QUARTERLY MONITORING REPORT
1ST QUARTER 1999

L.E.CARPENTER

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Section 1
Introduction

L.E. Carpenter and Company (LEC) is pleased to submit this Quarterly Monitoring Report for the L.E. Carpenter site ("the site" or "the subject site") located at 170 North Main Street, Wharton, New Jersey (Figure 1). Quarterly monitoring events are performed at the site to comply with paragraph 35 of the 1986 Administrative Consent Order issued to L.E. Carpenter by the New Jersey Department of Environmental Protection (NJDEP). This report provides a summary of activities completed during the first quarter 1999, to include routine quarterly groundwater monitoring activities. Additionally, this report includes a summary of the various site activities scheduled for commencement during the 2nd quarter 1999. This report has been certified as in accordance with requirements outlined in N.J.A.C 7:26E-1.5(a). This certification is presented as Appendix A.

During the first quarter 1999, RMT conducted the following:

- Continued monthly mobile free product recovery utilizing enhanced fluid recovery (EFR) or vacuum enhanced recovery (VER) techniques in accordance with the NJDEP approval letter dated August 20, 1997 (Ref. Section 2).
- Continued quarterly groundwater monitoring activities as required under the Administrative Consent Order. During 1st quarter 1999, the quarterly groundwater monitoring protocol was modified to reflect the changes required per the NJDEP letter dated November 23, 1998 (Ref. Section 3).
- Received approval from the Village of Wharton to perform an off-site groundwater investigation downgradient from the MW19/Hot Spot 1 area, located at the northwest corner of the subject site (Ref. Section 5).

A discussion of these activities is provided in the following sections.

Section 2
Monthly EFR Activities

2.1 Introduction

In August 1997, the NJDEP approved the Remedial Action Plan (RAP) which described free product removal using enhanced fluid recovery (EFR) for the eastern portion of the subject site (east of the rail spur right-of-way). EFR is conducted by applying a vacuum to product recovery wells to primarily remove free phase product, in addition to limited volumes of contaminated groundwater and contaminant vapors within vadose zone soils. Additionally, as the result of increased aeration, this procedure enhances any natural biodegredation that may be occurring in the soil and groundwater. The locations of the twenty-eight (28) EFR wells purged during each monthly EFR event and all groundwater monitoring wells are shown in Figure 2.

Monthly EFR events conducted by RMT during the first quarter 1999 were performed on January 13, 1999, February 18, 1999 and March 24, 1999. Prior to conducting EFR, the free product thickness in each recovery well (if applicable) was measured. Free product measurements were recorded to determine appropriate placement of the drop pipe or "stinger" in order to maximize free product recovery. Free product thickness measurements recorded during first quarter 1999 are presented in Table 1. Additionally, Table 1 provides a cumulative breakdown of additional EFR specific information such as minimum and maximum free product thickness levels, associated costs, and extraction volumes to date.

2.2 Free Standing Product Trends

The following paragraphs describe free standing product trends in the western, central, and eastern portions of the free product plume. Free standing product refers to a volume (gal) of product occupying the casings of each EFR well. Total free standing product represents the sum of product volumes from each EFR well within all three segregated regions (eastern, central and western).

In the western portion of the plume (EFR wells 1, 2, 3, 17, 18, 20, 21, and 28), there was an increase in the total volume of free standing product during the first quarter 1999. Total free standing product increased from 4.11 gallons in January to 8.45 gallons in March. With the exception of EFR wells 17, 18 and 20, all western EFR wells showed increases in free standing product during the first quarter 1999.

In the central portion of the plume (EFR wells 4, 5, 6, 7, 19, 22, 23, 24, 25, 26, and 27), there was a slight decrease in the volume of free standing product during the first quarter 1999. The total free standing product volume decreased from 7.55 gallons in January to 6.62 gallons in March. EFR wells 19, 22, 23, 24, 25, 26 and 27 showed slight decreases in free product thickness, while EFR wells 4, 5, 6 and 7 showed slight increases in free product thickness.

In the eastern portion of the plume (EFR wells 8, 9, 10, 11, 12, 13, 14, 15, and 16), the total free standing product increased from 4.76 gallons in January to 8.02 gallon in February. However, between February and March, total free standing product volume decreased to 5.63 gallons. Subsequently, the majority of EFR wells showed increases in free standing product in February and volume reductions through the March EFR event.

The total free standing product throughout the site (accounting for all 28 EFR wells) increased over the course of the first quarter from 16.43 gallons in January to 20.7 gallons in March. However, a reduction in the total site free standing product was noted between fourth quarter 1998 and first quarter 1999. A cumulative breakdown of free product thickness and standing product volumes specific to each region is presented in Table 2. Additionally, charts for each free product plume region (western, central, eastern) that graphically display free product thickness fluctuations over time, and free standing product fluctuations trends are presented as Appendix B. Figure 3 displays the extent of free product on-site for each EFR event

2.3 Free Product Volumetric Estimations

After completion of the EFR event, the total volume of extracted free product was determined by gauging the vacuum truck contents with an oil/water interface probe. The vacuum truck was allowed to stabilize for one hour prior to gauging to allow for separation of emulsified product resulting from aggressive recovery. Gauging was conducted on a level surface and recorded measurements were compared to manufacturer's volumetric calibration curves (Models VR-111 and VR-102) to determine volume of total fluids and volume of water. Free product volume was determined by subtracting the volume of water from the total fluids volume. Vapor phase product volume was estimated based on vacuum truck air flow measurements (in cfm) and vented contaminant concentrations (in ppm) obtained throughout each EFR event. The volume (combined liquid and vapor phase) of free product extracted during each month's EFR event is presented in Table 3. Calibration curves and corresponding volumetric equations are presented as attachments to Table 3. During the first quarter 1999, a total of 1,419 gallons of fluid was removed during EFR activities, of which, approximately 137 gallons was free phase product. Since start-up in December 1997, site EFR activities have removed approximately 1,933 gallons of free product through March 24, 1999.

Section 3
Quarterly Monitoring

During the first quarter 1999, RMT conducted routine quarterly groundwater monitoring activities at the L.E Carpenter site in accordance with the revised quarterly sampling program outlined in the NJDEP letter dated November 23, 1998. An outline of the revised quarterly monitoring protocol is presented in Table 4.

Groundwater sampling was conducted on January 21, 1999, in accordance with the procedures contained in the NJDEP's "Field Sampling Procedures Manual" dated May 1992. Monitoring wells MW-4, MW-14I, MW-15S, MW-15I, MW-22R, MW-21 and MW-25R were purged utilizing a peristaltic pump to remove at least three well volumes prior to sampling. During the well purge process, indicator parameters were monitored and recorded so that a representative sample of the formation water was collected for analysis (Appendix C). Once the wells were purged, samples were collected using Teflon coated plastic bailers. Pursuant to the NJDEP letter dated November 23, 1998, monitoring wells MW-11IR and MW-11DR were also purged and sampled in the manner previously described.

A sample duplicate, a field blank and a trip blank were collected to satisfy quality control requirements. The trip blank was prepared by the laboratory and remained with the sample containers until the samples were returned to the laboratory. The duplicate was collected from monitoring well MW-11DR. The field blank was collected by pouring distilled water through a Teflon coated bailer to verify that the field equipment was not adversely impacting the samples and decontamination procedures were adequate. Any sampling equipment used at each well was decontaminated prior to each use using a soap and water wash and distilled water rinse.

The results of the chemical analyses were compared to the NJDEP Class IIA Groundwater Quality Standards (NJGQS) and the Discharge Criteria presented in the Record of Decision (ROD) dated April 20, 1994. The presence of benzene and toluene was not detected at concentrations above the method detection limit in any of the groundwater samples. However, monitoring well MW-22R exhibited a total xylene concentration above both the New Jersey standards and the ROD discharge criteria. MW-22R did exhibit an ethylbenzene concentration, however, this concentration was below both the New Jersey standards and the ROD discharge criteria. Monitoring well MW-4 was also found to contain residual concentrations of contaminants of concern, however all contaminant concentrations were below both the NJGQS and the discharge criteria outlined in the ROD. MW-11DR contained a concentration of DEHP above both the NJGQS and the discharge criteria outlined in the ROD.

Concentrations of ethylbenzene (18 μg/l) and total xylenes (84 μg/l) were detected in the sample collected from monitoring well MW-22R. Although the concentration of total xylene exceeds both NJGQS and ROD discharge criteria, a continuing downward trend in the concentrations of all historically detected contaminants of concern has been noted at this monitoring location. Additionally, no concentrations were detected at either downgradient monitoring wells MW-25R nor MW-21. Concentration trends for contaminants of concern detected at MW-22R are presented as Appendix D. Contaminant concentrations trends at this location will continue to be closely monitored.

Historical groundwater monitoring data, to include the results from first quarter 1999 sampling, are presented in Table 5 with corresponding analytical laboratory reports presented as Appendix E. Site sampling activities and all laboratory analyses were performed by STL Envirotech, Inc. of Edison, New Jersey.

Section 4
Water Table Elevations

On January 21, 1999, STL Envirotech measured static groundwater levels from 71 different locations throughout the site (see Table 6) to evaluate the groundwater flow pattern in the shallow aquifer system specific to the subject site. It should be noted that 16 of the 71 locations monitored were observed to contain a measurable amount of free product. Figure 4 displays the water table potentiometric surface and indicates that groundwater flow direction east of the rail spur is similar to that observed historically (generally toward the east).

Section 5
Site Investigative and Remedial Action

Pursuant to the NJDEP letter dated October 13, 1998 , RMT submitted a workplan outlining proposed investigative and remedial actions to be taken at the L.E. Carpenter site in November 1998. The workplan proposed further soil investigation to fully delineate the extent of lead impact at Hot Spots B, C and proposed the excavation and removal of an estimated 32 yards of DEHP impacted soil at Hot Spot 4, previously delineated by Roy F. Weston during the second quarter of 1996. Additionally, the workplan outlined measures to be taken regarding further delineation of DEHP, toluene, ethylbenzene and total xylenes in the shallow aquifer underlying the MW-19/Hot Spot 1 area, located on the northwest portion of the subject site. RMT's workplan was accepted by the NJDEP on November 23, 1998.

Pursuant to the NJDEP letter dated December 21, 1998, RMT proposed that groundwater samples from five locations down gradient of the MW-19/Hot Spot 1 area be obtained via HydroPunch® techniques to further delineate groundwater impact. As delineation of this area involved the collection of groundwater samples from off-site locations, RMT submitted a Road Opening Request permit application to the Borough of Wharton on March 22, 1999. Borough authorization for the off-site investigation was provided on March 30, 1999. A copy of Road Opening Permit No. OP-99-4 is presented as Appendix F.

Proposed subsurface investigations of Hot Spots B and C, and MW-19/Hot Spot 1 are scheduled for commencement during the week of April 19th, 1999. RMT estimates that these scopes will take approximately three days to complete. A comprehensive report detailing the procedures followed during these investigations, corresponding analytical results and proposed remedial action will be provided upon completion.

Proposed remedial alternatives for Hot Spots B and C and MW19/Hot Spot 1 will be presented to the NJDEP once all investigative activities are complete, and full lateral and vertical delineation has been achieved. Excavation of the 32 yards of DEHP impacted soil at Hot Spot 4 will be scheduled to coincide with other site remedial activities.

Table 1
L.E. CARPENTER - Wharton, New Jersey
Free Product Recovery - EFR Wells

EFR Event Date / Well No.	Development November 21, 1997 Feet of Product	EFR #1 December 9, 1997 Feet of Product	EFR #2 January 7, 1998 Feet of Product	EFR #3 January 22, 1998 Feet of Product	EFR #4 February 17, 1998 Feet of Product	EFR #5 March 13, 1998 Feet of Product	EFR #6 March 27, 1998 Feet of Product	EFR #7 April 24, 1998 Feet of Product	EFR #8 May 29, 1998 Feet of Product	EFR #9 June 30, 1998 Feet of Product	EFR #10 July 31, 1998 Feet of Product	EFR #11**** August 24, 1998 Feet of Product	EFR #12 September 17, 1998 Feet of Product	EFR #13 October 22, 1998 Feet of Product
EFR-1	1.64	1.53	1.94	0.36	2.48	0.93	0.94	1.42	1.55	2.11	1.28	1.22	1.71	1.59
EFR-2	1.55	1.50	1.86	0.06	2.20	2.96	2.92	2.65	2.44	1.78	1.12	1.09	1.21	1.29
EFR-3	0.85	1.02	1.27	–	1.58	1.19	0.03	0.24	0.19	0.77	0.72	0.93	1.03	1.01
EFR-4	1.03	2.27	0.54	0.07	0.30	–	–	–	–	0.03	0.38	1.23	2.40	2.17
EFR-5	4.03	3.74	4.25	0.32	3.29	3.39	1.71	2.71	2.02	1.86	2.38	2.52	2.33	2.52
EFR-6	0.72	1.00	1.24	–	2.27	1.71	1.17	2.23	1.55	1.56	1.96	1.56	1.42	1.25
EFR-7	0.17	0.09	0.16	–	–	–	–	–	–	0.02	0.02	0.03	0.07	0.05
EFR-8	0.00	0.00	0.00	–	0.08	–	–	–	–	0.03	0.04	0.08	0.13	0.09
EFR-9	0.00	1.10	1.79	1.15	0.16	3.08	0.08	0.07	0.11	0.29	0.61	0.98	1.23	1.31
EFR-10	5.20	5.80	6.42	2.34	7.47	7.06	6.05	6.71	5.47	5.68	4.94	4.52	4.34	4.38
EFR-11	3.07	4.04	4.28	5.64	4.47	4.32	4.67	5.91	5.73	6.08	4.73	4.47	3.95	4.06
EFR-12	0.04	0.03	0.00	–	0.07	–	–	–	0.02	0.28	0.22	0.28	0.24	0.15
EFR-13	0.48	0.56	1.33	0.05	1.28	1.07	1.07	0.67	–	0.90	0.56	0.48	0.66	0.82
EFR-14	0.10	0.16	0.00	–	–	–	–	–	–	–	-	–	–	–
EFR-15	0.09	0.12	0.27	–	0.06	–	–	–	–	0.03	0.02	0.03	0.03	0.12
EFR-16	0.00	0.00	0.00	–	–	–	–	–	–	–	-	–	–	–
EFR-17	0.04	0.17	1.56	0.39	0.17	0.08	–	0.09	–	0.02	0.37	0.29	0.46	0.56
EFR-18	0.10	0.10	0.09	–	–	–	–	–	–	0.01	0.08	0.14	0.48	0.68
EFR-19	0.54	2.80	1.89	0.49	1.95	1.63	1.44	0.88	0.65	0.42	0.90	1.26	1.68	1.95
EFR-20	0.40	0.34	0.95	0.47	0.27	–	–	0.04	0.24	0.37	0.65	0.63	0.79	1.24
EFR-21	2.36	2.40	2.71	2.74	2.74	4.14	3.97	4.23	3.98	3.29	1.97	1.87	1.86	1.77
EFR-22	3.78	4.10	0.05	4.81	3.40	4.69	3.42	1.82	1.22	0.96	2.86	2.87	2.97	2.83
EFR-23	0.00	0.06	0.06	–	0.02	–	–	–	–	0.05	0.11	0.08	0.27	1.03
EFR-24	0.00	0.00	0.00	–	–	–	–	–	–	–	-	–	–	0.03
EFR-25	2.95	3.00	3.55	0.26	4.15	3.11	0.72	0.82	0.79	0.78	0.60	0.41	0.29	0.41
EFR-26	2.20	2.05	2.66	0.29	2.30	2.12	1.43	1.32	1.95	1.21	2.06	1.58	1.17	1.24
EFR-27	0.15	0.02	2.71	0.02	0.74	–	–	0.03	–	0.02	0.33	0.45	1.49	0.54
EFR-28	2.20	2.30	1.78	0.48	2.60	3.20	3.48	4.40	3.16	2.61	1.47	1.73	1.69	1.83
MIN (ft)	0.00	0.00	0.00	0.02	0.02	0.08	0.03	0.03	0.02	0.01	0.02	0.03	0.03	0.03
MAX (ft)	5.20	5.80	6.42	5.64	7.47	7.06	6.05	6.71	5.73	6.08	4.94	4.52	4.34	4.38
Average (ft)	1.20	1.44	1.55	1.17	1.92	2.79	2.21	2.01	1.94	1.25	1.22	1.23	1.36	1.34
Total Free Product (ft)	33.69	40.30	43.36	19.94	44.05	44.68	33.10	36.24	31.07	31.16	30.38	30.73	33.90	34.92
Total Standing Free Product Volume (gal)	21.60	25.83	27.79	12.78	28.24	28.64	21.22	23.23	19.92	19.97	19.47	19.70	22.04	22.70
Estimated Total Free Product Removed from Vacuum Truck Gauging plus Vapor Phase Calc. (gal)*	315	250	210	80	120	130	100	110	95	105	76	55	60	15
Total Volume Fluid Removed (gal)	2,350	1,410	376	256	314	300	339	403	390	561	211	220	329	212
Volume Resulting from Drum Purging (GW purge water) *if applicable*	-	-	-	-	-	338	150	600	70	110	71	-	110	-
Total Volume Removed from Site (gal) *(Invoiced volume)*	2,350	1,410	376	256	314	638	489	1,003	460	671	282	220	439	212
Cumulative Total Free Product Removed (gal)	315	565	775	855	975	1,105	1,205	1,315	1,410	1,515	1,591	1,646	1,706	1,721
Disposal Cost**	$3,976.37	$2,742.62	$1,130.50	$1,130.50	$1,219.12	$1,431.57	$1,541.31	$2,038.43	$1,240.75	$1,347.68	$1,324.62	$1,838.93	$1,383.18	$915.25
Total Cost per gal***	$1.69	$1.95	$3.01	$4.42	$3.88	$2.24	$3.15	$2.03	$2.70	$2.01	$4.70	$8.36	$3.15	$4.32

Notes:

Product thickness was determined prior to the EFR event.

gal = gallon

All EFR Wells are 4 inch in diameter

EFR events 13 and 14 product removal was low due to significant quantities of product remaining emulsified as the result of a short vac truck standing time prior to gauging

Vac truck is now allowed to sit for a minimum of 1 hour prior to gauging on flat ground

Product removal estimate does not take into account a % of product remaining emulsified do to high agitation

* Estimated free product (gal) based on Vacuum Truck gauging (interface probe) directly after each EFR Event

** Total invoiced disposal cost for EFR event (product and groundwater) and monitoring well purge water from 1/4ly well development and monitoring activities *(if applicable)*

*** Total Cost per gallon includes product transportation & disposal, manifest prep, & regulatory admin. fee for combined EFR and GW purge water drum volumes *(if applicable)*

**** EFR # 11 free product volume was 53 gal and contained PCBs (approx. weight 450lbs total @ specific gravity of 8.18 lbs/gal). Disposal costs were significantly higher due to PCB content

Table 1
L.E. CARPENTER - Wharton, New Jersey
Free Product Recovery - EFR Wells

EFR Event Date Well No.	EFR #14 November 20, 1998 Feet of Product	EFR #15 December 18, 1998 Feet of Product	EFR #16 January 13, 1999 Feet of Product	EFR #17 February 18, 1999 Feet of Product	EFR #18 March 24, 1999 Feet of Product
EFR-1	1.71	1.57	0.53	1.79	3.68
EFR-2	1.51	1.41	0.95	1.40	2.42
EFR-3	1.19	1.18	1.14	1.01	1.63
EFR-4	1.75	1.79	0.73	0.10	0.14
EFR-5	2.19	2.28	2.68	3.47	6.15
EFR-6	1.29	1.38	0.49	0.84	0.88
EFR-7	0.20	0.16	0.02	0.04	0.04
EFR-8	0.07	0.03	0.12	–	0.03
EFR-9	1.26	1.86	0.74	0.49	0.06
EFR-10	3.98	3.99	3.68	5.79	5.52
EFR-11	3.65	3.52	2.42	4.69	2.84
EFR-12	0.29	0.17	0.04	0.11	0.05
EFR-13	1.13	1.30	0.22	1.19	0.15
EFR-14	–	–	–	–	-
EFR-15	0.12	0.32	0.11	0.07	0.01
EFR-16	–	–	–	–	–
EFR-17	0.71	0.53	0.26	0.08	0.06
EFR-18	0.98	1.08	0.56	0.11	-
EFR-19	2.31	2.44	1.83	1.68	0.52
EFR-20	1.85	2.11	0.65	1.33	0.88
EFR-21	1.67	1.62	1.21	1.43	2.62
EFR-22	2.58	2.27	2.06	0.84	0.34
EFR-23	3.07	2.29	1.55	0.91	0.47
EFR-24	0.12	0.14	0.38	0.06	0.00
EFR-25	1.33	1.58	1.05	1.75	1.19
EFR-26	1.08	1.09	0.73	0.55	0.45
EFR-27	0.47	0.51	0.09	0.12	0.00
EFR-28	1.79	1.74	1.03	1.29	1.71
MIN (ft)	0.07	0.03	0.02	0.04	0.00
MAX (ft)	3.98	3.99	3.68	5.79	6.15
Average (ft)	1.47	1.48	0.97	1.25	1.27
Total Free Product (ft)	38.30	38.36	25.27	31.14	31.84
Total Standing Free Product Volume (gal)	24.90	24.93	16.43	20.24	20.70
Estimated Total Free Product Removed from Vacuum Truck Gauging plus Vapor Phase Calc. (gal)*	25	51	23	74	40
Total Volume Fluid Removed (gal)	120	256	234	498	683
Volume Resulting from Drum Purging (GW purge water) *if applicable*	-	110	-	235	-
Total Volume Removed from Site (gal) *(Invoiced volume)*	120	256	234	733	683
Cumulative Total Free Product Removed (gal)	1,746	1,796	1,819	1,893	1,933
Disposal Cost**	$915.00	$973.00	$1,156.62	$1,641.56	$1,703.44
Total Cost per gal***	$7.63	$3.80	$4.94	$2.24	1

	EFR Event Date	11/21/97	12/9/97	1/7/98	2/16/98	3/16/98	3/27/98	4/24/98	5/29/98	6/30/98	7/31/98	8/24/98	9/17/98	10/22/98	11/20/98	12/18/98	1/13/99	2/17/99	3/23/99
	Well No.																		
		11/21/97	12/9/97	1/7/98	2/16/98	3/16/98	3/27/98	4/24/98	5/29/98	6/30/98	7/31/98	8/24/98	9/17/98	10/22/98	11/20/98	12/18/98	1/13/99	2/17/99	3/23/99
	EFR-1	1.64	1.53	1.94	2.48	0.93	0.94	1.42	1.55	2.11	1.28	1.22	1.71	1.59	1.71	1.57	0.53	1.79	3.68
	EFR-2	1.55	1.50	1.86	2.20	2.96	2.92	2.65	2.44	1.78	1.12	1.09	1.21	1.29	1.51	1.41	0.95	1.40	2.42
	EFR-3	0.85	1.02	1.27	1.58	1.19	0.03	0.24	0.19	0.77	0.72	0.93	1.03	1.01	1.19	1.18	1.14	1.01	1.63
	EFR-17	0.04	0.17	1.56	0.17	0.08	–	0.09	–	0.02	0.37	0.29	0.46	0.56	0.71	0.53	0.26	0.08	0.06
	EFR-18	0.10	0.10	0.09	–	–	–	–	–	0.01	0.08	0.14	0.48	0.68	0.98	1.08	0.56	0.11	0.00
	EFR-20	0.40	0.34	0.95	0.27	–	–	0.04	0.24	0.37	0.65	0.63	0.79	1.24	1.85	2.11	0.65	1.33	0.88
	EFR-21	2.36	2.40	2.71	2.74	4.14	3.97	4.23	3.98	3.29	1.97	1.87	1.86	1.77	1.67	1.62	1.21	1.43	2.62
Western Plume	EFR-28	2.20	2.30	1.78	2.60	3.20	3.48	4.40	3.16	2.61	1.47	1.73	1.69	1.83	1.79	1.74	1.03	1.29	1.71
Total Free Product (ft)		9.14	9.36	12.16	12.04	12.50	11.34	13.07	11.56	10.96	7.66	7.90	9.23	9.97	11.41	11.24	6.33	8.44	13.00
Total Free Product (gal)		5.86	6.00	7.79	7.72	8.01	7.27	8.38	7.41	7.03	4.91	5.06	6.00	6.48	7.42	7.31	4.11	5.49	8.45
		11/21/97	12/9/97	1/7/98	2/16/98	3/16/98	3/27/98	4/24/98	5/29/98	6/30/98	7/31/98	8/24/98	9/17/98	10/22/98	11/20/98	12/18/98	1/13/99	2/17/99	3/23/99
	EFR-4	1.03	2.27	0.54	0.30	–	–	–	–	0.03	0.38	1.23	2.40	2.17	1.75	1.79	0.73	0.10	0.14
	EFR-5	4.03	3.74	4.25	3.29	3.39	1.71	2.71	2.02	1.86	2.38	2.52	2.33	2.52	2.19	2.28	2.68	3.47	6.15
	EFR-6	0.72	1.00	1.24	2.27	1.71	1.17	2.23	1.55	1.56	1.96	1.56	1.42	1.25	1.29	1.38	0.49	0.84	0.88
	EFR-7	0.17	0.09	0.16	–	–	–	–	–	0.02	0.02	0.03	0.07	0.05	0.20	0.16	0.02	0.04	0.04
	EFR-19	0.54	2.80	1.89	1.95	1.63	1.44	0.88	0.65	0.42	0.9	1.26	1.68	1.95	2.31	2.44	1.83	1.68	0.52
	EFR-22	3.78	4.10	0.05	3.40	4.69	3.42	1.82	1.22	0.96	2.86	2.87	2.97	2.83	2.58	2.27	2.06	0.84	0.34
	EFR-23	0.00	0.06	0.06	0.02	–	–	–	–	0.05	0.11	0.08	0.27	1.03	3.07	2.29	1.55	0.91	0.47
	EFR-24	0.00	0.00	0.00	–	–	–	–	–	–	-	–	–	0.03	0.12	0.14	0.38	0.06	0.00
	EFR-25	2.95	3.00	3.55	4.15	3.11	0.72	0.82	0.79	0.78	0.6	0.41	0.29	0.41	1.33	1.58	1.05	1.75	1.19
	EFR-26	2.20	2.05	2.66	2.30	2.12	1.43	1.32	1.95	1.21	2.06	1.58	1.17	1.24	1.08	1.09	0.73	0.55	0.45
Central Plume	EFR-27	0.15	0.02	2.71	0.74	–	–	0.03	–	0.02	0.33	0.45	1.49	0.54	0.47	0.51	0.09	0.12	0.00
Total Free Product (ft)		15.57	19.13	17.11	18.42	16.65	9.89	9.81	8.18	6.91	11.60	11.99	14.09	14.02	16.39	15.93	11.61	10.36	10.18
Total Free Product (gal)		9.98	12.26	10.97	11.81	10.67	6.34	6.29	5.24	4.43	7.44	7.69	9.16	9.11	10.65	10.35	7.55	6.73	6.62
		11/21/97	12/9/97	1/7/98	2/16/98	3/16/98	3/27/98	4/24/98	5/29/98	6/30/98	7/31/98	8/24/98	9/17/98	10/22/98	11/20/98	12/18/98	1/13/99	2/17/99	3/23/99
	EFR-8	0.00	0.00	0.00	0.08	–	–	–	–	0.03	0.04	0.08	0.13	0.09	0.07	0.03	0.12	–	0.03
	EFR-9	0.00	1.10	1.79	0.16	3.08	0.08	0.07	0.11	0.29	0.61	0.98	1.23	1.31	1.26	1.86	0.74	0.49	0.06
	EFR-10	5.20	5.80	6.42	7.47	7.06	6.05	6.71	5.47	5.68	4.94	4.52	4.34	4.38	3.98	3.99	3.68	5.79	5.52
	EFR-11	3.07	4.04	4.28	4.47	4.32	4.67	5.91	5.73	6.08	4.73	4.47	3.95	4.06	3.65	3.52	2.42	4.69	2.84
	EFR-12	0.04	0.03	0.00	0.07	–	–	–	0.02	0.28	0.22	0.28	0.24	0.15	0.29	0.17	0.04	0.11	0.05
	EFR-13	0.48	0.56	1.33	1.28	1.07	1.07	0.67	–	0.9	0.56	0.48	0.66	0.82	1.13	1.30	0.22	1.19	0.15
	EFR-14	0.10	0.16	0.00	–	–	–	–	–	–	-	–	–	–	–	–	–	–	-
	EFR-15	0.09	0.12	0.27	0.06	–	–	–	–	0.03	0.02	0.03	0.03	0.12	0.12	0.32	0.11	0.07	0.01
Eastern Plume	EFR-16	0.00	0.00	0.00	–	–	–	–	–	–	-	–	–	–	–	–	–	–	-
Total Free Product (ft)		8.98	11.81	14.09	13.59	13.53	11.87	13.36	11.33	13.29	11.12	10.84	10.58	10.93	10.50	11.19	7.33	12.34	8.66
Total Free Product (gal)		5.76	7.57	9.03	8.71	9.95	7.61	8.56	7.26	8.52	7.13	6.95	6.88	7.10	6.83	7.27	4.76	8.02	5.63
TOTAL SITE FREE STANDING VOLUME		21.60	25.83	27.79	28.24	28.64	21.22	23.23	19.92	19.97	19.47	19.70	22.04	22.70	24.90	24.93	16.43	20.24	20.70

TABLE 3

L.E. Carpenter - Wharton, New Jersey

1st Quarter 1999 Free Product Removal Estimates

EFR 16 (January 13, 1999)		EFR 17 (February 18, 1999)		EFR 18 (March 24, 1999)	
EFR Volume Removal (VR-111 VacTruck Gauging)		**EFR Volume Removal (VR-102 VacTruck Gauging)**		**EFR Volume Removal (VR-102 VacTruck Gauging)**	
Top of Free Product (ft)	5.100	Top of Free Product (ft)	3.790	Top of Free Product (ft)	3.540
Water (ft)	5.140	Water (ft)	3.890	Water (ft)	3.590
Bottom of Tank (ft)	6.140	Bottom of Tank (ft)	4.900	Bottom of Tank (ft)	4.900
Total Volume Height (ft)	1.040	Total Volume Height (ft)	1.110	Total Volume Height (ft)	1.360
Total Volume Height (inches)	12.480	Total Volume Height (inches)	13.320	Total Volume Height (inches)	16.320
Total Volume (gal)	232.906440	Total Volume (gal)	497.725635	Total Volume (gal)	688.069491
Depth to Water (ft)	5.140	Depth to Water (ft)	3.890	Depth to Water (ft)	3.590
Water Height (ft)	1.000	Water Height (ft)	1.010	Water Height (ft)	1.310
Water Volume Height (inches)	12.000	Water Volume Height (inches)	12.120	Water Volume Height (inches)	15.720
Water Volume (gal)	211.161	Water Volume (gal)	425.812	Water Volume (gal)	648.712
Depth of Free Product (ft)	0.040	Depth of Free Product (ft)	0.100	Depth of Free Product (ft)	0.050
Depth of Free Product (inches)	0.480	Depth of Free Product (inches)	1.200	Depth of Free Product (inches)	0.600
Volume of Free Product (gal)	22	Volume of Free Product (gal)	72	Volume of Free Product (gal)	39
Air Emissions		**Air Emissions**		**Air Emissions**	
Average Concentration (ppm)	1300.00	Average Concentration (ppm)	2000.00	PID Concentration (ppm)	1700.00
Stack Dimensions (diameter in inches)	3.00	Stack Dimensions (diameter in inches)	3.00	Stack Dimensions (diameter in inches)	3.00
Q (scfm)	300.00	Q (scfm)	300.00	Q (scfm)	300.00
MW (weighted) lb/lb-mole	132.00	MW (weighted) lb/lb-mole	132.00	MW (weighted) lb/lb-mole	132.00
Universal Gas Constant (R) ft^3/lb-mole	379.00	Universal Gas Constant (R) ft^3/lb-mole	379.00	Universal Gas Constant (R) ft^3/lb-mole	379.00
Emissions (lb.hr)	8.15	Emissions (lb.hr)	12.54	Emissions (lb.hr)	10.66
EFR Event Time (hrs)	1.20	EFR Event Time (hrs)	1.33	EFR Event Time (hrs)	0.54
Total EFR Emissions (lbs)	9.78	Total EFR Emissions (lbs)	16.68	Total EFR Emissions (lbs)	5.76
Total EFR Emissions (gal)	1.26	Total EFR Emissions (gal)	2.15	Total EFR Emissions (gal)	0.74
TOTAL EFR Volume (gal)	23	**TOTAL EFR Volume (gal)**	74	**TOTAL EFR Volume (gal)**	40
Cummulative Total Fluids Volume For 1st Quarter 1999			**1,419 Gallons**		
Cummulative Free Product Volume For 1st Quarter 1999			**137 Gallons**		

NOTES

Air Emissions calculated : Lbs/hr = (ppmv x 60 x SCFM x MW) / (R x 1^6)

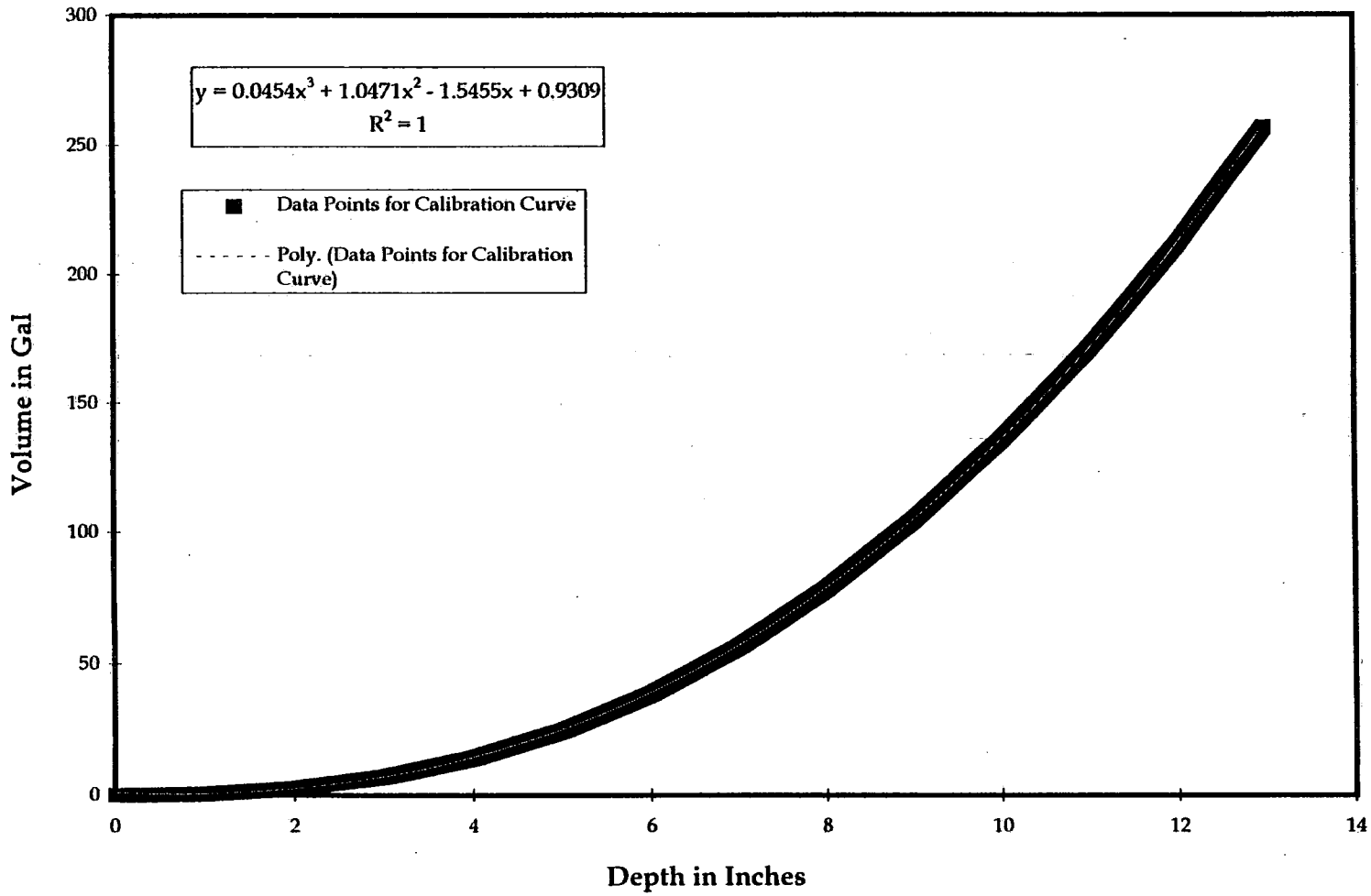
ERF Event duration accounts only for time involved in evacuating each EFR Well

All volumetric calculation (total fluids, water, free product) are based on the equasion developed for each Vac Truck model. Calibration curves were developed based on information provided by the manufacturer.

Vac truck is allowed to site for 1 hour prior to gauging to allow for separation of emulsified product

Avg. Specific gravity @ 0.929 (Roy F. Weston historical analytical results)

VR-111 6000 Gal EFR Vac Truck - Volume Calibration Curve



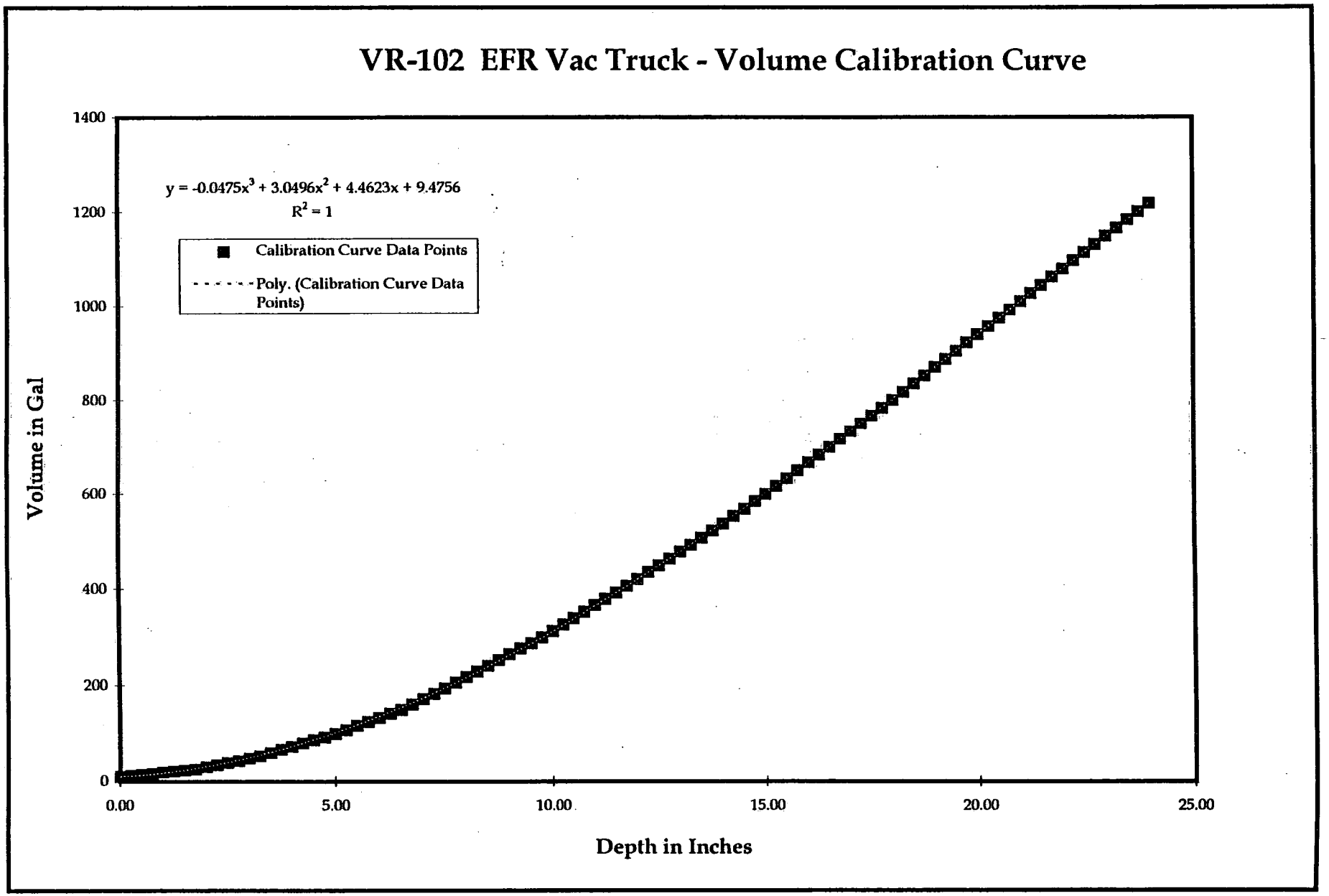

VR-102 EFR Vac Truck - Volume Calibration Curve
y = -0.0475x3 + 3.0496x2 + 4.4623x + 9.4756
R2 = 1
Calibration Curve Data Points
Poly. (Calibration Curve Data Points)
Volume in Gal
Depth in Inches
0
200
400
600
800
1000
1200
1400
0.00
5.00
10.00
15.00
20.00
25.00

TABLE 4

L.E. CARPENTER - WHARTON, NEW JERSEY

REVISED QUARTERLY MONITORING PROTOCOL

Per NJDEP Letter Dated November 23, 1998

Monitoring Well	Bottom of Well (ft)	Analytical Parameters	Rational	Comments
MW-14I	40.96', 2"	BTEX(1) DEHP(2)	Analytical results will identify the migration of the dissolved groundwater plume in the Intermdiate Aquifer Zone downgradient of the site (Wharton Enterprise property)	Original Monitoring Well
MW-15S	17.47', 4"	BTEX(1) DEHP(2)	Analytical results will identify if the dissolved groundwater plume is migrating through this portion of the shallow aquifer zone (on the rail spur right-of-way)	Original Monitoring Well
MW-15I	38.34', 2"	BTEX(1) DEHP(2)	Analytical results will identify the migration of the dissolved groundwater plume through the Intermediate Aquifer Zone in the is area (on rail spur right-of-way)	Original Monitoring Well
MW-22R	11', 2"	BTEX(1) DEHP(2)	Analytical results will identify the movement of the dissolved groundwater plume in the shallow aquifer zone downgradient of the site (Wharton Enterprise property).	Original Monitoring Well
MW-25R	11', 2"	BTEX(1) DEHP(1)	Analytical results will identify the movement of the dissolved groundwater plume in the shallow aquifer zone downgradient of the site. East of MW-22R (Wharton Enterprise property).	DEHP sampling required quarterly as opposed to semi annually per Nov 23, 1998 NJDEP Letter.
MW-17S(3)	13.4', 4"	BTEX DEHP	Analytical results from this well will also identify "background" conditions at the site in the shallow aquifer zone.	Original Monitoring Well
MW-4	27', 2"	BTEX(1) DEHP(2)	Analytical results from this well will also identify "background" conditions at the site in the shallow aquifer zone (south portion of of subject site, bordering on the Rockaway River)	Original Monitoring Well
MW-21	15.0'	BTEX(1) DEHP(1)	Analytical results from this well will also identify "background" conditions at the site in the shallow aquifer zone. Additionally, data from this well is used to track the potential migratory trend from MW-25 (Eastern most portion of the subject site)	New well added to monitoring protocol as of Nov 23, 1998 NJDEP Letter.

NOTES

(1) Sample Collected Every Quarter
(2) Sample Collected Bi-annually, 2nd and 4th quarter.
(3) Well sampled bi-annually, 2nd and 4th quarter.

QA/QC Protocol

One (1) field blank will be collected for each parameter per each event (an aditional 8 samples - 4 BTEX and 4 DEHP)
One (1) trip blank will be collected, alternating parameters per each event (an aditional 4 samples - 2 BTEX and 2 DEHP)
One (1) duplicate sample will be collected from alternating wells and analysed for alternating parameters (2 BTEX and 2 DEHP)

TABLE 5

L.E. CARPENTER - Wharton, New Jersey

Quarterly Groundwater Monitoring Data

1st QUARTER 1995 (*Weston*)					
Monitoring Well	Benzene (ug/L)	Ethylbenzene (ug/L)	Toluene (ug/L)	Total Xylenes (ug/L)	bis-2-Ethylhexylphthalate
MW-4	ND	26	ND	32	25000
MW-14I	ND	0.4	ND	1.2	140
MW-15S	ND	ND	ND	ND	2.4
MW-15I	ND	ND	ND	ND	250
MW-17S	ND	0.6	0.3	1.9	11
MW-22	ND	57	ND	260	6500
TRIP BLANK	ND	ND	ND	ND	NS
FIELD BLANK	ND	ND	ND	ND	ND
NJDEP GWQS (ug/L)	NA	700	1000	40	40
ROD Discharge Criteria (ug/L)	NA	350	500	20	20

2nd QUARTER 1995 (*Weston*)					
Monitoring Well	Benzene (ug/L)	Ethylbenzene (ug/L)	Toluene (ug/L)	Total Xylenes (ug/L)	bis-2-Ethylhexylphthalate
MW-4	ND	16	ND	13	46000
MW-14I	ND	ND	ND	ND	1.6
MW-15S	ND	ND	ND	ND	ND
MW-15I	ND	ND	ND	ND	7.2
MW-25	ND	ND	ND	ND	1.6
MW-30	ND	17	ND	13	45000
MW-17S	0.2	ND	0.18	ND	ND
MW-22	ND	311	ND	955	380
TRIP BLANK	ND	ND	ND	ND	NS
FIELD BLANK	ND	0.73	ND	ND	1.3
NJDEP GWQS (ug/L)	NA	700	1000	40	40
ROD Discharge Criteria (ug/L)	NA	350	500	20	20

TABLE 5

L.E. CARPENTER - Wharton, New Jersey

Quarterly Groundwater Monitoring Data

3rd QUARTER 1995 (*Weston*)					
Monitoring Well	Benzene (ug/L)	Ethylbenzene (ug/L)	Toluene (ug/L)	Total Xylenes (ug/L)	bis-2-Ethylhexylphthalate
MW-4	ND	9.7	ND	8.7	NS
MW-14I	ND	ND	ND	ND	NS
MW-15S	ND	ND	ND	ND	NS
MW-15I	ND	ND	ND	ND	NS
MW-25	ND	ND	ND	ND	NS
MW-30	ND	ND	ND	ND	NS
MW-22	ND	171	ND	693	NS
TRIP BLANK	ND	ND	ND	ND	NS
FIELD BLANK	ND	ND	ND	ND	NS
NJDEP GWQS (ug/L)	NA	700	1000	40	40
ROD Discharge Criteria (ug/L)	NA	350	500	20	20

4th QUARTER 1995 (*Weston*)					
Monitoring Well	Benzene (ug/L)	Ethylbenzene (ug/L)	Toluene (ug/L)	Total Xylenes (ug/L)	bis-2-Ethylhexylphthalate
MW-4	ND	8.8	ND	11	17000
MW-14I	ND	ND	ND	ND	2.6
MW-15S	ND	ND	ND	ND	ND
MW-15I	ND	ND	ND	ND	2.8
MW-25	ND	ND	ND	ND	68
MW-30	ND	ND	ND	ND	ND
MW-22	ND	123	ND	494	320
MW-17S	ND	ND	ND	0.63	ND
TRIP BLANK	ND	ND	ND	ND	NS
FIELD BLANK	ND	ND	ND	ND	ND
NJDEP GWQS (ug/L)	NA	700	1000	40	40
ROD Discharge Criteria (ug/L)	NA	350	500	20	20

TABLE 5

L.E. CARPENTER - Wharton, New Jersey

Quarterly Groundwater Monitoring Data

1st QUARTER 1996 (*Weston*)					
Monitoring Well	Benzene (ug/L)	Ethylbenzene (ug/L)	Toluene (ug/L)	Total Xylenes (ug/L)	bis-2-Ethylhexylphthalate
MW-4	ND	24	ND	47	NS
MW-14I	ND	ND	ND	ND	NS
MW-15S	ND	33	ND	83	NS
MW-15I	ND	ND	ND	ND	NS
MW-30	ND	ND	ND	ND	NS
TRIP BLANK	ND	ND	ND	ND	NS
FIELD BLANK	ND	ND	ND	ND	NS
NJDEP GWQS (ug/L)	NA	700	1000	40	40
ROD Discharge Criteria (ug/L)	NA	350	500	20	20

3rd QUARTER 1996 (*Weston*)					
Monitoring Well	Benzene (ug/L)	Ethylbenzene (ug/L)	Toluene (ug/L)	Total Xylenes (ug/L)	bis-2-Ethylhexylphthalate
MW-4	ND	6.8	ND	4.3	NS
MW-14I	ND	ND	ND	ND	NS
MW-15S	ND	ND	ND	ND	NS
MW-15I	ND	ND	ND	ND	NS
MW-25	ND	0.34	ND	2.2	NS
MW-22	ND	359	ND	1320	NS
MW-30	ND	ND	ND	ND	NS
TRIP BLANK	ND	ND	ND	ND	NS
FIELD BLANK	ND	ND	ND	ND	NS
NJDEP GWQS (ug/L)	NA	700	1000	40	40
ROD Discharge Criteria (ug/L)	NA	350	500	20	20

TABLE 5

L.E. CARPENTER - Wharton, New Jersey

Quarterly Groundwater Monitoring Data

4th QUARTER 1996 (*Weston*)					
Monitoring Well	Benzene (ug/L)	Ethylbenzene (ug/L)	Toluene (ug/L)	Total Xylenes (ug/L)	bis-2-Ethylhexylphthalate
MW-4	ND	2.3	ND	ND	11000
MW-14I	ND	ND	ND	ND	2.7
MW-15S	ND	0.21	ND	1.7	ND
MW-15I	ND	ND	ND	ND	1.7
MW-25	ND	ND	ND	ND	ND
MW-17S	ND	ND	ND	ND	1.5
MW-22	ND	320	ND	1330	ND
MW-15I Dup	ND	ND	ND	ND	1.9
TRIP BLANK	ND	ND	ND	ND	NS
FIELD BLANK	ND	ND	ND	ND	ND
NJDEP GWQS (ug/L)	NA	700	1000	40	40
ROD Discharge Criteria (ug/L)	NA	350	500	20	20

1st QUARTER 1997 (*Weston*)					
Monitoring Well	Benzene (ug/L)	Ethylbenzene (ug/L)	Toluene (ug/L)	Total Xylenes (ug/L)	bis-2-Ethylhexylphthalate
MW-4	ND	3.5	ND	1.8	NS
MW-14I	ND	ND	ND	ND	NS
MW-15S	ND	ND	ND	ND	NS
MW-15I	ND	ND	ND	ND	NS
MW-25	ND	ND	ND	ND	NS
MW-30S	ND	0.2	ND	1.0	NS
TRIP BLANK	ND	ND	ND	ND	NS
FIELD BLANK	ND	ND	0.2	ND	NS
NJDEP GWQS (ug/L)	NA	700	1000	40	40
ROD Discharge Criteria (ug/L)	NA	350	500	20	20

TABLE 5

L.E. CARPENTER - Wharton, New Jersey

Quarterly Groundwater Monitoring Data

2nd QUARTER 1997 (*Weston*)					
Monitoring Well	**Benzene (ug/L)**	**Ethylbenzene (ug/L)**	**Toluene (ug/L)**	**Total Xylenes (ug/L)**	**bis-2-Ethylhexylphthalate**
MW-4	ND	1.2	ND	4.2	120
MW-14I	ND	ND	ND	ND	1.6
MW-15S	ND	ND	ND	ND	1.2
MW-15I	ND	ND	ND	ND	2.2
MW-22	ND	5,730	ND	32,900	7,500
MW-25	ND	13.5	ND	89	63
MW-17S	ND	ND	ND	ND	NS
MW-30	ND	ND	ND	ND	2.2
TRIP BLANK	ND	ND	ND	ND	ND
FIELD BLANK	ND	ND	ND	ND	NS
NJDEP GWQS (ug/L)	NA	700	1000	40	40
ROD Discharge Criteria (ug/L)	NA	350	500	20	20

3rd QUARTER 1997 (*Weston*)					
Monitoring Well	**Benzene (ug/L)**	**Ethylbenzene (ug/L)**	**Toluene (ug/L)**	**Total Xylenes (ug/L)**	**bis-2-Ethylhexylphthalate**
MW-4	ND	2.2	ND	12.6	NS
MW-14I	1.2	22.1	ND	176	NS
MW-15S	ND	ND	ND	ND	NS
MW-15I	ND	ND	ND	ND	NS
MW-22	ND	11,400	348	66,000	NS
MW-25	ND	4.1	ND	30.7	NS
MW-30-S	ND	ND	ND	ND	NS
TRIP BLANK	ND	ND	ND	ND	NS
FIELD BLANK	ND	ND	ND	ND	NS
NJDEP GWQS (ug/L)	NA	700	1000	40	40
ROD Discharge Criteria (ug/L)	NA	350	500	20	20

TABLE 5

L.E. CARPENTER - Wharton, New Jersey

Quarterly Groundwater Monitoring Data

1st QUARTER 1998					
Monitoring Well	Benzene (ug/L)	Ethylbenzene (ug/L)	Toluene (ug/L)	Total Xylenes (ug/L)	bis-2-Ethylhexylphthalate
MW-4	ND	ND	ND	ND	NS
MW-14I	ND	ND	ND	ND	NS
MW-15S	ND	ND	1.4	ND	NS
MW-15I	ND	ND	ND	ND	NS
MW-22	ND	4,070	348	20,600	NS
MW-25	ND	0.33	ND	1.5	NS
MW DUP (MW-25)	ND	0.39	ND	0.94	NS
TRIP BLANK	ND	ND	ND	ND	NS
FIELD BLANK	ND	ND	ND	ND	NS
NJDEP GWQS (ug/L)	NA	700	1000	40	40
ROD Discharge Criteria (ug/L)	NA	350	500	20	20

2nd QUARTER 1998					
Monitoring Well	Benzene (ug/L)	Ethylbenzene (ug/L)	Toluene (ug/L)	Total Xylenes (ug/L)	DEHP (ug/L)
MW-4	ND	1.0	ND	1.4	710
MW-14I	ND	0.34	ND	2	24
MW-15S	ND	ND	ND	1.3	ND
MW-15I	ND	ND	ND	ND	1.9
MW-17S	ND	ND	ND	1.2	6.1
MW-22R	ND	2,260	ND	11,300	5,800
MW-25R	ND	ND	ND	ND	5.3
MW-15I DUP	ND	ND	ND	ND	3.8
TRIP BLANK	ND	ND	ND	ND	ND
FIELD BLANK	ND	ND	ND	ND	NS
NJDEP GWQS (ug/L)	NA	700	1000	40	30
ROD Discharge Criteria (ug/L)	NA	350	500	20	30

TABLE 5

L.E. CARPENTER - Wharton, New Jersey

Quarterly Groundwater Monitoring Data

3rd QUARTER 1998					
Monitoring Well	Benzene (ug/L)	Ethylbenzene (ug/L)	Toluene (ug/L)	Total Xylenes (ug/L)	DEHP (ug/L)
MW-4	ND	1.9	ND	1.2	NS
MW-14I	ND	ND	ND	ND	NS
MW-15S	ND	ND	ND	ND	NS
MW-15I	ND	ND	ND	ND	NS
MW-22R	ND	**1,880**	ND	**10,300**	NS
MW-25R	ND	ND	ND	ND	NS
MW-22RD (DUP)	ND	**2,510**	ND	**11,000**	NS
FIELD BLANK	ND	ND	ND	ND	NS
TRIP BLANK	ND	ND	ND	ND	NS
NJDEP GWQS (ug/L)	NA	700	1000	40	30
ROD Discharge Criteria (ug/L)	NA	350	500	20	30

4th QUARTER 1998					
Monitoring Well	Benzene (ug/L)	Ethylbenzene (ug/L)	Toluene (ug/L)	Total Xylenes (ug/L)	DEHP (ug/L)
MW-4	ND	9.3	ND	3.3	650
MW-14I	ND	ND	ND	ND	ND
MW-15S	ND	ND	ND	ND	ND
MW-15I	ND	ND	ND	0.53	11
MW-17S	ND	ND	ND	ND	6
MW-22R	ND	**1,650**	ND	**7,230**	**1,100**
MW-25R	ND	ND	ND	ND	1.9
MW-15ID (DUP)	ND	0.2	ND	0.8	9.8
FIELD BLANK	ND	ND	ND	ND	1.3
TRIP BLANK	ND	ND	ND	ND	NS
NJDEP GWQS (ug/L)	NA	700	1000	40	30
ROD Discharge Criteria (ug/L)	NA	350	500	20	30

TABLE 5

L.E. CARPENTER - Wharton, New Jersey

Quarterly Groundwater Monitoring Data

1st QUARTER 1999					
Monitoring Well	Benzene (ug/L)	Ethylbenzene (ug/L)	Toluene (ug/L)	Total Xylenes (ug/L)	DEHP (ug/L)
MW-4	ND	1.1	ND	2.5	NS
MW-14I	ND	ND	ND	ND	NS
MW-15S	ND	ND	ND	ND	NS
MW-15I	ND	ND	ND	ND	NS
MW-17S	NS	NS	NS	NS	NS
MW-22R	ND	18	ND	84	NS
MW-21 (1)	ND	ND	ND	ND	ND
MW-25R	ND	ND	ND	ND	ND
MW-11(IR) (2)	ND	ND	ND	0.8	ND
MW-11(DR) (2)	ND	ND	ND	ND	64
MW-11(DRD) (DUP)	ND	ND	ND	ND	20
FIELD BLANK	ND	ND	ND	ND	ND
TRIP BLANK	ND	ND	ND	ND	NS
NJDEP GWQS (ug/L)	NA	700	1000	40	30
ROD Discharge Criteria (ug/L)	NA	350	500	20	30

ug/L = micrograms per liter
NJDEP GWQS = New Jersey Groundwater Quality Standards
Values in bold are above both the NJDEP GWQS and the ROD Discharge Criteria

NA = Not Applicable
NS = Not Sampled
ND: No Detection
No historical Weston reports were available for 2nd quarter 1996 & 4th quarter 1997

Notes:

(1) MW-21 Quarterly sampling required for both DEHP and BTEX as of NJDEP letter dated Nov 23, 1998

(2) MW-11(IR) & MW-11(DR) sampled for both DEHP and BTEX per NJDEP letter dated Nov 23, 1998 (one time sample round- baseline concentration)

Table 6

Water Level Elevations (1st. QUARTER 1999)

L.E. Carpenter, Wharton, New Jersey

WELL LOCATION	LATITUDE	LONGITUDE	ELEVATION	OUTER CASING	INNER WELL	MEAS. DATE	PRODUCT DEPTH	WATER DEPTH	PRODUCT ELEVATION	WATER ELEVATION	PRODUCT THICKNESS	CORRECTED WATER LEVEL ELEVATIONS
CW-1	40° 54' 14.2"	74°34' 34.7"	630.83	634.35	--	Jan-99	7.20	7.31	--	623.52	0.11	--
CW-3	40° 54' 13.8"	74°34' 32.5"	628.63	633.30	--	Jan-99	--	7.29	--	621.34	--	--
GEI-1I	40° 54' 19.3"	74°34' 35.3"	628.44	630.93	630.78	Jan-99	--	5.13	--	625.65	--	--
GEI-2 I	40° 54' 17.4"	74°34' 43.1"	635.92	638.35	638.20	Jan-99	--	11.56	--	626.64	--	--
GEI-2 S	40° 54' 17.3"	74°34' 43.0"	635.46	637.87	637.67	Jan-99	--	11.31	--	626.36	--	--
GEI-3 I	40° 54' 14.8"	74°34' 43.7"	637.56	639.99	639.85	Jan-99	--	13.71	--	626.14	--	--
M.W.-1R	40° 54' 13.8"	74°34' 38.8"	635.79	635.78	635.47	Jan-99	9.99	10.91	625.48	624.56	0.92	625.36
MW-2R	40° 54' 14.4"	74°34' 33.1"	629.06	632.28	632.14	Jan-99	7.05	7.15	625.09	624.99	0.10	625.08
M.W.-3	40° 54' 14.0"	74°34' 32.6"	628.64	632.27	632.56	Jan-99	7.05	9.33	625.51	623.23	2.28	625.21
M.W.-4	40° 54' 12.4"	74°34' 34.4"	628.86	632.31	632.50	Jan-99	--	6.89	--	625.61	--	--
MW-6R	40° 54' 13.8"	74°34' 34.1"	629.82	632.64	632.42	Jan-99	6.08	6.74	626.34	625.68	0.66	626.25
M.W.-8	40° 54' 12.7"	74°34' 33.3"	627.99	630.56	628.79	Jan-99	--	2.52	--	626.27	--	--
M.W.-9	40° 54' 12.5"	74°34' 35.1"	629.21	631.69	630.18	Jan-99	--	3.91	--	626.27	--	--
M.W.-11D (R)	40° 54' 14.2"	74°34' 34.9"	630.66	633.35	633.09	Jan-99	--	6.03	--	627.06	--	--
M.W.-11I (R)	40° 54' 14.1"	74°34' 34.9"	630.89	633.67	633.33	Jan-99	--	8.03	--	625.30	--	--
M.W.-11 S	40° 54' 14.0"	74°34' 34.9"	631.23	633.26	632.96	Jan-99	7.80	13.11	625.16	619.85	5.31	624.47
MW-12R	40° 54' 12.3"	74°34' 35.9"	632.17	634.86	634.33	Jan-99	--	7.81	--	626.52	--	--
M.W.-13 I	40° 54' 15.1"	74°34' 31.9"	628.36	630.88	630.66	Jan-99	--	5.50	--	625.16	--	--
MW-13R	40° 54' 15.0"	74°34' 31.8"	628.26	630.96	630.59	Jan-99	--	5.56	--	625.03	--	--
M.W.-13 S	40° 54' 15.3"	74°34' 31.7"	628.34	631.40	631.23	Jan-99	--	4.87	--	626.36	--	--
M.W.-14 I	40° 54' 14.2"	74°34' 31.2"	625.93	628.32	628.23	Jan-99	--	3.33	--	624.90	--	--
M.W.-14 S	40° 54' 14.3"	74°34' 31.0"	625.78	628.63	628.41	Jan-99	--	3.89	--	624.52	--	--
M.W.-15 I	40° 54' 15.0"	74°34' 37.9"	634.74	636.88	636.66	Jan-99	--	11.11	--	625.55	--	--
M.W.-15 S	40° 54' 15.0"	74°34' 38.0"	634.83	637.03	636.77	Jan-99	--	11.22	--	625.55	--	--
M.W.-16 I	40° 54' 16.0"	74°34' 40.3"	632.43	635.08	634.96	Jan-99	--	9.00	--	625.96	--	--
M.W.-16 S	40° 54' 15.9"	74°34' 40.4"	632.57	634.69	634.47	Jan-99	--	8.39	--	626.08	--	--
M.W.-17 S	40° 54' 12.8"	74°34' 39.7"	632.95	634.92	634.79	Jan-99	--	9.11	--	625.68	--	--
M.W.-18 I	40° 54' 18.4"	74°34' 35.2"	628.35	631.19	631.04	Jan-99	--	5.45	--	625.59	--	--
M.W.-18 S	40° 54' 18.4"	74°34' 35.0"	628.22	631.48	631.26	Jan-99	--	5.82	--	625.44	--	--
M.W.-19	40° 54' 17.1"	74°34' 43.7"	636.72	639.24	638.88	Jan-99	--	12.40	--	626.48	--	--
M.W.-19-1	40° 54' 17.0"	74°34' 44.0"	636.50	639.26	638.86	Jan-99	--	12.21	--	626.65	--	--
M.W.-19-2	40° 54' 17.2"	74°34' 44.0"	637.05	639.36	638.76	Jan-99	--	12.29	--	626.47	--	--
M.W.-19-3	40° 54' 17.1"	74°34' 44.5"	637.54	640.04	639.65	Jan-99	--	13.05	--	626.60	--	--
M.W.-19-4	40° 54' 16.7"	74°34' 44.0"	636.27	638.44	637.74	Jan-99	--	10.87	--	626.87	--	--

Table 6

Water Level Elevations (1st. QUARTER 1999)

L.E. Carpenter, Wharton, New Jersey

WELL LOCATION	LATITUDE	LONGITUDE	ELEVATION	OUTER CASING	INNER WELL	MEAS. DATE	PRODUCT DEPTH	WATER DEPTH	PRODUCT ELEVATION	WATER ELEVATION	PRODUCT THICKNESS	CORRECTED WATER LEVEL ELEVATIONS
M.W.-19-5	40° 54' 17.3"	74° 34' 43.5"	636.39	639.07	638.74	Jan-99	--	12.42	--	626.32	--	--
M.W.-20	40° 54' 17.2"	74° 34' 41.2"	634.82	637.03	636.77	Jan-99	--	8.35	--	628.42	--	--
M.W.-21	40° 54' 14.1"	74° 34' 28.2"	625.17	629.09	628.80	Jan-99	--	4.07	--	624.73	--	--
M.W.-22	40° 54' 13.7"	74° 34' 31.2"	625.94	628.31	628.13	Jan-99	--	3.06	--	625.07	--	--
M.W.-23	40° 54' 15.8"	74° 34' 30.5"	628.70	630.95	630.64	Jan-99	--	5.61	--	625.03	--	--
M.W.-25	40° 54' 13.7"	74° 34' 29.8"	625.25	627.37	627.22	Jan-99	--	2.18	--	625.04	--	--
MW-26	40° 54' 15.7"	74° 34' 34.3"	630.84	634.39	633.26	Jan-99	--	8.02	--	625.24	--	--
RW-1	40° 54' 13.6"	74° 34' 39.1"	635.19	637.81	637.38	Jan-99	11.82	12.45	625.56	624.93	0.63	625.48
RW-2	40° 54' 14.2"	74° 34' 32.8"	629.80	631.78	631.68	Jan-99	--	6.57	--	625.11	--	--
RW-3	40° 54' 14.9"	74° 34' 33.9"	629.89	632.15	631.99	Jan-99	--	6.11	--	625.88	--	--
SG-D1*	--	--	626.41	--	--	Jan-99	--	0.90	--	623.98	--	--
SG-D2*	--	--	626.86	--	--	Jan-99	--	0.50	--	624.03	--	--
SG-D3*	--	--	626.43	--	--	Jan-99	--	0.90	--	624.00	--	--
SG-R1*	--	--	641.52	--	--	Jan-99	--	1.92	--	640.11	--	--
SG-R2*	--	--	628.84	--	--	Jan-99	--	1.78	--	627.29	--	--
SG-R3*	--	--	627.38	--	--	Jan-99	--	1.58	--	625.63	--	--
WP-A1	40° 54' 13.9"	74° 34' 38.8"	636.29	636.32	635.81	Jan-99	10.11	10.84	625.70	624.97	0.73	625.61
WP-A2	40° 54' 14.2"	74° 34' 39.0"	637.31	639.62	639.19	--	--	--	--	--	--	--
WP-A3	40° 54' 13.7"	74° 34' 40.3"	635.97	635.97	635.56	Jan-99	--	9.96	--	625.60	--	--
WP-A4	40° 54' 14.0"	74° 34' 38.5"	635.63	635.66	635.10	Jan-99	11.41	11.98	623.69	623.12	0.57	623.62
WP-A5	40° 54' 14.4"	74° 34' 38.1"	635.70	--	637.85	Jan-99	--	12.35	--	625.50	--	--
WP-A6	40° 54' 13.6"	74° 34' 38.0"	634.95	--	637.28	Jan-99	11.85	13.05	625.43	624.23	1.20	625.27
WP-A7	40° 54' 13.7"	74° 34' 36.6"	632.94	--	634.88	Jan-99	9.56	10.39	625.32	624.49	0.83	625.21
WP-A8	40° 54' 14.3"	74° 34' 36.6"	634.70	--	637.56	Jan-99	12.13	14.98	625.43	622.58	2.85	625.06
WP-A9	40° 54' 13.6"	74° 34' 37.4"	637.22	--	639.32	Jan-99	13.54	13.93	625.78	625.39	0.39	625.73
WP-B1	40° 54' 13.9"	74° 34' 35.7"	631.85	--	633.65	Jan-99	6.46	6.98	627.19	626.67	0.52	627.12
WP-B2	40° 54' 14.5"	74° 34' 35.1"	630.48	632.58	632.25	Jan-99	--	7.00	--	625.25	--	--
WP-B3	40° 54' 14.2"	74° 34' 35.4"	631.71	--	633.33	Jan-99	--	7.31	--	626.02	--	--
WP-B4	40° 54' 14.5"	74° 34' 34.5"	629.93	--	632.56	Jan-99	7.18	--	--	--	--	--
WP-B5	40° 54' 14.7"	74° 34' 34.2"	630.03	--	632.11	Jan-99	5.79	6.07	626.32	626.04	0.28	626.28
WP-B6	40° 54' 13.4"	74° 34' 33.7"	629.72	--	631.86	Jan-99	--	5.91	--	625.95	--	--
WP-B7	40° 54' 13.5"	74° 34' 32.3"	627.62	--	629.49	Jan-99	4.05	4.41	625.44	625.08	0.36	625.39
WP-B10	40° 54' 14.9"	74° 34' 34.7"	630.42	633.12	632.74	Jan-99	--	7.42	--	625.32	--	--
WP-C1	40° 54' 12.6"	74° 34' 36.1"	632.81	--	633.51	Jan-99	--	6.71	--	626.80	--	--

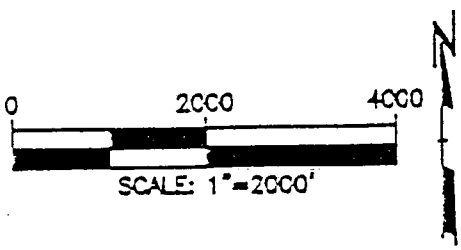
Table 6

Water Level Elevations (1st. QUARTER 1999)

L.E. Carpenter, Wharton, New Jersey

WELL LOCATION	LATITUDE	LONGITUDE	ELEVATION	OUTER CASING	INNER WELL	MEAS. DATE	PRODUCT DEPTH	WATER DEPTH	PRODUCT ELEVATION	WATER ELEVATION	PRODUCT THICKNESS	CORRECTED WATER LEVEL ELEVATIONS
WP-C2	40°54' 12.5"	74°34' 35.6"	633.02	--	634.46	Jan-99	--	7.38	--	627.08	--	--
WP-C3	40°54' 12.4"	74°34' 36.4"	631.00	--	632.64	Jan-99	--	6.13	--	626.51	--	--
WP-C4	40° 54' 12.8"	74°34' 35.9"	632.44	--	633.27	Jan-99	--	7.41	--	625.86	--	--
production well	40° 54' 13.0"	74°34' 38.6"	634.43	635.41	--	--	--	--	--	--	--	--

* Elevation measured at the top of a 3.33 ft. Staff gauge. Water depth based on a visual observation of the water level on the Staff gauge.



QUADRANGLE LOCATION

SITE LOCATOR MAP

LE CARPENTER
WHARTON, NEW JERSEY

SOURCE: BASE MAP FROM DOVER, NEW JERSEY, 7.5 MINUTE USGS QUADRANGLE, DATED 1981.

RMT INC.

DWN. BY:	DFL
APPROVED BY:	
DATE:	APRIL 1998
PROJ. #	3868.02
FILE #	38680208

FIGURE 1

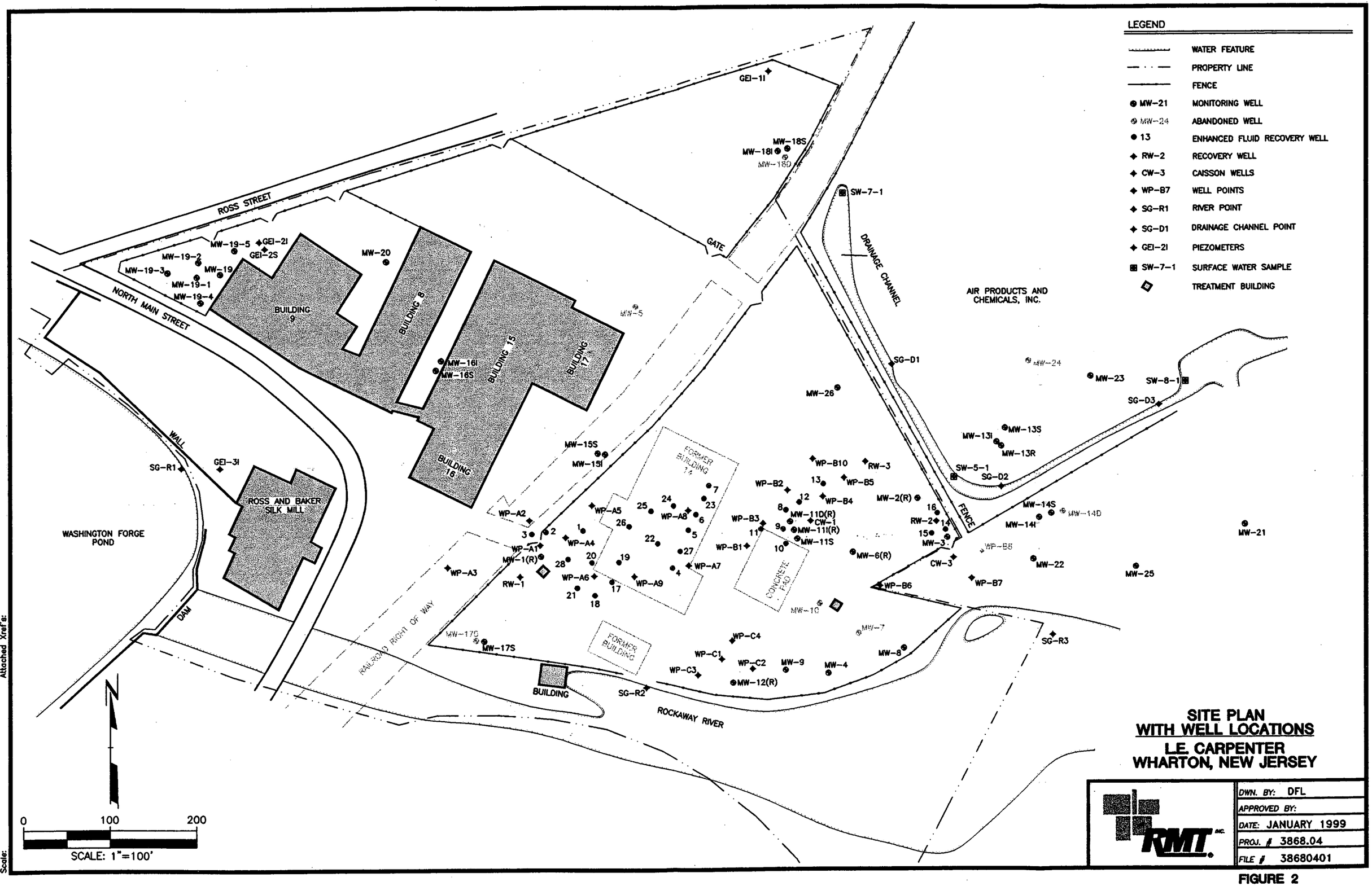
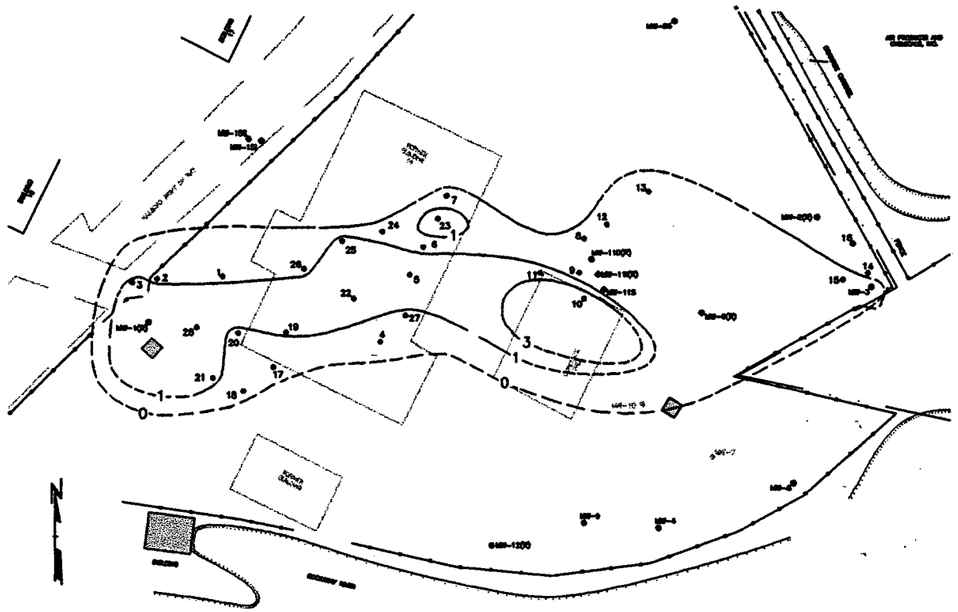
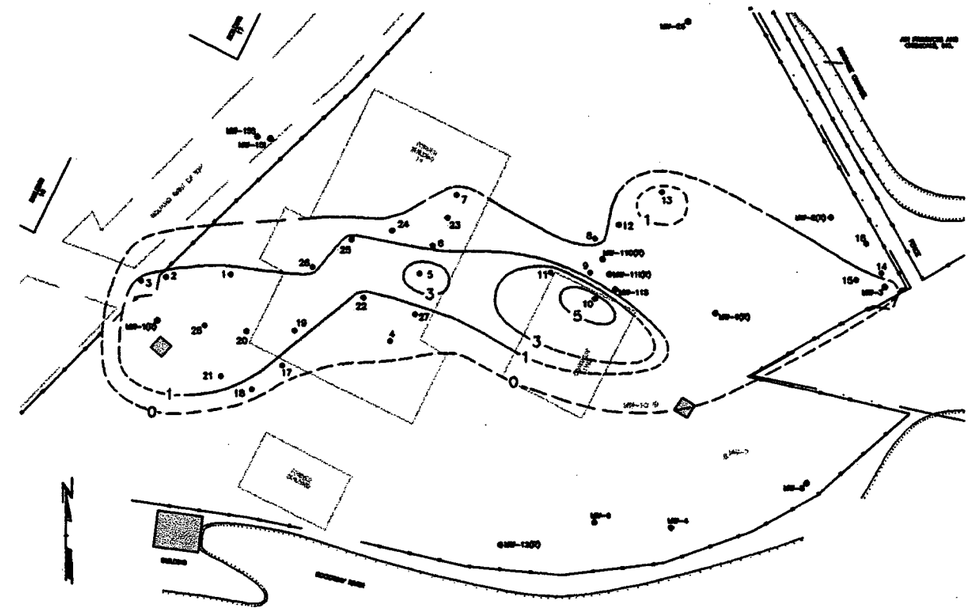

LEGEND
WATER FEATURE
PROPERTY LINE
FENCE
MW-21 MONITORING WELL
MW-24 ABANDONED WELL
13 ENHANCED FLUID RECOVERY WELL
RW-2 RECOVERY WELL
CW-3 CAISSON WELLS
WP-B7 WELL POINTS
SG-R1 RIVER POINT
SG-D1 DRAINAGE CHANNEL POINT
GEI-2I PIEZOMETERS
SW-7-1 SURFACE WATER SAMPLE
TREATMENT BUILDING
ROSS STREET
NORTH MAIN STREET
WALL
DAM
WASHINGTON FORGE POND
ROSS AND BAKER SILK MILL
BUILDING 9
BUILDING 8
BUILDING 15
BUILDING 17
BUILDING 16
BUILDING
GATE
DRAINAGE CHANNEL
AIR PRODUCTS AND CHEMICALS, INC.
FENCE
FORMER BUILDING 14
FORMER BUILDING
CONCRETE PAD
RAILROAD RIGHT OF WAY
ROCKAWAY RIVER
GEI-1I
MW-18S
MW-18I
MW-18D
SW-7-1
SG-D1
MW-20
MW-5
MW-19-5
GEI-2I
GEI-2S
MW-19-2
MW-19-3
MW-19
MW-19-1
MW-19-4
MW-16I
MW-16S
MW-26
MW-24
MW-23
SW-8-1
SG-D3
MW-13S
MW-13I
MW-13R
SW-5-1
SG-D2
MW-14S
MW-14D
MW-14I
MW-21
MW-25
MW-22
SG-R3
SG-R1
GEI-3I
MW-15S
MW-15I
WP-A2
WP-A5
WP-A8
WP-A1
MW-1(R)
WP-A4
WP-A3
RW-1
WP-A6
WP-A9
WP-A7
WP-B1
WP-B2
WP-B3
WP-B10
RW-3
WP-B5
WP-B4
MW-2(R)
MW-11D(R)
CW-1
MW-11I(R)
MW-11S
MW-6(R)
RW-2
MW-3
CW-3
WP-B6
WP-B7
MW-10
MW-7
MW-17D
MW-17S
WP-C4
WP-C1
WP-C2
WP-C3
MW-12(R)
MW-9
MW-4
MW-8
SG-R2
0 100 200
SCALE: 1"=100'
SITE PLAN
WITH WELL LOCATIONS
L.E. CARPENTER
WHARTON, NEW JERSEY
RMT INC.
DWN. BY: DFL
APPROVED BY:
DATE: JANUARY 1999
PROJ. # 3868.04
FILE # 38680401
Dwg Size:
Plot Date:
Plot Time:
Attached Xref's:
Drawing Name:
Operator Name:
Scale:

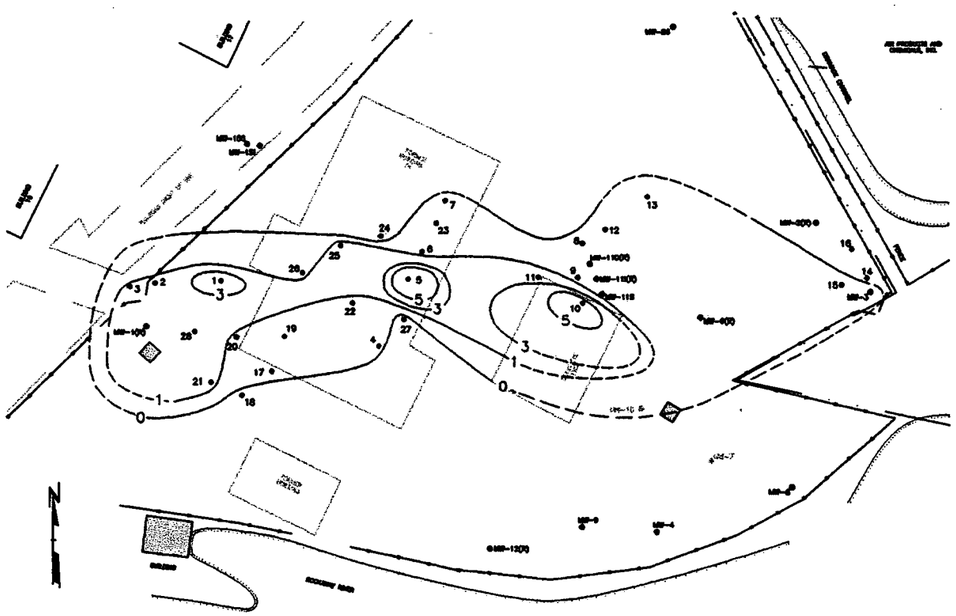
FIGURE 2



EFR EVENT #16 (JANUARY 13, 1999)



EFR EVENT #17 (FEBRUARY 17, 1999)



EFR EVENT #18 (MARCH 23, 1999)

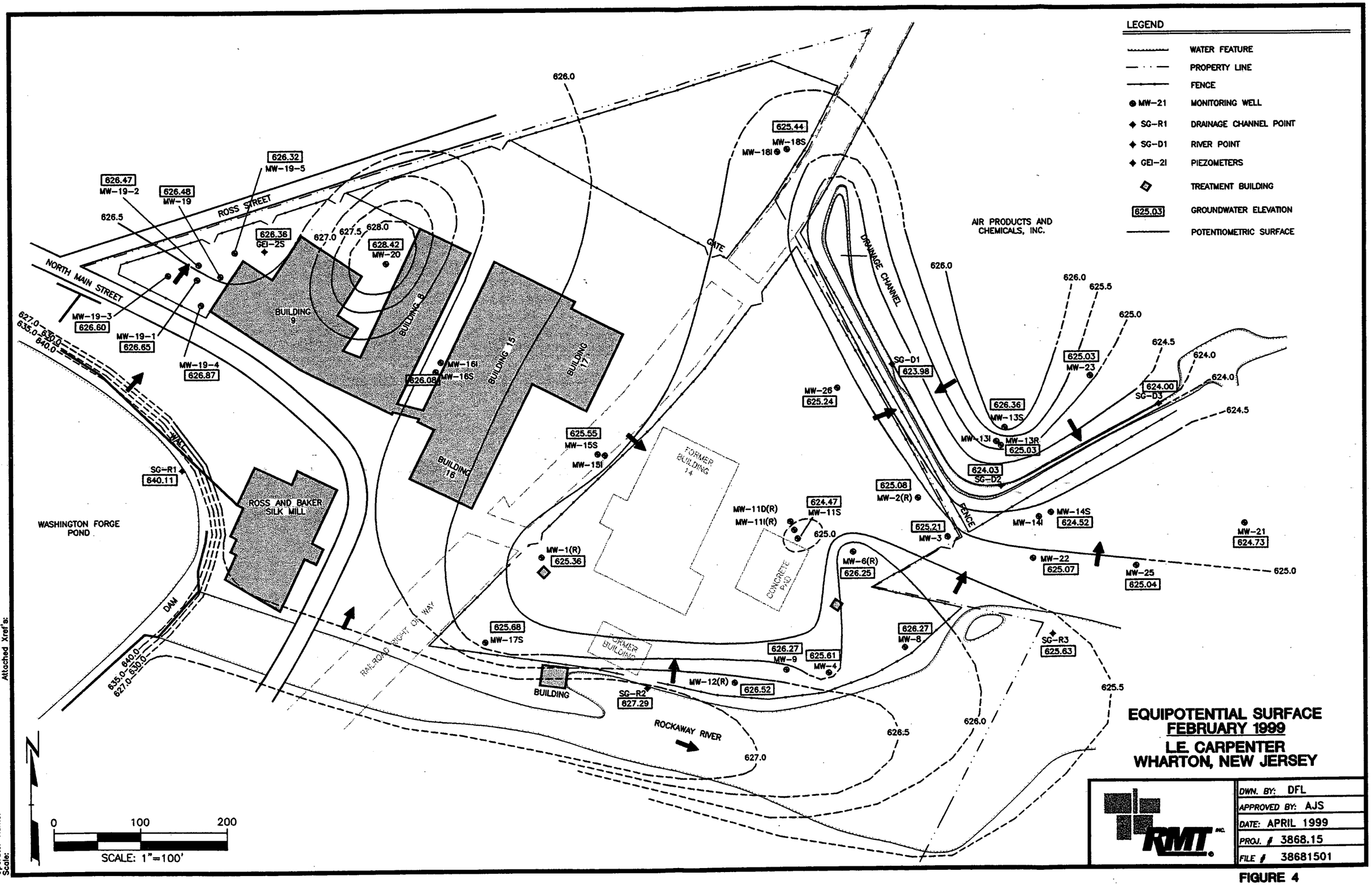
ENHANCED FLUID RECOVERY
SUMMARY FIGURES
LE. CARPENTER
WHARTON, NEW JERSEY

RMT INC.

DWN. BY:	DFL
APPROVED BY:	
DATE:	APRIL 1999
PROJ. #	3868.15
FILE #	38681502

FIGURE 3

PLOT DATA
Drawing Name: x
Operator Name: x
Scale: x
Dwg Size: x
Plot Date: x
Plot Time: x
Attached Xref's: x



EQUIPOTENTIAL SURFACE
FEBRUARY 1999
LE CARPENTER
WHARTON, NEW JERSEY

RMT INC.

DWN. BY:	DFL
APPROVED BY:	AJS
DATE:	APRIL 1999
PROJ. #	3868.15
FILE #	38681501

FIGURE 4

PLOT DATA
Drawing Name:
Operator Name:
Scale:
Dwg Size:
Plot Date:
Plot Time:
Attached Xref's:

Appendix A
Certification

CERTIFICATION

In accordance with N.J.A.C. 7:26E-1.5(a):

"I certify under penalty of law that I have personally examined and am familiar with the information submitted herein and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, to the best of my knowledge, I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Cristopher R. Anderson
PRINTED NAME

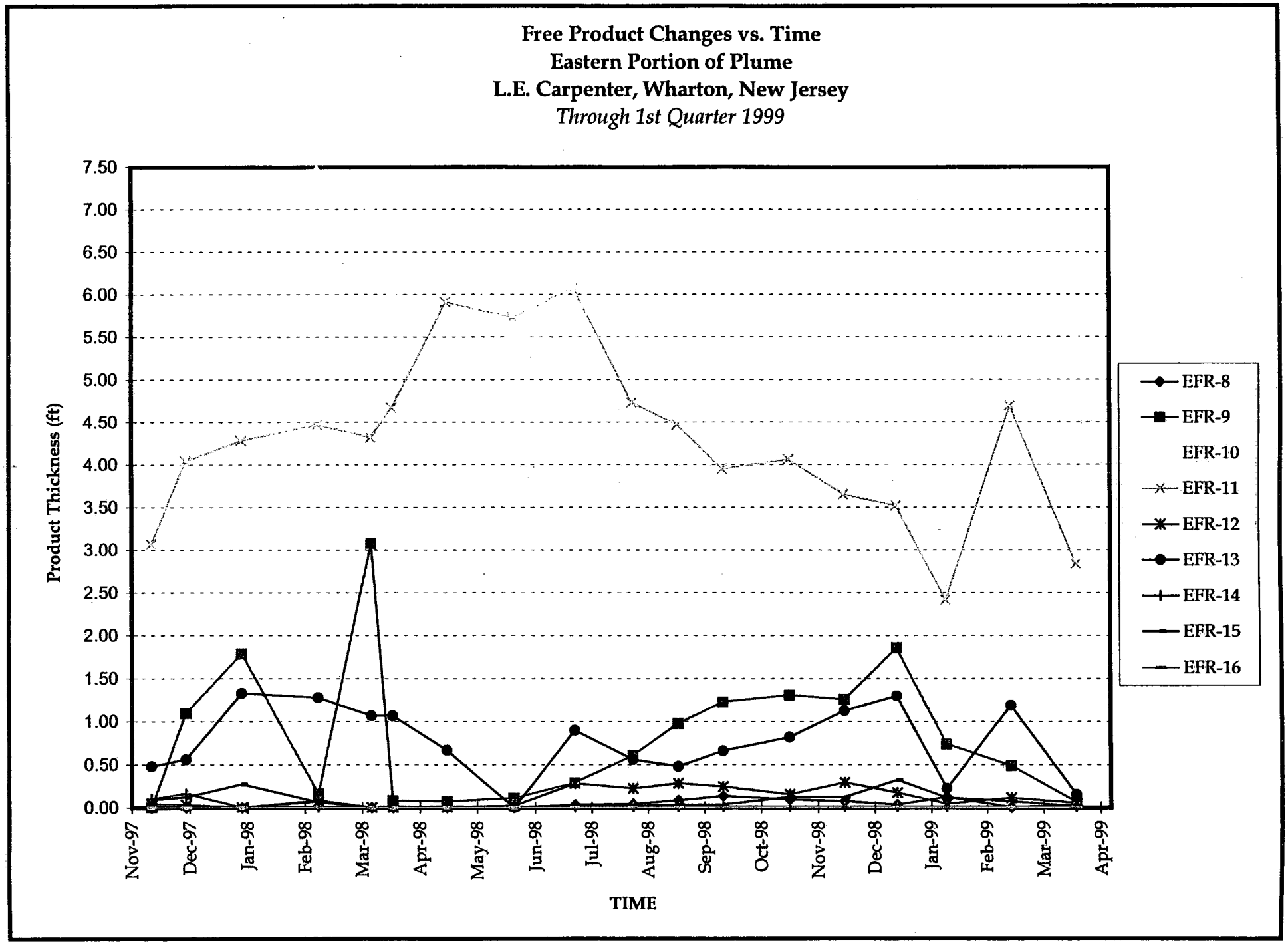
Director of Environmental Affairs
TITLE

L.E Carpenter Company
COMPANY

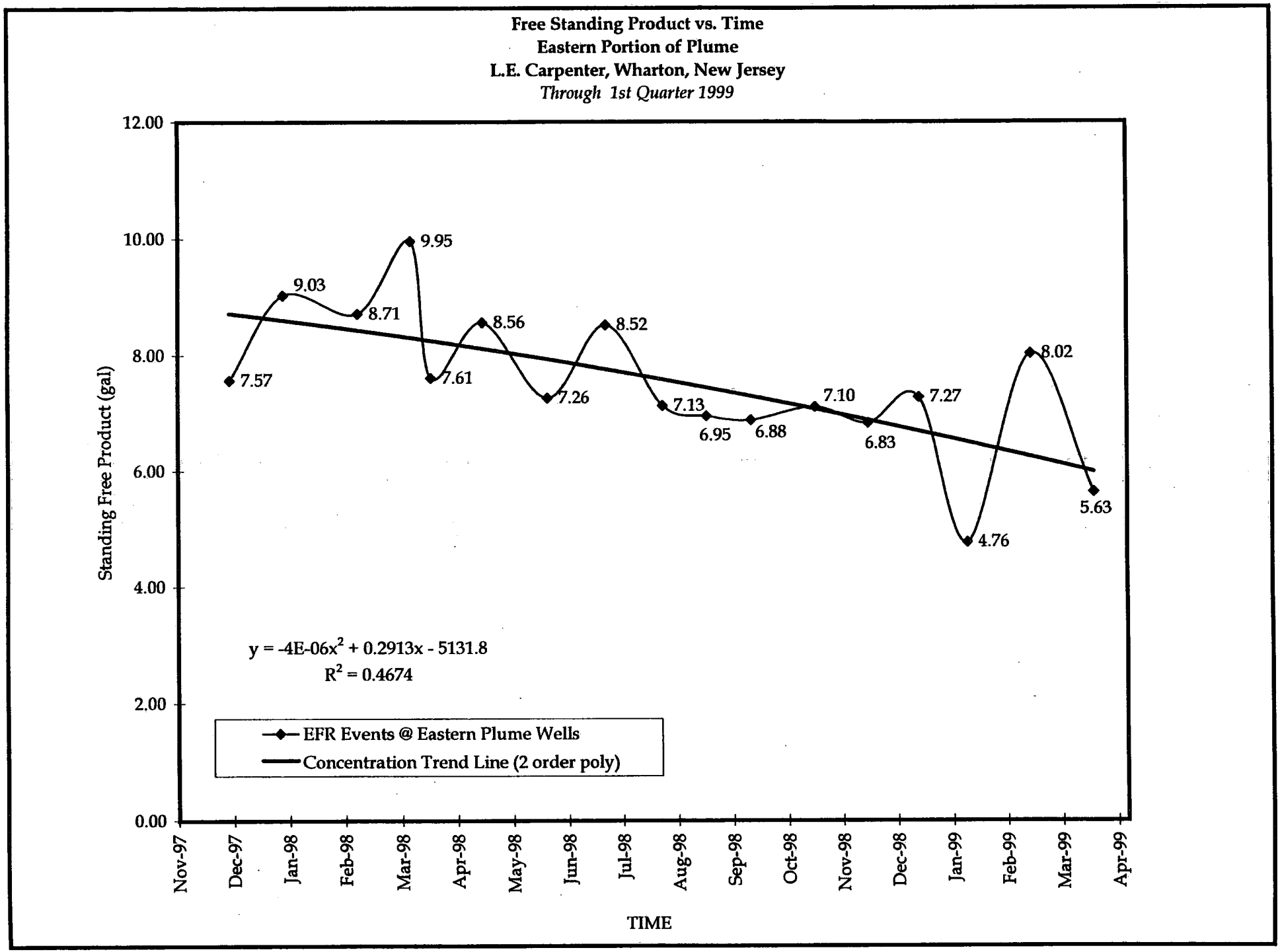
Cristopher Anderson
SIGNATURE

4/20/99
DATE

Appendix B
Free Product Fluctuation and Trend Charts

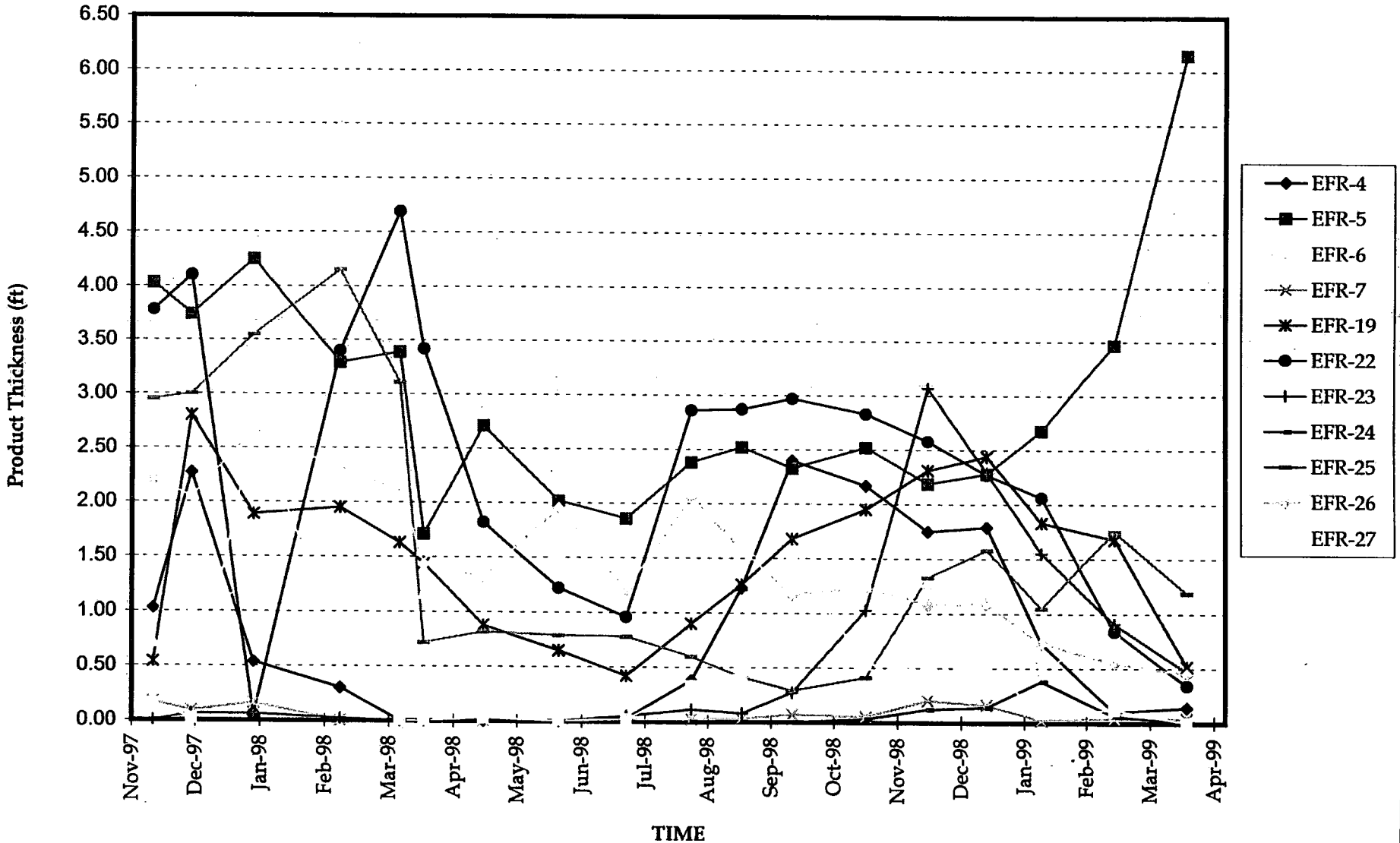


H:data/projects/lecarpen/quarters/Freeprdt.xls/Chart (Eastern)



H:/data/projects/lecarpen/quarters/Freeprdt.xls/stand_prod_eastern trend

Free Product Changes vs. Time
Central Portion of Plume
L.E. Carpenter, Wharton, New Jersey
Through 4st Quarter 1999



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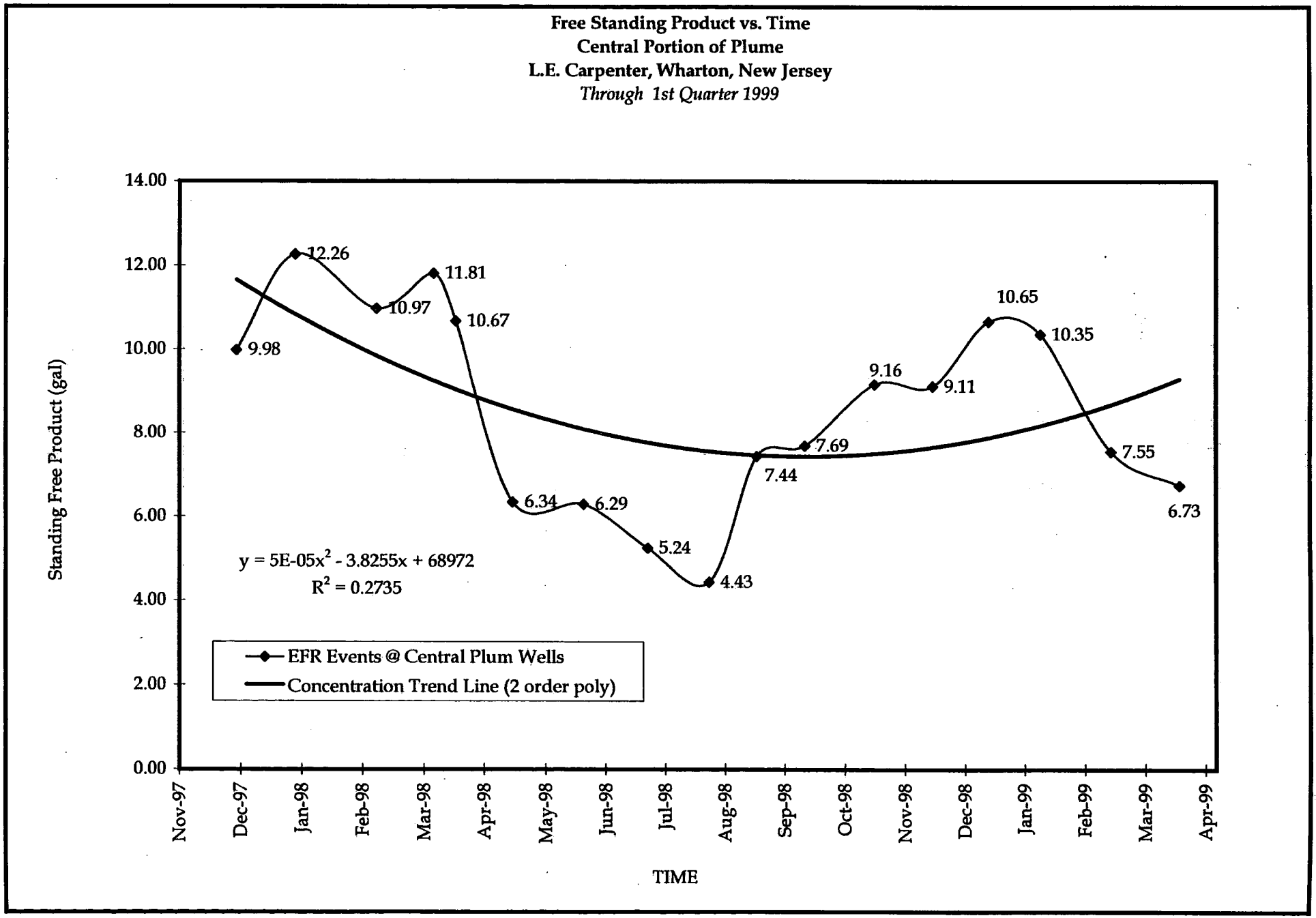

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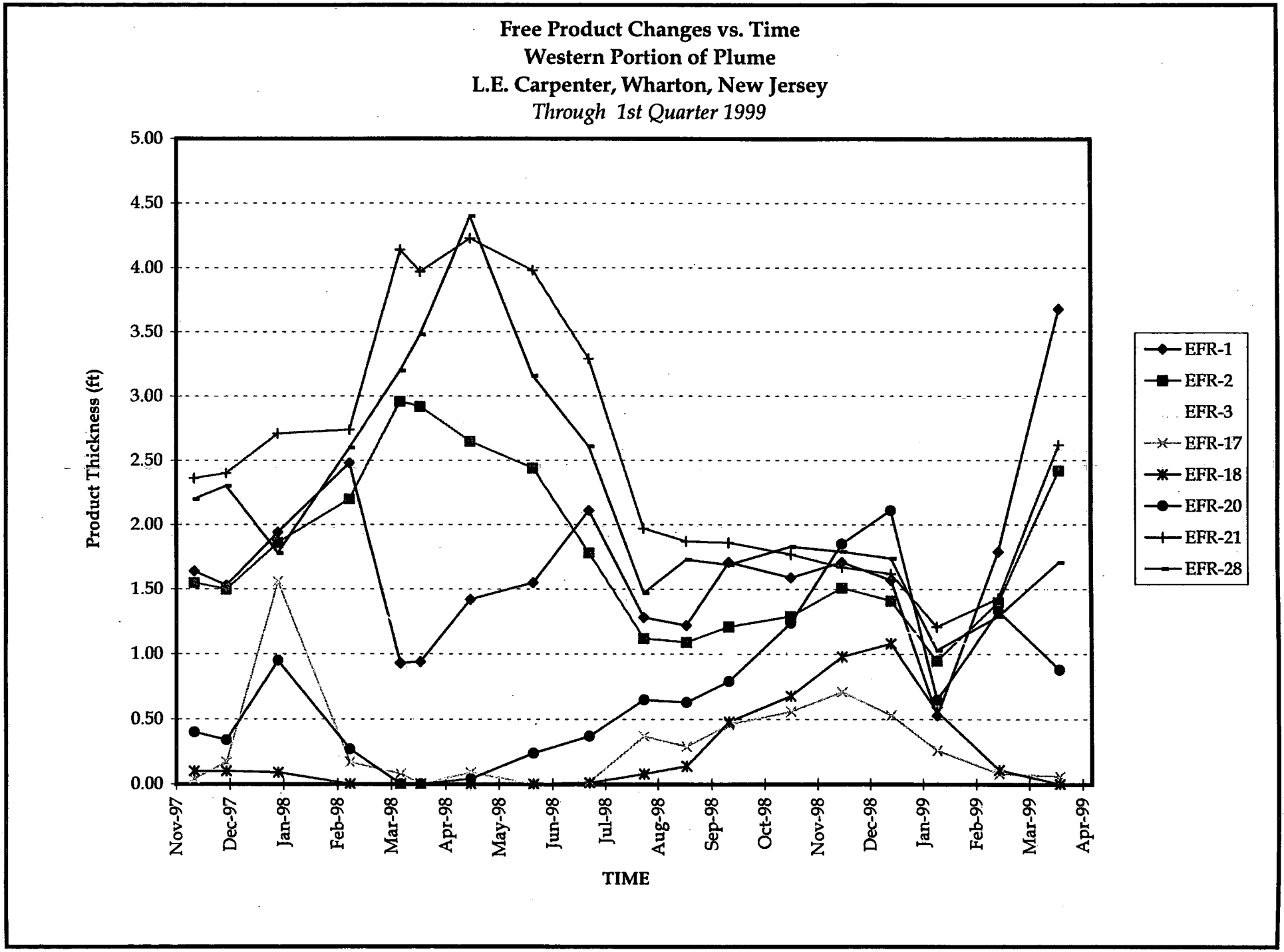
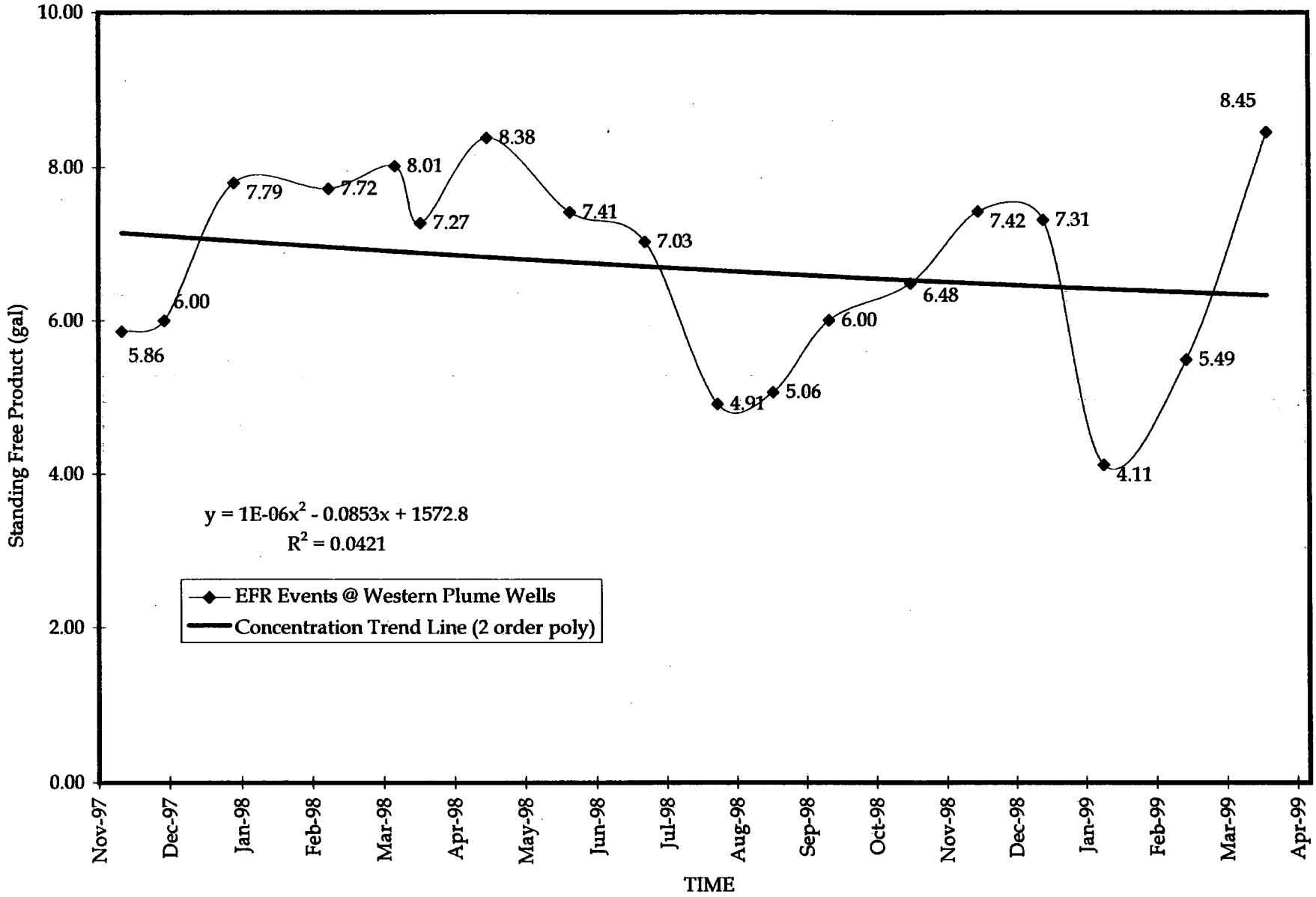


H:data/projects/lecarpen/quarters/Freeprdt.xls/Chart (Western)

Free Standing Product vs. Time
Western Portion of Plume
L.E. Carpenter, Wharton, New Jersey
Through 1st Quarter 1999



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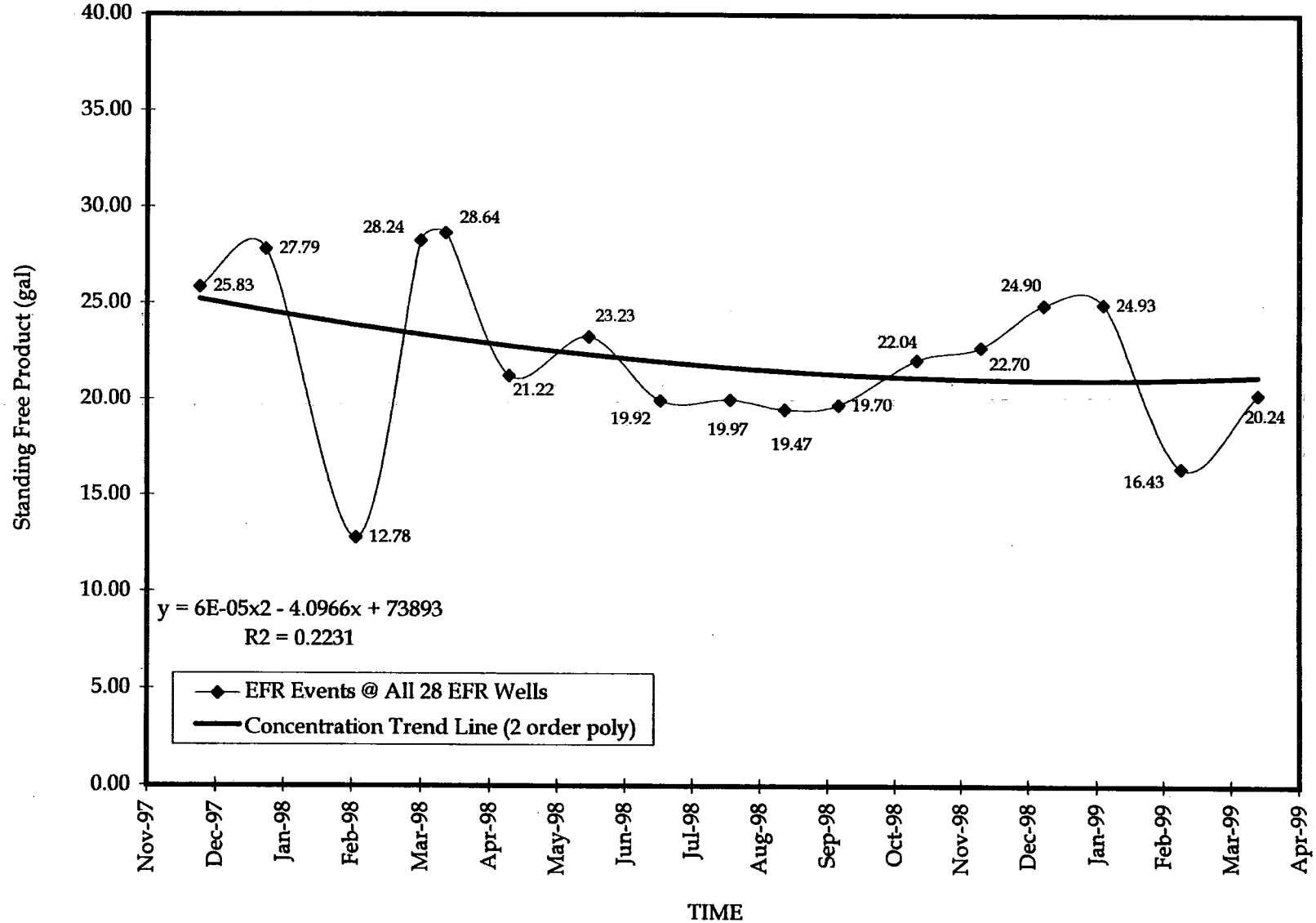
Total Site Free Standing Product vs. Time
L.E. Carpenter, Wharton, New Jersey
Through 1st Quarter 1999



H:/data/projects/lecarpen/quarters/Freeprdt.xls/Total Site Product Trend

Appendix C
Monitoring Well Sampling Data

Monitoring Well Data

Client: RMT Project: LE Carpenter

Job No: K939 Date Sampled: 1/21/99 Analyst: R. Toogood

Well ID	MW15s	MW15I	MW14I	MW22	MW25	MW21	MW11IR	MW11DR	MW4
Depth to Water From TOC feet (before purging)	11.22	11.11	3.33	3.06	2.18	4.07	8.03	6.04	6.89
Depth to Water From TOC feet (after purging)	11.29	11.27	3.35	5.25	4.81	4.14	8.26	6.84	7.83
Depth to Water From TOC feet (before sampling)	11.23	11.12	3.33	3.18	2.82	4.11	8.19	6.16	6.91
Depth to Bottom From TOC feet	19.48	40.14	43.32	8.81	9.11	14.68	54.98	161.25	18.31
PID Reading from Well Casing (ppm)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
pH before Purge	6.25	6.87	7.86	6.23	6.86	7.10	8.25	10.32	6.32
Temp. before Purge (°C)	9.0	9.5	5.4	2.5	3.7	4.4	7.8	7.3	4.4
Diss. Oxygen before Purge (ppm)	8.00	4.82	3.70	3.69	4.66	4.71	5.36	6.81	1.53
Cond. before Purge (umhos/cm)	140	385	256	257	216	273	269	252	253
Water Volume in Well (gal.)	5.39	4.74	6.52	0.94	1.13	6.92	7.66	25.35	1.86
Purge Method	Peristaltic Pump	Peristaltic Pump	Peristaltic Pump	Peristaltic Pump	Peristaltic Pump	Peristaltic Pump	Peristaltic Pump	Peristaltic Pump	Peristaltic Pump
Purge Start Time	9:23	9:24	10:34	10:37	10:47	11:06	12:29	12:28	13:46
Purge End Time	9:41	9:37	10:55	10:44	10:55	11:27	13:05	13:35	13:58
Purge Rate (gpm)	0.9	1.2	1	0.4	0.5	1	0.6	1.1	0.5
Volume Purged (gal.)	17	15	20	3	4	21	23	76	6
pH after Purge	6.61	6.84	7.92	6.32	6.78	7.14	7.98	8.16	6.56
Temp. after Purge (°C)	11.2	10.7	8.8	3.2	2.7	6.1	8.8	9.2	4.7
Diss. Oxygen after Purge (ppm)	2.08	0.97	2.87	1.72	3.77	3.15	1.31	3.31	1.89
Cond. after Purge (umhos/cm)	366	577	264	305	253	366	234	182	357
pH after Sample	6.71	6.91	7.85	6.27	7.27	7.25	8.07	8.36	6.63
Temp. after Sample (°C)	9.7	10.7	6.6	2.5	6.2	5.0	5.9	8.5	4.6
Diss. Oxygen after Sampling (ppm)	4.25	1.28	3.06	8.06	6.21	3.18	1.54	3.46	1.91
Cond. after Sample (umhos/cm)	305	543	251	262	204	372	288	107	250
Redox Potential (mV) after Sample	-8.0	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity (mg/l)	140.0	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Dioxide (mg/l)	30.0	NA	NA	NA	NA	NA	NA	NA	NA
Sampling Method	Teflon Bailer	Teflon Bailer	Teflon Bailer	Teflon Bailer	Teflon Bailer	Teflon Bailer	Teflon Bailer	Teflon Bailer	Teflon Bailer
Time of Sampling	9:52	9:44	11:38	11:33	11:45	11:51	13:10	13:41	14:11

Appendix D
MW-22R Concentration Trend Analysis

TABLE 5

MW-22R
Contaminants of Concern Concentrations

		ANALYTE					APPLICABLE STANDARDS				
Time Frame	QUARTER	Benzene (ug/L)	Ethylbenzene (ug/L)	Toluene (ug/L)	Total Xylenes (ug/L)	DEHP (ug/L)	Ethylbenzene (ROD)	EB (NJGWQS)	DEHP (ROD & NJWQS)	Total Xylene (ROD)	Total Xylene (NJGWQS)
1	21-Feb-95	ND	57	ND	260	6500	350	700	30	20	40
2	13-Jun-95	ND	311	ND	955	380	350	700	30	20	40
3	13-Sep-95	ND	171	ND	693	NS	350	700	30	20	40
4	07-Dec-95	ND	123	ND	494	320	350	700	30	20	40
5	17-Sep-96	ND	359	ND	1320	NS	350	700	30	20	40
6	12-Dec-96	ND	320	ND	1330	ND	350	700	30	20	40
7	14-Aug-97	ND	5,730	ND	32,900	7,500	350	700	30	20	40
8	03-Oct-97	ND	11,400	348	66,000	NS	350	700	30	20	40
9	12-Mar-98	ND	4,070	348	20,600	NS	350	700	30	20	40
10	26-Aug-98	ND	2,260	ND	11,300	5,800	350	700	30	20	40
11	28-Aug-98	ND	1,880	ND	10,300	NS	350	700	30	20	40
12	18-Dec-98	ND	1,650	ND	7,230	1,100	350	700	30	20	40
13	21-Jan-99	ND	18	ND	84	NS	350	700	30	20	40
NJDEP GWQS (ug/L)		NA	700	1000	40	30					
ROD Discharge Criteria (ug/L)		NA	350	500	20	30					

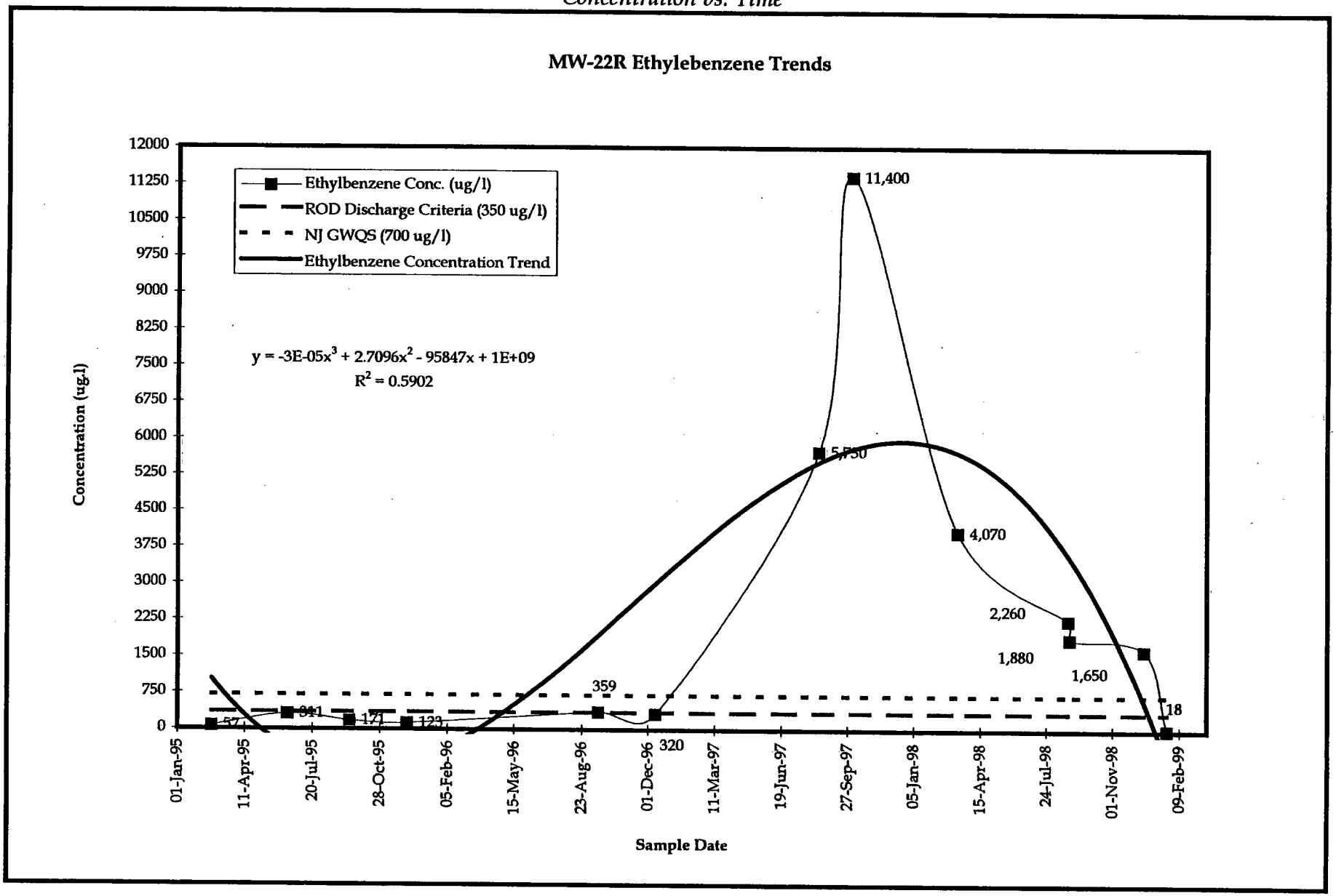
**NOTES

Concentrations in bold exceed both the ROD discharge criteria and NJDEP GWQS

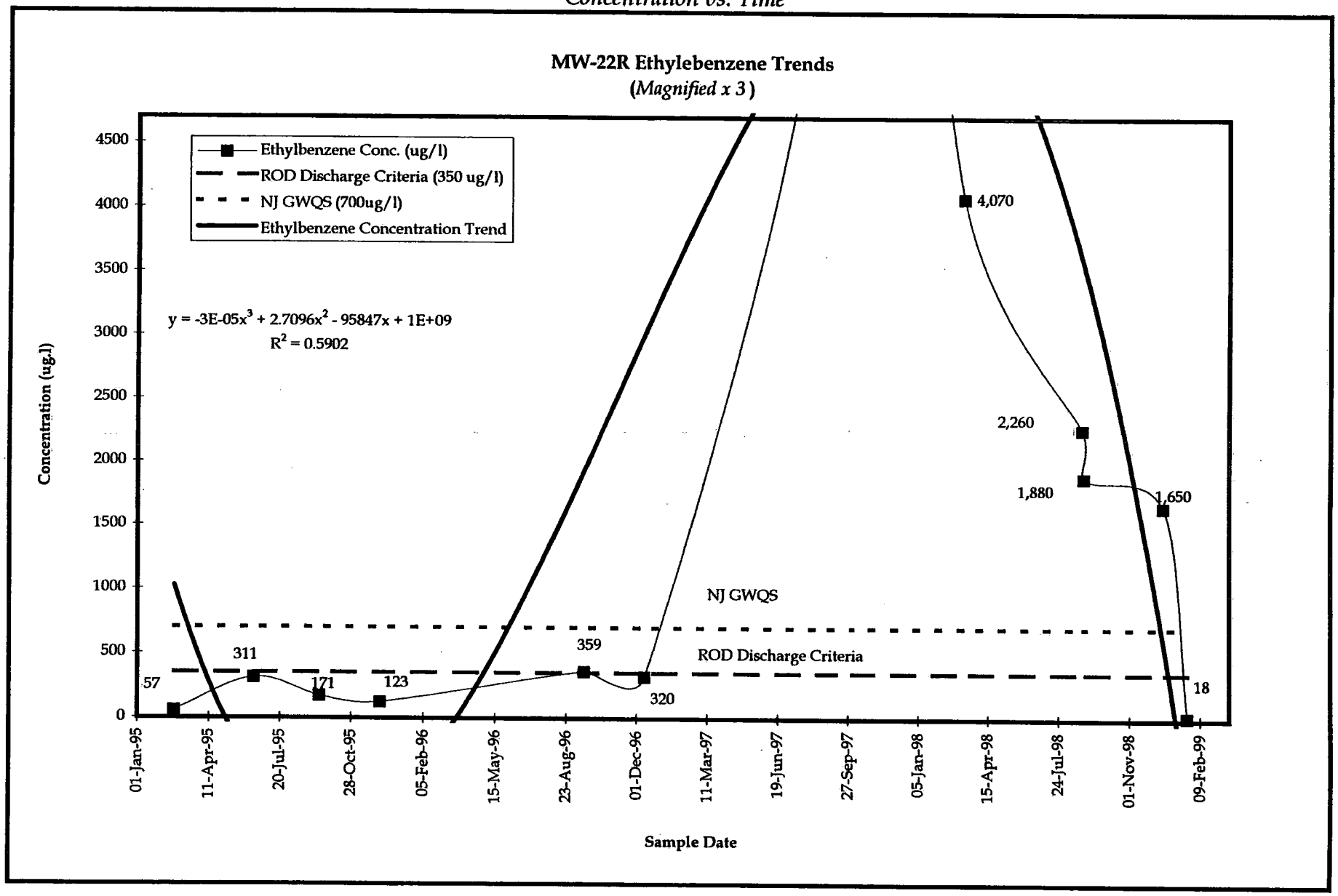
ND = Not detected above method detection limits

NS = Not Sampled

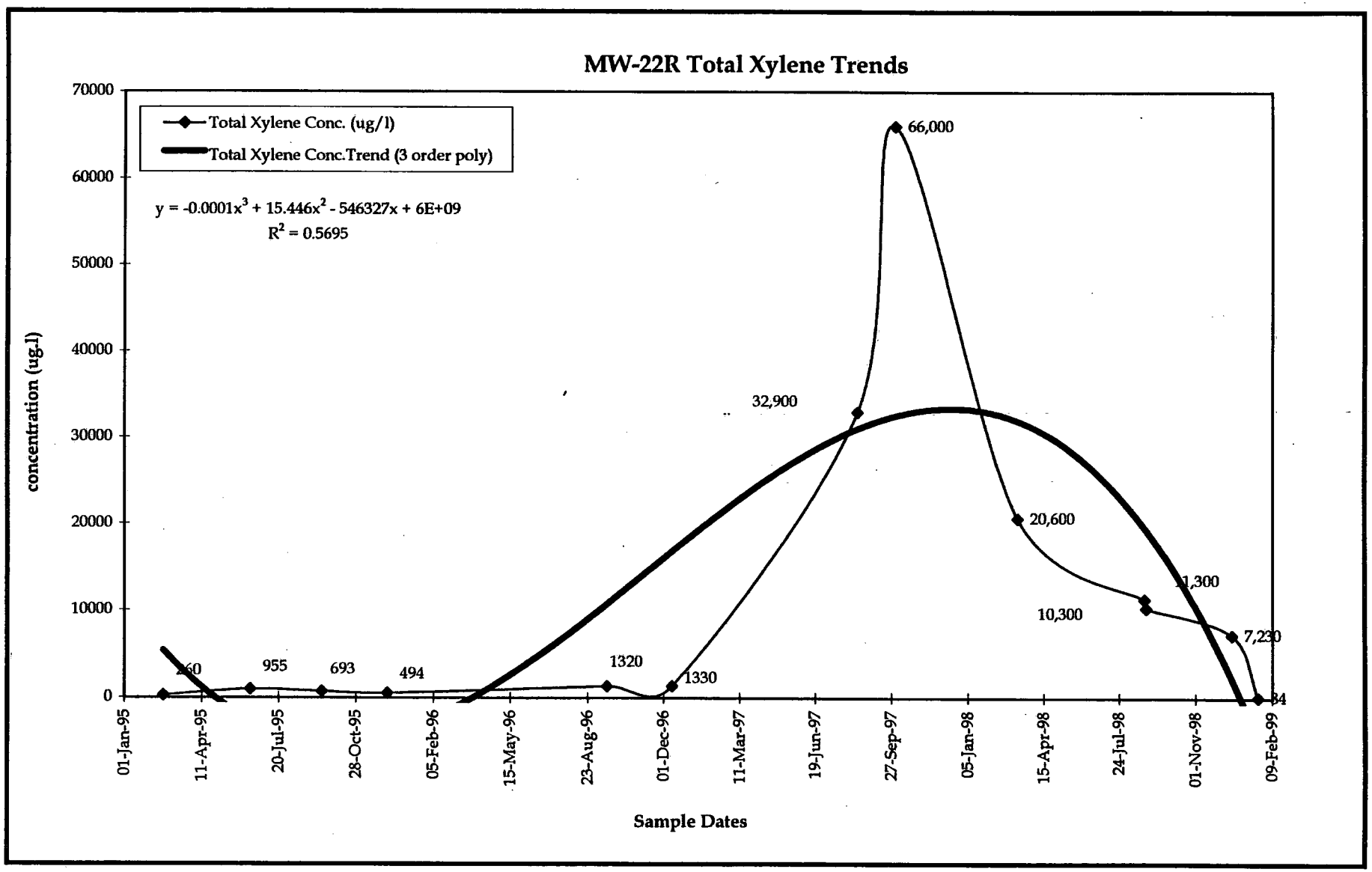
MW-22R
CONTAMANTANT OF CONCERN
Concentration vs. Time



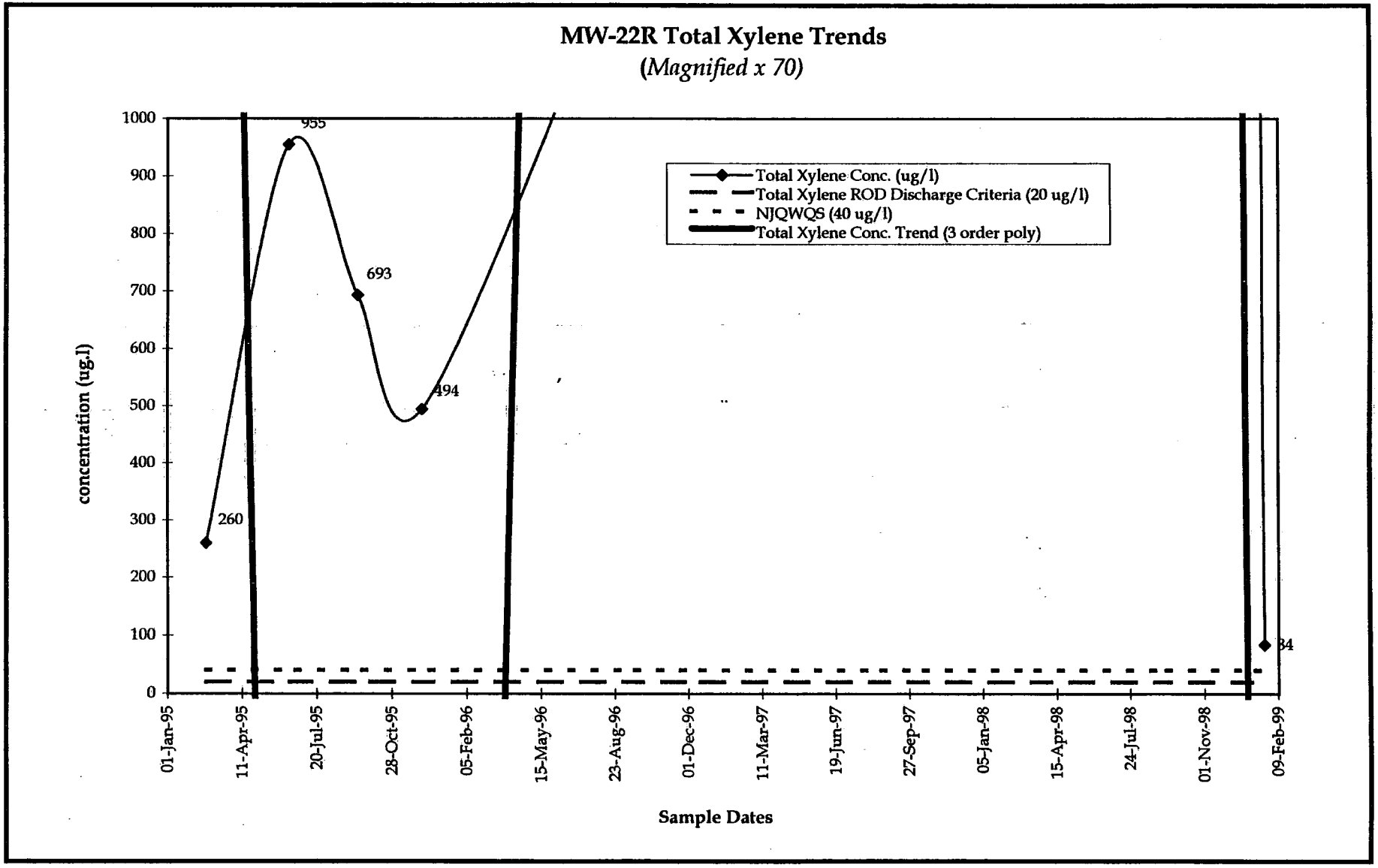
MW-22R
CONTAMANTANT OF CONCERN
Concentration vs. Time



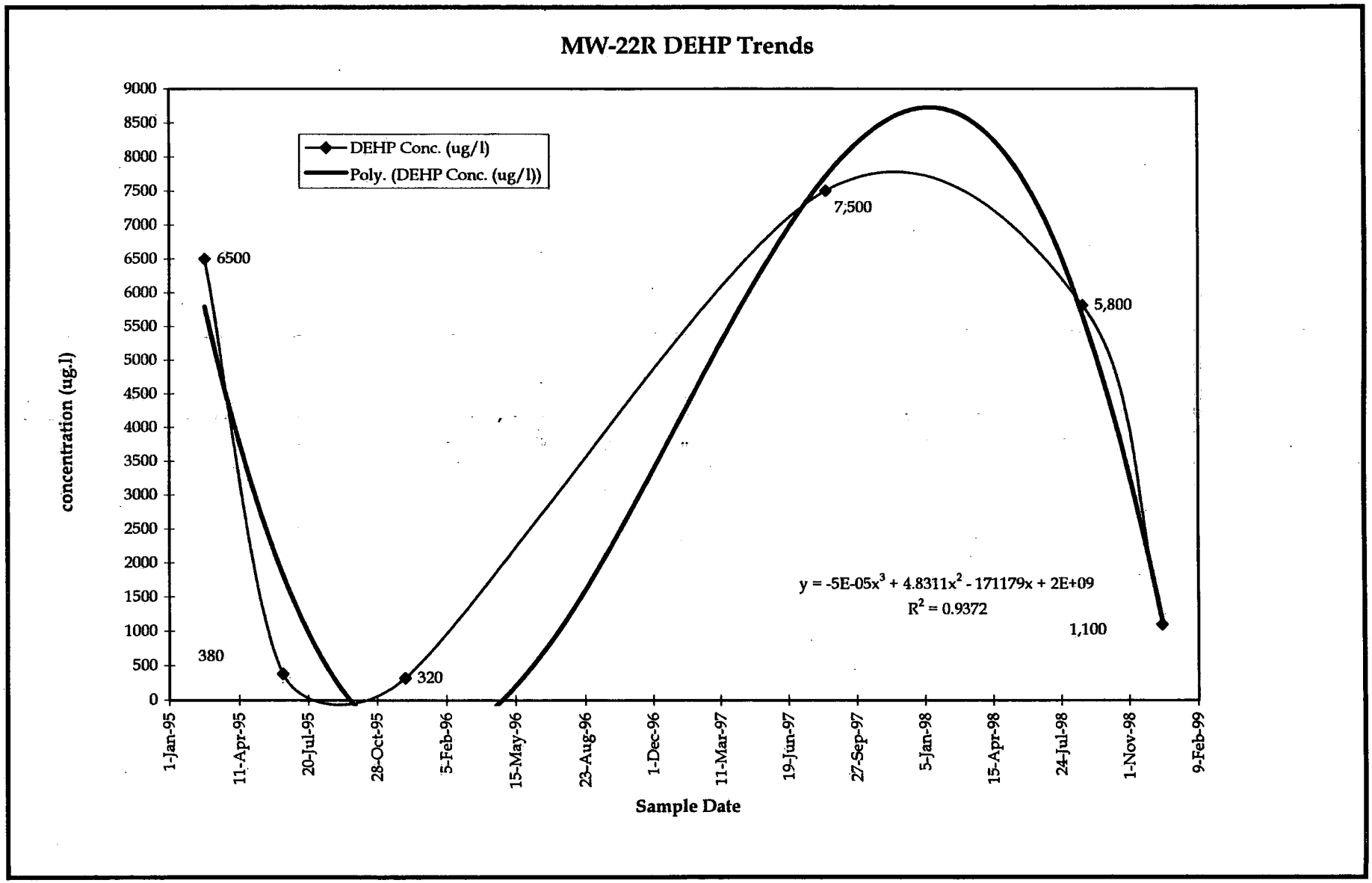
MW-22R
Contaminants of Concern
Concentration vs. Time



MW-22R
Contaminants of Concern
Concentration vs. Time



MW-22R
Contaminants of Concern
Concentration vs. Time



STL Envirotech
a division of Severn Trent Laboratories, Inc.

STL Envirotech
777 New Durham Road
Edison, NJ 08817
Tel: (732) 549-3900
Fax: (732) 549-3679
www.stl-inc.com

February 08, 1999

Residuals Management Technologies, Inc.
222 South Riverside Plaza
Suite 280
Chicago, IL 60606

RECEIVED
FEB 16 1999

Attention: Mr. Nick Clevett

Re: Job No. K939 - L.E. Carpenter

Dear Mr. Clevett:

Enclosed are the results you requested for the following sample(s) received at our laboratory on January 21, 1999:

Lab No.	Client ID	Analysis Required
108510	MW4	BTEX (GC)
108511	MW14I	BTEX (GC)
108512	MW15S	BTEX (GC)
108513	MW15I	BTEX (GC)
108514	MW22R	BTEX (GC)
108515	MW25R	BTEX (GC), bis-2-Ethylhexylphthalate
108516	MW21	BTEX (GC), bis-2-Ethylhexylphthalate
108517	MW11IR	BTEX (GC), bis-2-Ethylhexylphthalate
108518	MW11DR	BTEX (GC), bis-2-Ethylhexylphthalate
108519	MW11DRD	BTEX (GC), bis-2-Ethylhexylphthalate
108520	Trip_Blank	BTEX (GC)
108521	Field_Blank	BTEX (GC), bis-2-Ethylhexylphthalate

An invoice for our services is also enclosed. If you have any questions please contact your Project Manager, Paul Simms, at (732) 549-3900.

Very truly yours,

Michael J. Urban
Laboratory Manager

Envirotech
a division of Severn Trent Laboratories, Inc.

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Client ID: MW4
Site: L.E. Carpenter

Lab Sample No: 108510
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Analyzed: 01/26/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid8867.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.20
Toluene	ND	0.14
Ethylbenzene	1.1	0.14
Xylene (Total)	2.5	0.50

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Client ID: MW14I
Site: L.E. Carpenter

Lab Sample No: 108511
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Analyzed: 01/28/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid8921.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.20
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50

Envirotech
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Client ID: **MW15S**
Site: L.E. Carpenter

Lab Sample No: **108512**
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Analyzed: 01/28/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid8922.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.20
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50

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Client ID: **MW15I**
Site: L.E. Carpenter

Lab Sample No: **108513**
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Analyzed: 01/27/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid8907.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.20
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50

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Client ID: **MW22R**
Site: L.E. Carpenter

Lab Sample No: **108514**
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Analyzed: 01/27/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid8902.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 2.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.40
Toluene	ND	0.28
Ethylbenzene	18	0.28
Xylene (Total)	84	1.0

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Client ID: **MW25R**
Site: L.E. Carpenter

Lab Sample No: **108515**
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Analyzed: 01/27/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid8908.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.20
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50

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Client ID: **MW25R**
Site: L.E. Carpenter

Lab Sample No: **108515**
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Extracted: 01/22/99
Date Analyzed: 01/26/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s0328.d

Matrix: WATER
Level: LOW
Sample Volume: 950 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	ND	4.3

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Client ID: **MW21**
Site: L.E. Carpenter

Lab Sample No: **108516**
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Analyzed: 01/29/99
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid4830.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.20
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50

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Client ID: **MW21**
Site: L.E. Carpenter

Lab Sample No: **108516**
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Extracted: 01/22/99
Date Analyzed: 01/26/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s0329.d

Matrix: WATER
Level: LOW
Sample Volume: 960 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	ND	4.2

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Client ID: **MW11IR**
Site: L.E. Carpenter

Lab Sample No: **108517**
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Analyzed: 01/27/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid8910.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.20
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	0.79	0.50

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Client ID: **MW11IR**
Site: L.E. Carpenter

Lab Sample No: **108517**
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Extracted: 01/22/99
Date Analyzed: 01/26/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s0330.d

Matrix: WATER
Level: LOW
Sample Volume: 990 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	ND	4.1

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Client ID: **MW11DR**
Site: L.E. Carpenter

Lab Sample No: **108518**
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Analyzed: 01/27/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid8911.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.20
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50

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Client ID: **MW11DR**
Site: L.E. Carpenter

Lab Sample No: **108518**
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Extracted: 01/22/99
Date Analyzed: 01/26/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s0331.d

Matrix: WATER
Level: LOW
Sample Volume: 950 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	64	4.3

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Client ID: **MW11DRD**
Site: L.E. Carpenter

Lab Sample No: **108519**
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Analyzed: 01/27/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid8912.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.20
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50

Envirotech
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Client ID: **MW11DRD**
Site: L.E. Carpenter

Lab Sample No: **108519**
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Extracted: 01/22/99
Date Analyzed: 01/26/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s0332.d

Matrix: WATER
Level: LOW
Sample Volume: 960 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	20	4.2

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Envirotech
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Client ID: **Trip_Blank**
Site: L.E. Carpenter

Lab Sample No: **108520**
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Analyzed: 01/22/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid8857.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.20
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: **Field_Blank**
Site: L.E. Carpenter

Lab Sample No: **108521**
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Analyzed: 01/22/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid8858.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.20
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: **Field_Blank**
Site: L.E. Carpenter

Lab Sample No: **108521**
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Extracted: 01/22/99
Date Analyzed: 01/26/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s0333.d

Matrix: WATER
Level: LOW
Sample Volume: 930 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	ND	4.4

Monitoring Well Data

Client: RMT Project: LE Carpenter

Job No: K939 Date Sampled: 1/21/99 Analyst: R. Toogood

Well ID	MW15s	MW15I	MW14I	MW22	MW25	MW21	MW11IR	MW11DR	MW4
Depth to Water From TOC feet (before purging)	11.22	11.11	3.33	3.06	2.18	4.07	8.03	6.04	6.89
Depth to Water From TOC feet (after purging)	11.29	11.27	3.35	5.25	4.81	4.14	8.26	6.84	7.83
Depth to Water From TOC feet (before sampling)	11.23	11.12	3.33	3.18	2.82	4.11	8.19	6.16	6.91
Depth to Bottom From TOC feet	19.48	40.14	43.32	8.81	9.11	14.68	54.98	161.25	18.31
PID Reading from Well Casing (ppm)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
pH before Purge	6.25	6.87	7.86	6.23	6.86	7.10	8.25	10.32	6.32
Temp. before Purge (°C)	9.0	9.5	5.4	2.5	3.7	4.4	7.8	7.3	4.4
Diss. Oxygen before Purge (ppm)	8.00	4.82	3.70	3.69	4.66	4.71	5.36	6.81	1.53
Cond. before Purge (umhos/cm)	140	385	256	257	216	273	269	252	253
Water Volume in Well (gal.)	5.39	4.74	6.52	0.94	1.13	6.92	7.66	25.35	1.86
Purge Method	Peristaltic Pump	Peristaltic Pump	Peristaltic Pump	Peristaltic Pump	Peristaltic Pump	Peristaltic Pump	Peristaltic Pump	Peristaltic Pump	Peristaltic Pump
Purge Start Time	9:23	9:24	10:34	10:37	10:47	11:06	12:29	12:28	13:46
Purge End Time	9:41	9:37	10:55	10:44	10:55	11:27	13:05	13:35	13:58
Purge Rate (gpm)	0.9	1.2	1	0.4	0.5	1	0.6	1.1	0.5
Volume Purged (gal.)	17	15	20	3	4	21	23	76	6
pH after Purge	6.61	6.84	7.92	6.32	6.78	7.14	7.98	8.16	6.56
Temp. after Purge (°C)	11.2	10.7	8.8	3.2	2.7	6.1	8.8	9.2	4.7
Diss. Oxygen after Purge (ppm)	2.08	0.97	2.87	1.72	3.77	3.15	1.31	3.31	1.89
Cond. after Purge (umhos/cm)	366	577	264	305	253	366	234	182	357
pH after Sample	6.71	6.91	7.85	6.27	7.27	7.25	8.07	8.36	6.63
Temp. after Sample (°C)	9.7	10.7	6.6	2.5	6.2	5.0	5.9	8.5	4.6
Diss. Oxygen after Sampling (ppm)	4.25	1.28	3.06	8.06	6.21	3.18	1.54	3.46	1.91
Cond. after Sample (umhos/cm)	305	543	251	262	204	372	288	107	250
Redox Potential (mV) after Sample	-8.0	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity (mg/l)	140.0	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Dioxide (mg/l)	30.0	NA	NA	NA	NA	NA	NA	NA	NA
Sampling Method	Teflon Bailer	Teflon Bailer	Teflon Bailer	Teflon Bailer	Teflon Bailer	Teflon Bailer	Teflon Bailer	Teflon Bailer	Teflon Bailer
Time of Sampling	9:52	9:44	11:38	11:33	11:45	11:51	13:10	13:41	14:11

Water Levels L.E. Carpenter Site Date: 1/21/99

Well ID	Product	Depth to Water
MW-1 (R)	9.99	10.91
MW-2 (R)	7.05	7.15
MW-3	7.05	9.33
MW-4	N	6.89
MW-6 (R)	6.08	6.74
MW-8	N	2.52
MW-9	N	3.91
MW-11S	7.80	13.11
MW-11IR	N	8.03
MW-11DR	N	6.04
MW-12R	N	7.81
MW-13S	N	4.87
MW-13(R)	N	5.56
MW-13I	N	5.50
MW-14S	N	3.89
MW-14I	N	3.33
MW-15S	N	11.22
MW-15I	N	11.11
MW-16S	N	8.39
MW-16I	N	9.00
MW-17S	N	9.11
MW-18S	N	5.82
MW-18I	N	5.45
MW-19	N	12.40
MW-20	N	8.35
MW-21	N	4.07
MW-22 (R)	N	3.06
MW-23	N	5.61
MW-25 (R)	N	2.18
MW-26	N	8.02
RW-1	11.82	12.45
RW-2	N	6.57
RW-3	N	6.11
CW-1	7.20	7.31
CW-3	N	7.29
GEI-1I	N	5.13
GEI-2S	N	11.31
GEI-2I	N	11.56
GEI-3I	N	13.71
WP-A1	10.11	10.72
WP-A2	NA	NA
WP-A3	N	9.96
WP-A4	11.41	11.98
WP-A5	N	12.35
WP-A6	11.85	13.05
WP-A7	9.58	10.39

Well ID	Product	Depth to Water
WP-A8	12.13	14.98
WP-A9	13.54	13.93
WP-B1	6.46	6.98
WP-B2	N	7.00
WP-B3	N	7.31
WP-B4	7.18	(all product)
WP-B5	5.79	6.07
WP-B6	N	5.91
WP-B7	4.05	4.41
WP-B10	N	7.42
WP-C1	N	6.71
WP-C2	N	7.38
WP-C3	N	6.13
WP-C4	N	7.41
SG-D1	N	0.9
SG-D2	N	0.5
SG-D3	N	0.9
SG-R1	N	1.92
SG-R2	N	1.78
SG-R3	N	1.58
RP-O2	*	*
RP-O3	*	*
RP-O4	*	*
EFR-1	*	*
EFR-2	*	*
EFR-3	*	*
EFR-4	*	*
EFR-5	*	*
EFR-6	*	*
EFR-7	*	*
EFR-8	*	*
EFR-9	*	*
EFR-10	*	*
EFR-11	*	*
EFR-12	*	*
EFR-13	*	*
EFR-14	*	*
EFR-15	*	*
EFR-16	*	*
EFR-17	*	*
EFR-18	*	*
EFR-19	*	*
EFR-20	*	*
EFR-21	*	*
EFR-22	*	*

Well ID	Product	Depth to Water
EFR-23	N	*
EFR-24	N	*
EFR-25	Y	*
EFR-26	14.85	*
EFR-27	N	*
EFR-28	11.73	*
MW-19-1	N	12.21
MW-19-2	N	12.29
MW-19-3	N	13.05
MW-19-4	N	10.87
MW-19-5	N	12.42

* Measurements Collected by RMT on prior date.

Monitoring Well Data

Client: RMT

Project: LE Carpenter

Date Sampled: 1/21/99

Job No.: K939

Name of Analyst: Richard Toogood

Names & Signatures of Samplers: Richard Toogood

Matt Morse

INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Envirotech

777 New Durham Road, Edison, New Jersey
08817

Job No: K939 **Site:** L.E. Carpenter

Client: Residuals Management Technologies, Inc.

BNAMS

WATER - 625

Lab Sample ID	Date Sampled	Date Received	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
108515	1/21/1999	1/21/1999	1-22-99	OF	1/26/99	LL	4359
108516	1/21/1999	1/21/1999					
108517	1/21/1999	1/21/1999					
108518	1/21/1999	1/21/1999					
108519	1/21/1999	1/21/1999					
108521	1/21/1999	1/21/1999					

INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Envirotech

777 New Durham Road, Edison, New Jersey
08817

Job No: K939 **Site:** L.E. Carpenter

Client: Residuals Management Technologies, Inc.

VOAGC

602

Lab Sample ID	Date Sampled	Date Received	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
WATER							
108510	1/21/1999	1/21/1999			1/26/99	KL	6659
108511	1/21/1999	1/21/1999			1/28/99		
108512	1/21/1999	1/21/1999					
108513	1/21/1999	1/21/1999			1/27/99		
108514	1/21/1999	1/21/1999					
108515	1/21/1999	1/21/1999					
108516	1/21/1999	1/21/1999			1/29/99	KL	6655
108517	1/21/1999	1/21/1999			1/27/99	KL	6659
108518	1/21/1999	1/21/1999					
108519	1/21/1999	1/21/1999					
108520	1/21/1999	1/21/1999			1/22/99	KL	6657
108521	1/21/1999	1/21/1999					

Analytical Methodology Summary

Volatile Organics:

Unless otherwise specified, water samples are analyzed for volatile organics by purge and trap GC/MS as specified in EPA Method 624. Drinking water samples are analyzed by EPA Method 524.2. Solid samples are analyzed for volatile organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8260B. Water samples are analyzed for volatile organics by purge and trap GC/PID and GC/ELCD as specified in EPA Methods 601 and 602. Solid samples are analyzed by GC/PID and GC/ELCD in accordance with SW-846, 3rd Edition Method 8021B.

Acid and Base/Neutral Extractable Organics:

Unless otherwise specified, water samples are analyzed for acid and/or base/neutral extractable organics by GC/MS in accordance with EPA Method 625. Solids are analyzed for acid and/or base/neutral extractable organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8270C.

GC/MS Nontarget Compound Analysis:

Analysis for nontarget compounds is conducted, upon request, in conjunction with GC/MS analyses by EPA Methods 624, 625, 8260B and 8270C. Nontarget compound analysis is conducted using a forward library search of the EPA/NIH/NBS mass spectral library of compounds at the greatest apparent concentration (10% or greater of the nearest internal standard) in each organic fraction (15 for volatile, 15 for base/neutrals and 10 for acid extractables).

Organochlorine Pesticides and PCBs:

Unless otherwise specified, water samples are analyzed for organochlorine pesticides and PCBs by dual column gas chromatography with electron capture detectors as specified in EPA Method 608. Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8081A for organochlorine pesticides and Method 8082 for PCBs.

Total Petroleum Hydrocarbons:

Water samples are analyzed for petroleum hydrocarbons by I.R. using EPA Method 418.1. Solid samples are prepared for analysis by soxhlet extraction consistent with the March 1990 N.J. DEP "Remedial Investigation Guide" Appendix A, page 52, and analyzed by U.S. EPA Method 418.1

Metals Analysis:

Metals analyses are performed by any of four techniques specified by a Method Code provided on each data report page, as follows:

P - Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP)

A - Flame Atomic Absorption

F - Furnace Atomic Absorption

CV - Manual Cold Vapor (Mercury)

Water samples are digested and analyzed using EPA methods provided in "Methods for Chemical Analysis of Water and Wastewater" (EPA 600/4-79-020). Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition); samples are digested according to Method 3050B "Acid Digestion of Soil, Sediments and Sludges."

Specific method references for ICP analyses are water Method 200.7 and solid Method 6010B. Mercury analyses are conducted by the manual cold vapor technique specified by water Method 245.1 and solid Method 7471A. Other specific Atomic Absorption method references are as follows:

	Water Test Method		Solid Test Method	
Element	Flame	Furnace	Flame	Furnace
Aluminum	202.1	202.2	7020	--
Antimony	204.1	204.2	7040	7041
Arsenic	--	206.2	--	7060
Barium	208.1	--	7080	--
Beryllium	210.1	210.2	7090	7091
Cadmium	213.1	213.2	7130	7131
Calcium	215.1	--	7140	--
Chromium, Total	218.1	218.2	7190	7191
Chromium, (+6)	218.4	218.5	7197	7195
Cobalt	219.1	219.2	7200	7201
Copper	220.1	220.2	7210	--
Iron	236.1	236.2	7380	--
Lead	239.1	239.2	7420	7421
Magnesium	242.1	--	7450	--
Manganese	243.1	243.2	7460	--
Nickel	249.1	249.2	7520	--
Potassium	258.1	--	7610	--
Selenium	--	270.2	--	7740
Silver	272.1	272.2	7760	--
Sodium	273.1	--	7770	--
Tin	283.1	283.2	7870	--
Thallium	279.1	279.2	7840	7841
Vanadium	286.1	286.2	7910	7911
Zinc	289.1	289.2	7950	--

Cyanide:

Water samples are analyzed for cyanide using EPA Method 335.3. Cyanide is determined in solid samples as specified in the EPA Contract Laboratory Program IFB dated July 1988, revised February 1989.

Phenols:

Water samples are analyzed for total phenols using EPA Method 420.2. Total phenols are determined in solid samples by preparing the sample as outlined in the EPA Contract Laboratory Program IFB for cyanide, followed by a phenols determination using EPA Method 420.1.

Cleanup of Semivolatile Extracts:

Upon request Method 3611B Alumina Column Cleanup and/or Method 3650B Acid-Base Partition Cleanup are performed to improve detection limits by the removal of saturated hydrocarbon interferences.

Hazardous Waste Characteristics:

Samples for hazardous waste characteristics are analyzed as specified in the U.S. EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition). Specific method references are as follows:

Ignitability	- Method 1020A
Corrosivity	- Water pH Method 9040B Soil pH Method 9045C
Reactivity	- Chapter 7, Section 7.3.3 and 7.3.4 respectively for hydrogen cyanide and hydrogen sulfide release
Toxicity	- TCLP Method 1311

Miscellaneous Parameters:

Additional analyses performed on both aqueous and solid samples are in accordance with methods published in the following references:

- Test Methods for Evaluating Solid Wastes, SW-846 3rd Edition, November 1986.
- Standard Methods for the Examination of Water and Wastewater, 17th Edition.
- Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1979.

DATA REPORTING QUALIFIERS

ND - The compound was not detected at the indicated concentration.

J - Mass spectral data indicates the presence of a compound that meets the identification criteria. The result is less than the specified detection limit but greater than zero. The concentration given is an approximate value.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.

* - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

NON-CONFORMANCE SUMMARY

STL Envirotech Job Number: K939

Volatile Organics Analysis:

All data conforms with method requirements ✓; or
Analysis was not requested _____; or
Non-conformance for the specific samples listed is as follows:

_____

_____

_____

_____

See continuation page if checked ( )

Base/Neutral and/or Acid Extractable Organics:

All data conforms with method requirements ✓; or
Analysis was not requested _____; or
Non-conformance for the specific samples listed is as follows:

_____

_____

_____

_____

See continuation page if checked ( )

PCBs and/or Organochlorine Pesticides:

All data conforms with method requirements _____; or
Analysis was not requested ✓; or
Non-conformance for the specific samples listed is as follows:

_____

_____

_____

_____

See continuation page if checked ( )

Page 1 of 2

Non-conformance Summary, Page 2 of 2
STL Envirotech Job Number: K939

Metals Analysis:

All data conforms with method requirements _____; or
Analysis was not requested ___/___; or
Non-conformance for the specific samples listed is as follows:

_____

_____

_____

_____

_____

See continuation page if checked ( )

Total Petroleum Hydrocarbons:

All data conforms with method requirements _____; or
Analysis was not requested ___/___; or
Non-conformance for the specific samples listed is as follows:

_____

_____

_____

See continuation page if checked ( )

General Chemistry/Disposal Parameters:

All data conforms with method requirements _____; or
Analysis was not requested ___/___; or
Non-conformance for the specific samples listed is as follows:

_____

_____

_____

See continuation page if checked ( )

Signature of
Laboratory Manager: _____ Date: 2/10/99

STL Envirotech
777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice): Nick Clevett	Samplers Name (Printed): R. Tarzyd M. Morse	Site/Project Identification: LE Carpenter
Company: RMT	P.O. #	State (Location of site): NJ: [X] NY: [ ] Other:
		Regulatory Program:
Address: 999 Plaza Dr., Suite 370	Analysis Turnaround Time: Standard [ ]	LAB USE ONLY
City: Schaumburg State: IL 60173-5401	Rush Charges Authorized For: 2 Week [ ] 1 Week [ ] Other [ ]	Project No: 801080
Phone: Fax:		Job No: K939

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

Sample Identification	Date	Time	Matrix	No. of Cont.	BETX	DEPH										Sample Numbers
MW 4	1/21/99	1411	AQ	3	X											108510
MW-14I		1138		3	X											108511
MW-15S		952		3	X											108512
MW 15I		944		3	X											108513
MW 22R		1133		3	X											108514
MW 25R		1145		4	X	X										108515
MW 21		1151		4	X	X										108516
MW 11 IR		1310		4	X	X										108517
MW 11 DR		1341		4	X	X										108518
MW 11 DRD		1342		4	X	X										108519

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH
6 = Other _____, 7 = Other _____

	BETX	DEPH
Soil:		
Water:	1,2	1

Special Instructions _____ Water Metals Filtered (Yes/No)? _____

Relinquished by	Company	Date / Time	Received by	Company
1) R. Tarzyd	STL Envirotech	1-21-99 1615	1) R. Tarzyd	Envirotech
2)			2)	
3)			3)	
4)			4)	

Laboratory Certifications: New Jersey (12543), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

Massachusetts (M-NJ312), North Carolina (No. 578)

[redacted]TL -[redacted]vir[redacted]ch

777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice)	Samplers Name (Printed) R. Tr[illegible] M. N[illegible]	Site/Project Identification LE Carpenter
Company RMT	P.O. #	State (Location of site): NJ: [X] NY: [ ] Other:
		Regulatory Program:
Address 999 Plaza Dr. Suite 370	Analysis Turnaround Time	ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)
City Schaumburg State IL 60173-5407	Standard [ ]	LAB USE ONLY
Phone Fax	Rush Charges Authorized For: 2 Week [ ] 1 Week [ ] Other [ ]	Project No: 801080 Job No: K939

Sample Identification	Date	Time	Matrix	No. of. Cont.	BTEX	DEPH										Sample Numbers
Trip Blank	1/21/99	600	Aq	2	x											108520
Field Blank	↓	1405	↓	3	x	x										108521
Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH				Soil:												
6 = Other ________, 7 = Other ________				Water:	1, 2	1										

Special Instructions ____________ Water Metals Filtered (Yes/No)? ______

Relinquished by	Company	Date / Time	Received by	Company
1) [signature]	STL Envirotech	1-21-99 | 1615	1) R [signature]	Envirotech
2)		|	2)	
3)		|	3)	
4)		|	4)	

Laboratory Certifications: New Jersey (12543), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132). Massachusetts (M-NJ312), North Carolina (No. 578)

20

Client ID: **MW25R**
Site: L.E. Carpenter

Lab Sample No: **108515**
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Extracted: 01/22/99
Date Analyzed: 01/26/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s0328.d

Matrix: WATER
Level: LOW
Sample Volume: 950 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	ND	4.3

Data File: /chem/BNAMS2.i/625/01-22-99/26jan99.b/s0328.d
Report Date: 27-Jan-1999 09:23

STL Envirotech

SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS2.i/625/01-22-99/26jan99.b/s0328.d
Lab Smp Id: 108515 Client Smp ID: MW25R
Inj Date : 26-JAN-1999 19:35
Operator : BNAMS 1 Inst ID: BNAMS2.i
Smp Info : 108515;950;2;1;;
Misc Info : K939;BIS-2-PHTH;4359;143
Comment :
Method : /chem/BNAMS2.i/625/01-22-99/26jan99.b/BNA625.m
Meth Date : 26-Jan-1999 09:54 B Quant Type: ISTD
Cal Date : 22-JAN-1999 14:37 Cal File: s0261.d
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: BIS2PHTHBNb.sub
Target Version: 3.40
Processing Host: hpd1

Concentration Formula: Amt * DF * 1000*Vt/Vo

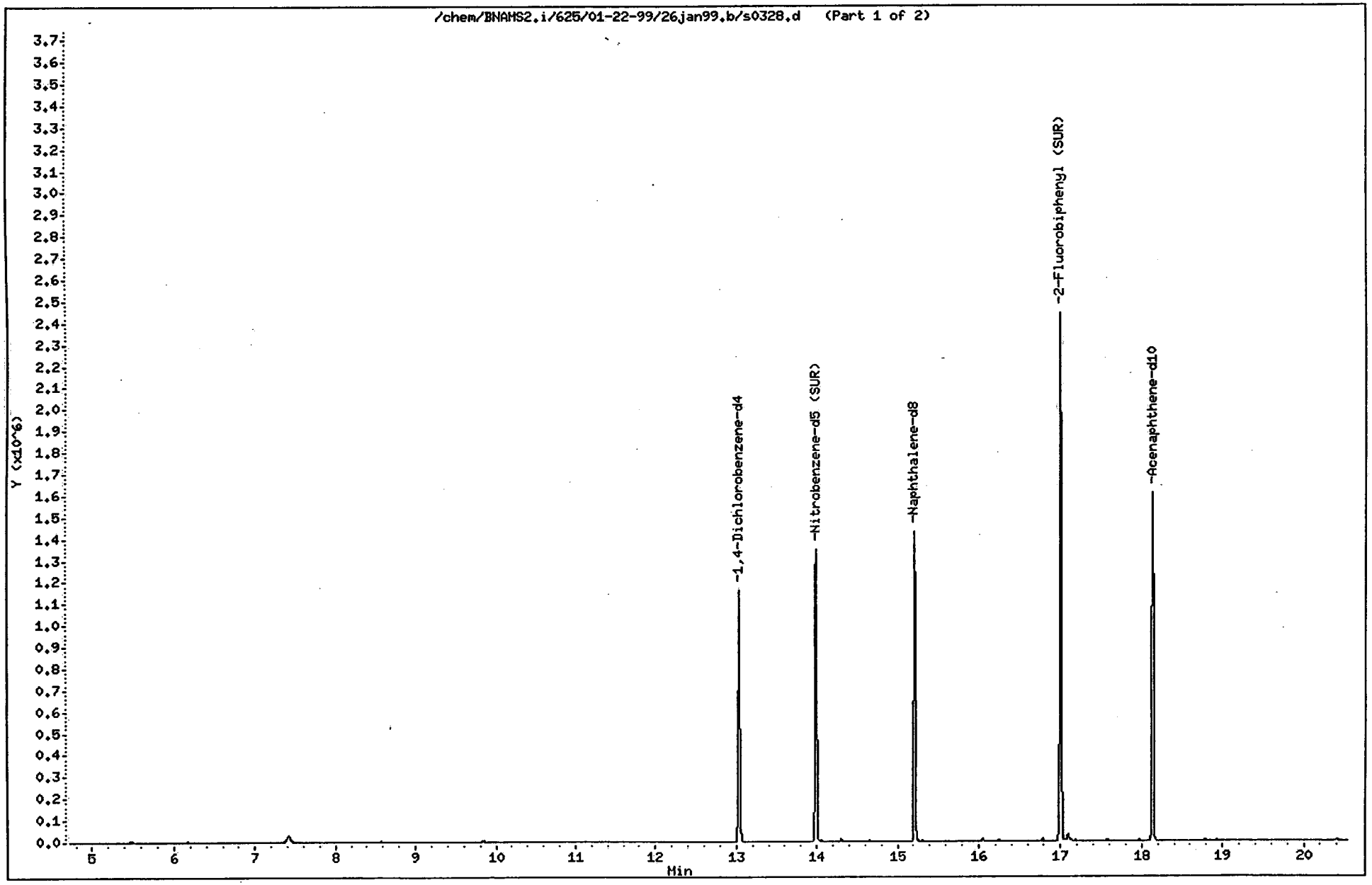
Name	Value	Description
DF	1.000	Dilution Factor
Vt	2.000	Volume of final extract (uL)
Vo	950.000	Volume of sample extracted (mL)

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)
* 79 1,4-Dichlorobenzene-d4	152	13.038	13.037	(1.000)	175768	40.0000	
$ 76 Nitrobenzene-d5 (SUR)	82	13.994	14.004	(0.920)	646530	50.1976	100
* 80 Naphthalene-d8	136	15.212	15.220	(1.000)	535275	40.0000	
$ 77 2-Fluorobiphenyl (SUR)	172	17.000	17.008	(0.937)	785825	46.8313	98
* 82 Acenaphthene-d10	164	18.140	18.141	(1.000)	433704	40.0000	
* 83 Phenanthrene-d10	188	20.608	20.611	(1.000)	975820	40.0000	
$ 78 Terphenyl-d14 (SUR)	244	23.222	23.220	(0.928)	1605019	55.7697	120
* 81 Chrysene-d12	240	25.018	25.029	(1.000)	1072978	40.0000	
* 84 Perylene-d12	264	28.573	28.588	(1.000)	1002918	40.0000	

Data File: /chem/BNAMS2.i/625/01-22-99/26jan99.b/s0328.d
Date : 26-JAN-1999 19:35
Client ID: MW25R
Sample Info: 108515;950;2;1;;
Purge Volume: 950.0
Column phase: DB-5

Instrument: BNAMS2.i

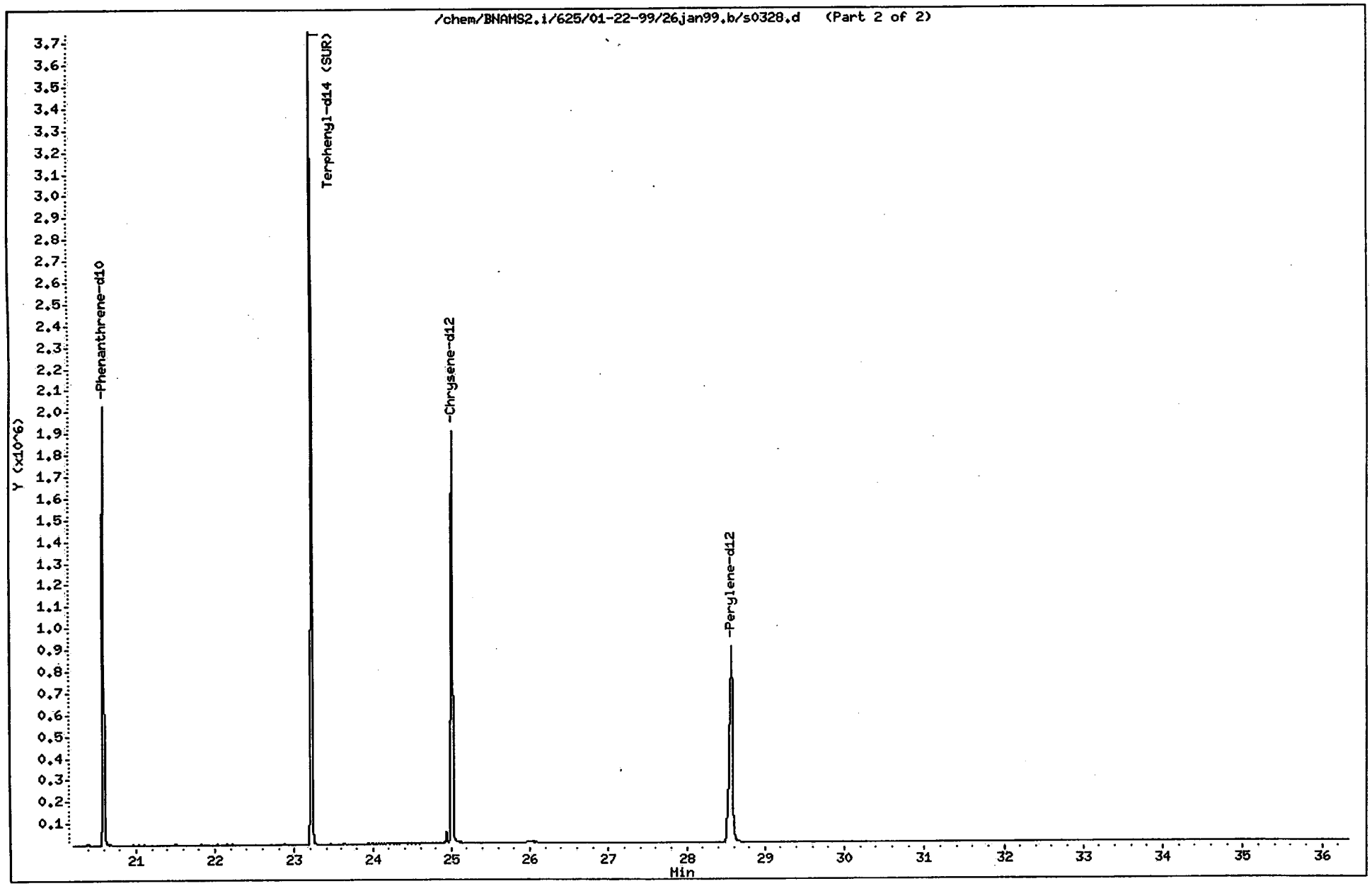
Operator: BNAMS 1
Column diameter: 0.53



Data File: /chem/BNAMS2.i/625/01-22-99/26jan99.b/s0328.d
Date : 26-JAN-1999 19:35
Client ID: MW25R
Sample Info: 108515;950;2;1;;
Purge Volume: 950.0
Column phase: DB-5

Instrument: BNAMS2.i

Operator: BNAMS 1
Column diameter: 0.53



Client ID: **MW21**
Site: L.E. Carpenter

Lab Sample No: **108516**
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Extracted: 01/22/99
Date Analyzed: 01/26/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s0329.d

Matrix: WATER
Level: LOW
Sample Volume: 960 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	ND	4.2

Data File: /chem/BNAMS2.i/625/01-22-99/26jan99.b/s0329.d
Report Date: 27-Jan-1999 09:23

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SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS2.i/625/01-22-99/26jan99.b/s0329.d
Lab Smp Id: 108516 Client Smp ID: MW21
Inj Date : 26-JAN-1999 20:19
Operator : BNAMS 1 Inst ID: BNAMS2.i
Smp Info : 108516;960;2;1;;
Misc Info : K939;BIS-2-PHTH;4359;143
Comment :
Method : /chem/BNAMS2.i/625/01-22-99/26jan99.b/BNA625.m
Meth Date : 26-Jan-1999 09:54 B Quant Type: ISTD
Cal Date : 22-JAN-1999 14:37 Cal File: s0261.d
Als bottle: 16
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: BIS2PHTHBNb.sub
Target Version: 3.40
Processing Host: hpd1

Concentration Formula: Amt * DF * 1000*Vt/Vo

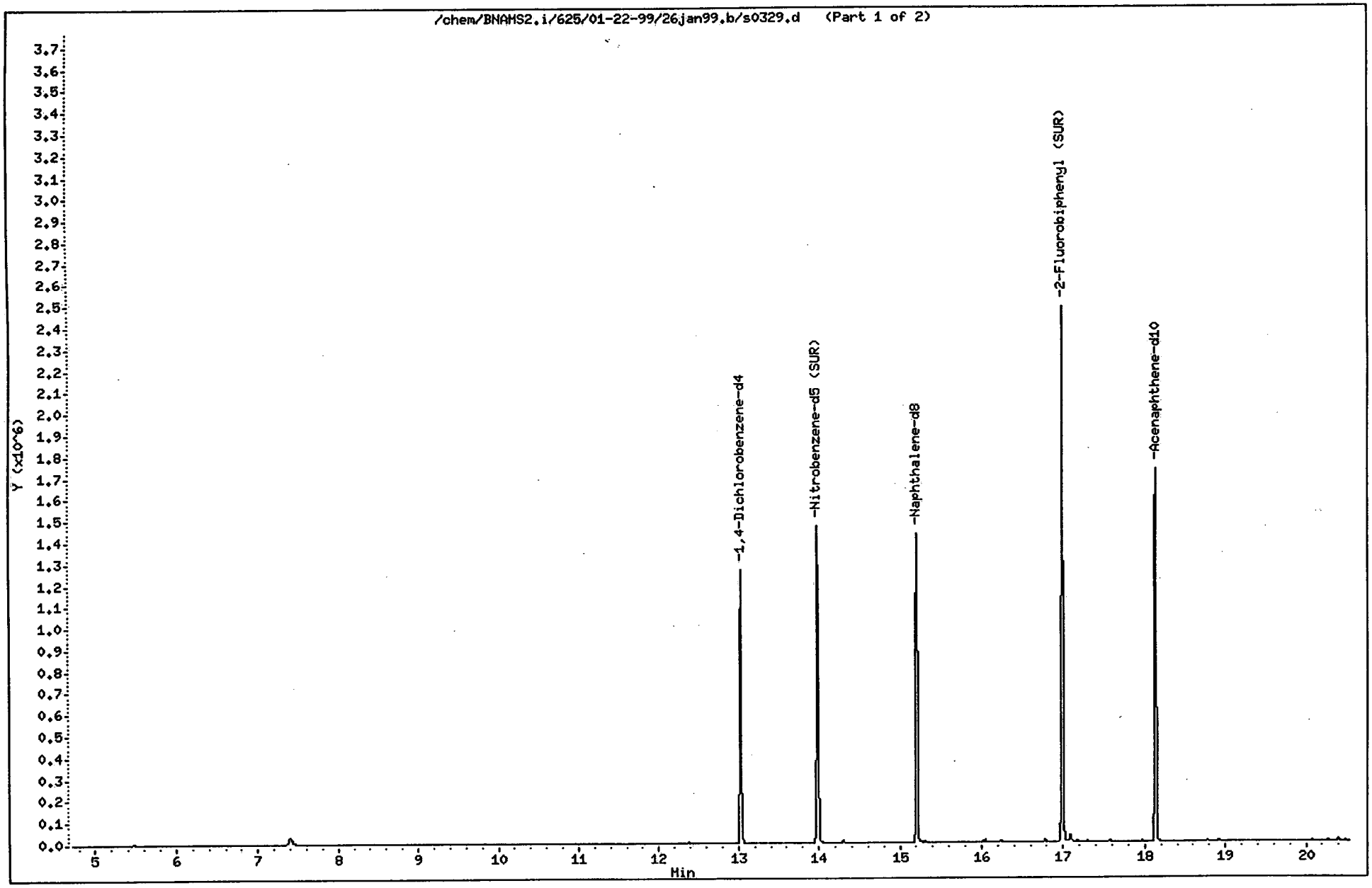
Name	Value	Description
DF	1.000	Dilution Factor
Vt	2.000	Volume of final extract (uL)
Vo	960.000	Volume of sample extracted (mL)

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)
* 79 1,4-Dichlorobenzene-d4	152	13.031	13.037	(1.000)	193618	40.0000	
$ 76 Nitrobenzene-d5 (SUR)	82	13.987	14.004	(0.920)	700486	51.4693	110
* 80 Naphthalene-d8	136	15.205	15.220	(1.000)	565617	40.0000	
$ 77 2-Fluorobiphenyl (SUR)	172	16.994	17.008	(0.937)	843523	48.3043	100
* 82 Acenaphthene-d10	164	18.134	18.141	(1.000)	451352	40.0000	
* 83 Phenanthrene-d10	188	20.596	20.611	(1.000)	1048227	40.0000	
$ 78 Terphenyl-d14 (SUR)	244	23.216	23.220	(0.928)	1661139	53.2627	110
* 81 Chrysene-d12	240	25.006	25.029	(1.000)	1162765	40.0000	
* 84 Perylene-d12	264	28.553	28.588	(1.000)	1096734	40.0000	

Data File: /chem/BNAMS2.i/625/01-22-99/26jan99.b/s0329.d
Date : 26-JAN-1999 20:19
Client ID: MW21
Sample Info: 108516;960;2;1;;
Purge Volume: 960.0
Column phase: DB-5

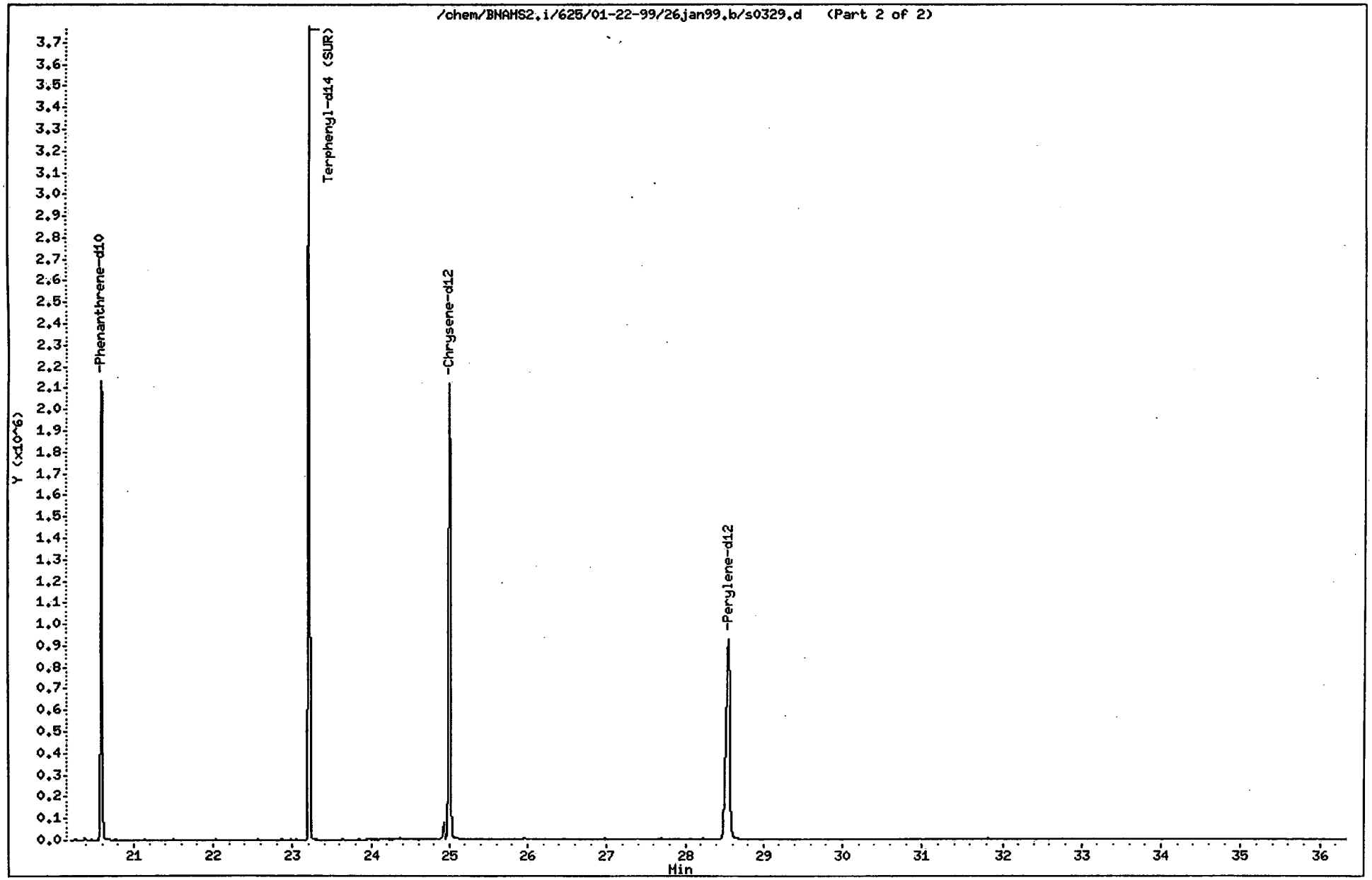
Instrument: BNAMS2.i

Operator: BNAMS 1
Column diameter: 0.53



Data File: /chem/BNAMS2.i/625/01-22-99/26jan99.b/s0329.d
Date : 26-JAN-1999 20:19
Client ID: MW21
Sample Info: 108516;960;2;1;;
Purge Volume: 960.0
Column phase: DB-5

Instrument: BNAMS2.i
Operator: BNAMS 1
Column diameter: 0.53



Client ID: **MW11IR**
Site: L.E. Carpenter

Lab Sample No: **108517**
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Extracted: 01/22/99
Date Analyzed: 01/26/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s0330.d

Matrix: WATER
Level: LOW
Sample Volume: 990 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	ND	4.1

Data File: /chem/BNAMS2.i/625/01-22-99/26jan99.b/s0330.d
Report Date: 27-Jan-1999 09:24

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SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS2.i/625/01-22-99/26jan99.b/s0330.d
Lab Smp Id: 108517 Client Smp ID: MW11IR
Inj Date : 26-JAN-1999 21:04
Operator : BNAMS 1 Inst ID: BNAMS2.i
Smp Info : 108517;990;2;1;;
Misc Info : K939;BIS-2-PHTH;4359;143
Comment :
Method : /chem/BNAMS2.i/625/01-22-99/26jan99.b/BNA625.m
Meth Date : 26-Jan-1999 09:54 B Quant Type: ISTD
Cal Date : 22-JAN-1999 14:37 Cal File: s0261.d
Als bottle: 17
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: BIS2PHTHBNb.sub
Target Version: 3.40
Processing Host: hpd1

Concentration Formula: Amt * DF * 1000*Vt/Vo

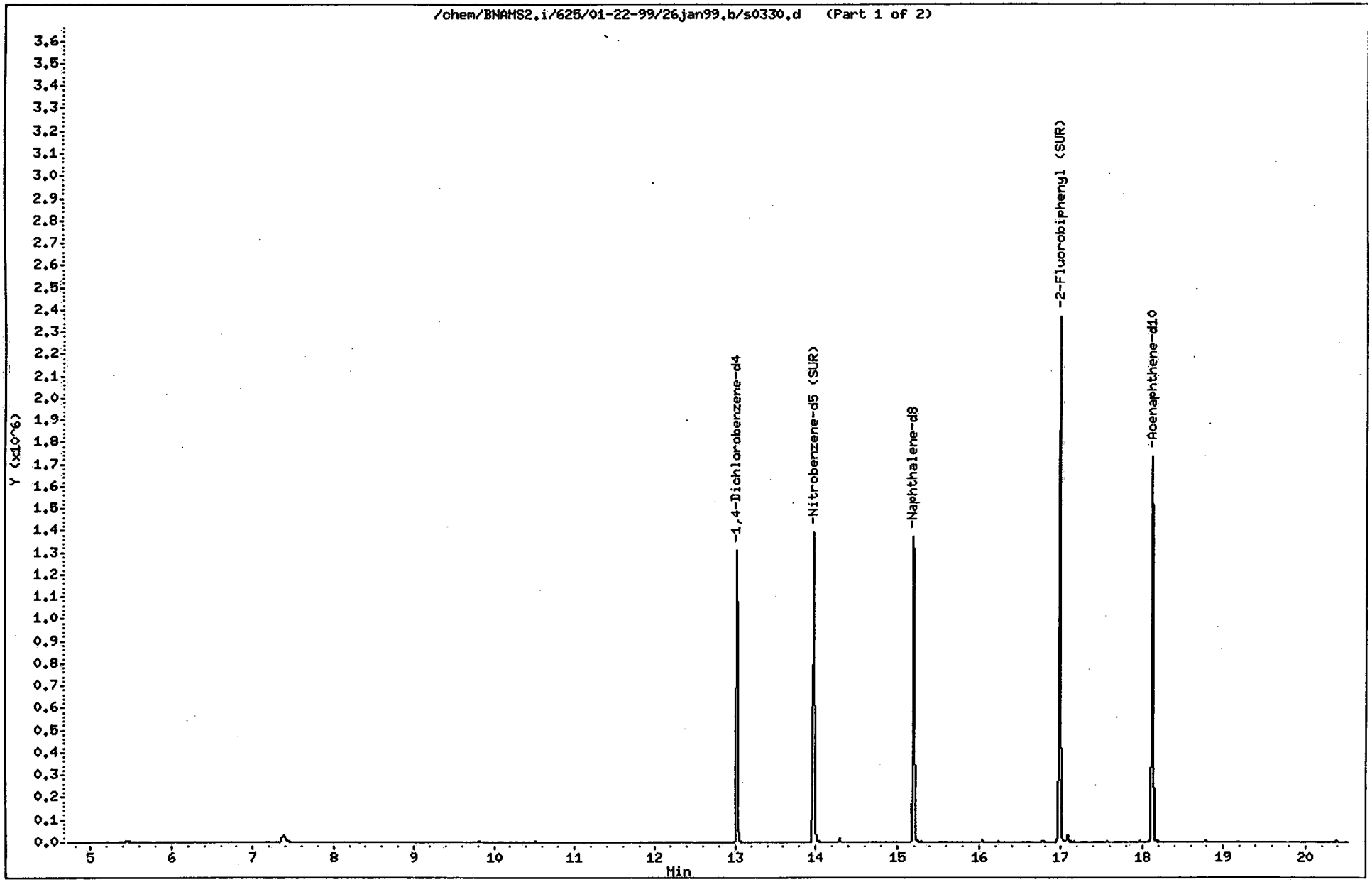
Name	Value	Description
DF	1.000	Dilution Factor
Vt	2.000	Volume of final extract (uL)
Vo	990.000	Volume of sample extracted (mL)

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)
* 79 1,4-Dichlorobenzene-d4	152	13.024	13.037	(1.000)	191363	40.0000	
$ 76 Nitrobenzene-d5 (SUR)	82	13.980	14.004	(0.920)	644385	48.9736	99
* 80 Naphthalene-d8	136	15.198	15.220	(1.000)	546833	40.0000	
$ 77 2-Fluorobiphenyl (SUR)	172	16.986	17.008	(0.937)	808507	45.7191	92
* 82 Acenaphthene-d10	164	18.126	18.141	(1.000)	457078	40.0000	
* 83 Phenanthrene-d10	188	20.594	20.611	(1.000)	1072453	40.0000	
$ 78 Terphenyl-d14 (SUR)	244	23.207	23.220	(0.928)	1666678	53.3079	110
* 81 Chrysene-d12	240	25.003	25.029	(1.000)	1165654	40.0000	
* 84 Perylene-d12	264	28.536	28.588	(1.000)	1071748	40.0000	

Data File: /chem/BNAMS2.i/625/01-22-99/26jan99.b/s0330.d
Date : 26-JAN-1999 21:04
Client ID: MW11IR
Sample Info: 108517;990;2;1;;
Purge Volume: 990.0
Column phase: DB-5

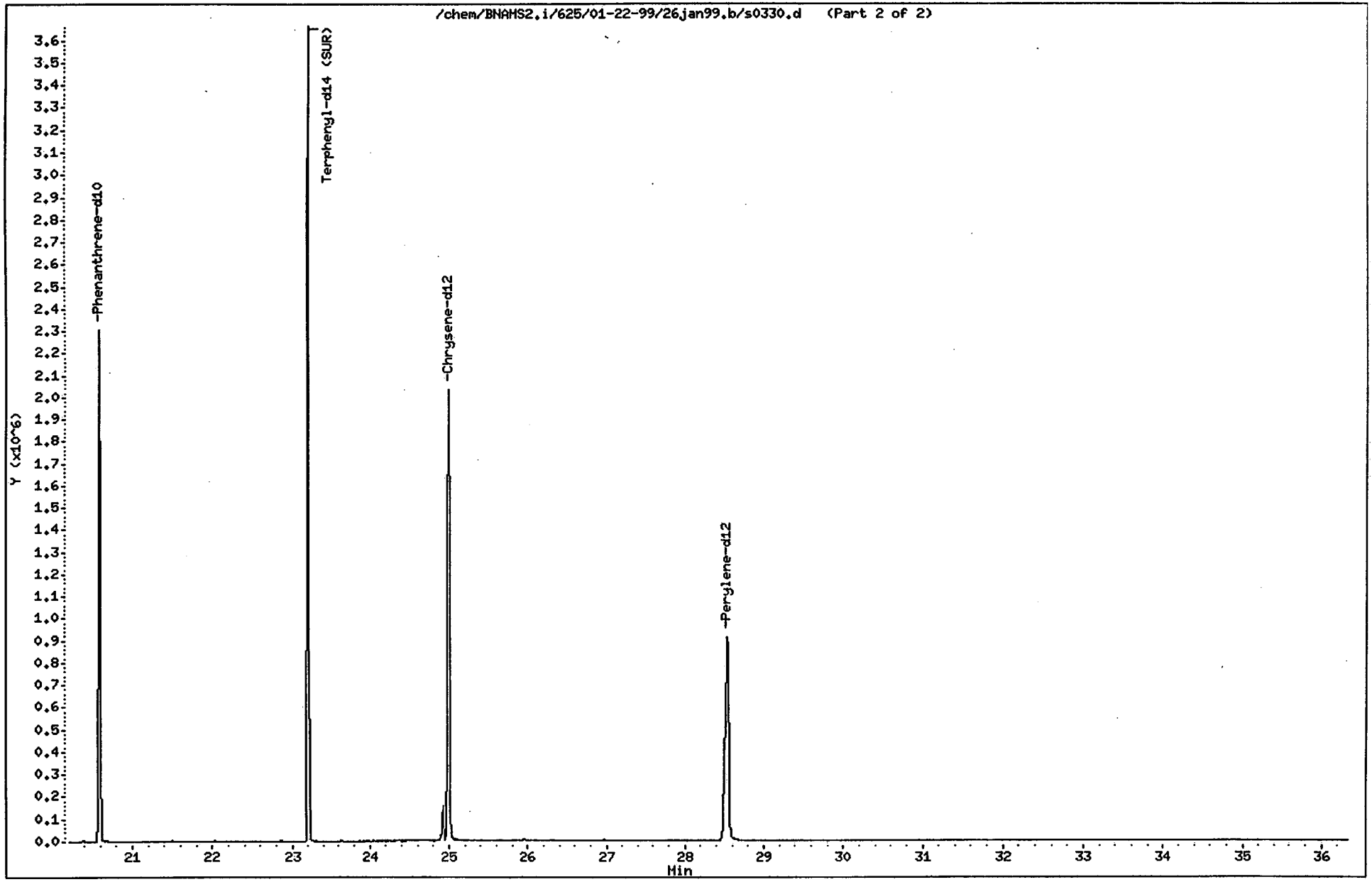
Instrument: BNAMS2.i

Operator: BNAMS 1
Column diameter: 0.53



Data File: /chem/BNAMS2.i/625/01-22-99/26jan99.b/s0330.d
Date : 26-JAN-1999 21:04
Client ID: MW11IR
Sample Info: 108517;990;2;1;;
Purge Volume: 990.0
Column phase: DB-5

Instrument: BNAMS2.i
Operator: BNAMS 1
Column diameter: 0.53



Client ID: **MW11DR**
Site: L.E. Carpenter

Lab Sample No: **108518**
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Extracted: 01/22/99
Date Analyzed: 01/26/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s0331.d

Matrix: WATER
Level: LOW
Sample Volume: 950 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	64	4.3

Data File: /chem/BNAMS2.i/625/01-22-99/26jan99.b/s0331.d
Report Date: 27-Jan-1999 09:24

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SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS2.i/625/01-22-99/26jan99.b/s0331.d
Lab Smp Id: 108518 Client Smp ID: MW11DR
Inj Date : 26-JAN-1999 21:49
Operator : BNAMS 1 Inst ID: BNAMS2.i
Smp Info : 108518;950;2;1;;
Misc Info : K939;BIS-2-PHTH;4359;143
Comment :
Method : /chem/BNAMS2.i/625/01-22-99/26jan99.b/BNA625.m
Meth Date : 26-Jan-1999 09:54 B Quant Type: ISTD
Cal Date : 22-JAN-1999 14:37 Cal File: s0261.d
Als bottle: 18
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: BIS2PHTHBNb.sub
Target Version: 3.40
Processing Host: hpd1

Concentration Formula: Amt * DF * 1000*Vt/Vo

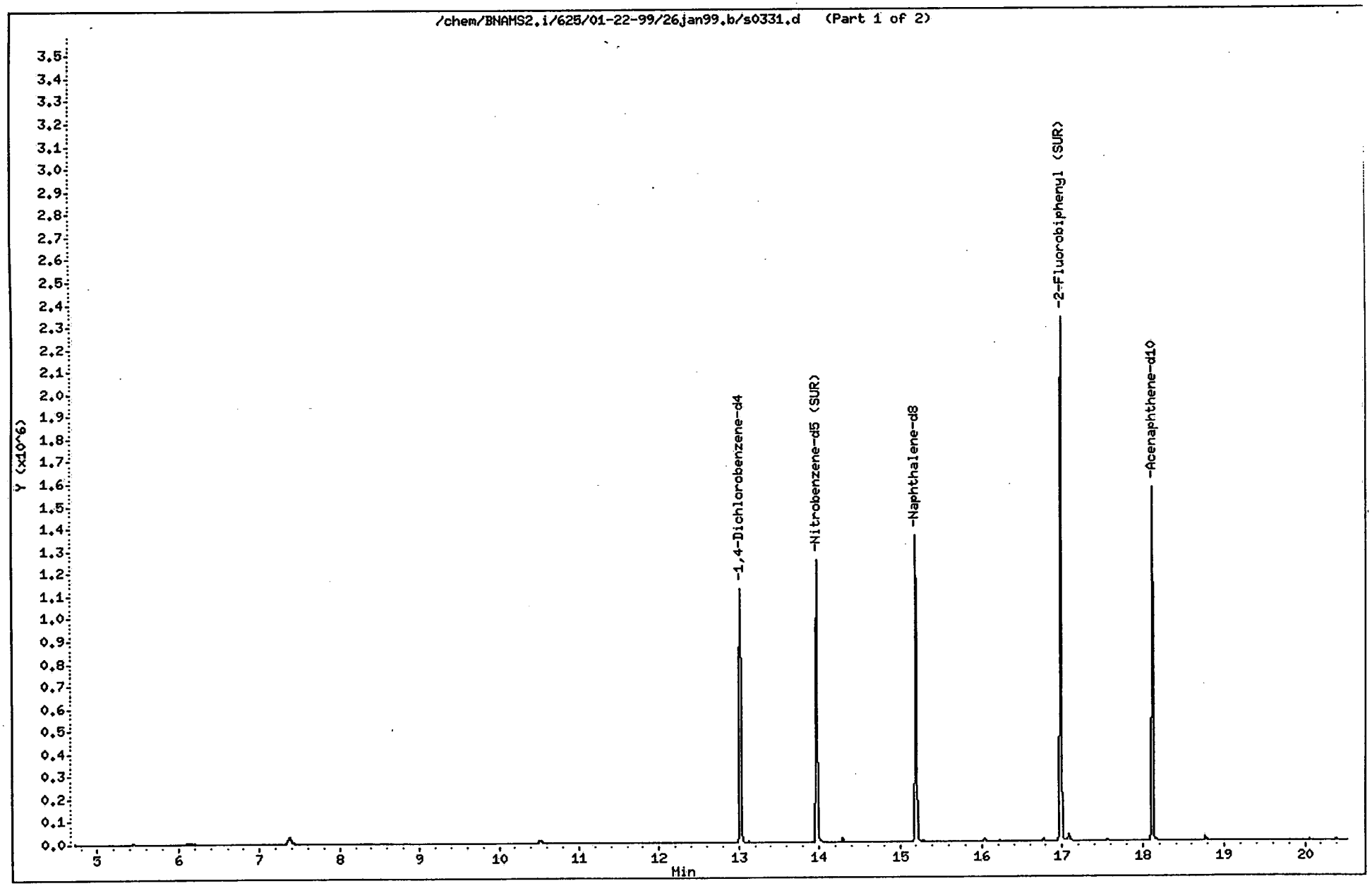
Name	Value	Description
DF	1.000	Dilution Factor
Vt	2.000	Volume of final extract (uL)
Vo	950.000	Volume of sample extracted (mL)

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)
* 79 1,4-Dichlorobenzene-d4	152	13.025	13.037	(1.000)	173521	40.0000	
$ 76 Nitrobenzene-d5 (SUR)	82	13.974	14.004	(0.919)	614328	50.6559	110
* 80 Naphthalene-d8	136	15.199	15.220	(1.000)	504013	40.0000	
$ 77 2-Fluorobiphenyl (SUR)	172	16.987	17.008	(0.937)	780039	47.1329	99
* 82 Acenaphthene-d10	164	18.127	18.141	(1.000)	427756	40.0000	
* 83 Phenanthrene-d10	188	20.588	20.611	(1.000)	986779	40.0000	
$ 78 Terphenyl-d14 (SUR)	244	23.207	23.220	(0.928)	1579336	59.1778	120
63 bis(2-Ethylhexyl)phthalate	149	24.931	24.948	(0.997)	797617	30.5426	64
* 81 Chrysene-d12	240	24.997	25.029	(1.000)	995005	40.0000	
* 84 Perylene-d12	264	28.535	28.588	(1.000)	992829	40.0000	

Data File: /chem/BNAMS2.i/625/01-22-99/26jan99.b/s0331.d
Date : 26-JAN-1999 21:49
Client ID: MW11DR
Sample Info: 108518;950;2;1;;
Purge Volume: 950.0
Column phase: DB-5

Instrument: BNAMS2.i

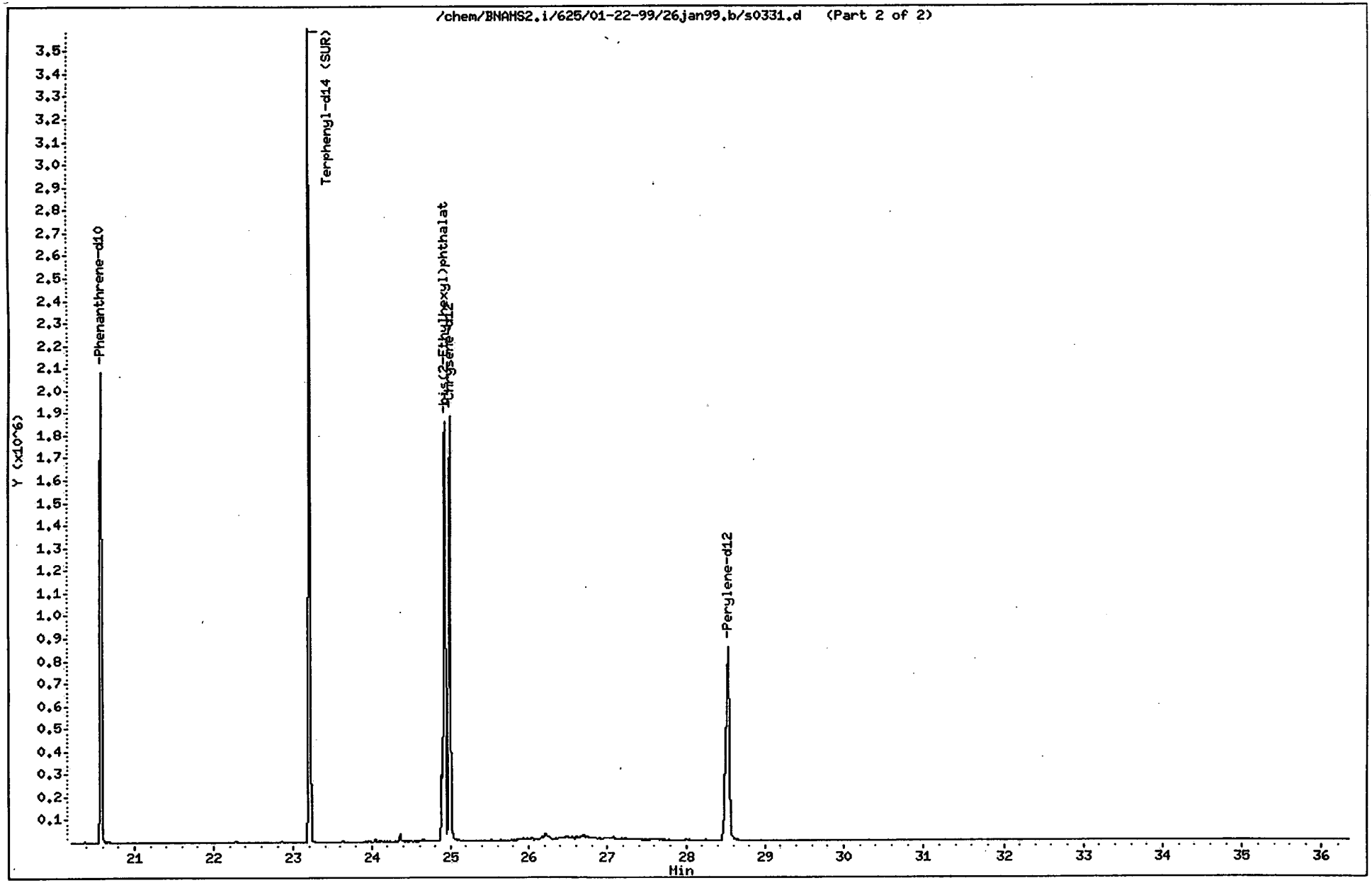
Operator: BNAMS 1
Column diameter: 0.53



Data File: /chem/BNAMS2.i/625/01-22-99/26jan99.b/s0331.d
Date : 26-JAN-1999 21:49
Client ID: MW11DR
Sample Info: 108518;950;2;1;;
Purge Volume: 950.0
Column phase: DB-5

Instrument: BNAMS2.i

Operator: BNAMS 1
Column diameter: 0.53



Data File: /chem/BNAMS2.i/625/01-22-99/26jan99.b/s0331.d

Date : 26-JAN-1999 21:49

Client ID: MW11DR

Instrument: BNAMS2.i

Sample Info: 108518;950;2;1;;

Purge Volume: 950.0

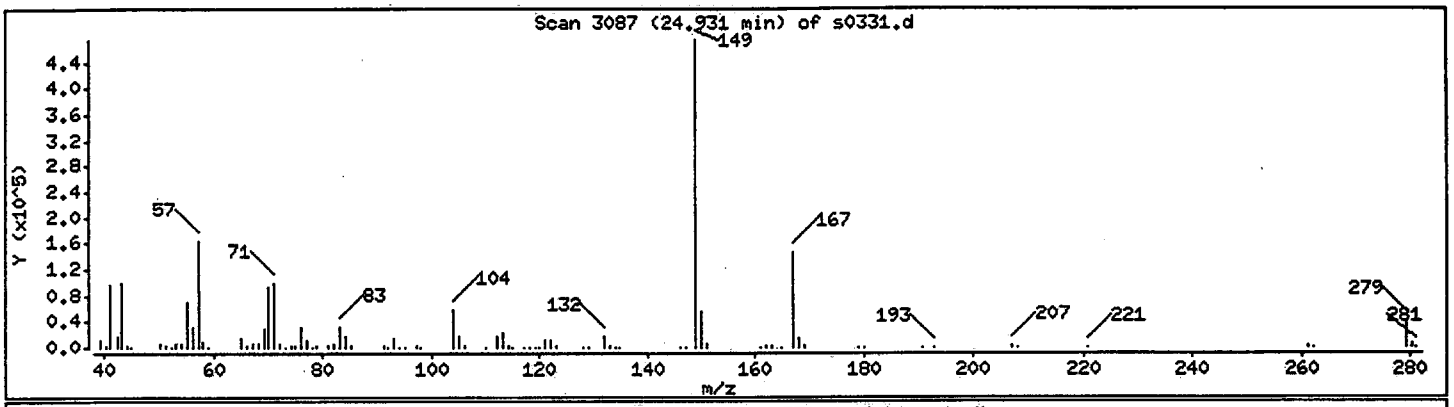
Operator: BNAMS 1

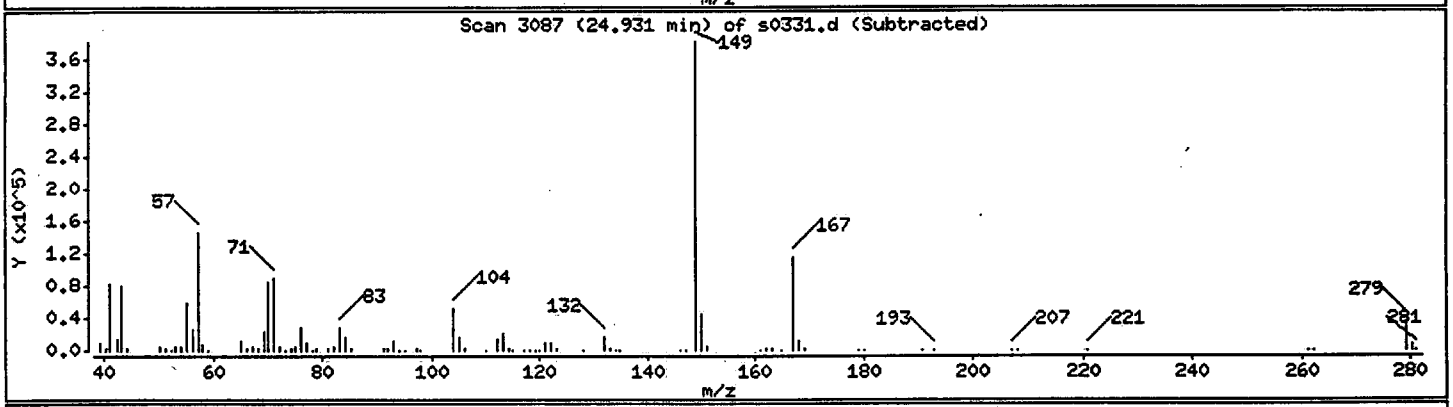
Column phase: DB-5

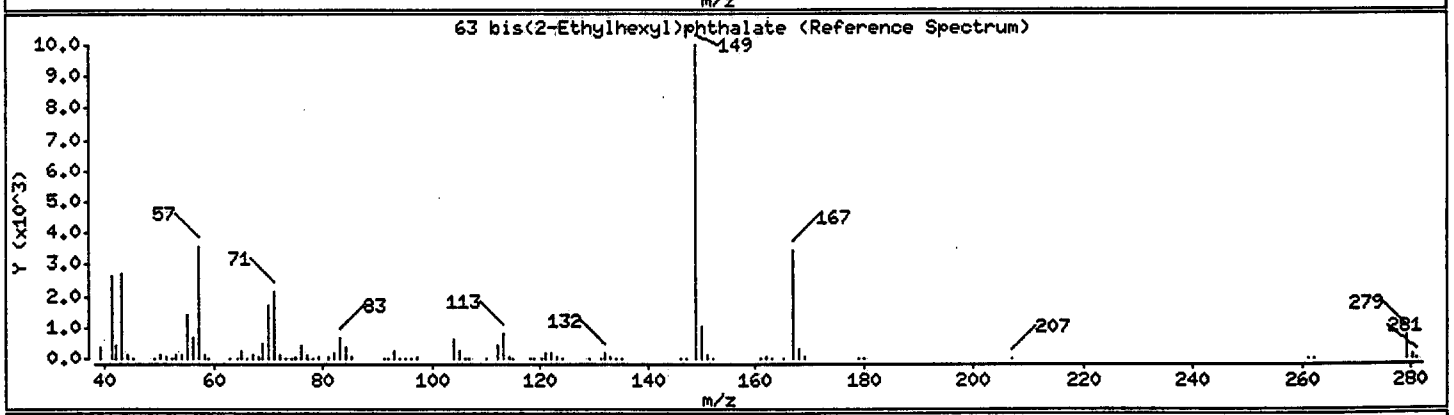
Column diameter: 0.53

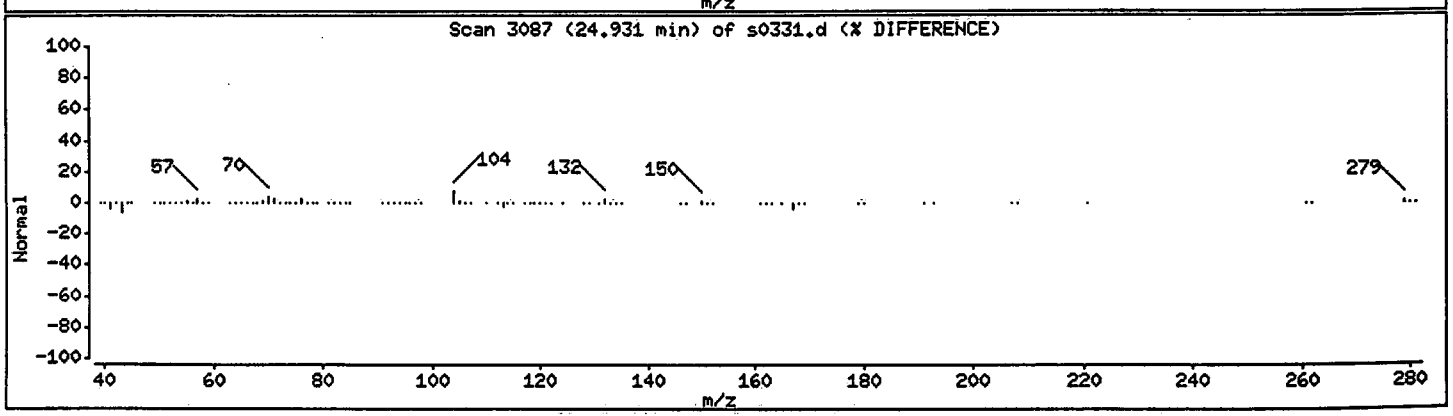
63 bis(2-Ethylhexyl)phthalate

Concentration: 64 ug/L









Client ID: **MW11DRD**
Site: L.E. Carpenter

Lab Sample No: **108519**
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Extracted: 01/22/99
Date Analyzed: 01/26/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s0332.d

Matrix: WATER
Level: LOW
Sample Volume: 960 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	20	4.2

Data File: /chem/BNAMS2.i/625/01-22-99/26jan99.b/s0332.d
Report Date: 27-Jan-1999 09:24

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SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS2.i/625/01-22-99/26jan99.b/s0332.d
Lab Smp Id: 108519 Client Smp ID: MW11DRD
Inj Date : 26-JAN-1999 22:34
Operator : BNAMS 1 Inst ID: BNAMS2.i
Smp Info : 108519;960;2;1;;
Misc Info : K939;BIS-2-PHTH;4359;143
Comment :
Method : /chem/BNAMS2.i/625/01-22-99/26jan99.b/BNA625.m
Meth Date : 26-Jan-1999 09:54 B Quant Type: ISTD
Cal Date : 22-JAN-1999 14:37 Cal File: s0261.d
Als bottle: 19
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: BIS2PHTHBNb.sub
Target Version: 3.40
Processing Host: hpd1

Concentration Formula: Amt * DF * 1000*Vt/Vo

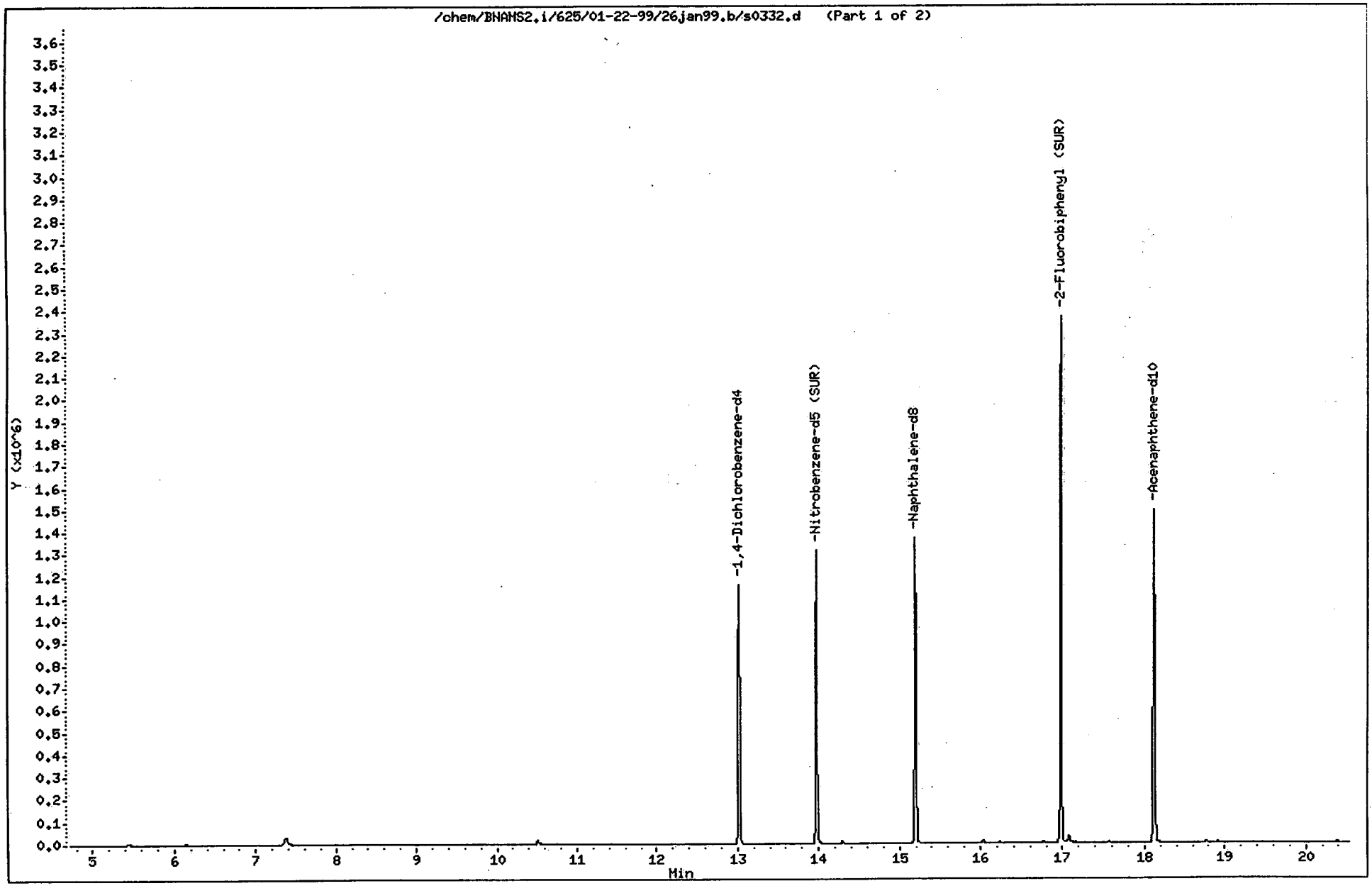
Name	Value	Description
DF	1.000	Dilution Factor
Vt	2.000	Volume of final extract (uL)
Vo	960.000	Volume of sample extracted (mL)

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)
* 79 1,4-Dichlorobenzene-d4	152	13.018	13.037	(1.000)	182959	40.0000	
$ 76 Nitrobenzene-d5 (SUR)	82	13.974	14.004	(0.919)	641477	50.6639	100
* 80 Naphthalene-d8	136	15.199	15.220	(1.000)	526203	40.0000	
$ 77 2-Fluorobiphenyl (SUR)	172	16.987	17.008	(0.937)	796731	48.2409	100
* 82 Acenaphthene-d10	164	18.127	18.141	(1.000)	426875	40.0000	
* 83 Phenanthrene-d10	188	20.589	20.611	(1.000)	998526	40.0000	
$ 78 Terphenyl-d14 (SUR)	244	23.206	23.220	(0.928)	1623223	59.2774	120
63 bis(2-Ethylhexyl)phthalate	149	24.923	24.948	(0.997)	251103	9.37109	20
* 81 Chrysene-d12	240	24.996	25.029	(1.000)	1020935	40.0000	
* 84 Perylene-d12	264	28.531	28.588	(1.000)	1009309	40.0000	

Data File: /chem/BNAMS2.i/625/01-22-99/26jan99.b/s0332.d
Date : 26-JAN-1999 22:34
Client ID: MW11DRD
Sample Info: 108519;960;2;1;;
Purge Volume: 960.0
Column phase: DB-5

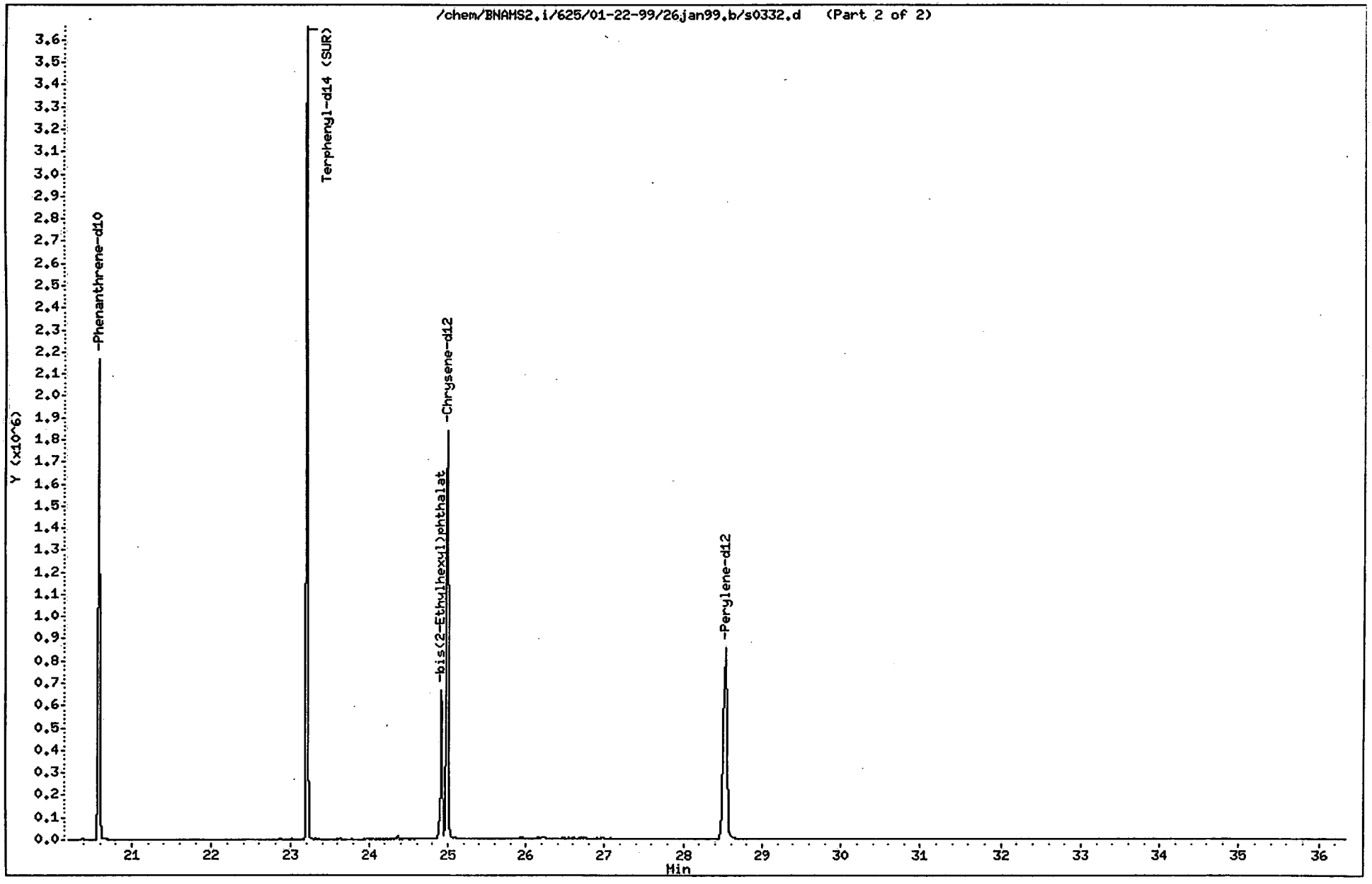
Instrument: BNAMS2.i

Operator: BNAMS 1
Column diameter: 0.53



Data File: /chem/BNAMS2.i/625/01-22-99/26jan99.b/s0332.d
Date : 26-JAN-1999 22:34
Client ID: MW11DRD
Sample Info: 108519;960;2;1;;
Purge Volume: 960.0
Column phase: DB-5

Instrument: BNAMS2.i
Operator: BNAMS 1
Column diameter: 0.53



Data File: /chem/BNAMS2.i/625/01-22-99/26jan99.b/s0332.d

Date : 26-JAN-1999 22:34

Client ID: MW11DRD

Instrument: BNAMS2.i

Sample Info: 108519;960;2;1;;

Purge Volume: 960.0

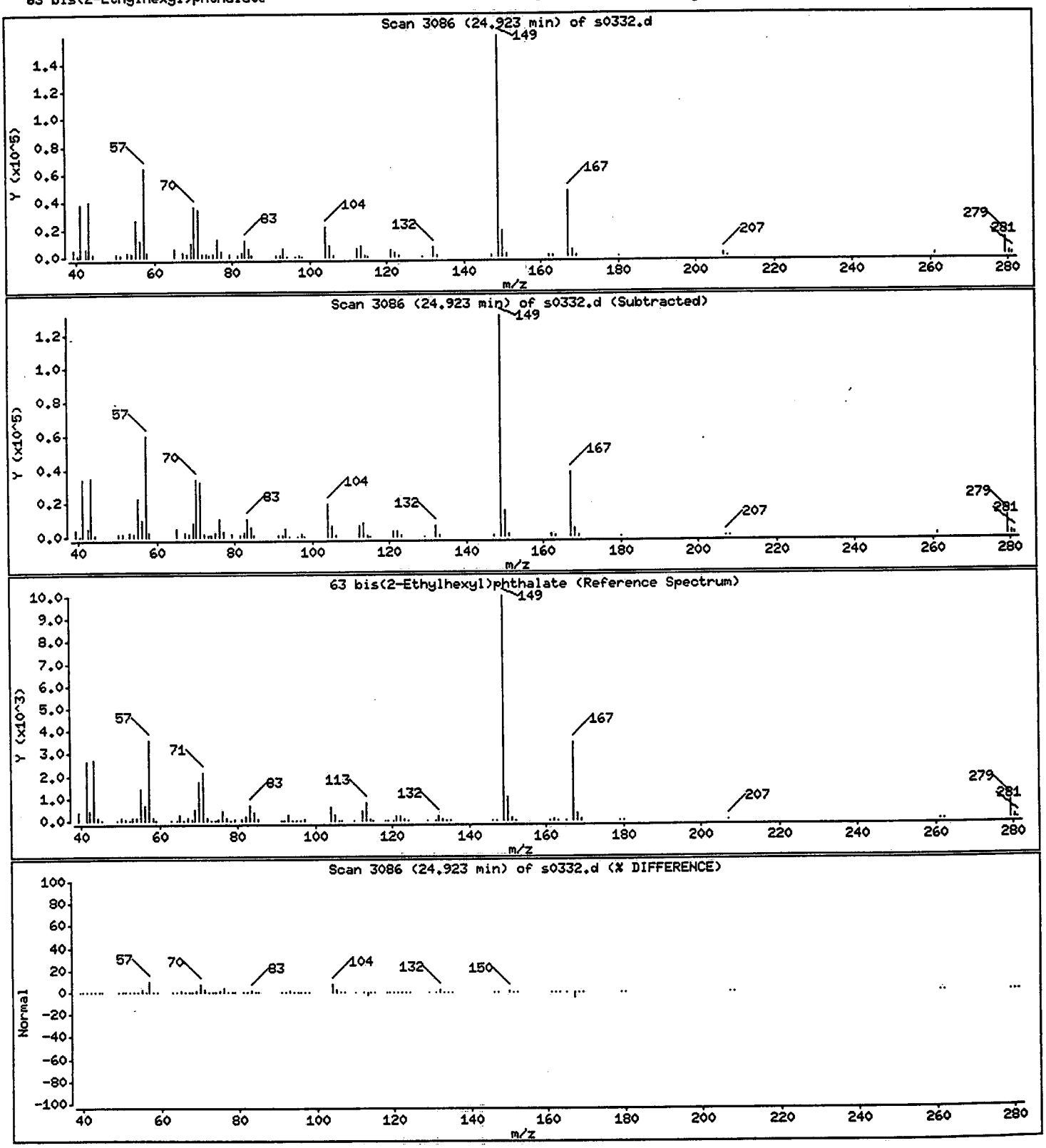
Operator: BNAMS 1

Column phase: DB-5

Column diameter: 0.53

63 bis(2-Ethylhexyl)phthalate

Concentration: 20 ug/L



Client ID: **Field_Blank**
Site: L.E. Carpenter

Lab Sample No: **108521**
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Extracted: 01/22/99
Date Analyzed: 01/26/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s0333.d

Matrix: WATER
Level: LOW
Sample Volume: 930 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	ND	4.4

Data File: /chem/BNAMS2.i/625/01-22-99/26jan99.b/s0333.d
Report Date: 27-Jan-1999 09:24

STL Envirotech

SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS2.i/625/01-22-99/26jan99.b/s0333.d
Lab Smp Id: 108521 Client Smp ID: Field_Blank
Inj Date : 26-JAN-1999 23:19
Operator : BNAMS 1 Inst ID: BNAMS2.i
Smp Info : 108521;930;2;1;;
Misc Info : K939;BIS-2-PHTH;4359;143
Comment :
Method : /chem/BNAMS2.i/625/01-22-99/26jan99.b/BNA625.m
Meth Date : 26-Jan-1999 09:54 B Quant Type: ISTD
Cal Date : 22-JAN-1999 14:37 Cal File: s0261.d
Als bottle: 20
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: BIS2PHTHBNb.sub
Target Version: 3.40
Processing Host: hpd1

Concentration Formula: Amt * DF * 1000*Vt/Vo

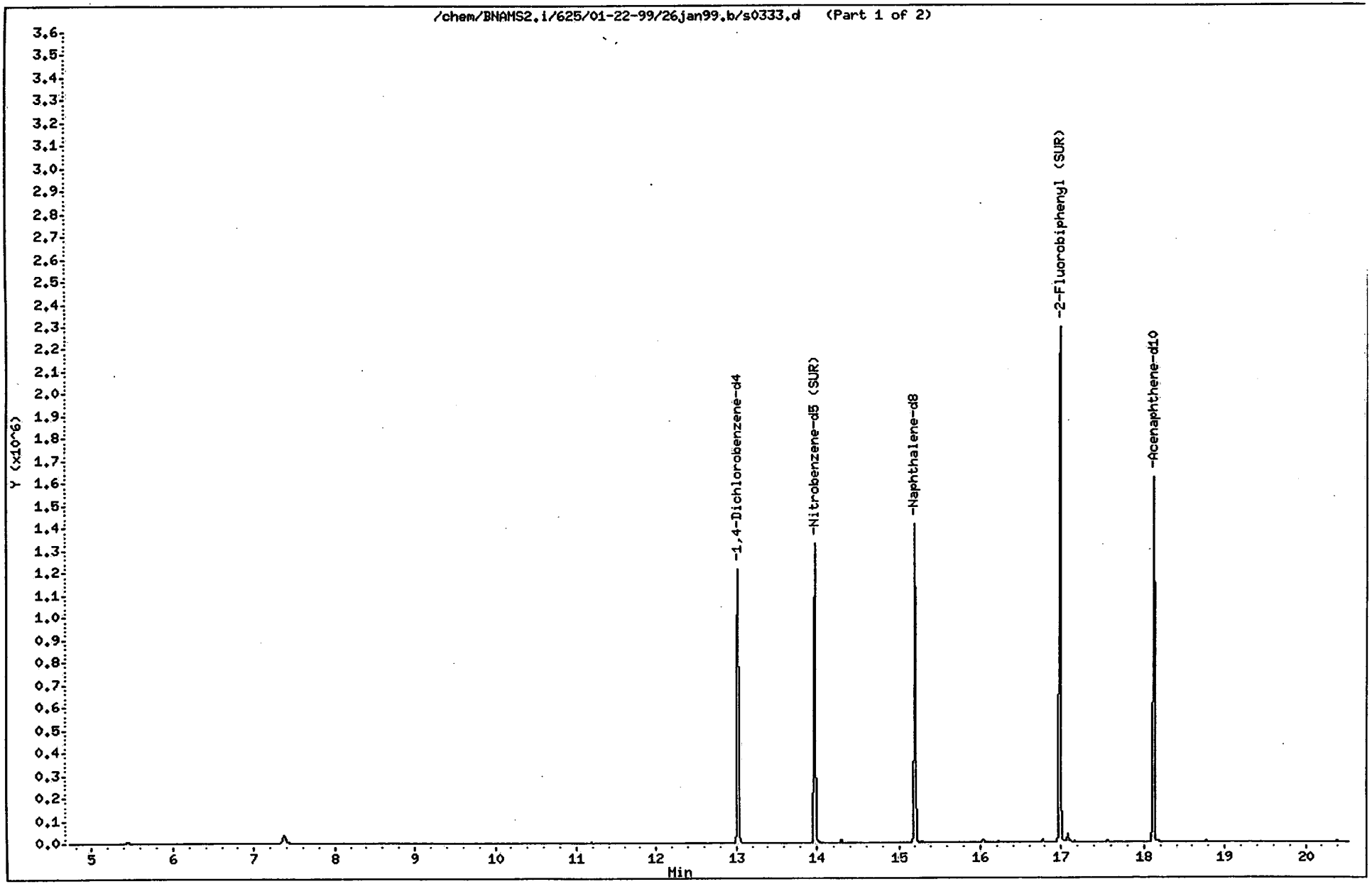
Name	Value	Description
DF	1.000	Dilution Factor
Vt	2.000	Volume of final extract (uL)
Vo	930.000	Volume of sample extracted (mL)

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)
* 79 1,4-Dichlorobenzene-d4	152	13.018	13.037	(1.000)	187550	40.0000	
$ 76 Nitrobenzene-d5 (SUR)	82	13.974	14.004	(0.919)	638453	49.2027	100
* 80 Naphthalene-d8	136	15.199	15.220	(1.000)	539276	40.0000	
$ 77 2-Fluorobiphenyl (SUR)	172	16.987	17.008	(0.937)	787906	45.6229	98
* 82 Acenaphthene-d10	164	18.127	18.141	(1.000)	446371	40.0000	
* 83 Phenanthrene-d10	188	20.588	20.611	(1.000)	1025757	40.0000	
$ 78 Terphenyl-d14 (SUR)	244	23.207	23.220	(0.928)	1640440	54.8913	120
* 81 Chrysene-d12	240	24.995	25.029	(1.000)	1114208	40.0000	
* 84 Perylene-d12	264	28.536	28.588	(1.000)	1035427	40.0000	

Data File: /chem/BNAMS2.i/625/01-22-99/26jan99.b/s0333.d
Date : 26-JAN-1999 23:19
Client ID: Field_Blank
Sample Info: 108521;930;2;1;;
Purge Volume: 930.0
Column phase: DB-5

Instrument: BNAMS2.i

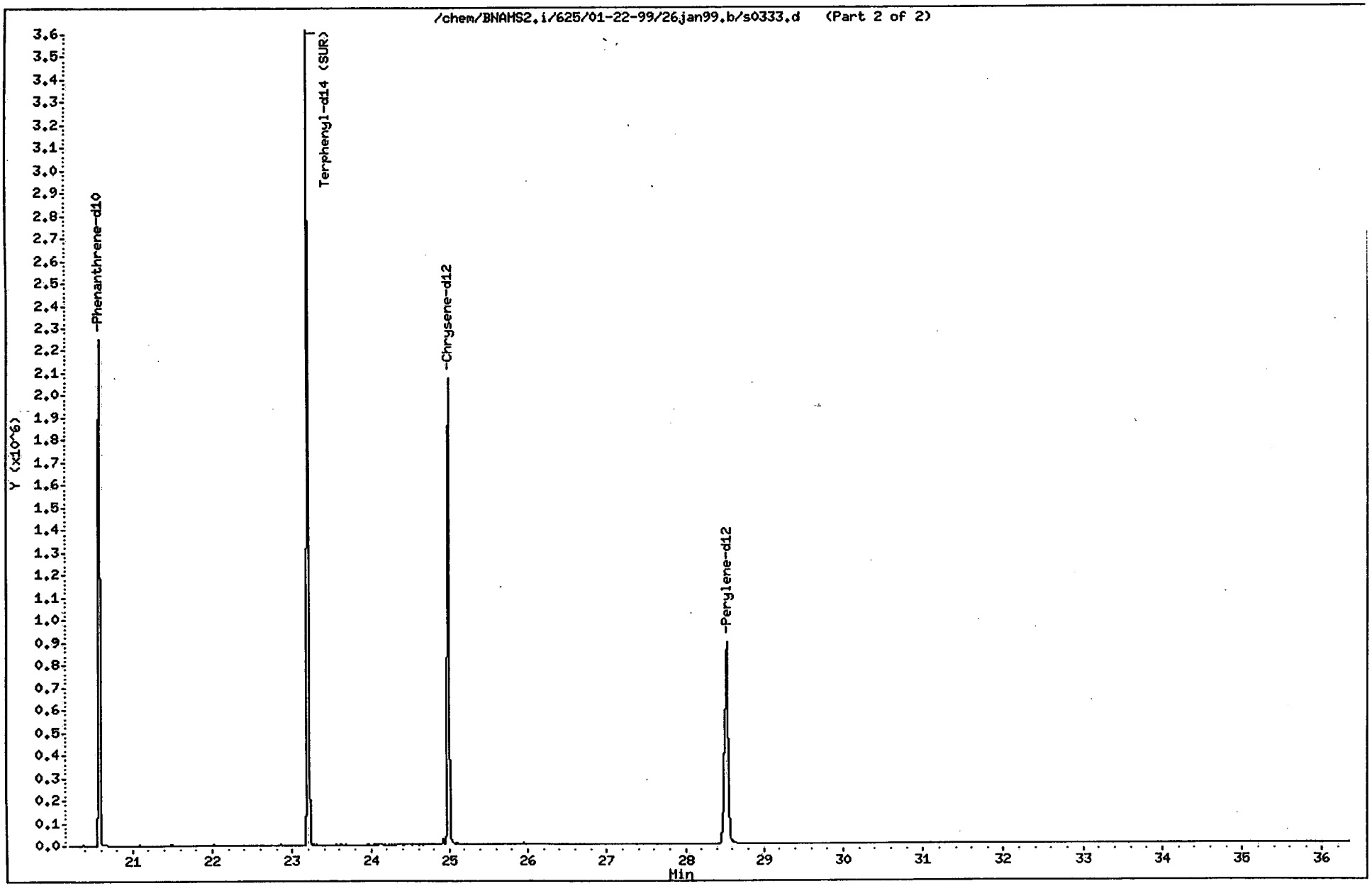
Operator: BNAMS 1
Column diameter: 0.53



Data File: /chem/BNAMS2.i/625/01-22-99/26jan99.b/s0333.d
Date : 26-JAN-1999 23:19
Client ID: Field_Blank
Sample Info: 108521;930;2;1;;
Purge Volume: 930.0
Column phase: DB-5

Instrument: BNAMS2.i

Operator: BNAMS 1
Column diameter: 0.53



SEMI-VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab File ID: S0256 DFTPP Injection Date: 01/22/99

Instrument ID: BNAMS2 DFTPP Injection Time: 1121

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	38.4
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	55.7
70	Less than 2.0% of mass 69	0.2 (0.4)1
127	40.0 - 60.0% of mass 198	42.8
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.9
275	10.0 - 30.0% of mass 198	22.9
365	Greater than 1.0% of mass 198	3.54
441	0.0 - 100.0% of mass 443	8.1 (82.1)2
442	40.0 - 110.0% of mass 198	48.0
443	17.0 - 23.0% of mass 442	9.9 (20.5)3

1-Value is % mass 69 2-Value is % mass 443
3-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT ID	LAB SAMPLE No.	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD050	SSTD050	S0257	01/22/99	1139
02	SSTD120	SSTD120	S0258	01/22/99	1226
03	SSTD080	SSTD080	S0259	01/22/99	1310
04	SSTD020	SSTD020	S0260	01/22/99	1354
05	SSTD010	SSTD010	S0261	01/22/99	1437
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					

Data File: /chem/BNAMS2.i/625/01-22-99/22jan99.b/s0256.d

Date : 22-JAN-1999 11:21

Client ID:

Instrument: BNAMS2.i

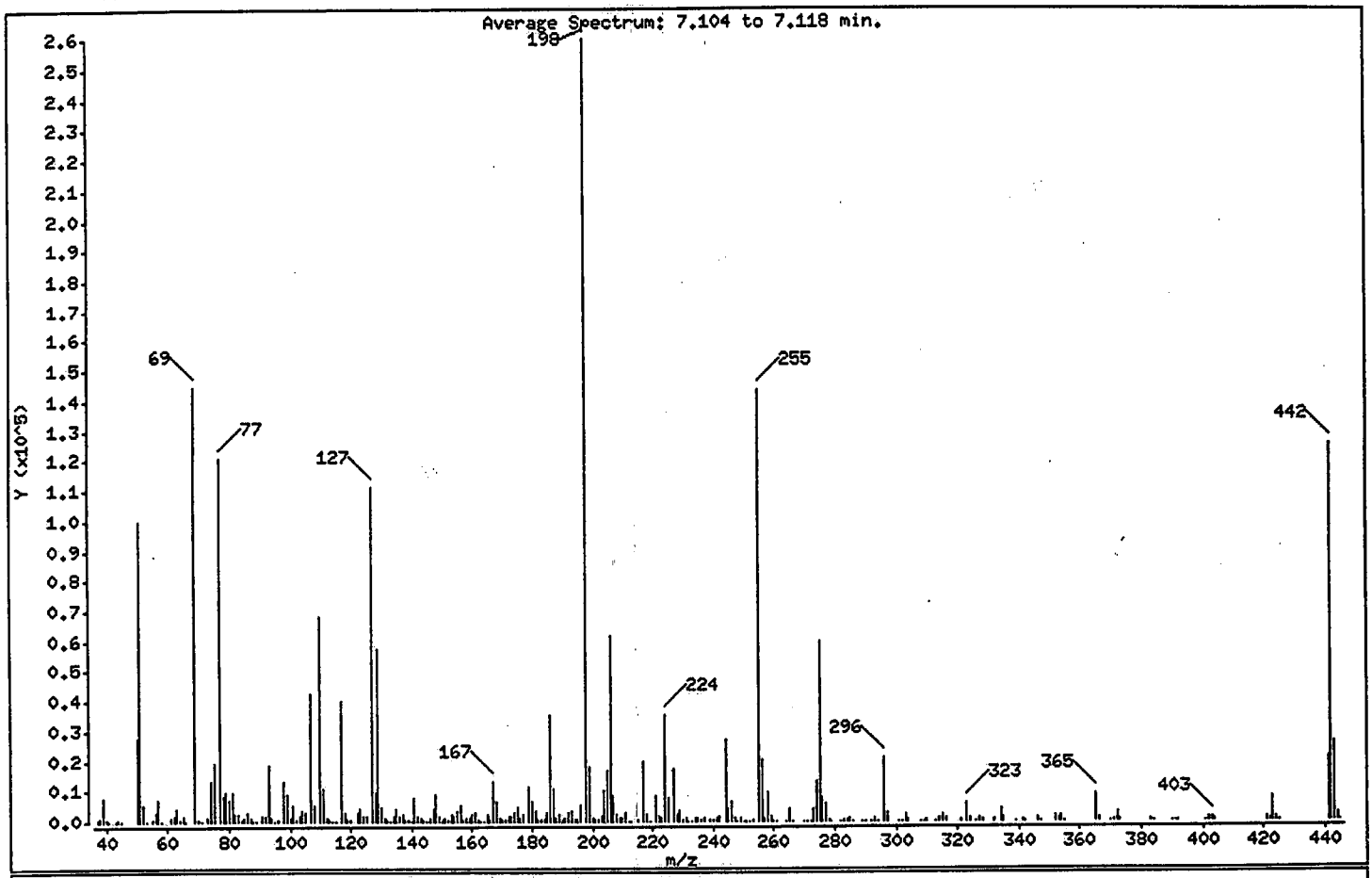
Sample Info: SDFT022

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	38.41
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Mass 69 relative abundance	55.72
70	Less than 2.00% of mass 69	0.22 (0.39)
127	40.00 - 60.00% of mass 198	42.83
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.94
275	10.00 - 30.00% of mass 198	22.90
365	Greater than 1.00% of mass 198	3.54
441	0.01 - 100.00% of mass 443	8.11 (82.10)
442	40.00 - 110.00% of mass 198	48.04
443	17.00 - 23.00% of mass 442	9.87 (20.55)

Data File: /chem/BNAMS2.i/625/01-22-99/22jan99.b/s0256.d

Date : 22-JAN-1999 11:21

Client ID:

Instrument: BNAMS2.i

Sample Info: SDFT022

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25

Data File: s0256.d

Spectrum: Average Spectrum: 7.104 to 7.118 min.

Location of Maximum: 198.00

Number of points: 276

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	519	125.00	1631	198.00	260160	282.00	75
38.00	1253	127.00	111432	199.00	18048	283.00	718
39.00	7900	128.00	9586	200.00	1330	284.00	614
40.00	542	129.00	57592	201.00	684	285.00	931
41.00	276	130.00	4685	202.00	314	286.00	193
43.00	82	131.00	1015	203.00	1900	289.00	210
44.00	359	132.00	451	204.00	10048	290.00	154
45.00	154	133.00	94	205.00	16984	292.00	278
50.00	27552	134.00	1674	206.00	61544	293.00	1143
51.00	99936	135.00	4353	207.00	8650	294.00	247
52.00	5254	136.00	1665	208.00	2434	296.00	20880
53.00	252	137.00	2214	209.00	928	297.00	2742
55.00	376	138.00	344	210.00	1144	301.00	158
56.00	3211	139.00	342	211.00	2723	302.00	287
57.00	7446	140.00	154	212.00	141	303.00	2273
58.00	68	141.00	7542	213.00	151	304.00	541
61.00	1259	142.00	1984	215.00	878	308.00	243
62.00	1614	143.00	1421	217.00	19984	309.00	76
63.00	4266	144.00	460	218.00	2229	310.00	359
64.00	595	145.00	141	219.00	79	313.00	240
65.00	2042	146.00	1249	221.00	8269	314.00	1120
66.00	98	147.00	4074	222.00	1741	315.00	2417
69.00	144960	148.00	8938	223.00	961	316.00	1168
70.00	561	149.00	1721	224.00	35288	321.00	588
71.00	89	150.00	356	225.00	8033	323.00	6005
73.00	1150	151.00	943	227.00	17640	324.00	1114
74.00	12944	152.00	609	228.00	2594	326.00	76
75.00	19160	153.00	2366	229.00	3419	327.00	976
77.00	120632	154.00	1549	230.00	471	328.00	554
78.00	8221	155.00	3873	231.00	1230	332.00	376
79.00	9622	156.00	5391	232.00	204	334.00	4007
80.00	7108	157.00	700	233.00	116	335.00	921
81.00	9579	158.00	1234	234.00	956	339.00	152
82.00	2453	159.00	1075	235.00	1139	341.00	704
83.00	2150	160.00	2111	236.00	866	342.00	149

Data File: /chem/BNAMS2.i/625/01-22-99/22jan99.b/s0256.d

Date : 22-JAN-1999 11:21

Client ID:

Instrument: BNAMS2.i

Sample Info: SDFT022

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25

Data File: s0256.d

Spectrum: Average Spectrum: 7.104 to 7.118 min.

Location of Maximum: 198.00

Number of points: 276

m/z	Y	m/z	Y	m/z	Y	m/z	Y
84.00	312	161.00	2995	237.00	1198	346.00	1218
85.00	1453	162.00	896	239.00	892	347.00	188
86.00	2743	163.00	94	240.00	565	352.00	1965
87.00	1246	164.00	151	241.00	1011	353.00	1082
88.00	291	165.00	2517	242.00	1895	354.00	1639
89.00	67	166.00	762	244.00	26656	355.00	245
91.00	2020	167.00	13303	245.00	3929	365.00	9221
92.00	1893	168.00	6322	246.00	6315	366.00	1368
93.00	18464	169.00	1029	247.00	1175	370.00	93
94.00	1050	170.00	628	248.00	219	371.00	431
95.00	252	171.00	650	249.00	926	372.00	3227
96.00	596	172.00	1522	250.00	131	373.00	631
98.00	12988	173.00	1610	251.00	237	383.00	721
99.00	8862	174.00	2823	252.00	143	384.00	78
100.00	988	175.00	5024	253.00	860	390.00	271
101.00	5521	176.00	1180	255.00	143808	391.00	182
102.00	431	177.00	2353	256.00	20224	392.00	76
103.00	1618	179.00	11225	257.00	1010	401.00	183
104.00	3567	180.00	6744	258.00	9836	402.00	1045
105.00	3210	181.00	3443	259.00	1519	403.00	1377
107.00	42464	182.00	580	260.00	279	404.00	481
108.00	5678	183.00	342	261.00	70	421.00	1153
110.00	67936	184.00	616	264.00	273	422.00	412
111.00	10958	185.00	3087	265.00	3932	423.00	7805
112.00	1353	186.00	35240	266.00	263	424.00	1461
113.00	395	187.00	10482	270.00	140	425.00	107
114.00	75	188.00	1106	271.00	263	441.00	21080
115.00	129	189.00	2503	272.00	195	442.00	124992
117.00	40040	190.00	441	273.00	4251	443.00	25680
118.00	2921	191.00	1418	274.00	13082	444.00	2215
119.00	321	192.00	3183	275.00	59560	445.00	72
120.00	488	193.00	3428	276.00	7909		
122.00	2858	194.00	706	277.00	6090		
123.00	4333	195.00	343	278.00	809		
124.00	2035	196.00	5183	279.00	174		

Data File: /chem/BNAMS2.i/625/01-22-99/22jan99.b/s0256.d

Date : 22-JAN-1999 11:21

Client ID:

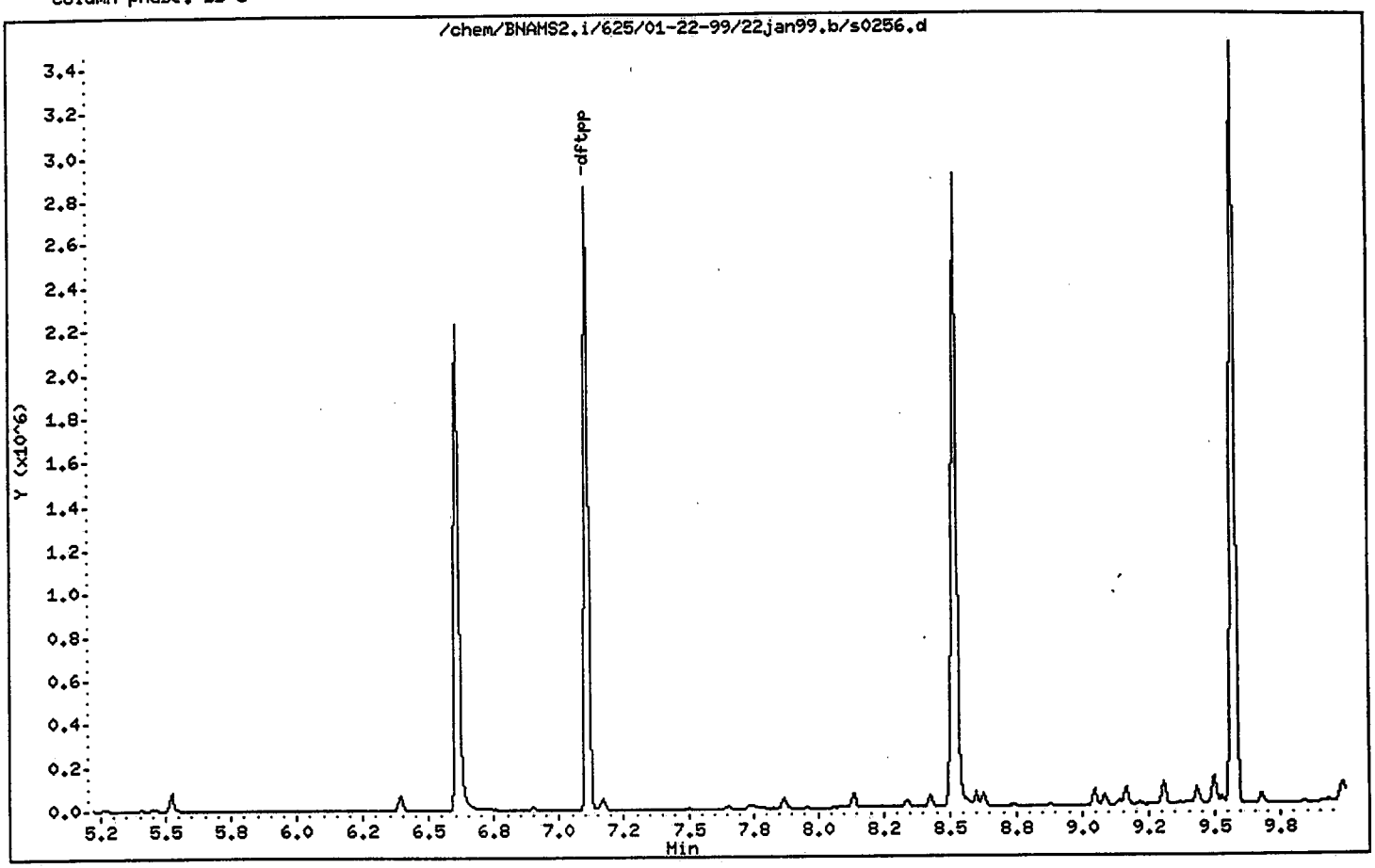
Instrument: BNAMS2.i

Sample Info: SDFT022

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25



SEMI-VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab File ID: S0313 DFTPP Injection Date: 01/26/99

Instrument ID: BNAMS2 DFTPP Injection Time: 0847

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	37.5
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	54.7
70	Less than 2.0% of mass 69	0.1 (0.2)1
127	40.0 - 60.0% of mass 198	41.9
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.9
275	10.0 - 30.0% of mass 198	23.3
365	Greater than 1.0% of mass 198	4.06
441	0.0 - 100.0% of mass 443	9.2 (92.0)2
442	40.0 - 110.0% of mass 198	52.7
443	17.0 - 23.0% of mass 442	10.0 (19.0)3

1-Value is % mass 69 2-Value is % mass 443
3-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT ID	LAB SAMPLE No.	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD026	SSTD026	S0314	01/26/99	0913
02	WB022	WB022	S0319	01/26/99	1303
03	MW25R	108515	S0328	01/26/99	1935
04	MW21	108516	S0329	01/26/99	2019
05	MW11IR	108517	S0330	01/26/99	2104
06	MW11DR	108518	S0331	01/26/99	2149
07	MW11DRD	108519	S0332	01/26/99	2234
08	FIELD_BLANK	108521	S0333	01/26/99	2319
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					

Data File: /chem/BNAMS2.i/625/01-22-99/26jan99.b/s0313.d

Date : 26-JAN-1999 08:47

Client ID:

Instrument: BNAMS2.i

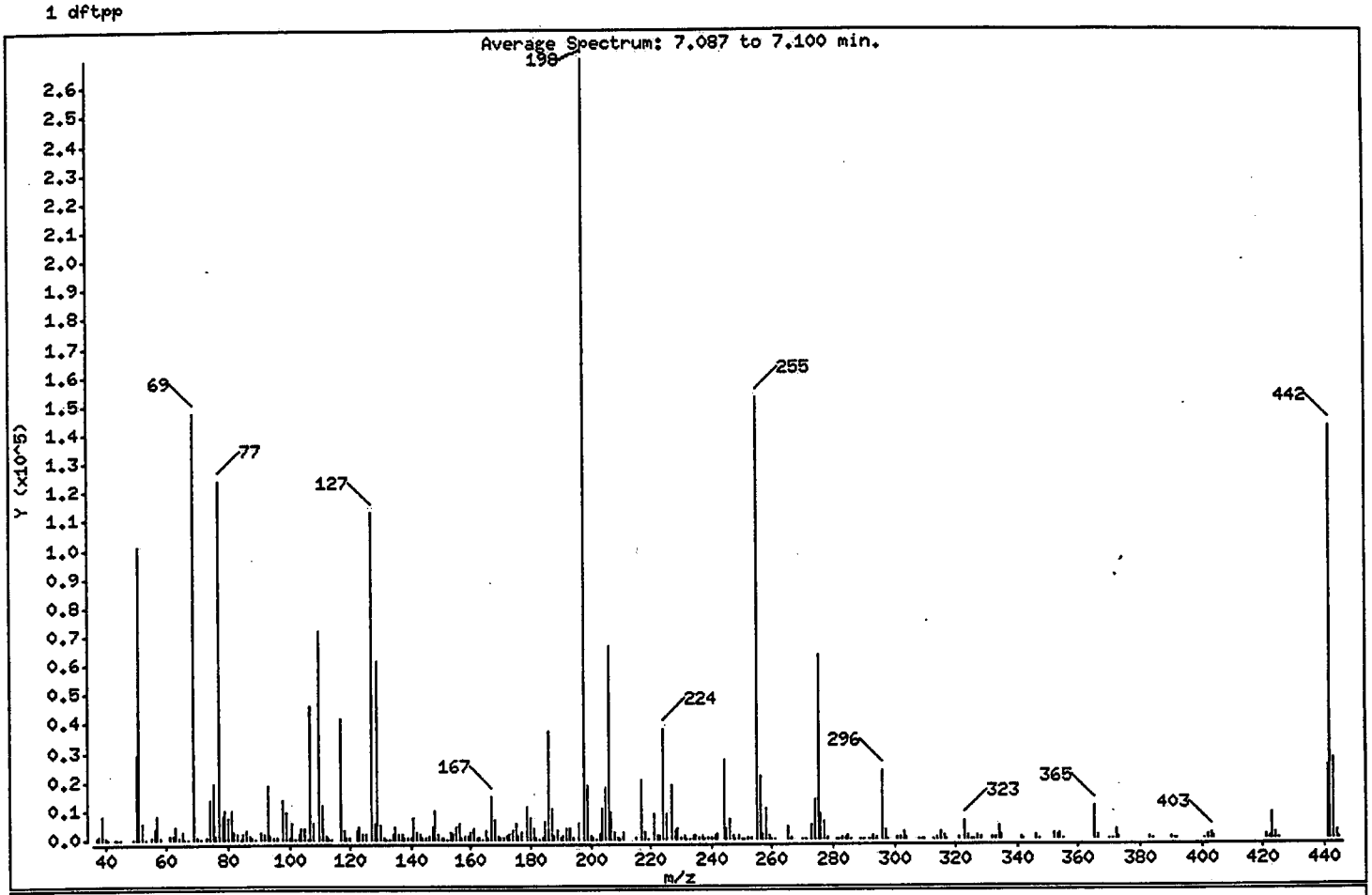
Sample Info: SDFT026

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	37.49
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Mass 69 relative abundance	54.69
70	Less than 2.00% of mass 69	0.14 (0.25)
127	40.00 - 60.00% of mass 198	41.87
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.92
275	10.00 - 30.00% of mass 198	23.34
365	Greater than 1.00% of mass 198	4.06
441	0.01 - 100.00% of mass 443	9.23 (92.01)
442	40.00 - 110.00% of mass 198	52.67
443	17.00 - 23.00% of mass 442	10.03 (19.04)

Data File: /chem/BNAMS2.i/625/01-22-99/26jan99.b/s0313.d

Date : 26-JAN-1999 08:47

Client ID:

Instrument: BNAMS2.i

Sample Info: SDFT026

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25

Data File: s0313.d
Spectrum: Average Spectrum: 7.087 to 7.100 min.
Location of Maximum: 198.00
Number of points: 278

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	398	122.00	2861	194.00	760	283.00	792
38.00	1259	123.00	4603	196.00	5292	284.00	386
39.00	8256	124.00	1757	198.00	269440	285.00	1179
40.00	711	125.00	1566	199.00	18632	286.00	136
41.00	209	127.00	112808	200.00	1219	289.00	261
43.00	168	128.00	5617	201.00	730	290.00	163
44.00	187	129.00	61208	202.00	104	292.00	152
45.00	249	130.00	4826	203.00	2001	293.00	1317
49.00	102	131.00	777	204.00	10537	294.00	324
50.00	29112	132.00	287	205.00	17736	296.00	23320
51.00	101016	133.00	100	206.00	66568	297.00	3349
52.00	5398	134.00	1639	207.00	9540	298.00	180
53.00	223	135.00	4421	208.00	2631	301.00	328
55.00	696	136.00	1853	209.00	839	302.00	341
56.00	3451	137.00	1811	210.00	270	303.00	2399
57.00	8225	138.00	536	211.00	2527	304.00	507
58.00	371	139.00	404	215.00	697	308.00	235
61.00	1391	140.00	384	217.00	20440	309.00	87
62.00	1323	141.00	7692	218.00	2408	310.00	101
63.00	4480	142.00	2593	219.00	208	313.00	163
64.00	677	143.00	1755	221.00	8767	314.00	910
65.00	2297	144.00	450	222.00	981	315.00	2490
66.00	78	145.00	349	223.00	972	316.00	1246
67.00	122	146.00	1061	224.00	38024	317.00	172
69.00	147328	147.00	4371	225.00	8694	321.00	650
70.00	367	148.00	9837	227.00	18408	323.00	6373
71.00	70	149.00	1891	228.00	3087	324.00	1012
73.00	876	150.00	455	229.00	3601	325.00	77
74.00	13379	151.00	904	230.00	523	326.00	90
75.00	19160	152.00	204	231.00	1146	327.00	1270
76.00	1219	153.00	2525	232.00	143	328.00	718
77.00	124096	154.00	1633	233.00	220	332.00	564
78.00	8189	155.00	4278	234.00	1076	333.00	493
79.00	9938	156.00	5791	235.00	1113	334.00	4141
80.00	7611	157.00	846	236.00	808	335.00	989

Data File: /chem/BNAMS2.i/625/01-22-99/26jan99.b/s0313.d

Date : 26-JAN-1999 08:47

Client ID:

Instrument: BNAMS2.i

Sample Info: SDFT026

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25

Data File: s0313.d
Spectrum: Average Spectrum: 7.087 to 7.100 min.
Location of Maximum: 198.00
Number of points: 278

m/z	Y	m/z	Y	m/z	Y	m/z	Y
81.00	9670	158.00	1173	237.00	1146	341.00	713
82.00	2290	159.00	1111	238.00	160	342.00	85
83.00	2079	160.00	2724	239.00	615	346.00	1289
84.00	84	161.00	3414	240.00	484	347.00	100
85.00	1606	162.00	811	241.00	1013	352.00	1935
86.00	2927	163.00	335	242.00	2072	353.00	1390
87.00	1493	164.00	144	244.00	27272	354.00	1745
88.00	351	165.00	2996	245.00	3801	355.00	267
89.00	111	166.00	808	246.00	6829	365.00	10950
91.00	2254	167.00	14819	247.00	1304	366.00	1354
92.00	1674	168.00	6556	248.00	92	370.00	114
93.00	18832	169.00	1491	249.00	1020	371.00	297
94.00	1307	170.00	637	250.00	87	372.00	3272
95.00	353	171.00	666	251.00	304	373.00	712
96.00	678	172.00	1270	252.00	326	383.00	880
98.00	13651	173.00	1765	253.00	705	384.00	221
99.00	9576	174.00	2947	255.00	152128	390.00	375
100.00	871	175.00	5794	256.00	21568	391.00	171
101.00	5284	176.00	1383	257.00	1591	392.00	91
102.00	262	177.00	2697	258.00	10401	401.00	66
103.00	1740	179.00	11315	259.00	1460	402.00	1269
104.00	3776	180.00	7708	260.00	307	403.00	1628
105.00	3733	181.00	3426	261.00	208	404.00	430
106.00	202	182.00	715	265.00	4116	421.00	1194
107.00	45920	183.00	188	266.00	504	422.00	759
108.00	5862	184.00	352	270.00	72	423.00	8543
110.00	71736	185.00	5968	271.00	241	424.00	1656
111.00	11469	186.00	36952	273.00	4873	425.00	133
112.00	1414	187.00	10646	274.00	13332	441.00	24864
113.00	527	188.00	1415	275.00	62888	442.00	141888
114.00	72	189.00	3053	276.00	8663	443.00	27024
117.00	41744	190.00	578	277.00	6127	444.00	2531
118.00	3170	191.00	1300	278.00	880	445.00	95
119.00	384	192.00	3489	281.00	79		
120.00	497	193.00	3780	282.00	71		

Data File: /chem/BNAMS2.i/625/01-22-99/26jan99.b/s0313.d

Date : 26-JAN-1999 08:47

Client ID:

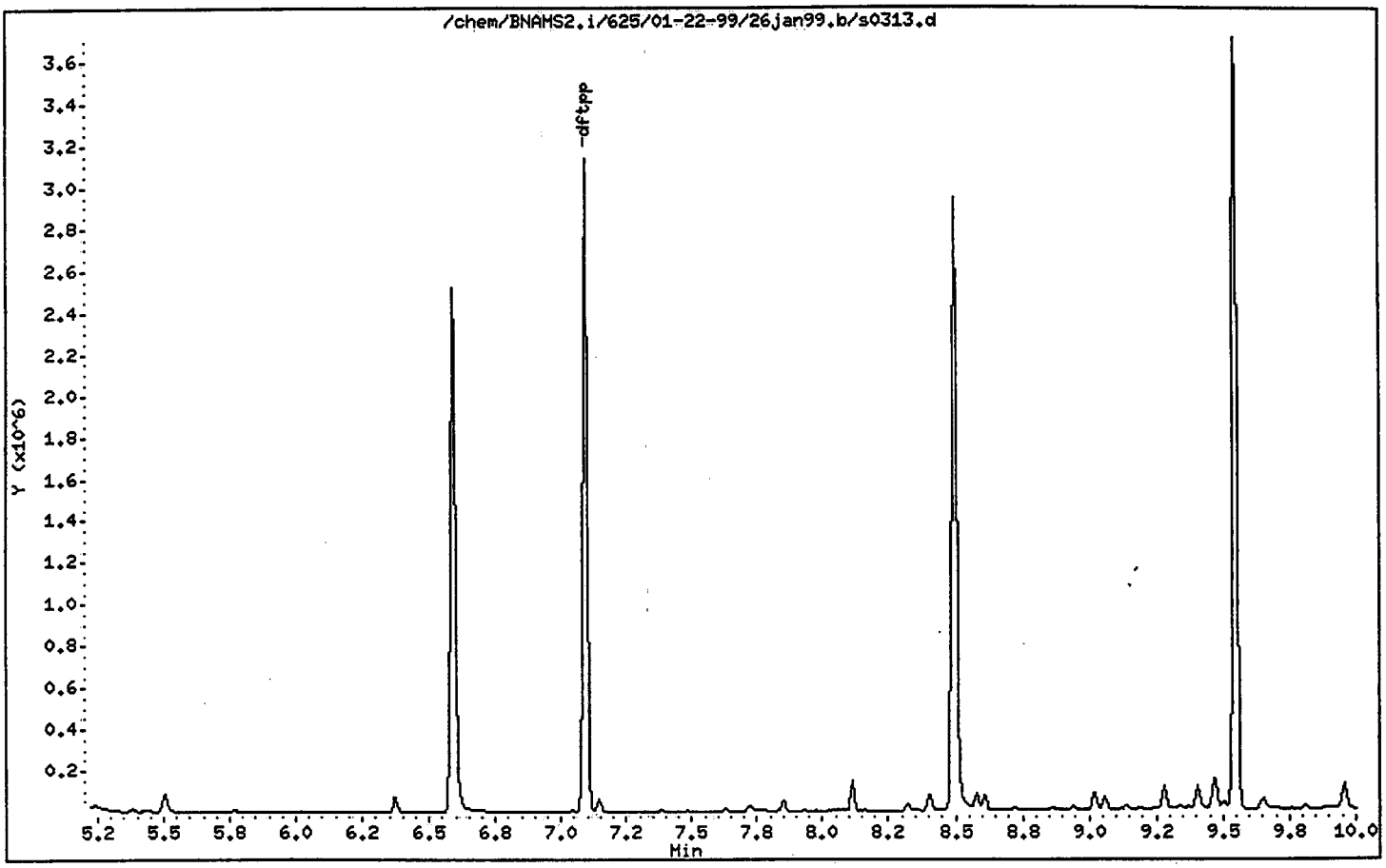
Instrument: BNAMS2.i

Sample Info: SDFT026

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25



LAB SAMPLE NO.

WB022

SEMIVOLATILE METHOD BLANK SUMMARY

Matrix: WATER

Date Analyzed: 01/26/99

Level: LOW

Time Analyzed: 1303

Instrument ID: BNAMS2

Lab File ID: S0319

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

	CLIENT ID.	LAB SAMPLE NO	LAB FILE ID	DATE ANALYZED
01	MW25R	108515	S0328	01/26/99
02	MW21	108516	S0329	01/26/99
03	MW11IR	108517	S0330	01/26/99
04	MW11DR	108518	S0331	01/26/99
05	MW11DRD	108519	S0332	01/26/99
06	FIELD_BLANK	108521	S0333	01/26/99
07				
08				
09				
10				
11				
12				
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30				

COMMENTS:

Client ID: **WB022**
Site:

Lab Sample No: **WB022**
Lab Job No: K939

Date Sampled: _____
Date Received: _____
Date Extracted: 01/22/99
Date Analyzed: 01/26/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s0319.d

Matrix: WATER
Level: LOW
Sample Volume: 1000 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
N-Nitrosodimethylamine	ND	0.8
bis(2-Chloroethyl)ether	ND	0.7
1,3-Dichlorobenzene	ND	1.4
1,4-Dichlorobenzene	ND	1.5
1,2-Dichlorobenzene	ND	1.2
bis(2-chloroisopropyl)ether	ND	0.8
N-Nitroso-di-n-propylamine	ND	1.2
Hexachloroethane	ND	2.2
Nitrobenzene	ND	0.5
Isophorone	ND	0.5
bis(2-Chloroethoxy)methane	ND	0.8
1,2,4-Trichlorobenzene	ND	1.1
Naphthalene	ND	0.8
4-Chloroaniline	ND	0.8
Hexachlorobutadiene	ND	0.2
2-Methylnaphthalene	ND	0.8
Hexachlorocyclopentadiene	ND	1.2
2-Chloronaphthalene	ND	0.6
2-Nitroaniline	ND	0.6
Dimethylphthalate	ND	0.5
Acenaphthylene	ND	0.9
2,6-Dinitrotoluene	ND	0.7
3-Nitroaniline	ND	1.8
Acenaphthene	ND	0.8
Dibenzofuran	ND	0.7
2,4-Dinitrotoluene	ND	0.8
Diethylphthalate	ND	1.0
4-Chlorophenyl-phenylether	ND	0.8
Fluorene	ND	0.6
4-Nitroaniline	ND	0.8
N-Nitrosodiphenylamine	ND	0.4
4-Bromophenyl-phenylether	ND	0.7
Hexachlorobenzene	ND	0.6
Phenanthrene	ND	0.5

Client ID: **WB022**
Site:

Lab Sample No: **WB022**
Lab Job No: K939

Date Sampled: _____
Date Received: _____
Date Extracted: 01/22/99
Date Analyzed: 01/26/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s0319.d

Matrix: WATER
Level: LOW
Sample Volume: 1000 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Anthracene	ND	0.6
Carbazole	ND	0.8
Di-n-butylphthalate	ND	0.6
Fluoranthene	ND	0.6
Pyrene	ND	0.7
Benzidine	ND	5.8
Butylbenzylphthalate	ND	0.5
3,3'-Dichlorobenzidine	ND	3.5
Benzo(a)anthracene	ND	0.6
Chrysene	ND	0.7
bis(2-Ethylhexyl)phthalate	ND	4.1
Di-n-octylphthalate	ND	0.4
Benzo(b)fluoranthene	ND	0.6
Benzo(k)fluoranthene	ND	0.7
Benzo(a)pyrene	ND	0.6
Indeno(1,2,3-cd)pyrene	ND	0.8
Dibenz(a,h)anthracene	ND	0.7
Benzo(g,h,i)perylene	ND	0.8
Pyridine	ND	10
Aniline	ND	0.5
Benzyl Alcohol	ND	0.8
1,2-Diphenylhydrazine	ND	0.8
1,4-Dioxane	ND	0.8

Client ID: **WB022**
Site:

Lab Sample No: **WB022**
Lab Job No: K939

Date Sampled: _____
Date Received: _____
Date Extracted: 01/22/99
Date Analyzed: 01/26/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s0319.d

Matrix: WATER
Level: LOW
Sample Volume: 1000 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 625

COMPOUND NAME	RT	EST. CONC. ug/l	Q
1. NO SEMI-VOLATILE ORGANIC COMPOUNDS FOUND			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
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30.			

TOTAL ESTIMATED CONCENTRATION	0.0

Data File: /chem/BNAMS2.i/625/01-22-99/26jan99.b/s0319.d
Report Date: 26-Jan-1999 14:29

STL Envirotech

SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS2.i/625/01-22-99/26jan99.b/s0319.d
Lab Smp Id: WB022 Client Smp ID: BN
Inj Date : 26-JAN-1999 13:03
Operator : BNAMS 1 Inst ID: BNAMS2.i
Smp Info : WB022;1000;2;1;;
Misc Info : ;BN;;
Comment :
Method : /chem/BNAMS2.i/625/01-22-99/26jan99.b/BNA625.m
Meth Date : 26-Jan-1999 09:54 B Quant Type: ISTD
Cal Date : 22-JAN-1999 14:37 Cal File: s0261.d
Als bottle: 6 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: allBNb.sub
Target Version: 3.40
Processing Host: hpd1

Concentration Formula: Amt * DF * 1000*Vt/Vo

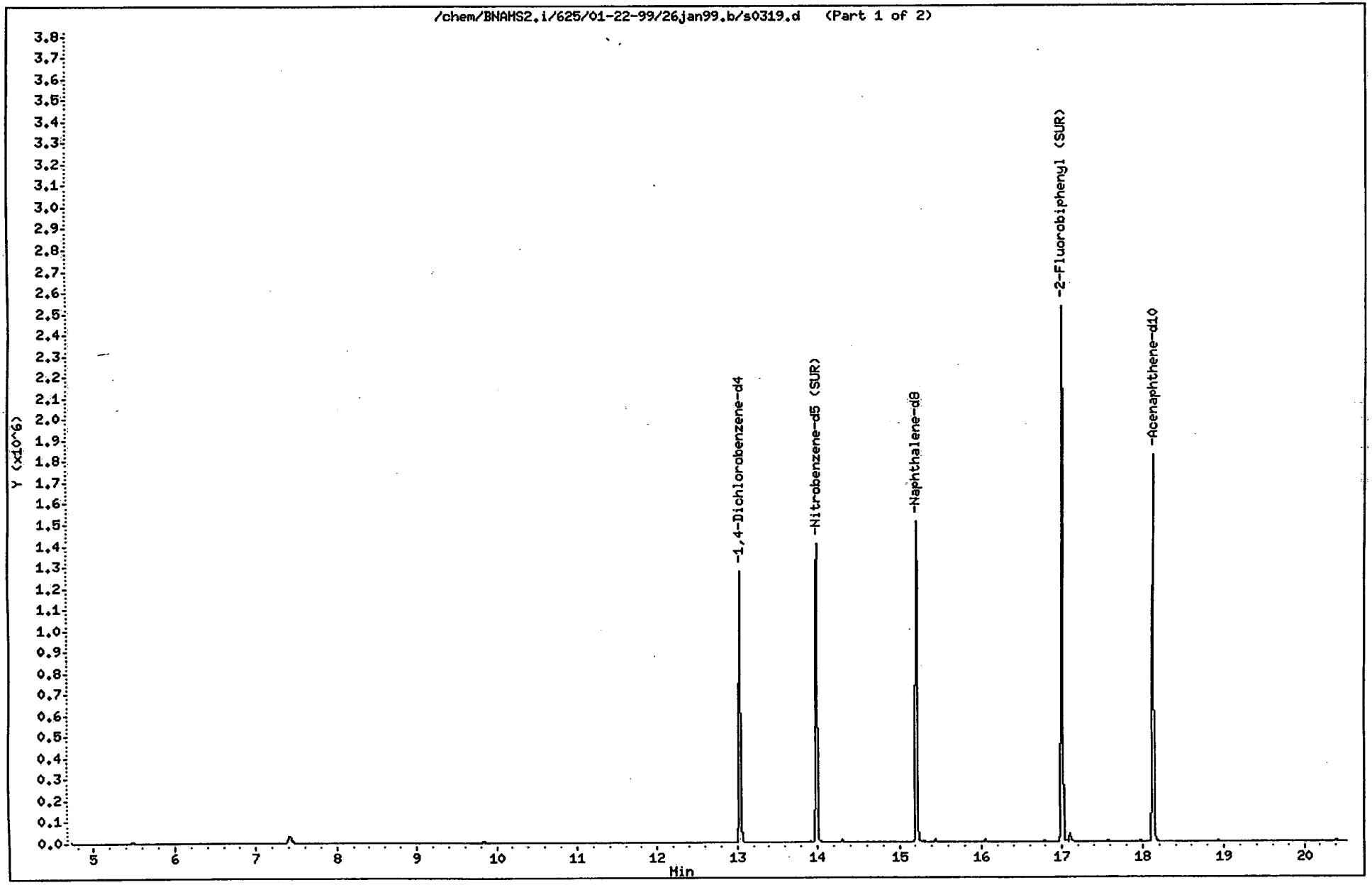
Name	Value	Description
DF	1.000	Dilution Factor
Vt	2.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)
* 79 1,4-Dichlorobenzene-d4	152	13.037	13.037	(1.000)	201435	40.0000	
$ 76 Nitrobenzene-d5 (SUR)	82	13.994	14.004	(0.920)	683329	47.1072	94
* 80 Naphthalene-d8	136	15.212	15.220	(1.000)	602856	40.0000	
$ 77 2-Fluorobiphenyl (SUR)	172	16.999	17.008	(0.937)	851406	44.8161	90
* 82 Acenaphthene-d10	164	18.139	18.141	(1.000)	491028	40.0000	
* 83 Phenanthrene-d10	188	20.600	20.611	(1.000)	1122595	40.0000	
$ 78 Terphenyl-d14 (SUR)	244	23.218	23.220	(0.928)	1688604	53.2207	110
* 81 Chrysene-d12	240	25.015	25.029	(1.000)	1182924	40.0000	
* 84 Perylene-d12	264	28.571	28.588	(1.000)	1070156	40.0000	

Data File: /chem/BNAMS2.i/625/01-22-99/26jan99.b/s0319.d
Date : 26-JAN-1999 13:03
Client ID: BN
Sample Info: WB022;1000;2;1;;
Purge Volume: 1000.0
Column phase: DB-5

Instrument: BNAMS2.i

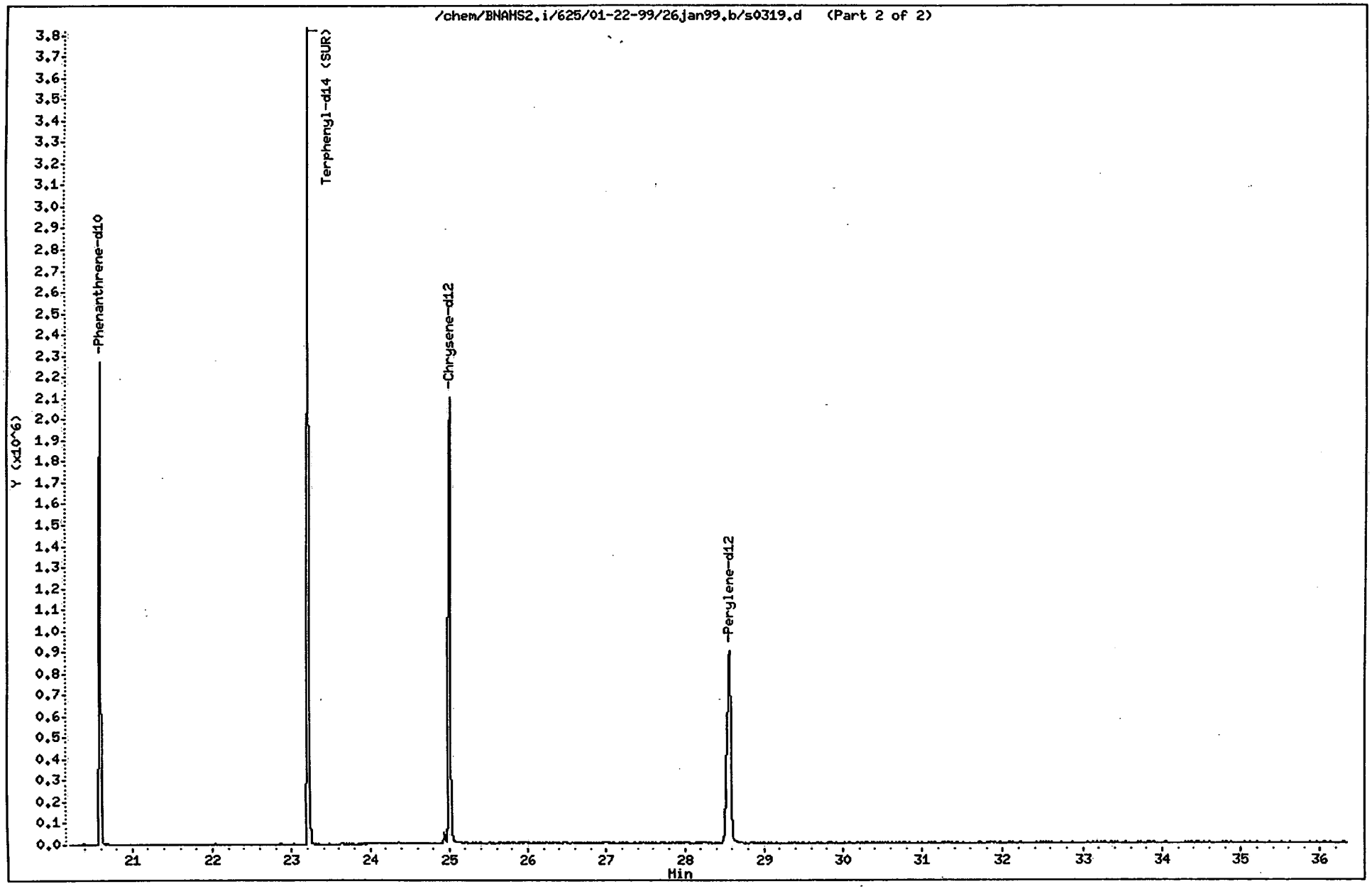
Operator: BNAMS 1
Column diameter: 0.53



Data File: /chem/BNAMS2.i/625/01-22-99/26jan99.b/s0319.d
Date : 26-JAN-1999 13:03
Client ID: BN
Sample Info: WB022;1000;2;1;;
Purge Volume: 1000.0
Column phase: DB-5

Instrument: BNAMS2.i

Operator: BNAMS 1
Column diameter: 0.53



SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA
METHOD 625

Instrument ID: BNAMS2

Calibration Date(s): 01/22/99 01/22/99

Calibration Time(s): 1139 1437

LAB FILE ID: RRF10: S0261 RRF20: S0260 RRF50: S0257
RRF80: S0259 RRF120: S0258

COMPOUND	RRF10	RRF20	RRF50	RRF80	RRF120
Phenol	2.614	2.656	2.826	2.738	2.821
2-Chlorophenol	0.984	1.026	1.044	1.076	1.142
2-Methylphenol	1.422	1.395	1.447	1.430	1.469
4-Methylphenol	1.436	1.486	1.628	1.666	1.785
2-Nitrophenol	0.230	0.236	0.250	0.251	0.253
2,4-Dimethylphenol	0.340	0.338	0.376	0.372	0.391
2,4-Dichlorophenol	0.419	0.432	0.463	0.469	0.476
4-Chloro-3-methylphenol	0.670	0.689	0.724	0.697	0.690
2,4,6-Trichlorophenol	0.553	0.567	0.594	0.600	0.617
2,4,5-Trichlorophenol	0.572	0.603	0.622	0.618	0.626
2,4-Dinitrophenol	0.316	0.382	0.400	0.410	0.420
4-Nitrophenol	0.542	0.552	0.591	0.558	0.560
4,6-Dinitro-2-methylphenol	0.196	0.214	0.219	0.221	0.220
Pentachlorophenol	0.173	0.208	0.228	0.227	0.228
Benzoic Acid	0.150	0.204	0.220	0.254	0.245
N-Nitrosodimethylamine	1.337	1.438	1.441	1.369	1.376
bis(2-Chloroethyl)ether	2.131	2.096	2.057	2.062	2.062
1,3-Dichlorobenzene	1.315	1.376	1.379	1.450	1.528
1,4-Dichlorobenzene	1.306	1.353	1.367	1.446	1.577
1,2-Dichlorobenzene	1.290	1.313	1.335	1.390	1.523
bis(2-chloroisopropyl)ether	2.951	2.898	2.796	2.668	2.483
N-Nitroso-di-n-propylamine	1.864	1.832	1.749	1.648	1.562
Hexachloroethane	0.858	0.862	0.878	0.864	0.874
Nitrobenzene	1.384	1.304	1.333	1.230	1.209
Isophorone	1.765	1.750	1.820	1.726	1.657
bis(2-Chloroethoxy)methane	0.749	0.723	0.769	0.728	0.741
1,2,4-Trichlorobenzene	0.519	0.534	0.576	0.584	0.596
Naphthalene	0.958	0.962	1.051	1.137	1.315
4-Chloroaniline	0.449	0.466	0.480	0.493	0.522
Hexachlorobutadiene	0.509	0.511	0.529	0.502	0.490
2-Methylnaphthalene	0.776	0.788	0.869	0.918	1.033
Hexachlorocyclopentadiene	0.224	0.318	0.435	0.422	0.458
2-Chloronaphthalene	1.163	1.166	1.215	1.264	1.377
2-Nitroaniline	0.767	0.732	0.698	0.708	0.690
Dimethylphthalate	1.751	1.781	1.806	1.818	1.899
Acenaphthylene	1.666	1.722	1.801	1.930	2.096
2,6-Dinitrotoluene	0.370	0.399	0.409	0.414	0.428
3-Nitroaniline	0.187	0.200	0.199	0.202	0.210
Acenaphthene	1.090	1.121	1.228	1.350	1.479

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA (cont'd)
METHOD 625

Instrument ID: BNAMS2 Calibration Date(s): 01/22/99 01/22/99

Calibration Time(s): 1139 1437

LAB FILE ID: RRF10: S0261 RRF20: S0260 RRF50: S0257
RRF80: S0259 RRF120: S0258

COMPOUND	RRF10	RRF20	RRF50	RRF80	RRF120
Dibenzofuran	1.718	1.770	1.815	1.945	2.048
2,4-Dinitrotoluene	0.570	0.603	0.608	0.626	0.640
Diethylphthalate	1.857	1.926	2.009	1.998	2.079
4-Chlorophenyl-phenylether	0.986	0.978	0.998	0.961	0.962
Fluorene	1.391	1.453	1.552	1.644	1.794
4-Nitroaniline	0.304	0.319	0.311	0.292	0.292
N-Nitrosodiphenylamine	0.410	0.426	0.451	0.475	0.494
4-Bromophenyl-phenylether	0.273	0.283	0.292	0.284	0.278
Hexachlorobenzene	0.287	0.298	0.307	0.311	0.304
Phenanthrene	0.966	1.001	1.035	1.111	1.130
Anthracene	1.002	1.038	1.080	1.153	1.174
Carbazole	0.881	0.896	0.936	0.999	1.010
Di-n-butylphthalate	1.328	1.378	1.431	1.464	1.529
Fluoranthene	1.358	1.411	1.430	1.415	1.356
Pyrene	1.367	1.389	1.353	1.373	1.321
Benzidine	0.598	0.683	0.651	0.606	0.549
Butylbenzylphthalate	0.672	0.691	0.677	0.723	0.736
3,3'-Dichlorobenzidine	0.545	0.582	0.559	0.543	0.507
Benzo(a)anthracene	1.381	1.378	1.362	1.370	1.317
Chrysene	1.212	1.243	1.216	1.240	1.183
bis(2-Ethylhexyl)phthalate	0.883	0.953	1.110	1.174	1.130
Di-n-octylphthalate	1.540	1.590	1.675	1.808	1.940
Benzo(b)fluoranthene	1.297	1.393	1.419	1.488	1.593
Benzo(k)fluoranthene	1.398	1.481	1.484	1.548	1.512
Benzo(a)pyrene	1.257	1.332	1.363	1.413	1.406
Indeno(1,2,3-cd)pyrene	1.121	1.159	1.220	1.276	1.308
Dibenz(a,h)anthracene	1.050	1.143	1.176	1.217	1.238
Benzo(g,h,i)perylene	1.206	1.231	1.252	1.224	1.156
Pyridine	1.981	2.041	2.000	1.967	1.962
Aniline	2.820	2.858	2.862	2.858	2.921
Benzyl Alcohol	1.031	1.100	1.118	1.104	1.131
1,2-Diphenylhydrazine	1.144	1.133	1.110	1.051	0.997
Diphenyl	1.332	1.389	1.507	1.656	1.842
Diphenyl Ether	0.865	0.885	0.925	0.971	1.020
Acetophenone	2.788	2.740	2.835	2.816	2.839
N,N-Dimethylaniline	1.826	1.878	2.049	2.159	2.296
1,4-Dioxane	0.601	0.658	0.649	0.630	0.640
2-Fluorophenol (SUR)	1.281	1.354	1.391	1.413	1.446

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA (cont'd)
METHOD 625

Instrument ID: BNAMS2

Calibration Date(s): 01/22/99 01/22/99

Calibration Time(s): 1139 1437

LAB FILE ID: RRF10: S0261 RRF20: S0260 RRF50: S0257
RRF80: S0259 RRF120: S0258

COMPOUND	RRF10	RRF20	RRF50	RRF80	RRF120
Phenol-d5 (SUR)	2.376	2.420	2.433	2.381	2.445
2,4,6-Tribromophenol (SUR)	0.342	0.364	0.400	0.416	0.430
Nitrobenzene-d5 (SUR)	0.988	0.965	0.994	0.940	0.926
2-Fluorobiphenyl (SUR)	1.452	1.467	1.527	1.607	1.685
Terphenyl-d14 (SUR)	1.078	1.125	1.089	1.070	1.002

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA (cont'd)
METHOD 625

Instrument ID: BNAMS2

Calibration Date(s): 01/22/99 01/22/99

Calibration Time(s): 1139 1437

COMPOUND	CURVE	COEFFICENT A1	%RSD OR R^2
Phenol	AVRG	2.73112279	3.5*
2-Chlorophenol	AVRG	1.05452017	5.6*
2-Methylphenol	AVRG	1.43261960	1.9*
4-Methylphenol	AVRG	1.60025360	8.8*
2-Nitrophenol	AVRG	0.24396381	4.2*
2,4-Dimethylphenol	AVRG	0.36337642	6.4*
2,4-Dichlorophenol	AVRG	0.45162550	5.5*
4-Chloro-3-methylphenol	AVRG	0.69407493	2.8*
2,4,6-Trichlorophenol	AVRG	0.58624068	4.4*
2,4,5-Trichlorophenol	AVRG	0.60801860	3.6*
2,4-Dinitrophenol	AVRG	0.38570785	10.6**
4-Nitrophenol	AVRG	0.56066240	3.2**
4,6-Dinitro-2-methylphenol	AVRG	0.21396986	4.8*
Pentachlorophenol	AVRG	0.21280692	11.1*
Benzoic Acid	AVRG	0.21462671	19.3*
N-Nitrosodimethylamine	AVRG	1.39203662	3.3*
bis(2-Chloroethyl)ether	AVRG	2.08167998	1.5*
1,3-Dichlorobenzene	AVRG	1.40994550	5.8*
1,4-Dichlorobenzene	AVRG	1.41005175	7.5*
1,2-Dichlorobenzene	AVRG	1.37024415	6.8*
bis(2-chloroisopropyl)ether	AVRG	2.75926804	6.8*
N-Nitroso-di-n-propylamine	AVRG	1.73095436	7.3**
Hexachloroethane	AVRG	0.86726224	1.0*
Nitrobenzene	AVRG	1.29204236	5.6*
Isophorone	AVRG	1.74369787	3.4*
bis(2-Chloroethoxy)methane	AVRG	0.74197378	2.4*
1,2,4-Trichlorobenzene	AVRG	0.56165911	6.0*
Naphthalene	AVRG	1.08469842	13.7*
4-Chloroaniline	AVRG	0.48208468	5.8*
Hexachlorobutadiene	AVRG	0.50821025	2.8*
2-Methylnaphthalene	AVRG	0.87682910	12.0*
Hexachlorocyclopentadiene	AVRG	0.37151663	26.5**
2-Chloronaphthalene	AVRG	1.23704199	7.1*
2-Nitroaniline	AVRG	0.71903340	4.3*
Dimethylphthalate	AVRG	1.81097082	3.1*
Acenaphthylene	AVRG	1.84308623	9.4*
2,6-Dinitrotoluene	AVRG	0.40387766	5.4*
3-Nitroaniline	AVRG	0.19967876	4.1*
Acenaphthene	AVRG	1.25378011	12.9*

* Compound with required maximum % RSD value.
** Compound with required minimum RRF value.

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA (cont'd)
METHOD 625

Instrument ID: BNAMS2

Calibration Date(s): 01/22/99 01/22/99

Calibration Time(s): 1139 1437

COMPOUND	CURVE	COEFFICENT A1	%RSD OR R^2
Dibenzofuran	AVRG	1.85908292	7.2*
2,4-Dinitrotoluene	AVRG	0.60935266	4.4*
Diethylphthalate	AVRG	1.97398578	4.3*
4-Chlorophenyl-phenylether	AVRG	0.97715519	1.6*
Fluorene	AVRG	1.56684970	10.2*
4-Nitroaniline	AVRG	0.30365535	3.8*
N-Nitrosodiphenylamine	AVRG	0.45115186	7.7*
4-Bromophenyl-phenylether	AVRG	0.28211673	2.6*
Hexachlorobenzene	AVRG	0.30160601	3.0*
Phenanthrene	AVRG	1.04875624	6.7*
Anthracene	AVRG	1.08942092	6.7*
Carbazole	AVRG	0.94469198	6.2*
Di-n-butylphthalate	AVRG	1.42603551	5.4*
Fluoranthene	AVRG	1.39411075	2.5*
Pyrene	AVRG	1.36076322	1.9*
Benzidine	AVRG	0.61738182	8.3*
Butylbenzylphthalate	AVRG	0.69995250	4.1*
3,3'-Dichlorobenzidine	AVRG	0.54738602	5.0*
Benzo(a)anthracene	AVRG	1.36164814	1.9*
Chrysene	AVRG	1.21900452	2.0*
bis(2-Ethylhexyl)phthalate	AVRG	1.04984172	11.9*
Di-n-octylphthalate	AVRG	1.71041345	9.6*
Benzo(b)fluoranthene	AVRG	1.43801793	7.7*
Benzo(k)fluoranthene	AVRG	1.48497370	3.7*
Benzo(a)pyrene	AVRG	1.35418187	4.7*
Indeno(1,2,3-cd)pyrene	AVRG	1.21701049	6.4*
Dibenz(a,h)anthracene	AVRG	1.16478546	6.4*
Benzo(g,h,i)perylene	AVRG	1.21394562	3.0*
Pyridine	AVRG	1.99016986	1.6*
Aniline	AVRG	2.86382266	1.3*
Benzyl Alcohol	AVRG	1.09683628	3.5*
1,2-Diphenylhydrazine	AVRG	1.08692932	5.7*
Diphenyl	AVRG	1.54540737	13.4**
Diphenyl Ether	AVRG	0.93326782	6.8**
Acetophenone	AVRG	2.80369471	1.4**
N,N-Dimethylaniline	AVRG	2.04162065	9.5**
1,4-Dioxane	AVRG	0.63540887	3.4**
2-Fluorophenol (SUR)	AVRG	1.37683647	4.6*

* Compound with required maximum % RSD value.
** Compound with required minimum RRF value.

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA (cont'd)
METHOD 625

Instrument ID: BNAMS2

Calibration Date(s): 01/22/99 01/22/99

Calibration Time(s): 1139 1437

COMPOUND	CURVE	COEFFICENT A1	%RSD OR R^2
Phenol-d5 (SUR)	AVRG	2.41098397	1.3*
2,4,6-Tribromophenol (SUR)	AVRG	0.39025643	9.4*
Nitrobenzene-d5 (SUR)	AVRG	0.96247372	3.1*
2-Fluorobiphenyl (SUR)	AVRG	1.54759032	6.3*
Terphenyl-d14 (SUR)	AVRG	1.07287909	4.2*

* Compound with required maximum % RSD value.
** Compound with required minimum RRF value.

SEMIVOLATILE ORGANICS CONTINUING CALIBRATION CHECK
METHOD 625

Instrument ID: BNAMS2 Calibration Date: 01/26/99 Time: 0913

Lab File ID: S0314 Init. Calib. Date(s): 01/22/99 01/22/99

Init. Calib. Times: 1139 1437

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Phenol	2.731	2.885		-5.6	20.0
2-Chlorophenol	1.054	1.076		-1.9	20.0
2-Methylphenol	1.433	1.475		-2.9	
4-Methylphenol	1.600	1.639		-2.4	
2-Nitrophenol	0.244	0.253		-3.5	20.0
2,4-Dimethylphenol	0.363	0.372		-2.3	20.0
2,4-Dichlorophenol	0.452	0.450		0.4	20.0
4-Chloro-3-methylphenol	0.694	0.700		0.1	20.0
2,4,6-Trichlorophenol	0.586	0.578		1.4	20.0
2,4,5-Trichlorophenol	0.608	0.601		1.2	
2,4-Dinitrophenol	0.386	0.396	0.05	-2.4	20.0
4-Nitrophenol	0.561	0.586	0.05	-4.4	20.0
4,6-Dinitro-2-methylphenol	0.214	0.217		-1.4	20.0
Pentachlorophenol	0.213	0.223		-4.5	20.0
Benzoic Acid	0.215	0.236		-9.6	
N-Nitrosodimethylamine	1.392	1.441		-3.5	20.0
bis(2-Chloroethyl)ether	2.082	2.143		-2.9	20.0
1,3-Dichlorobenzene	1.410	1.383		1.9	20.0
1,4-Dichlorobenzene	1.410	1.361		3.5	20.0
1,2-Dichlorobenzene	1.370	1.339		2.3	20.0
bis(2-chloroisopropyl)ether	2.759	2.937		-6.4	20.0
N-Nitroso-di-n-propylamine	1.731	1.801	0.5	-4.0	20.0
Hexachloroethane	0.867	0.891		-2.6	20.0
Nitrobenzene	1.292	1.375		-6.4	20.0
Isophorone	1.744	1.861		-6.7	20.0
bis(2-Chloroethoxy)methane	0.742	0.761		-2.4	20.0
1,2,4-Trichlorobenzene	0.562	0.566		0.1	20.0
Naphthalene	1.085	1.025		5.5	20.0
4-Chloroaniline	0.482	0.485		0.1	
Hexachlorobutadiene	0.508	0.524		-3.1	20.0
2-Methylnaphthalene	0.877	0.833		5.0	
Hexachlorocyclopentadiene	0.371	0.444	0.05	-19.5	20.0
2-Chloronaphthalene	1.237	1.209		2.3	20.0
2-Nitroaniline	0.719	0.745		-3.6	
Dimethylphthalate	1.811	1.798		0.7	20.0
Acenaphthylene	1.843	1.729		6.2	20.0
2,6-Dinitrotoluene	0.404	0.400		1.0	20.0

SEMIVOLATILE ORGANICS CONTINUING CALIBRATION CHECK(cont'd)
METHOD 625

Instrument ID: BNAMS2 Calibration Date: 01/26/99 Time: 0913

Lab File ID: S0314 Init. Calib. Date(s): 01/22/99 01/22/99

Init. Calib. Times: 1139 1437

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
3-Nitroaniline	0.200	0.196		2.0	
Acenaphthene	1.254	1.201		4.2	20.0
Dibenzofuran	1.859	1.802		3.1	
2,4-Dinitrotoluene	0.609	0.601		1.3	20.0
Diethylphthalate	1.974	1.958		0.8	20.0
4-Chlorophenyl-phenylether	0.977	0.999		-2.2	20.0
Fluorene	1.567	1.480		5.6	20.0
4-Nitroaniline	0.304	0.306		0.1	
N-Nitrosodiphenylamine	0.451	0.441		2.2	20.0
4-Bromophenyl-phenylether	0.282	0.292		-3.5	20.0
Hexachlorobenzene	0.301	0.303		0.1	20.0
Phenanthrene	1.049	1.016		3.1	20.0
Anthracene	1.089	1.067		2.0	20.0
Carbazole	0.944	0.919		2.6	
Di-n-butylphthalate	1.426	1.432		-0.0	20.0
Fluoranthene	1.394	1.390		0.3	20.0
Pyrene	1.361	1.372		0.1	20.0
Benzidine	0.617	0.572		7.3	
Butylbenzylphthalate	0.700	0.691		1.3	20.0
3,3'-Dichlorobenzidine	0.547	0.559		-2.0	20.0
Benzo(a)anthracene	1.362	1.346		1.2	20.0
Chrysene	1.219	1.241		-1.8	20.0
bis(2-Ethylhexyl)phthalate	1.050	1.104		-5.1	20.0
Di-n-octylphthalate	1.711	1.634		4.5	20.0
Benzo(b)fluoranthene	1.438	1.410		1.9	20.0
Benzo(k)fluoranthene	1.485	1.514		-1.8	20.0
Benzo(a)pyrene	1.354	1.336		1.3	20.0
Indeno(1,2,3-cd)pyrene	1.217	1.189		2.3	20.0
Dibenz(a,h)anthracene	1.165	1.191		-2.2	20.0
Benzo(g,h,i)perylene	1.214	1.206		0.6	20.0
Pyridine	1.990	1.958		1.6	
Aniline	2.864	2.943		-2.6	
Benzyl Alcohol	1.097	1.129		-2.9	
1,2-Diphenylhydrazine	1.087	1.159		-6.6	
Diphenyl	1.545	1.437	0.001	7.0	20.0
Diphenyl Ether	0.933	0.888	0.001	4.8	20.0
Acetophenone	2.804	2.866	0.001	-2.2	20.0

SEMIVOLATILE ORGANICS CONTINUING CALIBRATION CHECK(cont'd)
METHOD 625

Instrument ID: BNAMS2 Calibration Date: 01/26/99 Time: 0913

Lab File ID: S0314 Init. Calib. Date(s): 01/22/99 01/22/99

Init. Calib. Times: 1139 1437

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
N,N-Dimethylaniline	2.042	2.048	0.001	-0.0	20.0
1,4-Dioxane	0.636	0.641	0.001	0.1	20.0
2-Fluorophenol (SUR)	1.377	1.444		-4.7	
Phenol-d5 (SUR)	2.411	2.515		-4.3	
2,4,6-Tribromophenol (SUR)	0.390	0.381		2.3	20.0
Nitrobenzene-d5 (SUR)	0.963	1.011		-4.8	
2-Fluorobiphenyl (SUR)	1.548	1.509		2.5	
Terphenyl-d14 (SUR)	1.073	1.132		-5.3	

SEMI-VOLATILE SURROGATE RECOVERY
METHOD 625

Matrix: WATER Level: LOW Lab Job No: K939

	LAB SAMPLE NO.	S1 #	S2 #	S3 #	OTHER	TOT OUT
01	WB022	94	90	106		0
02	108515	100	94	112		0
03	108516	103	97	106		0
04	108517	98	91	107		0
05	108518	101	94	118		0
06	108519	101	96	118		0
07	108521	98	91	110		0
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30						

		QC LIMITS
S1	= Nitrobenzene-d5	(58-118)
S2	= 2-Fluorobiphenyl	(65-110)
S3	= Terphenyl-d14	(88-126)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

SEMI-VOLATILE SPIKE RECOVERY SUMMARY
METHOD 625

Matrix: WATER

Level: LOW

Matrix Spike - Lab Sample No.: 108657

MS Sample from Lab Job No: K959

QA Batch: 4359

Compound	MS % REC.	BS % REC.	LIMITS
bis(2-Chloroethyl)ether	97	88	12-158
1,3-Dichlorobenzene	76	71	0-172
1,4-Dichlorobenzene	77	72	20-124
1,2-Dichlorobenzene	75	71	32-129
bis(2-chloroisopropyl)ether	120	120	36-166
N-Nitroso-di-n-propylamine	120	120	0-230
Hexachloroethane	73	71	40-113
Nitrobenzene	76	74	35-180
Isophorone	110	110	21-196
bis(2-Chloroethoxy)methane	120	110	33-184
1,2,4-Trichlorobenzene	91	86	44-142
Naphthalene	90	86	21-133
Hexachlorobutadiene	80	73	24-116
2-Chloronaphthalene	100	96	60-118
Dimethylphthalate	68	57	0-112
Acenaphthylene	95	92	33-145
2,6-Dinitrotoluene	110	110	50-158
Acenaphthene	100	96	47-145
2,4-Dinitrotoluene	110	100	39-139
Diethylphthalate	91	84	0-114
4-Chlorophenyl-phenylether	110	110	25-158
Fluorene	100	100	59-121
4-Bromophenyl-phenylether	100	100	53-127
Hexachlorobenzene	110	110	0-152
Phenanthrene	100	100	54-120
Anthracene	95	94	27-133
Di-n-butylphthalate	100	100	1-118
Fluoranthene	100	110	26-137
Pyrene	100	100	52-115
Butylbenzylphthalate	94	95	0-152

* Values outside of QC limits

SEMI-VOLATILE SPIKE RECOVERY SUMMARY
METHOD 625

Matrix: WATER

Level: LOW

Matrix Spike - Lab Sample No.: 108657

MS Sample from Lab Job No: K959

QA Batch: 4359

Compound	MS % REC.	BS % REC.	LIMITS
3,3'-Dichlorobenzidine	95	100	0-262
Benzo(a)anthracene	100	100	33-143
Chrysene	100	100	17-168
bis(2-Ethylhexyl)phthalate	95	97	8-158
Di-n-octylphthalate	110	100	4-146
Benzo(b)fluoranthene	98	100	24-159
Benzo(k)fluoranthene	100	98	11-162
Benzo(a)pyrene	100	100	17-163
Indeno(1,2,3-cd)pyrene	100	100	0-171
Dibenz(a,h)anthracene	100	100	0-227
Benzo(g,h,i)perylene	100	100	0-219

* Values outside of QC limits

Spike Recovery: 0 out of 82 outside limits

COMMENTS: _____

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): S0314 Date Analyzed: 01/26/99

Instrument ID: BNAMS2 Time Analyzed: 0913

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(CRY) AREA #	RT #
	12 HOUR STD	232619	13.04	678971	15.22	1240346	25.03
	UPPER LIMIT	465238	13.54	1357942	15.72	2480692	25.53
	LOWER LIMIT	116310	12.54	339486	14.72	620173	24.53
	LABORATORY SAMPLE NO.						
01	WB022	201435	13.04	602856	15.21	1182924	25.01
02	108515	175768	13.04	535275	15.21	1072978	25.02
03	108516	193618	13.03	565617	15.21	1162765	25.01
04	108517	191363	13.02	546833	15.20	1165654	25.00
05	108518	173521	13.02	504013	15.20	995005	25.00
06	108519	182959	13.02	526203	15.20	1020935	25.00
07	108521	187550	13.02	539276	15.20	1114208	25.00
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21							
22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (CRY) = Chrysene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): S0314 Date Analyzed: 01/26/99

Instrument ID: BNAMS2 Time Analyzed: 0913

		IS4 (ANT) AREA #	RT #	IS5 (PHN) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	544829	18.14	1213336	20.61	1129619	28.59
	UPPER LIMIT	1089658	18.64	2426672	21.11	2259238	29.09
	LOWER LIMIT	272414	17.64	606668	20.11	564810	28.09
	LABORATORY SAMPLE NO.						
01	WB022	491028	18.14	1122595	20.60	1070156	28.57
02	108515	433704	18.14	975820	20.61	1002918	28.57
03	108516	451352	18.13	1048227	20.60	1096734	28.55
04	108517	457078	18.13	1072453	20.59	1071748	28.54
05	108518	427756	18.13	986779	20.59	992829	28.53
06	108519	426875	18.13	998526	20.59	1009309	28.53
07	108521	446371	18.13	1025757	20.59	1035427	28.54
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22							

IS4 (ANT) = Acenaphthene-d10
IS5 (PHN) = Phenanthrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

Client ID: **MW4**
Site: L.E. Carpenter

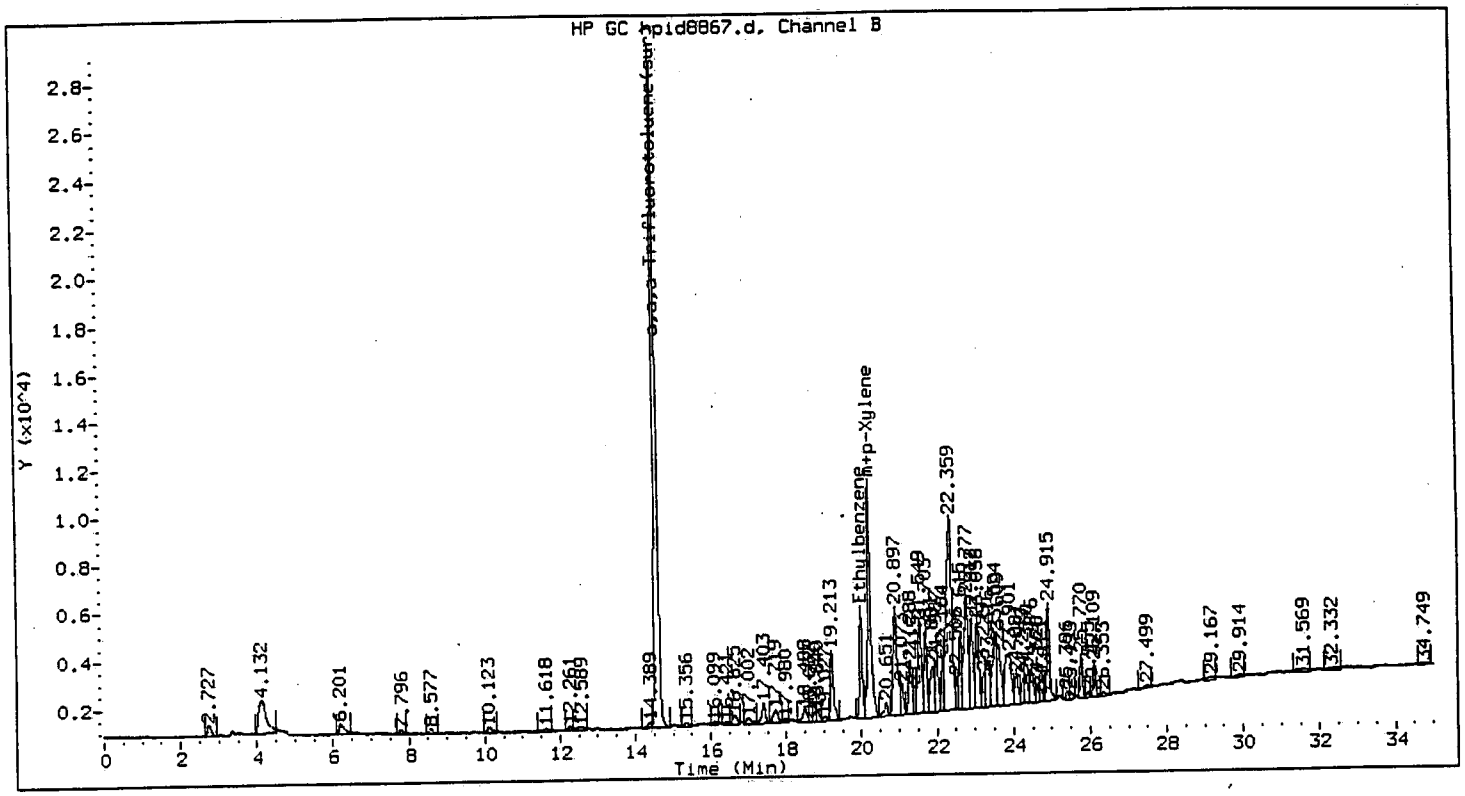
Lab Sample No: **108510**
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Analyzed: 01/26/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid8867.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.20
Toluene	ND	0.14
Ethylbenzene	1.1	0.14
Xylene (Total)	2.5	0.50



Method : /chem/VOAGC2.i/602/12-10-98/26jan99.b/GC2-602.m
Sample Info : 108510
Lab ID : 108510
Inj Date : 26-JAN-1999 11:08
Operator : kb
Cpnd Sublist: BTEX

Inst ID : VOAGC2.i
Dil Factor : 1
Sample Matrix : WATER
Sample Type: SAMPLE

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
m+p-Xylene	20.212	20.237	0.025	288605	2.414	2.414
Ethylbenzene	19.987	20.005	0.018	113090	1.085	1.085
Xylene (Total)	25.019	25.019	0.000	288605	2.498	2.498
a,a,a-Trifluorotoluene(sur)	14.583	14.623	0.040	830764	23.368	23.368

Client ID: **MW14I**
Site: L.E. Carpenter

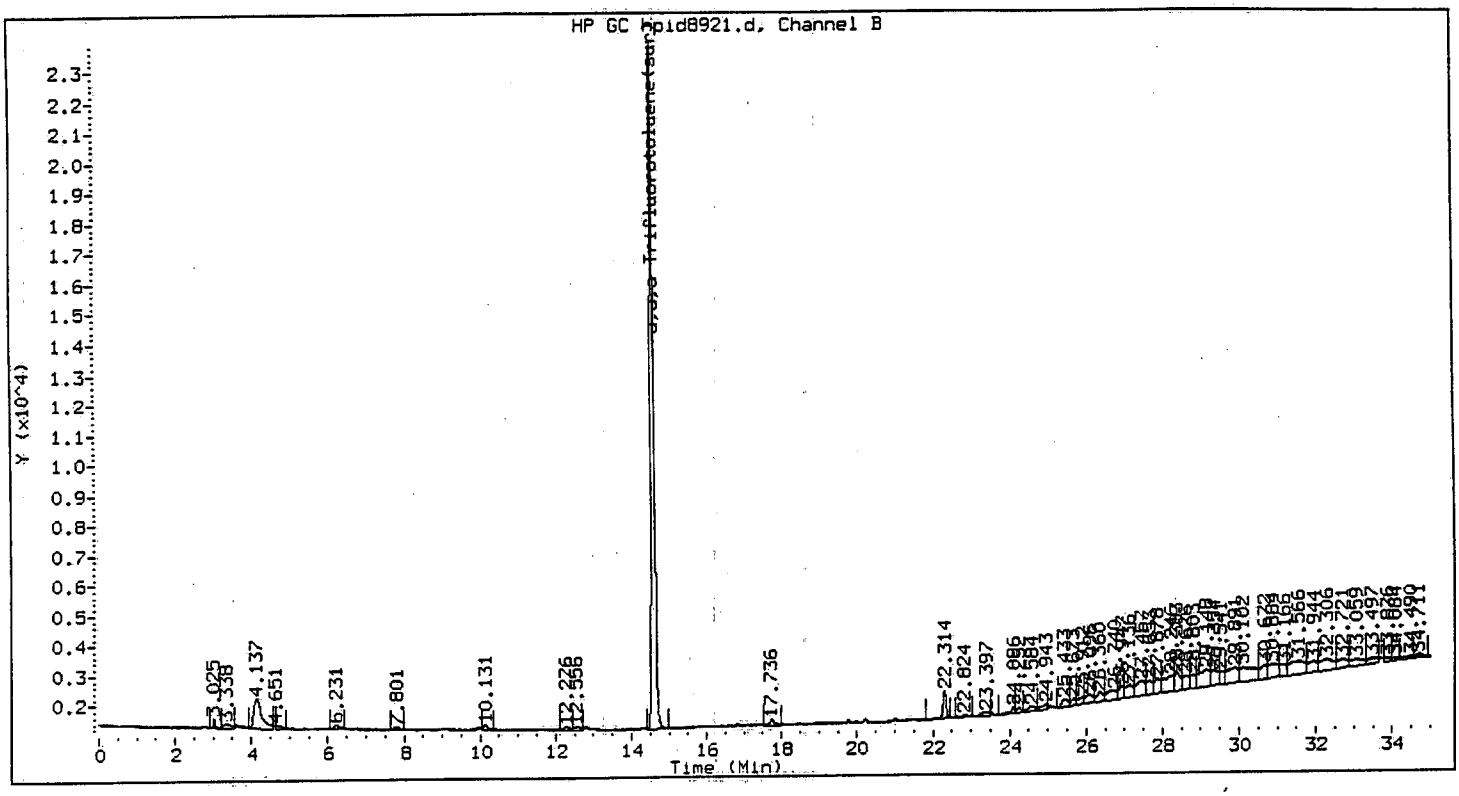
Lab Sample No: **108511**
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Analyzed: 01/28/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid8921.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.20
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50



ethod : /chem/VOAGC2.i/602/01-27-99/27jan99.b/GC2-602.m
Sample Info : 108511
ab ID : 108511
nj Date : 28-JAN-1999 03:35
Operator : kb
Cpnd Sublist: BTEX

Inst ID : VOAGC2.i
Dil Factor : 1
Sample Matrix : WATER
Sample Type: SAMPLE

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
a,a,a-Trifluorotoluene(sur)	14.594	14.588	0.006	663870	22.229	22.229

Client ID: **MW15S**
Site: L.E. Carpenter

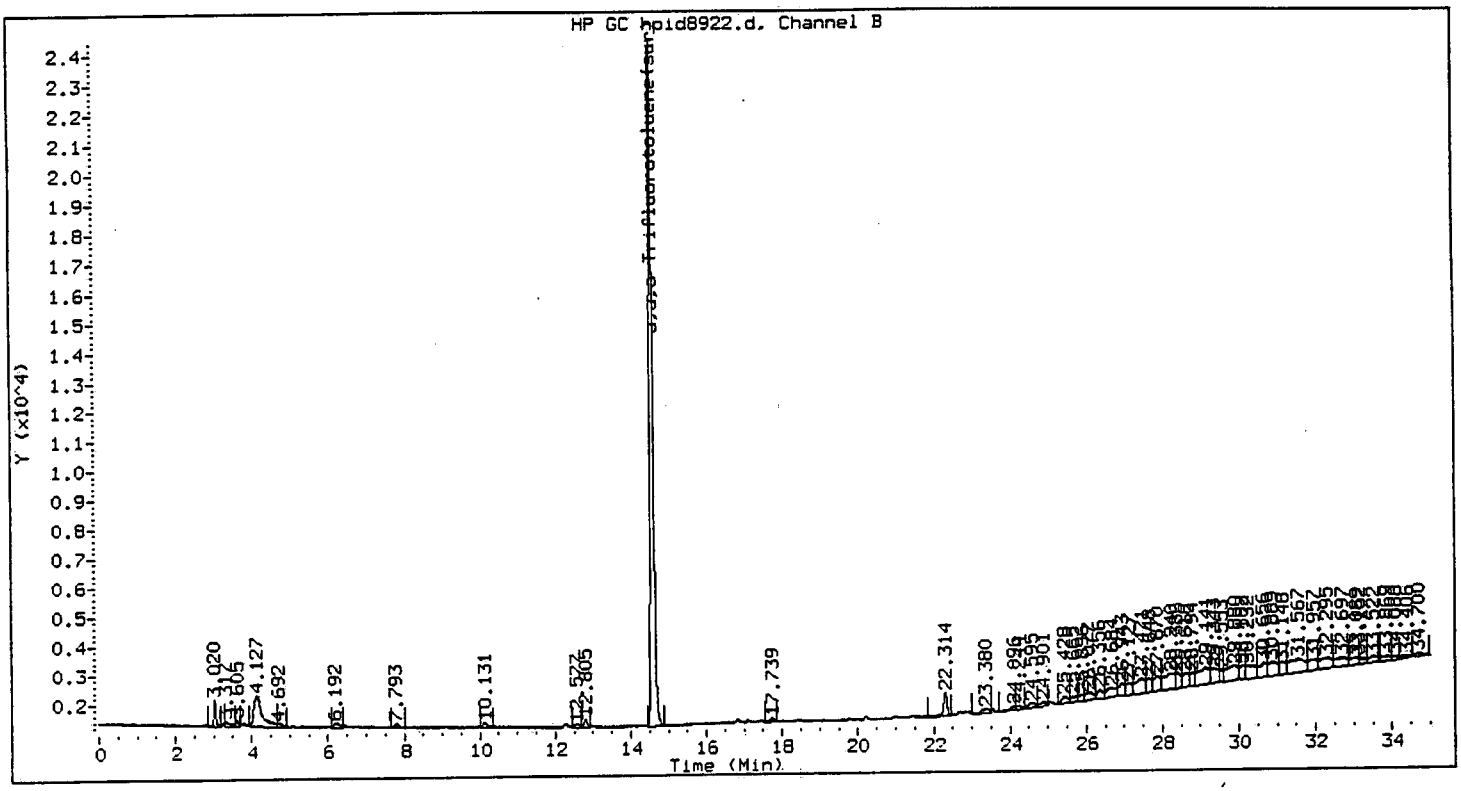
Lab Sample No: **108512**
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Analyzed: 01/28/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid8922.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.20
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50



ethod : /chem/VOAGC2.i/602/01-27-99/27jan99.b/GC2-602.m
Sample Info : 108512
ab ID : 108512
nj Date : 28-JAN-1999 04:16
perator : kb
Cpnd Sublist: BTEX

Inst ID : VOAGC2.i
Dil Factor : 1
Sample Matrix : WATER
Sample Type: SAMPLE

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
,a,a-Trifluorotoluene(sur)	14.595	14.588	0.007	680790	22.796	22.796

Client ID: **MW15I**
Site: L.E. Carpenter

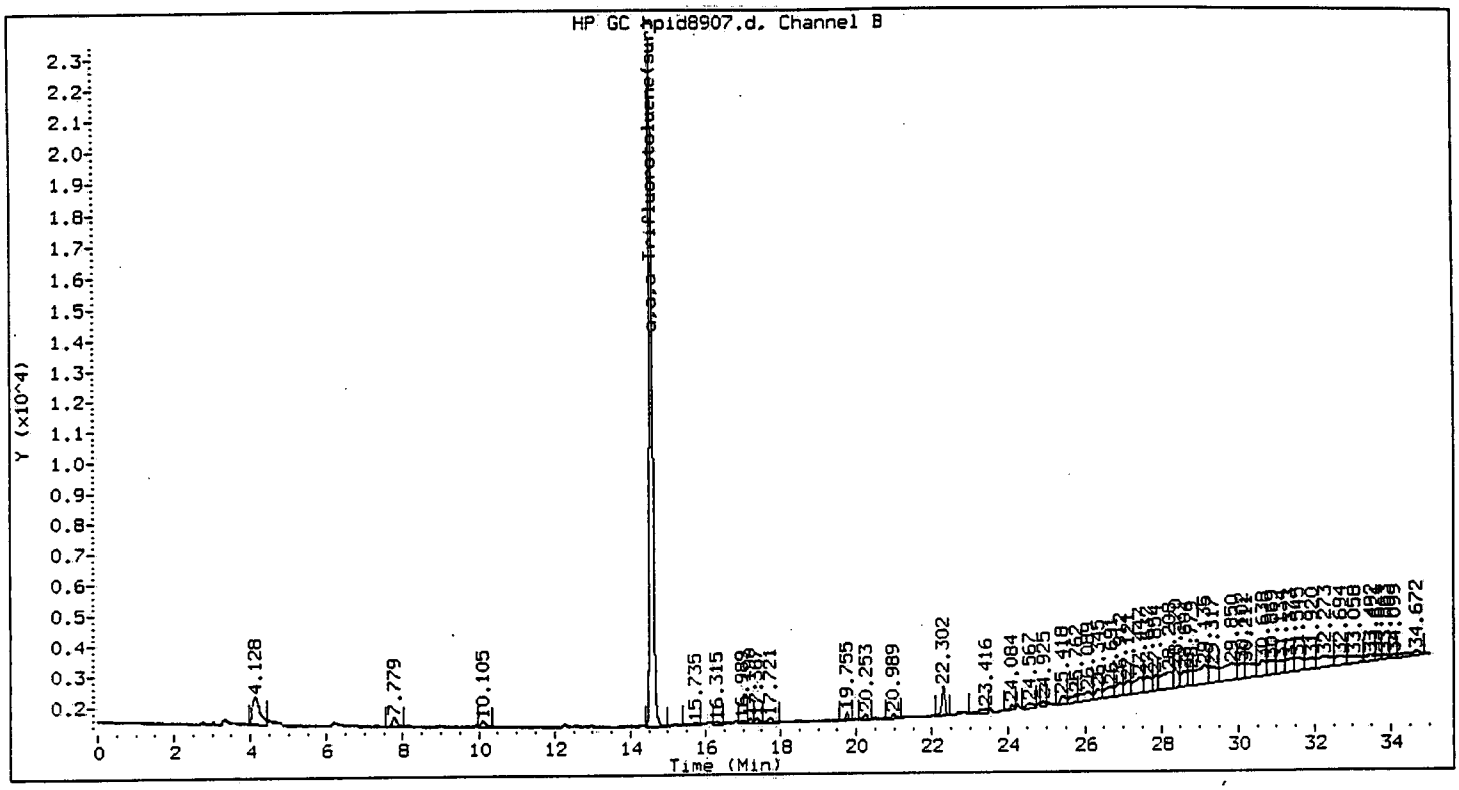
Lab Sample No: **108513**
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Analyzed: 01/27/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid8907.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.20
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50



Method : /chem/VOAGC2.i/602/01-27-99/27jan99.b/GC2-602.m
Sample Info : 108513
Lab ID : 108513
Inj Date : 27-JAN-1999 17:55
Operator : kb
Cpnd Sublist: BTEX

Inst ID : VOAGC2.i
Dil Factor : 1
Sample Matrix : WATER
Sample Type: SAMPLE

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
,a,a-Trifluorotoluene(sur)	14.579	14.588	0.009	653446	21.880	21.880

Client ID: **MW22R**
Site: L.E. Carpenter

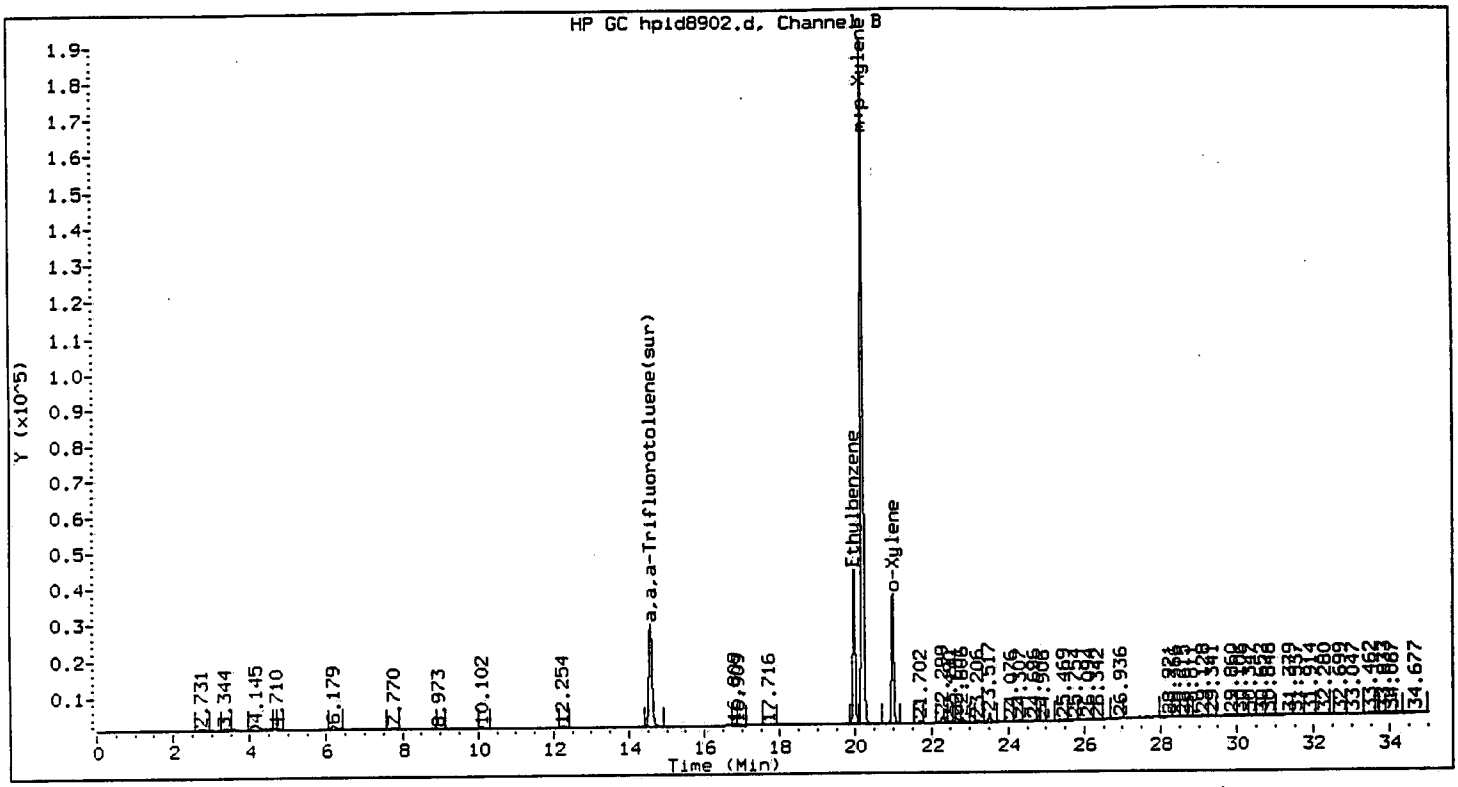
Lab Sample No: **108514**
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Analyzed: 01/27/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid8902.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 2.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.40
Toluene	ND	0.28
Ethylbenzene	18	0.28
Xylene (Total)	84	1.0



Method : /chem/VOAGC2.i/602/01-27-99/27jan99.b/GC2-602.m
Sample Info : 108514;;2
Lab ID : 108514
Inj Date : 27-JAN-1999 14:27
Operator : kb
Cpnd Sublist: BTEX

Inst ID : VOAGC2.i
Dil Factor : 2
Sample Matrix : WATER
Sample Type: SAMPLE

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
m+p-Xylene	20.197	20.212	0.015	3814901	34.340	68.681
p-Xylene	20.987	20.998	0.011	699442	6.925	13.851
Ethylbenzene	19.968	19.979	0.011	859122	8.884	17.768
Xylene (Total)	25.019	25.019	0.000	4514343	41.905	83.811
a,a,a-Trifluorotoluene(sur)	14.571	14.588	0.017	820617	27.478	27.478

Client ID: **MW25R**
Site: L.E. Carpenter

Lab Sample No: **108515**
Lab Job No: K939

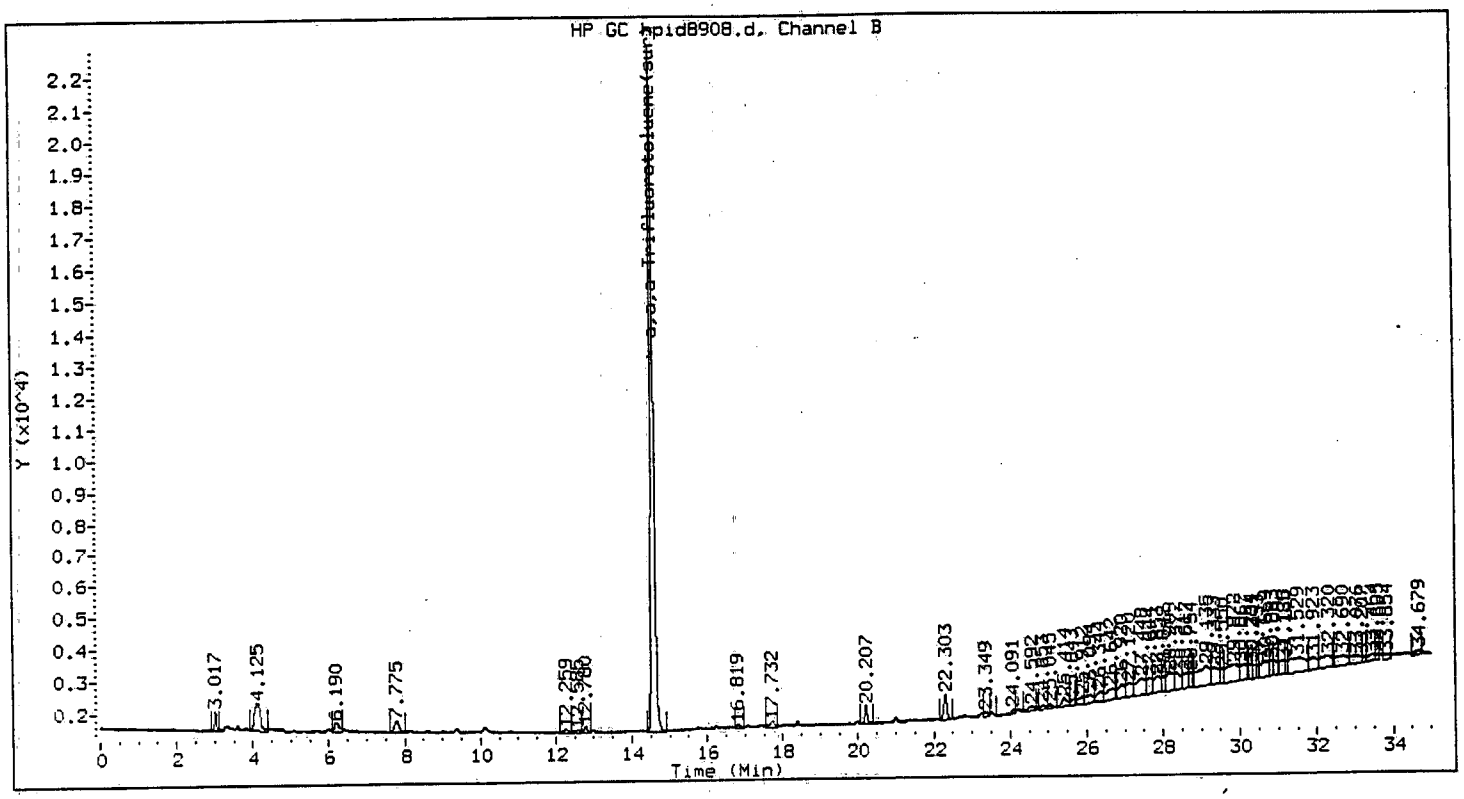
Date Sampled: 01/21/99
Date Received: 01/21/99
Date Analyzed: 01/27/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid8908.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.20
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50

ata File: /chem/VOAGC2.i/602/01-27-99/27jan99.b/hpid8908.d Page 1
eport Date 01/28/1999 09:25



Method : /chem/VOAGC2.i/602/01-27-99/27jan99.b/GC2-602.m
Sample Info : 108515
Lab ID : 108515
Inj Date : 27-JAN-1999 18:37
Operator : kb
Cpnd Sublist: BTEX

Inst ID : VOAGC2.i
Dil Factor : 1
Sample Matrix : WATER
Sample Type: SAMPLE

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
,a,a-Trifluorotoluene(sur)	14.579	14.588	0.009	632255	21.171	21.171

Client ID: **MW21**
Site: L.E. Carpenter

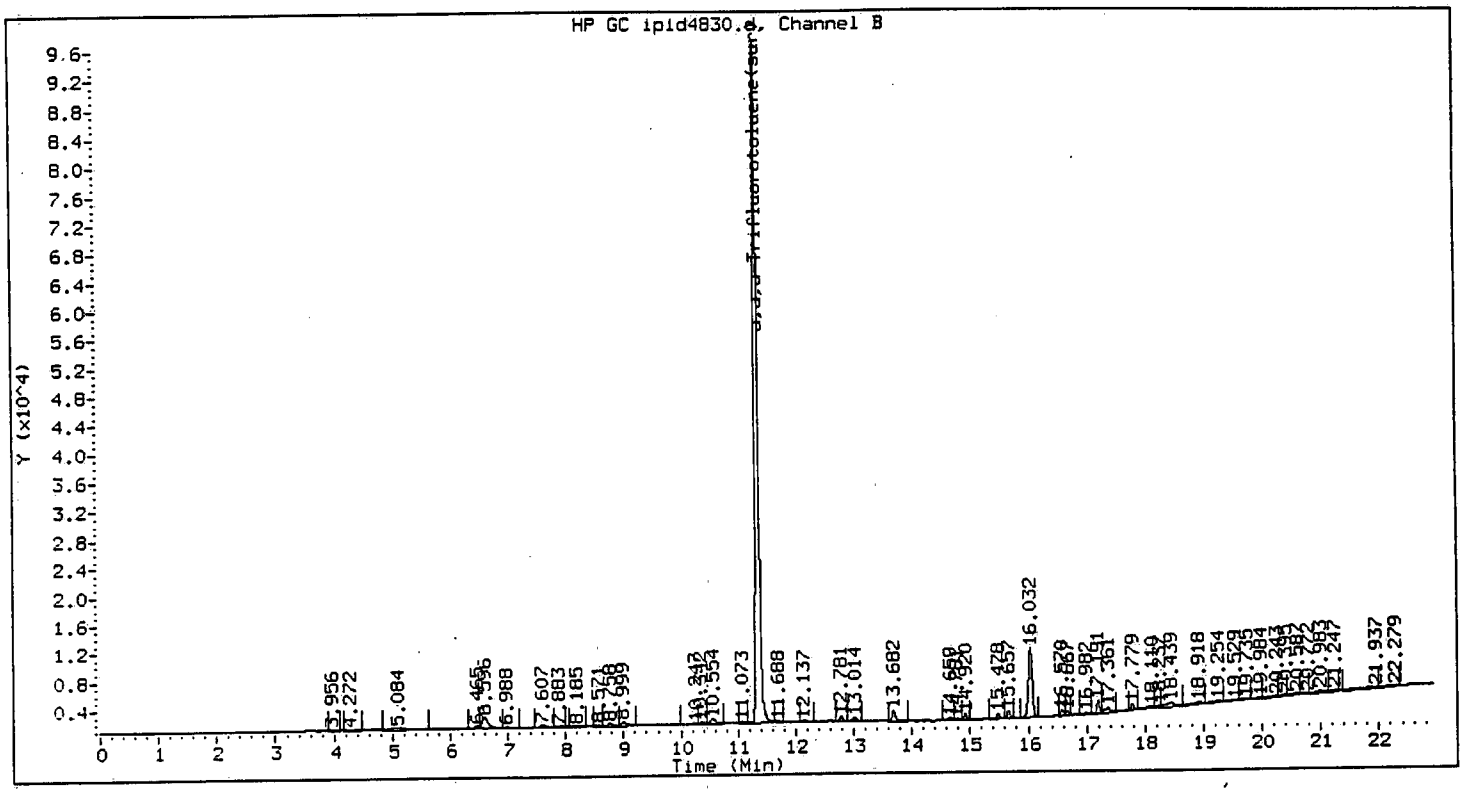
Lab Sample No: **108516**
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Analyzed: 01/29/99
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid4830.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.20
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50



Method : /chem/VOAGC3.i/602/01-08-99/29jan99.b/GC3-602.m
Sample Info : 108516
Lab ID : 108516
Inj Date : 29-JAN-1999 13:33
Operator : kb
Cpnd Sublist: BTEX

Inst ID : VOAGC3.i
Dil Factor : 1
Sample Matrix : WATER
Sample Type: SAMPLE

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
a,a,a-Trifluorotoluene(sur)	11.350	11.316	0.034	1895111	28.624	28.624

Client ID: **MW11IR**
Site: L.E. Carpenter

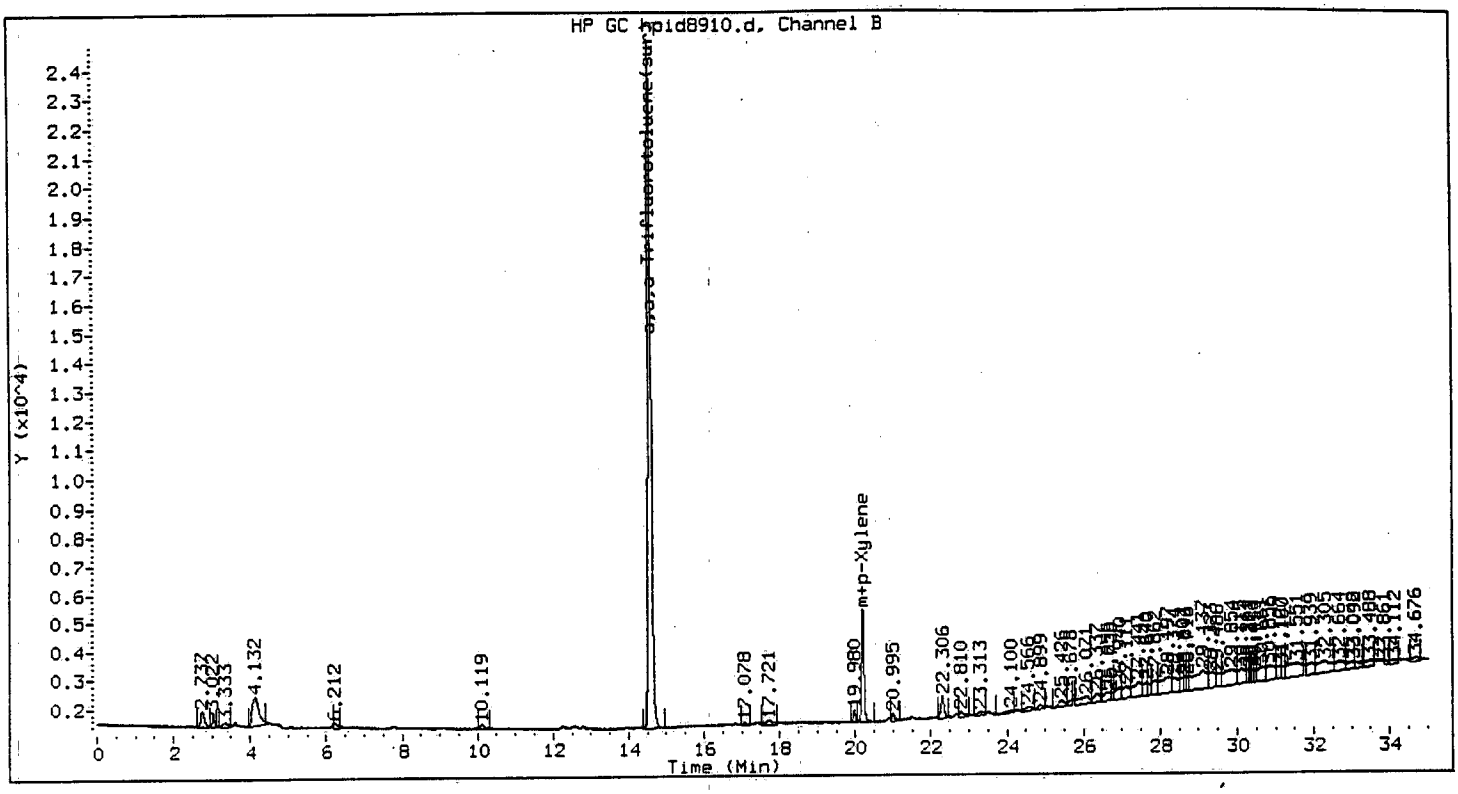
Lab Sample No: **108517**
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Analyzed: 01/27/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid8910.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.20
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	0.79	0.50



Method : /chem/VOAGC2.i/602/01-27-99/27jan99.b/GC2-602.m
Sample Info : 108517
Lab ID : 108517
Inj Date : 27-JAN-1999 20:00
Operator : kb
Cpnd Sublist: BTEX

Inst ID : VOAGC2.i
Dil Factor : 1
Sample Matrix : WATER
Sample Type: SAMPLE

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
m+p-Xylene	20.205	20.212	0.007	84767	0.763	0.763
Xylene (Total)	25.019	25.019	0.000	84767	0.787	0.787
a,a,a-Trifluorotoluene(sur)	14.582	14.588	0.006	695471	23.287	23.287

Client ID: **MW11DR**
Site: L.E. Carpenter

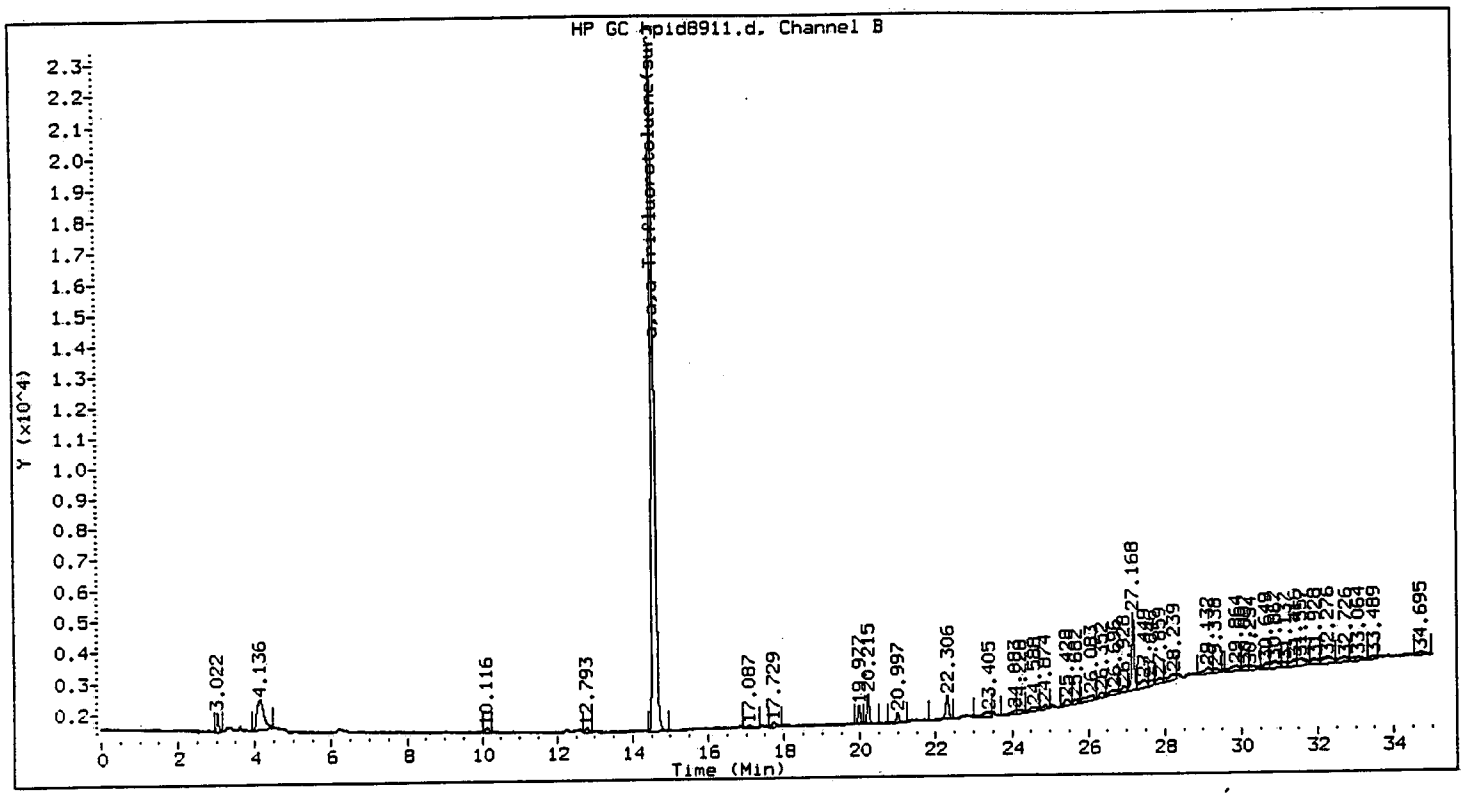
Lab Sample No: **108518**
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Analyzed: 01/27/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid8911.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.20
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50



Method : /chem/VOAGC2.i/602/01-27-99/27jan99.b/GC2-602.m
Sample Info : 108518
Lab ID : 108518
Inj Date : 27-JAN-1999 20:41
Operator : kb
Cpnd Sublist: BTEX

Inst ID : VOAGC2.i
Dil Factor : 1
Sample Matrix : WATER
Sample Type: SAMPLE

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
a,a,a-Trifluorotoluene(sur)	14.583	14.588	0.005	647573	21.684	21.684

Client ID: **MW11DRD**
Site: L.E. Carpenter

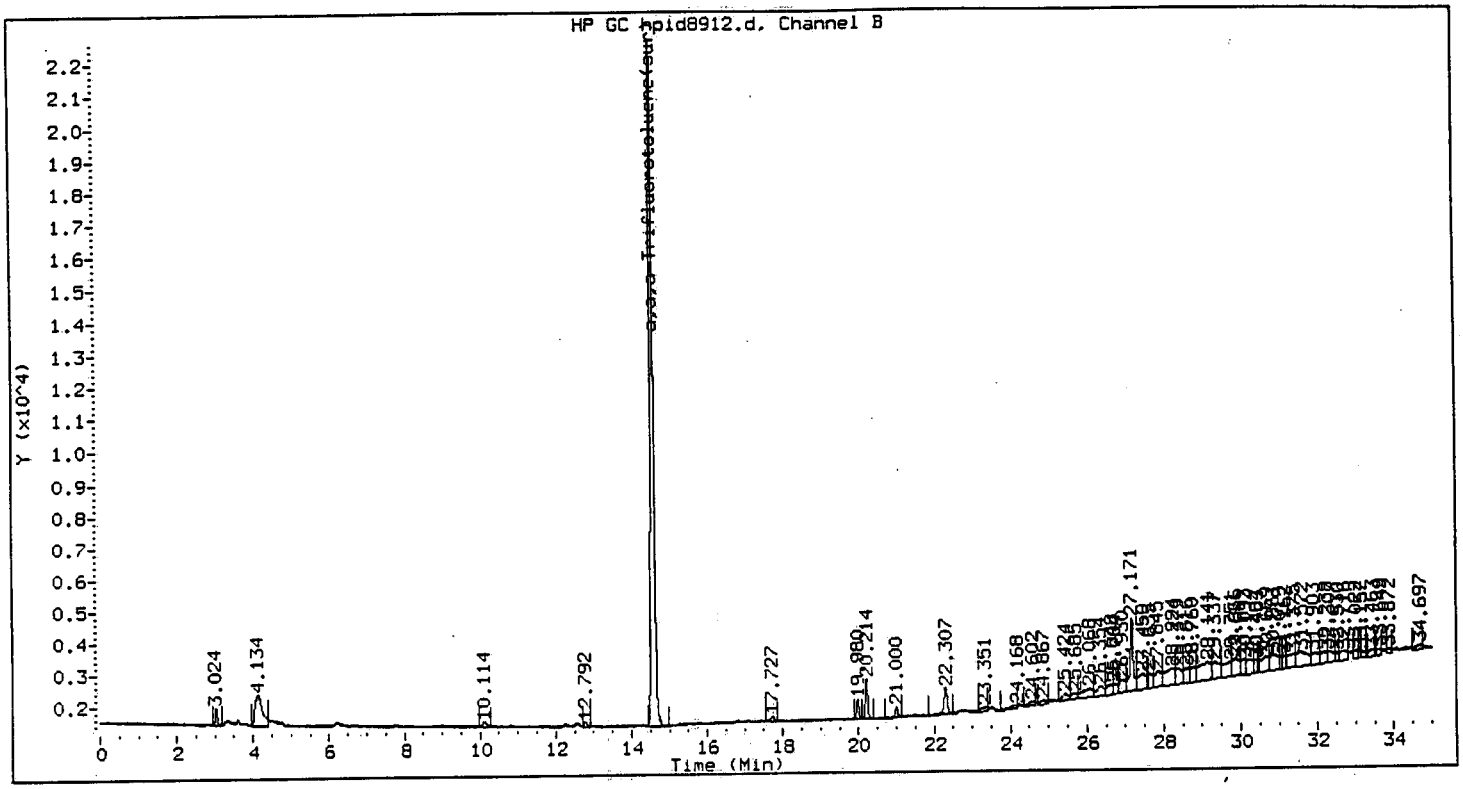
Lab Sample No: **108519**
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Analyzed: 01/27/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid8912.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.20
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50



Method : /chem/VOAGC2.i/602/01-27-99/27jan99.b/GC2-602.m
Sample Info : 108519
Lab ID : 108519
Inj Date : 27-JAN-1999 21:23
Operator : kb
Cpnd Sublist: BTEX

Inst ID : VOAGC2.i
Dil Factor : 1
Sample Matrix : WATER
Sample Type: SAMPLE

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
a,a,a-Trifluorotoluene(sur)	14.584	14.588	0.004	620669	20.783	20.783

Client ID: **Trip_Blank**
Site: L.E. Carpenter

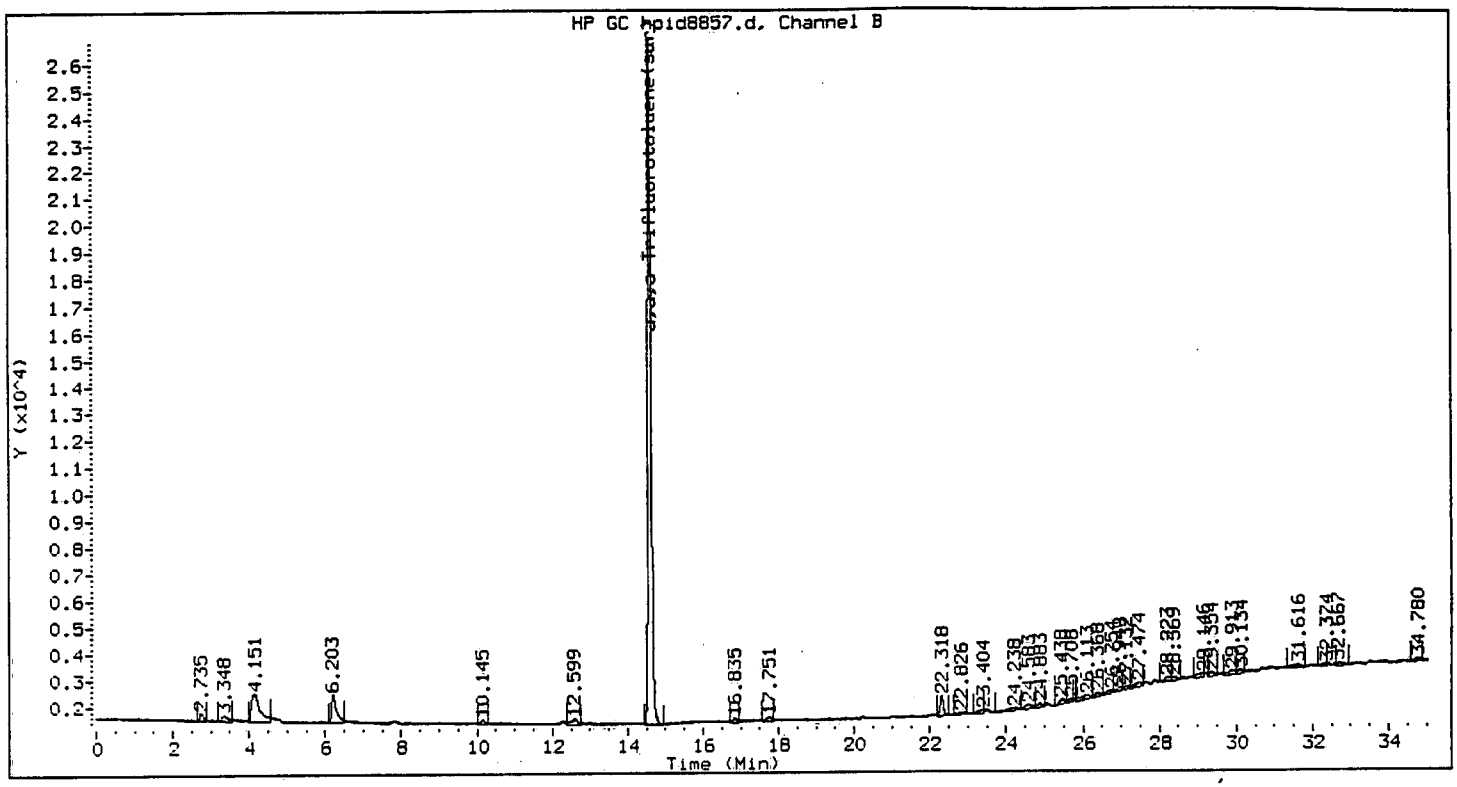
Lab Sample No: **108520**
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Analyzed: 01/22/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid8857.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.20
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50



Method : /chem/VOAGC2.i/602/12-10-98/22JAN99.b/GC2-602.m
Sample Info : 108520
Lab ID : 108520
Inj Date : 22-JAN-1999 18:54
Operator : kb
Cpnd Sublist: BTEX

Inst ID : VOAGC2.i
Dil Factor : 1
Sample Matrix : WATER
Sample Type: SAMPLE

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
a,a,a-Trifluorotoluene(sur)	14.601	14.623	0.022	745868	20.980	20.980

Client ID: **Field_Blank**
Site: L.E. Carpenter

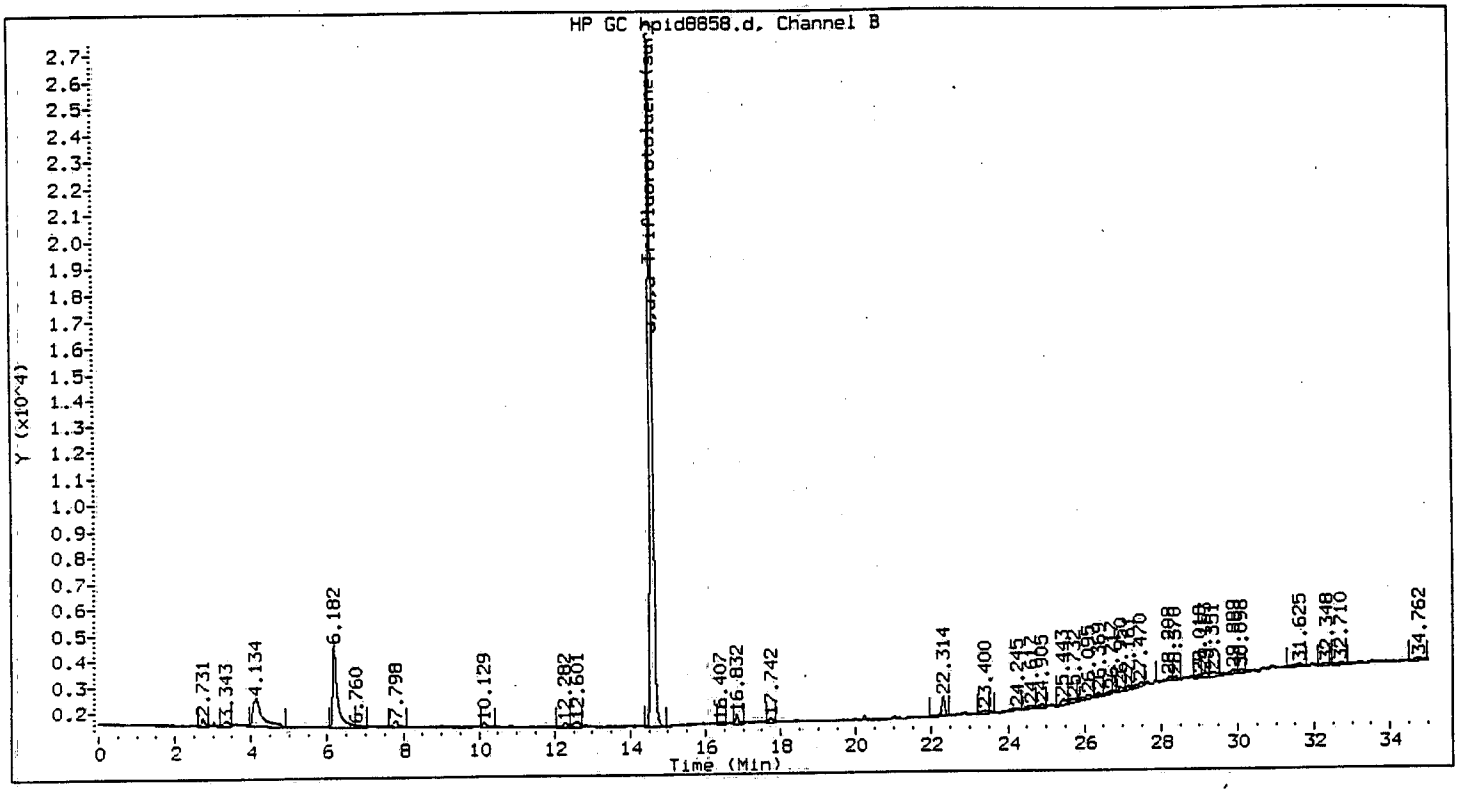
Lab Sample No: **108521**
Lab Job No: K939

Date Sampled: 01/21/99
Date Received: 01/21/99
Date Analyzed: 01/22/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid8858.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.20
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50



Method : /chem/VOAGC2.i/602/12-10-98/22JAN99.b/GC2-602.m
Sample Info : 108521
Lab ID : 108521
Inj Date : 22-JAN-1999 19:35
Operator : kb
Cpnd Sublist: BTEX

Inst ID : VOAGC2.i
Dil Factor : 1
Sample Matrix : WATER
Sample Type: SAMPLE

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
a,a,a-Trifluorotoluene(sur)	14.596	14.623	0.027	765300	21.527	21.527

LAB SAMPLE NO.

VOLATILE METHOD BLANK SUMMARY

HG022

Date Analyzed: 01/22/99

Instrument ID: VOAGC2

Time Analyzed: 1224

Lab File ID: HPID8850

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

	CLIENT ID.	LAB SAMPLE NO	LAB FILE ID	TIME ANALYZED
01	TRIP_BLANK	108520	HPID8857	1854
02	FIELD_BLANK	108521	HPID8858	1935
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
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30				

COMMENTS:

Client ID: **HG022**
Site:

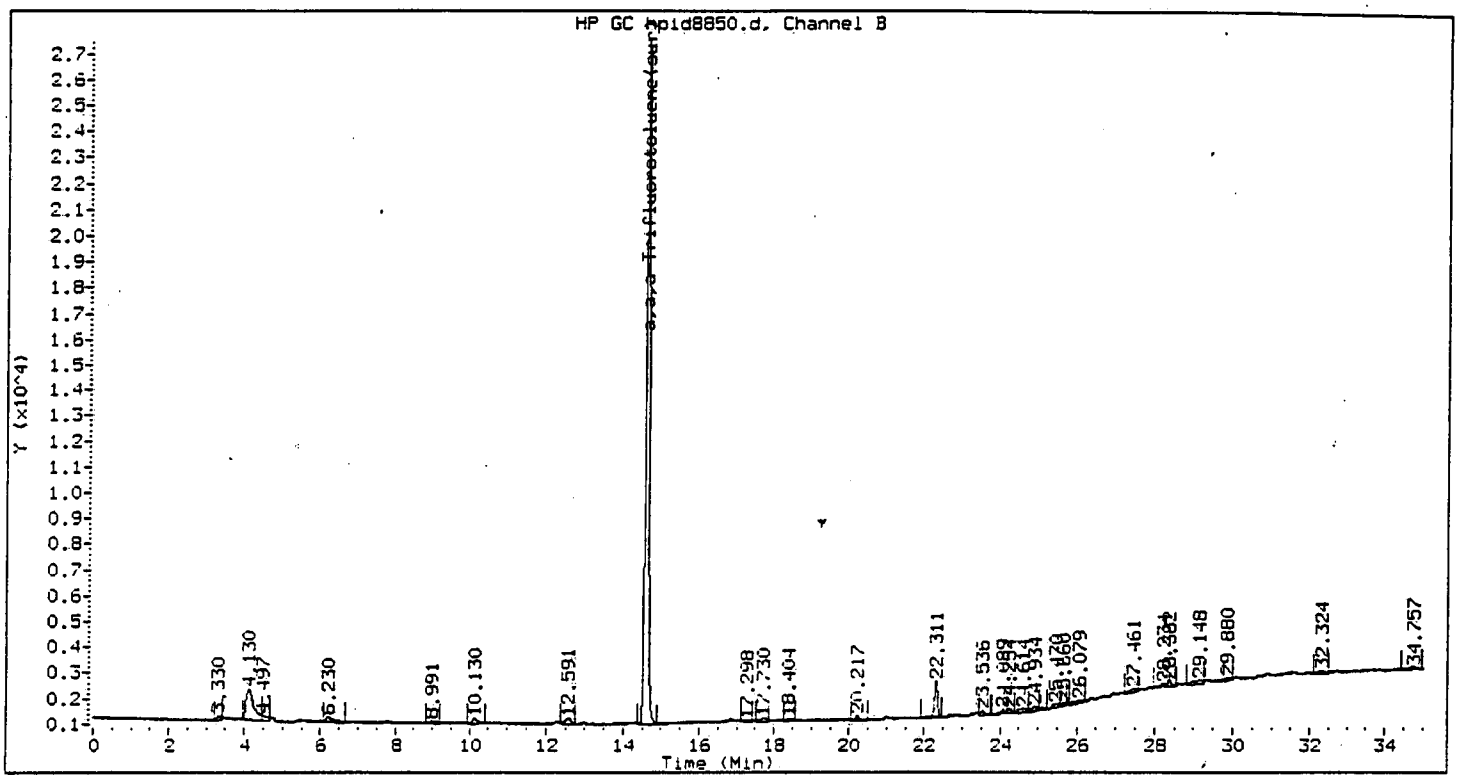
Lab Sample No: **HG022**
Lab Job No: K939

Date Sampled: _____
Date Received: _____
Date Analyzed: 01/22/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid8850.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
TBA	ND	100
MTBE	ND	0.50
DIPE	ND	0.50
Benzene	ND	0.20
Toluene	ND	0.14
Chlorobenzene	ND	0.11
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50
1,3-Dichlorobenzene	ND	0.15
1,4-Dichlorobenzene	ND	0.13
1,2-Dichlorobenzene	ND	0.10
Naphthalene	ND	0.50



Method : /chem/VOAGC2.i/602/12-10-98/22JAN99.b/GC2-602.m
Sample Info : HG022
Lab ID : HG022 Inst ID : VOAGC2.i
Inj Date : 22-JAN-1999 12:24 Dil Factor : 1
Operator : kb Sample Matrix : WATER
Cpnd Sublist: ALL Sample Type: BLANK

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
a,a,a-Trifluorotoluene(sur)	14.591	14.623	0.032	777564	21.872	21.872

LAB SAMPLE NO.

VOLATILE METHOD BLANK SUMMARY

HG026

Date Analyzed: 01/26/99

Instrument ID: VOAGC2

Time Analyzed: 1008

Lab File ID: HPID8866

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

	CLIENT ID.	LAB SAMPLE NO	LAB FILE ID	TIME ANALYZED
01	MW4	108510	HPID8867	1108
02				
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
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30				

COMMENTS:

Client ID: **HG026**
Site:

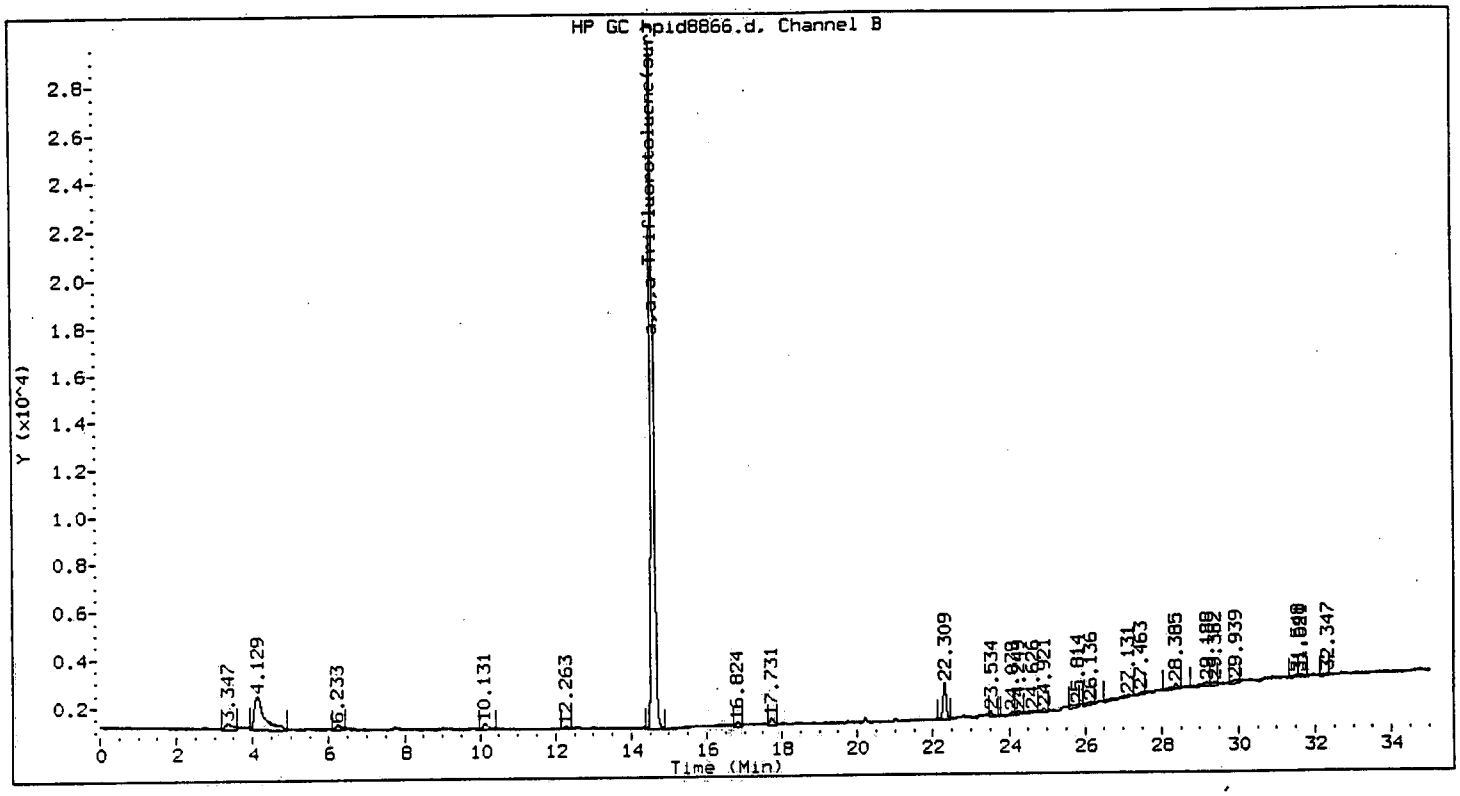
Lab Sample No: **HG026**
Lab Job No: K939

Date Sampled: _____
Date Received: _____
Date Analyzed: 01/26/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid8866.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
TBA	ND	100
MTBE	ND	0.50
DIPE	ND	0.50
Benzene	ND	0.20
Toluene	ND	0.14
Chlorobenzene	ND	0.11
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50
1,3-Dichlorobenzene	ND	0.15
1,4-Dichlorobenzene	ND	0.13
1,2-Dichlorobenzene	ND	0.10
Naphthalene	ND	0.50



Method : /chem/VOAGC2.i/602/12-10-98/26jan99.b/GC2-602.m
Sample Info : HG026
Lab ID : HG026
Inj Date : 26-JAN-1999 10:08
Operator : kb
Cpnd Sublist: ALL

Inst ID : VOAGC2.i
Dil Factor : 1
Sample Matrix : WATER
Sample Type: BLANK

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
a,a,a-Trifluorotoluene(sur)	14.590	14.623	0.033	835196	23.493	23.493

LAB SAMPLE NO.

HG027

VOLATILE METHOD BLANK SUMMARY

Date Analyzed: 01/27/99

Instrument ID: VOAGC2

Time Analyzed: 1336

Lab File ID: HPID8901

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

	CLIENT ID.	LAB SAMPLE NO	LAB FILE ID	TIME ANALYZED
01	MW22R	108514	HPID8902	1427
02	MW15I	108513	HPID8907	1755
03	MW25R	108515	HPID8908	1837
04	MW11IR	108517	HPID8910	2000
05	MW11DR	108518	HPID8911	2041
06	MW11DRD	108519	HPID8912	2123
07	MW14I	108511	HPID8921	0335
08	MW15S	108512	HPID8922	0416
09	MW22RMS	108514MS	HPID8923	0458
10	MW22RMSD	108514MSD	HPID8924	0539
11				
12				
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COMMENTS:

Client ID: **HG027**
Site:

Lab Sample No: **HG027**
Lab Job No: K939

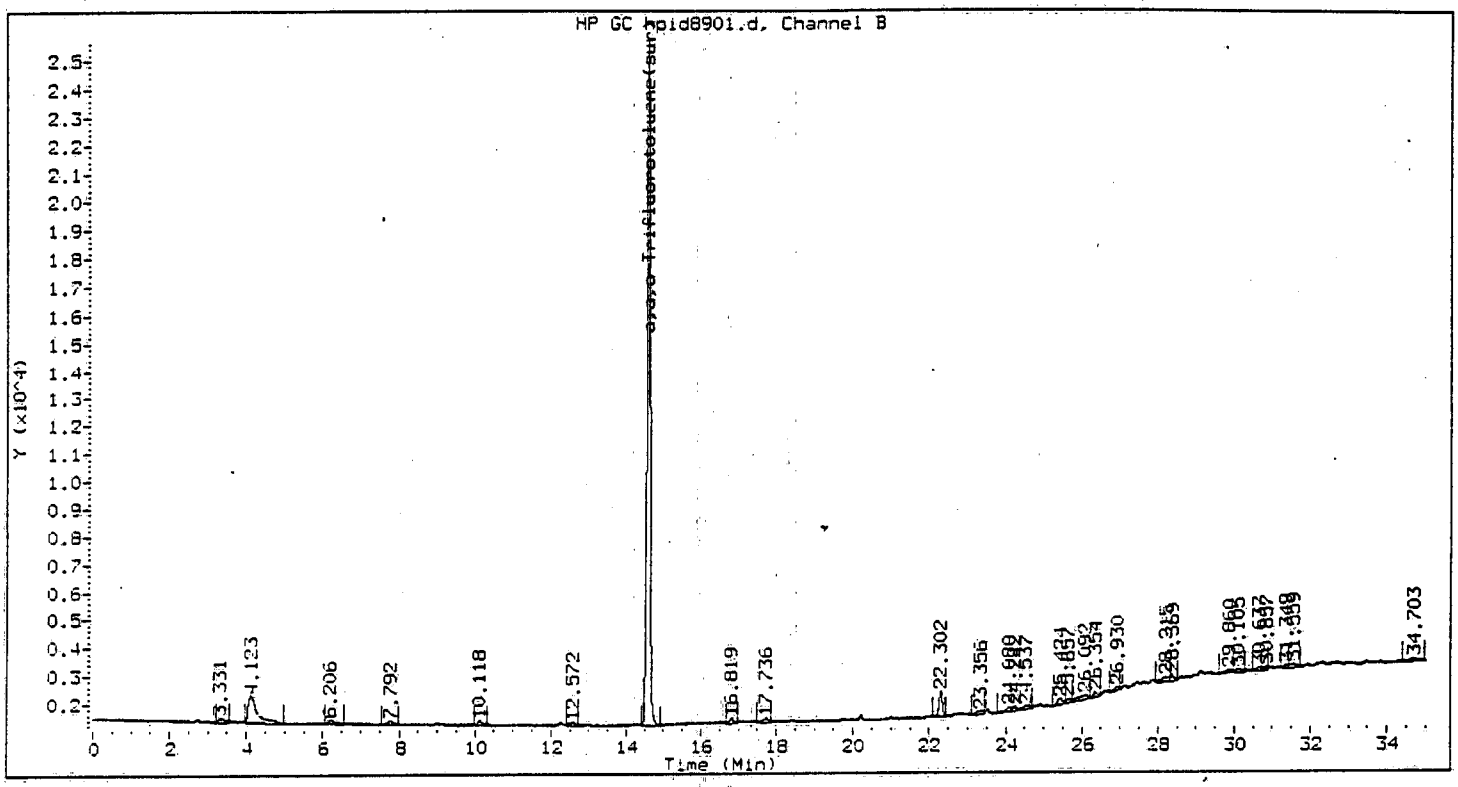
Date Sampled: _____
Date Received: _____
Date Analyzed: 01/27/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid8901.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
TBA	ND	100
MTBE	ND	0.50
DIPE	ND	0.50
Benzene	ND	0.20
Toluene	ND	0.14
Chlorobenzene	ND	0.11
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50
1,3-Dichlorobenzene	ND	0.15
1,4-Dichlorobenzene	ND	0.13
1,2-Dichlorobenzene	ND	0.10

Data File: /chem/VOAGC2.i/602/01-27-99/27jan99.b/hpid8901.d Page 1
Report Date 01/28/1999 09:24



Method : /chem/VOAGC2.i/602/01-27-99/27jan99.b/GC2-602.m
Sample Info : HG027
Lab ID : HG027
Inj Date : 27-JAN-1999 13:36
Operator : kb
Cpnd Sublist: 602

Inst ID : VOAGC2.i
Dil Factor : 1
Sample Matrix : WATER
Sample Type: BLANK

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
a,a,a-Trifluorotoluene(sur)	14.580	14.588	0.008	716397	23.988	23.988

LAB SAMPLE NO.

IG029

VOLATILE METHOD BLANK SUMMARY

Date Analyzed: 01/29/99

Instrument ID: VOAGC3

Time Analyzed: 1018

Lab File ID: IPID4825

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

	CLIENT ID.	LAB SAMPLE NO	LAB FILE ID	TIME ANALYZED
01	MW21	108516	IPID4830	1333
02				
03				
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05				
06				
07				
08				
09				
10				
11				
12				
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COMMENTS:

Client ID: **IG029**
Site:

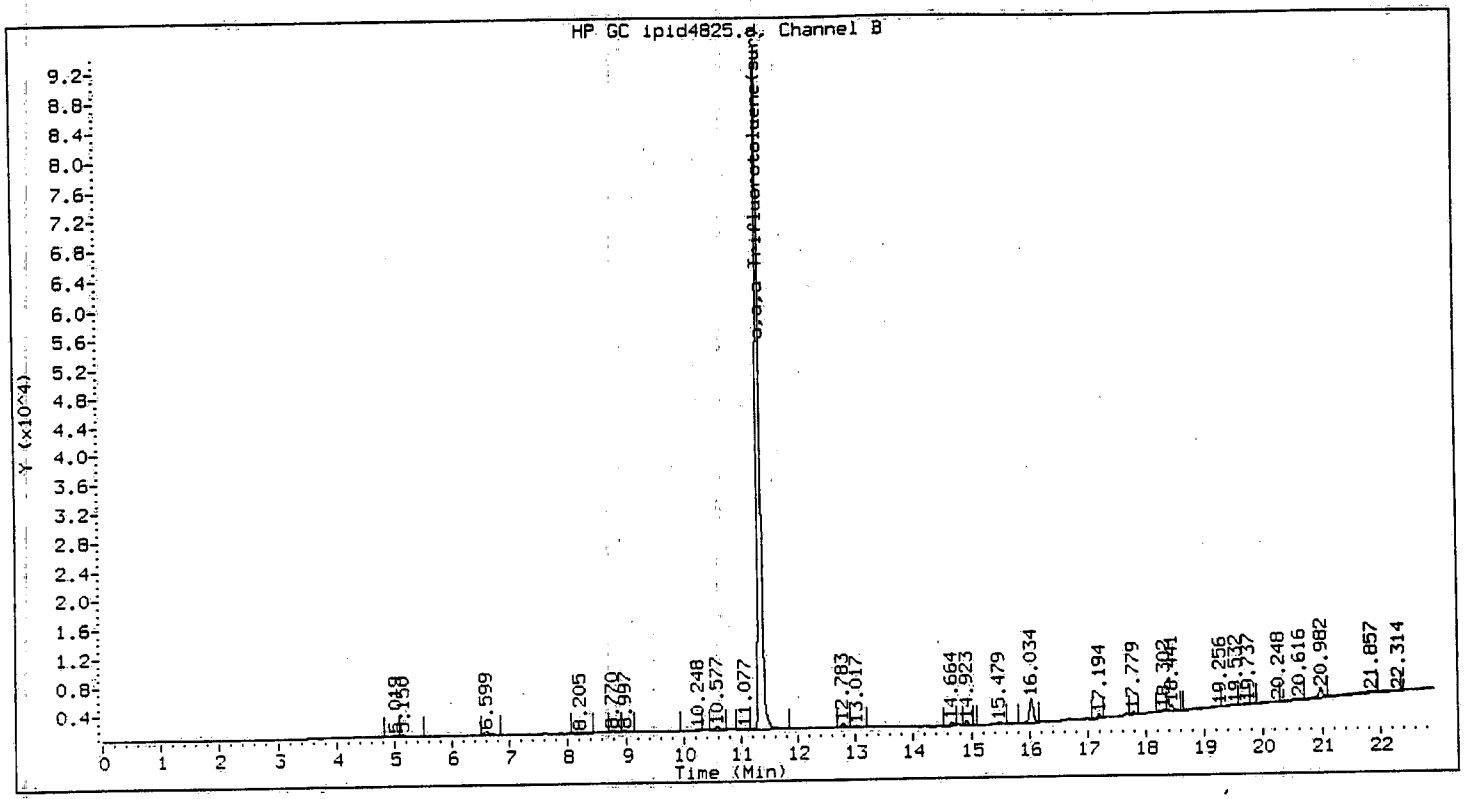
Lab Sample No: **IG029**
Lab Job No: K939

Date Sampled: _____
Date Received: _____
Date Analyzed: 01/29/99
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid4825.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
TBA	ND	100
MTBE	ND	0.50
DIPE	ND	0.50
Benzene	ND	0.20
Toluene	ND	0.14
Chlorobenzene	ND	0.11
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50
1,3-Dichlorobenzene	ND	0.15
1,4-Dichlorobenzene	ND	0.13
1,2-Dichlorobenzene	ND	0.10
Naphthalene	ND	0.50



Method : /chem/VOAGC3.i/602/01-08-99/29jan99.b/GC3-602.m
Sample Info : IG029
Lab ID : IG029
Inj Date : 29-JAN-1999 10:18
Operator : kb
Cpnd Sublist: ALL

Inst ID : VOAGC3.i
Dil Factor : 1
Sample Matrix : WATER
Sample Type: BLANK

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
a,a,a-Trifluorotoluene(sur)	11.351	11.316	0.035	1877312	28.355	28.355

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Instrument ID: VOAGC2

Calibration Date(s): 12/10/98 12/10/98

Calibration Time(s): 0936 1221

LAB FILE ID: RRF2: HPID8450 RRF5: HPID8451 RRF10: HPID8452
RRF20: HPID8453 RRF40: HPID8454

COMPOUND	RRF2	RRF5	RRF10	RRF20	RRF40
TBA **	540	518	451	447	
MTBE	61781	57474	56517	55151	54725
DIPE	64268	62403	61264	59471	59442
Benzene	118325	116403	115498	113435	111232
Toluene	128233	120798	117382	117440	112310
Chlorobenzene	120856	121338	121274	121933	120214
Ethylbenzene	103759	104612	104798	104908	103250
Xylene (Total)	115622	115674	115959	116615	113790
1,3-Dichlorobenzene	97222	95827	100189	102105	103962
1,4-Dichlorobenzene	96553	93581	96989	100085	102550
1,2-Dichlorobenzene	82002	77923	80265	82377	83706
Naphthalene	58048	53387	57665	63002	66938
a,a,a-Trifluorotoluene(sur)	40384	34515	34154	34346	34356

** TBA Calibration Levels are RF200, RF400, RF1000, and RF2000

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Instrument ID: VOAGC2

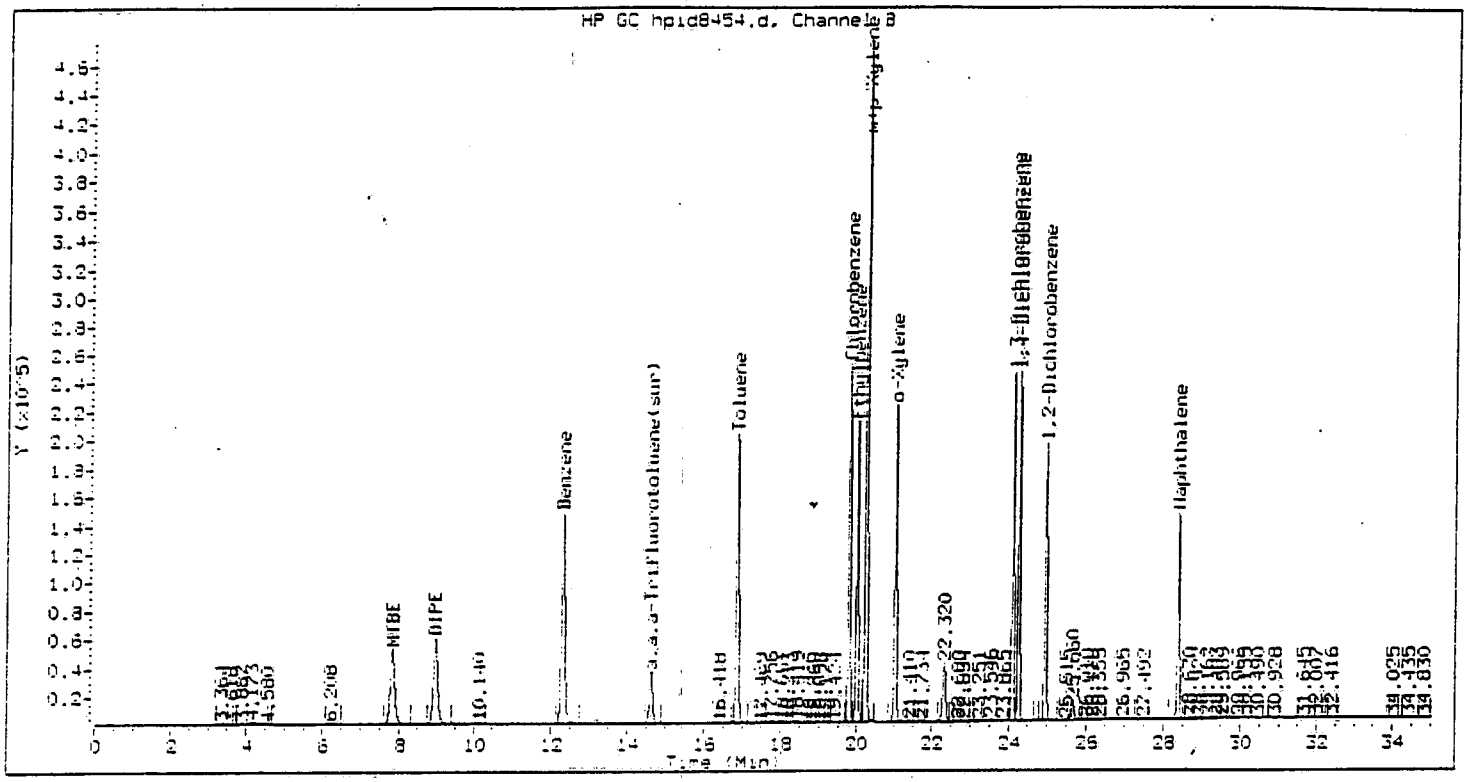
Calibration Date(s): 12/10/98 12/10/98

Calibration Time(s): 0936 1221

COMPOUND	CURVE	COEFFICENT A1	%RSD OR R^2
TBA **	AVRG	489	9.6*
MTBE	AVRG	57130	4.9*
DIPE	AVRG	61370	3.3*
Benzene	AVRG	114978	2.4*
Toluene	AVRG	119232	4.9*
Chlorobenzene	AVRG	121123	0.5*
Ethylbenzene	AVRG	104265	0.7*
Xylene (Total)	AVRG	115532	0.9*
1,3-Dichlorobenzene	AVRG	99861	3.4*
1,4-Dichlorobenzene	AVRG	97952	3.5*
1,2-Dichlorobenzene	AVRG	81254	2.7*
Naphthalene	AVRG	59808	8.8*
a,a,a-Trifluorotoluene(sur)	AVRG	35551	7.6*

** TBA Calibration Levels are RF200, RF400, RF1000, and RF2000
* Compounds with required maximum %RSD values.

Data File: /chem/VOAGC2.i/602/12-10-98/10dec98.b/hpid8454.d Page 1
Report Date 01/11/1999 09:48

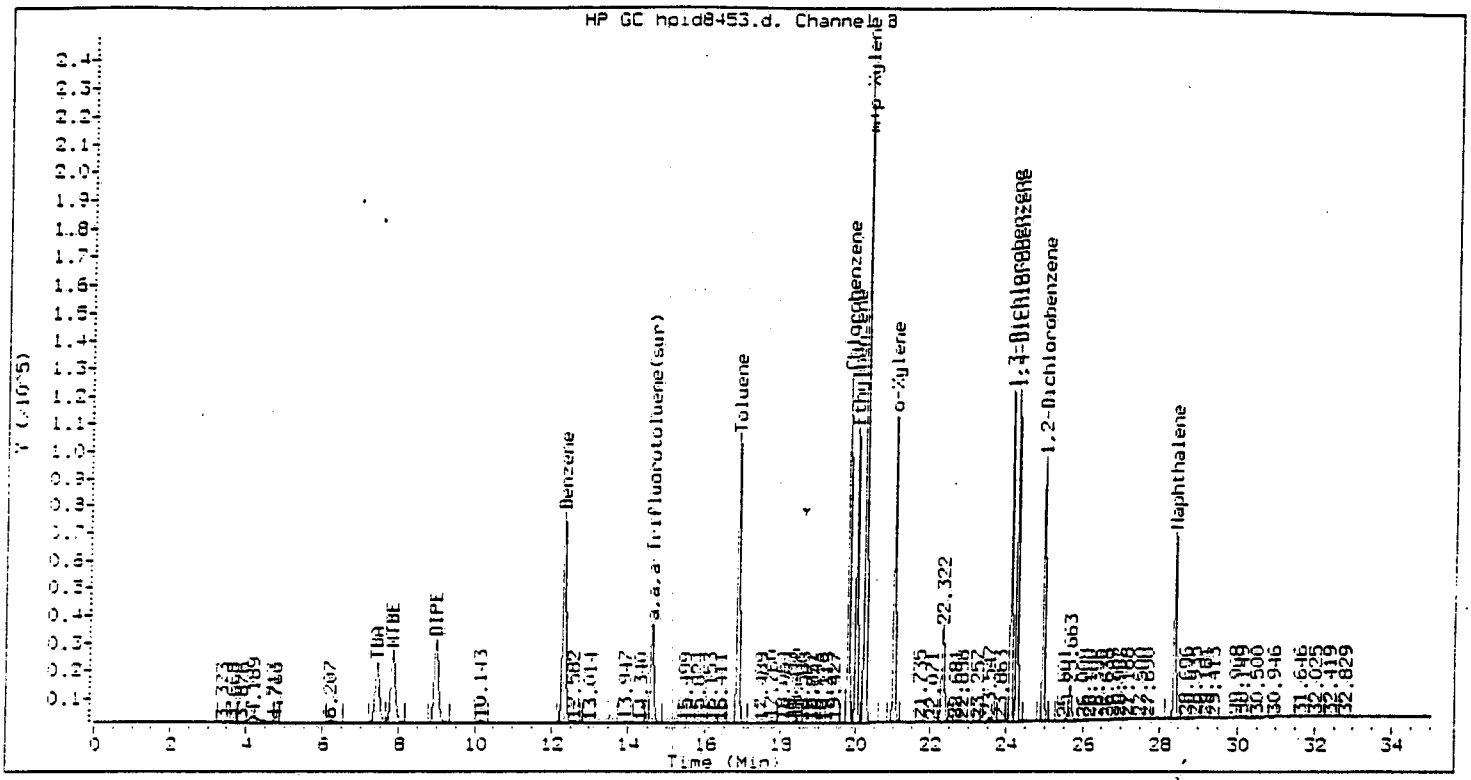


Method : /chem/VOAGC2.i/602/12-10-98/10dec98.b/GC2-602.m
Sample Info : HSTD040
Lab ID : HSTD040 Inst ID : VOAGC2.i
Inj Date : 10-DEC-1998 12:21 Dil Factor : 1
Operator : kb Sample Matrix : WATER
Cpnd Sublist: ALL Sample Type: CALIB_5

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
o-Xylene	21.022	21.022	0.000	4234298	39.390	39.390
m+p-Xylene	20.237	20.237	0.000	9420577	78.800	78.800
MTBE	7.833	7.827	0.005	2189017	38.317	38.317
DIPE	8.976	8.972	0.004	2377698	38.744	38.744
Benzene	12.320	12.318	0.002	4449267	38.697	38.697
Toluene	16.857	16.856	0.001	4492401	37.673	37.673
Chlorobenzene	19.788	19.789	0.001	4808544	39.700	39.700
Ethylbenzene	20.004	20.005	0.001	4120011	39.611	39.611
Xylene (Total)	25.019	25.019	0.000	13654865	118.191	118.191

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1,3-Dichlorobenzene	24.101	24.103	0.002	4158499	41.643	41.643
1,4-Dichlorobenzene	24.261	24.263	0.001	4101984	41.878	41.878
1,2-Dichlorobenzene	24.957	24.958	0.001	3348223	41.207	41.207
Naphthalene	28.390	28.393	0.003	2677520	44.769	44.769
a,a,a-Trifluorotoluene(sur)	14.625	14.623	0.002	1030679	28.991	28.991

Data File: /chem/VOAGC2.i/602/12-10-98/10dec98.b/hpid8453.d Page 1
Report Date 01/11/1999 09:48

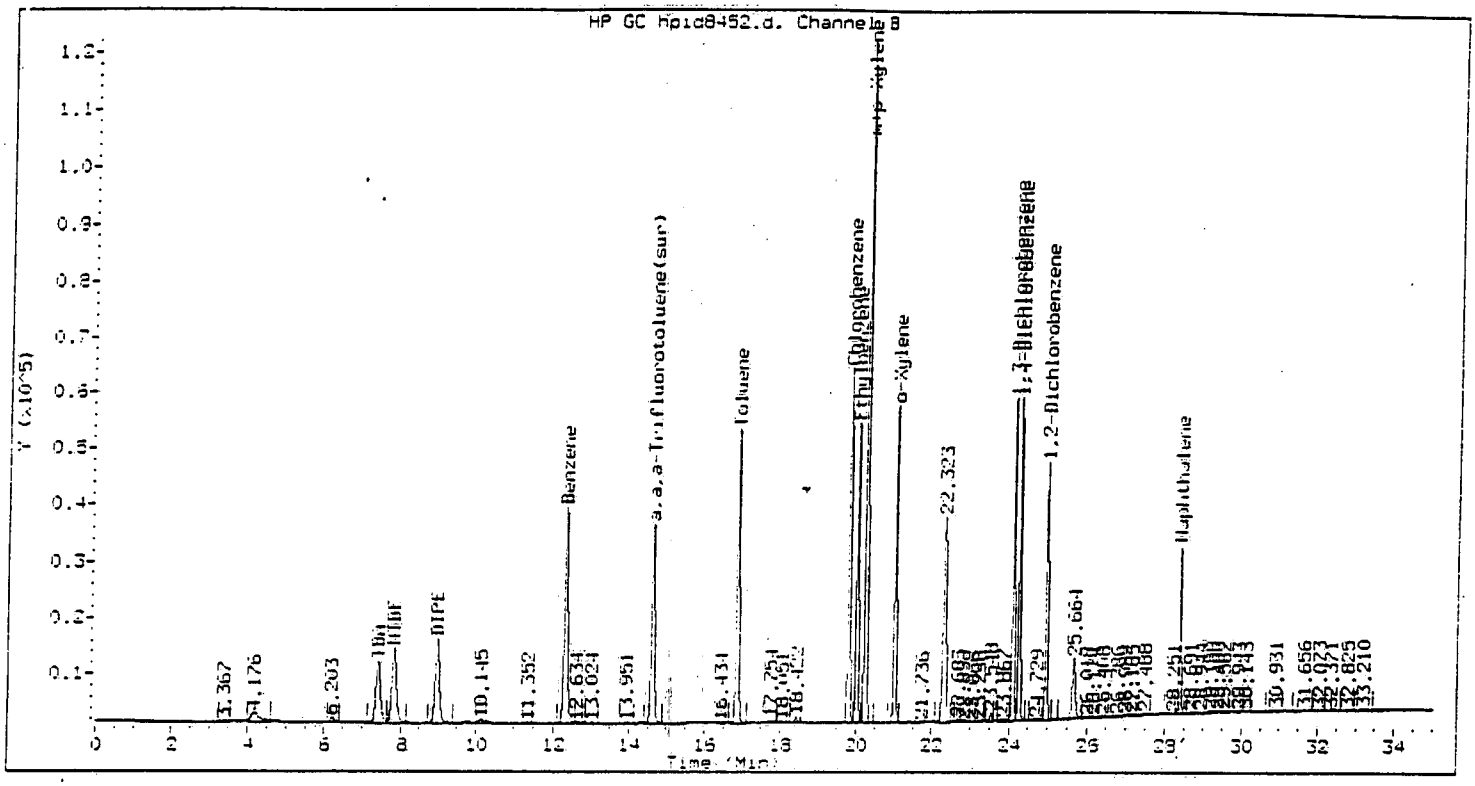


Method : /chem/VOAGC2.i/602/12-10-98/10dec98.b/GC2-602.m
Sample Info : HSTD020
Lab ID : HSTD020 Inst ID : VOAGC2.i
Inj Date : 10-DEC-1998 11:39 Dil Factor : 1
Operator : kb Sample Matrix : WATER
Cpnd Sublist: ALL Sample Type: CALIB_4

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
o-Xylene	21.022	21.022	0.000	2135144	19.787	19.787
m-p-Xylene	20.237	20.237	0.000	4861745	40.515	40.515
TBA	7.418	7.411	0.007	894604	1828.923	1828.923
MTBE	7.831	7.827	0.004	1103012	19.106	19.106
DIPE	8.974	8.972	0.002	1139415	19.230	19.230
Benzene	12.321	12.318	0.003	2268694	19.572	19.572
Toluene	16.858	16.856	0.001	2348791	19.417	19.417
Chlorobenzene	19.790	19.789	0.001	2438657	20.096	20.096
Ethylbenzene	20.006	20.005	0.001	2098171	20.074	20.074

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
Xylene (Total)	25.019	25.019	0.000	6996889	60.335	60.335
1,3-Dichlorobenzene	24.104	24.103	0.001	2042106	20.662	20.662
1,4-Dichlorobenzene	24.263	24.263	0.000	2001698	20.678	20.678
1,2-Dichlorobenzene	24.959	24.958	0.001	1647544	20.430	20.430
Naphthalene	28.393	28.393	0.000	1260030	21.715	21.715
a,a,a-Trifluorotoluene(sur)	14.625	14.623	0.002	1030372	28.741	28.741

Data File: /chem/VOAGC2.i/602/12-10-98/10dec98.b/hpid8452.d Page 1
Report Date 01/11/1999 09:48



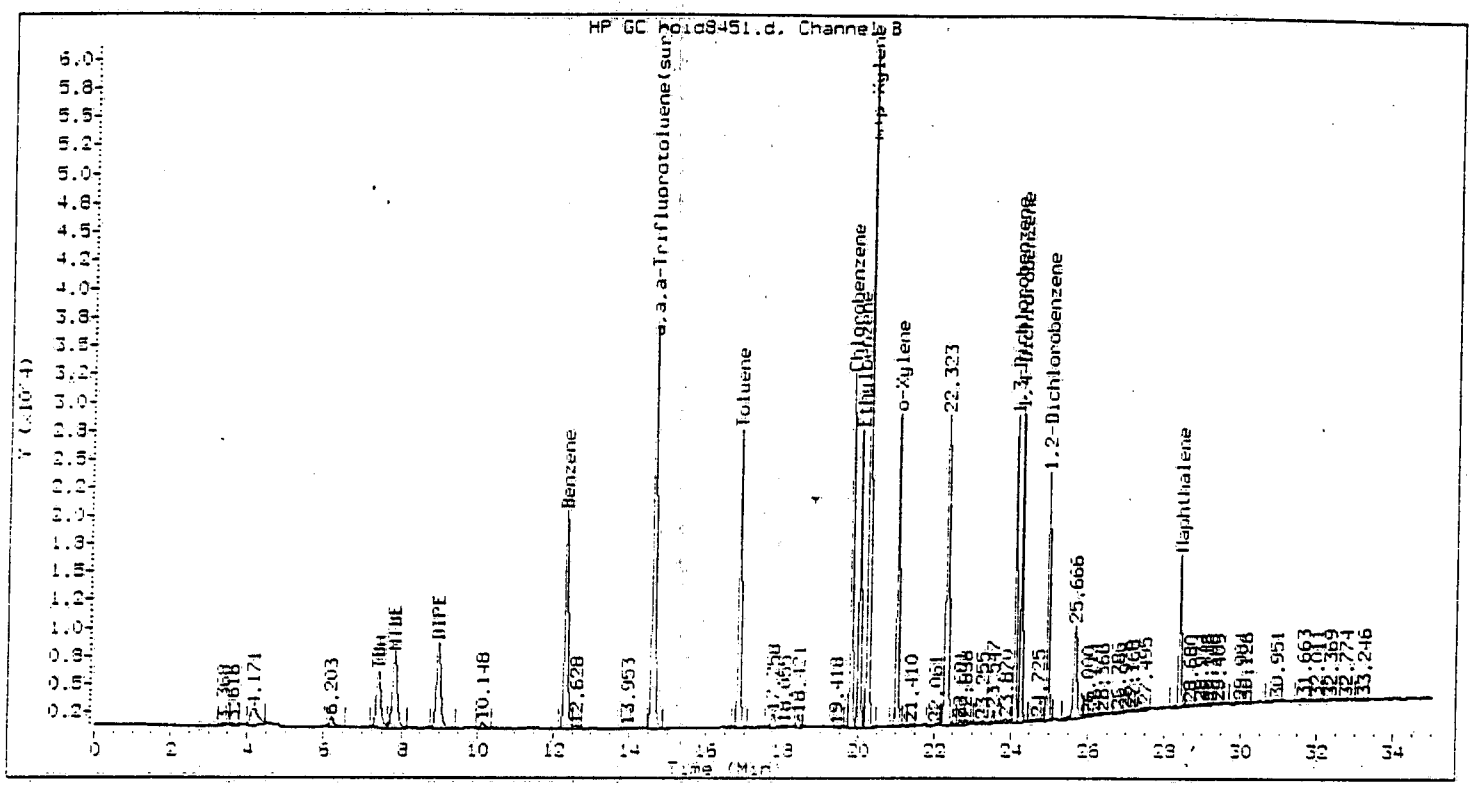
Method : /chem/VOAGC2.i/602/12-10-98/10dec98.b/GC2-602.m
Sample Info : HSTD010
Lab ID : HSTD010
Inj Date : 10-DEC-1998 10:58
Operator : kb
Cpnd Sublist: ALL

Inst ID : VOAGC2.i
Dil Factor : 1
Sample Matrix : WATER
Sample Type: CALIB_3

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
o-Xylene	21.023	21.022	0.002	1074288	9.921	9.921
m+p-Xylene	20.238	20.237	0.001	2404489	20.124	20.124
TBA	7.412	7.411	0.001	451256	396.970	396.970
MTBE	7.828	7.827	0.000	565173	9.646	9.646
DIPE	8.972	8.972	0.000	612640	9.780	9.780
Benzene	12.320	12.318	0.002	1154978	9.893	9.893
Toluene	16.858	16.856	0.001	1173816	9.611	9.611
Chlorobenzene	19.790	19.789	0.001	1212735	10.010	10.010
Ethylbenzene	20.007	20.005	0.002	1047980	10.039	10.039

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
Xylene (Total)	25.019	25.019	0.000	3479777	30.054	30.054
1,3-Dichlorobenzene	24.105	24.103	0.001	1001989	10.250	10.250
1,4-Dichlorobenzene	24.264	24.263	0.001	969889	10.134	10.134
1,2-Dichlorobenzene	24.959	24.958	0.001	802652	10.025	10.025
Naphthalene	28.393	28.393	0.000	576648	10.230	10.230
a,a,a-Trifluorotoluene(sur)	14.625	14.623	0.002	1024629	28.187	28.187

Data File: /chem/VOAGC2.i/602/12-10-98/10dec98.b/hpid8451.d Page 1
Report Date 01/11/1999 09:48



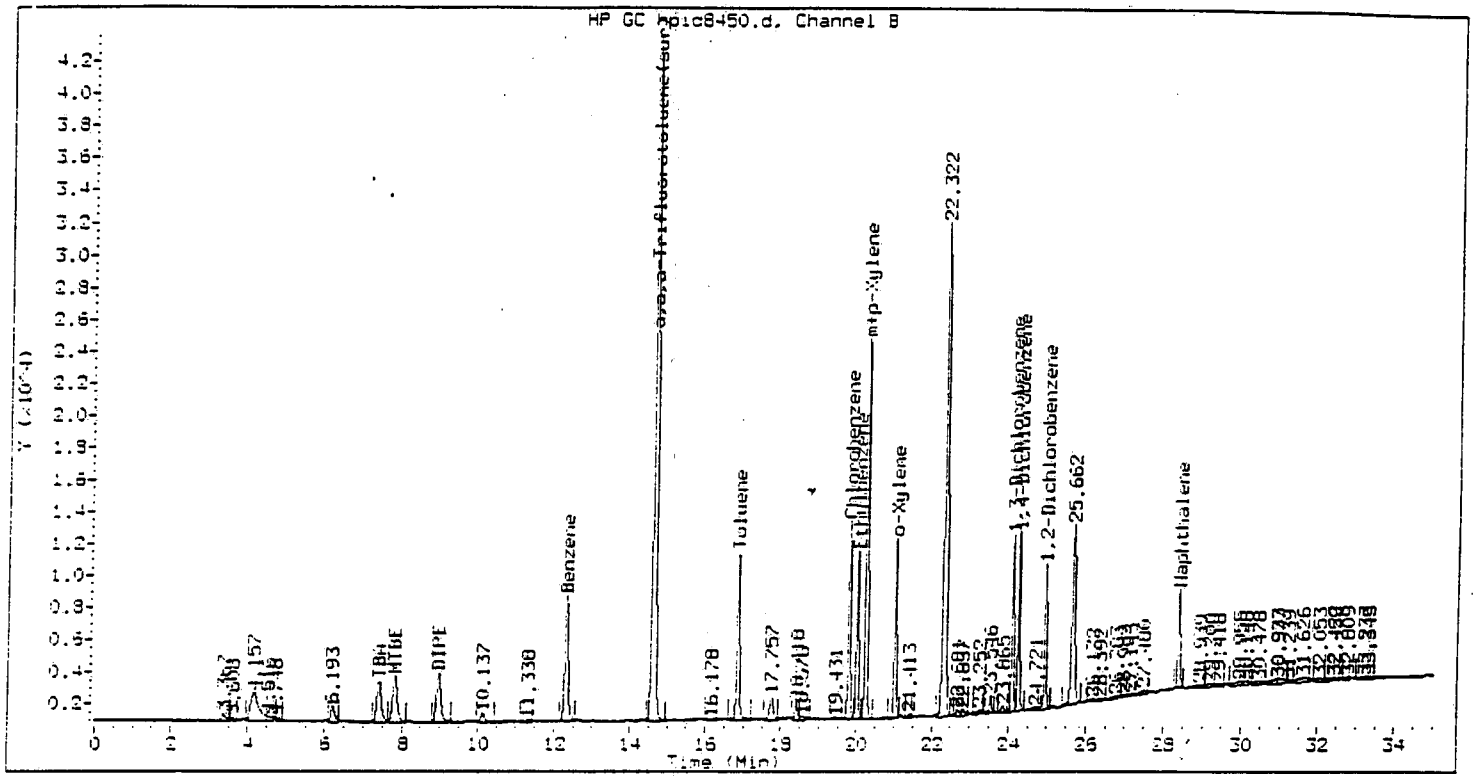
Method : /chem/VOAGC2.i/602/12-10-98/10dec98.b/GC2-602.m
Sample Info : HSTD005
Lab ID : HSTD005
Inj Date : 10-DEC-1998 10:17
Operator : kb
Cpnd Sublist: ALL

Inst ID : VOAGC2.i
Dil Factor : 1
Sample Matrix : WATER
Sample Type: CALIB_2

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
o-Xylene	21.022	21.022	0.000	539103	4.959	4.959
m+p-Xylene	20.238	20.237	0.001	1196006	10.041	10.041
TBA	7.410	7.411	0.001	207251	391.774	391.774
MTBE	7.827	7.827	0.000	287371	4.819	4.819
DIPE	8.971	8.972	0.001	312016	4.926	4.926
Benzene	12.318	12.318	0.000	582013	4.959	4.959
Toluene	16.856	16.856	0.000	603991	4.851	4.851
Chlorobenzene	19.790	19.789	0.001	606692	5.010	5.010
Ethylbenzene	20.005	20.005	0.000	523058	5.020	5.020

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
Xylene (Total)	25.019	25.019	0.000	1735109	15.003	15.003
1,3-Dichlorobenzene	24.104	24.103	0.001	479134	4.964	4.964
1,4-Dichlorobenzene	24.263	24.263	0.001	467907	4.922	4.922
1,2-Dichlorobenzene	24.959	24.958	0.001	389613	4.872	4.872
Naphthalene	28.395	28.393	0.002	266934	4.791	4.791
a,a,a-Trifluorotoluene(sur)	14.621	14.623	0.002	1025456	27.649	27.649

Data File: /chem/VOAGC2.i/602/12-10-98/10dec98.b/hpid8450.d Page 1
Report Date 01/11/1999 09:48



Method : /chem/VOAGC2.i/602/12-10-98/10dec98.b/GC2-602.m
Sample Info : HSTD002
Lab ID : HSTD002
Inj Date : 10-DEC-1998 09:36
Operator : kb
Cpnd Sublist: ALL

Inst ID : VOAGC2.i
Dil Factor : 1
Sample Matrix : WATER
Sample Type: CALIB_1

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
o-Xylene	21.019	21.022	0.002	219239	2.000	2.000
m+p-Xylene	20.235	20.237	0.002	474494	4.000	4.000
TBA	7.405	7.411	0.007	107977	200.000	200.000
MTBE	7.818	7.827	0.009	123562	2.000	2.000
DIPE	8.967	8.972	0.005	123535	2.000	2.000
Benzene	12.311	12.318	0.007	236650	2.000	2.000
Toluene	16.853	16.856	0.003	256466	2.000	2.000
Chlorobenzene	19.787	19.789	0.002	241711	2.000	2.000
Ethylbenzene	20.002	20.005	0.003	207518	2.000	2.000

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
Xylene (Total)	25.019	25.019	0.000	693733	6.000	6.000
1,3-Dichlorobenzene	24.103	24.103	0.001	194445	2.000	2.000
1,4-Dichlorobenzene	24.262	24.263	0.001	193106	2.000	2.000
1,2-Dichlorobenzene	24.957	24.958	0.001	164003	2.000	2.000
Naphthalene	28.394	28.393	0.001	116097	2.000	2.000
a,a,a-Trifluorotoluene(sur)	14.619	14.623	0.004	1211528	30.000	30.000

VOLATILE ORGANICS CONTINUING CALIBRATION CHECK

Instrument ID: VOAGC2 Calibration Date: 01/22/99 Time: 1035

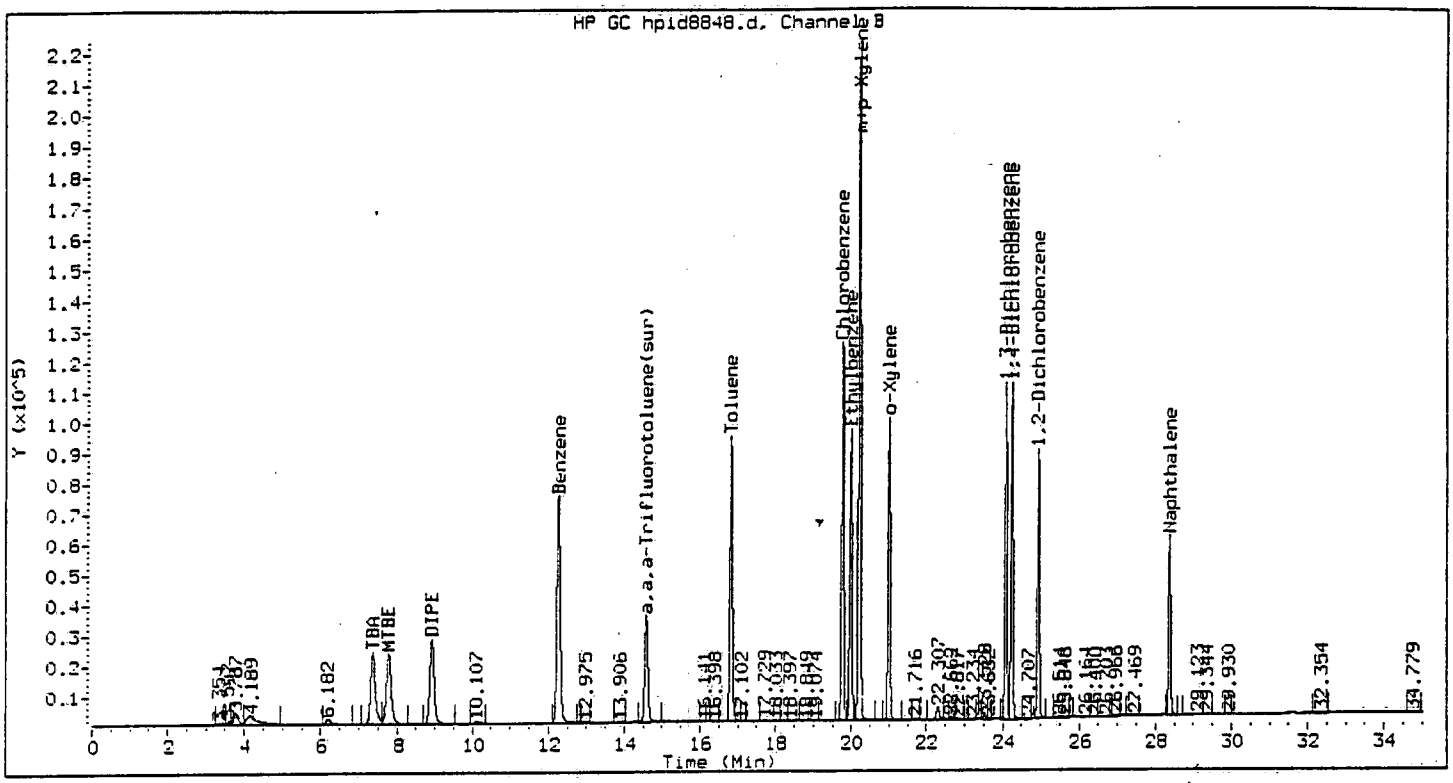
Lab File ID: HPID8848 Init. Calib. Date(s): 12/10/98 12/10/98

Heated Purge: (Y/N) N Init. Calib. Times: 0936 1221

COMPOUND	$\overline{RRF}$	RRF20	MIN RRF	%D	MAX %D
TBA **	489.14	510.93		-4.4	50.0
MTBE	57129.70	51691.95		9.5	50.0
DIPE	61369.58	56719.10		7.6	50.0
Benzene	114978.36	113411.95		1.4	23.0
Toluene	119232.47	107138.05		10.1	22.5
Chlorobenzene	121122.77	121474.65		-0.0	19.5
Ethylbenzene	104265.49	95621.95		8.3	37.0
Xylene (Total)	115532.14	106211.58		8.1	50.0
1,3-Dichlorobenzene	99861.20	96209.30		3.6	27.5
1,4-Dichlorobenzene	97951.56	94527.25		3.5	30.5
1,2-Dichlorobenzene	81254.42	77198.15		5.0	32.0
Naphthalene	59807.92	55358.20		7.4	50.0
a,a,a-Trifluorotoluene(sur)	35551.09	34020.17		4.3	22.0

** TBA Continuing Calibration Level is RF2000.

Data File: /chem/VOAGC2.i/602/12-10-98/22JAN99.b/hpid8848.d Page 1
Report Date 01/25/1999 09:40



Method : /chem/VOAGC2.i/602/12-10-98/22JAN99.b/GC2-602.m
Sample Info : HSTD020
Lab ID : HSTD020
Inj Date : 22-JAN-1999 10:35
Operator : kb
Cpnd Sublist: ALL

Inst ID : VOAGC2.i
Dil Factor : 1
Sample Matrix : WATER
Sample Type: CCALIB_4

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
o-Xylene	21.000	21.022	0.022	1912389	17.790	17.790
m+p-Xylene	20.214	20.237	0.023	4460306	37.309	37.309
TBA	7.370	7.411	0.041	1021857	2089.078	2089.078
MTBE	7.783	7.827	0.044	1033839	18.096	18.096
DIPE	8.922	8.972	0.050	1134382	18.484	18.484
Benzene	12.267	12.318	0.051	2268239	19.728	19.728
Toluene	16.820	16.856	0.036	2142761	17.971	17.971
Chlorobenzene	19.764	19.789	0.025	2429493	20.058	20.058
Ethylbenzene	19.982	20.005	0.023	1912439	18.342	18.342

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
Xylene (Total)	25.019	25.019	0.000	6372695	55.160	55.160
1,3-Dichlorobenzene	24.084	24.103	0.019	1924186	19.269	19.269
1,4-Dichlorobenzene	24.243	24.263	0.019	1890545	19.301	19.301
1,2-Dichlorobenzene	24.939	24.958	0.019	1543963	19.002	19.002
Naphthalene	28.373	28.393	0.020	1107164	18.512	18.512
a,a,a-Trifluorotoluene(sur)	14.584	14.623	0.039	1020605	28.708	28.708

VOLATILE ORGANICS CONTINUING CALIBRATION CHECK

Instrument ID: VOAGC2 Calibration Date: 01/26/99 Time: 0834

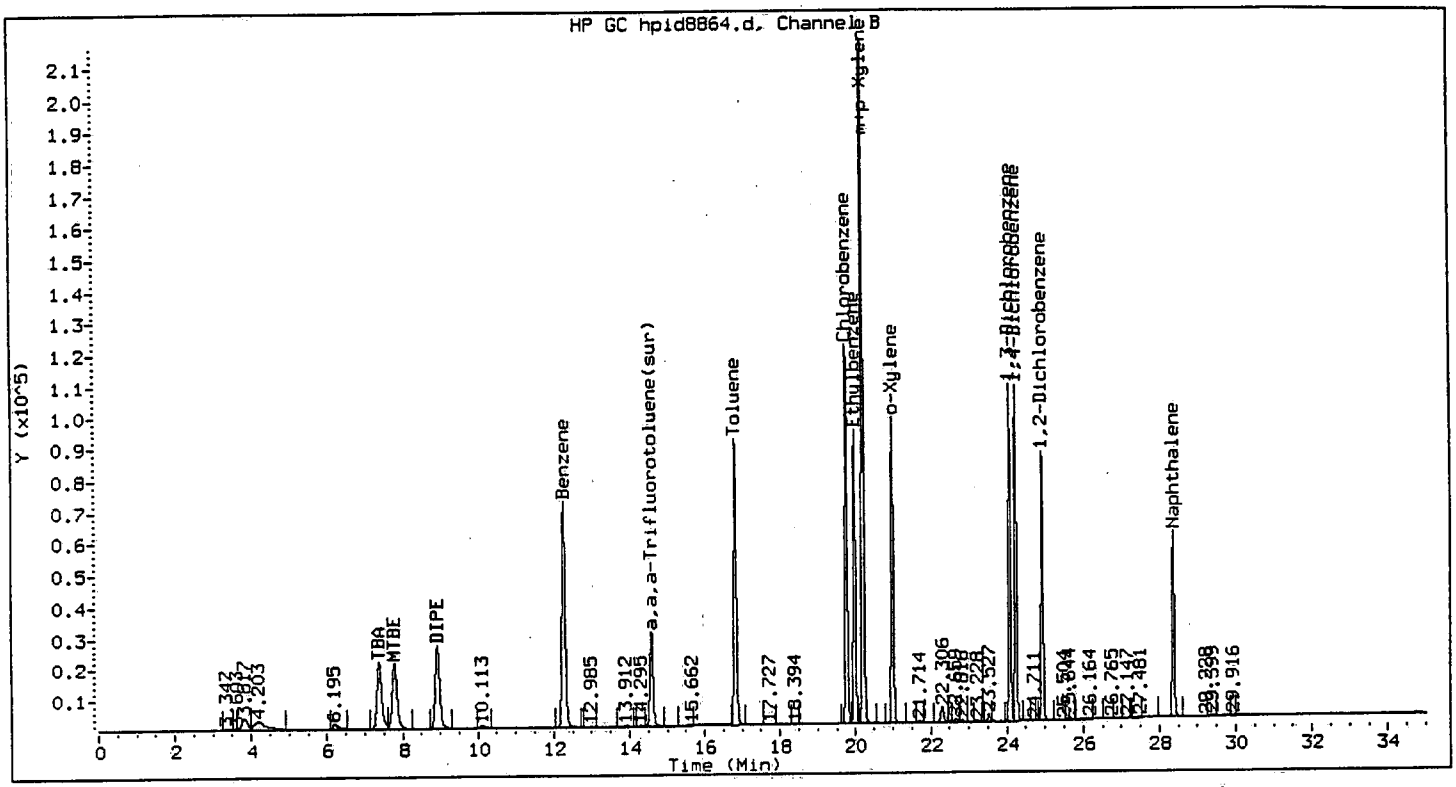
Lab File ID: HPID8864 Init. Calib. Date(s): 12/10/98 12/10/98

Heated Purge: (Y/N) N Init. Calib. Times: 0936 1221

COMPOUND	$\overline{RRF}$	RRF20	MIN RRF	%D	MAX %D
TBA **	489.14	467.64		4.4	50.0
MTBE	57129.70	47606.45		16.7	50.0
DIPE	61369.58	53870.60		12.2	50.0
Benzene	114978.36	108256.00		5.8	23.0
Toluene	119232.47	102513.10		14.0	22.5
Chlorobenzene	121122.77	116859.45		3.5	19.5
Ethylbenzene	104265.49	92354.10		11.4	37.0
Xylene (Total)	115532.14	103438.80		10.5	50.0
1,3-Dichlorobenzene	99861.20	93109.40		6.8	27.5
1,4-Dichlorobenzene	97951.56	90949.75		7.1	30.5
1,2-Dichlorobenzene	81254.42	75230.20		7.4	32.0
Naphthalene	59807.92	55733.45		6.8	50.0
a,a,a-Trifluorotoluene(sur)	35551.09	29116.03		18.1	22.0

** TBA Continuing Calibration Level is RF2000.

ata File: /chem/VOAGC2.i/602/12-10-98/26jan99.b/hpid8864.d Page 1
eport Date 01/27/1999 08:48



Method : /chem/VOAGC2.i/602/12-10-98/26jan99.b/GC2-602.m
Sample Info : HSTD020
Lab ID : HSTD020
Inj Date : 26-JAN-1999 08:34
Operator : kb
Cpnd Sublist: ALL

Inst ID : VOAGC2.i
Dil Factor : 1
Sample Matrix : WATER
Sample Type: CCALIB_4

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
o-Xylene	20.998	21.022	0.024	1876344	17.455	17.455
m+p-Xylene	20.212	20.237	0.025	4329984	36.219	36.219
TBA	7.377	7.411	0.034	935276	1912.072	1912.072
MTBE	7.788	7.827	0.039	952129	16.666	16.666
DIPE	8.926	8.972	0.046	1077412	17.556	17.556
Benzene	12.270	12.318	0.047	2165120	18.831	18.831
Toluene	16.820	16.856	0.036	2050262	17.195	17.195
Chlorobenzene	19.762	19.789	0.027	2337189	19.296	19.296
Ethylbenzene	19.980	20.005	0.025	1847082	17.715	17.715

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
Xylene (Total)	25.019	25.019	0.000	6206328	53.719	53.719
,3-Dichlorobenzene	24.083	24.103	0.021	1862188	18.648	18.648
1,4-Dichlorobenzene	24.242	24.263	0.020	1818995	18.570	18.570
,2-Dichlorobenzene	24.938	24.958	0.020	1504604	18.517	18.517
Naphthalene	28.369	28.393	0.024	1114669	18.637	18.637
,a,a-Trifluorotoluene(sur)	14.586	14.623	0.037	873481	24.570	24.570

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Instrument ID: VOAGC2

Calibration Date(s): 01/27/99 01/27/99

Calibration Time(s): 0907 1152

LAB FILE ID: RRF2: HPID8896 RRF5: HPID8897 RRF10: HPID8898
RRF20: HPID8895 RRF40: HPID8899

COMPOUND	RRF2	RRF5	RRF10	RRF20	RRF40
TBA **	524	508	460	422	
MTBE	53196	48984	46688	47879	45741
DIPE	64960	56290	54670	54146	54898
Benzene	117991	109519	104672	103297	105060
Toluene	124864	112956	106567	105396	106921
Chlorobenzene	120192	111672	109237	109833	112910
Ethylbenzene	102245	96110	93640	94802	96716
Xylene (Total)	115608	106915	103904	104723	107482
1,3-Dichlorobenzene	88190	82142	83595	89418	92887
1,4-Dichlorobenzene	86834	80146	81800	87821	91055
1,2-Dichlorobenzene	70010	65602	67112	72040	73057
a,a,a-Trifluorotoluene(sur)	28560	30269	30395	31714	28386

** TBA Calibration Levels are RF200, RF400, RF1000, and RF2000

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Instrument ID: VOAGC2

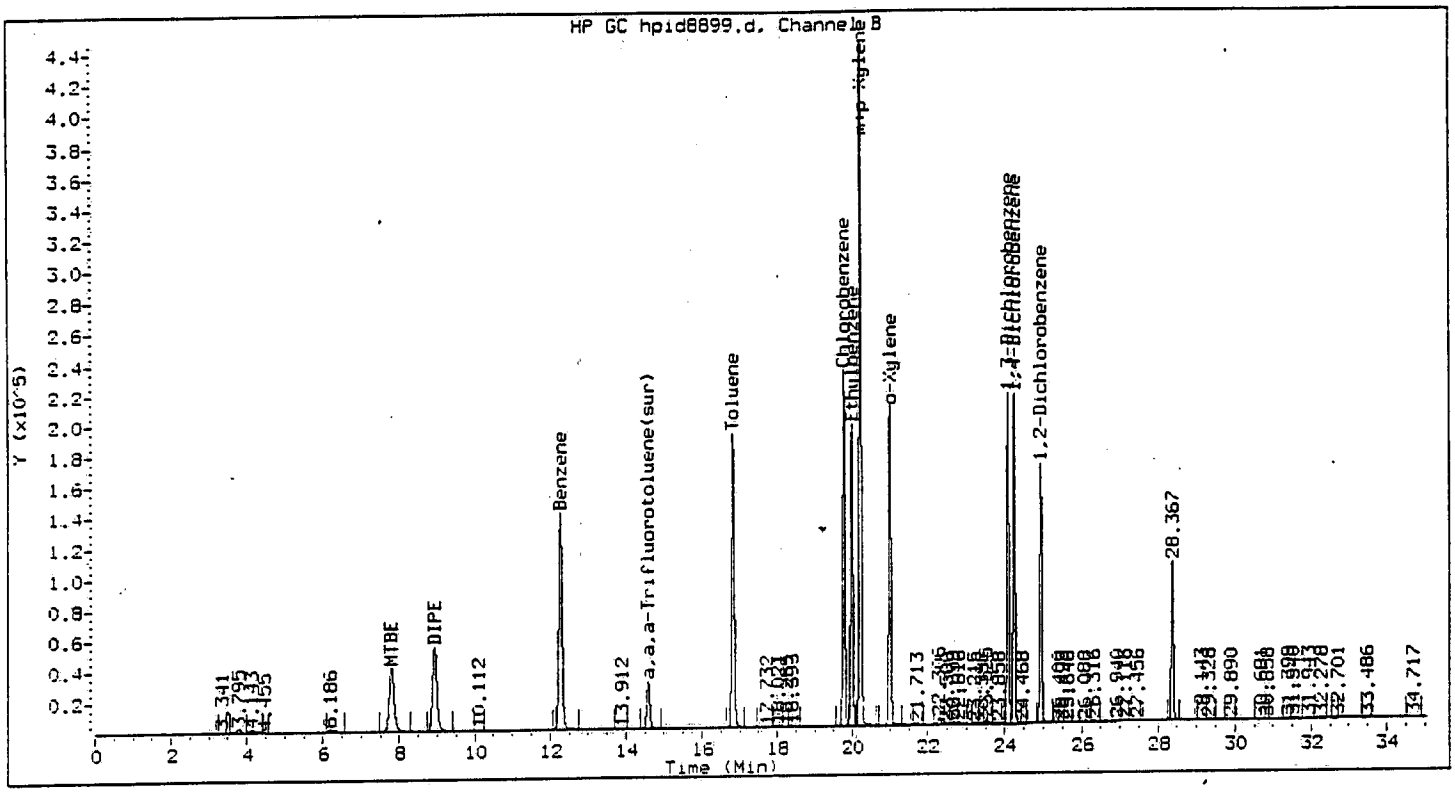
Calibration Date(s): 01/27/99 01/27/99

Calibration Time(s): 0907 1152

COMPOUND	CURVE	COEFFICENT A1	%RSD OR R^2
TBA **	AVRG	478	9.7*
MTBE	AVRG	48497	6.0*
DIPE	AVRG	56993	7.9*
Benzene	AVRG	108108	5.5*
Toluene	AVRG	111341	7.3*
Chlorobenzene	AVRG	112769	3.9*
Ethylbenzene	AVRG	96703	3.4*
Xylene (Total)	AVRG	107727	4.3*
1,3-Dichlorobenzene	AVRG	87246	5.0*
1,4-Dichlorobenzene	AVRG	85531	5.2*
1,2-Dichlorobenzene	AVRG	69564	4.6*
a,a,a-Trifluorotoluene(sur)	AVRG	29865	4.7*

** TBA Calibration Levels are RF200, RF400, RF1000, and RF2000
* Compounds with required maximum %RSD values.

Data File: /chem/VOAGC2.i/602/01-27-99/27jan99.b/hpid8899.d Page 1
Report Date 01/28/1999 09:24

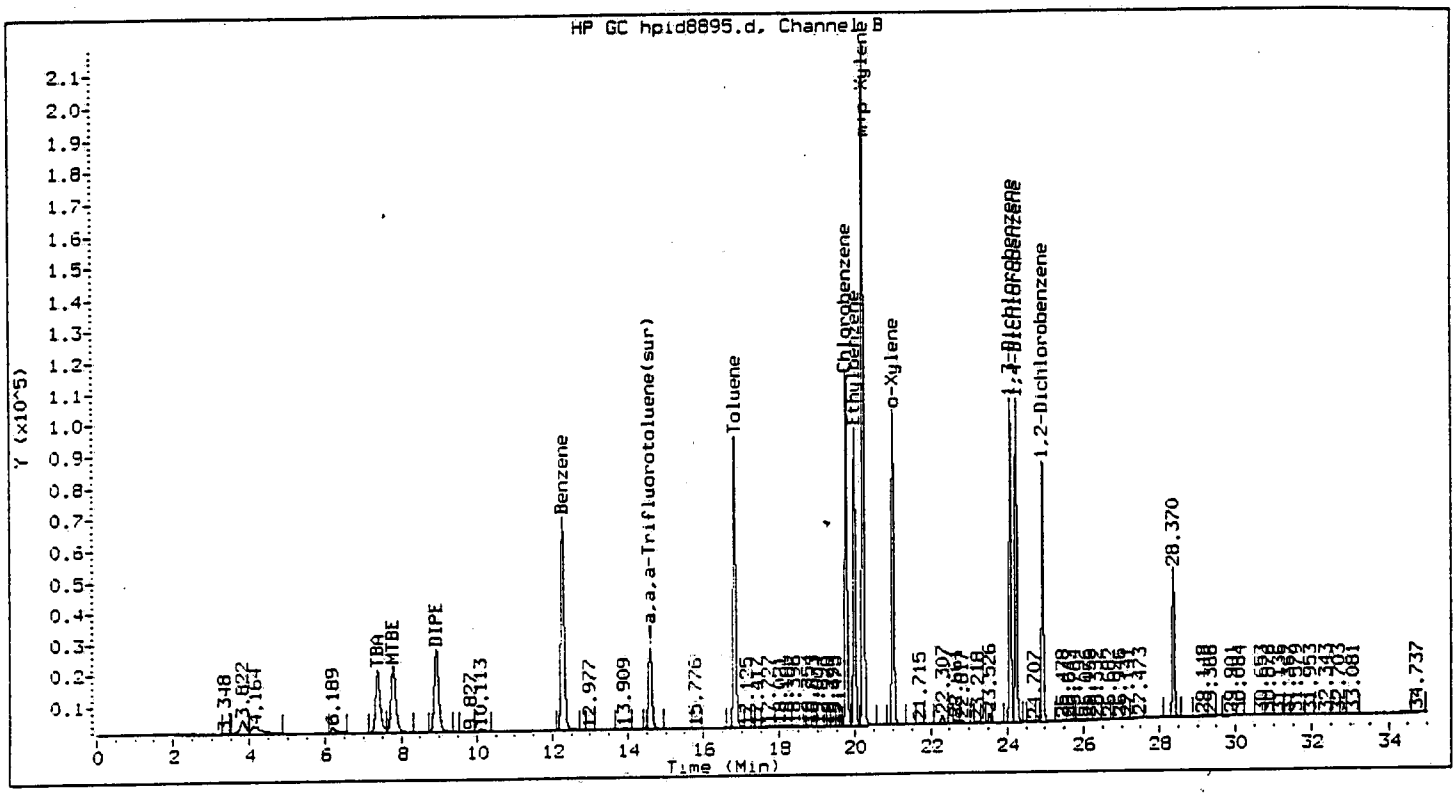


Method : /chem/VOAGC2.i/602/01-27-99/27jan99.b/GC2-602.m
Sample Info : HSTD040
Lab ID : HSTD040
Inj Date : 27-JAN-1999 11:52
Operator : kb
Cpnd Sublist: 602

Inst ID : VOAGC2.i
Dil Factor : 1
Sample Matrix : WATER
Sample Type: CALIB_5

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
o-Xylene	20.998	20.998	0.000	3983113	39.437	39.437
m+p-Xylene	20.213	20.212	0.001	8914765	80.247	80.247
MTBE	7.788	7.790	0.002	1829636	37.726	37.726
DIPE	8.926	8.929	0.003	2195900	38.529	38.529
Benzene	12.276	12.275	0.001	4202405	38.872	38.872
Toluene	16.823	16.822	0.001	4276830	38.412	38.412
Chlorobenzene	19.762	19.761	0.001	4516422	40.050	40.050
Ethylbenzene	19.981	19.979	0.001	3868641	40.006	40.006
Xylene (Total)	25.019	25.019	0.000	12897878	119.728	119.728

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1,3-Dichlorobenzene	24.082	24.081	0.001	3715469	42.586	42.586
1,4-Dichlorobenzene	24.241	24.240	0.001	3642191	42.583	42.583
1,2-Dichlorobenzene	24.937	24.935	0.001	2922299	42.009	42.009
a,a,a-Trifluorotoluene(sur)	14.589	14.588	0.001	851572	28.514	28.514

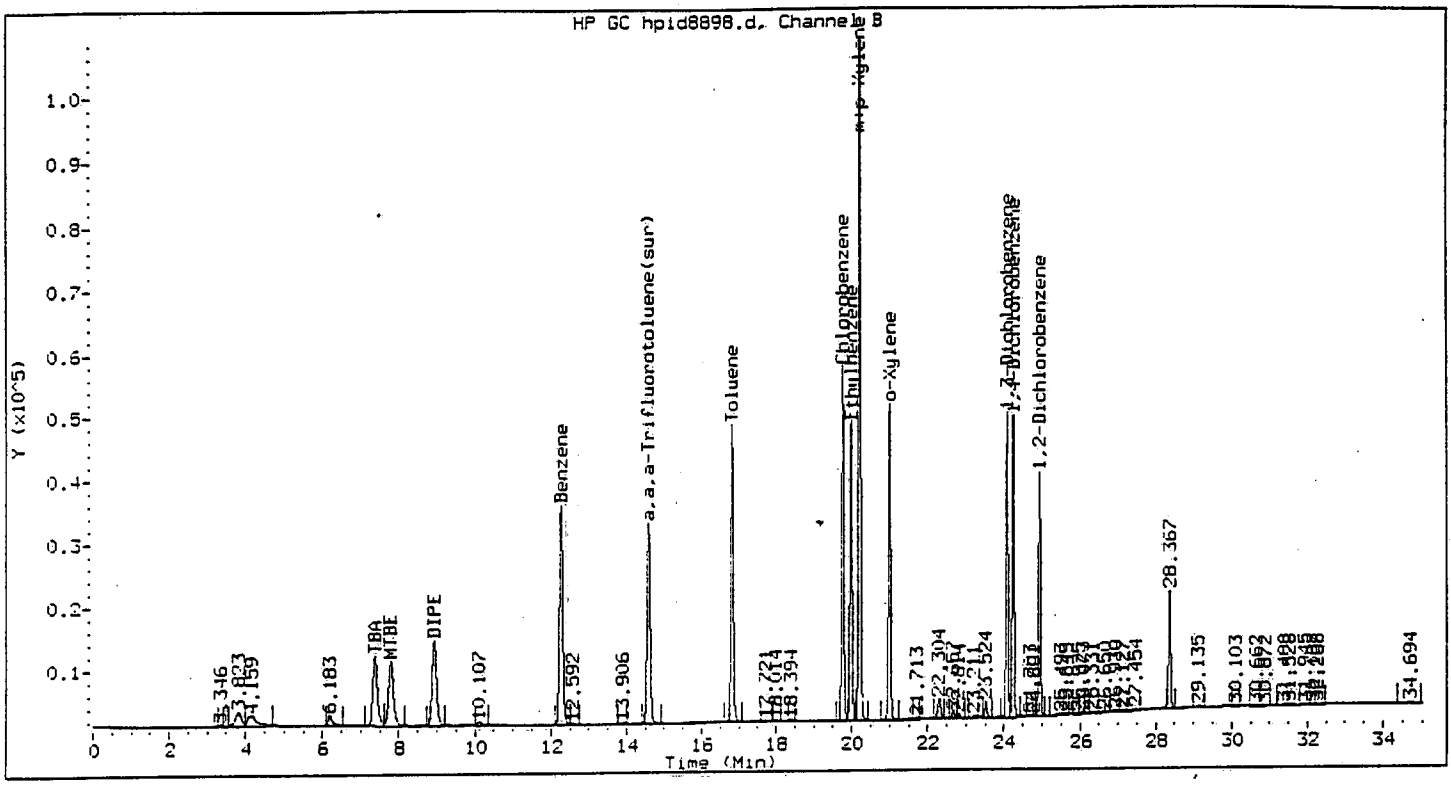


Method : /chem/VOAGC2.i/602/01-27-99/27jan99.b/GC2-602.m
Sample Info : HSTD020
Lab ID : HSTD020
Inj Date : 27-JAN-1999 09:07
Operator : kb
Cpnd Sublist: 602

Inst ID : VOAGC2.i
Dil Factor : 1
Sample Matrix : WATER
Sample Type: CALIB_4

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
o-Xylene	21.000	20.998	0.002	1934401	20.000	20.000
m+p-Xylene	20.213	20.212	0.002	4349004	40.000	40.000
TBA	7.376	7.370	0.006	844657	2000.000	2000.000
MTBE	7.792	7.790	0.003	957581	20.000	20.000
DIPE	8.931	8.929	0.002	1082923	20.000	20.000
Benzene	12.277	12.275	0.002	2065942	20.000	20.000
Toluene	16.823	16.822	0.001	2107928	20.000	20.000
Chlorobenzene	19.762	19.761	0.001	2196657	20.000	20.000
Ethylbenzene	19.981	19.979	0.001	1896047	20.000	20.000

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
Xylene (Total)	25.019	25.019	0.000	6283405	60.000	60.000
1,3-Dichlorobenzene	24.083	24.081	0.002	1788356	20.000	20.000
1,4-Dichlorobenzene	24.242	24.240	0.002	1756427	20.000	20.000
1,2-Dichlorobenzene	24.938	24.935	0.002	1440805	20.000	20.000
a,a,a-Trifluorotoluene(sur)	14.591	14.588	0.003	951409	30.000	30.000

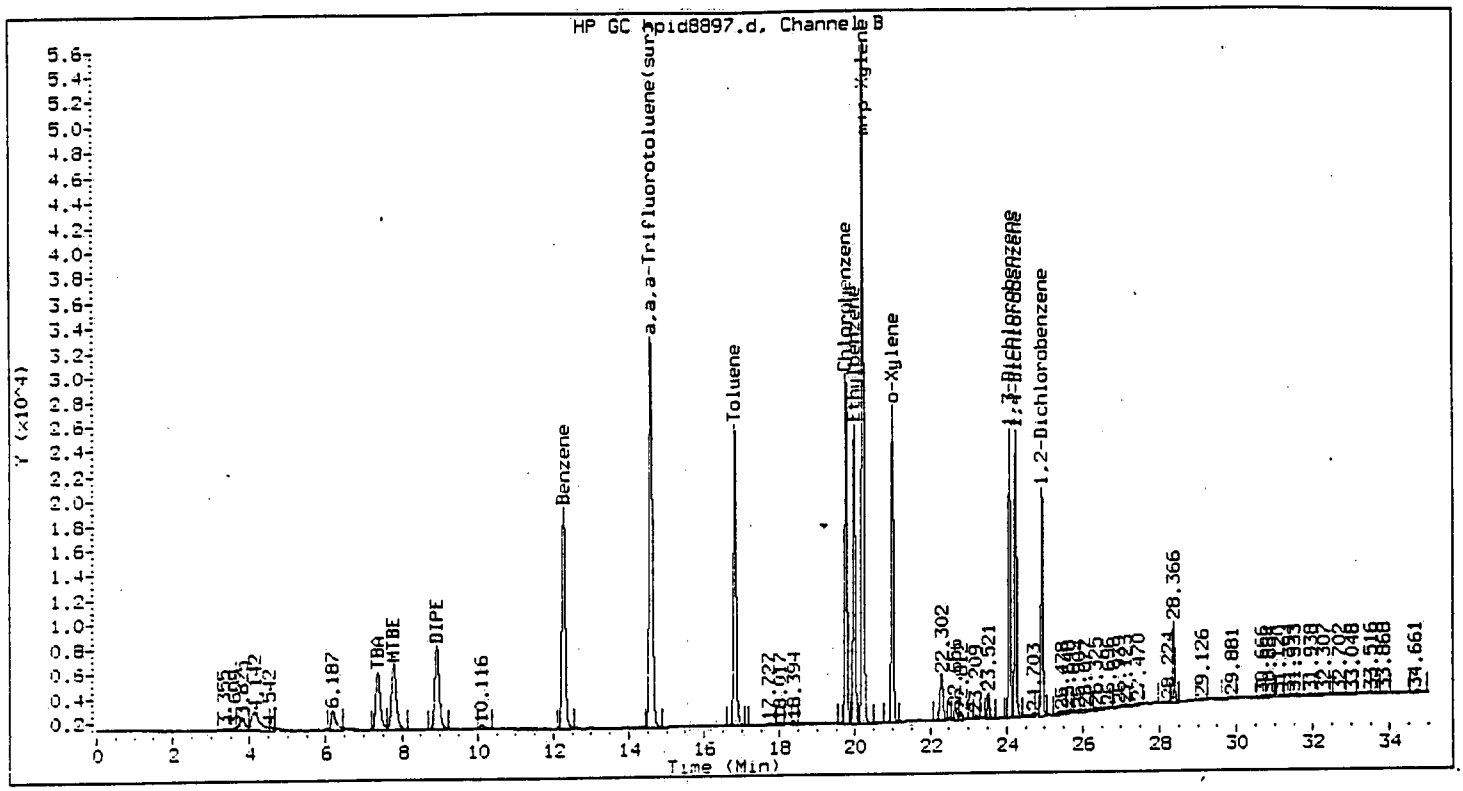


Method : /chem/VOAGC2.i/602/01-27-99/27jan99.b/GC2-602.m
Sample Info : HSTD010
Lab ID : HSTD010
Inj Date : 27-JAN-1999 11:11
Operator : kb
Cpnd Sublist: 602

Inst ID : VOAGC2.i
Dil Factor : 1
Sample Matrix : WATER
Sample Type: CALIB_3

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
o-Xylene	20.998	20.998	0.000	969120	9.562	9.562
m+p-Xylene	20.210	20.212	0.002	2148017	19.351	19.351
TBA	7.365	7.370	0.005	459598	960.518	960.518
MTBE	7.788	7.790	0.002	466876	9.492	9.492
DIPE	8.927	8.929	0.002	546699	9.505	9.505
Benzene	12.271	12.275	0.004	1046719	9.614	9.614
Toluene	16.820	16.822	0.002	1065667	9.477	9.477
Chlorobenzene	19.760	19.761	0.001	1092371	9.690	9.690
Ethylbenzene	19.978	19.979	0.001	936399	9.684	9.684

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
Xylene (Total)	25.019	25.019	0.000	3117137	28.919	28.919
1,3-Dichlorobenzene	24.079	24.081	0.002	835951	9.739	9.739
1,4-Dichlorobenzene	24.238	24.240	0.002	818004	9.721	9.721
1,2-Dichlorobenzene	24.934	24.935	0.002	671117	9.770	9.770
a,a,a-Trifluorotoluene(sur)	14.584	14.588	0.004	911848	30.159	30.159

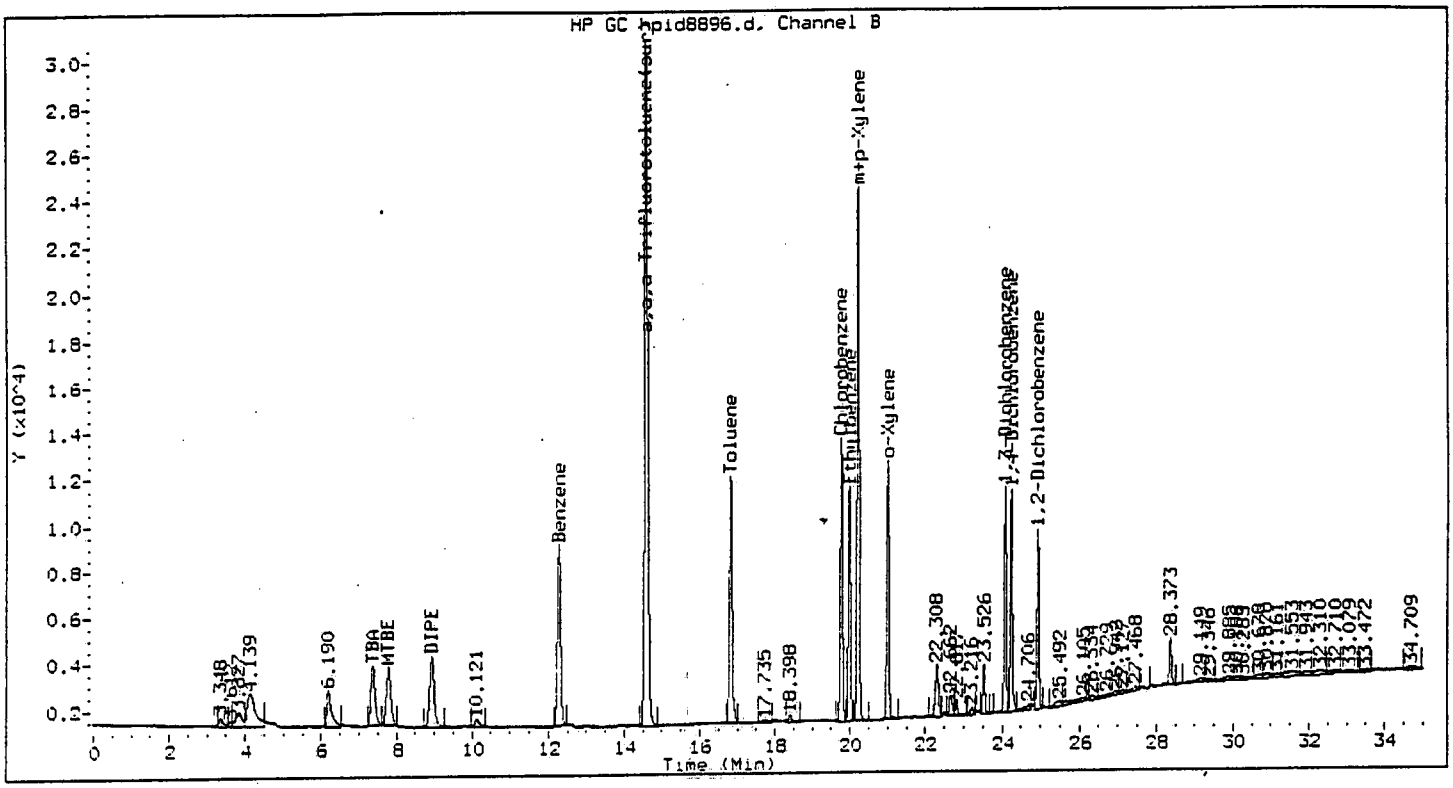


Method : /chem/VOAGC2.i/602/01-27-99/27jan99.b/GC2-602.m
Sample Info : HSTD005
Lab ID : HSTD005
Inj Date : 27-JAN-1999 10:30
Operator : kb
Cpnd Sublist: 602

Inst ID : VOAGC2.i
Dil Factor : 1
Sample Matrix : WATER
Sample Type: CALIB_2

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
o-Xylene	20.994	20.998	0.004	500659	4.869	4.869
m+p-Xylene	20.209	20.212	0.003	1103070	9.831	9.831
TBA	7.368	7.370	0.002	203245	419.246	419.246
MTBE	7.790	7.790	0.000	244918	4.896	4.896
DIPE	8.928	8.929	0.001	281450	4.814	4.814
Benzene	12.274	12.275	0.001	547595	4.966	4.966
Toluene	16.820	16.822	0.002	564781	4.937	4.937
Chlorobenzene	19.759	19.761	0.002	558359	4.902	4.902
Ethylbenzene	19.976	19.979	0.003	480550	4.918	4.918

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
Xylene (Total)	25.019	25.019	0.000	1603729	14.702	14.702
1,3-Dichlorobenzene	24.078	24.081	0.003	410709	4.744	4.744
1,4-Dichlorobenzene	24.237	24.240	0.003	400730	4.718	4.718
1,2-Dichlorobenzene	24.932	24.935	0.003	328012	4.739	4.739
a,a,a-Trifluorotoluene(sur)	14.586	14.588	0.002	908059	30.087	30.087



Method : /chem/VOAGC2.i/602/01-27-99/27jan99.b/GC2-602.m
Sample Info : HSTD002
Lab ID : HSTD002
Inj Date : 27-JAN-1999 09:48
Operator : kb
Cpnd Sublist: 602

Inst ID : VOAGC2.i
Dil Factor : 1
Sample Matrix : WATER
Sample Type: CALIB_1

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
o-Xylene	21.000	20.998	0.002	223302	2.143	2.143
m+p-Xylene	20.214	20.212	0.002	470348	4.157	4.157
TBA	7.372	7.370	0.002	104784	221.472	221.472
MTBE	7.791	7.790	0.002	106392	2.105	2.105
DIPE	8.933	8.929	0.004	129921	2.182	2.182
Benzene	12.276	12.275	0.001	235982	2.133	2.133
Toluene	16.824	16.822	0.002	249728	2.169	2.169
Chlorobenzene	19.763	19.761	0.002	240383	2.090	2.090
Ethylbenzene	19.981	19.979	0.002	204490	2.076	2.076

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
Xylene (Total)	25.019	25.019	0.000	693650	6.296	6.296
1,3-Dichlorobenzene	24.082	24.081	0.002	176381	1.986	1.986
1,4-Dichlorobenzene	24.242	24.240	0.002	173667	1.989	1.989
1,2-Dichlorobenzene	24.937	24.935	0.002	140020	1.971	1.971
a,a,a-Trifluorotoluene(sur)	14.590	14.588	0.002	956808	28.430	28.430

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Instrument ID: VOAGC3

Calibration Date(s): 01/08/99 01/08/99

Calibration Time(s): 1215 1501

LAB FILE ID: RRF2: IPID4541 RRF5: IPID4545 RRF10: IPID4543
RRF20: IPID4540 RRF40: IPID4544

COMPOUND	RRF2	RRF5	RRF10	RRF20	RRF40
TBA **	768	818	812	743	
MTBE	75003	62771	76156	68015	70856
DIPE	103175	92395	96450	88765	93410
Benzene	189044	183532	169851	160085	170950
Toluene	180166	159879	156027	145495	154973
Chlorobenzene	177494	172516	157615	148350	151753
Ethylbenzene	137938	124073	123688	114995	128946
Xylene (Total)	156259	138862	136869	129360	136742
1,3-Dichlorobenzene	130255	121775	116196	111260	116448
1,4-Dichlorobenzene	141986	129490	124426	118539	129016
1,2-Dichlorobenzene	113736	105902	101423	94862	102219
Naphthalene	97545	85153	82586	72055	81439
a,a,a-Trifluorotoluene(sur)	66350	64604	66850	65930	67297

** TBA Calibration Levels are RF200, RF400, RF1000, and RF2000

VOLATILE ORGANICS INITIAL CALIBRATION DATA

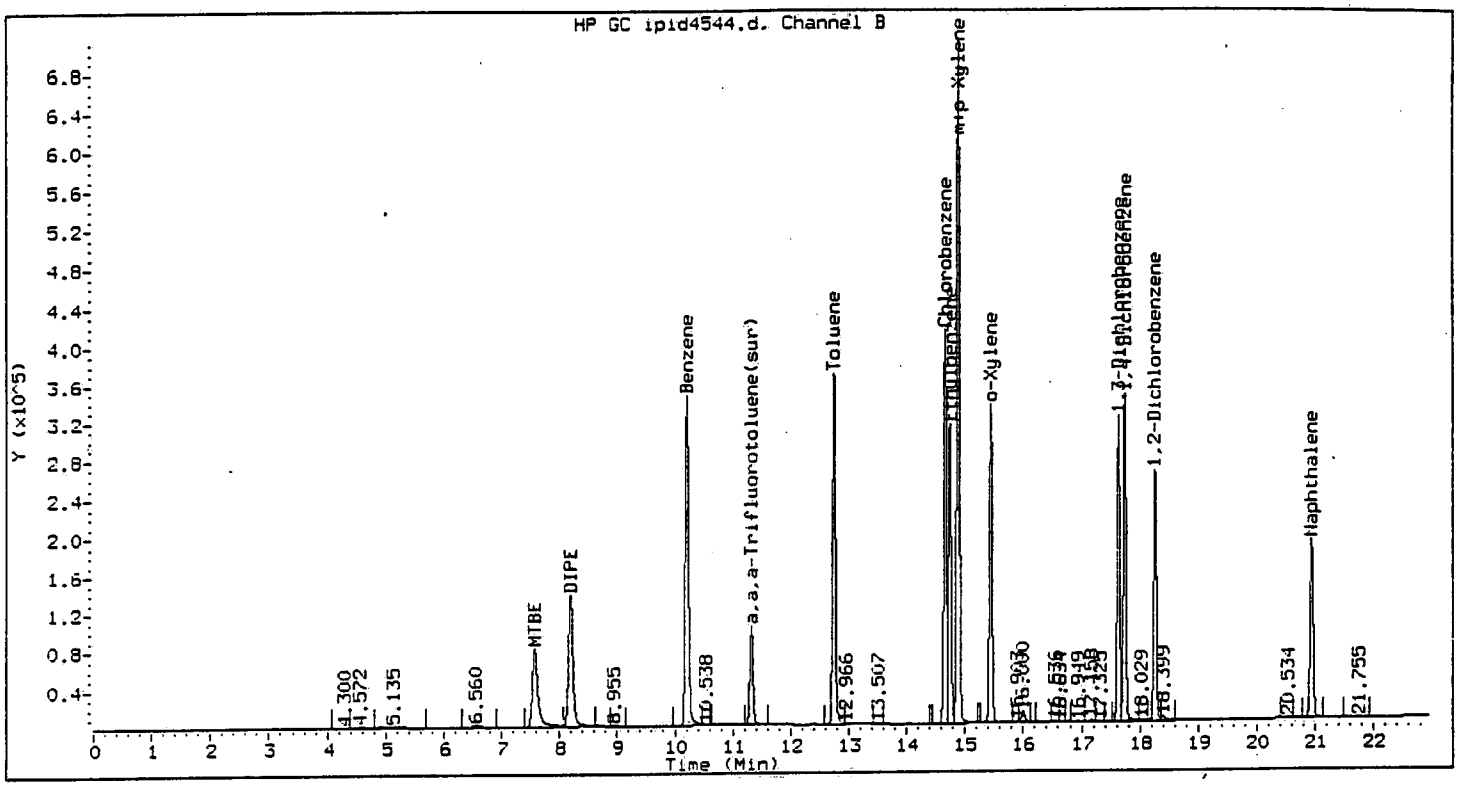
Instrument ID: VOAGC3

Calibration Date(s): 01/08/99 01/08/99

Calibration Time(s): 1215 1501

COMPOUND	CURVE	COEFFICENT A1	%RSD OR R^2
TBA **	AVRG	785	4.5*
MTBE	AVRG	70560	7.7*
DIPE	AVRG	94839	5.7*
Benzene	AVRG	174692	6.6*
Toluene	AVRG	159308	8.0*
Chlorobenzene	AVRG	161546	8.0*
Ethylbenzene	AVRG	125928	6.6*
Xylene (Total)	AVRG	139618	7.1*
1,3-Dichlorobenzene	AVRG	119187	6.0*
1,4-Dichlorobenzene	AVRG	128691	6.7*
1,2-Dichlorobenzene	AVRG	103628	6.7*
Naphthalene	AVRG	83755	11*
a,a,a-Trifluorotoluene(sur)	AVRG	66206	1.6*

** TBA Calibration Levels are RF200, RF400, RF1000, and RF2000
* Compounds with required maximum %RSD values.

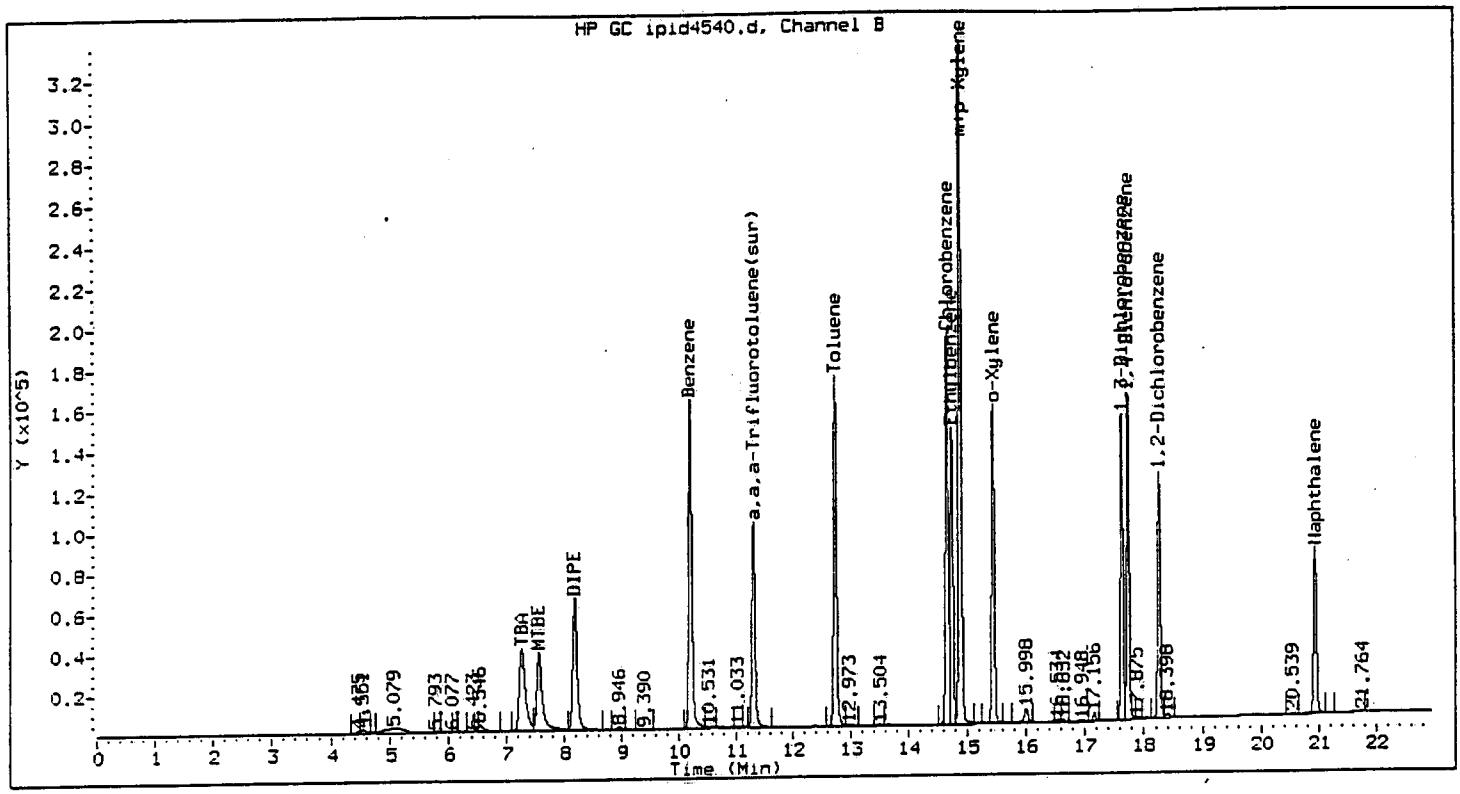


Method : /chem/VOAGC3.i/602/01-08-99/08jan99.b/GC3-602.m
Sample Info : ISTD040
Lab ID : ISTD040
Inj Date : 08-JAN-1999 14:27
Operator : kb
Cpnd Sublist: ALL

Inst ID : VOAGC3.i
Dil Factor : 1
Sample Matrix : WATER
Sample Type: CALIB_5

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
o-Xylene	15.438	15.438	0.000	5150213	38.750	38.750
m+p-Xylene	14.883	14.883	0.000	11258786	78.591	78.591
MTBE	7.572	7.570	0.002	2834228	39.089	39.089
DIPE	8.189	8.188	0.001	3736383	39.145	39.145
Benzene	10.207	10.206	0.001	6838017	39.645	39.645
Toluene	12.743	12.743	0.001	6198907	38.946	38.946
Chlorobenzene	14.660	14.660	0.000	6070137	38.224	38.224
Ethylbenzene	14.741	14.741	0.000	5157862	40.808	40.808
Xylene (Total)	25.019	25.019	0.000	16408999	117.369	117.369

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1,3-Dichlorobenzene	17.627	17.628	0.001	4657926	39.294	39.294
1,4-Dichlorobenzene	17.735	17.736	0.001	5160637	40.163	40.163
1,2-Dichlorobenzene	18.260	18.261	0.001	4088749	39.674	39.674
Naphthalene	20.935	20.936	0.001	3257552	39.057	39.057
a,a,a-Trifluorotoluene(sur)	11.317	11.316	0.001	2018913	30.311	30.311



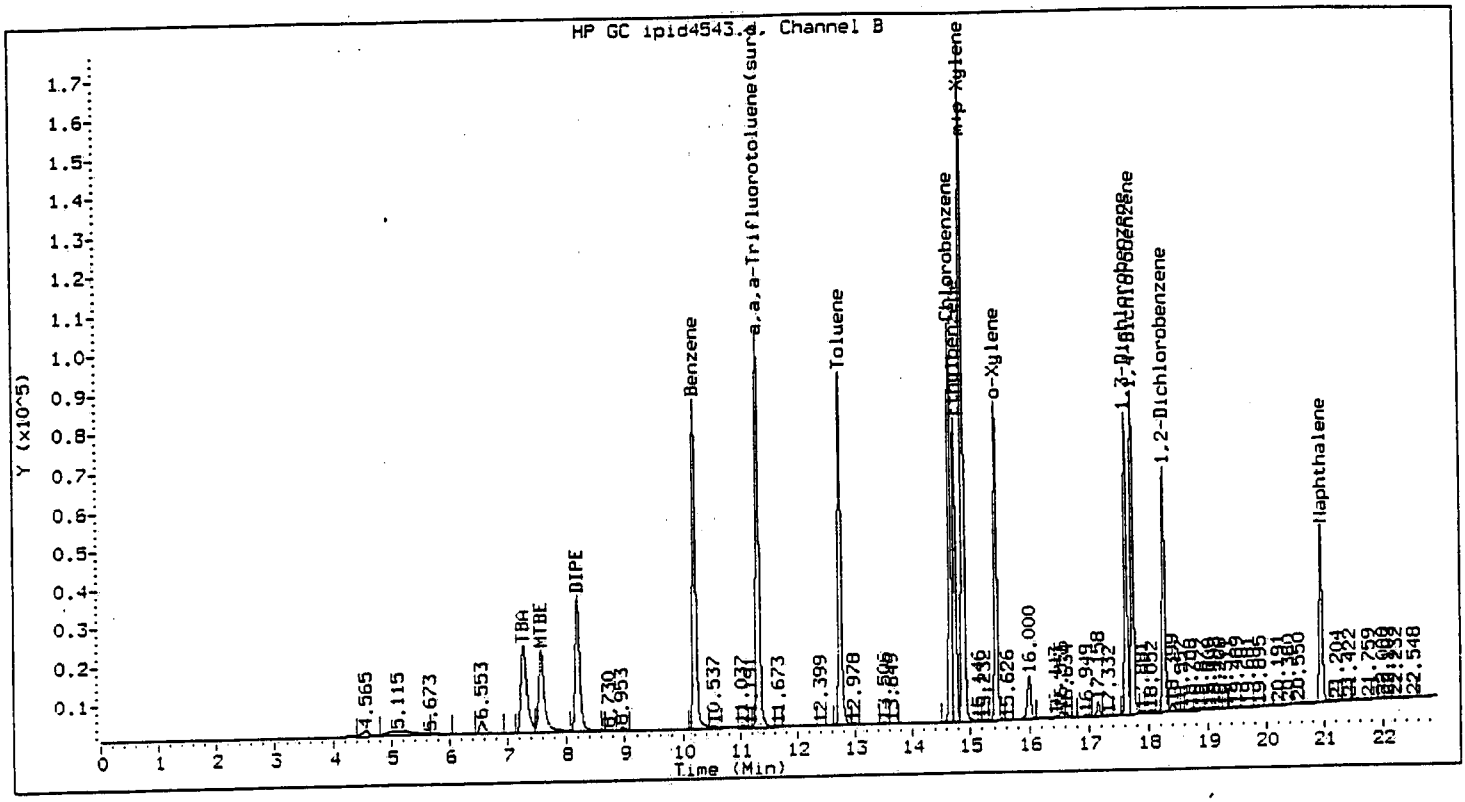
Method : /chem/VOAGC3.i/602/01-08-99/08jan99.b/GC3-602.m
Sample Info : ISTD020
Lab ID : ISTD020
Inj Date : 08-JAN-1999 12:15
Operator : kb
Cpnd Sublist: ALL

Inst ID : VOAGC3.i
Dil Factor : 1
Sample Matrix : WATER
Sample Type: CALIB_4

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
o-Xylene	15.436	15.438	0.002	2431773	20.000	20.000
m+p-Xylene	14.881	14.883	0.002	5329798	40.000	40.000
TBA	7.264	7.271	0.007	1486954	2000.000	2000.000
MTBE	7.564	7.570	0.006	1360307	20.000	20.000
DIPE	8.183	8.188	0.006	1775306	20.000	20.000
Benzene	10.201	10.206	0.005	3201709	20.000	20.000
Toluene	12.740	12.743	0.003	2909903	20.000	20.000
Chlorobenzene	14.658	14.660	0.003	2966998	20.000	20.000
Ethylbenzene	14.739	14.741	0.002	2299904	20.000	20.000

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
Xylene (Total)	25.019	25.019	0.000	7761571	60.000	60.000
1,3-Dichlorobenzene	17.626	17.628	0.002	2225202	20.000	20.000
1,4-Dichlorobenzene	17.734	17.736	0.002	2370774	20.000	20.000
1,2-Dichlorobenzene	18.259	18.261	0.002	1897238	20.000	20.000
Naphthalene	20.934	20.936	0.002	1441094	20.000	20.000
a,a,a-Trifluorotoluene(sur)	11.313	11.316	0.003	1977908	30.000	30.000

Data File: /chem/VOAGC3.i/602/01-08-99/08jan99.b/ipid4543.d
Report Date 01/20/1999 15:24

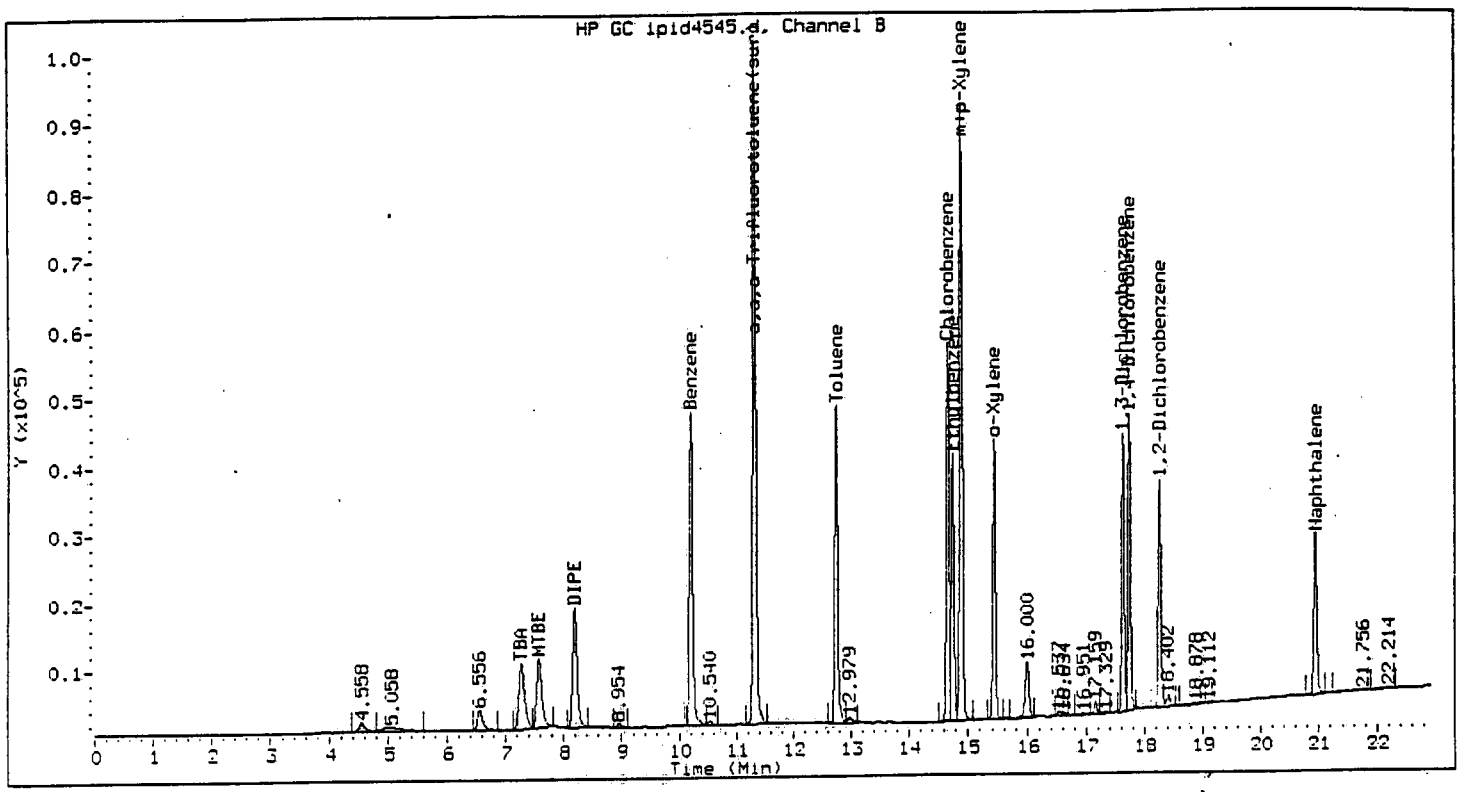


Method : /chem/VOAGC3.i/602/01-08-99/08jan99.b/GC3-602.m
Sample Info : ISTD010
Lab ID : ISTD010
Inj Date : 08-JAN-1999 13:54
Operator : kb
Cpnd Sublist: ALL

Inst ID : VOAGC3.i
Dil Factor : 1
Sample Matrix : WATER
Sample Type: CALIB_3

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
o-Xylene	15.438	15.438	0.000	1301829	9.694	9.694
m+p-Xylene	14.883	14.883	0.000	2804234	19.461	19.461
TBA	7.272	7.271	0.001	811925	1048.370	1048.370
MTBE	7.570	7.570	0.000	761558	10.424	10.424
DIPE	8.189	8.188	0.001	964505	10.033	10.033
Benzene	10.206	10.206	0.000	1698506	9.818	9.818
Toluene	12.743	12.743	0.000	1560269	9.718	9.718
Chlorobenzene	14.660	14.660	0.000	1576152	9.780	9.780
Ethylbenzene	14.741	14.741	0.000	1236878	9.852	9.852

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
Xylene (Total)	25.019	25.019	0.000	4106063	29.156	29.156
1,3-Dichlorobenzene	17.628	17.628	0.000	1161963	9.745	9.745
1,4-Dichlorobenzene	17.736	17.736	0.000	1244258	9.697	9.697
1,2-Dichlorobenzene	18.261	18.261	0.000	1014227	9.814	9.814
Naphthalene	20.936	20.936	0.001	825857	9.824	9.824
a,a,a-Trifluorotoluene(sur)	11.316	11.316	0.000	2005498	30.214	30.214

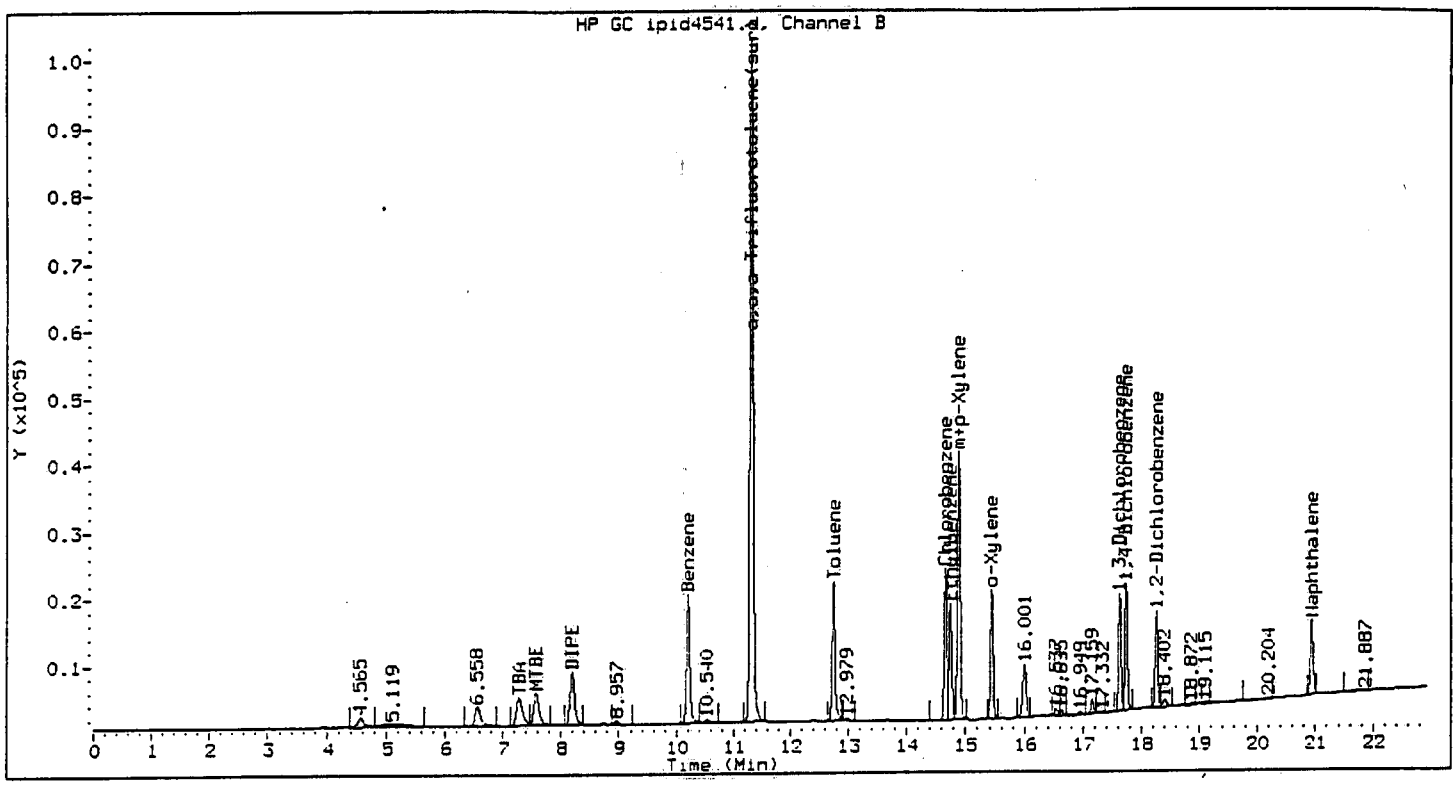


Method : /chem/VOAGC3.i/602/01-08-99/08jan99.b/GC3-602.m
Sample Info : ISTD005
Lab ID : ISTD005
Inj Date : 08-JAN-1999 15:01
Operator : kb
Cpnd Sublist: ALL

Inst ID : VOAGC3.i
Dil Factor : 1
Sample Matrix : WATER
Sample Type: CALIB_2

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
o-Xylene	15.439	15.438	0.001	641692	4.862	4.862
m+p-Xylene	14.883	14.883	0.001	1441239	10.048	10.048
TBA	7.271	7.271	0.000	327079	416.517	416.517
MTBE	7.571	7.570	0.002	313857	4.448	4.448
DIPE	8.189	8.188	0.001	461976	4.871	4.871
Benzene	10.207	10.206	0.001	917662	5.253	5.253
Toluene	12.743	12.743	0.001	799397	5.018	5.018
Chlorobenzene	14.661	14.660	0.001	862578	5.340	5.340
Ethylbenzene	14.742	14.741	0.001	620366	4.926	4.926

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
Xylene (Total)	25.019	25.019	0.000	2082931	14.919	14.919
1,3-Dichlorobenzene	17.629	17.628	0.001	608876	5.109	5.109
1,4-Dichlorobenzene	17.737	17.736	0.001	647450	5.031	5.031
1,2-Dichlorobenzene	18.261	18.261	0.000	529510	5.110	5.110
Naphthalene	20.938	20.936	0.001	425763	5.083	5.083
a,a,a-Trifluorotoluene(sur)	11.316	11.316	0.001	1938122	29.274	29.274



Method : /chem/VOAGC3.i/602/01-08-99/08jan99.b/GC3-602.m
Sample Info : ISTD002
Lab ID : ISTD002
Inj Date : 08-JAN-1999 12:48
Operator : kb
Cpnd Sublist: ALL

Inst ID : VOAGC3.i
Dil Factor : 1
Sample Matrix : WATER
Sample Type: CALIB_1

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
o-Xylene	15.440	15.438	0.002	302204	2.216	2.216
m+p-Xylene	14.884	14.883	0.001	635350	4.350	4.350
TBA	7.276	7.271	0.005	153598	203.244	203.244
MTBE	7.572	7.570	0.002	150006	2.098	2.098
DIPE	8.190	8.188	0.002	206350	2.150	2.150
Benzene	10.208	10.206	0.002	378087	2.166	2.166
Toluene	12.745	12.743	0.002	360332	2.213	2.213
Chlorobenzene	14.662	14.660	0.002	354987	2.179	2.179
Ethylbenzene	14.743	14.741	0.002	275877	2.181	2.181

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
Xylene (Total)	25.019	25.019	0.000	937554	6.565	6.565
1,3-Dichlorobenzene	17.630	17.628	0.002	260510	2.157	2.157
1,4-Dichlorobenzene	17.738	17.736	0.002	283973	2.180	2.180
1,2-Dichlorobenzene	18.263	18.261	0.002	227471	2.181	2.181
Naphthalene	20.939	20.936	0.003	195090	2.301	2.301
a,a,a-Trifluorotoluene(sur)	11.317	11.316	0.001	1990502	30.095	30.095

VOLATILE ORGANICS CONTINUING CALIBRATION CHECK

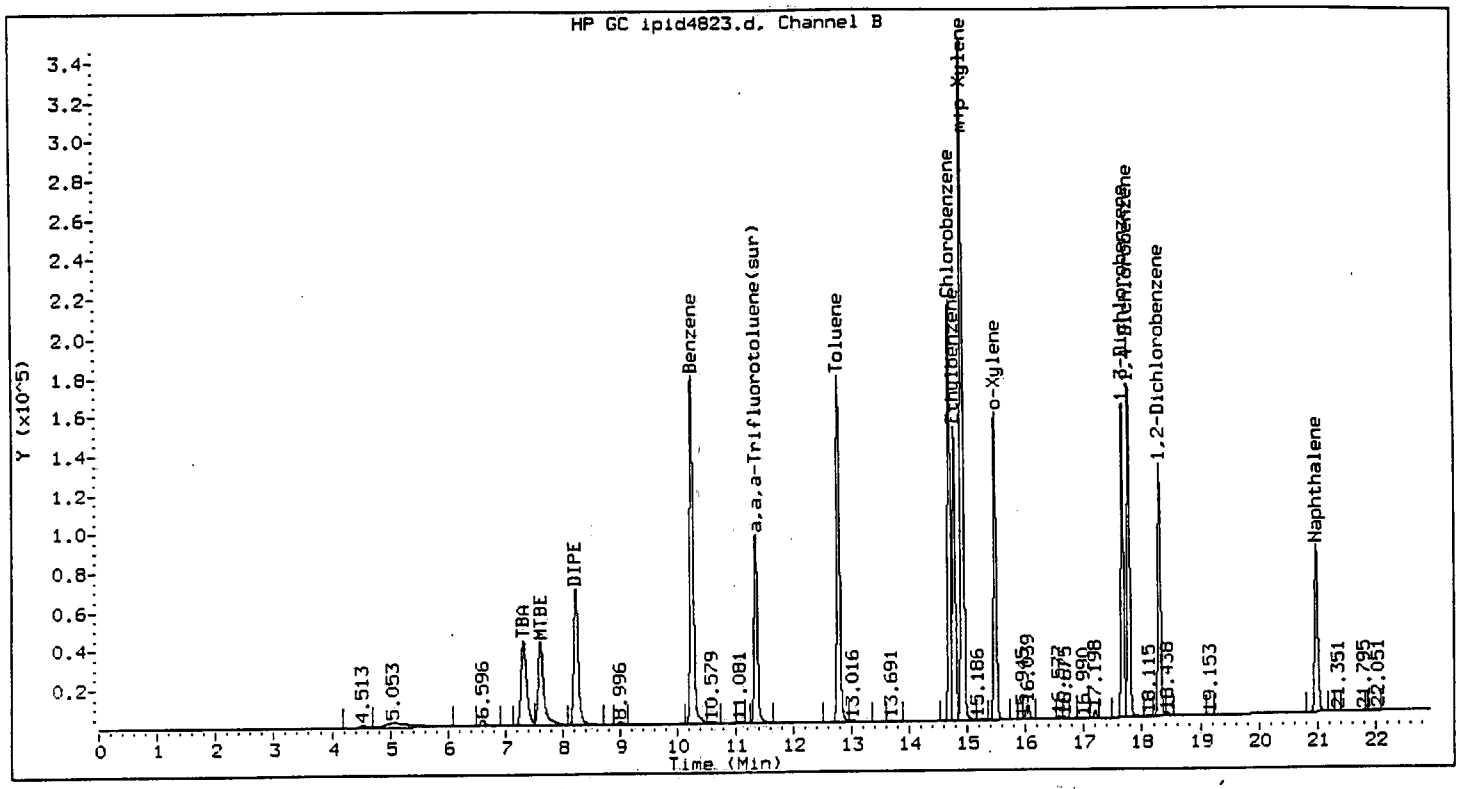
Instrument ID: VOAGC3 Calibration Date: 01/29/99 Time: 0912

Lab File ID: IPID4823 Init. Calib. Date(s): 01/08/99 01/08/99

Heated Purge: (Y/N) N Init. Calib. Times: 1215 1501

COMPOUND	$\overline{RRF}$	RRF20	MIN RRF	%D	MAX %D
TBA **	785.27	731.16		6.9	50.0
MTBE	70560.25	73814.50		-4.6	50.0
DIPE	94839.12	94365.25		0.5	50.0
Benzene	174692.47	177076.65		-1.2	23.0
Toluene	159308.03	150563.90		5.5	22.5
Chlorobenzene	161545.52	163699.40		-1.3	19.5
Ethylbenzene	125928.25	121620.90		3.4	37.0
Xylene (Total)	139618.20	134674.40		3.5	50.0
1,3-Dichlorobenzene	119186.95	120004.30		0.1	27.5
1,4-Dichlorobenzene	128691.38	127565.00		0.9	30.5
1,2-Dichlorobenzene	103628.16	102037.40		1.5	32.0
Naphthalene	83755.36	76662.95		8.5	50.0
a,a,a-Trifluorotoluene(sur)	66206.29	62888.83		5.0	22.0

** TBA Continuing Calibration Level is RF2000.



Method : /chem/VOAGC3.i/602/01-08-99/29jan99.b/GC3-602.m
Sample Info : ISTD020
Lab ID : ISTD020
Inj Date : 29-JAN-1999 09:12
Operator : kb
Cpnd Sublist: ALL

Inst ID : VOAGC3.i
Dil Factor : 1
Sample Matrix : WATER
Sample Type: CCALIB_4

Compounds		RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
o-Xylene		15.479	15.438	0.041	2486596	18.839	18.839
m+p-Xylene		14.924	14.883	0.041	5593868	39.001	39.001
TBA		7.315	7.271	0.044	1462326	1862.190	1862.190
MTBE		7.612	7.570	0.043	1476290	20.922	20.922
DIPE		8.230	8.188	0.042	1887305	19.900	19.900
Benzene		10.249	10.206	0.043	3541533	20.273	20.273
Toluene		12.785	12.743	0.043	3011278	18.902	18.902
Chlorobenzene	(M)	14.702	14.660	0.041	3273988	20.267	20.267
Ethylbenzene	(M)	14.783	14.741	0.041	2432418	19.316	19.316

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
Xylene (Total)	25.019	25.019	0.000	8080464	57.875	57.875
,3-Dichlorobenzene	17.669	17.628	0.041	2400086	20.137	20.137
1,4-Dichlorobenzene	17.777	17.736	0.041	2551300	19.825	19.825
,2-Dichlorobenzene	18.304	18.261	0.043	2040748	19.693	19.693
Naphthalene	20.985	20.936	0.048	1533259	18.306	18.306
,a,a-Trifluorotoluene(sur)	11.358	11.316	0.043	1886665	28.497	28.497

OMMENTS:

M - Compound response manually integrated.

VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Matrix: WATER Level: LOW Lab Job No: K939

	LAB SAMPLE NO.	SMC1 #	SMC2 #	OTHER	TOT OUT
01	HG022	73			0
02	108520	70			0
03	108521	72			0
04	HG026	78			0
05	108510	78			0
06	HG027	80			0
07	108514	92			0
08	108513	73			0
09	108515	70			0
10	108517	78			0
11	108518	73			0
12	108519	69			0
13	108511	74			0
14	108512	76			0
15	108514MS	78			0
16	108514MSD	77			0
17	IG029	93			0
18	108516	97			0
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

QC LIMITS

SMC1 = a,a,a-Trifluorotoluene (69-127)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

VOLATILE SPIKE RECOVERY SUMMARY
METHOD 602

Matrix: WATER

Level: LOW

Matrix Spike - Lab Sample No.: 108252

MS Sample from Lab Job No: K907

QA Batch: 6657

Compound	MS % REC.	BS % REC.	LIMITS
Benzene	103	95	74-129
Toluene	95	85	62-150
Chlorobenzene	108	95	81-125
Ethylbenzene	96	90	68-149
1,3-Dichlorobenzene	105	90	74-128
1,4-Dichlorobenzene	102	90	71-145
1,2-Dichlorobenzene	105	90	73-128

* Values outside of QC limits

Spike Recovery: 0 out of 14 outside limits

COMMENTS: _____

VOLATILE SPIKE RECOVERY SUMMARY
METHOD 602

Matrix: WATER

Level: LOW

Matrix Spike - Lab Sample No.: 108514

MS Sample from Lab Job No: K939

QA Batch: 6659

Compound	MS % REC.	BS % REC.	LIMITS
Benzene	102	95	74-129
Toluene	95	85	62-150
Chlorobenzene	108	95	81-125
Ethylbenzene	78	90	68-149
1,3-Dichlorobenzene	102	90	74-128
1,4-Dichlorobenzene	100	90	71-145
1,2-Dichlorobenzene	102	90	73-128

* Values outside of QC limits

Spike Recovery: 0 out of 14 outside limits

COMMENTS:

Appendix F
Borough of Wharton Road Opening
Permit No. OP-99-4

BOROUGH OF WHARTON
ROAD OPENING PERMIT

DATE:March 30,1999 PERMIT NO OP-99-4

APPLICANT RMT Inc.

APPLICANT'S ADDRESS:PO Box 8923
Madison Wi.

ROAD OPENING LOCATION: 5 Locations on Ross Street environmental test borings

STARTING DATE: March 30,1999
COMPLETION DATE: March 30,1999

DOES OPENING COMPLETELY BLOCK ROAD: YES NO X

DURATION OF OPENING:8 HOURS

APPROVED BY:

Borough of Wharton

PLEASE NOTE :

THE BOROUGH HOUSING/ZONING OFFICIAL MUST BE NOTIFIED 24 HOURS PRIOR TO THE COMMENCEMENT OF WORK ON ALL ROAD OPENINGS. PLEASE CALL 201-361-8444 EXT 21.