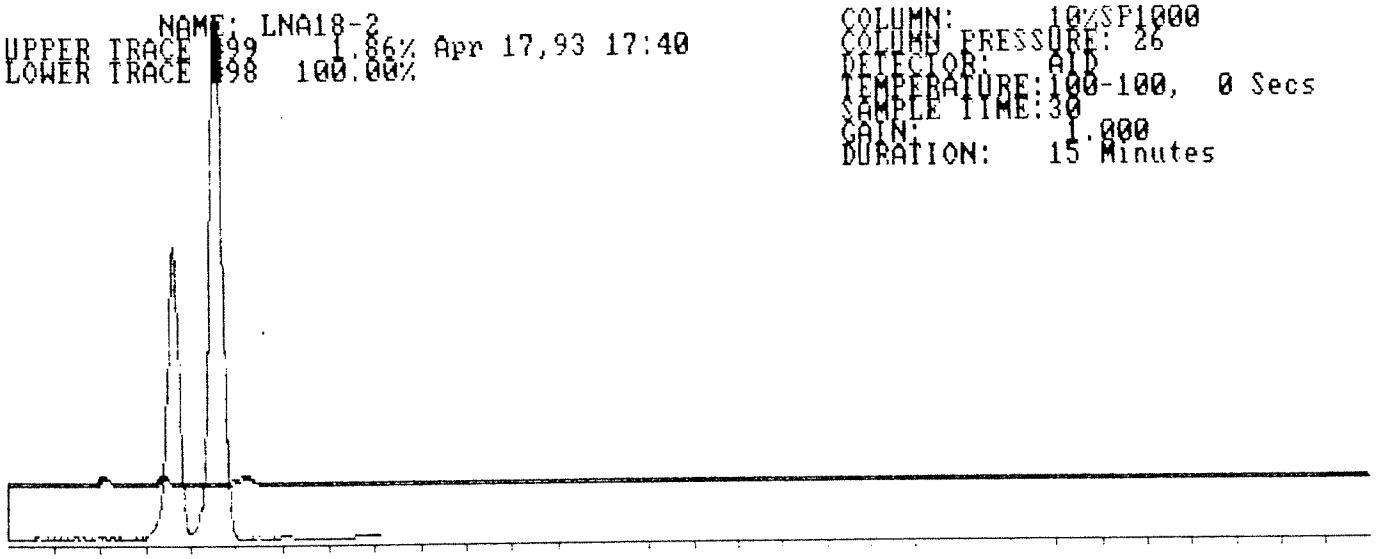
CHANNEL: 1 NAME: LNA18-2

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 26

TEMPERATURE: 100 INHIBIT TIME: 60 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	UNKNOWN	124	28338	0.015 PPM
2	BENZENE	164	31679	0.016 PPM
3	unk	220	53659	0.022 PPM
	TOTAL AREA:		113676	



SCENTOGRAPH TRACE PRINOUT

TRACE #100 DATE: Sat Apr 17 18:25:29 1993

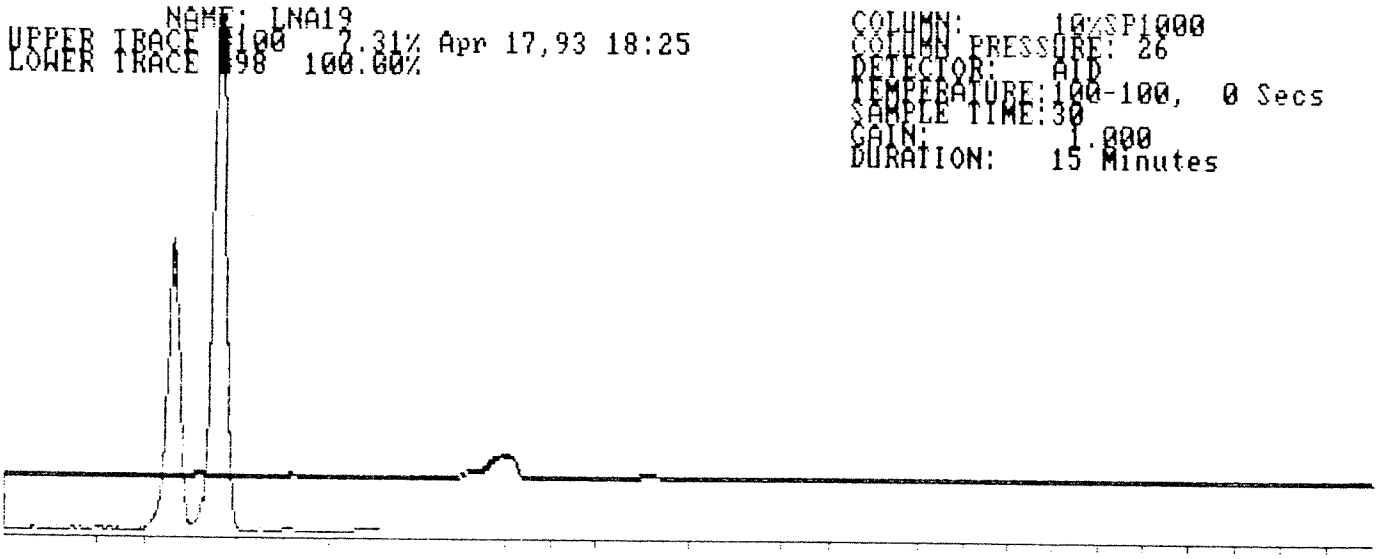
CHANNEL: 1 NAME: LNA19

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 26

TEMPERATURE: 100 INHIBIT TIME: 60 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	UNKNOWN	187	21804	0.011 PPM
2	TOLUENE#	246	13549	0.006 PPM
3	p-XYLENE#	391	364087	0.224 PPM
4	o-XYLENE#	489	48013	0.047 PPM
	TOTAL AREA:		447453	



SCENTOGRAPH TRACE PRINOUT

TRACE #131 DATE: Fri Apr 30 16:18:27 1993

CHANNEL: 1 NAME: LNA3(D2-2)

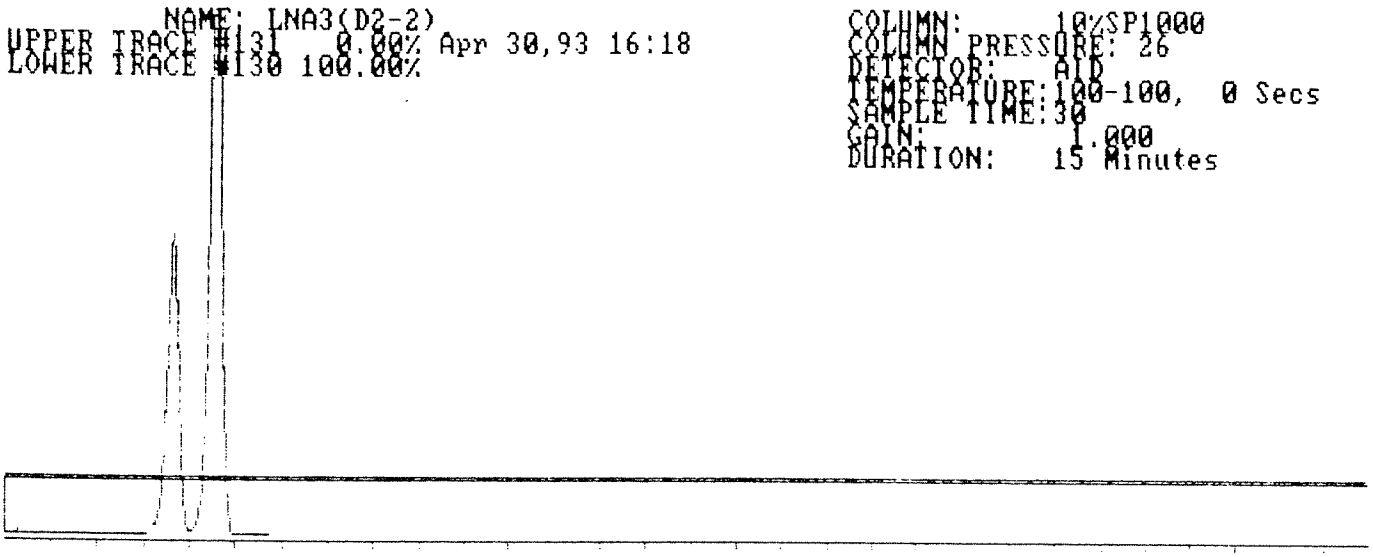
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 26

TEMPERATURE: 100 INHIBIT TIME: 60 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION

TOTAL AREA: 0



SCENTOGRAPH TRACE PRINOUT

TRACE #133 DATE: Fri Apr 30 16:46:28 1993

CHANNEL: 1 NAME: LNA2(Day2)

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 26

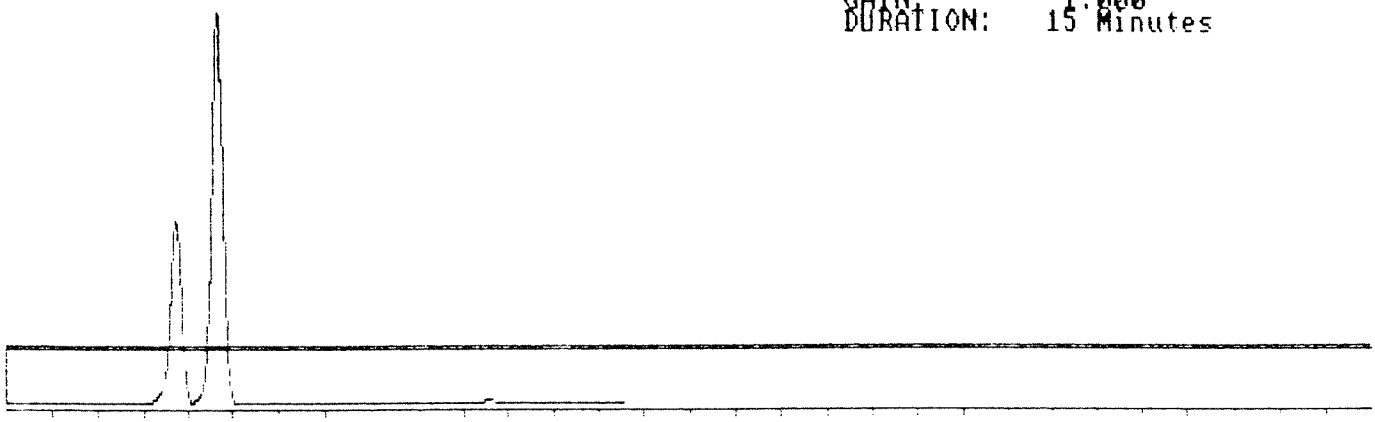
TEMPERATURE: 100 INHIBIT TIME: 60 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION

TOTAL AREA: 0

NAME: LNA2(Day2)
UPPER TRACE #133 0.00% Apr 30,93 16:46
LOWER TRACE #132 100.00%

COLUMN: 10%SP1000
COLUMN PRESSURE: 26
DETECTOR: AID
TEMPERATURE: 100-100, 0 Secs
SAMPLE TIME: 15
GAIN: 1.000
DURATION: 15 Minutes



SCENTOGRAPH TRACE PRINOUT

TRACE #136 DATE: Fri Apr 30 17:35:40 1993

CHANNEL: 1 NAME: LNA4(Day2)

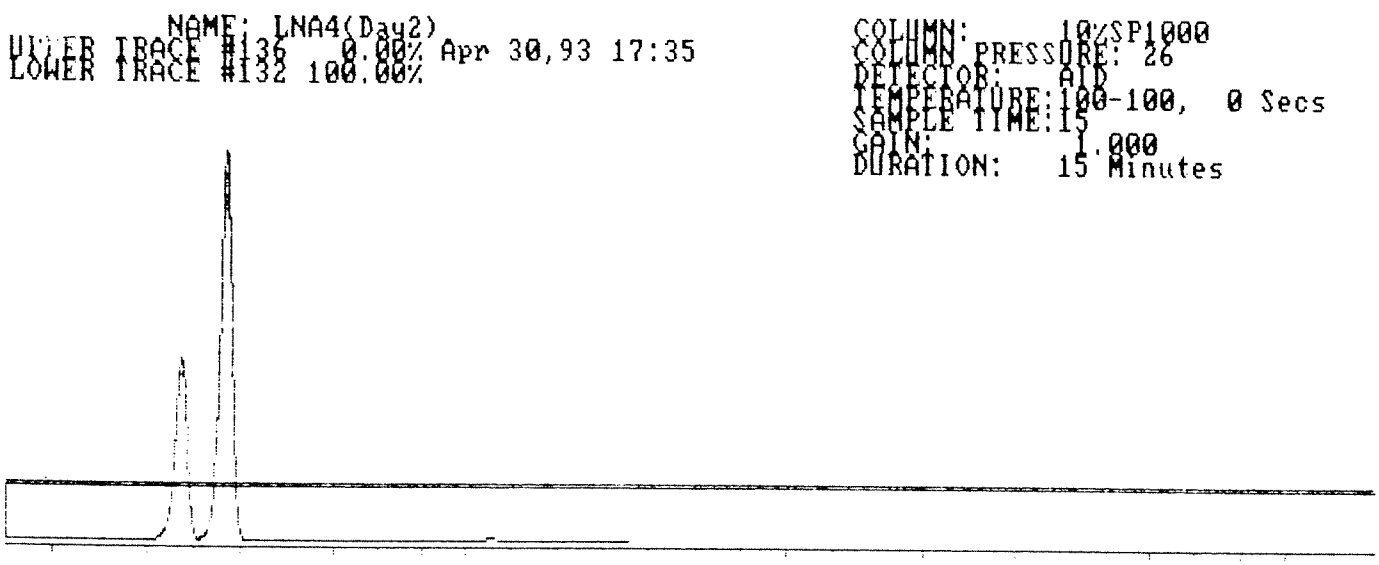
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 26

TEMPERATURE: 100 INHIBIT TIME: 60 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION

TOTAL AREA: 0



SCENTOGRAPH TRACE PRINOUT

TRACE #139 DATE: Fri Apr 30 18:16:03 1993

CHANNEL: 1 NAME: LNA5(Day2)

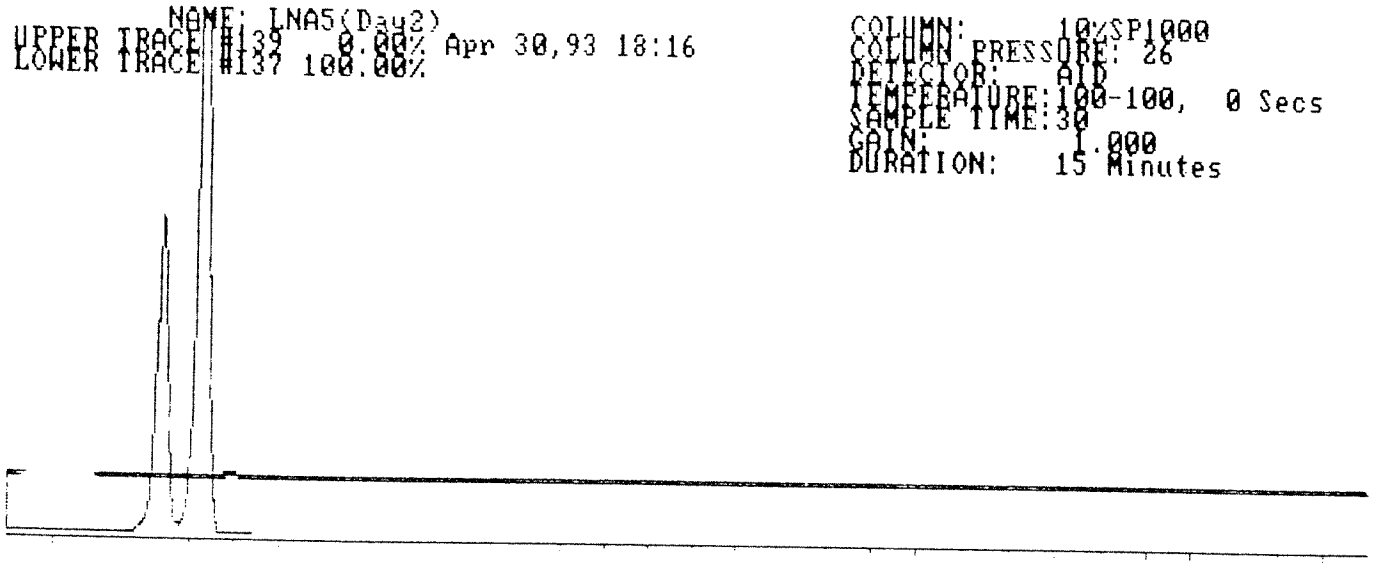
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 26

TEMPERATURE: 100 INHIBIT TIME: 60 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION

TOTAL AREA: 0



SCENTOGRAPH TRACE PRINOUT

TRACE #148 DATE: Fri Apr 30 19:34:31 1993

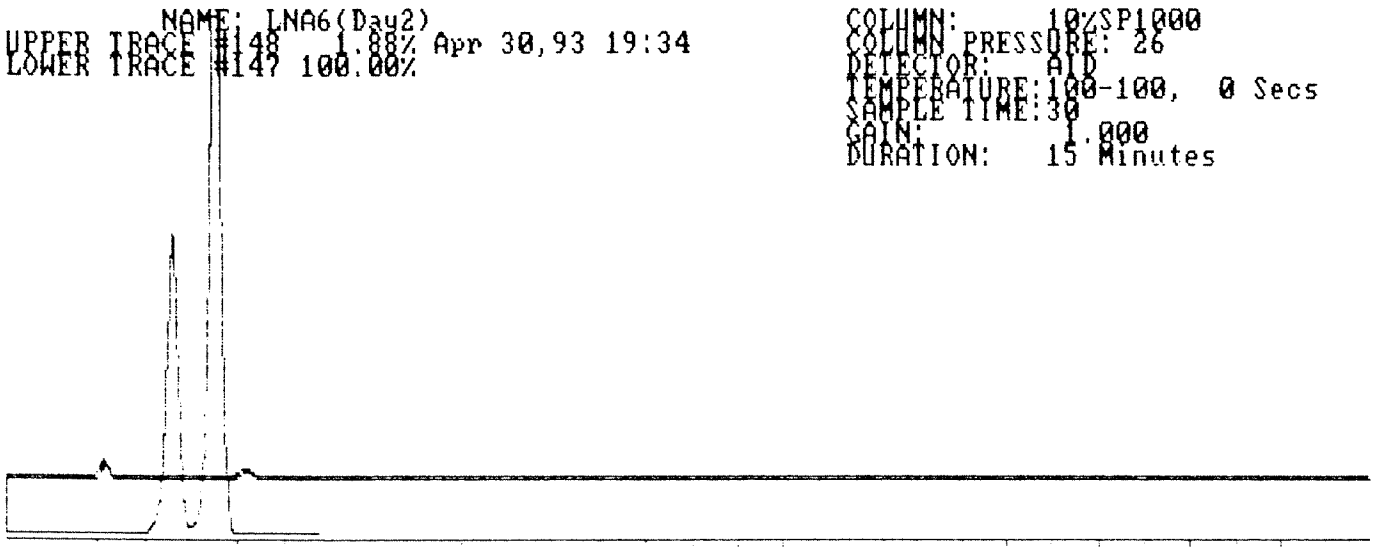
CHANNEL: 1 NAME: LNA6(Day2)

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 26

TEMPERATURE: 100 INHIBIT TIME: 60 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	[redacted] unk	125	61336	0.037 PPM
2	UNKNOWN	217	47258	0.025 PPM
	TOTAL AREA:		108594	



SCENTOGRAPH TRACE PRINOUT

TRACE #164 DATE: Sat May 01 00:39:09 1993

CHANNEL: 1 NAME: LNA15-6

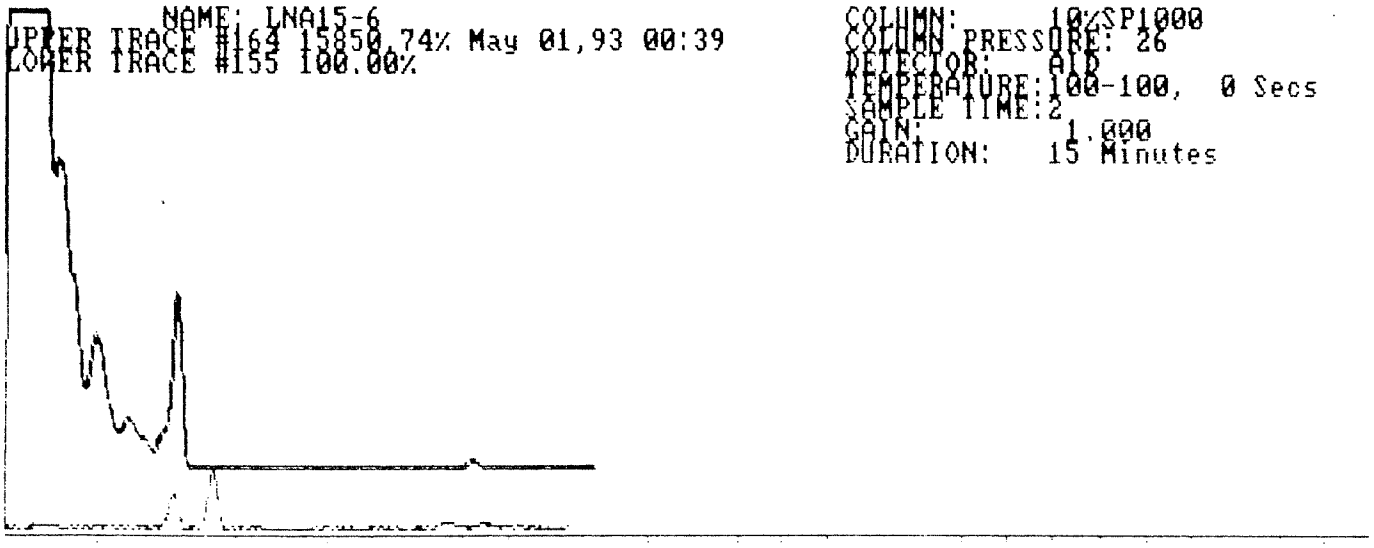
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 26

TEMPERATURE: 100 INHIBIT TIME: 53 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	UNKNOWN	61	78780560	445.138 PPM
2	~~1,1 DCE#~~ unk	77	6755340	30.536 PPM PPM
3	UNKNOWN	90	3127130	17.669 PPM
4	~~T 1,2 DCE#~~ unk	113	1350634	6.105 PPM PPM
5	~~MEK#~~ unk	133	566947	2.403 PPM PPM
6	BENZENE	165	1122495	6.342 PPM
7	ETH BENZ#	363	99306	1.066 PPM

TOTAL AREA: 91802412



SCENTOGRAPH TRACE PRINOUT

TRACE #168 DATE: Sat May 01 01:03:13 1993

CHANNEL: 1 NAME: LNA1c-5

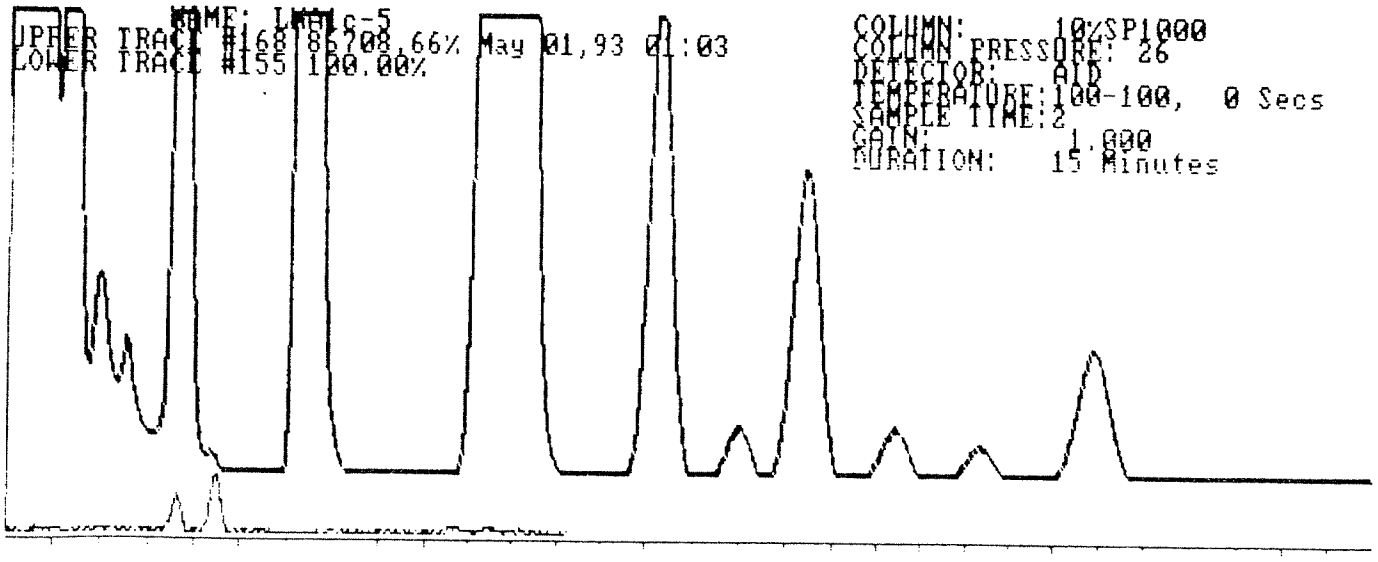
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 26

TEMPERATURE: 100 INHIBIT TIME: 53 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	UNKNOWN	56	155538968	878.850 PPM
2	UNKNOWN	93	5723329	32.339 PPM
3	[illegible] unk	113	1798971	8.132 PPM PBM
4	[illegible] unk	130	1353399	5.735 PPM PBM
5	BENZENE#	167	57114258	322.716 PPM
6	TOLUENE#	242	118296118	534.732 PPM
7	m-XYLENE#	385	146661112	1392.193 PPM
8	o-XYLENE#	482	7511665	80.643 PPM
9	UNKNOWN	534	594900	3.361 PPM
10	UNKNOWN	577	4371606	24.701 PPM
11	UNKNOWN	637	655445	3.703 PPM
12	[illegible] unk	696	389029	23.081 PPM PBM
13	UNKNOWN	771	2179999	12.318 PPM

TOTAL AREA: 502188799



SCENTOGRAPH TRACE PRINOUT

TRACE #180 DATE: Sat May 01 12:18:20 1993

CHANNEL: 1 NAME: LNA20

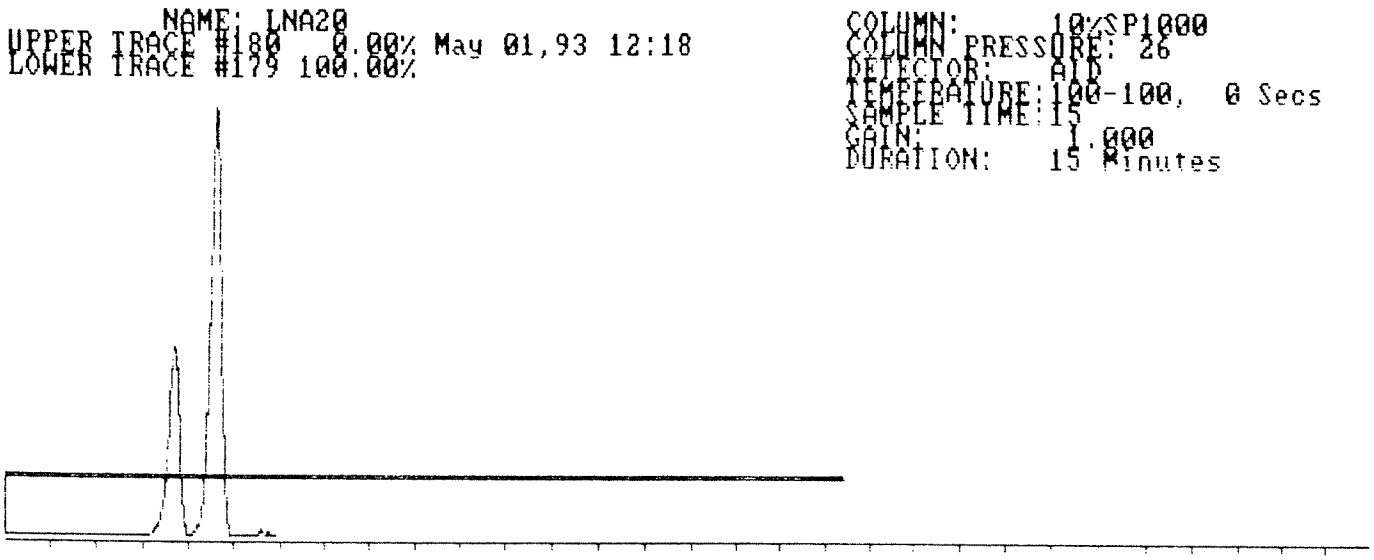
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 26

TEMPERATURE: 100 INHIBIT TIME: 53 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION

TOTAL AREA: 0



SCENTOGRAPH TRACE PRINOUT

TRACE #184 DATE: Sat May 01 13:00:39 1993

CHANNEL: 1 NAME: LNA11(Day2)

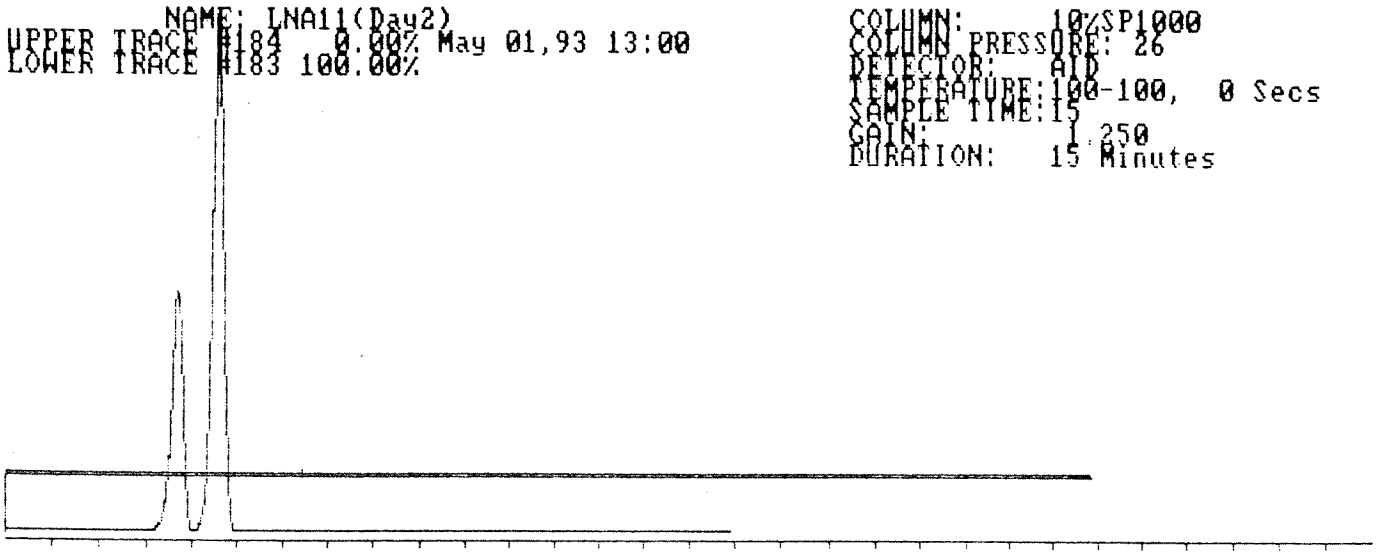
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 26

TEMPERATURE: 100 INHIBIT TIME: 53 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION

TOTAL AREA: 0



SCENTOGRAPH TRACE PRINOUT

TRACE #190 DATE: Sat May 01 13:55:55 1993

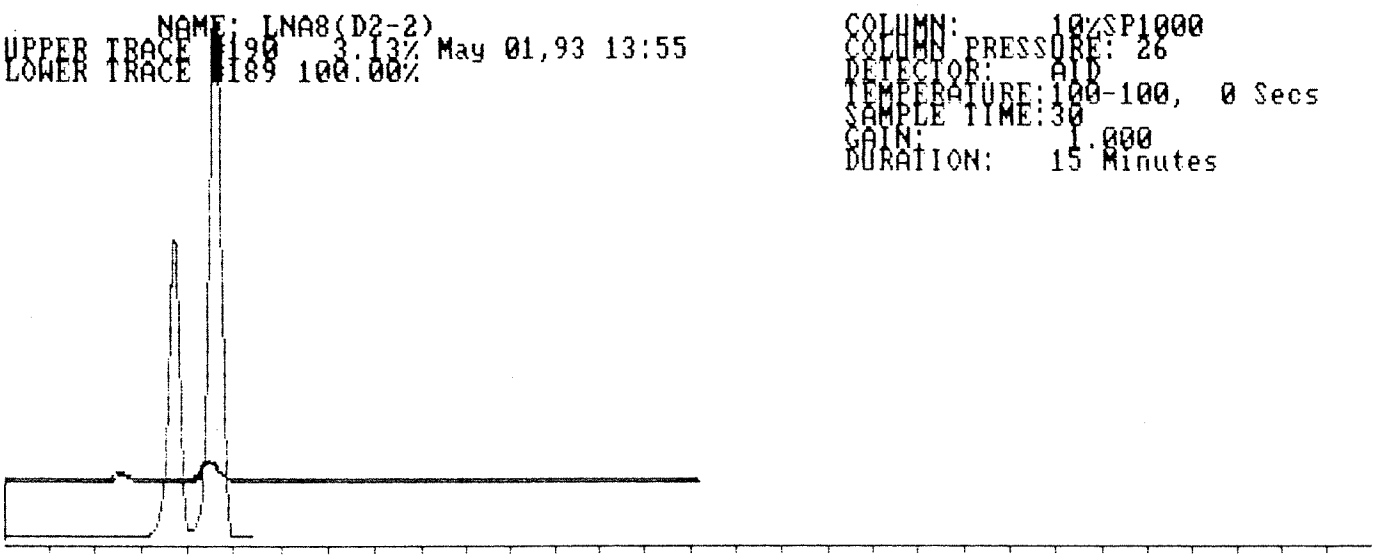
CHANNEL: 1 NAME: LNA8(D2-2)

COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 26

TEMPERATURE: 100 INHIBIT TIME: 53 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	~~MEK~~ unk	136	27582	0.011 PPM PBM
2	TCE	190	151668	0.060 PPM
	TOTAL AREA:		179250	



SCENTOGRAPH TRACE PRINOUT

TRACE #141 DATE: Fri Apr 30 18:39:11 1993

CHANNEL: 1 NAME: LNA9-3

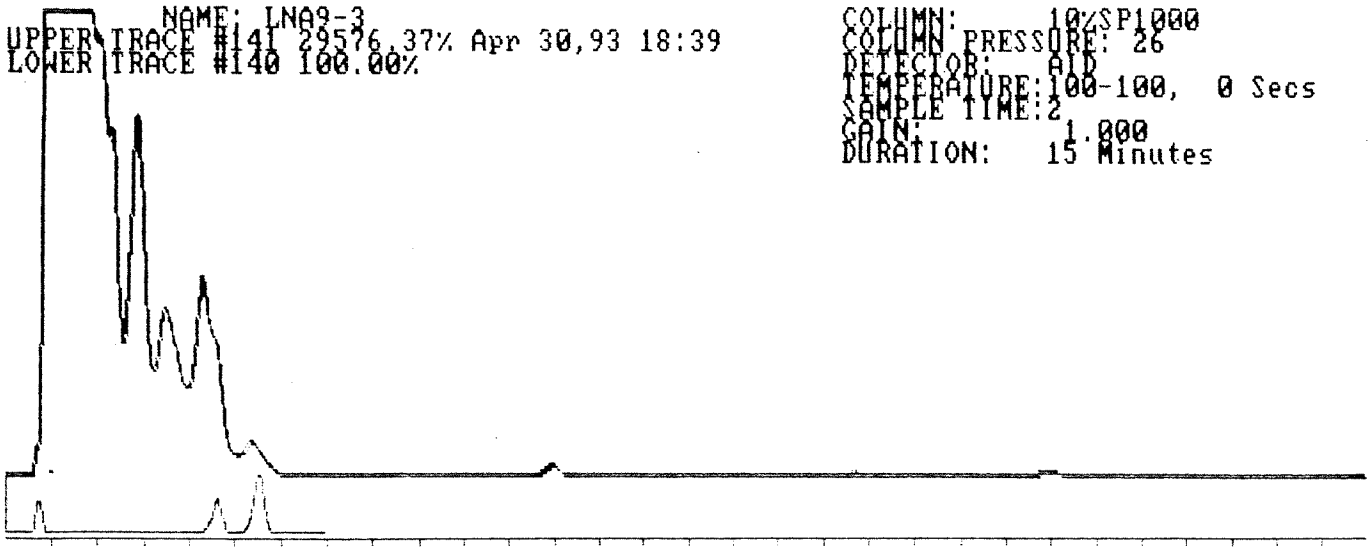
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 26

TEMPERATURE: 100 INHIBIT TIME: 30 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION
1	~~1122 TCA#~~ unk	72	150633355	1423.080 PPM PBM
2	UNKNOWN	81	12019742	141.943 PPM
3	UNKNOWN	100	1822920	21.527 PPM
4	~~o-XYLENE#~~ unk	116	3277047	88.234 PPM PBM
5	UNKNOWN	135	2020314	23.858 PPM
6	~~o-XYLENE#~~ unk	160	2537461	56.934 PPM PBM
7	~~UNKNOWN~~ TCE	192	339854	4.013 PPM PBM
8	~~UNKNOWN~~ p-xylene#	389	59546	0.703 PPM PBM
9	UNKNOWN	725	29096	0.344 PPM

TOTAL AREA: 172739335



SCENTOGRAPH TRACE PRINOUT

TRACE #19 13 1993

CHANNEL: 1 NAME: LNA9(Day2)

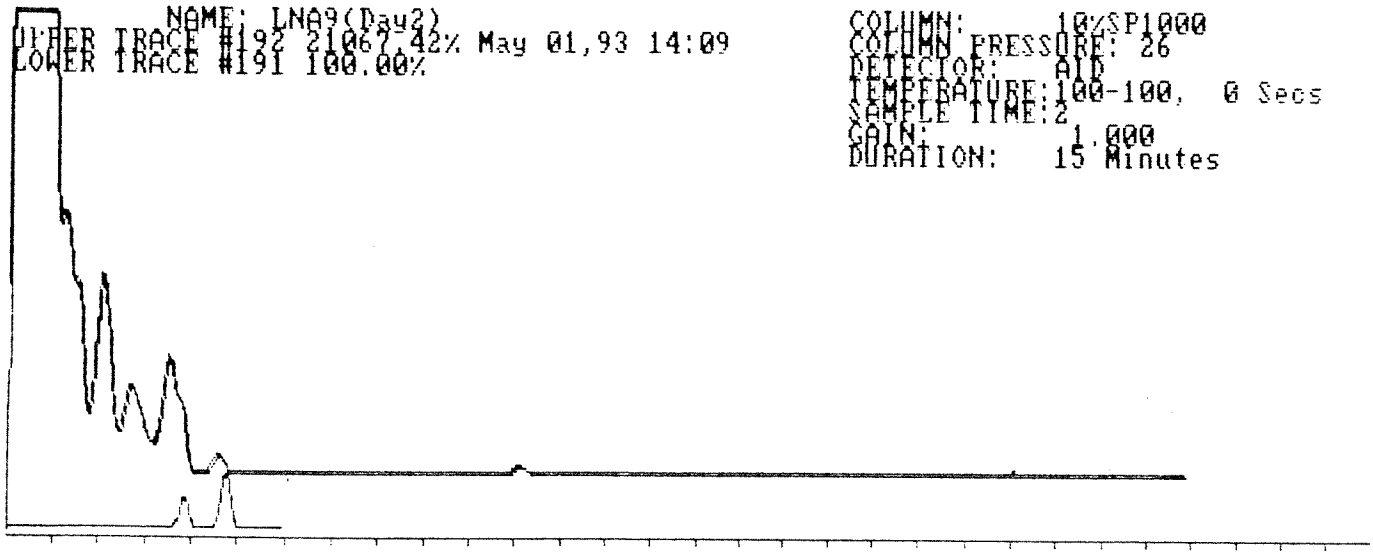
COLUMN: 10%SP1000 DETECTOR: AID

COLUMN PRESSURE: 26

TEMPERATURE: 100 INHIBIT TIME: 53 Seconds

PEAK#	NAME	RT	AREA	CONCENTRATION	
1	UNKNOWN	65	88140724	616.224 PPM	
2	[redacted] unk	81	6186365	34.601 PPM	PBM
3	[redacted] unk	92	2621384	84.304 PPM	PBM
4	[redacted] unk	116	1614034	9.027 PPM	PBM
5	[redacted] unk	135	898952	4.714 PPM	PBM
6	UNKNOWN	159	1126478	7.876 PPM	
7	TCE	193	105835	0.482 PPM	
8	p-XYLENE#	388	27662	0.232 PPM	

TOTAL AREA: 100721434



APPENDIX B

Lincoln Apartments
Soil and Water Sample Results
Spring 1993

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

Data Review
April 1, 1993

Project: **Lincoln Apartments**

Sample(s): 118050, 118051, 118052, 118054

Laboratory: Weyerhaeuser Analytical and Testing Services 11267

By: Karin Feddersen KF

Case Summary

These samples were received at the Manchester Environmental Laboratory on March 11, 1993, and transported to Weyerhaeuser on March 15, 1993 for VOC analysis.

This data was 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.

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

D - Weyerhaeuser's qualifier indicating that the result is from a dilution of the original analysis.

VOA

Holding Times:

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

Method Blank:

Acetone was detected in the soil method blank. Acetone was also detected in the soil samples at approximately the same concentration as was detected in the method blank. The Acetone detected in these samples is most likely due to laboratory contamination and not native to the samples. The Acetone results for these samples have been modified (qualified with a "U") to indicate that Acetone was not detected at or above the suspected laboratory contamination.

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 Deviations were within the maximum of 30%.

Continuing Calibration:

The average relative response factor for all the target analytes were above the minimums, and the percent deviations between the initial and continuing calibration standards were within the maximum of 25%.

Surrogates:

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

Sample Data:

Use the results from the original analysis of sample 118052 for all analytes except for Benzene. Use the result from the dilution analysis of sample 118052 (DL suffix) for this analyte.
This data is acceptable for use as amended.

Weyerhaeuser

32901 Weyerhaeuser Way South
Federal Way, Washington 98003
Analytical Chemistry Laboratories
Tacoma, Washington 98477
Tel (206) 924 6872
Fax (206) 924 6654

CASE NARRATIVE

WEYERHAEUSER (WEYER)
ANALYTICAL AND TESTING SERVICES

Case Number: 11267
SDG Number: 118050
Contract Number: WDOE Lincoln Apartments

Samples from this case (11267) were received on 3/16/93. This case was composed of three soil samples and one water sample for VOAs. The requested analyses were as follows:

SAMPLE ID	MATRIX	ANALYSIS REQUESTED
118050	Soil	VOA
118051	Soil	VOA
118052	Soil	VOA
118050MS	Soil	VOA
118050MSD	Soil	VOA
118054	Water	VOA
118054DL	Water	VOA

Several anomalies existed with this sample set that are listed below. The anomalies are broken up into categories for ease of explanation.

1. VOA

   a) All samples and blanks contain a peak at approximately scan #150 that is >10% of the nearest internal standard. This peak is carbon dioxide and is not searched in any of the samples. A spectrum of this peak is on file at the laboratory for review.

   b) Sample 118054 contained benzene at a concentration exceeding the calibration range and was reanalyzed diluted.

   e) VBLKS1 contained a trace amount of acetone. Since its concentration was < 5x CRQL (ie; < 50 ug/L), no further action was required. However hits in the sample are reported with the B qualifier.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Randy Eatherton 3-29-97

Randy Eatherton
VOA/Dioxin Team Leader

Date

Please feel free to contact me with any questions concerning this data report. I can be reached at (206) 924-6431.

Sincerely,

Randy Eatherton

Randy Eatherton
Weyerhaeuser Analytical & Testing Services

Flag Qualifiers For Organic Analysis Reports

U Indicates that the compound was analyzed for but not detected. The sample quantitation limit corrected for dilution and percent moisture is reported.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds or when the data indicates the presence of a compound but the result is less than the sample quantitation limit but greater than zero.

N Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search.

P This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for the detected concentrations between the two GC columns. The lower of the two results is reported.

C This flag is used for pesticide results that have been confirmed by GC/MS

B This flag is used when the analyte is detected in the associated blank as well as the sample.

E This flag is used for compounds whose concentrations exceed the calibration range of the instrument.

D This flag identifies all compounds identified in an analysis at a secondary dilution. This flag alerts the data user that any discrepancies between the concentrations reported in the two runs may be due to dilution errors.

A This flag is used for tentatively identified compounds that suspected to be aldol-condensation products.

X This flag is assigned by the computer when the program has been manually adjusted by the operator. It has no significance to the number itself.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

118050

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 11267 SAS No.: SDG No.: 118050

Matrix: (soil/water) SOIL Lab Sample ID: 5692

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4019

Level: (low/med) LOW Date Received: 03/16/93

% Moisture: not dec. 13 Date Analyzed: 03/17/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	2	J
67-64-1	Acetone	11 ~~4~~	~~BJ~~ U KF
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	Trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Total Xylenes	11	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

118050

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 11267 SAS No.: SDG No.: 118050

Matrix: (soil/water) SOIL Lab Sample ID: 5692

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4019

Level: (low/med) LOW Date Received: 03/16/93

% Moisture: not dec. 13 Date Analyzed: 03/17/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
541-73-1	1,3-Dichlorobenzene	11	U
106-46-7	1,4-Dichlorobenzene	11	U
95-50-1	1,2-Dichlorobenzene	11	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

118050

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 11267 SAS No.: SDG No.: 118050

Matrix: (soil/water) SOIL Lab Sample ID: 5692

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4019

Level: (low/med) LOW Date Received: 03/16/93

% Moisture: not dec. 13 Date Analyzed: 03/17/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

118051

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 11267 SAS No.: SDG No.: 118050

Matrix: (soil/water) SOIL Lab Sample ID: 5693

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4020

Level: (low/med) LOW Date Received: 03/16/93

% Moisture: not dec. 14 Date Analyzed: 03/17/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
74-87-3	Chloromethane	12	U	
74-83-9	Bromomethane	12	U	
75-01-4	Vinyl Chloride	12	U	
75-00-3	Chloroethane	12	U	
75-09-2	Methylene Chloride	1	J	
67-64-1	Acetone	~~12~~ 5	~~B~~ U	KF
75-15-0	Carbon Disulfide	12	U	
75-35-4	1,1-Dichloroethene	12	U	
75-34-3	1,1-Dichloroethane	12	U	
540-59-0	1,2-Dichloroethene (total)	12	U	
67-66-3	Chloroform	12	U	
107-06-2	1,2-Dichloroethane	12	U	
78-93-3	2-Butanone	12	U	
71-55-6	1,1,1-Trichloroethane	12	U	
56-23-5	Carbon Tetrachloride	12	U	
75-27-4	Bromodichloromethane	12	U	
78-87-5	1,2-Dichloropropane	12	U	
10061-01-5	cis-1,3-Dichloropropene	12	U	
79-01-6	Trichloroethene	12	U	
124-48-1	Dibromochloromethane	12	U	
79-00-5	1,1,2-Trichloroethane	12	U	
71-43-2	Benzene	12	U	
10061-02-6	Trans-1,3-Dichloropropene	12	U	
75-25-2	Bromoform	12	U	
108-10-1	4-Methyl-2-Pentanone	12	U	
591-78-6	2-Hexanone	12	U	
127-18-4	Tetrachloroethene	12	U	
79-34-5	1,1,2,2-Tetrachloroethane	12	U	
108-88-3	Toluene	12	U	
108-90-7	Chlorobenzene	12	U	
100-41-4	Ethylbenzene	12	U	
100-42-5	Styrene	12	U	
1330-20-7	Total Xylenes	12	U	

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

118051

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 11267 SAS No.: SDG No.: 118050

Matrix: (soil/water) SOIL Lab Sample ID: 5693

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4020

Level: (low/med) LOW Date Received: 03/16/93

% Moisture: not dec. 14 Date Analyzed: 03/17/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
541-73-1	1,3-Dichlorobenzene	12	U
106-46-7	1,4-Dichlorobenzene	12	U
95-50-1	1,2-Dichlorobenzene	12	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

118051

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 11267 SAS No.: SDG No.: 118050

Matrix: (soil/water) SOIL Lab Sample ID: 5693

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4020

Level: (low/med) LOW Date Received: 03/16/93

% Moisture: not dec. 14 Date Analyzed: 03/17/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

118052

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 11267 SAS No.: SDG No.: 118050

Matrix: (soil/water) SOIL Lab Sample ID: 5694

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4021

Level: (low/med) LOW Date Received: 03/16/93

% Moisture: not dec. 14 Date Analyzed: 03/17/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	2	J
67-64-1	Acetone	~~127~~	~~BJ~~ U KF
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	Trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Total Xylenes	12	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

118052

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 11267 SAS No.: SDG No.: 118050

Matrix: (soil/water) SOIL Lab Sample ID: 5694

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4021

Level: (low/med) LOW Date Received: 03/16/93

% Moisture: not dec. 14 Date Analyzed: 03/17/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
541-73-1	1,3-Dichlorobenzene	12	U
106-46-7	1,4-Dichlorobenzene	12	U
95-50-1	1,2-Dichlorobenzene	12	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

118052

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 11267 SAS No.: SDG No.: 118050

Matrix: (soil/water) SOIL Lab Sample ID: 5694

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4021

Level: (low/med) LOW Date Received: 03/16/93

% Moisture: not dec. 14 Date Analyzed: 03/17/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

118054

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 11267 SAS No.: SDG No.: 118050

Matrix: (soil/water) WATER Lab Sample ID: 5695

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: B9983

Level: (low/med) LOW Date Received: 03/16/93

% Moisture: not dec. Date Analyzed: 03/18/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 25.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
74-87-3	Chloromethane	250	U	
74-83-9	Bromomethane	250	U	
75-01-4	Vinyl Chloride	250	U	
75-00-3	Chloroethane	250	U	
75-09-2	Methylene Chloride	250	U	
67-64-1	Acetone	250	U	
75-15-0	Carbon Disulfide	250	U	
75-35-4	1,1-Dichloroethene	250	U	
75-34-3	1,1-Dichloroethane	250	U	
540-59-0	1,2-Dichloroethene (total)	250	U	
67-66-3	Chloroform	250	U	
107-06-2	1,2-Dichloroethane	250	U	
78-93-3	2-Butanone	250	U	
71-55-6	1,1,1-Trichloroethane	250	U	
56-23-5	Carbon Tetrachloride	250	U	
75-27-4	Bromodichloromethane	250	U	
78-87-5	1,2-Dichloropropane	250	U	
10061-01-5	cis-1,3-Dichloropropene	250	U	
79-01-6	Trichloroethene	250	U	
124-48-1	Dibromochloromethane	250	U	
79-00-5	1,1,2-Trichloroethane	250	U	
71-43-2	Benzene	5400	~~B~~ J	KF
10061-02-6	Trans-1,3-Dichloropropene	250	U	
75-25-2	Bromoform	250	U	
108-10-1	4-Methyl-2-Pentanone	250	U	
591-78-6	2-Hexanone	250	U	
127-18-4	Tetrachloroethene	250	U	
79-34-5	1,1,2,2-Tetrachloroethane	250	U	
108-88-3	Toluene	1300		
108-90-7	Chlorobenzene	250	U	
100-41-4	Ethylbenzene	800		
100-42-5	Styrene	250	U	
1330-20-7	Total Xylenes	3200	~~X~~	KF

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

118054

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 11267 SAS No.: SDG No.: 118050

Matrix: (soil/water) WATER Lab Sample ID: 5695

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: B9983

Level: (low/med) LOW Date Received: 03/16/93

% Moisture: not dec. Date Analyzed: 03/18/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 25.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
541-73-1	1,3-Dichlorobenzene	250	U
106-46-7	1,4-Dichlorobenzene	250	U
95-50-1	1,2-Dichlorobenzene	250	U

1E

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

118054

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 11267 SAS No.: SDG No.: 118050

Matrix: (soil/water) WATER Lab Sample ID: 5695

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: B9983

Level: (low/med) LOW Date Received: 03/16/93

% Moisture: not dec. Date Analyzed: 03/18/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 25.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 12

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q	
1.	78784	Butane, 2-methyl-	5.41	700	JN	
2.	287923	Cyclopentane	9.07	380	JN	
3.	0	methylsiloxane column bleed	26.66	300	JN	KF
4.	103651	Benzene, propyl-	28.34	250	JN	
5.	0	Benzene, ethyl-methyl- isome	28.62	1500	JN	
6.	0	Benzene, trimethyl- isomer	28.87	520	JN	
7.	0	Benzene, ethyl-methyl-isomer	29.41	500	JN	
8.	0	Benzene, trimethyl- isomer	29.98	2000	JN	
9.	620144	Benzene, 1-ethyl-3-methyl-	31.40	580	JN	
10.	496117	1H-Indene, 2,3-dihydro-	32.08	420	JN	
11.	1074437	Benzene, 1-methyl-3-propyl-	32.44	500	JN	
12.	99876	Benzene, 1-methyl-4-(1-methy	32.77	700	JN	

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

118054DL

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 11267 SAS No.: SDG No.: 118050

Matrix: (soil/water) WATER Lab Sample ID: 5695DL

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: B9984

Level: (low/med) LOW Date Received: 03/16/93

% Moisture: not dec. Date Analyzed: 03/18/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 100.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1000	U
74-83-9	Bromomethane	1000	U
75-01-4	Vinyl Chloride	1000	U
75-00-3	Chloroethane	1000	U
75-09-2	Methylene Chloride	1000	U
67-64-1	Acetone	1000	U
75-15-0	Carbon Disulfide	1000	U
75-35-4	1,1-Dichloroethene	1000	U
75-34-3	1,1-Dichloroethane	1000	U
540-59-0	1,2-Dichloroethene (total)	1000	U
67-66-3	Chloroform	1000	U
107-06-2	1,2-Dichloroethane	1000	U
78-93-3	2-Butanone	1000	U
71-55-6	1,1,1-Trichloroethane	1000	U
56-23-5	Carbon Tetrachloride	1000	U
75-27-4	Bromodichloromethane	1000	U
78-87-5	1,2-Dichloropropane	1000	U
10061-01-5	cis-1,3-Dichloropropene	1000	U
79-01-6	Trichloroethene	1000	U
124-48-1	Dibromochloromethane	1000	U
79-00-5	1,1,2-Trichloroethane	1000	U
71-43-2	Benzene	5000	D
10061-02-6	Trans-1,3-Dichloropropene	1000	U
75-25-2	Bromoform	1000	U
108-10-1	4-Methyl-2-Pentanone	1000	U
591-78-6	2-Hexanone	1000	U
127-18-4	Tetrachloroethene	1000	U
79-34-5	1,1,2,2-Tetrachloroethane	1000	U
108-88-3	Toluene	1200	D
108-90-7	Chlorobenzene	1000	U
100-41-4	Ethylbenzene	790	DJ
100-42-5	Styrene	1000	U
1330-20-7	Total Xylenes	3200	DX

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

118054DL

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 11267 SAS No.: SDG No.: 118050

Matrix: (soil/water) WATER Lab Sample ID: 5695DL

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: B9984

Level: (low/med) LOW Date Received: 03/16/93

% Moisture: not dec. Date Analyzed: 03/18/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 100.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
541-73-1	1,3-Dichlorobenzene	1000	U
106-46-7	1,4-Dichlorobenzene	1000	U
95-50-1	1,2-Dichlorobenzene	1000	U

1E

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

118054DL

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 11267 SAS No.: SDG No.: 118050

Matrix: (soil/water) WATER Lab Sample ID: 5695DL

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: B9984

Level: (low/med) LOW Date Received: 03/16/93

% Moisture: not dec. Date Analyzed: 03/18/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 100.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 8

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 622968	Benzene, 1-ethyl-4-methyl-	28.56	1900	JN
2. 0	Benzene, trimethyl-isomer	28.81	700	JN
3. 611143	Benzene, 1-ethyl-2-methyl-	29.35	700	JN
4. 0	Benzene, trimethyl-isomer	29.90	2900	JN
5. 98828	Benzene, (1-methylethyl)-	31.32	800	JN
6. 496117	1H-Indene, 2,3-dihydro-	32.00	500	JN
7. 1074437	Benzene, 1-methyl-3-propyl-	32.35	1100	JN
8. 99876	Benzene, 1-methyl-4-(1-methy	32.68	1600	JN

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKS1

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 11267 SAS No.: SDG No.: 118050

Matrix: (soil/water) SOIL Lab Sample ID: VBLKS1

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4018

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 03/17/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	4	J
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	Trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Total Xylenes	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKS1

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 11267 SAS No.: SDG No.: 118050

Matrix: (soil/water) SOIL Lab Sample ID: VBLKS1

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4018

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 03/17/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U

1E

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VBLKS1

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 11267 SAS No.: SDG No.: 118050

Matrix: (soil/water) SOIL Lab Sample ID: VBLKS1

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4018

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 03/17/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKW1

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 11267 SAS No.: SDG No.: 118050

Matrix: (soil/water) WATER Lab Sample ID: VBLKW1

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: B9980

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 03/18/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	Trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Total Xylenes	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKW1

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 11267 SAS No.: SDG No.: 118050

Matrix: (soil/water) WATER Lab Sample ID: VBLKW1

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: B9980

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 03/18/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKW1

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 11267 SAS No.: SDG No.: 118050

Matrix: (soil/water) WATER Lab Sample ID: VBLKW1

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: B9980

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 03/18/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

118050MS

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 11267 SAS No.: SDG No.: 118050

Matrix: (soil/water) SOIL Lab Sample ID: 5692MS

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4022

Level: (low/med) LOW Date Received: 03/16/93

% Moisture: not dec. 14 Date Analyzed: 03/17/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	12	U
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	63	
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	59	
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	57	
10061-02-6	Trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	57	
108-90-7	Chlorobenzene	60	
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Total Xylenes	12	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

118050MS

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 11267 SAS No.: SDG No.: 118050

Matrix: (soil/water) SOIL Lab Sample ID: 5692MS

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4022

Level: (low/med) LOW Date Received: 03/16/93

% Moisture: not dec. 14 Date Analyzed: 03/17/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
541-73-1	1,3-Dichlorobenzene	12	U
106-46-7	1,4-Dichlorobenzene	12	U
95-50-1	1,2-Dichlorobenzene	12	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

118050MSD

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 11267 SAS No.: SDG No.: 118050

Matrix: (soil/water) SOIL Lab Sample ID: 5692MSD

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4023

Level: (low/med) LOW Date Received: 03/16/93

% Moisture: not dec. 14 Date Analyzed: 03/17/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	12	U
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	65	
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	60	
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	58	
10061-02-6	Trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	58	
108-90-7	Chlorobenzene	62	
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Total Xylenes	12	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

118050MSD

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 11267 SAS No.: SDG No.: 118050

Matrix: (soil/water) SOIL Lab Sample ID: 5692MSD

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A4023

Level: (low/med) LOW Date Received: 03/16/93

% Moisture: not dec. 14 Date Analyzed: 03/17/93

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
541-73-1	1,3-Dichlorobenzene	12	U
106-46-7	1,4-Dichlorobenzene	12	U
95-50-1	1,2-Dichlorobenzene	12	U

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 11267 SAS No.: SDG No.: 118050

	EPA SAMPLE NO.	SMC1 (TOL) #	SMC2 (BFB) #	SMC3 (DCE) #	OTHER	TOT OUT
01	118054	99	98	97	0	0
02	118054DL	99	98	98	0	0
03	VBLKW1	100	99	97	0	0

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

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

2B

SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 11267 SAS No.: SDG No.: 118050

Level:(low/med) LOW

	EPA SAMPLE NO.	SMC1 (TOL) #	SMC2 (BFB) #	SMC3 (DCE) #	OTHER	TOT OUT
01	118050	99	84	101	0	0
02	118051	97	86	109	0	0
03	118052	106	80	107	0	0
04	118050MS	99	83	104	0	0
05	118050MSD	101	83	104	0	0
06	VBLKS1	101	84	105	0	0

	QC LIMITS
SMC1 (TOL) = Toluene-d8	(84-138)
SMC2 (BFB) = Bromofluorobenzene	(59-113)
SMC3 (DCE) = 1,2-Dichloroethane-d4	(70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 11267 SAS No.: SDG No.: 118050

Matrix Spike - EPA Sample No.: 118050 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	58.10	0	63.26	109	59-172
Trichloroethene	58.10	0	59.42	102	62-137
Benzene	58.10	0	57.09	98	66-142
Toluene	58.10	0	56.86	98	59-139
Chlorobenzene	58.10	0	60.23	104	60-133

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	58.10	64.54	111	2	22	59-172
Trichloroethene	58.10	59.88	103	1	24	62-137
Benzene	58.10	58.37	100	2	21	66-142
Toluene	58.10	58.14	100	2	21	59-139
Chlorobenzene	58.10	62.44	108	4	21	60-133

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:

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKW1

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 11267 SAS No.: SDG No.: 118050

Lab File ID: B9980 Lab Sample ID: VBLKW1

Date Analyzed: 03/18/93 Time Analyzed: 1253

GC Column: CAP ID: 0.530(mm) Heated Purge: (Y/N) N

Instrument ID: VOA2

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	118054	5695	B9983	1512
02	118054DL	5695DL	B9984	1625

COMMENTS:

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKS1

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 11267 SAS No.: SDG No.: 118050

Lab File ID: A4018 Lab Sample ID: VBLKS1

Date Analyzed: 03/17/93 Time Analyzed: 1212

GC Column: CAP ID: 0.530(mm) Heated Purge: (Y/N) Y

Instrument ID: VOA1

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	118050	5692	A4019	1333
02	118051	5693	A4020	1411
03	118052	5694	A4021	1450
04	118050MS	5692MS	A4022	1543
05	118050MSD	5692MSD	A4023	1624

COMMENTS:

*** Lab Analysis Report ***

==> Transaction #: 03251230 Laboratory: (WE) Ecology, Manchester Lab

Work Group: (70) Misc GC Specified

Instrument: (PEPIDFID) Perkin-Elmer PID/FID

Method: (??????????) Unspecified

Chemist: (BLC) Carrell, Bob DOE Hours Worked: _____

Project: DOE-649Y LINCOLN APTS. Prg Ele#: D3K54

Prj Off: Marti, Pam DOE Analysis Due: 930311 Revised Due:

*** Sample Records in Transaction ***

Seq#	Sample #	QA	Date/Time	Description	Alternate Keys		
01	93118050		930309	R1-SSC,A			
02	93118051		930309	R2-SSB			
03	93118051	LDP1	930309	R2-SSB			
04	93118050	LBK1	930309	R1-SSC,A			

Record Type: TRNIN3 Date Verified: March 26, 1993 By: Carrell

Transaction Status: Edited Transaction...First Printing...Unverified.

Processed: 25-MAR-93 12:36:26 Status: E Batch: (In CUR DB)

*** Lab Analysis Report ***

Transaction #: 03251230 Seq #: 01 (70) Misc GC Specified
Proj Code : DOE-649Y LINCOLN APTS. PE # : D3K54

Sample No.: 93 118050 Alternate Keys:

Samp Matrix: (40) Sediment Units: (25) mg/kg-dr %Slds: ____
QA Code: ( ) Unspecifed Peaks Total: ____
Date Extracted: Date Analyzed: 930318 # Days to Ext/Anal: 07 9

Line	Par #	Parameter Description	Units	Value	
1	-400004	WTPH-G/Gasoline	mg/kg-dr	4.6	
2	-540363	p-Difluorobenzene	% Recov	102.0	(Surr) PR

*** Lab Analysis Report ***

Transaction #: 03251230 Seq #: 02 (70) Misc GC Specified
Proj Code : DOE-649Y LINCOLN APTS. PE # : D3K54

Sample No.: 93 118051 Alternate Keys:

Samp Matrix: (40) Sediment Units: (25) mg/kg-dr %Slds:
QA Code: ( ) Unspecifed Peaks Total:
Date Extracted: Date Analyzed: 930318 # Days to Ext/Anal: 0/ 9

Line	Par #	Parameter Description	Units	Value	
1	-400004	WTPH-G/Gasoline	mg/kg-dr	2.5U	
2	-540363	p-Difluorobenzene	% Recov	101.5	(Surr) PR

*** Lab Analysis Report ***

Transaction #: 03251230 Seq #: 03 (70) Misc GC Specified
Proj Code : DOE-649Y LINCOLN APTS. PE # : D3K54

Sample No.: 93 118051 Alternate Keys:

Samp Matrix: (40) Sediment Units: (25) mg/kg-dr %Slds:
QA Code: (LDP1) Lab Duplicate Sample #1 Peaks Total:
Date Extracted: Date Analyzed: 930318 # Days to Ext/Anal: 0/ 9

Line	Par #	Parameter Description	Units	Value	
1	-400004	WTPH-G/Gasoline	mg/kg-dr	2.7U	
2	-540363	p-Difluorobenzene	% Recov	101.9	(Surr) PR

*** Lab Analysis Report ***

Transaction #: 03251230 Seq #: 04 (70) Misc GC Specified
Proj Code : DOE-649Y LINCOLN APTS. PE # : D3K54

Blank ID : BW3077G
Sample No.: 93 118050 Alternate Keys:

Samp Matrix: (40) Sediment Units: (25) mg/kg-dr %Slds:
QA Code: (LBK1) Lab Blank Sample #1 Peaks Total:
Date Extracted: Date Analyzed: 930318 # Days to Ext/Anal: 0/ 9

Line	Par #	Parameter Description	Units	Value	
1	-400004	WTPH-G/Gasoline	mg/kg-dr	ND	
2	-540363	p-Difluorobenzene	% Recov	99.3	(Surr) PR

*** Lab Analysis Report ***

Transaction #: 03261330 Seq #: 01 (40) Organics - General
(WE) Ecology, Manchester Lab
Project: (DOE-649Y) LINCOLN APTS. D3K54 PZM
Param: (99960 S) H-Carbon ID

QA Code: ( ) Normal Data
Instrument: (GCHPFIDD) Hewlett Packard GC; FID Detector (DO
Method: (RX1-GO) Organics, General
Chemist: (BLC) Carrell, Bob DOE Hours Worked:
Lab Prep: ( ) Unspecifed
Matrix: (40) Sediment Date Preprd:
Units: (00) Date Anlyzd: 930318

Line	Sample #	Result	Sample Location/Description	#Days to Anl
1	93 118053	WEATHERED GASOLINE & LUBE OIL	L2-SSB	930309 (9)

Record Type: TRNIN2 Date Verified: March 26 1993 By: Carrell
Transaction Status: Edited Transaction...First Printing...Unverified.
Processed: 26-MAR-93 13:32:05 Status: E Batch: (In CUR DB)

*** Lab Analysis Report ***

==> Transaction #: 03251248 Laboratory: (WE) Ecology, Manchester Lab

Work Group: (70) Misc GC Specified

Instrument: (PEPIDFID) Perkin-Elmer PID/FID

Method: (?????????) Unspecified

Chemist: (BLC) Carrell, Bob DOE Hours Worked:

Project: DOE-649Y LINCOLN APTS. Prg Ele#: D3K54

Prj Off: Marti, Pam DOE Analysis Due: 930311 Revised Due:

*** Sample Records in Transaction ***

Seq#	Sample #	QA	Date/Time	Description	Alternate Keys		
01	93118054		930309	SUMP			
02	93118054	LDP1	930309	SUMP			
03	93118054	LBK1	930309	SUMP			

Record Type: TRNIN3 Date Verified: March 26, 1993 By: Carrell

Transaction Status: New Transaction...First Printing...Unverified.

Processed: 25-MAR-93 12:50:53 Status: N Batch: (In CUR DB)

*** Lab Analysis Report ***

Transaction #: 03251248 Seq #: 01 (70) Misc GC Specified
Proj Code : DOE-649Y LINCOLN APTS. PE # : D3K54

Sample No.: 93 118054 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (10) mg/l %Slds:
QA Code: ( ) Unspecifed Peaks Total:
Date Extracted: Date Analyzed: 930322 # Days to Ext/Anal: 0/ 13

Line	Par #	Parameter Description	Units	Value	
1	-400004	WTPH-G/Gasoline	mg/l	19.5	
2	-540363	p-Difluorobenzene	% Recov	97.4	(Surr) PR

*** Lab Analysis Report ***

Transaction #: 03251248 Seq #: 02 (70) Misc GC Specified
Proj Code : DOE-649Y LINCOLN APTS. PE # : D3K54

Sample No.: 93 118054 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (10) mg/l %Slds:
QA Code: (LDP1) Lab Duplicate Sample #1 Peaks Total:
Date Extracted: Date Analyzed: 930322 # Days to Ext/Anal: 0/ 13

Line	Par #	Parameter Description	Units	Value	
1	-400004	WTPH-G/Gasoline	mg/l	22.0	
2	-540363	p-Difluorobenzene	% Recov	97.1	(Surr) PR

*** Lab Analysis Report ***

Transaction #: 03251248 Seq #: 03 (70) Misc GC Specified
Proj Code : DOE-649Y LINCOLN APTS. PE # : D3K54

Blank ID : BW3081G
Sample No.: 93 118054 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (10) mg/l %Slds:
QA Code: (LBK1) Lab Blank Sample #1 Peaks Total:
Date Extracted: Date Analyzed: 930322 # Days to Ext/Anal: 0/ 13

Line	Par #	Parameter Description	Units	Value	
1	-400004	WTPH-G/Gasoline	mg/l	0.03U	
2	-540363	p-Difluorobenzene	% Recov	98.1	(Surr) PR