RMT®
Integrated Environmental Solutions

222 South Riverside Plaza
Suite 820
Chicago, IL 60606
Telephone: 312-575-0200
Fax: 312-575-0300

QUARTERLY MONITORING REPORT
2ND QUARTER 1999

L.E.CARPENTER

July 1999

Nicholas J. Clevett
Project Manager

Alan J. Schmidt, P.G
Senior Hydrogeologist

318131

Final Copy

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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 second quarter 1999, to include routine quarterly groundwater monitoring activities and free product recovery. Additionally, this report includes a summary of the various site activities scheduled for commencement during the 3rd 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 2nd 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 (Ref. Section 3 and 4).
- Conducted an off-site groundwater investigation at the MW19/Hot Spot 1 area pursuant to the NJDEP letters dated July 15, 1998 and December 21, 1998 (Ref. Section 5).
- Conducted an on-site soil investigation to further delineate the extent of lead contamination in Hot Spots B and C (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 second quarter 1999 were performed on April 19, 1999, May 18, 1999, and June 22, 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 second 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 volume 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 a decrease in the total volume of free standing product during the second quarter 1999. Total free standing product decreased from 8.45 gallons in March 1999 to 4.61 gallons in June 1999. With the exception of EFR wells 18 and 20, all western EFR wells showed decreases in the volume of

free standing product from March 1999 to June 1999. The trend of free product volumes in the western portion of the free product plume however, is generally decreasing.

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 measured at the end of first quarter 1999 and the end second quarter 1999 (6.62 gallons and 6.07 gallons respectively). However, a general increasing trend throughout the second quarter in free product volume was noted (4.45. gallons in April to 6.07 gallons in June). The trend of free product volumes in the central portion of the free product plume however, is generally decreasing.

In the eastern portion of the plume (EFR wells 8, 9, 10, 11, 12, 13, 14, 15, and 16), the total free standing product remained relatively consistent between first and second quarter 1999. A gradual increase in free standing product volume can be seen throughout the second quarter. The trend of free product volumes in the eastern portion of the free product plume however, is generally decreasing.

The total free standing product throughout the site (accounting for all 28 EFR wells) increased over the course of the second quarter from 14.30 gallons in April to 15.95 gallons in June. However, a reduction in the total site free standing product was noted between first quarter 1999 and second 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 (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 for each of the two vacuum trucks utilized on-site are also presented in Table 3. During second quarter 1999, a total of 1,829 gallons of fluid was removed during EFR activities, of which, approximately 145 gallons was free phase

product. Since start-up in December 1997, site EFR activities have removed approximately 2,078 gallons of free product through June 1999.

2078
3500
5,578

Section 3
Quarterly Groundwater Monitoring

During the second 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 (inclusion of MW-21).

Groundwater sampling was conducted on April 15, 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-17, 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 May 21, 1999, MW-11D will be incorporated in to the groundwater monitoring program and sampled quarterly for bis (2-Ethylhexyl) phthalate (DEHP). Sampling at this well will commence in the third quarter 1999 as the second quarter 1999 sampling event had been performed prior to receiving the NJDEP request letter. Table 4 summarizes the new quarterly groundwater monitoring protocol, to include MW-11D. A copy of the NJDEP letter dated May 21, 1999 is presented as Appendix D

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-4. 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. Monitoring well MW-22R exhibited concentrations of total xylenes, ethylbenzene and DEHP at concentrations above both the New Jersey standards and the ROD discharge criteria. Monitoring well MW-4 was found to contain a residual concentration of ethylbenzene (0.66 μg/l), however this concentration is below both the NJGQS and the discharge criteria outlined

in the ROD. MW-4 was, however, found to contain a concentration of DEHP (3,000 μg/l) above both the NJGQS and the discharge criteria outlined in the ROD. This elevated DEHP concentration was confirmed in the duplicate sample taken from MW-4 (4,400 μg/l).

As previously mentioned, concentrations of ethylbenzene (1,600 μg/l), total xylenes (7,600 μg/l), and DEHP (670 μg/l) were detected in the sample collected from monitoring well MW-22R. An increase in the concentrations of these parameters can be noted between first and second quarter 1999, however, from 1995 to the present, the concentrations of all three parameters have generally been decreasing. Additionally, no concentrations above both the NJGQS and the discharge criteria outlined in the ROD were detected at either downgradient monitoring wells MW-25R or MW-21. Concentration trends for contaminants of concern detected at MW-22R are presented as Appendix E. Contaminant concentration trends at this location will continue to be closely monitored.

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

Section 4
Water Table Elevations

On April 15, 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 15 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
2nd Quarter 1999 Site Investigative and Remedial Actions

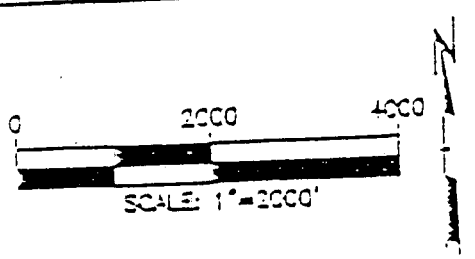
Pursuant to the NJDEP letter dated October 13, 1998, RMT submitted a workplan outlining proposed investigative and remedial actions to be taken at the L.E. Carpenter site in November 1998. The workplan proposed further soil investigation to fully delineate the extent of lead impact at Hot Spots B, C 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.

5.1 MW19/Hot Spot 1 – EPA Connected

The MW19/Hot Spot 1 off site subsurface investigation was performed on April 21, 1999. The scope included the installation of 5 Hydropunch® wells downgradient of this area of concern to determine if off-site migration of DEHP and BTEX impacted groundwater had occurred. Analytical results obtained from groundwater samples collected at each Hydropunch® well did not reveal concentrations of either BTEX or DEHP above NJQWQS. Refer to the RMT report MW19/Hot Spot 1 Off-Site Subsurface Investigation dated June 1999 for a complete description of this investigation. To date, no formal response from the NJDEP has been provided regarding the results of this off-site investigation.

5.2 Hot Spots B and C Rpt Not Submitted yet

A Geoprobe® investigation was conducted at Hot Spot B (southwest of former Building 14) and Hot Spot C (southeast of former Building 14) to delineate the extent of lead impacted soils existing above cleanup levels outlined in the ROD (600 mg/kg). Lead concentrations ranged from approximately 90 mg/kg to 2000 mg/kg at Hot Spot B, while lead concentrations ranged from approximately 17 mg/kg to 2770 mg/kg at Hot Spot C. A comprehensive report documenting the on-site lead delineation will be presented to the NJDEP once completed.



QUADRANGLE LOCATION

SITE LOCATOR MAP

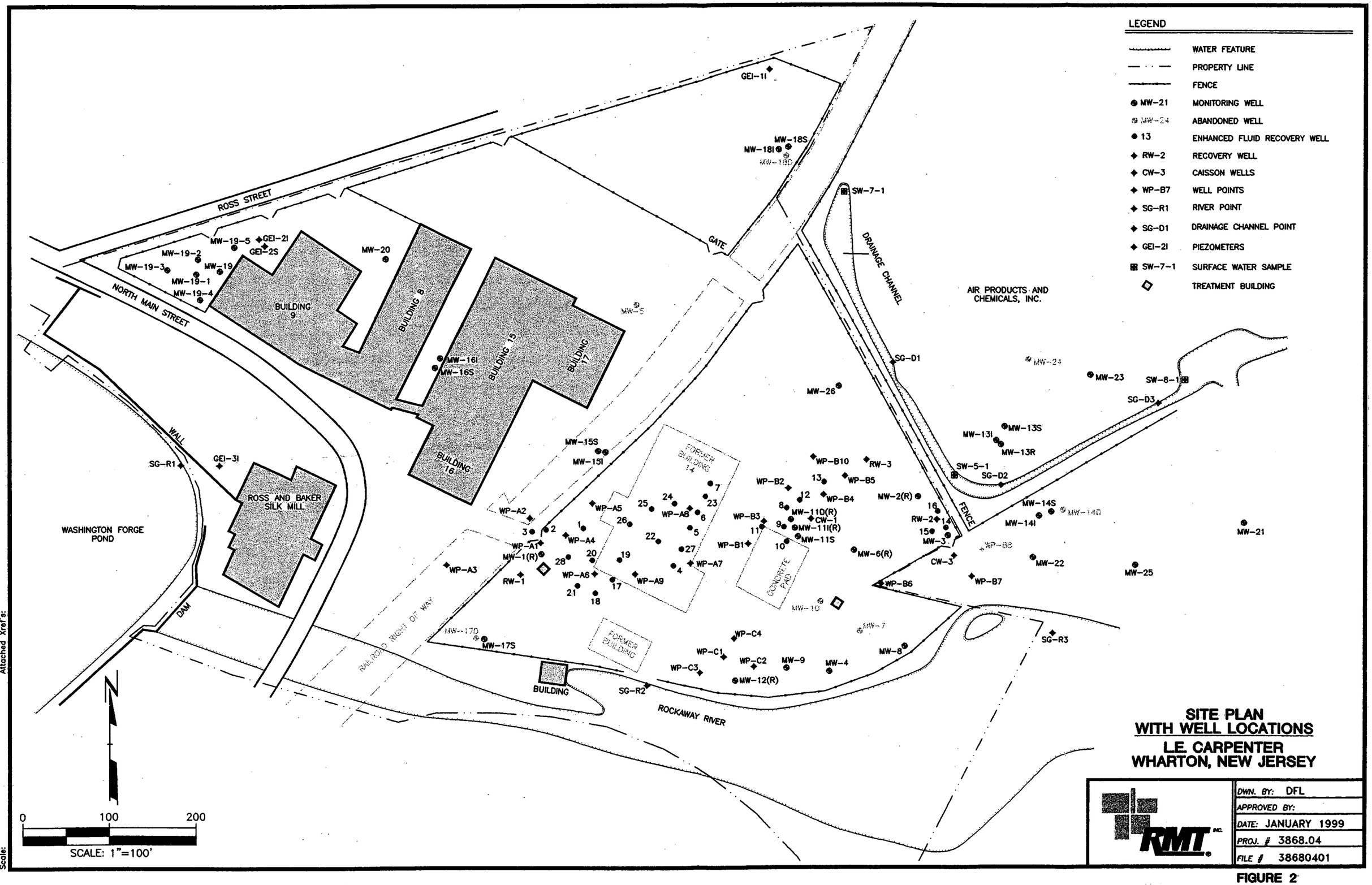
LE CARPENTER
WHARTON, NEW JERSEY

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

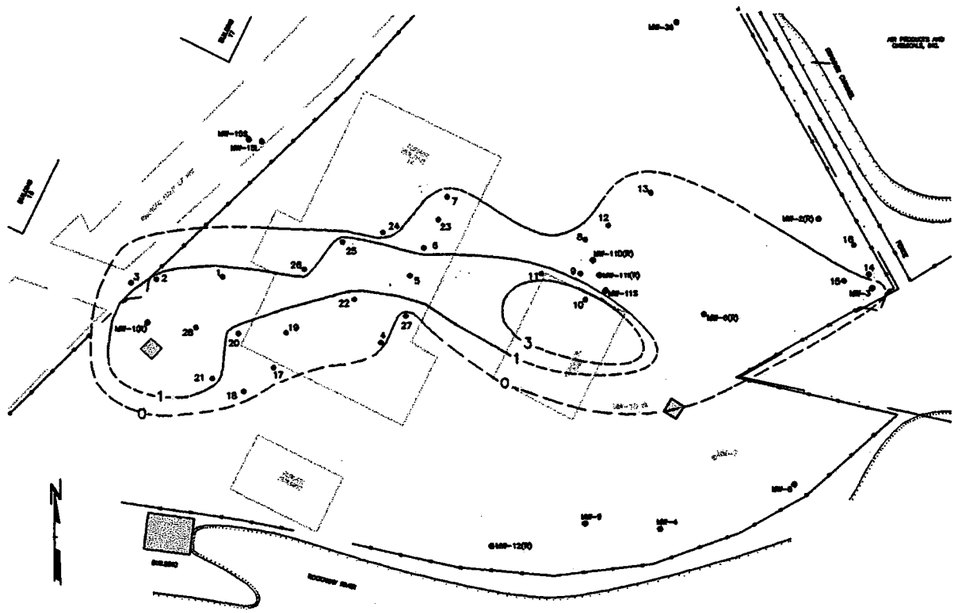


SITE PLAN
WITH WELL LOCATIONS
L.E. CARPENTER
WHARTON, NEW JERSEY

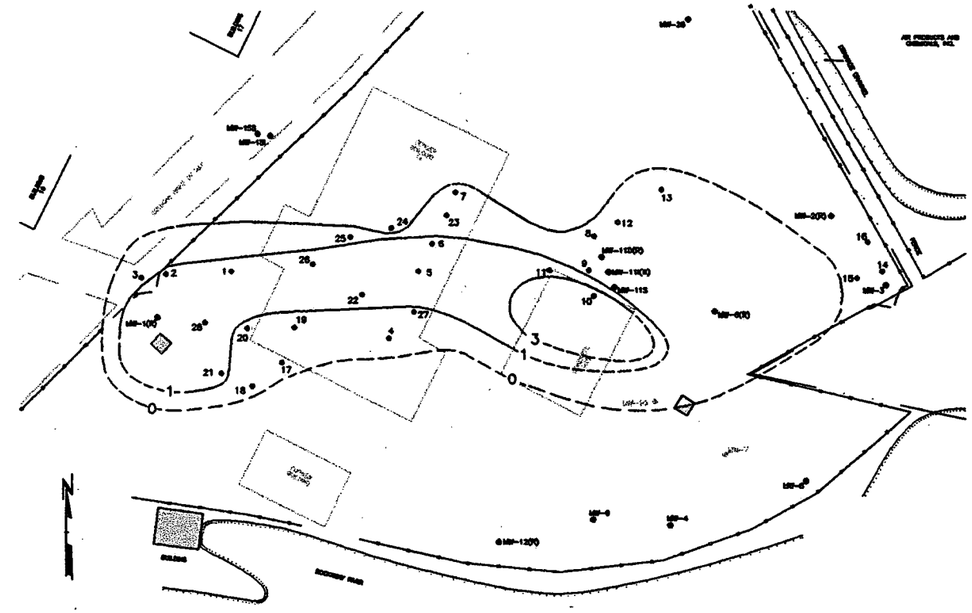
RMT INC.

DWN. BY:	DFL
APPROVED BY:	
DATE:	JANUARY 1999
PROJ. #	3868.04
FILE #	38680401

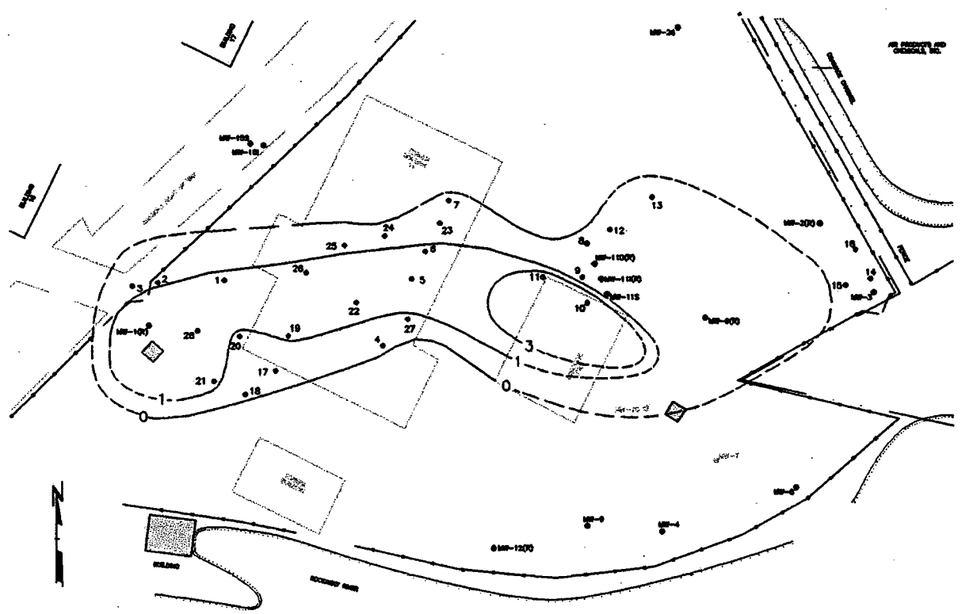
FIGURE 2



EFR EVENT #19 (APRIL 19, 1999)



EFR EVENT #20 (MAY 18, 1999)



EFR EVENT #21 (JUNE 22, 1999)

ENHANCED FLUID RECOVERY
SUMMARY FIGURES

L.E. CARPENTER
WHARTON, NEW JERSEY

RMT INC.

DWN. BY:	DFL
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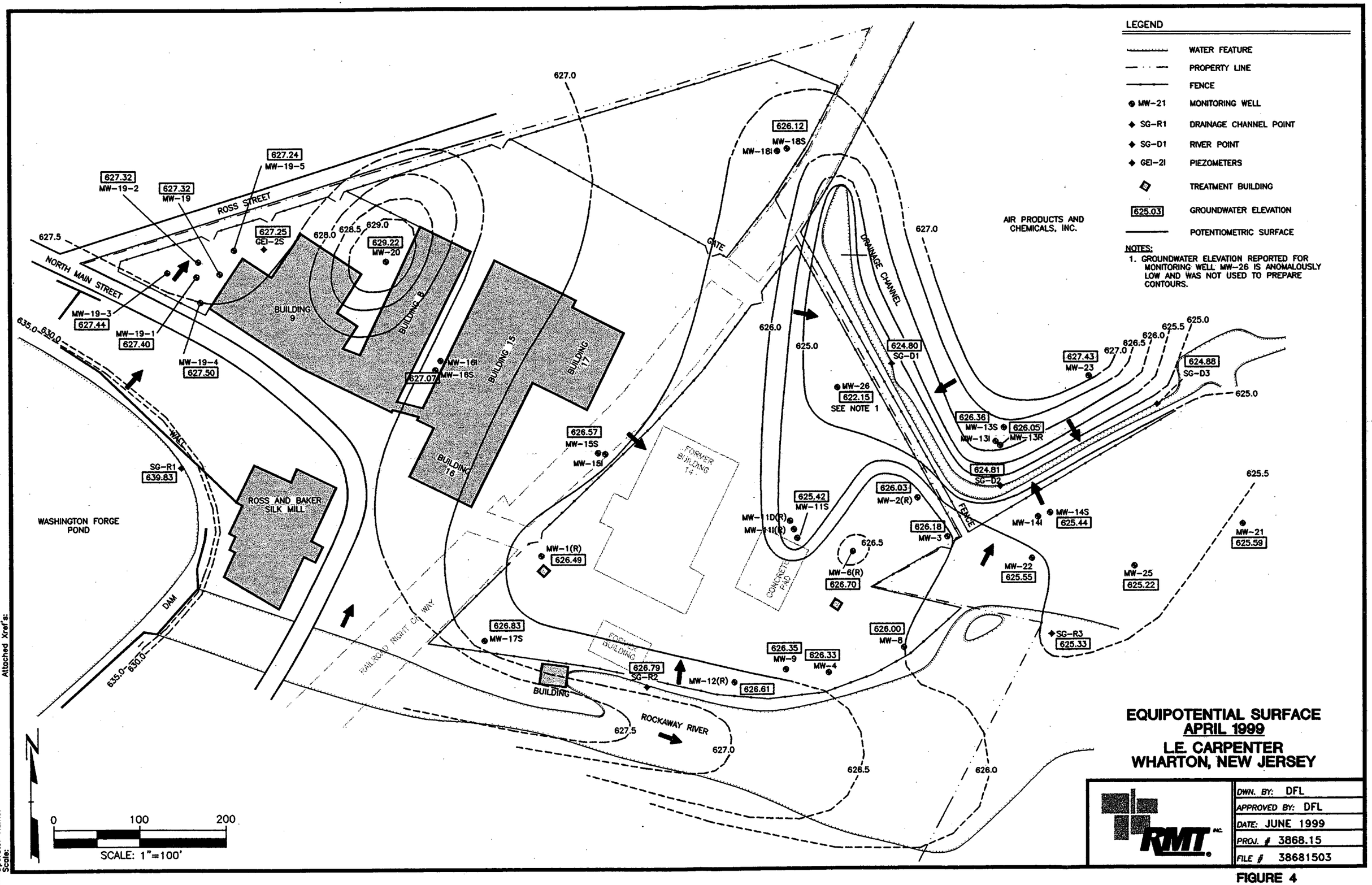
DATE:	JULY 1999
PROJ. #	3868.15
FILE #	38681504

FIGURE 3

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



EQUIPOTENTIAL SURFACE
APRIL 1999
L.E. CARPENTER
WHARTON, NEW JERSEY

RMT INC.

DWN. BY:	DFL
APPROVED BY:	DFL
DATE:	JUNE 1999
PROJ. #	3868.15
FILE #	38681503

FIGURE 4

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-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
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
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
EFR-4	1.03	2.27	0.54	0.07	0.30	–	–	–	–	0.03	0.38	1.23	2.40
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
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
EFR-7	0.17	0.09	0.16	–	–	–	–	–	–	0.02	0.02	0.03	0.07
EFR-8	0.00	0.00	0.00	–	0.08	–	–	–	–	0.03	0.04	0.08	0.13
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
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
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
EFR-12	0.04	0.03	0.00	–	0.07	–	–	–	0.02	0.28	0.22	0.28	0.24
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
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
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
EFR-18	0.10	0.10	0.09	–	–	–	–	–	–	0.01	0.08	0.14	0.48
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
EFR-20	0.40	0.34	0.95	0.47	0.27	–	–	0.04	0.24	0.37	0.65	0.63	0.79
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
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
EFR-23	0.00	0.06	0.06	–	0.02	–	–	–	–	0.05	0.11	0.08	0.27
EFR-24	0.00	0.00	0.00	–	–	–	–	–	–	–	-	–	–
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
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
EFR-27	0.15	0.02	2.71	0.02	0.74	–	–	0.03	–	0.02	0.33	0.45	1.49
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
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
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
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
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
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
Estimated Total Free Product Removed from Vacuum Truck Gauging plus Vapor Phase Cals. (gal)*	315	250	210	80	120	130	100	110	95	105	76	55	60
Total Volume Fluid Removed (gal)	2,350	1,410	376	256	314	300	339	403	390	561	211	220	329
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
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
Disposal Cost**	$ 3,976.37	$ 2,742.62	$ 1,130.50	$ 1,130.50	$ 1,219.12	$ 1,431.87	$ 1,541.31	$ 2,038.43	$ 1,240.75	$ 1,347.68	$ 1,324.62	$ 1,838.93	$ 1,383.18
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

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 55 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 #13 October 22, 1998 Feet of Product	EFR #14 November 20, 1998 Feet of Product	EFR #15 December 18, 1998 Feet of Product	EFR #16 January 8, 1999 Feet of Product	EFR #17 February 18, 1999 Feet of Product	EFR #18 March 24, 1999 Feet of Product	EFR #19 April 19, 1999 Feet of Product	EFR #20 May 14, 1999 Feet of Product	EFR #21 June 22, 1999 Feet of Product
EFR-1	1.59	1.71	1.57	0.53	1.79	3.68	1.13	1.09	1.15
EFR-2	1.29	1.51	1.41	0.95	1.40	2.42	1.46	1.22	0.92
EFR-3	1.01	1.19	1.18	1.14	1.01	1.63	0.36	0.25	0.86
EFR-4	2.17	1.75	1.79	0.73	0.10	0.14	0.08	0.05	0.03
EFR-5	2.52	2.19	2.28	2.68	3.47	6.15	2.65	2.61	2.66
EFR-6	1.25	1.29	1.38	0.49	0.84	0.88	0.61	1.07	1.16
EFR-7	0.05	0.20	0.16	0.02	0.04	0.04	0.07	0.02	0.08
EFR-8	0.09	0.07	0.03	0.12	–	0.03	0.03	0.03	0.09
EFR-9	1.31	1.26	1.86	0.74	0.49	0.06	0.11	0.32	0.49
EFR-10	4.38	3.98	3.99	3.68	5.79	5.52	4.97	4.23	3.71
EFR-11	4.06	3.65	3.52	2.42	4.69	2.84	2.02	2.48	3.28
EFR-12	0.15	0.29	0.17	0.04	0.11	0.05	0.02	0.02	0.10
EFR-13	0.82	1.13	1.30	0.22	1.19	0.15	0.49	0.50	0.44
EFR-14	–	–	–	–	–	-	0.00	0.00	0.00
EFR-15	0.12	0.12	0.32	0.11	0.07	0.01	0.01	0.00	0.00
EFR-16	–	–	–	–	–	0.00	0.00	0.00	0.00
EFR-17	0.56	0.71	0.53	0.26	0.08	0.06	0.06	0.08	0.12
EFR-18	0.68	0.98	1.08	0.56	0.11	-	0.06	0.16	0.46
EFR-19	1.95	2.31	2.44	1.83	1.68	0.52	0.44	0.52	1.10
EFR-20	1.24	1.85	2.11	0.65	1.33	0.88	0.43	0.89	0.87
EFR-21	1.77	1.67	1.62	1.21	1.43	2.62	2.35	1.49	1.46
EFR-22	2.83	2.58	2.27	2.06	0.84	0.34	0.95	1.39	1.93
EFR-23	1.03	3.07	2.29	1.55	0.91	0.47	0.22	0.25	0.45
EFR-24	0.03	0.12	0.14	0.38	0.06	0.00	0.00	0.00	0.08
EFR-25	0.41	1.33	1.58	1.05	1.75	1.19	1.08	0.76	0.54
EFR-26	1.24	1.08	1.09	0.73	0.55	0.45	0.75	1.29	1.28
EFR-27	0.54	0.47	0.51	0.09	0.12	0.00	0.00	0.02	0.03
EFR-28	1.83	1.79	1.74	1.03	1.29	1.71	1.65	1.46	1.25
MIN (ft)	0.03	0.07	0.03	0.02	0.04	0.00	0.00	0.00	0.00
MAX (ft)	4.38	3.98	3.99	3.68	5.79	6.15	4.97	4.23	3.71
Average (ft)	1.34	1.47	1.48	0.97	1.25	1.22	0.79	0.79	0.88
Total Free Product (ft)	34.92	38.30	38.36	25.27	31.14	31.84	22.00	22.20	24.54
Total Standing Free Product Volume (gal)	22.70	24.90	24.93	16.43	20.24	20.70	14.30	14.43	15.95
Estimated Total Free Product Removed from Vacuum Truck Gauging plus Vapor Phase Cals. (gal)*	15	25	51	23	74	40	59	47	39
Total Volume Fluid Removed (gal)	212	120	256	234	498	683	905	360	564
Volume Resulting from Drum Purging (GW purge water) *if applicable*	-	-	110	-	235	-	139	-	-
Total Volume Removed from Site (gal) *(Invoiced volume)*	212	120	256	234	733	683	1,044	360	564
Cumulative Total Free Product Removed (gal)	1,721	1,746	1,796	1,819	1,893	1,933	1,993	2,040	2,078
Disposal Cost**	$ 915.25	$ 915.00	$ 973.00	$ 1,156.62	$ 1,641.56	$ 1,703.44	$ 2,049.75	$ 930.31	$ 1,598.13
Total Cost per gal***	$ 4.32	$ 7.63	$ 3.80	$ 4.94	$ 2.24	$ 2.49	$ 1.96	$ 2.58	$ 2.83

TABLE 2
L.E. CARPENTER - WHARTON, NEW JERSEY

REGIONAL FREE STANDING PRODUCT TRENDS

	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	4/19/99	5/18/99	6/22/99
	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	4/19/99	5/18/99	6/22/99
	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	1.13	1.09	1.15
	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	1.46	1.22	0.92
	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	0.36	0.25	0.86
	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	0.06	0.08	0.12
	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	0.06	0.16	0.46
	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	0.43	0.89	0.87
	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	2.35	1.49	1.46
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	1.65	1.46	1.25
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	7.50	6.64	7.09
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	4.88	4.32	4.61
		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	4/19/99	5/18/99	6/22/99
	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	0.08	0.05	0.03
	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	2.65	2.61	2.66
	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	0.61	1.07	1.16
	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	0.07	0.02	0.08
	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	0.44	0.52	1.10
	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	0.95	1.39	1.93
	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	0.22	0.25	0.45
	EFR-24	0.00	0.00	0.00	–	–	–	–	–	–	-	–	–	0.03	0.12	0.14	0.38	0.06	0.00	0.00	0.00	0.08
	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	1.08	0.76	0.54
	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	0.75	1.29	1.28
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	0.00	0.02	0.03
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	6.85	7.98	9.34
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	4.45	5.19	6.07
		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	4/19/99	5/18/99	6/22/99
	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	0.03	0.03	0.09
	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	0.11	0.32	0.49
	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	4.97	4.23	3.71
	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	2.02	2.48	3.28
	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	0.02	0.02	0.10
	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	0.49	0.50	0.44
	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	0.01	0.00	0.00
Eastern Plume	EFR-16	0.00	0.00	0.00	–	–	–	–	–	–	-	–	–	–	–	–	–	–	-	0.00	0.00	0.00
Total Free Product (ft)		8.98	11.81	14.09	13.59	15.53	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	7.65	7.58	8.11
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	4.97	4.93	5.27
TOTAL SITE FREE STANDING VOLUME (GAL)		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	14.30	14.43	15.95

TABLE 3
L. E. CARPENTER - WHARTON, NEW JERSEY

MONTHLY EFR WELL GAUGING LOG

EFR # 19 DATE 4/19/99

WELL ID	DEPTH TO PRODUCT (ft)	DEPTH TO WATER (ft)	PRODUCT TICKNESS (ft)
EFR-1	9.87	11	1.13
EFR-2	10.39	11.85	1.46
EFR-3	10.16	10.52	0.36
EFR-4	11.83	11.91	0.08
EFR-5	10.15	12.8	2.65
EFR-6	9.81	10.42	0.61
EFR-7	6.76	6.83	0.07
EFR-8	5.76	5.79	0.03
EFR-9	6.05	6.16	0.11
EFR-10	6.64	11.61	4.97
EFR-11	6.35	8.37	2.02
EFR-12	5.33	5.35	0.02
EFR-13	4.86	5.35	0.49
EFR-14	4.69	4.69	0
EFR-15	3.97	3.98	0.01
EFR-16	4.66	4.66	0
EFR-17	9.21	9.27	0.06
EFR-18	9.15	9.21	0.06
EFR-19	12.13	12.57	0.44
EFR-20	10.38	10.81	0.43
EFR-21	8.68	11.03	2.35
EFR-22	12.19	13.14	0.95
EFR-23	8.57	8.79	0.22
EFR-24	11.57	11.57	0
EFR-25	11.24	12.32	1.08
EFR-26	12.98	13.73	0.75
EFR-27	11.78	11.78	0
EFR-28	9.21	10.86	1.65

Total Volume Of Free Standing Product (gal) 14.30

RMT FIELD TECHNICIAN Dan Leskovec

TABLE 3
L. E. CARPENTER - WHARTON, NEW JERSEY

MONTHLY EFR
VAPOR AND LIQUID PHASE VOLUMETRIC CALCULATION LOG

EFR # 19 — **19-Apr-99**

WELL ID	EXTRACTION TIME		VAPOR PHASE CONCENTRATION		SYSTEM RECOVERY DATA			
	TOTAL TIME (min)	TOTAL TIME (hrs)	PPM	LEL (%)	VACUUM In Hg	CFM	lbs/hr	Total lbs
EFR-1	4.0	0.0667	590	9	20	350	10.08	0.6723
EFR-2	4.0	0.0667	525	8	20	350	8.96	0.5976
EFR-3	2.0	0.0333	459	7	20	350	7.84	0.2614
EFR-4	1.0	0.0167	131	2	20	350	2.24	0.0373
EFR-5	4.0	0.0667	262	4	20	350	4.48	0.2988
EFR-6	4.0	0.0667	262	4	20	350	4.48	0.2988
EFR-7	1.0	0.0167	131	2	20	350	2.24	0.0373
EFR-8	2.0	0.0333	262	4	20	350	4.48	0.1494
EFR-9	2.0	0.0333	197	3	20	350	3.36	0.1120
EFR-10	4.0	0.0667	328	5	20	350	5.60	0.3735
EFR-11	4.0	0.0667	394	6	20	350	6.72	0.4482
EFR-12	1.0	0.0167	0	0	20	350	0.00	0.0000
EFR-13	1.0	0.0167	131	2	20	350	2.24	0.0373
EFR-14	0.0	0.0000	0	0	20	350	0.00	0.0000
EFR-15	1.0	0.0167	0	0	20	350	0.00	0.0000
EFR-16	0.0	0.0000	0	0	20	350	0.00	0.0000
EFR-17	1.0	0.0167	394	6	20	350	6.72	0.1120
EFR-18	1.0	0.0167	394	6	20	350	6.72	0.1120
EFR-19	2.0	0.0333	197	3	20	350	3.36	0.1120
EFR-20	2.0	0.0333	525	8	20	350	8.96	0.2988
EFR-21	4.0	0.0667	525	8	20	350	8.96	0.5976
EFR-22	4.0	0.0667	262	4	20	350	4.48	0.2988
EFR-23	1.0	0.0167	197	3	20	350	3.36	0.0560
EFR-24	0.0	0.0000	0	0	20	350	0.00	0.0000
EFR-25	4.0	0.0667	131	2	20	350	2.24	0.1494
EFR-26	4.0	0.0667	131	2	20	350	2.24	0.1494
EFR-27	0.0	0.0000	0	0	20	350	0.00	0.0000
EFR-28	4.0	0.0667	590	9	20	350	10.08	0.6723
Total EFR Time (hrs)		1.0333	AVG ppm	319.05			TOTAL (LBS)	5.8826
							TOTAL VAPOR PHASE VOLUME (GAL)	0.7772

NOTE PPM = (% LEL on Meter) x (LEL of Product Mixture) x (1,000,000)

(1) Weighted LEL for analyte mixture @ 0.636% (based on DEHP, Ethylbenzene & Total Xylene concentrations in Roy F. Weston product sampling conducted on Feb 27, 1995 @ MW-1R; MW-11S; MW-6R; WP-B5 & WP-B4

Analyte LEL: DEHP @ 0.3% ; Ethylbenzene @ 1%; Xylenes @ 1.1%

Where:

ppm_v =	Parts per Million by Volume		
Flow =	Cubic feet per minute (CFM)	350	
Molar Mass (MM) =	Molecular Weight (lb/lb-mole) =	292	(2)
IGC =	Ideal Gas Constant (359 ft^3/lb-mole) =	359	
LEL =	Free Product Mixture =	0.636	(1)
SG =	Specific Gravity =	0.9076	(3)

NOTE (2) Avg. Molar Mass @ 292 (based on DEHP, Ethylbenzene & Total Xylene concentrations in Roy F. Weston product sampling conducted on Feb 27, 1995 @ MW-1R; MW-11S; MW-6R; WP-B5 & WP-B4)

Individual Analyte Molar Mass: DEHP @ 390.54; Ethylbenzene @ 106.2; Total Xylenes @ 106.2

(3) Avg. Specific gravity @ 0.9076 (Roy F. Weston product sampling on Feb 27, 1995 @ MW-1R; MW-11S; MW-6R; WP-B5 & WP-B4)

$$\text{Pounds/Hr (lbs/hr)} = (ppm_v \times (60 \text{ min/hr}) \times (CFM) \times (MM)) / ((1 \times 10^6) \times (359 \text{ ft}^3/\text{lb-mole}))$$

Vacuum Truck Gauging		FT
Depth to Product (ft)	A	4.260
Depth to Water (ft)	B	4.310
Depth to Truck Base	C	6.090

		FT	Inches (x 12)
Total Fluids Gauging	C - A =	1.830	21.96
Total Water Volume Gauging	C - B =	1.780	21.36

VR-111 $y = 0.0284x^3 + 1.4092x^2 - 3.5905x + 3.2795$

VR-102 $y = -0.0475x^3 + 3.0496x^2 + 4.4623x + 9.4756$

Where Y (gallons) = Volume in Gallons Converted from Height in Vac Truck Tank in Inches

Formulas derived from manufacturer's calibration curves

			Y (gal)
Total Fluids Volume		A	904.76
Total Water Volume		B	846.31
Total Gauged Liquid Product Volume		A - B	58.46

TOTAL EFR VOLUME 59.24 GAL

Use either formula to calculate volume dependent of which Model Vac Truck is used

Date	19-Apr-99
Project #	3868.16
Subcontractor	CleanVenture/CycleChem
Vac Truck Used	VR-111

RMT Field Technician: Dan Leskovec

Vac Truck Operator: Pete

RMT Project Manager: Nick Clevett

TABLE 3
L. E. CARPENTER - WHARTON, NEW JERSEY

MONTHLY EFR WELL GAUGING LOG

EFR # 20 DATE 5/18/99

WELL ID	DEPTH TO PRODUCT (ft)	DEPTH TO WATER (ft)	PRODUCT TICKNESS (ft)
EFR-1	10.66	11.75	1.09
EFR-2	11.19	12.41	1.22
EFR-3	10.92	11.17	0.25
EFR-4	12.68	12.73	0.05
EFR-5	10.91	13.52	2.61
EFR-6	10.54	11.61	1.07
EFR-7	6.04	6.06	0.02
EFR-8	6.47	6.5	0.03
EFR-9	6.77	7.09	0.32
EFR-10	7.4	11.63	4.23
EFR-11	7.09	9.57	2.48
EFR-12	6.06	6.08	0.02
EFR-13	5.54	6.04	0.5
EFR-14	5.39	5.39	0
EFR-15	4.74	4.74	0
EFR-16	5.26	5.26	0
EFR-17	9.98	10.06	0.08
EFR-18	9.94	10.1	0.16
EFR-19	12.88	13.4	0.52
EFR-20	11.05	11.94	0.89
EFR-21	9.51	11	1.49
EFR-22	13.01	14.4	1.39
EFR-23	9.34	9.59	0.25
EFR-24	12.32	12.32	0
EFR-25	12.02	12.78	0.76
EFR-26	13.7	14.99	1.29
EFR-27	12.34	12.36	0.02
EFR-28	10.03	11.49	1.46

Total Volume Of Free Standing Product (gal) 14.43

RMT FIELD TECHNICIAN Dan Leskovec

TABLE 3
L. E. CARPENTER - WHARTON, NEW JERSEY

MONTHLY EFR
VAPOR AND LIQUID PHASE VOLUMETRIC CALCULATION LOG

EFR # 20 — **18-May-99**

WELL ID	EXTRACTION TIME		VAPOR PHASE CONCENTRATION		SYSTEM RECOVERY DATA			
	TOTAL TIME (min)	TOTAL TIME (hrs)	PPM	LEL (%)	VACUUM In Hg	CFM	lbs/hr	Total lbs
EFR-1	4.0	0.0667	2,624	40	20	350	44.82	2.9880
EFR-2	4.0	0.0667	2,624	40	20	350	44.82	2.9880
EFR-3	4.0	0.0667	2,624	40	20	350	44.82	2.9880
EFR-4	0.5	0.0083	590	9	20	350	10.08	0.0840
EFR-5	1.0	0.0167	525	8	20	350	8.96	0.1494
EFR-6	1.0	0.0167	525	8	20	350	8.96	0.1494
EFR-7	0.3	0.0042	1,181	18	20	350	20.17	0.0840
EFR-8	0.3	0.0050	394	6	20	350	6.72	0.0336
EFR-9	0.5	0.0083	459	7	20	350	7.84	0.0654
EFR-10	3.0	0.0500	2,624	40	20	350	44.82	2.2410
EFR-11	3.0	0.0500	2,624	40	20	350	44.82	2.2410
EFR-12	0.3	0.0050	394	6	20	350	6.72	0.0336
EFR-13	0.3	0.0050	262	4	20	350	4.48	0.0224
EFR-14	0.0	0.0000	0	0	20	350	0.00	0.0000
EFR-15	0.0	0.0000	0	0	20	350	0.00	0.0000
EFR-16	0.0	0.0000	0	0	20	350	0.00	0.0000
EFR-17	0.3	0.0050	525	8	20	350	8.96	0.0448
EFR-18	0.3	0.0050	2,493	38	20	350	42.58	0.2129
EFR-19	1.0	0.0167	525	8	20	350	8.96	0.1494
EFR-20	1.0	0.0167	656	10	20	350	11.20	0.1867
EFR-21	4.0	0.0667	2,624	40	20	350	44.82	2.9880
EFR-22	2.0	0.0333	328	5	20	350	5.60	0.1867
EFR-23	0.5	0.0083	918	14	20	350	15.69	0.1307
EFR-24	0.0	0.0000	0	0	20	350	0.00	0.0000
EFR-25	2.0	0.0333	590	9	20	350	10.08	0.3361
EFR-26	2.0	0.0333	590	9	20	350	10.08	0.3361
EFR-27	0.5	0.0083	394	6	20	350	6.72	0.0560
EFR-28	4.0	0.0667	2,624	40	20	350	44.82	2.9880
Total EFR Time (hrs)		0.6625	AVG ppm	1314.98			TOTAL (LBS)	21.6835
							TOTAL VAPOR PHASE VOLUME (GAL)	2.8646

NOTE PPM = (% LEL on Meter) x (LEL of Product Mixture) x (1,000,000)
(1) Weighted LEL for analyte mixture @ 0.656% (based on DEHP, Ethylbenzene & Total Xylene concentrations in Roy F. Weston product sampling conducted on Feb 27, 1995 @ MW-1R; MW-11S; MW-6R; WP-8S & WP-8
Analyte LELs: DEHP @ 0.3% ; Ethylbenzene @ 1%; Xylenes @ 1.1%

Where:

ppm_v =	Parts per Million by Volume		
Flow =	Cubic feet per minute (CFM)	350	
Molar Mass (MM) =	Molecular Weight (lb/lb-mole) =	292	(2)
IGC =	Ideal Gas Constant (359 ft^3/lb-mole) =	359	
LEL =	Free Product Mixture =	0.656	(1)
SG =	Specific Gravity =	0.9076	(3)

NOTE (2) Avg. Molar Mass @ 292 (based on DEHP, Ethylbenzene & Total Xylene concentrations in Roy F. Weston product sampling conducted on Feb 27, 1995 @ MW-1R; MW-11S; MW-6R; WP-8S & WP-8)
Individual Analyte Molar Mass: DEHP @ 390.34; Ethylbenzene @ 106.2; Total Xylenes @ 106.2
(3) Avg. Specific gravity @ 0.9076 (Roy F. Weston product sampling on Feb 27, 1995 @ MW-1R; MW-11S; MW-6R; WP-8S & WP-8)

$$\text{Pounds/Hr (lbs/hr)} = (ppm_v \times (60\ \text{min/hr}) \times (\text{CFM}) \times (\text{MM})) / ((1 \times 10^6) \times (359\ ft^3/\text{lb-mole}))$$

Vacuum Truck Gauging		FT
Depth to Product (ft)	A	3.960
Depth to Water (ft)	B	4.030
Depth to Truck Base	C	4.870

NOTE: 2 inches is subtracted for measurement A and B to compensate for sensor placement in interface probe assembly

		FT	Inches (x 12)
Total Fluids Gauging	C - A =	0.910	10.92
Total Water Volume Gauging	C - B =	0.840	10.08

VR-111 $y = 0.0284x^3 + 1.4092x^2 - 3.5905x + 3.2795$

VR-102 $y = -0.0475x^3 + 3.0496x^2 + 4.4623x + 9.4756$

Where Y (gallons) = Volume in Gallons Converted from Height in Vac Truck Tank in Inches
Formulae derived from manufacturer's calibration curves

		Y (gal)
Total Fluids Volume	A	360.00
Total Water Volume	B	315.67
Total Gauged Liquid Product Volume	A - B	44.34
TOTAL EFR VOLUME		47.20 GAL

Date	18-May-99
Project #	3868.16
Subcontractor	CleanVenture/CycleChem
Vac Truck Used	VR-102

Use either formula to calculate volume dependent of which Model Vac Truck is used

RMT Field Technician: Dan Leskovec

Vac Truck Operator: Pete

RMT Project Manager: Nick Clevett

TABLE 3
L. E. CARPENTER - WHARTON, NEW JERSEY

MONTHLY EFR WELL GAUGING LOG

EFR # 21 DATE 6/22/99

WELL ID	DEPTH TO PRODUCT (ft)	DEPTH TO WATER (ft)	PRODUCT TICKNESS (ft)
EFR-1	11.58	12.73	1.15
EFR-2	12.18	13.1	0.92
EFR-3	12.08	12.94	0.86
EFR-4	13.66	13.69	0.03
EFR-5	11.85	14.51	2.66
EFR-6	11.48	12.64	1.16
EFR-7	8.53	8.61	0.08
EFR-8	7.38	7.47	0.09
EFR-9	7.71	8.2	0.49
EFR-10	8.37	12.08	3.71
EFR-11	7.94	11.22	3.28
EFR-12	6.96	7.06	0.1
EFR-13	6.47	6.91	0.44
EFR-14	6.3	6.3	0
EFR-15	5.63	5.63	0
EFR-16	6.15	6.15	0
EFR-17	10.94	11.06	0.12
EFR-18	10.89	11.35	0.46
EFR-19	13.81	14.91	1.1
EFR-20	12	12.87	0.87
EFR-21	10.46	11.92	1.46
EFR-22	13.88	15.81	1.93
EFR-23	10.24	10.69	0.45
EFR-24	13.27	13.35	0.08
EFR-25	12.97	13.51	0.54
EFR-26	14.63	15.91	1.28
EFR-27	13.31	13.34	0.03
EFR-28	10.97	12.22	1.25

Total Volume Of Free Standing Product (gal) 15.95

RMT FIELD TECHNICIAN Dan Leskovec

TABLE 3
L. E. CARPENTER - WHARTON, NEW JERSEY

MONTHLY EFR
VAPOR AND LIQUID PHASE VOLUMETRIC CALCULATION LOG

EFR # 21 — **22-Jun-99**

WELL ID	EXTRACTION TIME		VAPOR PHASE CONCENTRATION		SYSTEM RECOVERY DATA			
	TOTAL TIME (min)	TOTAL TIME (hrs)	PPM	LEL (%)	VACUUM In Hg	CFM	lbs/hr	Total lbs
EFR-1	3.0	0.0500	1,050	16	20	350	17.93	0.8964
EFR-2	3.0	0.0500	1,181	18	20	350	20.17	1.0084
EFR-3	2.0	0.0333	918	14	20	350	15.69	0.5229
EFR-4	0.5	0.0083	262	4	20	350	4.48	0.0373
EFR-5	2.0	0.0333	459	7	20	350	7.84	0.2614
EFR-6	2.0	0.0333	525	8	20	350	8.96	0.2988
EFR-7	0.3	0.0042	394	6	20	350	6.72	0.0280
EFR-8	0.3	0.0042	459	7	20	350	7.84	0.0327
EFR-9	1.0	0.0167	590	9	20	350	10.08	0.1681
EFR-10	4.0	0.0667	525	8	20	350	8.96	0.5976
EFR-11	4.0	0.0667	590	9	20	350	10.08	0.6723
EFR-12	0.3	0.0042	394	6	20	350	6.72	0.0280
EFR-13	0.3	0.0042	262	4	20	350	4.48	0.0187
EFR-14	0.0	0.0000	0	0	20	350	0.00	0.0000
EFR-15	0.0	0.0000	0	0	20	350	0.00	0.0000
EFR-16	0.0	0.0000	0	0	20	350	0.00	0.0000
EFR-17	1.0	0.0167	787	12	20	350	13.45	0.2241
EFR-18	1.0	0.0167	918	14	20	350	15.69	0.2614
EFR-19	2.0	0.0333	525	8	20	350	8.96	0.2988
EFR-20	2.0	0.0333	590	9	20	350	10.08	0.3361
EFR-21	4.0	0.0667	1,115	17	20	350	19.05	1.2699
EFR-22	3.0	0.0500	590	9	20	350	10.08	0.5042
EFR-23	0.5	0.0083	394	6	20	350	6.72	0.0560
EFR-24	0.3	0.0042	459	7	20	350	7.84	0.0327
EFR-25	2.0	0.0333	459	7	20	350	7.84	0.2614
EFR-26	2.0	0.0333	394	6	20	350	6.72	0.2241
EFR-27	0.5	0.0083	328	5	20	350	5.60	0.0467
EFR-28	4.0	0.0667	1,115	17	20	350	19.05	1.2699
Total EFR Time (hrs)		0.7458	AVG ppm	641.09			TOTAL (LBS)	9.3562
							TOTAL VAPOR PHASE VOLUME (GAL)	1.2361

NOTE PPM = (% LEL on Meter) x (LEL of Product Mixture) x (1,000,000)
(1) Weighted LEL for analyte mixture @ 0.656% (based on DEHP, Ethylbenzene & Total Xylene concentrations in Roy F. Weston product sampling conducted on Feb 27, 1995 @ MW-1R; MW-11S; MW-6R; WP-B5 & WP-B
Analyte LELs: DEHP @ 0.3% ; Ethylbenzene @ 1%; Xylenes @ 1.1%

Where:

ppm, =	Parts per Million by Volume		
Flow =	Cubic feet per minute (CFM)	350	
Molar Mass (MM) =	Molecular Weight (lb/lb-mole) =	292	(2)
IGC =	Ideal Gas Constant (359 ft³/lb-mole) =	359	
LEL =	Free Product Mixture =	0.656	(1)
SG =	Specific Gravity =	0.9076	(3)

NOTE (2) Avg. Molar Mass @ 292 (based on DEHP, Ethylbenzene & Total Xylene concentrations in Roy F. Weston product sampling conducted on Feb 27, 1995 @ MW-1R; MW-11S; MW-6R; WP-B5 & WP-B4)
Individual Analyte Molar Mass: DEHP @ 390.54; Ethylbenzene @ 106.2; Total Xylenes @ 106.2
(3) Avg. Specific gravity @ 0.9076 (Roy F. Weston product sampling on Feb 27, 1995 @ MW-1R; MW-11S; MW-6R; WP-B5 & WP-B4)

$$\text{Pounds/Hr (lbs/hr)} = (\text{ppm}_v \times (60 \text{ min/hr}) \times (\text{CFM}) \times (\text{MM})) / ((1 \times 10^6) \times (359 \text{ ft}^3/\text{lb-mole}))$$

Vacuum Truck Gauging		FT
Depth to Product (ft)	A	3.670
Depth to Water (ft)	B	3.720
Depth to Truck Base	C	4.870

NOTE: 2 inches is subtracted for measurement A and B to compensate for sensor placement in interface probe assembly

		FT	Inches (x 12)
Total Fluids Gauging	C - A =	1.200	14.4
Total Water Volume Gauging	C - B =	1.150	13.8

VR-111 $y = 0.0284x^3 + 1.4092x^2 - 3.5905x + 3.2795$

VR-102 $y = -0.0475x^3 + 3.0496x^2 + 4.4623x + 9.4756$

Where Y (gallons) = Volume in Gallons Converted from Height in Vac Truck Tank in Inches

Formulas derived from manufacturer's calibration curves

		Y (gal)
Total Fluids Volume	A	564.26
Total Water Volume	B	526.99
Total Gauged Liquid Product Volume	A - B	37.28

Date	22-Jun-99
Project #	3868.16
Subcontractor	CleanVenture/CycleChem
Vac Truck Used	VR-102

TOTAL EFR VOLUME 38.51 GAL

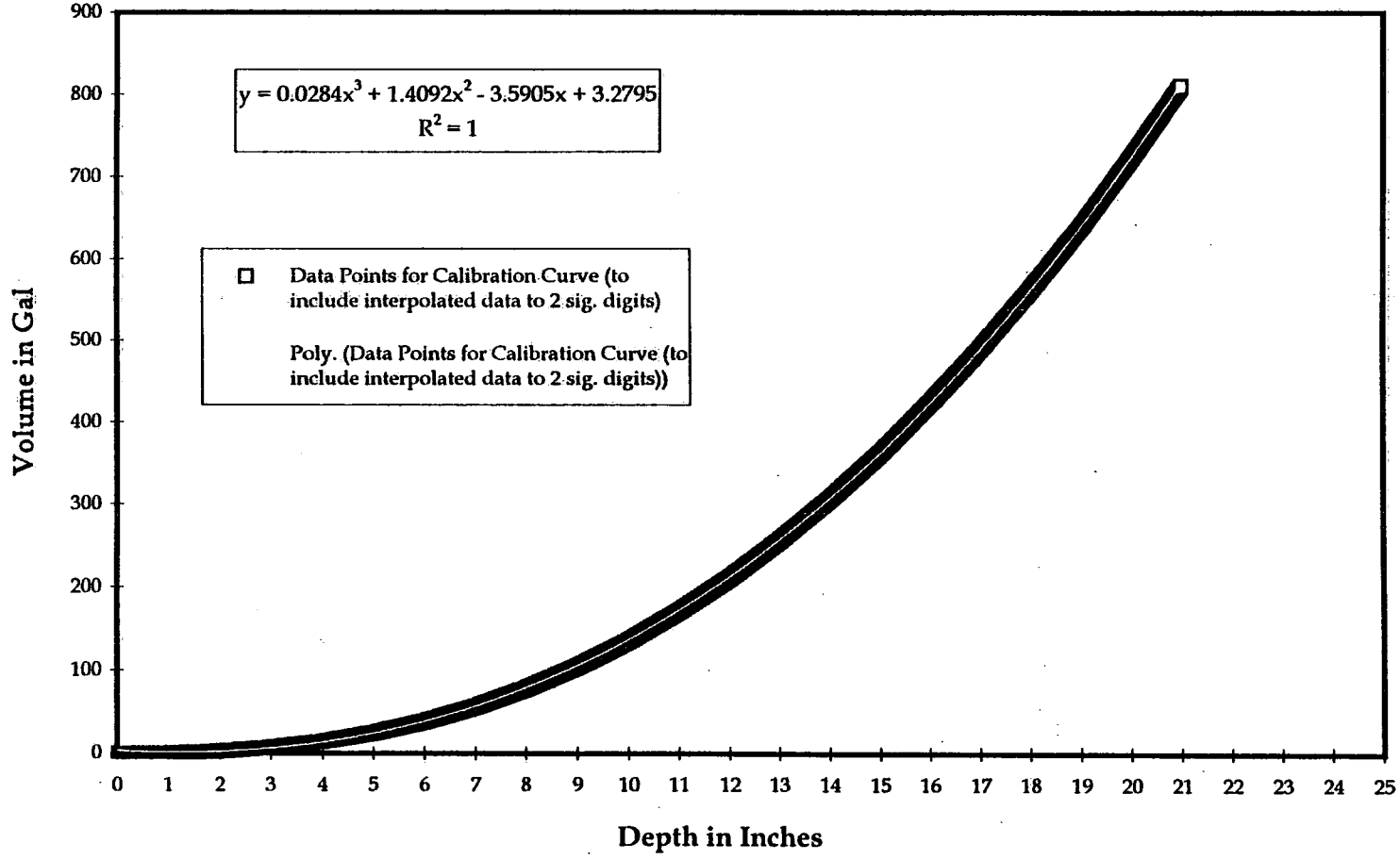
Use either formula to calculate volume dependent of which Model Vac Truck is used

RMT Field Technician: Dan Leskovec

Vac Truck Operator: Pete

RMT Project Manager: Nick Clevett

VR-111 EFR Vac Truck
Volume Calibration Curve



VR-102 EFR Vac Truck
Volume Calibration Curve

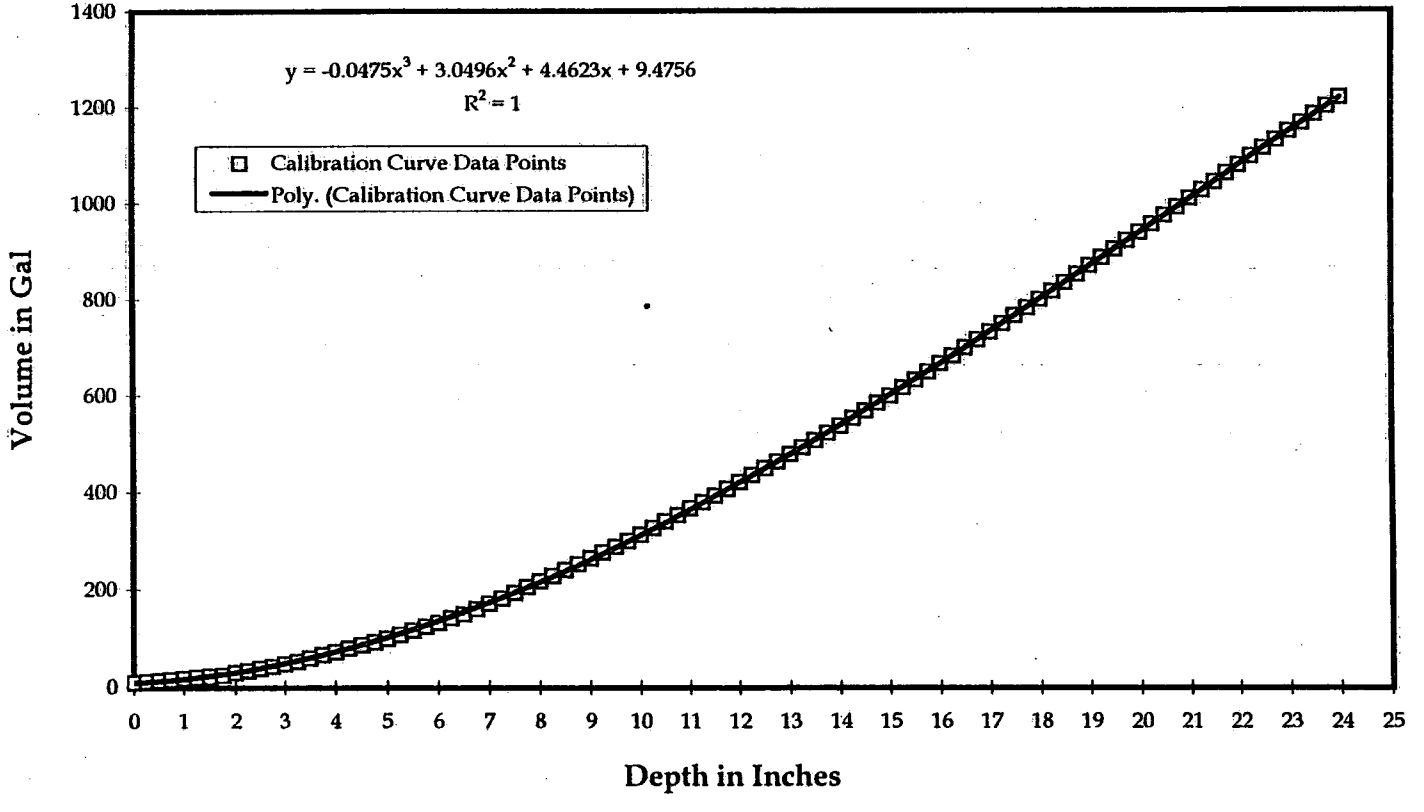


TABLE 4

L.E. CARPENTER - WHARTON, NEW JERSEY

REVISED QUARTERLY MONITORING PROTOCOL

Per NJDEP Letter Dated May 21, 1999

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 Intermediate 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-11D	161'	DEHP(1)	**Analytical results from this well identify potential contamination of deep aquifer. This well lies in the center of the free product plume.**	**New well added to monitoring protocol as of May 21, 1999 NJDEP Letter (review of 1st quarter monitoring report). Well exibited DEHP contamination potentially as the result of draw down during well installation.**
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

2nd QUARTER 1999					
Monitoring Well	Benzene (ug/L)	Ethylbenzene (ug/L)	Toluene (ug/L)	Total Xylenes (ug/L)	DEHP (ug/L)
MW-4	ND	0.66	ND	ND	**3,000**
MW-14I	ND	ND	ND	ND	ND
MW-15S	ND	ND	ND	ND	ND
MW-15I	ND	ND	ND	ND	**4.8**
MW-17S	ND	ND	ND	ND	ND
MW-22R	ND	**1,600**	ND	**7,600**	**670**
MW-21 (1)	ND	ND	ND	ND	ND
MW-25R	ND	ND	ND	**14**	ND
MW-4d(DUP)	ND	**0.43**	ND	ND	**4,400**
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)

Ta[redacted]6

Water Level Elevations (2nd. 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	--	Apr-99	6.60	6.82	--	624.01	0.11	624.11
CW-3	40° 54' 13.8"	74° 34' 32.5"	628.63	633.30	--	Apr-99	--	6.91	--	621.72	--	--
GEI-1I	40° 54' 19.3"	74° 34' 35.3"	628.44	630.93	630.78	Apr-99	--	4.34	--	626.44	--	--
GEI-2 I	40° 54' 17.4"	74° 34' 43.1"	635.92	638.35	638.20	Apr-99	--	10.37	--	627.83	--	--
GEI-2 S	40° 54' 17.3"	74° 34' 43.0"	635.46	637.87	637.67	Apr-99	--	10.42	--	627.25	--	--
GEI-3 I	40° 54' 14.8"	74° 34' 43.7"	637.56	639.99	639.85	Apr-99	--	12.48	--	627.37	--	--
M.W.-1R	40° 54' 13.8"	74° 34' 38.8"	635.79	635.78	635.47	Apr-99	8.94	9.28	626.53	626.19	0.34	626.49
MW-2R	40° 54' 14.4"	74° 34' 33.1"	629.06	632.28	632.14	Apr-99	--	6.11	--	626.03	--	--
M.W.-3	40° 54' 14.0"	74° 34' 32.6"	628.64	632.27	632.56	Apr-99	6.25	7.27	626.31	625.29	1.02	626.18
M.W.-4	40° 54' 12.4"	74° 34' 34.4"	628.86	632.31	632.50	Apr-99	--	6.17	--	626.33	--	--
MW-6R	40° 54' 13.8"	74° 34' 34.1"	629.82	632.64	632.42	Apr-99	--	5.72	--	626.70	--	--
M.W.-8	40° 54' 12.7"	74° 34' 33.3"	627.99	630.56	628.79	Apr-99	--	2.79	--	626.00	--	--
M.W.-9	40° 54' 12.5"	74° 34' 35.1"	629.21	631.69	630.18	Apr-99	--	3.83	--	626.35	--	--
M.W.-11D (R)	40° 54' 14.2"	74° 34' 34.9"	630.66	633.35	633.09	Apr-99	--	4.44	--	628.65	--	--
M.W.-11I (R)	40° 54' 14.1"	74° 34' 34.9"	630.89	633.67	633.33	Apr-99	--	7.03	--	626.30	--	--
M.W.-11 S	40° 54' 14.0"	74° 34' 34.9"	631.23	633.26	632.96	Apr-99	6.77	12.70	626.19	620.26	5.93	625.42
MW-12R	40° 54' 12.3"	74° 34' 35.9"	632.17	634.86	634.33	Apr-99	--	7.72	--	626.61	--	--
M.W.-13 I	40° 54' 15.1"	74° 34' 31.9"	628.36	630.88	630.66	Apr-99	--	4.58	--	626.08	--	--
MW-13R	40° 54' 15.0"	74° 34' 31.8"	628.26	630.96	630.59	Apr-99	--	4.54	--	626.05	--	--
M.W.-13 S	40° 54' 15.3"	74° 34' 31.7"	628.34	631.40	631.23	Apr-99	--	4.87	--	626.36	--	--
M.W.-14 I	40° 54' 14.2"	74° 34' 31.2"	625.93	628.32	628.23	Apr-99	--	2.39	--	625.84	--	--
M.W.-14 S	40° 54' 14.3"	74° 34' 31.0"	625.78	628.63	628.41	Apr-99	--	2.97	--	625.44	--	--
M.W.-15 I	40° 54' 15.0"	74° 34' 37.9"	634.74	636.88	636.66	Apr-99	--	10.09	--	626.57	--	--
M.W.-15 S	40° 54' 15.0"	74° 34' 38.0"	634.83	637.03	636.77	Apr-99	--	10.20	--	626.57	--	--
M.W.-16 I	40° 54' 16.0"	74° 34' 40.3"	632.43	635.08	634.96	Apr-99	--	7.81	--	627.15	--	--
M.W.-16 S	40° 54' 15.9"	74° 34' 40.4"	632.57	634.69	634.47	Apr-99	--	7.40	--	627.07	--	--
M.W.-17 S	40° 54' 12.8"	74° 34' 39.7"	632.95	634.92	634.79	Apr-99	--	7.96	--	626.83	--	--
M.W.-18 I	40° 54' 18.4"	74° 34' 35.2"	628.35	631.19	631.04	Apr-99	--	4.66	--	626.38	--	--
M.W.-18 S	40° 54' 18.4"	74° 34' 35.0"	628.22	631.48	631.26	Apr-99	--	5.14	--	626.12	--	--
M.W.-19	40° 54' 17.1"	74° 34' 43.7"	636.72	639.24	638.88	Apr-99	--	11.56	--	627.32	--	--
M.W.-19-1	40° 54' 17.0"	74° 34' 44.0"	636.50	639.26	638.86	Apr-99	--	11.46	--	627.40	--	--
M.W.-19-2	40° 54' 17.2"	74° 34' 44.0"	637.05	639.36	638.76	Apr-99	--	11.44	--	627.32	--	--
M.W.-19-3	40° 54' 17.1"	74° 34' 44.5"	637.54	640.04	639.65	Apr-99	--	12.21	--	627.44	--	--
M.W.-19-4	40° 54' 16.7"	74° 34' 44.0"	636.27	638.44	637.74	Apr-99	--	10.24	--	627.50	--	--

Table 6

Water Level Elevations (2nd. 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	Apr-99	--	11.50	--	627.24	--	--
M.W.-20	40° 54' 17.2"	74°34' 41.2"	634.82	637.03	636.77	Apr-99	--	7.55	--	629.22	--	--
M.W.-21	40° 54' 14.1"	74°34' 28.2"	625.17	629.09	628.80	Apr-99	--	3.21	--	625.59	--	--
M.W.-22	40° 54' 13.7"	74°34' 31.2"	625.94	628.31	628.13	Apr-99	--	2.58	--	625.55	--	--
M.W.-23	40° 54' 15.8"	74°34' 30.5"	628.70	630.95	630.64	Apr-99	--	3.21	--	627.43	--	--
M.W.-25	40° 54' 13.7"	74°34' 29.8"	625.25	627.37	627.22	Apr-99	--	2.00	--	625.22	--	--
MW-26	40° 54' 15.7"	74°34' 34.3"	630.84	634.39	633.26	Apr-99	--	11.11	--	622.15	--	--
RW-1	40° 54' 13.6"	74°34' 39.1"	635.19	637.81	637.38	Apr-99	10.78	11.28	626.60	626.10	0.50	626.54
RW-2	40° 54' 14.2"	74°34' 32.8"	629.80	631.78	631.68	Apr-99	--	5.66	--	626.02	--	--
RW-3	40° 54' 14.9"	74°34' 33.9"	629.89	632.15	631.99	Apr-99	--	5.85	--	626.14	--	--
SG-D1*	--	--	626.41	--	--	Apr-99	--	1.72	--	624.80	--	--
SG-D2*	--	--	626.86	--	--	Apr-99	--	1.28	--	624.81	--	--
SG-D3*	--	--	626.43	--	--	Apr-99	--	1.78	--	624.88	--	--
SG-R1*	--	--	641.52	--	--	Apr-99	--	1.64	--	639.83	--	--
SG-R2*	--	--	628.84	--	--	Apr-99	--	1.28	--	626.79	--	--
SG-R3*	--	--	627.38	--	--	Apr-99	--	1.28	--	625.33	--	--
WP-A1	40° 54' 13.9"	74°34' 38.8"	636.29	636.32	635.81	Apr-99	8.96	10.41	626.85	625.40	1.45	626.66
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	Apr-99	--	8.89	--	626.67	--	--
WP-A4	40° 54' 14.0"	74°34' 38.5"	635.63	635.66	635.10	Apr-99	10.12	12.81	624.98	622.29	2.69	624.63
WP-A5	40° 54' 14.4"	74°34' 38.1"	635.70	--	637.85	Apr-99	--	11.15	--	626.70	--	--
WP-A6	40° 54' 13.6"	74°34' 38.0"	634.95	--	637.28	Apr-99	10.68	14.18	626.60	623.10	3.50	626.15
WP-A7	40° 54' 13.7"	74°34' 36.6"	632.94	--	634.88	Apr-99	8.59	9.18	626.29	625.70	0.59	626.21
WP-A8	40° 54' 14.3"	74°34' 36.6"	634.70	--	637.56	Apr-99	11.14	13.18	626.42	624.38	2.04	626.15
WP-A9	40° 54' 13.6"	74°34' 37.4"	637.22	--	639.32	Apr-99	12.70	13.25	626.62	626.07	0.55	626.55
WP-B1	40° 54' 13.9"	74°34' 35.7"	631.85	--	633.65	Apr-99	5.99	6.03	627.66	627.62	0.04	627.65
WP-B2	40° 54' 14.5"	74°34' 35.1"	630.48	632.58	632.25	Apr-99	--	6.03	--	626.22	--	--
WP-B3	40° 54' 14.2"	74°34' 35.4"	631.71	--	633.33	Apr-99	--	6.47	--	626.86	--	--
WP-B4	40° 54' 14.5"	74°34' 34.5"	629.93	--	632.56	Apr-99	6.13	--	--	--	--	--
WP-B5	40° 54' 14.7"	74°34' 34.2"	630.03	--	632.11	Apr-99	4.91	5.79	627.20	626.32	0.88	627.09
WP-B6	40° 54' 13.4"	74°34' 33.7"	629.72	--	631.86	Apr-99	--	5.74	--	626.12	--	--
WP-B7	40° 54' 13.5"	74°34' 32.3"	627.62	--	629.49	Apr-99	3.90	3.97	625.59	625.52	0.07	625.58
WP-B10	40° 54' 14.9"	74°34' 34.7"	630.42	633.12	632.74	Apr-99	--	6.85	--	625.89	--	--
WP-C1	40° 54' 12.6"	74°34' 36.1"	632.81	--	633.51	Apr-99	--	6.83	--	626.68	--	--

Ta 6

Water Level Elevations (2nd. 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	Apr-99	--	7.81	--	626.65	--	--
WP-C3	40° 54' 12.4"	74° 34' 36.4"	631.00	--	632.64	Apr-99	--	5.98	--	626.66	--	--
WP-C4	40° 54' 12.8"	74° 34' 35.9"	632.44	--	633.27	Apr-99	--	7.02	--	626.25	--	--
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.

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

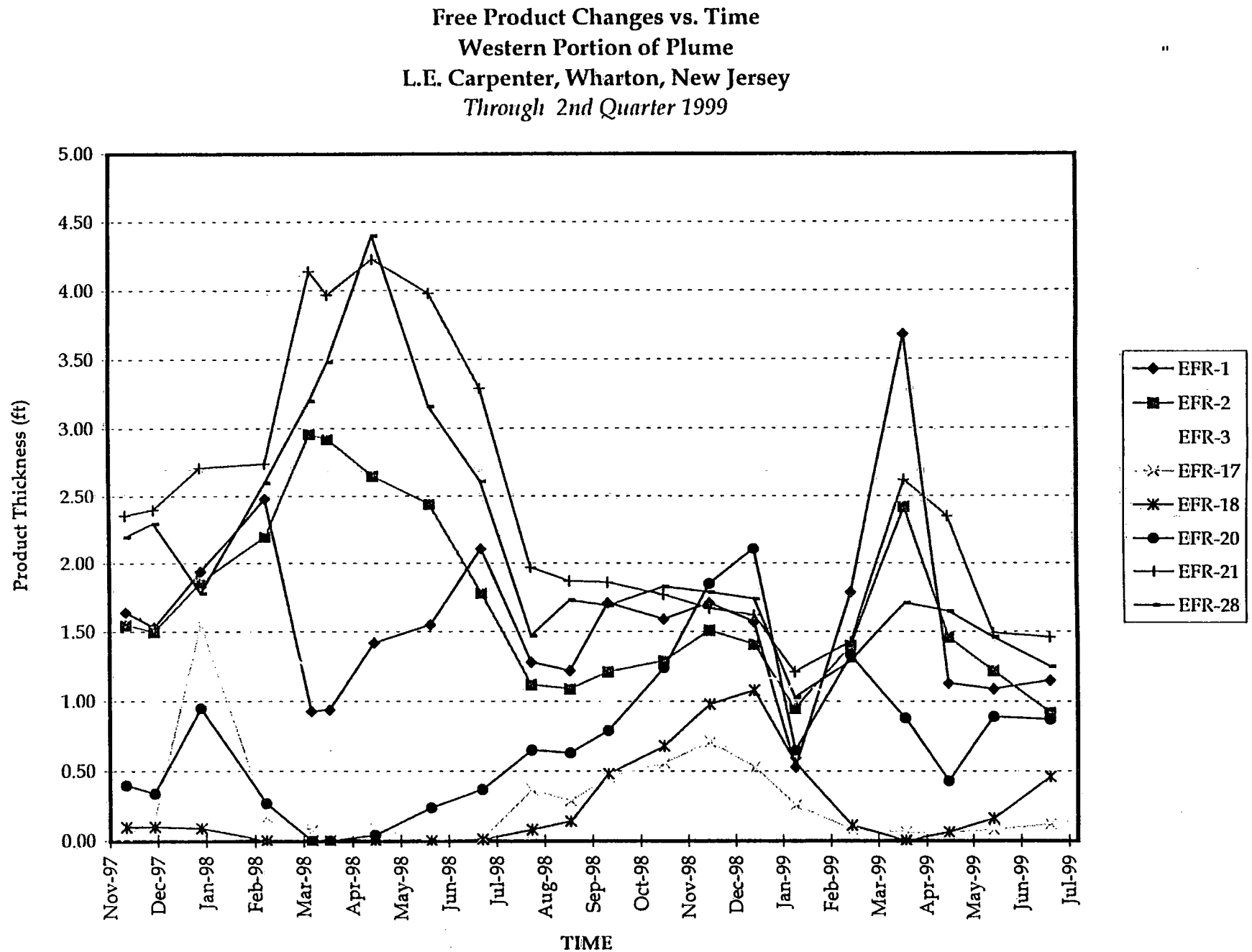
Director of Environmental Affairs
TITLE

L.E Carpenter Company
COMPANY

Cristopher Anderson
SIGNATURE

7/20/99
DATE

Appendix B
Free Product Fluctuation and Trend Charts



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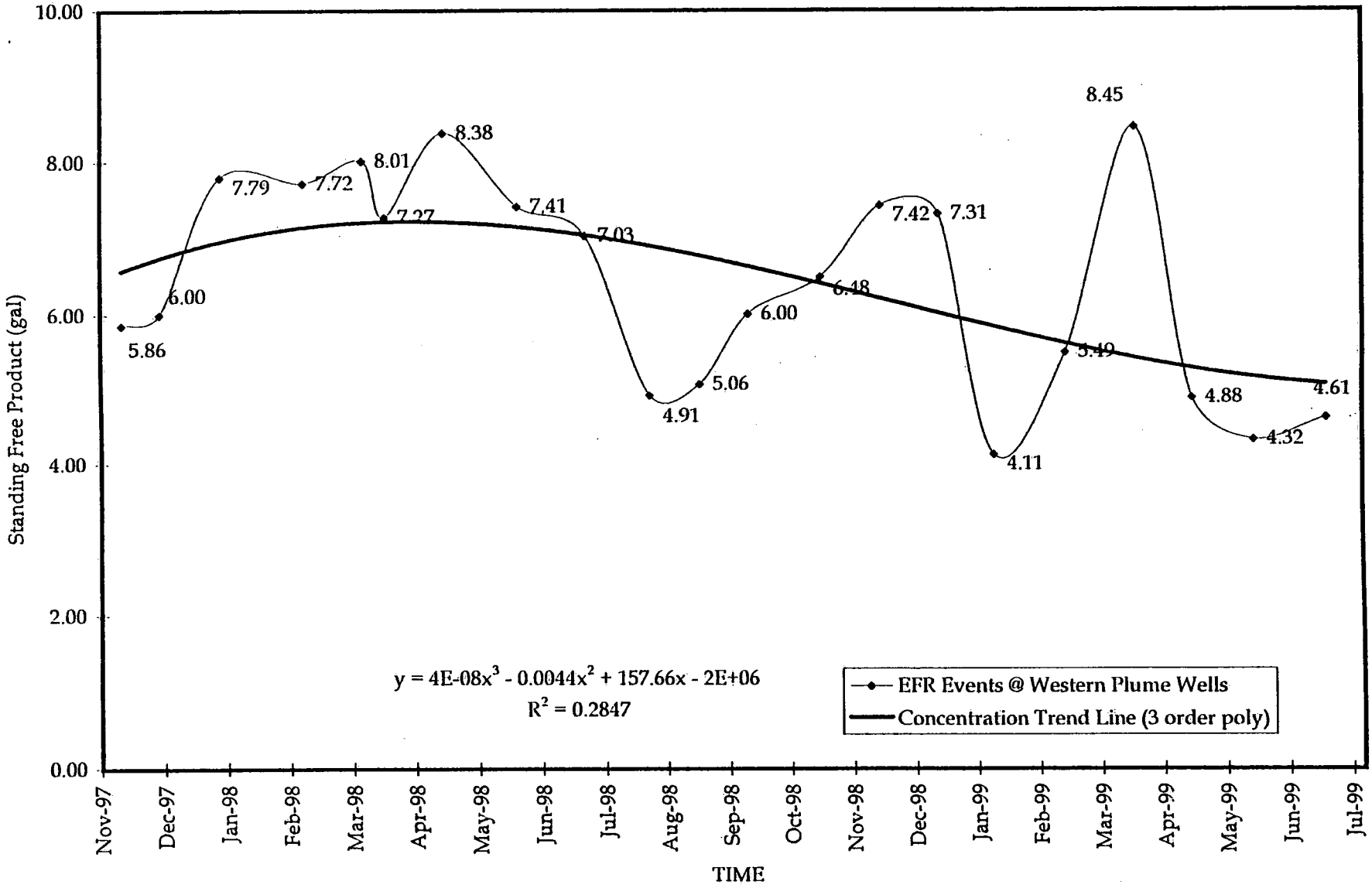
Free Standing Product vs. Time
Western Portion of Plume
L.E. Carpenter, Wharton, New Jersey
Through 2nd Quarter 1999



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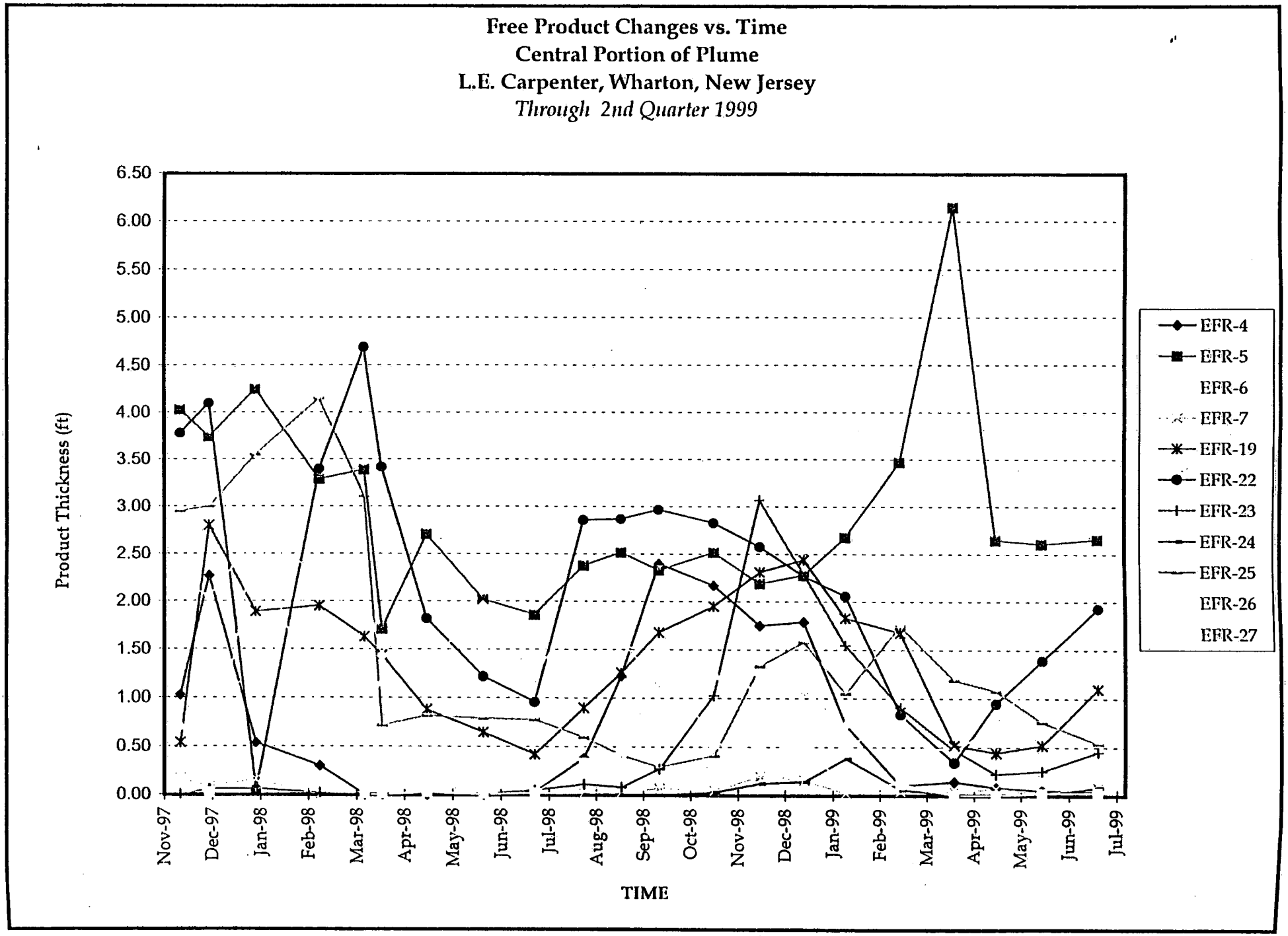

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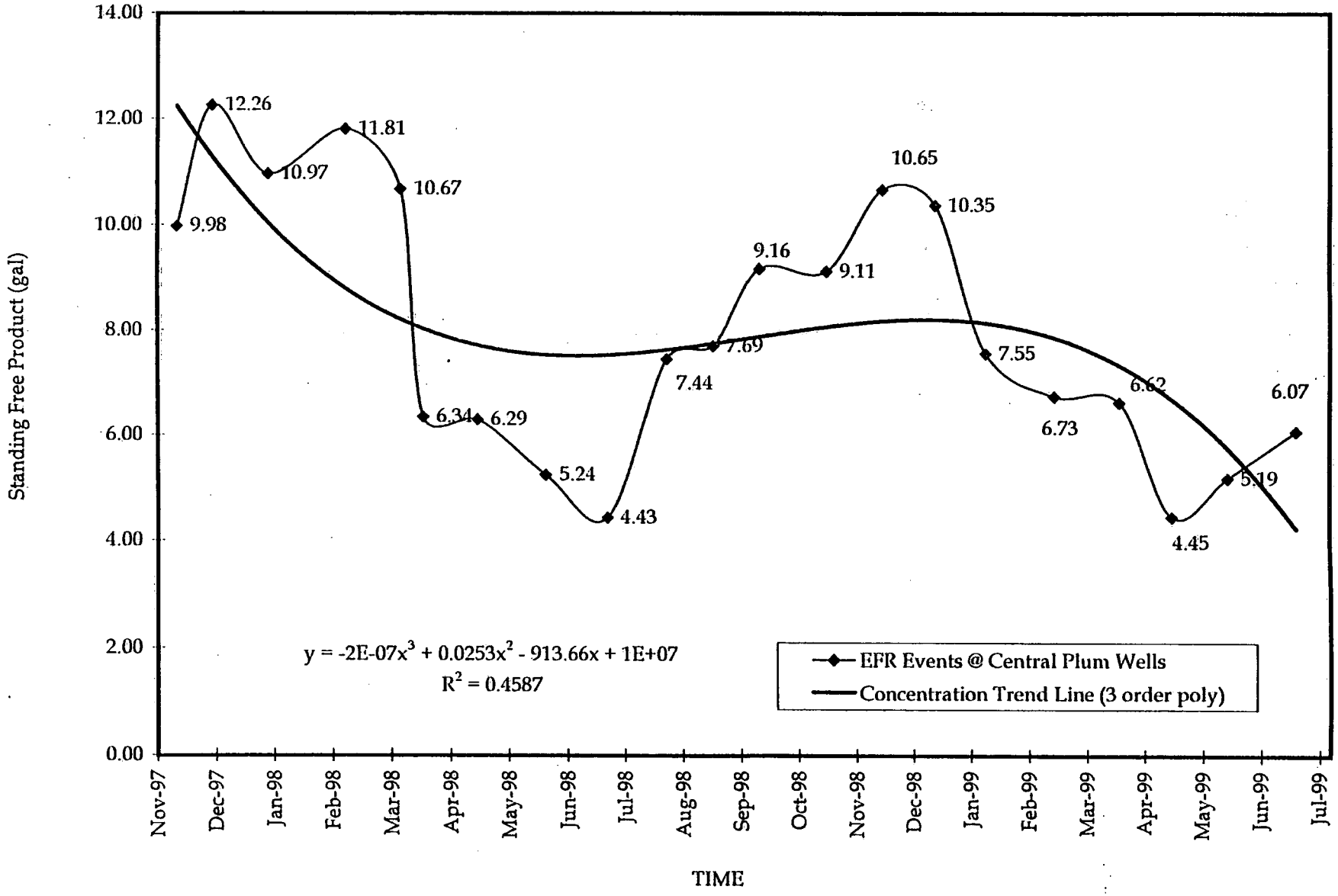
Free Standing Product vs. Time
Central Portion of Plume
L.E. Carpenter, Wharton, New Jersey
Through 2nd Quarter 1999



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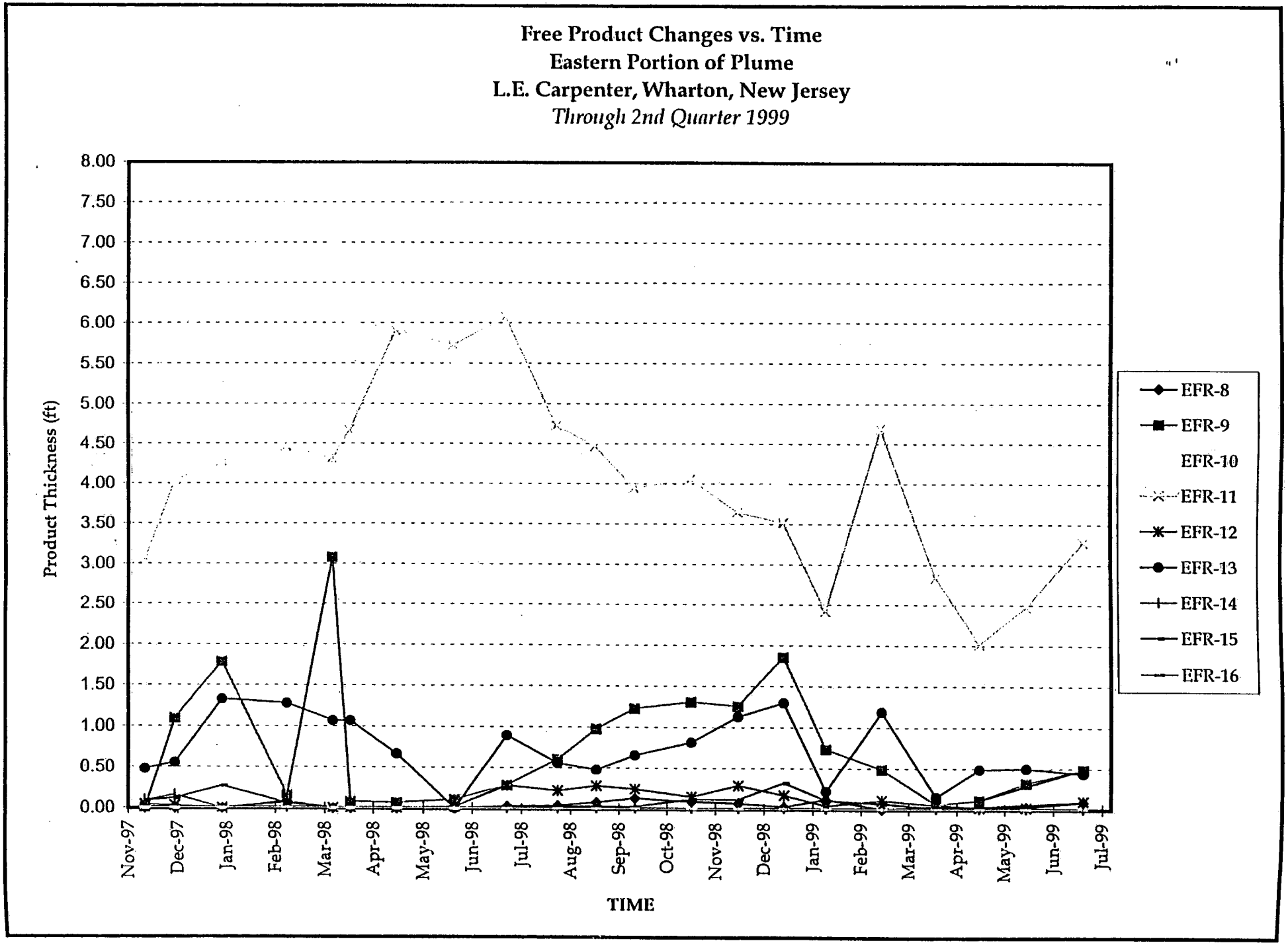

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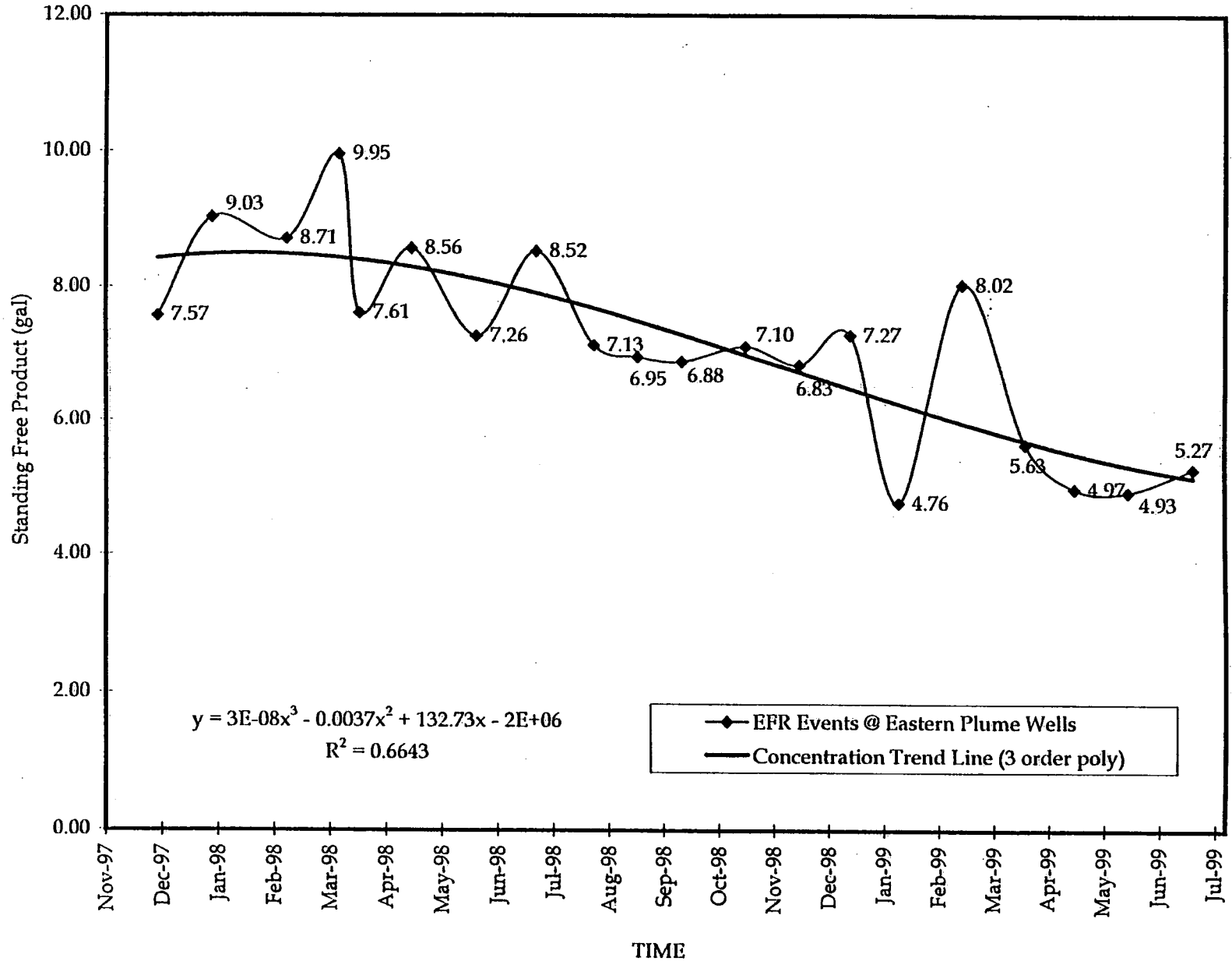
Free Standing Product vs. Time
Eastern Portion of Plume
L.E. Carpenter, Wharton, New Jersey
Through 2nd Quarter 1999



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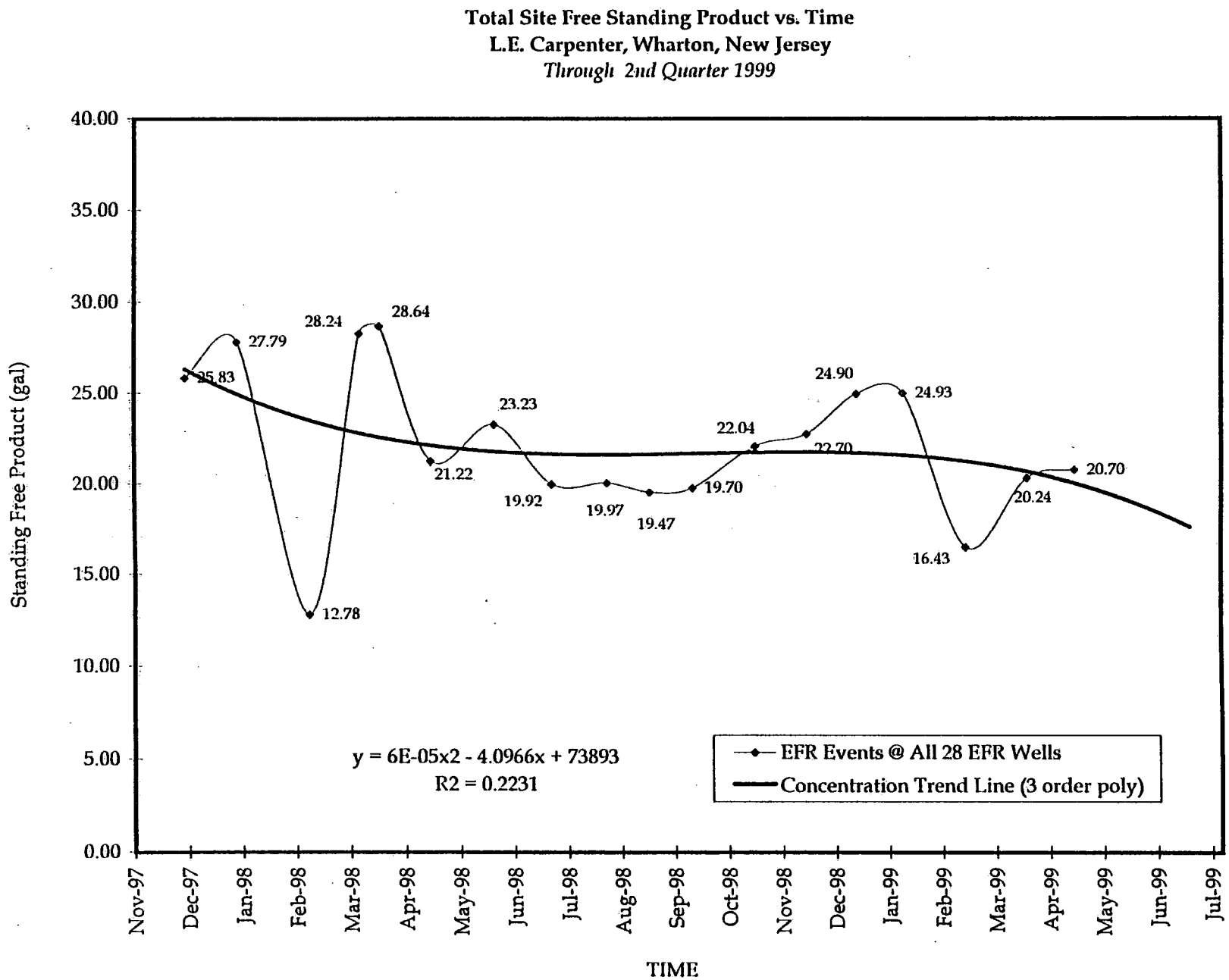


H:/data/projects/lecarpen/quarters/Freeprdt.xls/Total Site Product Trend

Appendix C
Monitoring Well Sampling Data

Monitoring Well Data

Client: Residual Management Tech. Project: L.E. Carpenter

Job No: N540 Date Sampled: 4/15/99 Analyst: R. Toogood

Well ID	MW15S	MW15I	MW14I	MW22	MW25	MW21	MW11IR	MW11DR	MW4	MW17
Depth to Water From TOC feet (before purging)	10.20	10.09	2.39	2.58	2.00	3.21	7.03	4.44	6.17	7.96
Depth to Water From TOC feet (after purging)	10.29	10.21	2.50	4.39	5.03	3.31	7.13	4.71	6.91	8.14
Depth to Water From TOC feet (before sampling)	10.19	10.12	2.38	2.78	2.00	3.21	7.11	4.48	6.21	7.99
Depth to Bottom From TOC feet	19.48	40.14	43.32	8.81	9.11	14.68	54.98	161.25	18.31	15.00
PID Reading from Well Casing (ppm)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
pH before Purge	6.54	7.38	7.96	7.06	7.01	7.47	8.16	9.75	6.83	6.91
Temp. before Purge (°C)	10.6	10.7	11.8	10.5	11.1	12.7	11.1	11.5	12.0	10.5
Diss. Oxygen before Purge (ppm)	4.53	2.5	3.92	1.08	1.3	2.28	4.93	4.3	0.96	6.19
Cond. before Purge (umhos/cm)	244	267	280	560	573	472	308	206	475	231
Water Volume in Well (gal.)	6.06	4.90	6.68	1.02	1.16	7.48	7.83	25.59	1.98	4.59
Purge Method	Peristaltic pump	Peristaltic pump	Peristaltic pump	Peristaltic pump	Peristaltic pump	Peristaltic pump	Peristaltic pump	Peristaltic pump	Peristaltic pump	Peristaltic pump
Purge Start Time	9:02	9:03	10:02	10:05	10:16	10:32	11:41	11:41	13:36	13:01
Purge End Time	9:21	9:23	10:24	10:11	10:25	10:50	12:07	12:43	13:44	13:19
Purge Rate (gpm)	1.0	0.8	0.9	0.5	0.4	1.3	0.9	1.2	0.8	0.8
Volume Purged (gal.)	19	15	21	4	4	23	24	77	6	14
pH after Purge	6.81	7.26	7.86	6.96	7.01	7.36	7.95	8.21	6.70	6.81
Temp. after Purge (°C)	11.2	12.1	13.2	10.3	11.0	12.3	13.4	13.0	10.5	10.1
Diss. Oxygen after Purge (ppm)	2.46	0.99	3.15	0.93	1.93	3.04	3.31	3.76	0.96	5.90
Cond. after Purge (umhos/cm)	260	348	286	566	567	475	298	194	527	226
pH after Sample	6.88	7.16	7.96	7.00	7.03	7.50	7.95	8.34	6.94	6.79
Temp. after Sample (°C)	10.8	11.2	11.2	10.5	11.3	12.7	11.7	12	12.5	9.8
Diss. Oxygen after Sampling (ppm)	3.7	1.92	3.92	1.41	2.26	2.06	3.66	4.17	1.63	6.30
Cond. after Sample (umhos/cm)	256	331	290	556	564	471	302	194	522	230
Redox Potential (mV)	7.0	NA	NA	NA	NA	NA	NA	NA	NA	166.9
Carbon Dioxide (ppm)	25.0	NA	NA	NA	NA	NA	NA	NA	NA	20.0
Alkalinity (ppm)	120.0	NA	NA	NA	NA	NA	NA	NA	NA	60.0
Sampling Method	Teflon Bailer	Teflon Bailer	Teflon Bailer	Teflon Bailer	Teflon Bailer	Teflon Bailer	Teflon Bailer	Teflon Bailer	Teflon Bailer	Teflon Bailer
Time of Sampling	9:31	9:42	11:03	10:58	11:09	11:15	12:51	12:56	13:53	13:23

Appendix D
NJDEP Letter dated May 21, 1999

RECEIVED
MAY 26 1999
N.C. Mail

State of New Jersey

Christine Todd Whitman
Governor

Department of Environmental Protection

Robert C. Shinn, Jr.
Commissioner

Mr. Cristopher Anderson
Director, Environmental Affairs
L.E. Carpenter & Company
200 Public Square
Suite 36-5000
Cleveland, OH 44114-2304

MAY 21 1999

Dear Mr. Anderson:

Re: L.E. Carpenter Superfund Site
Wharton, Morris County

The New Jersey Department of Environmental Protection (Department) has reviewed the 1st Quarter 1999 Monitoring Report dated April 1999. The Department is concerned about the sampling results for replacement well MW-11D, which has DEHP levels of 64 ppb. A duplicate value of 20 ppb was also reported. This well is 161 feet deep, the heads are upward and DEHP has a density less water, which would cause it to float on the water table. Furthermore, this compound was not detected in the intermediate zone well, MW-11I. A possible explanation is drag down during the installation of this well since over five feet of product is found in MW-11S at this location. Therefore, this well must be incorporated into the quarterly sampling program. If the DEHP levels decrease, the Department will consider dropping this well from the sampling program.

Please contact me at (609) 633-7261 if you have any questions.

Sample for DEHP only
tfc

Sincerely,

Gwen B Zervas

Gwen B. Zervas, P.E.
Case Manager
Bureau of Federal Case Management

C: Stephen Cipot, USEPA
Nicholas Clevett, RMT
George Blyskun, BGWPA
John Prendergast, BEERA

Appendix E
MW-22R Concentration Trend Analysis

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
14	15-Apr-99	ND	1,600	ND	7,600	670	350	700	30	20	40
NJDEP GWQS (ug/L)		NA	700	1000	40	30					
ROD Discharge Criteria (ug/L)		NA	350	500	20	30					

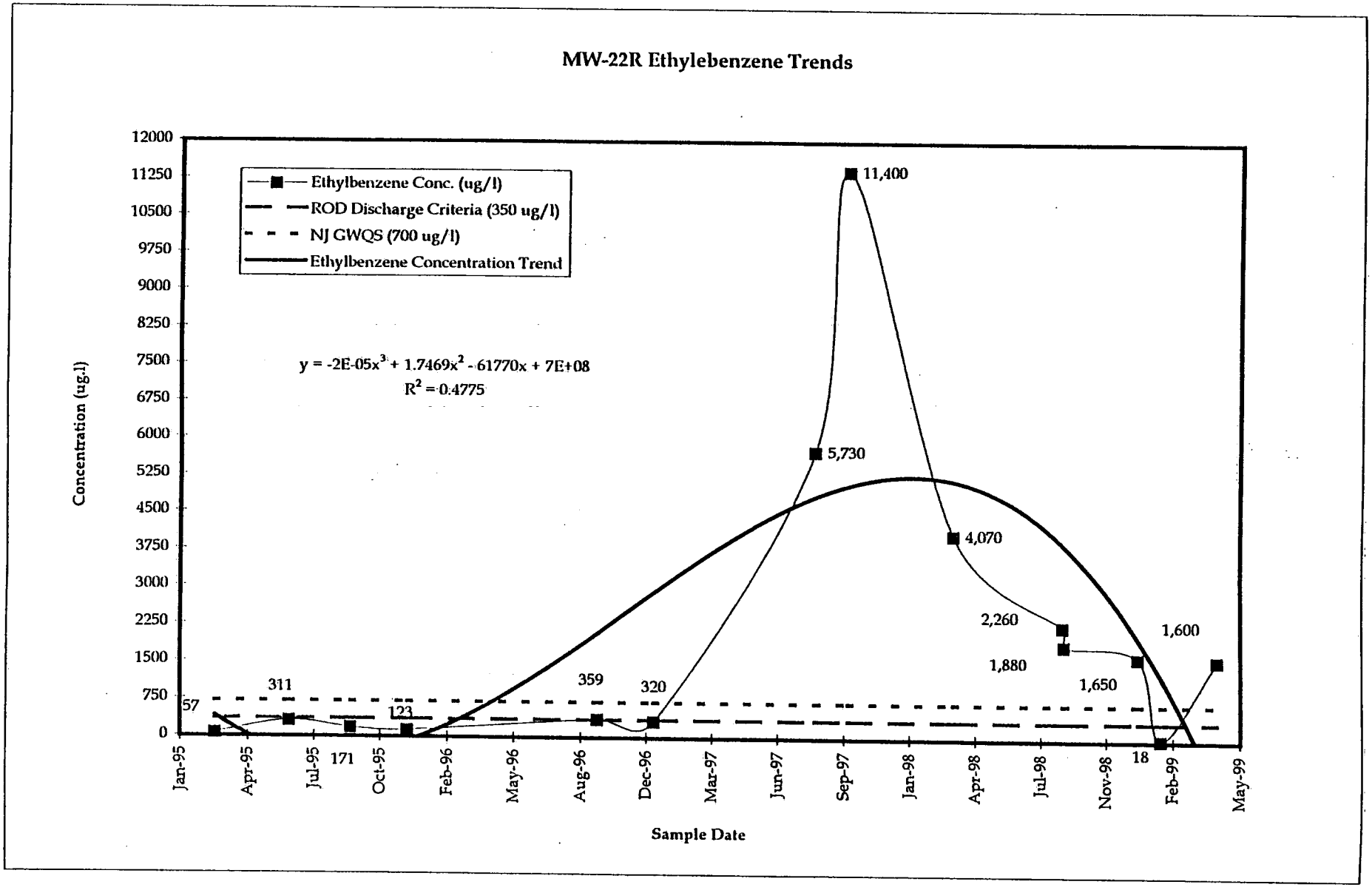
**NOTES

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

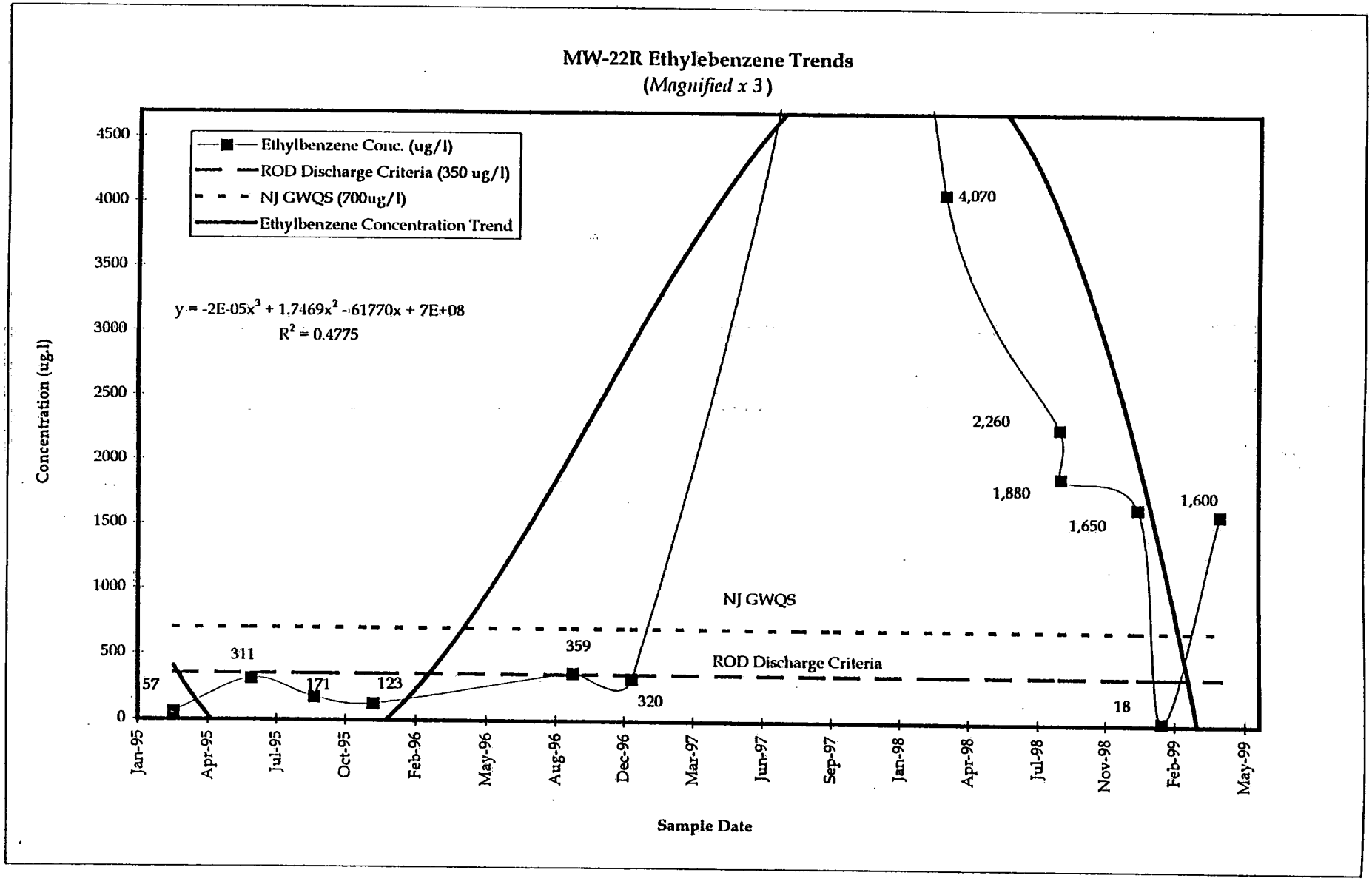
ND = Not detected above method detection limits

NS = Not Sampled

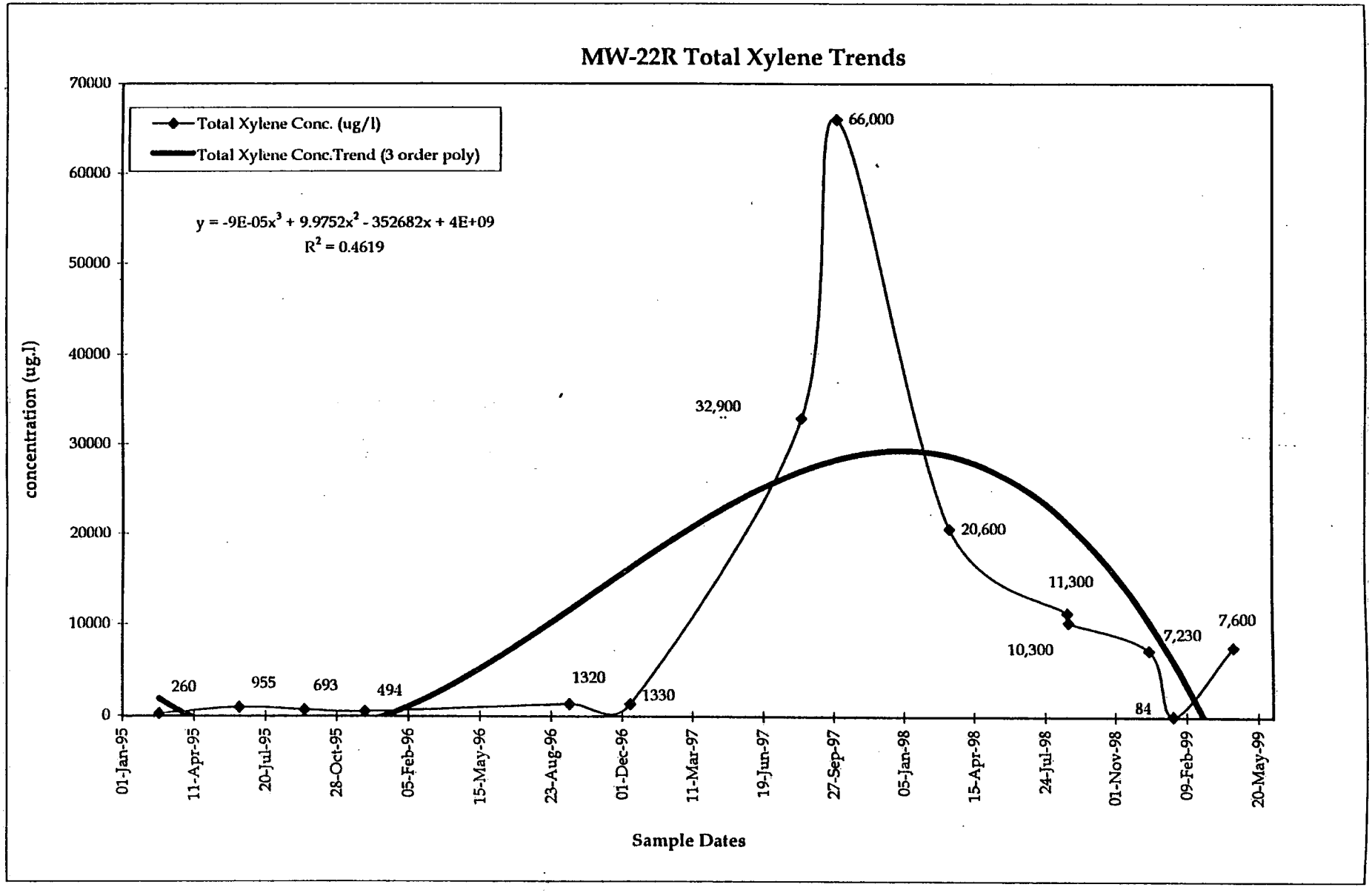
MW-22R
CONTAMANTANT OF CONCERN
Concentration vs. Time



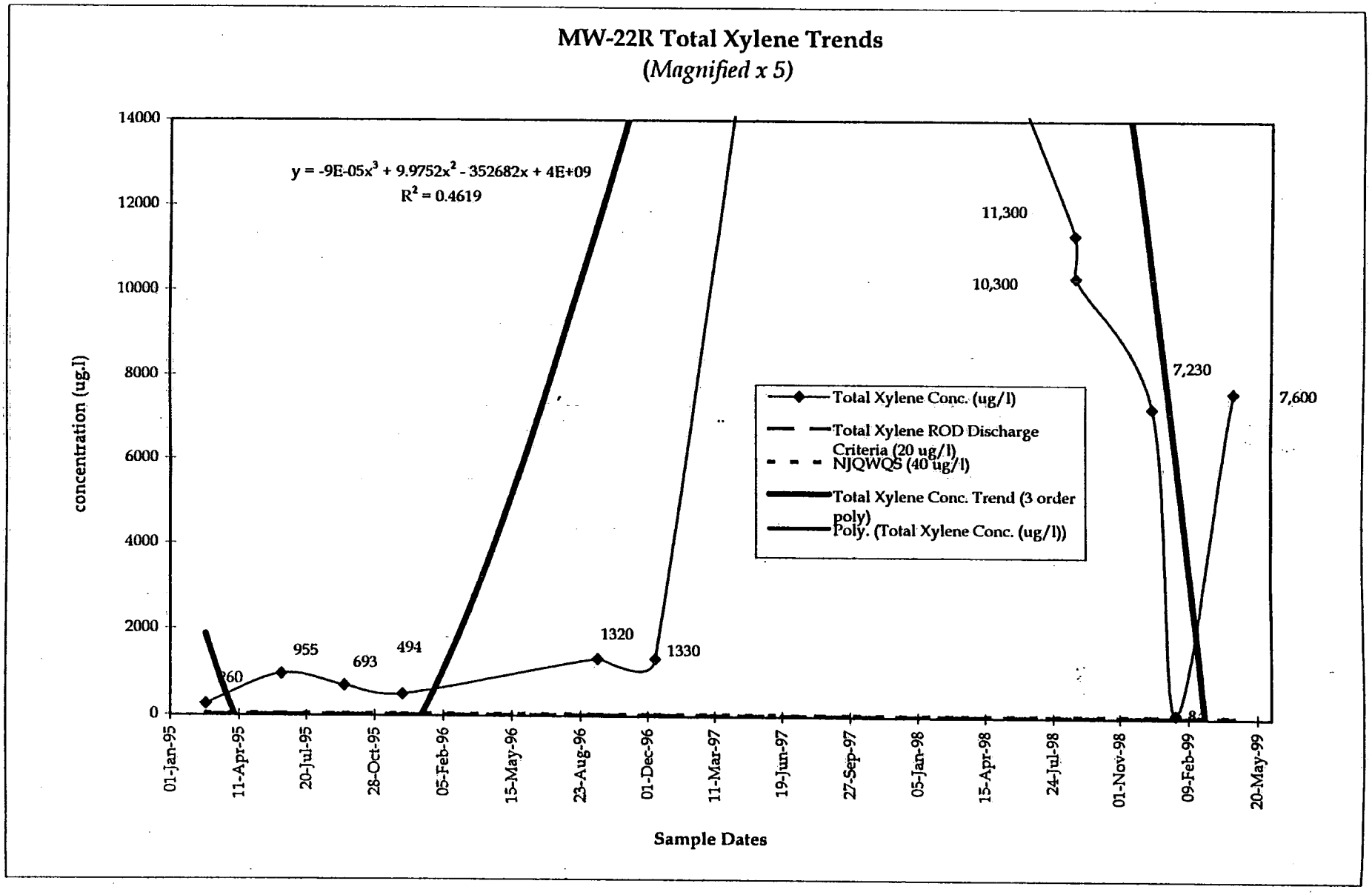
MW-22R
CONTAMANTANT OF CONCERN
Concentration vs. Time



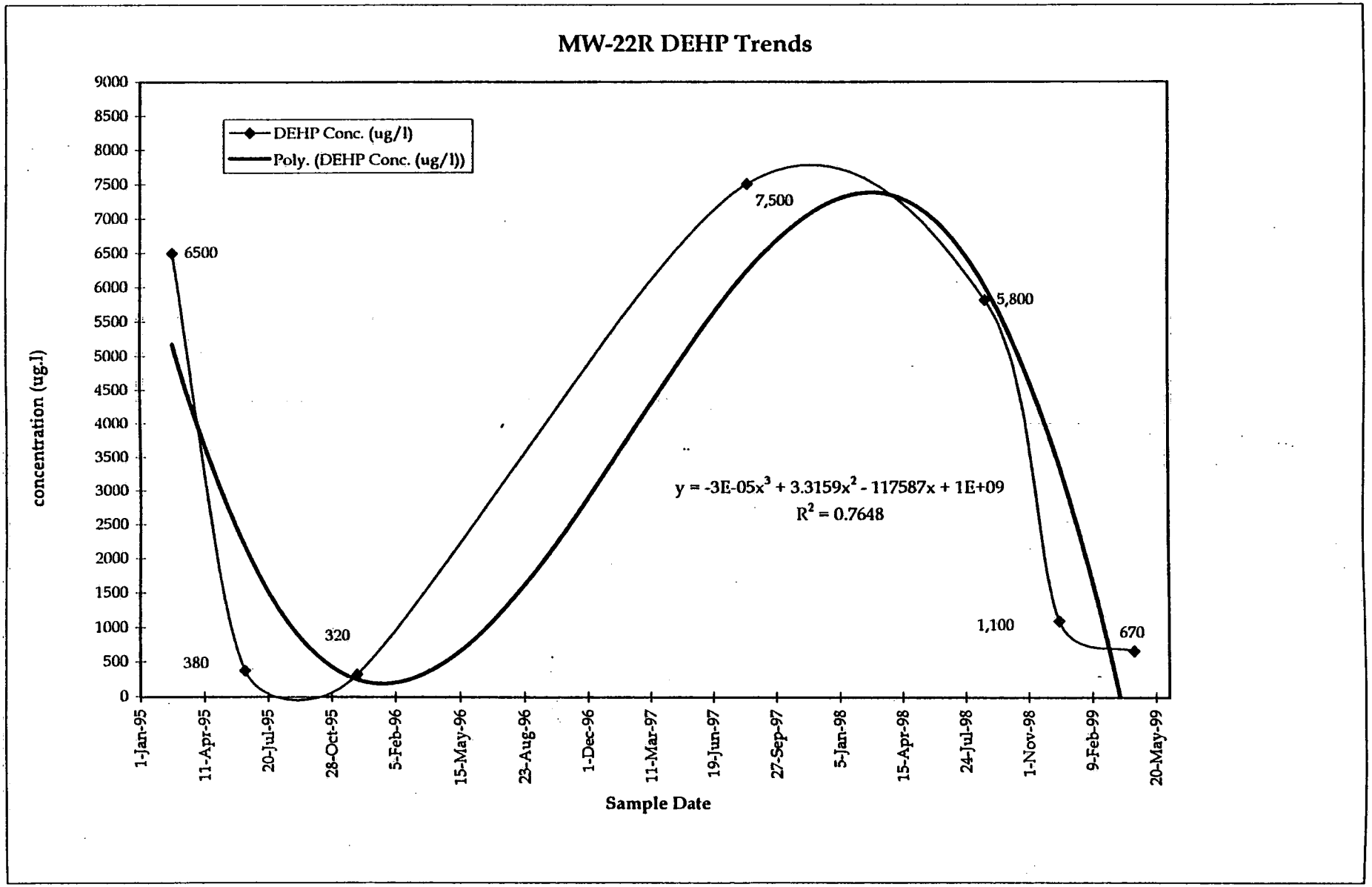
MW-22R
Contaminants of Concern
Concentration vs. Time



MW-22R
Contaminants of Concern
Concentration vs. Time



MW-22R
Contaminants of Concern
Concentration vs. Time



Appendix F
Laboratory Report

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

May 11, 1999

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

RECEIVED
MAY 17 1999
N. C. Mail

Attention: Mr. Nick Clevett

Re: Job No. N540 - L.E. Carpenter

Dear Mr. Clevett:

Enclosed are the results you requested for the following sample(s) received at our laboratory on April 15, 1999:

Lab No.	Client ID	Analysis Required
125118	MW-15S	BTEX (GC), PP BN
125119	MW-15I	BTEX (GC), PP BN
125120	MW-14I	BTEX (GC), PP BN
125121	MW-22	BTEX (GC), PP BN
125122	MW-25	BTEX (GC), PP BN
125123	MW-21	BTEX (GC), PP BN
125126	MW-4	BTEX (GC), PP BN
125127	MW-17	BTEX (GC), PP BN
125128	MW-4d	BTEX (GC), PP BN
125129	Trip_Blank	BTEX (GC)
125130	Field_Blank	BTEX (GC), PP BN

If you have any questions please contact your Project Manager, Paul Simms, at (732) 549-3900.

Very truly yours,

Michael J. Urban
Laboratory Manager

STL Envirotech
a division of Severn Trent Laboratories, Inc.

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Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: MW-15S
Site: L.E. Carpenter

Lab Sample No: 125118
Lab Job No: N540

Date Sampled: 04/15/99
Date Received: 04/15/99
Date Extracted: 04/22/99
Date Analyzed: 04/23/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s2097.d

Matrix: WATER
Level: LOW
Sample Volume: 980 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

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: MW-15S
Site: L.E. Carpenter

Lab Sample No: 125118
Lab Job No: N540

Date Sampled: 04/15/99
Date Received: 04/15/99
Date Analyzed: 04/20/99
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid6004.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	0.31
Toluene	ND	0.34
Ethylbenzene	ND	0.38
Xylene (Total)	ND	0.40

Client ID: MW-15I
Site: L.E. Carpenter

Lab Sample No: 125119
Lab Job No: N540

Date Sampled: 04/15/99
Date Received: 04/15/99
Date Extracted: 04/22/99
Date Analyzed: 04/23/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s2098.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
bis(2-Ethylhexyl)phthalate	4.8	4.1

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: MW-15I
Site: L.E. Carpenter

Lab Sample No: 125119
Lab Job No: N540

Date Sampled: 04/15/99
Date Received: 04/15/99
Date Analyzed: 04/20/99
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid6005.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	0.31
Toluene	ND	0.34
Ethylbenzene	ND	0.38
Xylene (Total)	ND	0.40

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: MW-14I
Site: L.E. Carpenter

Lab Sample No: 125120
Lab Job No: N540

Date Sampled: 04/15/99
Date Received: 04/15/99
Date Extracted: 04/22/99
Date Analyzed: 04/23/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s2099.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
bis(2-Ethylhexyl)phthalate	ND	4.1

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: MW-14I
Site: L.E. Carpenter

Lab Sample No: 125120
Lab Job No: N540

Date Sampled: 04/15/99
Date Received: 04/15/99
Date Analyzed: 04/20/99
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid6006.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	0.31
Toluene	ND	0.34
Ethylbenzene	ND	0.38
Xylene (Total)	ND	0.40

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: MW-22
Site: L.E. Carpenter

Lab Sample No: 125121
Lab Job No: N540

Date Sampled: 04/15/99
Date Received: 04/15/99
Date Extracted: 04/22/99
Date Analyzed: 04/23/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s2100.d

Matrix: WATER
Level: LOW
Sample Volume: 1000 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 5.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	670	20

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: MW-22
Site: L.E. Carpenter

Lab Sample No: 125121
Lab Job No: N540

Date Sampled: 04/15/99
Date Received: 04/15/99
Date Analyzed: 04/21/99
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid6013.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 100.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	31
Toluene	ND	34
Ethylbenzene	1600	38
Xylene (Total)	7600	40

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: MW-25
Site: L.E. Carpenter

Lab Sample No: 125122
Lab Job No: N540

Date Sampled: 04/15/99
Date Received: 04/15/99
Date Extracted: 04/22/99
Date Analyzed: 04/23/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s2101.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
bis(2-Ethylhexyl)phthalate	ND	4.1

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: MW-25
Site: L.E. Carpenter

Lab Sample No: 125122
Lab Job No: N540

Date Sampled: 04/15/99
Date Received: 04/15/99
Date Analyzed: 04/21/99
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid6007.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	0.31
Toluene	ND	0.34
Ethylbenzene	ND	0.38
Xylene (Total)	14	0.40

Client ID: MW-21
Site: L.E. Carpenter

Lab Sample No: 125123
Lab Job No: N540

Date Sampled: 04/15/99
Date Received: 04/15/99
Date Extracted: 04/22/99
Date Analyzed: 04/23/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s2102.d

Matrix: WATER
Level: LOW
Sample Volume: 980 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

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: MW-21
Site: L.E. Carpenter

Lab Sample No: 125123
Lab Job No: N540

Date Sampled: 04/15/99
Date Received: 04/15/99
Date Analyzed: 04/21/99
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid6008.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	0.31
Toluene	ND	0.34
Ethylbenzene	ND	0.38
Xylene (Total)	ND	0.40

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: MW-4
Site: L.E. Carpenter

Lab Sample No: 125126
Lab Job No: N540

Date Sampled: 04/15/99
Date Received: 04/15/99
Date Extracted: 04/22/99
Date Analyzed: 04/29/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s2222.d

Matrix: WATER
Level: LOW
Sample Volume: 980 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 20.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	3000	83

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: MW-4
Site: L.E. Carpenter

Lab Sample No: 125126
Lab Job No: N540

Date Sampled: 04/15/99
Date Received: 04/15/99
Date Analyzed: 04/21/99
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid6009.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	0.31
Toluene	ND	0.34
Ethylbenzene	0.66	0.38
Xylene (Total)	ND	0.40

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: MW-17
Site: L.E. Carpenter

Lab Sample No: 125127
Lab Job No: N540

Date Sampled: 04/15/99
Date Received: 04/15/99
Date Extracted: 04/22/99
Date Analyzed: 04/24/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s2104.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
bis(2-Ethylhexyl)phthalate	ND	4.1

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: MW-17
Site: L.E. Carpenter

Lab Sample No: 125127
Lab Job No: N540

Date Sampled: 04/15/99
Date Received: 04/15/99
Date Analyzed: 04/21/99
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid6010.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	0.31
Toluene	ND	0.34
Ethylbenzene	ND	0.38
Xylene (Total)	ND	0.40

Client ID: MW-4d
Site: L.E. Carpenter

Lab Sample No: 125128
Lab Job No: N540

Date Sampled: 04/15/99
Date Received: 04/15/99
Date Extracted: 04/22/99
Date Analyzed: 04/26/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s2132.d

Matrix: WATER
Level: LOW
Sample Volume: 990 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 20.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	4400	82

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: MW-4d
Site: L.E. Carpenter

Lab Sample No: 125128
Lab Job No: N540

Date Sampled: 04/15/99
Date Received: 04/15/99
Date Analyzed: 04/21/99
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid6038.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	0.31
Toluene	ND	0.34
Ethylbenzene	0.43	0.38
Xylene (Total)	ND	0.40

Client ID: Trip_Blank
Site: L.E. Carpenter

Lab Sample No: 125129
Lab Job No: N540

Date Sampled: 04/15/99
Date Received: 04/15/99
Date Analyzed: 04/21/99
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid6039.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	0.31
Toluene	ND	0.34
Ethylbenzene	ND	0.38
Xylene (Total)	ND	0.40

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: Field_Blank
Site: L.E. Carpenter

Lab Sample No: 125130
Lab Job No: N540

Date Sampled: 04/15/99
Date Received: 04/15/99
Date Extracted: 04/22/99
Date Analyzed: 04/24/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s2106.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

Client ID: Field_Blank
Site: L.E. Carpenter

Lab Sample No: 125130
Lab Job No: N540

Date Sampled: 04/15/99
Date Received: 04/15/99
Date Analyzed: 04/21/99
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid6040.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	0.31
Toluene	ND	0.34
Ethylbenzene	ND	0.38
Xylene (Total)	ND	0.40

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) Nicholas Clevett	Samplers Name (Printed) R. Tarpaud M. Morse	Site/Project Identification LE Carpenter
Company RMT Inc.	P.O. #	State (Location of site): NJ: ☒ NY: ☐ Other:
		Regulatory Program:
Address 222 S. Riverside Dr, Suite 820	Analysis Turnaround Time: Standard ☒	LAB USE ONLY Project No: 801080
City Chicago IL State 60606	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	Job No: N540
Phone (312) 575 0200 Fax (312) 575-0300		

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

Sample Identification	Date	Time	Matrix	No. of. Cont.	BTEX	DEHP									Sample Numbers
MW 15S	4/15/99	931	Am	4	X	X									125118
MW 15I	↓	942	↓	4	X	X									125119
MW 14I		1103		4	X	X									125120
MW 22		1058		4	X	X									125121
MW 25		1109		4	X	X									125122
MW 21		1115		4	X	X									125123
MW 11IR		1251		4	X	X	(*)								125124
MW 11DR		12:56		4	X	X	(*)								125125
MW 4		1353		4	X	X									125126
MW 17	↓	13:23	↓	4	X	X									125127
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) R. Tarpaud	STL Envirotech	4/15/99 1523	1) [signature]	STL ENVIROTECH HOWARD SCHULZE
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) (*) Sample canceled as per Nick Clevett DS 4/16

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): Nicholas Clevett	Samplers Name (Printed): K. Teagard M. Morse	Site/Project Identification: LE Carpenter
Company: RMT INC.	P.O. #:	State (Location of site): NJ: [X] NY: [ ] Other:
		Regulatory Program:
Address: 222 S. Riverside Dr., Suite 820	Analysis Turnaround Time: Standard [X]	LAB USE ONLY
City: Chicago State: IL 60606	Rush Charges Authorized For: 2 Week [ ] 1 Week [ ] Other [ ]	Project No: 801080
Phone: (312) 575-0200 Fax: (312) 575 0300		Job No: N540

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

Sample Identification	Date	Time	Matrix	No. of. Cont.	BTEX	DEHP										Sample Numbers
MW 4d	4/15/99		AQ	4	X	X										125128
Trip Blank	↓	600	↓	2	X											125129
Field Blank	↓	1347	↓	3	X	X										125130
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) K. Teagard	STL Envirotech	4/15/99 1523	1) [signature]	STL ENVIROTECH HOWARD SCHULZE
Relinquished by 2)	Company	Date / Time	Received by 2)	Company
Relinquished by 3)	Company	Date / Time	Received by 3)	Company
Relinquished by 4)	Company	Date / Time	Received by 4)	Company

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

Water Levels L.E. Carpenter Site Date: 4/15/99

Well ID	Product	Depth to Water
MW-1 (R)	8.94	9.28
MW-2 (R)	N	6.11
MW-3	6.25	7.27
MW-4	N	6.17
MW-6 (R)	N	5.72
MW-8	N	2.79
MW-9	N	3.83
MW-11S	6.77	12.70
MW-11IR	N	7.03
MW-11DR	N	4.44
MW-12R	N	7.72
MW-13S	N	4.87
MW-13(R)	N	4.54
MW-131	N	4.58
MW-14S	N	2.97
MW-14I	N	2.39
MW-15S	N	10.20
MW-15I	N	10.09
MW-16S	N	7.40
MW-16I	N	7.81
MW-17S	N	7.96
MW-18S	N	5.14
MW-18I	N	4.66
MW-19	N	11.56
MW-20	N	7.55
MW-21	N	3.21
MW-22 (R)	N	2.58
MW-23	N	3.21
MW-25 (R)	N	2.00
MW-26	N	11.11
RW-1	10.78	11.28
RW-2	N	5.66
RW-3	N	5.85
CW-1	6.60	6.82
CW-3	N	6.91
GEI-1I	N	4.34
GEI-2S	N	10.42
GEI-2I	N	10.37
GEI-3I	N	12.48
WP-A1	8.96	10.41
WP-A2	NA	NA
WP-A3	N	8.89
WP-A4	10.12	12.81
WP-A5	N	11.15
WP-A6	10.68	14.18
WP-A7	8.59	9.18

Well ID	Product	Depth to Water
WP-A8	11.14	13.18
WP-A9	12.70	13.25
WP-B1	5.99	6.03
WP-B2	N	6.03
WP-B3	N	6.47
WP-B4	6.13	(all product)
WP-B5	N	4.91
WP-B6	N	5.74
WP-B7	3.90	3.97
WP-B10	N	6.85
WP-C1	N	6.83
WP-C2	N	7.81
WP-C3	N	5.98
WP-C4	N	7.02
SG-D1	N	1.72
SG-D2	N	1.28
SG-D3	N	1.78
SG-R1	N	1.64
SG-R2	N	1.28
SG-R3	N	1.28
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	*	*
EFR-23	*	*

Well ID	Product	Depth to Water
EFR-24	*	*
EFR-25	*	*
EFR-26	*	*
EFR-27	*	*
EFR-28	*	*
MW-19-1	N	11.46
MW-19-2	N	11.44
MW-19-3	N	12.21
MW-19-4	N	10.24
MW-19-5	N	11.50

* Measurements Collected by RMT on later date

Monitoring Well Data

Client: Residual Management Tech.

Project: L.E. Carpenter

Date Sampled: 4/15/99

Job No.: N540

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: N540 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							
125118	4/15/1999	4/15/1999			4/20/99	SK	6760
125119	4/15/1999	4/15/1999					
125120	4/15/1999	4/15/1999					
125121	4/15/1999	4/15/1999			4/21/99	SK	6760
125122	4/15/1999	4/15/1999					
125123	4/15/1999	4/15/1999					
- 125124	4/15/1999	4/15/1999					
- 125125	4/15/1999	4/15/1999					
125126	4/15/1999	4/15/1999			4/21/99	SK	6760
125127	4/15/1999	4/15/1999					
125128	4/15/1999	4/15/1999					
125129	4/15/1999	4/15/1999					
125130	4/15/1999	4/15/1999					6756

INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Envirotech

777 New Durham Road, Edison, New Jersey
08817

Job No: N540 **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
125118	4/15/1999	4/15/1999	4-22-99	a f	4/23/99	EM	4567
125119	4/15/1999	4/15/1999					
125120	4/15/1999	4/15/1999					
125121	4/15/1999	4/15/1999					
125122	4/15/1999	4/15/1999					
125123	4/15/1999	4/15/1999					
125124	4/15/1999	4/15/1999					
125125	4/15/1999	4/15/1999					
125126	4/15/1999	4/15/1999	4-22-99		4/29/99	EM	
125127	4/15/1999	4/15/1999			4/24/99		
125128	4/15/1999	4/15/1999			4/26/99		
125130	4/15/1999	4/15/1999			4/24/99		

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: N540

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 ( )

Non-conformance Summary, Page 2 of 2
STL Envirotech Job Number: N540

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: 5/12/99

Client ID: **MW-15S**
Site: L.E. Carpenter

Lab Sample No: **125118**
Lab Job No: N540

Date Sampled: 04/15/99
Date Received: 04/15/99
Date Extracted: 04/22/99
Date Analyzed: 04/23/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s2097.d

Matrix: WATER
Level: LOW
Sample Volume: 980 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/625/04-13-99/23apr99.b/s2097.d
Report Date: 26-Apr-1999 09:22

STL Envirotech

SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS2.i/625/04-13-99/23apr99.b/s2097.d
Lab Smp Id: 125118 Client Smp ID: MW-15S
Inj Date : 23-APR-1999 19:18
Operator : BNAMS 1 Inst ID: BNAMS2.i
Smp Info : 125118;980;2;1;;
Misc Info : N540;BIS2PHTH;4567;143
Comment :
Method : /chem/BNAMS2.i/625/04-13-99/23apr99.b/BNA625b.m
Meth Date : 23-Apr-1999 09:36 B Quant Type: ISTD
Cal Date : 13-APR-1999 12:42 Cal File: s1853.d
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: BIS2PHTH.sub
Target Version: 3.40
Processing Host: hpd1

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

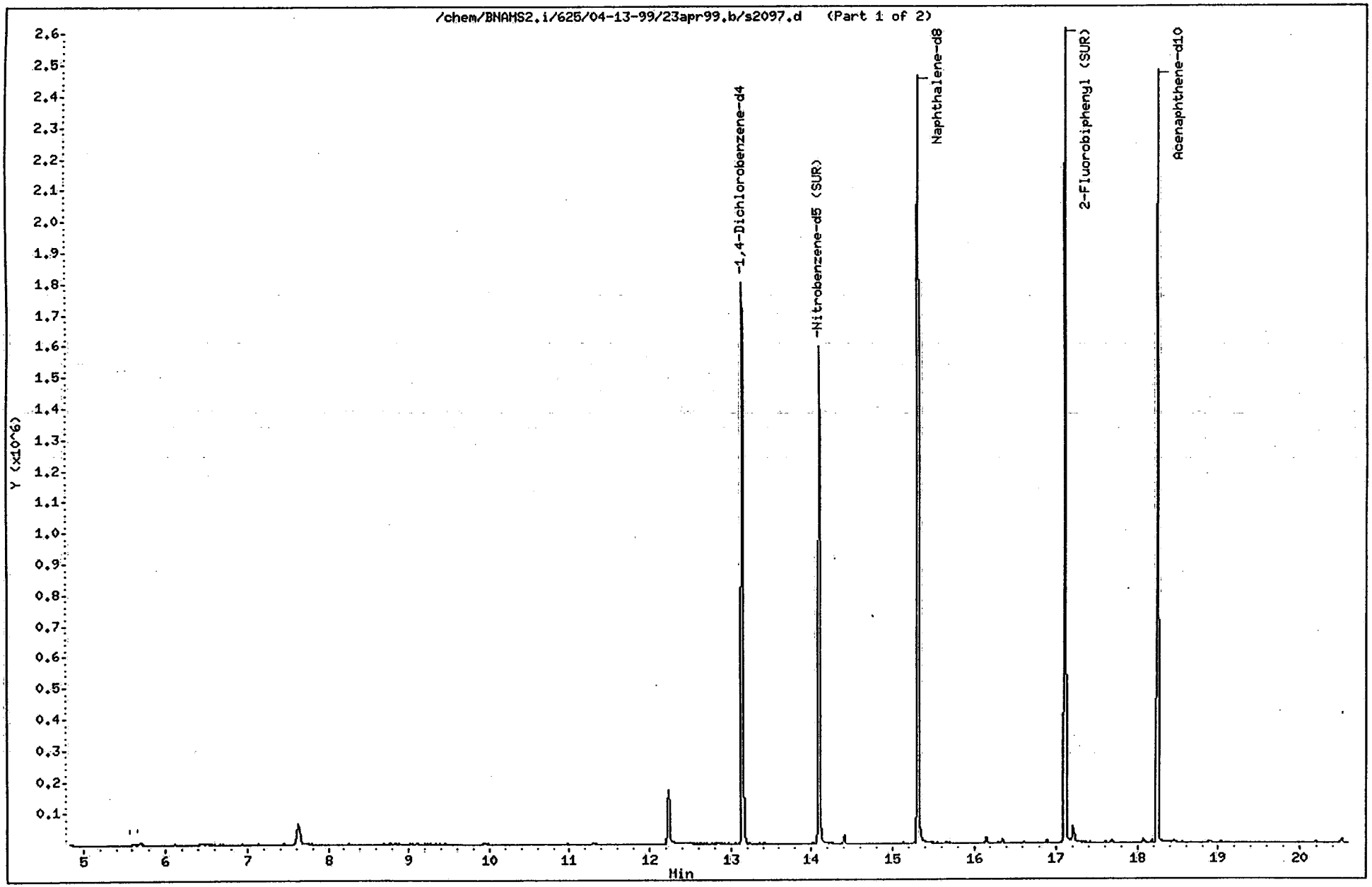
Name	Value	Description
DF	1.000	Dilution Factor
Vt	2.000	Volume of final extract (uL)
Vo	980.000	Volume of sample extracted (mL)

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)
* 79 1,4-Dichlorobenzene-d4	152	13.142	13.149	(1.000)	421401	40.0000	
$ 76 Nitrobenzene-d5 (SUR)	82	14.099	14.109	(0.920)	792226	42.4741	87
* 80 Naphthalene-d8	136	15.317	15.328	(1.000)	1703550	40.0000	
$ 77 2-Fluorobiphenyl (SUR)	172	17.106	17.112	(0.937)	1147572	42.8780	88
* 82 Acenaphthene-d10	164	18.246	18.252	(1.000)	874678	40.0000	
* 83 Phenanthrene-d10	188	20.716	20.725	(1.000)	1350708	40.0000	
$ 78 Terphenyl-d14 (SUR)	244	23.330	23.335	(0.928)	1149397	43.6469	89
* 81 Chrysene-d12	240	25.147	25.170	(1.000)	1192820	40.0000	
* 84 Perylene-d12	264	28.806	28.826	(1.000)	1218049	40.0000	

Data File: /chem/BNAMS2.i/625/04-13-99/23apr99.b/s2097.d
Date : 23-APR-1999 19:18
Client ID: MW-15S
Sample Info: 125118;980;2;1;;
Purge Volume: 980.0
Column phase: DB-5

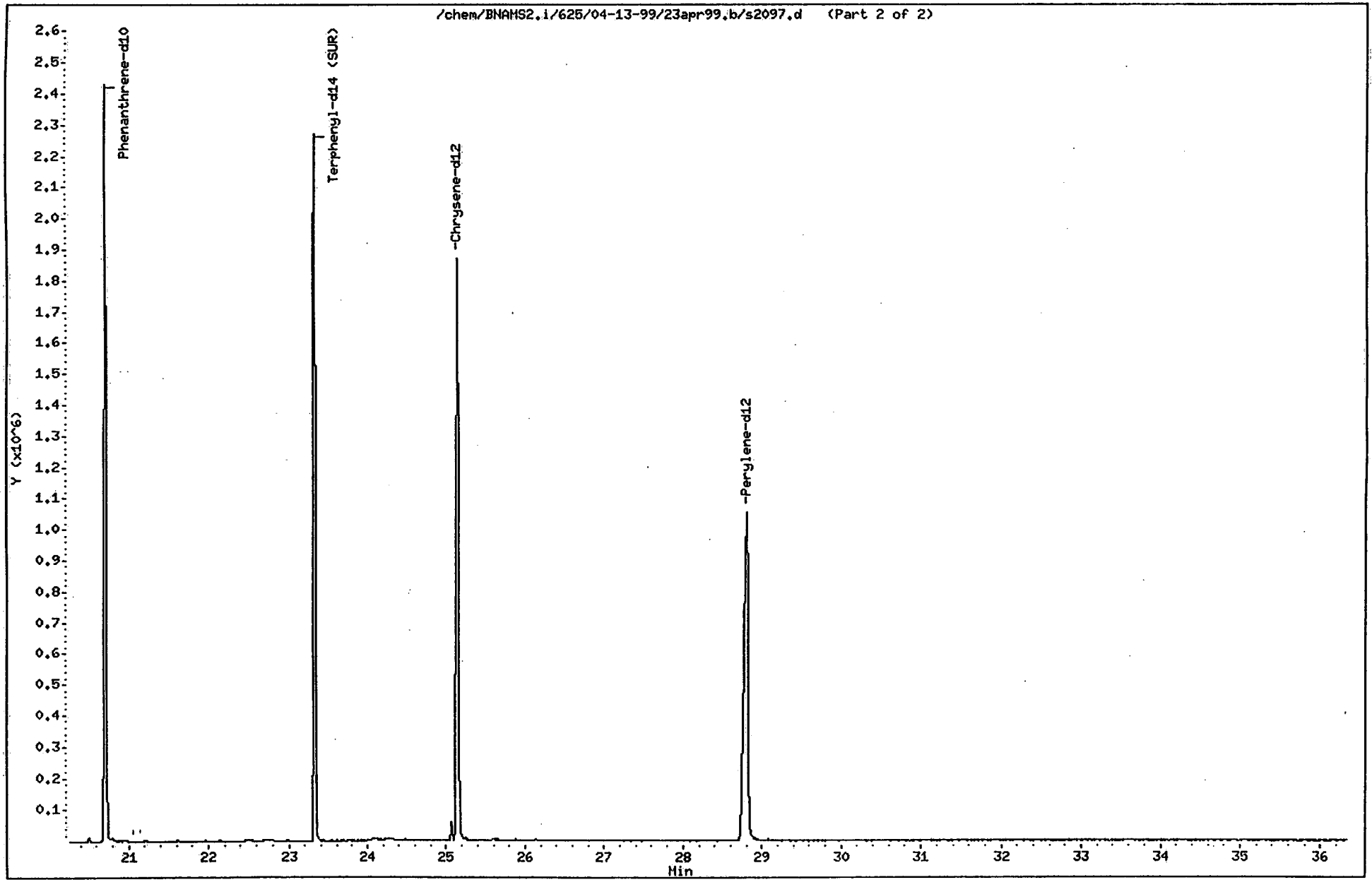
Instrument: BNAMS2.i

Operator: BNAMS 1
Column diameter: 0.53



Data File: /chem/BNAMS2.i/625/04-13-99/23apr99.b/s2097.d
Date : 23-APR-1999 19:18
Client ID: MW-15S
Sample Info: 125118;980;2;1;;
Purge Volume: 980.0
Column phase: DB-5

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



Client ID: **MW-15I**
Site: L.E. Carpenter

Lab Sample No: **125119**
Lab Job No: N540

Date Sampled: 04/15/99
Date Received: 04/15/99
Date Extracted: 04/22/99
Date Analyzed: 04/23/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s2098.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
bis(2-Ethylhexyl)phthalate	4.8	4.1

Data File: /chem/BNAMS2.i/625/04-13-99/23apr99.b/s2098.d
Report Date: 26-Apr-1999 09:22

STL Envirotech

SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS2.i/625/04-13-99/23apr99.b/s2098.d
Lab Smp Id: 125119 Client Smp ID: MW-15I
Inj Date : 23-APR-1999 20:03
Operator : BNAMS 1 Inst ID: BNAMS2.i
Smp Info : 125119;1000;2;1;;
Misc Info : N540;BIS2PHTH;4567;143
Comment :
Method : /chem/BNAMS2.i/625/04-13-99/23apr99.b/BNA625b.m
Meth Date : 23-Apr-1999 09:36 B Quant Type: ISTD
Cal Date : 13-APR-1999 12:42 Cal File: s1853.d
Als bottle: 16
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: BIS2PHTH.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)

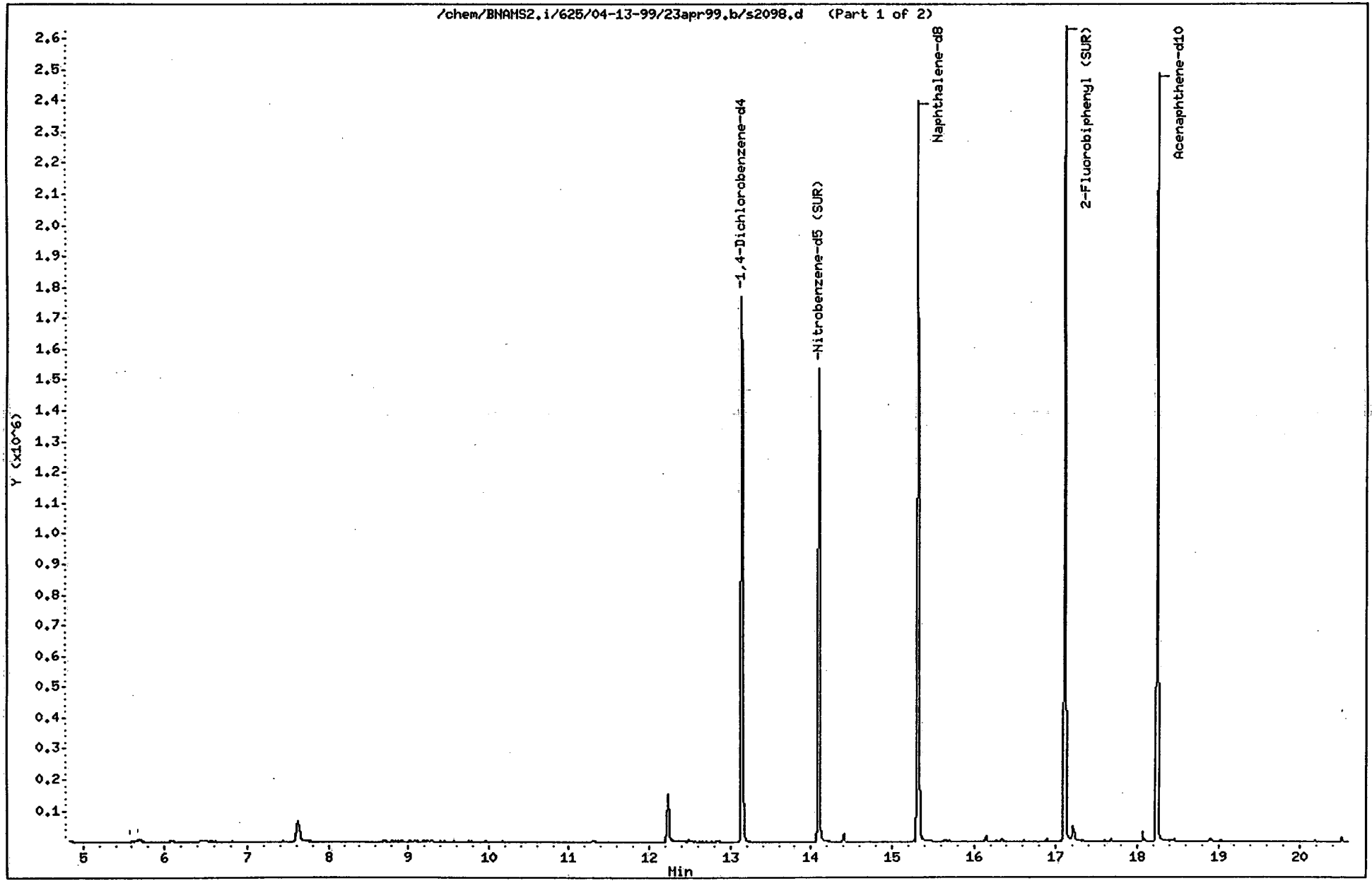
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)
* 79 1,4-Dichlorobenzene-d4	152	13.142	13.149	(1.000)	405426	40.0000	
$ 76 Nitrobenzene-d5 (SUR)	82	14.099	14.109	(0.920)	766903	43:1919	86
* 80 Naphthalene-d8	136	15.317	15.328	(1.000)	1621689	40.0000	
$ 77 2-Fluorobiphenyl (SUR)	172	17.106	17.112	(0.937)	1123078	44.1826	88
* 82 Acenaphthene-d10	164	18.247	18.252	(1.000)	830733	40.0000	
* 83 Phenanthrene-d10	188	20.716	20.725	(1.000)	1314461	40.0000	
$ 78 Terphenyl-d14 (SUR)	244	23.330	23.335	(0.928)	1187094	44.6638	89
63 bis(2-Ethylhexyl)phthalate	149	25.067	25.083	(0.997)	78385	2.37856	4.8(M)
* 81 Chrysene-d12	240	25.153	25.170	(1.000)	1203893	40.0000	
* 84 Perylene-d12	264	28.810	28.826	(1.000)	1244981	40.0000	

QC Flag Legend

M - Compound response manually integrated.

Data File: /chem/BNAHS2.i/625/04-13-99/23apr99.b/s2098.d
Date : 23-APR-1999 20:03
Client ID: MW-15I
Sample Info: 125119;1000;2;1;;
Purge Volume: 1000.0
Column phase: DB-5

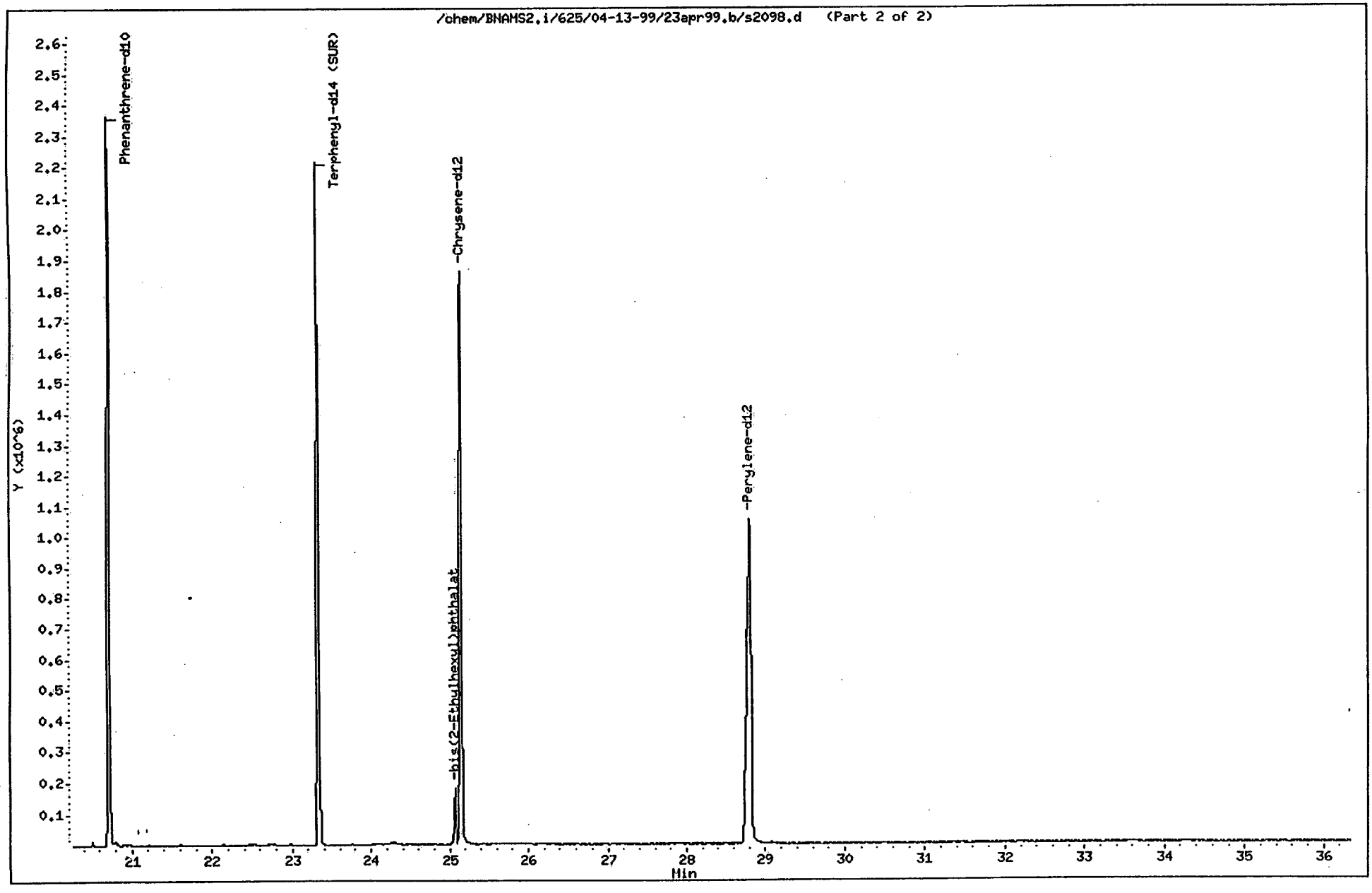
Instrument: BNAHS2.i
Operator: BNAHS 1
Column diameter: 0.53



Data File: /chem/BNAMS2.i/625/04-13-99/23apr99.b/s2098.d
Date : 23-APR-1999 20:03
Client ID: MW-15I
Sample Info: 125119;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/625/04-13-99/23apr99.b/s2098.d

Date : 23-APR-1999 20:03

Client ID: MW-15I

Instrument: BNAMS2.i

Sample Info: 125119;1000;2;1;;

Purge Volume: 1000.0

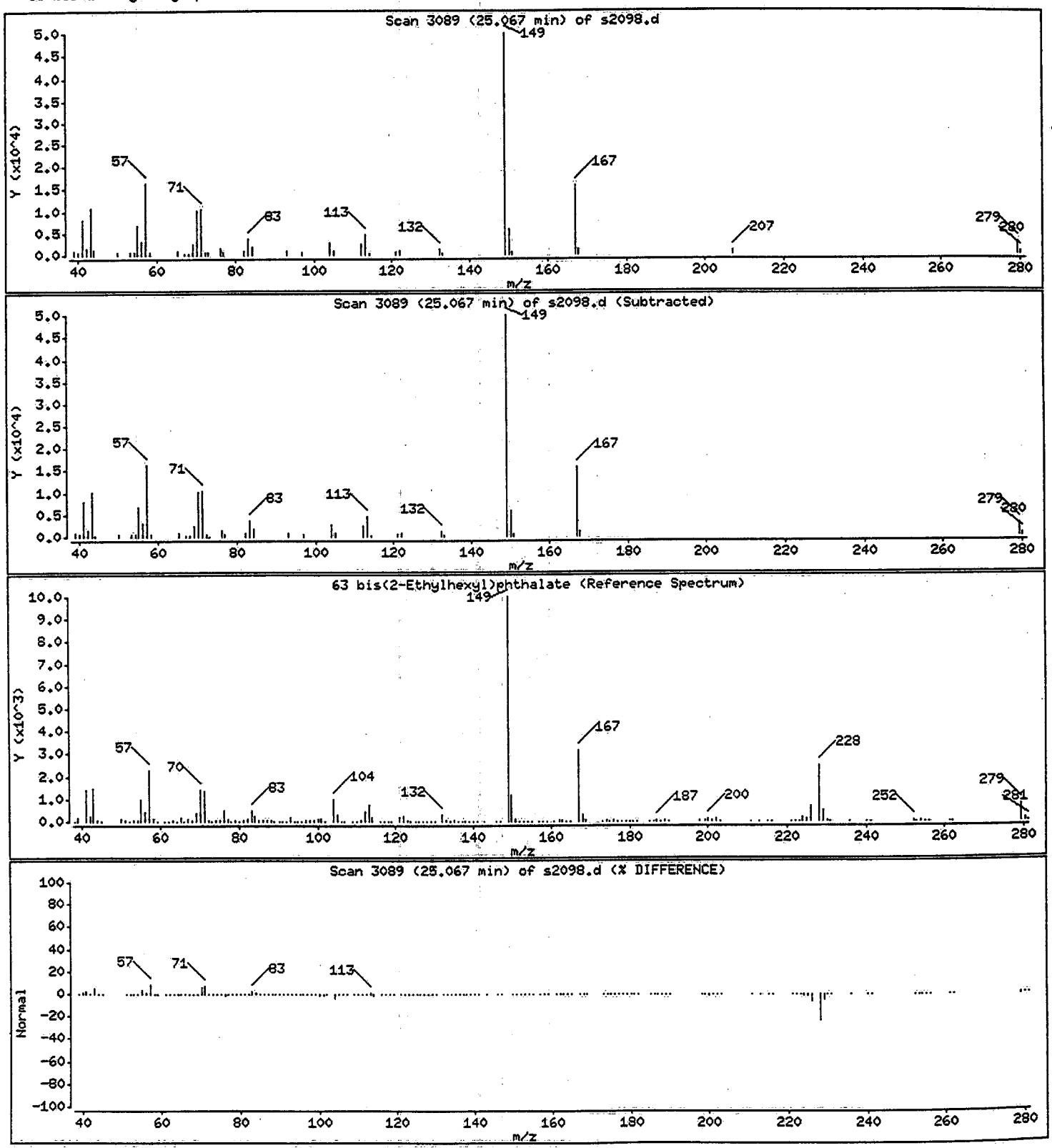
Operator: BNAMS 1

Column phase: DB-5

Column diameter: 0.53

63 bis(2-Ethylhexyl)phthalate

Concentration: 4.8 ug/L



Client ID: **MW-14I**
Site: L.E. Carpenter

Lab Sample No: **125120**
Lab Job No: N540

Date Sampled: 04/15/99
Date Received: 04/15/99
Date Extracted: 04/22/99
Date Analyzed: 04/23/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s2099.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
bis(2-Ethylhexyl)phthalate	ND	4.1

Data File: /chem/BNAMS2.i/625/04-13-99/23apr99.b/s2099.d
Report Date: 26-Apr-1999 09:22

STL Envirotech

SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS2.i/625/04-13-99/23apr99.b/s2099.d
Lab Smp Id: 125120 Client Smp ID: MW-14I
Inj Date : 23-APR-1999 20:47
Operator : BNAMS 1 Inst ID: BNAMS2.i
Smp Info : 125120;1000;2;1;;
Misc Info : N540;BIS2PHTH;4567;143
Comment :
Method : /chem/BNAMS2.i/625/04-13-99/23apr99.b/BNA625b.m
Meth Date : 23-Apr-1999 09:36 B Quant Type: ISTD
Cal Date : 13-APR-1999 12:42 Cal File: s1853.d
Als bottle: 17
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: BIS2PHTH.sub
Target Version: 3.40
Processing Host: hpd1

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

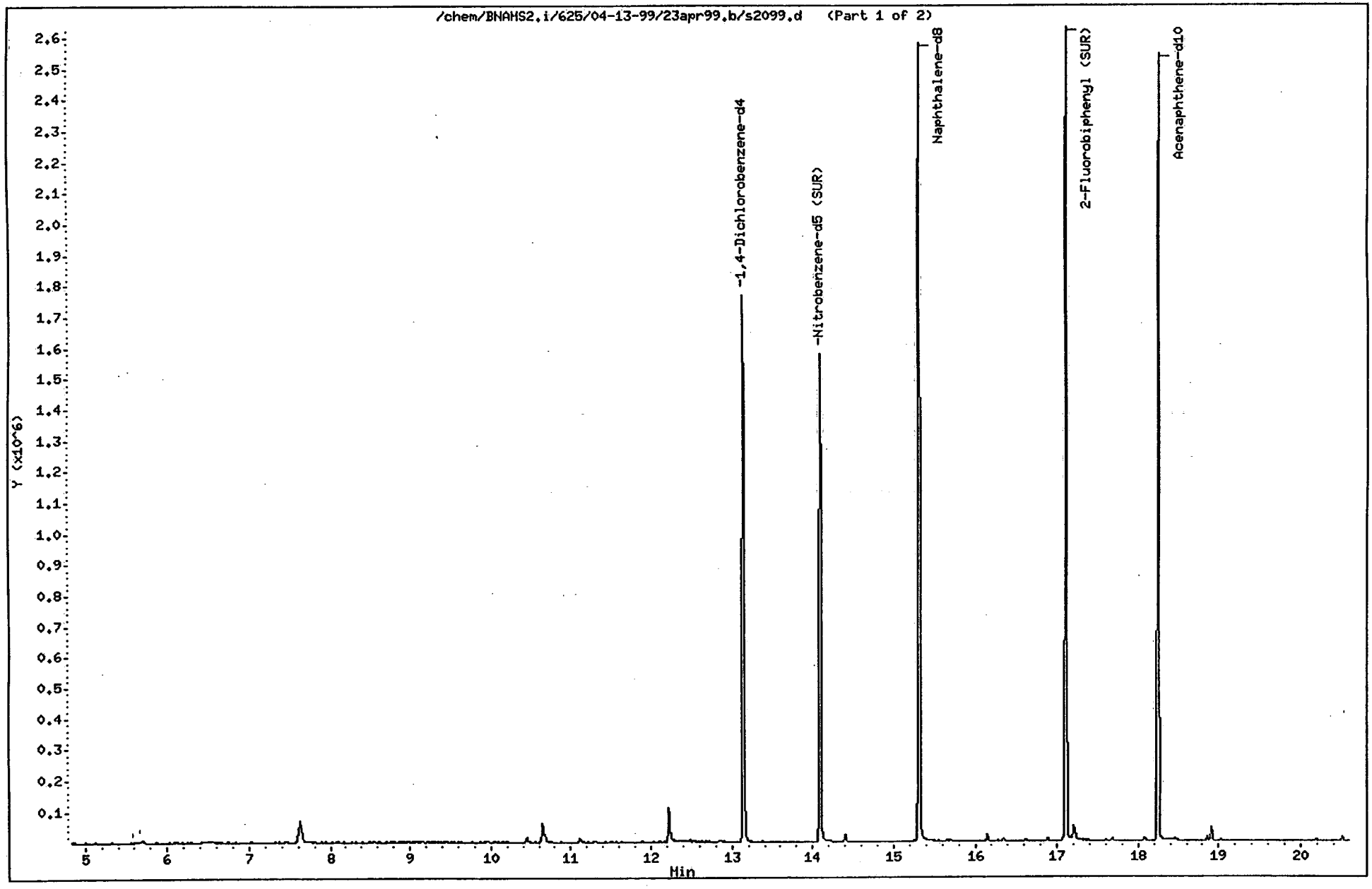
Name	Value	Description
DF	1.000	Dilution Factor
Vt	2.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)
* 79 1,4-Dichlorobenzene-d4	152	13.143	13.149	(1.000)	402791	40.0000	
$ 76 Nitrobenzene-d5 (SUR)	82	14.099	14.109	(0.920)	794876	44.6221	89
* 80 Naphthalene-d8	136	15.318	15.328	(1.000)	1626968	40.0000	
$ 77 2-Fluorobiphenyl (SUR)	172	17.107	17.112	(0.937)	1140701	43.5109	87
* 82 Acenaphthene-d10	164	18.247	18.252	(1.000)	856795	40.0000	
* 83 Phenanthrene-d10	188	20.717	20.725	(1.000)	1324228	40.0000	
$ 78 Terphenyl-d14 (SUR)	244	23.331	23.335	(0.928)	1153910	44.3292	89
* 81 Chrysene-d12	240	25.146	25.170	(1.000)	1179073	40.0000	
* 84 Perylene-d12	264	28.803	28.826	(1.000)	1219610	40.0000	

Data File: /chem/BNAMS2.i/625/04-13-99/23apr99.b/s2099.d
Date : 23-APR-1999 20:47
Client ID: MW-14I
Sample Info: 125120;1000;2;1;;
Purge Volume: 1000.0
Column phase: DB-5

Instrument: BNAMS2.i

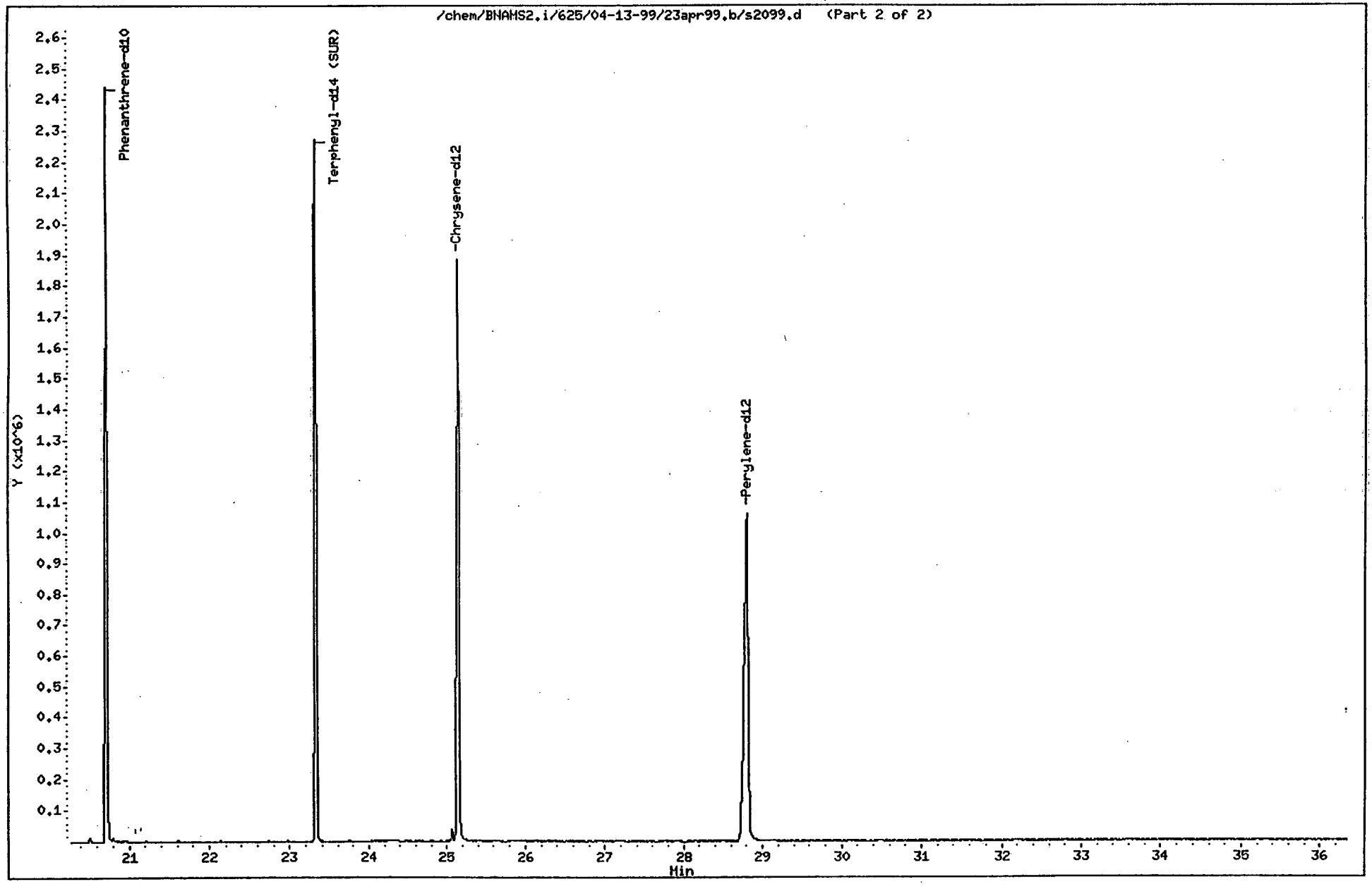
Operator: BNAMS 1
Column diameter: 0.53



Data File: /chem/BNAHS2.i/625/04-13-99/23apr99.b/s2099.d
Date : 23-APR-1999 20:47
Client ID: MW-14I
Sample Info: 125120;1000;2;1;;
Purge Volume: 1000.0
Column phase: DB-5

Instrument: BNAHS2.i

Operator: BNAHS 1
Column diameter: 0.53



Client ID: **MW-22**
Site: L.E. Carpenter

Lab Sample No: **125121**
Lab Job No: N540

Date Sampled: 04/15/99
Date Received: 04/15/99
Date Extracted: 04/22/99
Date Analyzed: 04/23/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s2100.d

Matrix: WATER
Level: LOW
Sample Volume: 1000 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 5.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	670	20

Data File: /chem/BNAMS2.i/625/04-13-99/23apr99.b/s2100.d
Report Date: 26-Apr-1999 09:22

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SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS2.i/625/04-13-99/23apr99.b/s2100.d
Lab Smp Id: 125121 Client Smp ID: MW-22
Inj Date : 23-APR-1999 21:30
Operator : BNAMS 1 Inst ID: BNAMS2.i
Smp Info : 125121;1000;2;5;;
Misc Info : N540;BIS2PHTH;4567;143
Comment :
Method : /chem/BNAMS2.i/625/04-13-99/23apr99.b/BNA625b.m
Meth Date : 23-Apr-1999 09:36 B Quant Type: ISTD
Cal Date : 13-APR-1999 12:42 Cal File: s1853.d
Als bottle: 18
Dil Factor: 5.00000
Integrator: HP RTE Compound Sublist: BIS2PHTH.sub
Target Version: 3.40
Processing Host: hpd1

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

Name	Value	Description
DF	5.000	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	13.141	13.149	(1.000)	397786	40.0000	
$ 76 Nitrobenzene-d5 (SUR)	82	14.092	14.109	(0.920)	143315	8.13934	81
* 80 Naphthalene-d8	136	15.317	15.328	(1.000)	1608172	40.0000	
$ 77 2-Fluorobiphenyl (SUR)	172	17.099	17.112	(0.937)	244358	9.62700	96
* 82 Acenaphthene-d10	164	18.246	18.252	(1.000)	829543	40.0000	
* 83 Phenanthrene-d10	188	20.716	20.725	(1.000)	1289918	40.0000	
$ 78 Terphenyl-d14 (SUR)	244	23.323	23.335	(0.927)	262704	11.1393	110
63 bis(2-Ethylhexyl)phthalate	149	25.073	25.083	(0.997)	1947526	66.6016	670(M)
* 81 Chrysene-d12	240	25.146	25.170	(1.000)	1068238	40.0000	
* 84 Perylene-d12	264	28.801	28.826	(1.000)	1178267	40.0000	

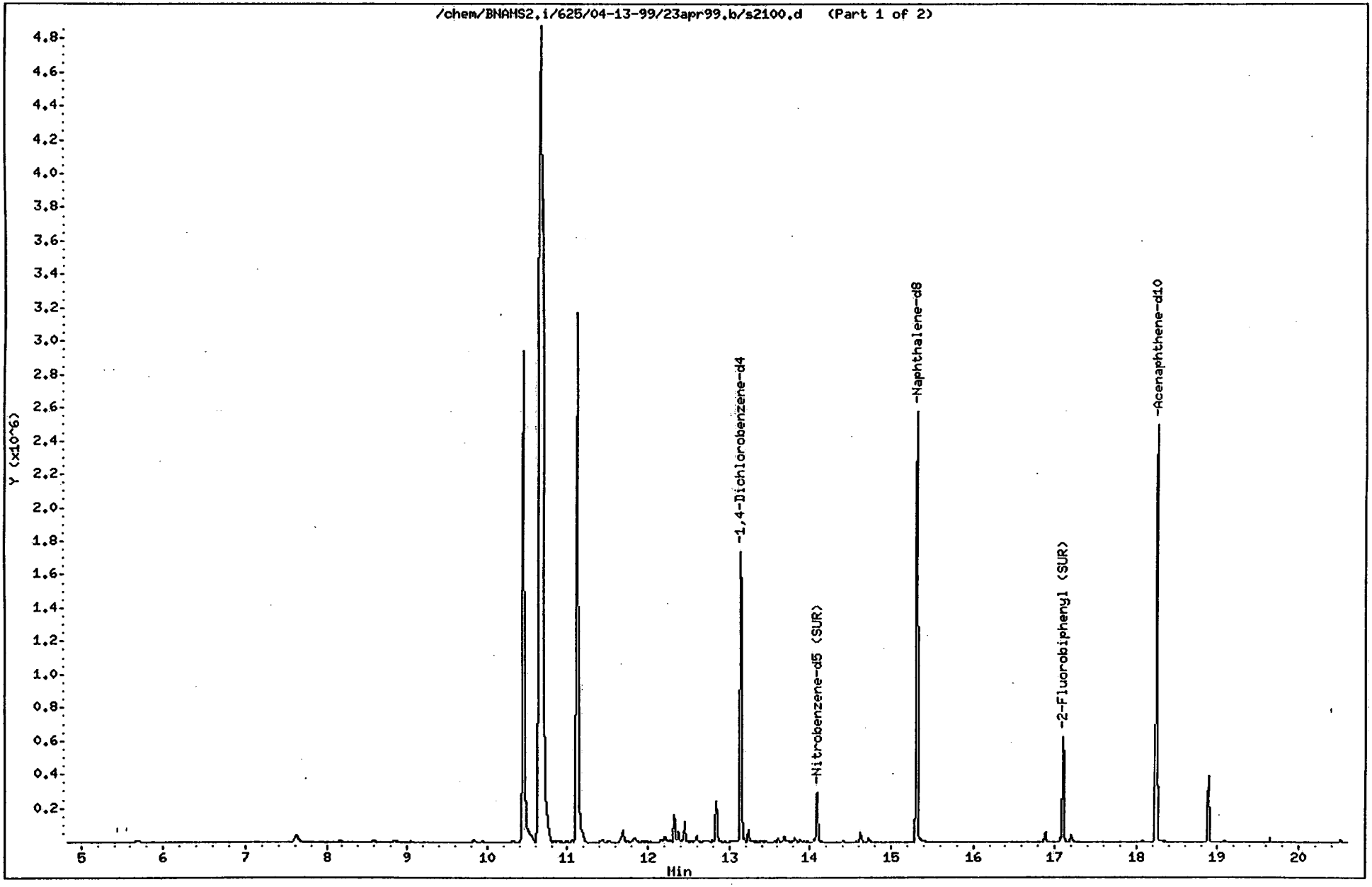
QC Flag Legend

M - Compound response manually integrated.

Data File: /chem/BNAHS2.i/625/04-13-99/23apr99.b/s2100.d
Date : 23-APR-1999 21:30
Client ID: MW-22
Sample Info: 125121;1000;2;5;;
Purge Volume: 1000.0
Column phase: DB-5

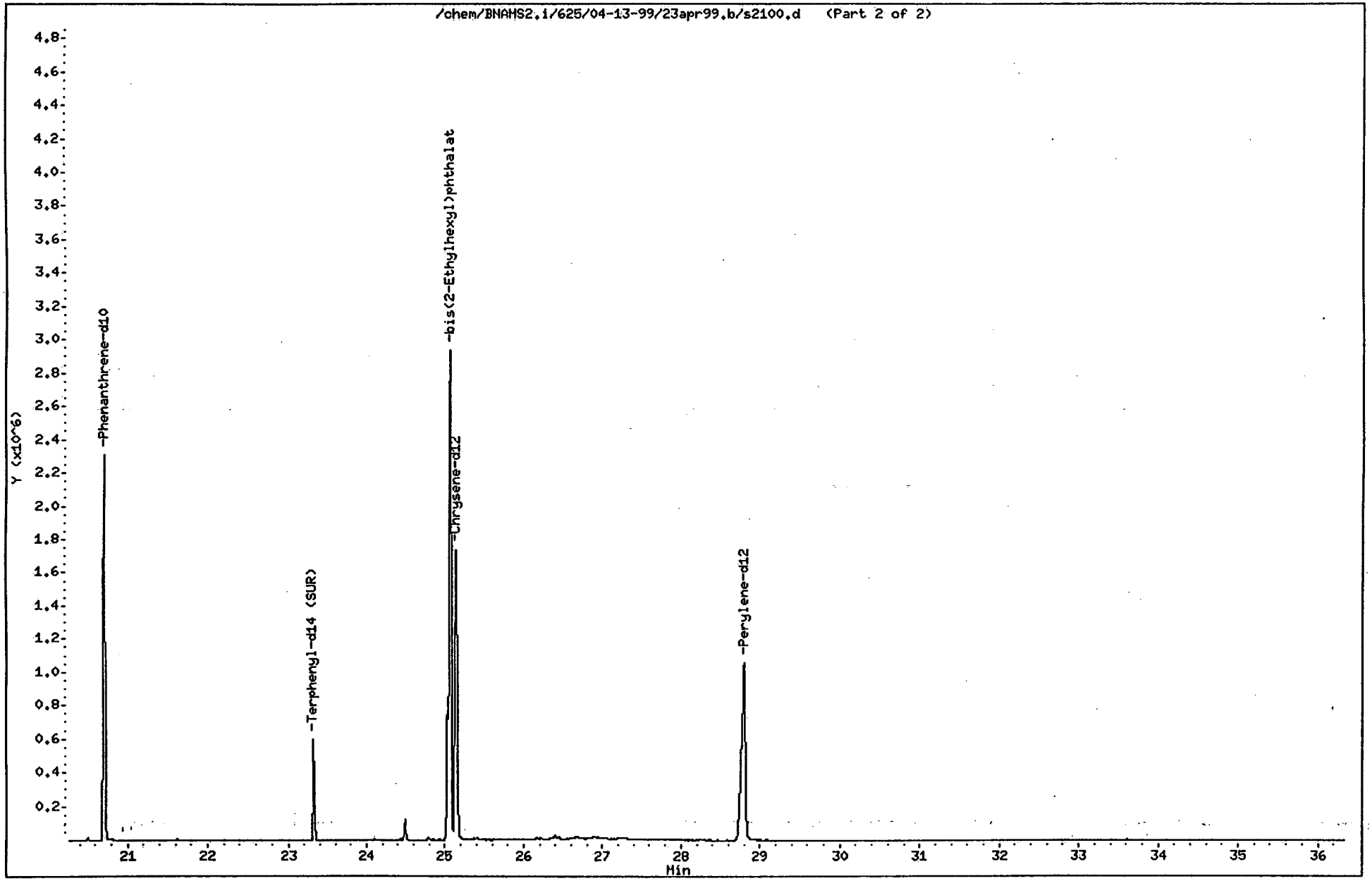
Instrument: BNAHS2.i

Operator: BNAHS 1
Column diameter: 0.53



Data File: /chem/BNAMS2.i/625/04-13-99/23apr99.b/s2100.d
Date : 23-APR-1999 21:30
Client ID: MW-22
Sample Info: 125121;1000;2;5;;
Purge Volume: 1000.0
Column phase: DB-5

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



Data File: /chem/BNAMS2.i/625/04-13-99/23apr99.b/s2100.d

Date : 23-APR-1999 21:30

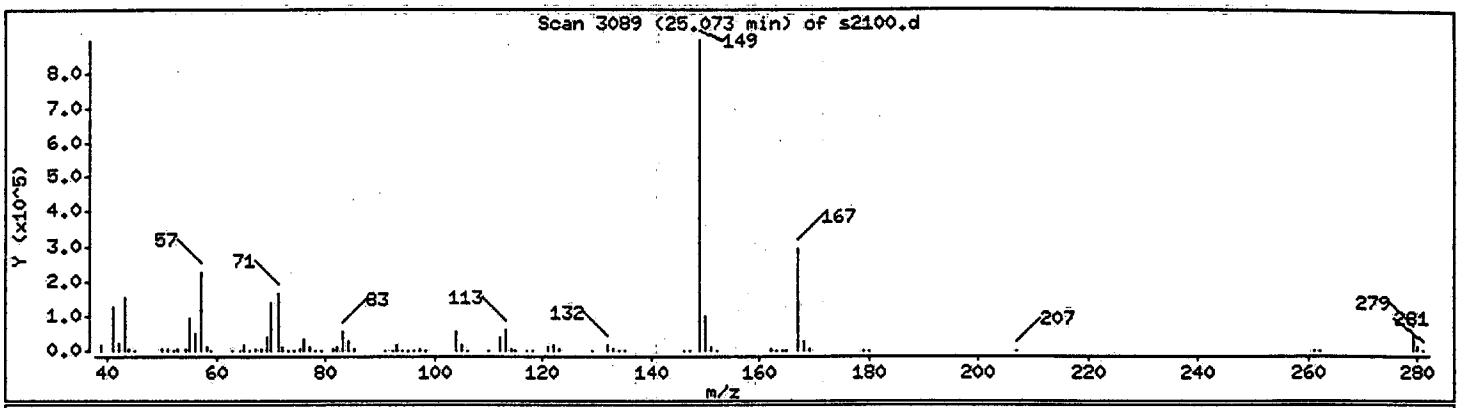
Client ID: MW-22 | Instrument: BNAMS2.i

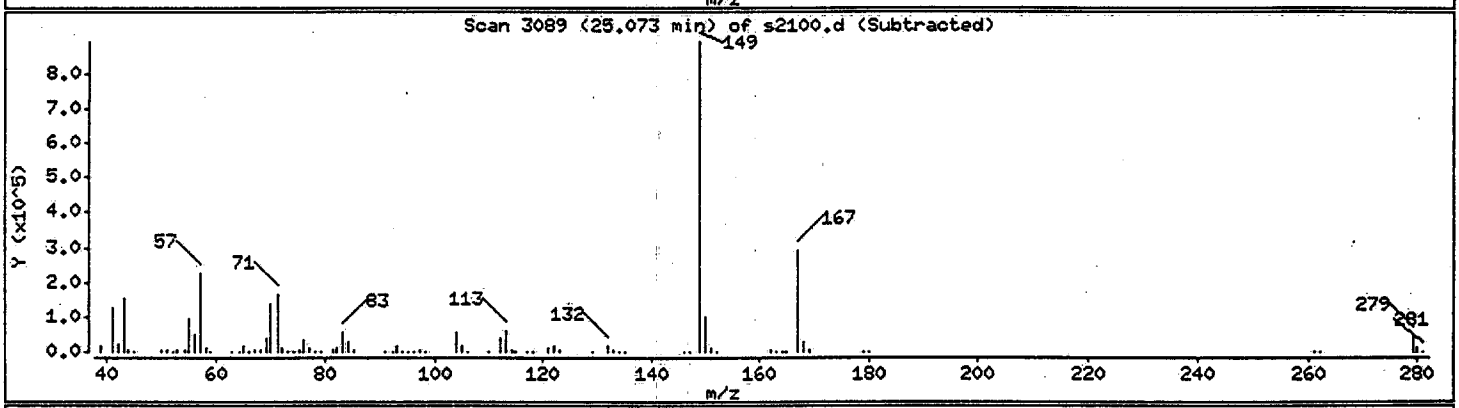
Sample Info: 125121;1000;2;5;;

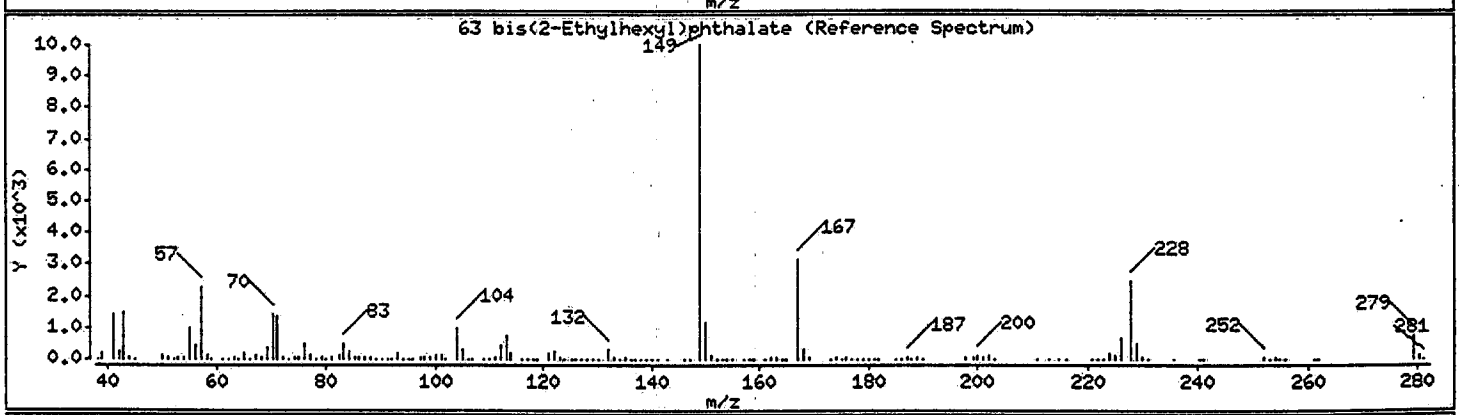
Purge Volume: 1000.0 | Operator: BNAMS 1

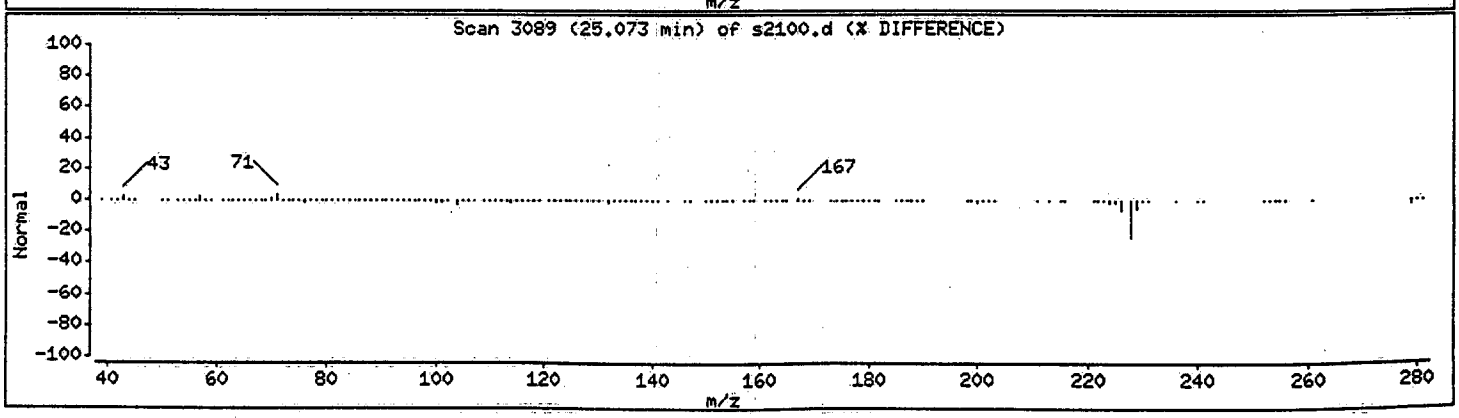
Column phase: DB-5 | Column diameter: 0.53

63 bis(2-Ethylhexyl)phthalate | Concentration: 670 ug/L









Client ID: **MW-25**
Site: L.E. Carpenter

Lab Sample No: **125122**
Lab Job No: N540

Date Sampled: 04/15/99
Date Received: 04/15/99
Date Extracted: 04/22/99
Date Analyzed: 04/23/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s2101.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
bis(2-Ethylhexyl)phthalate	ND	4.1

Data File: /chem/BNAMS2.i/625/04-13-99/23apr99.b/s2101.d
Report Date: 26-Apr-1999 09:22

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SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS2.i/625/04-13-99/23apr99.b/s2101.d
Lab Smp Id: 125122 Client Smp ID: MW-25
Inj Date : 23-APR-1999 22:14
Operator : BNAMS 1 Inst ID: BNAMS2.i
Smp Info : 125122;1000;2;1;;
Misc Info : N540;BIS2PHTH;4567;143
Comment :
Method : /chem/BNAMS2.i/625/04-13-99/23apr99.b/BNA625b.m
Meth Date : 23-Apr-1999 09:36 B Quant Type: ISTD
Cal Date : 13-APR-1999 12:42 Cal File: s1853.d
Als bottle: 19
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: BIS2PHTH.sub
Target Version: 3.40
Processing Host: hpd1

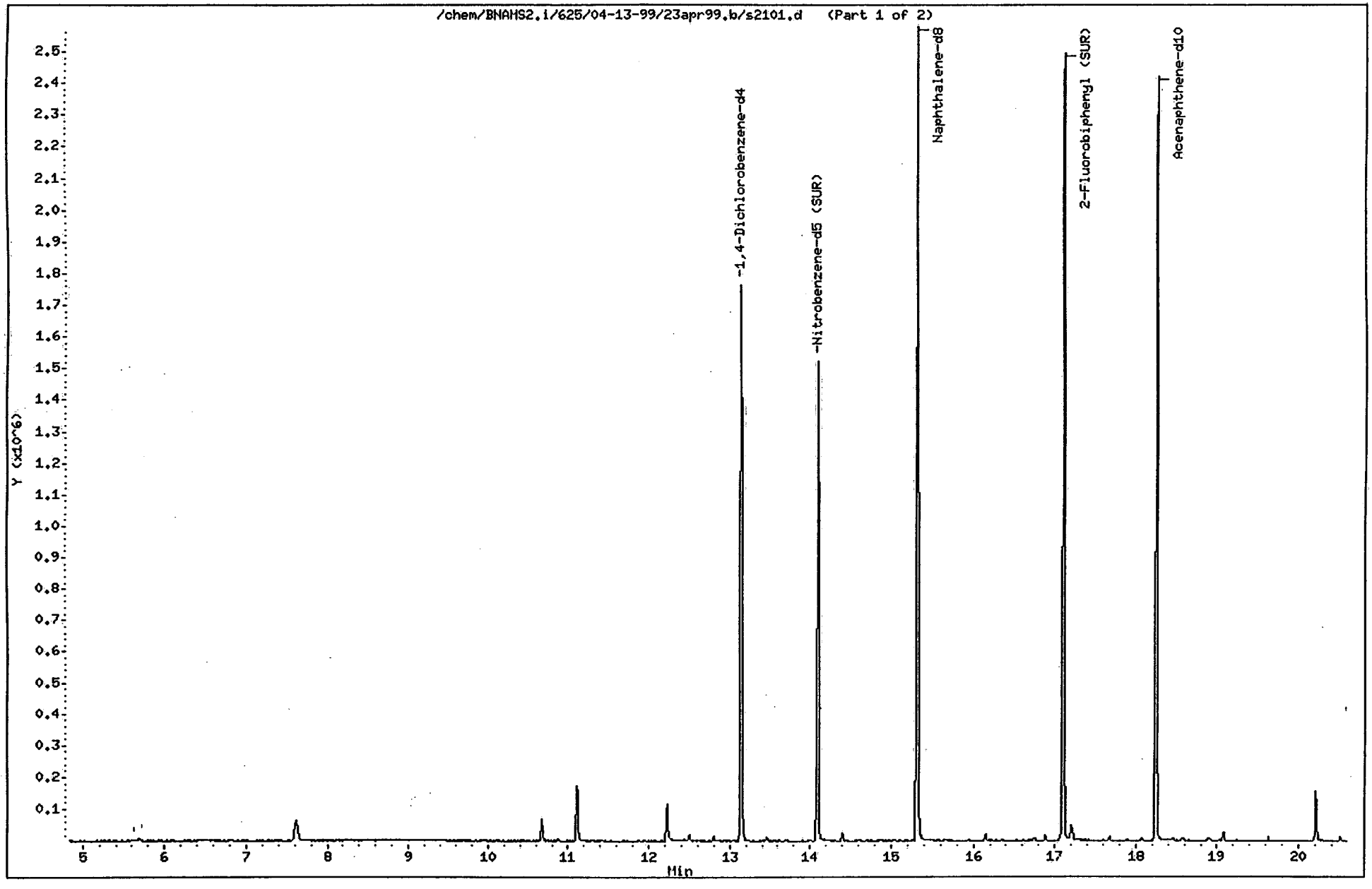
Concentration Formula: Amt * DF * 1000*Vt/Vo

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	13.143	13.149	(1.000)	396853	40.0000	
$ 76 Nitrobenzene-d5 (SUR)	82	14.100	14.109	(0.920)	786552	44.8507	90
* 80 Naphthalene-d8	136	15.319	15.328	(1.000)	1601727	40.0000	
$ 77 2-Fluorobiphenyl (SUR)	172	17.108	17.112	(0.938)	1127750	45.0627	90
* 82 Acenaphthene-d10	164	18.248	18.252	(1.000)	817898	40.0000	
* 83 Phenanthrene-d10	188	20.718	20.725	(1.000)	1271708	40.0000	
$ 78 Terphenyl-d14 (SUR)	244	23.333	23.335	(0.928)	1137969	44.9964	90
* 81 Chrysene-d12	240	25.149	25.170	(1.000)	1145543	40.0000	
* 84 Perylene-d12	264	28.799	28.826	(1.000)	1223445	40.0000	

Data File: /chem/BNAMS2.i/625/04-13-99/23apr99.b/s2101.d
Date : 23-APR-1999 22:14
Client ID: MW-25
Sample Info: 125122;1000;2;1;;
Purge Volume: 1000.0
Column phase: DB-5

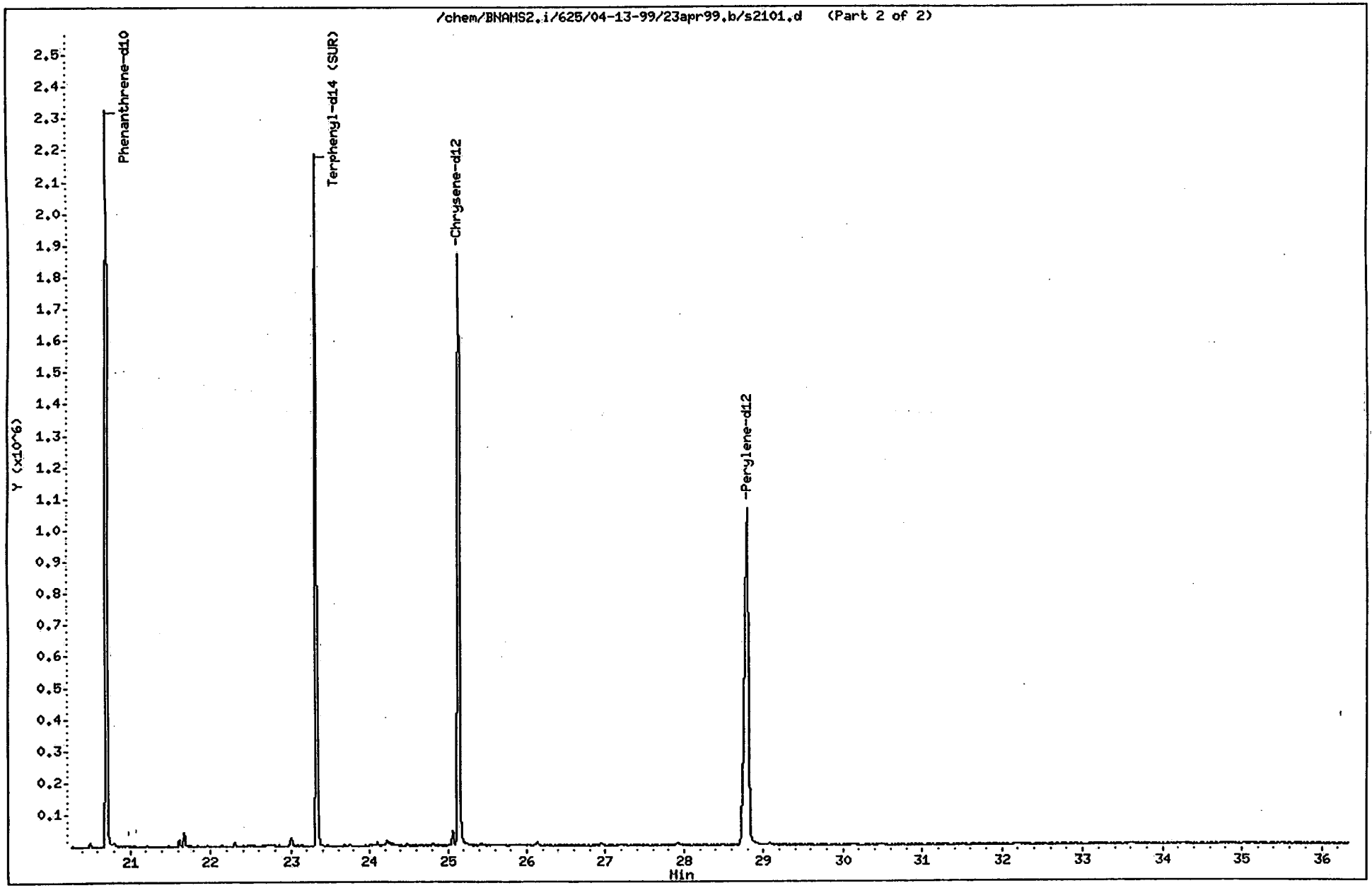
Instrument: BNAMS2.i
Operator: BNAMS 1
Column diameter: 0.53



Data File: /chem/BNAMS2.i/625/04-13-99/23apr99.b/s2101.d
Date : 23-APR-1999 22:14
Client ID: MW-25
Sample Info: 125122;1000;2;1;;
Purge Volume: 1000.0
Column phase: DB-5

Instrument: BNAMS2.i

Operator: BNAMS 1
Column diameter: 0.53



Client ID: **MW-21**
Site: L.E. Carpenter

Lab Sample No: **125123**
Lab Job No: N540

Date Sampled: 04/15/99
Date Received: 04/15/99
Date Extracted: 04/22/99
Date Analyzed: 04/23/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s2102.d

Matrix: WATER
Level: LOW
Sample Volume: 980 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/625/04-13-99/23apr99.b/s2102.d
Report Date: 26-Apr-1999 09:22

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SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS2.i/625/04-13-99/23apr99.b/s2102.d
Lab Smp Id: 125123 Client Smp ID: MW-21
Inj Date : 23-APR-1999 22:58
Operator : BNAMS 1 Inst ID: BNAMS2.i
Smp Info : 125123;980;2;1;;
Misc Info : N540;BIS2PHTH;4567;143
Comment :
Method : /chem/BNAMS2.i/625/04-13-99/23apr99.b/BNA625b.m
Meth Date : 23-Apr-1999 09:36 B Quant Type: ISTD
Cal Date : 13-APR-1999 12:42 Cal File: s1853.d
Als bottle: 20
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: BIS2PHTH.sub
Target Version: 3.40
Processing Host: hpd1

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

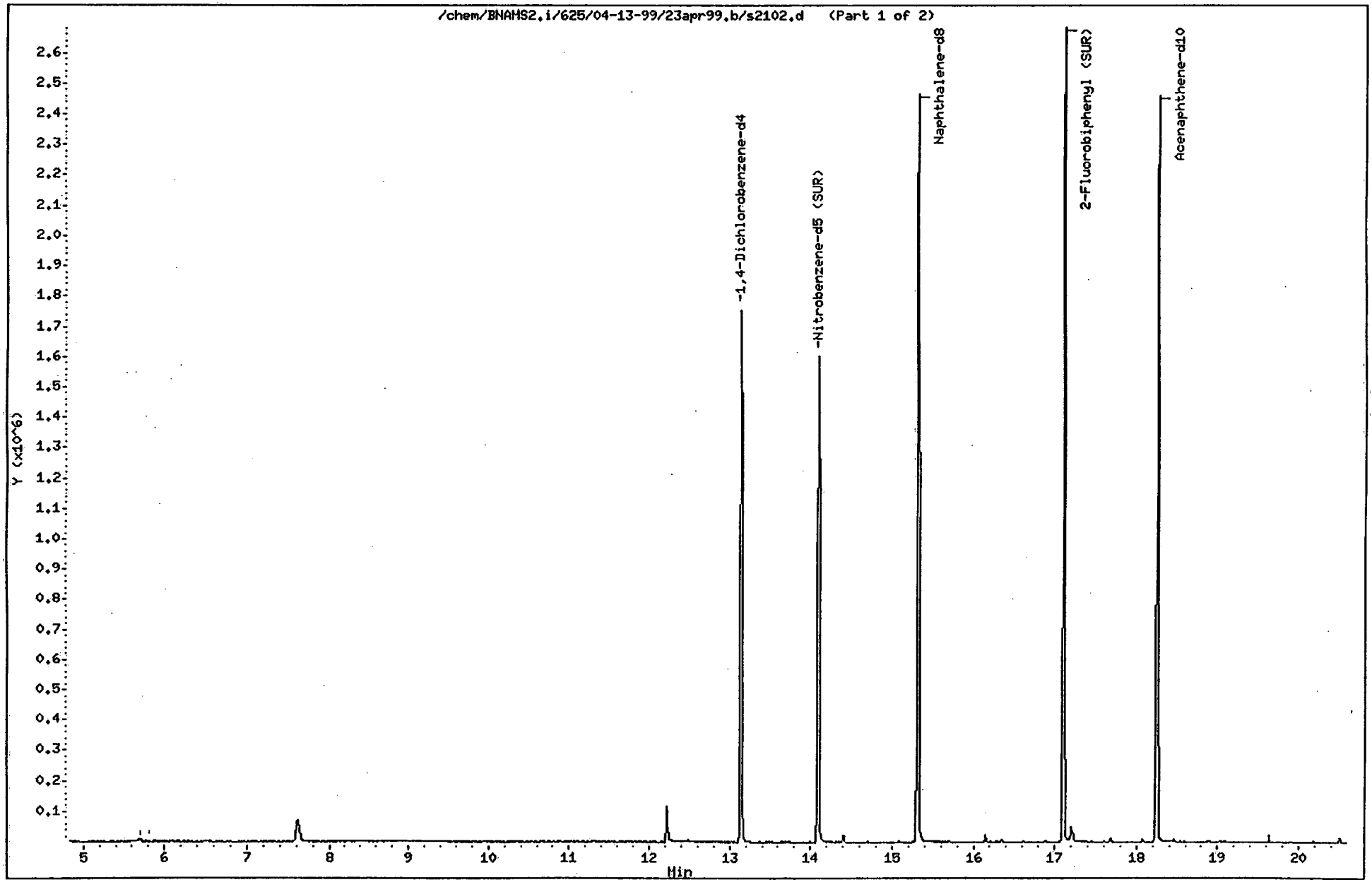
Name	Value	Description
DF	1.000	Dilution Factor
Vt	2.000	Volume of final extract (uL)
Vo	980.000	Volume of sample extracted (mL)

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)
* 79 1,4-Dichlorobenzene-d4	152	13.142	13.149	(1.000)	400443	40.0000	
$ 76 Nitrobenzene-d5 (SUR)	82	14.099	14.109	(0.920)	812515	45.9726	94
* 80 Naphthalene-d8	136	15.317	15.328	(1.000)	1614218	40.0000	
$ 77 2-Fluorobiphenyl (SUR)	172	17.106	17.112	(0.937)	1149856	45.2737	92
* 82 Acenaphthene-d10	164	18.247	18.252	(1.000)	830044	40.0000	
* 83 Phenanthrene-d10	188	20.716	20.725	(1.000)	1321259	40.0000	
$ 78 Terphenyl-d14 (SUR)	244	23.330	23.335	(0.928)	1152327	43.9148	90
* 81 Chrysene-d12	240	25.145	25.170	(1.000)	1188566	40.0000	
* 84 Perylene-d12	264	28.802	28.826	(1.000)	1228711	40.0000	

Data File: /chem/BNAMS2.i/625/04-13-99/23apr99.b/s2102.d
Date : 23-APR-1999 22:58
Client ID: MW-21
Sample Info: 125123;980;2;1;;
Purge Volume: 980.0
Column phase: DB-5

Instrument: BNAMS2.i

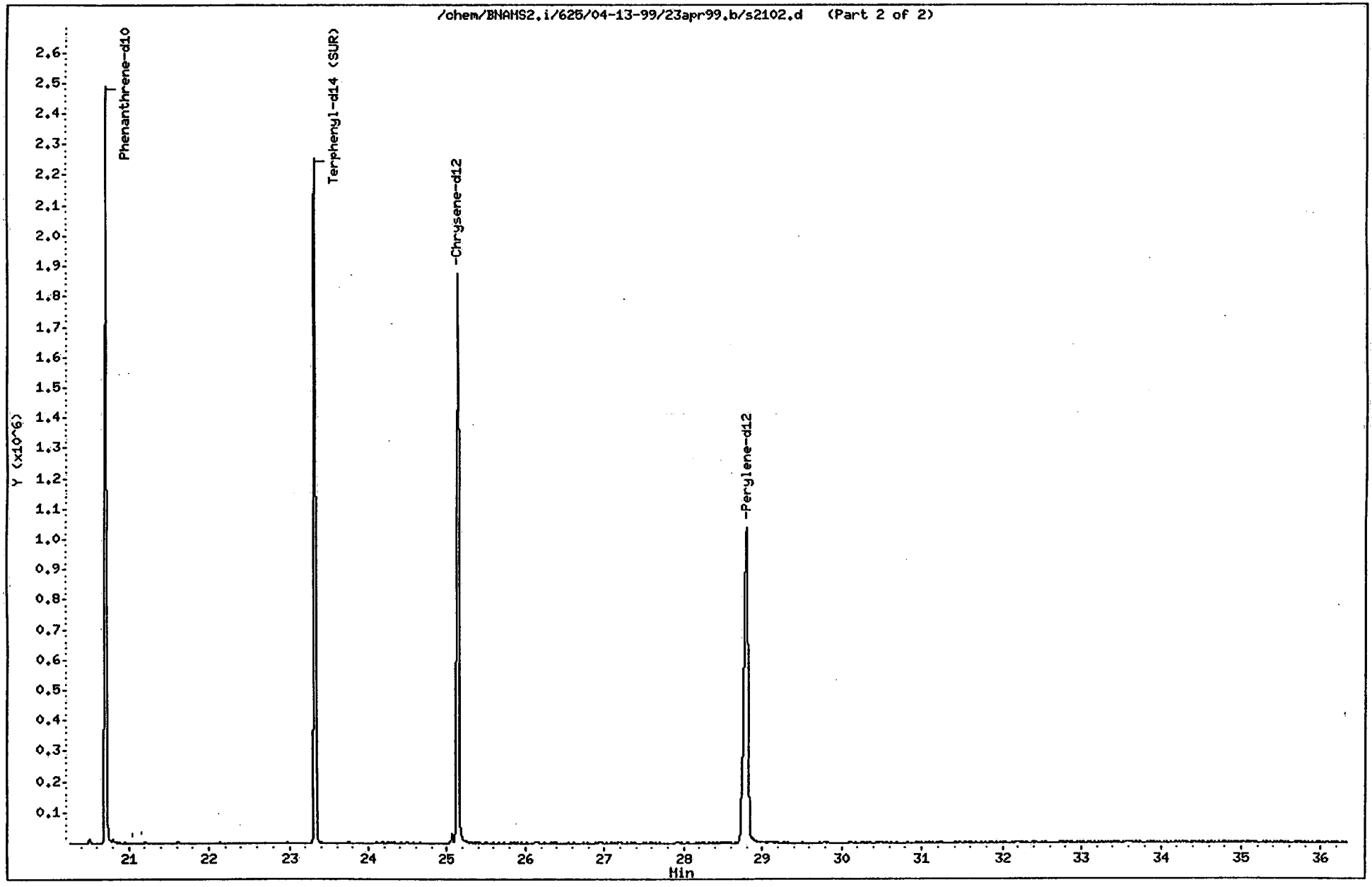
Operator: BNAMS 1
Column diameter: 0.53



Data File: /chem/BNAMS2.i/625/04-13-99/23apr99.b/s2102.d
Date : 23-APR-1999 22:58
Client ID: MW-21
Sample Info: 125123;980;2;1;;
Purge Volume: 980.0
Column phase: DB-5

Instrument: BNAMS2.i

Operator: BNAMS 1
Column diameter: 0.53



Client ID: **MW-4**
Site: L.E. Carpenter

Lab Sample No: **125126**
Lab Job No: N540

Date Sampled: 04/15/99
Date Received: 04/15/99
Date Extracted: 04/22/99
Date Analyzed: 04/29/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s2222.d

Matrix: WATER
Level: LOW
Sample Volume: 980 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 20.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	3000	83

Data File: /chem/BNAMS2.i/625/04-13-99/29apr99.b/s2222.d
Report Date: 29-Apr-1999 12:37

STL Envirotech

SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS2.i/625/04-13-99/29apr99.b/s2222.d
Lab Smp Id: 125126 Client Smp ID: BIS2PHTH
Inj Date : 29-APR-1999 11:39
Operator : BNAMS 1 Inst ID: BNAMS2.i
Smp Info : 125126;980;2;20;;
Misc Info : N540;BIS2PHTH;4567;143;
Comment :
Method : /chem/BNAMS2.i/625/04-13-99/29apr99.b/BNA625b.m
Meth Date : 29-Apr-1999 09:59 B Quant Type: ISTD
Cal Date : 13-APR-1999 12:42 Cal File: s1853.d
Als bottle: 4
Dil Factor: 20.00000
Integrator: HP RTE Compound Sublist: BIS2PHTH.sub
Target Version: 3.40
Processing Host: hpd1

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

Name	Value	Description
DF	20.000	Dilution Factor
Vt	2.000	Volume of final extract (uL)
Vo	980.000	Volume of sample extracted (mL)

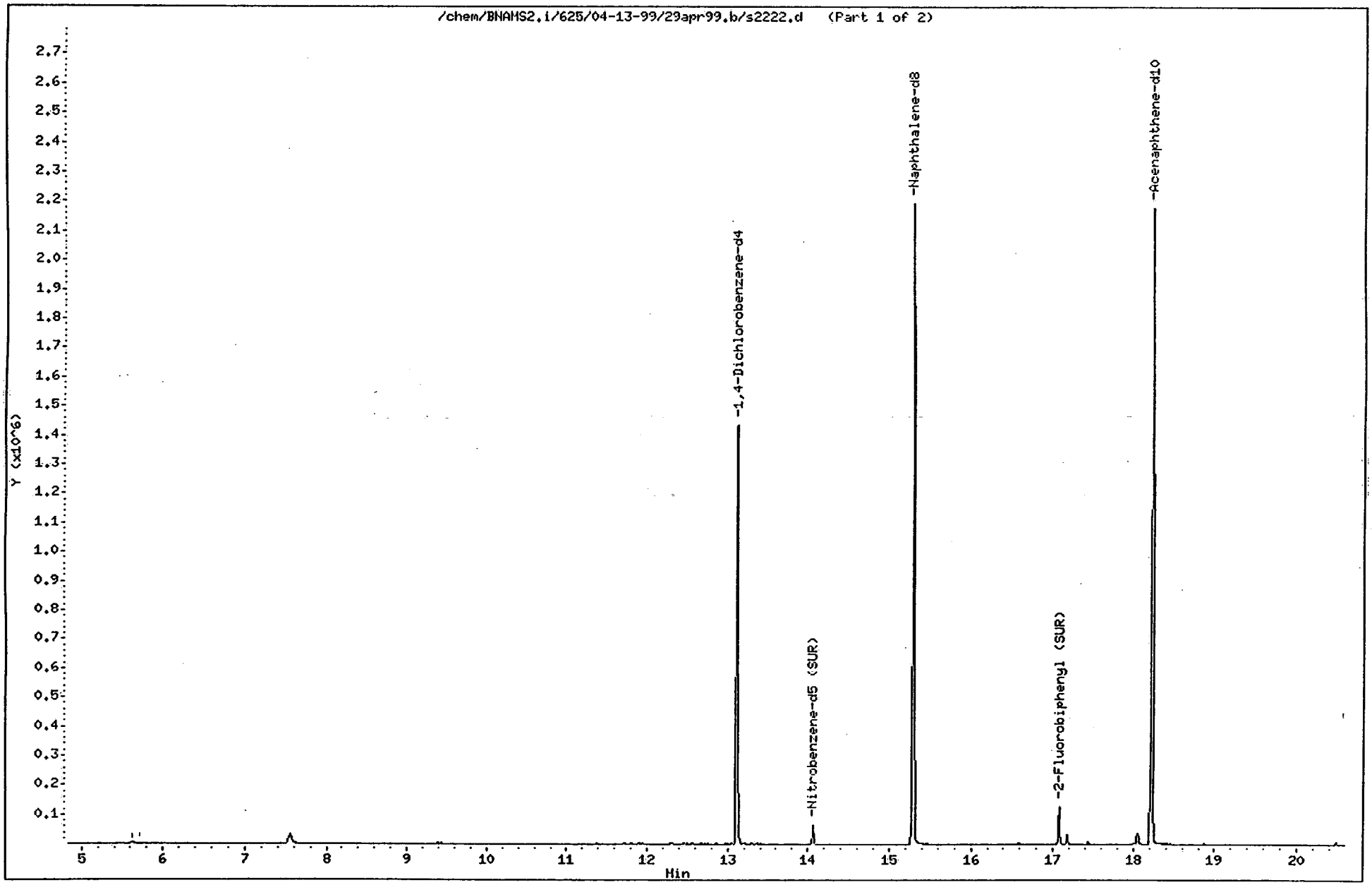
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)
* 79 1,4-Dichlorobenzene-d4	152	13.116	13.124	(1.000)	349200	40.0000	
$ 76 Nitrobenzene-d5 (SUR)	82	14.060	14.084	(0.919)	31129	2.02769	83(a)
* 80 Naphthalene-d8	136	15.291	15.302	(1.000)	1402144	40.0000	
$ 77 2-Fluorobiphenyl (SUR)	172	17.073	17.087	(0.937)	55779	2.55835	100(a)
* 82 Acenaphthene-d10	164	18.220	18.227	(1.000)	712549	40.0000	
* 83 Phenanthrene-d10	188	20.689	20.700	(1.000)	1126033	40.0000	
$ 78 Terphenyl-d14 (SUR)	244	23.296	23.312	(0.927)	57870	2.83357	120(a)
63 bis(2-Ethylhexyl)phthalate	149	25.046	25.062	(0.997)	1838525	72.6040	3000(M)
* 81 Chrysene-d12	240	25.119	25.142	(1.000)	925078	40.0000	
* 84 Perylene-d12	264	28.748	28.776	(1.000)	1028050	40.0000	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

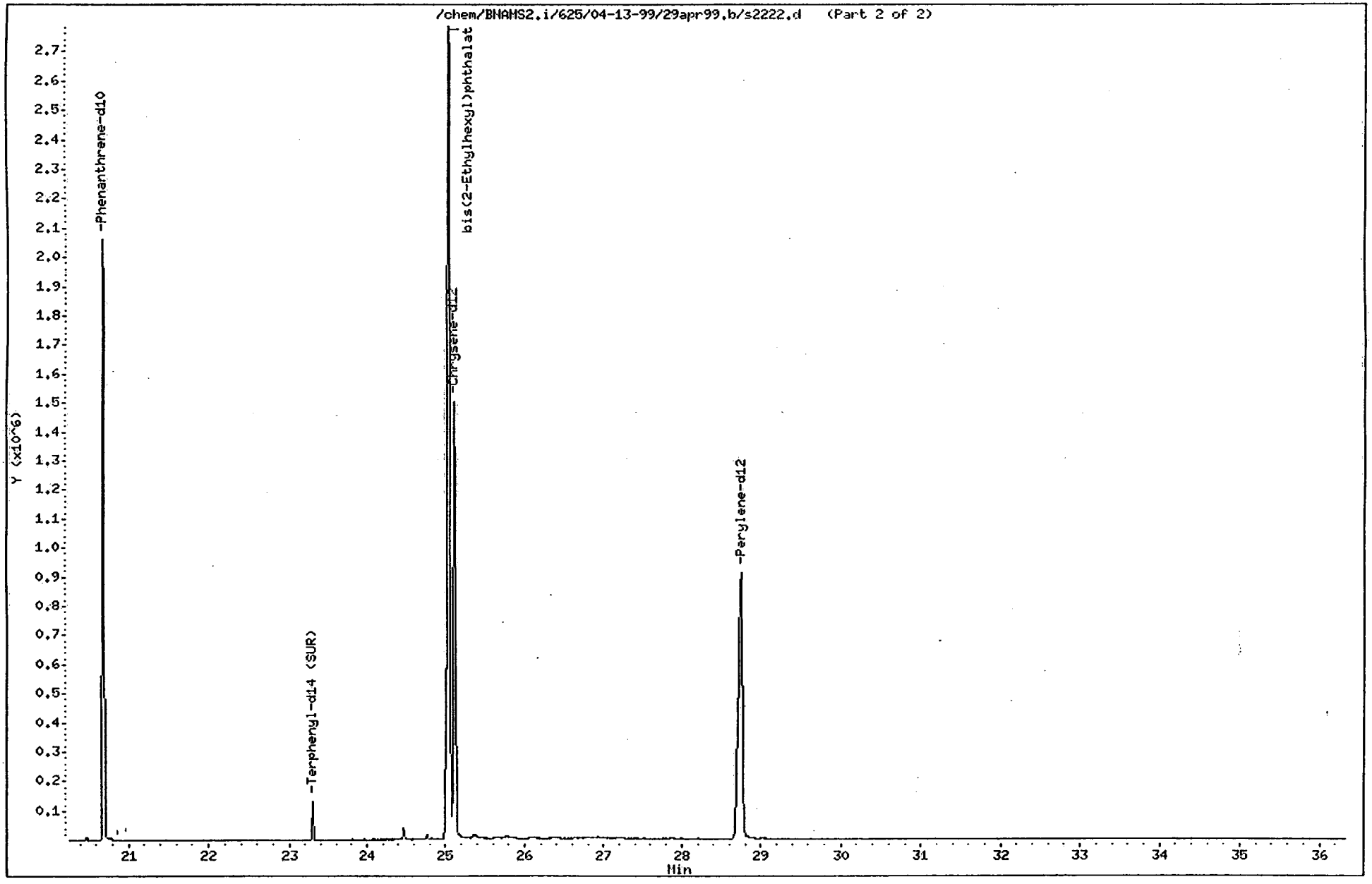
Data File: /chem/BNAMS2.i/625/04-13-99/29apr99.b/s2222.d
Date : 29-APR-1999 11:39
Client ID: BIS2PHTH
Sample Info: 125126;980;2;20;;
Purge Volume: 980.0
Column phase: DB-5

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



Data File: /chem/BNAMS2.i/625/04-13-99/29apr99.b/s2222.d
Date : 29-APR-1999 11:39
Client ID: BIS2PHTH
Sample Info: 125126;980;2;20;;
Purge Volume: 980.0
Column phase: DB-5

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



Data File: /chem/BNAMS2.i/625/04-13-99/29apr99.b/s2222.d

Date : 29-APR-1999 11:39

Client ID: BIS2PHTH

Instrument: BNAMS2.i

Sample Info: 125126;980;2;20;;

Purge Volume: 980.0

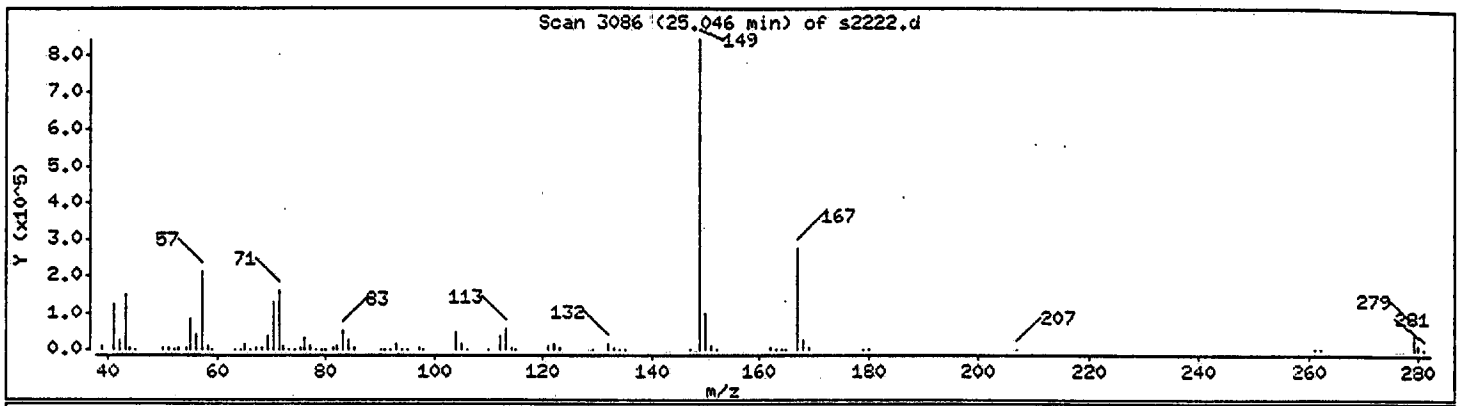
Operator: BNAMS 1

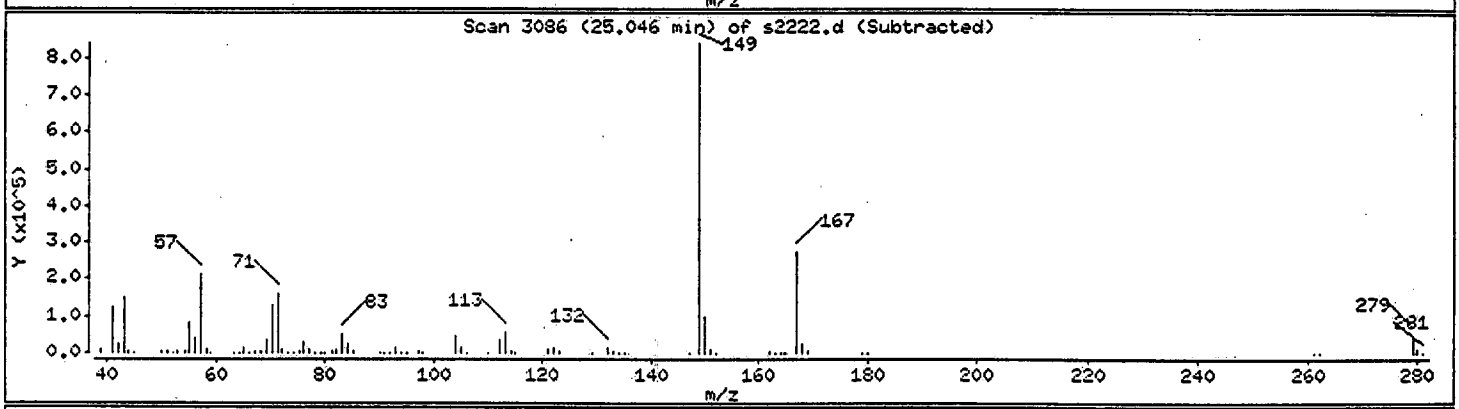
Column phase: DB-5

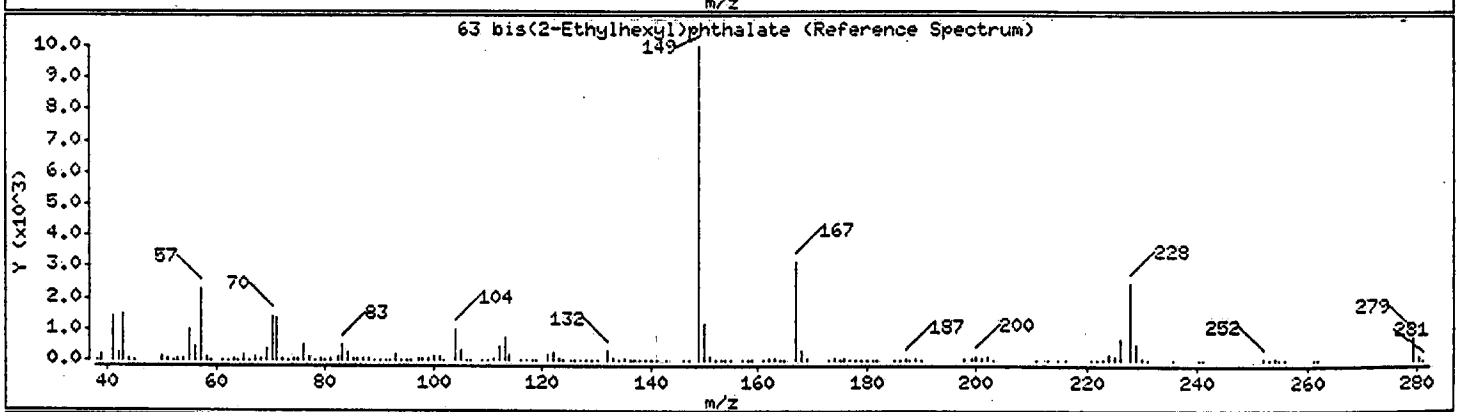
Column diameter: 0.53

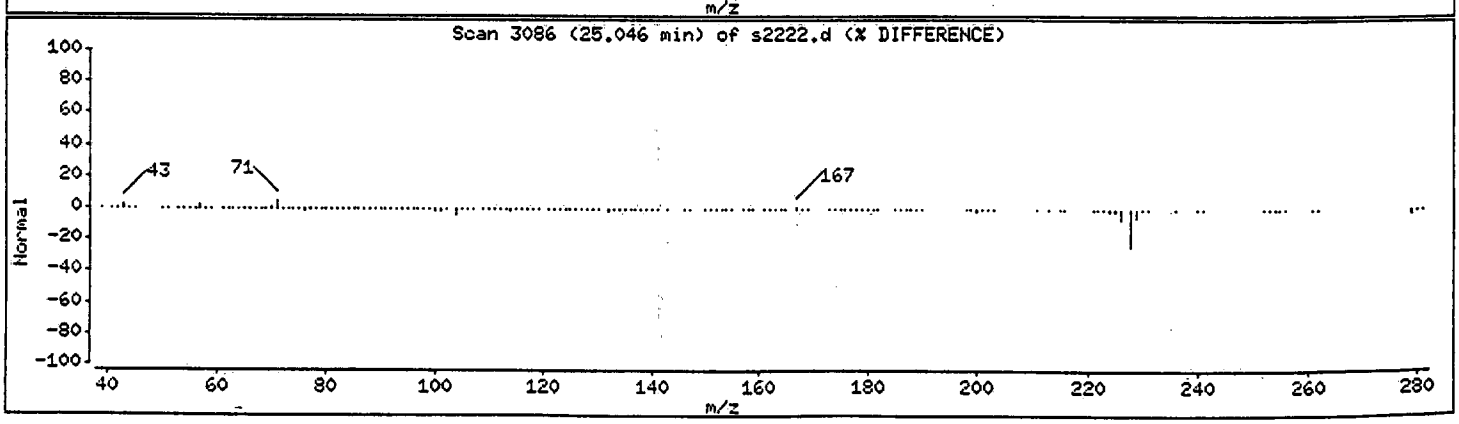
63 bis(2-Ethylhexyl)phthalate

Concentration: 3000 ug/L









Client ID: **MW-17**
Site: L.E. Carpenter

Lab Sample No: **125127**
Lab Job No: N540

Date Sampled: 04/15/99
Date Received: 04/15/99
Date Extracted: 04/22/99
Date Analyzed: 04/24/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s2104.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
bis(2-Ethylhexyl)phthalate	ND	4.1

Data File: /chem/BNAMS2.i/625/04-13-99/23apr99.b/s2104.d
Report Date: 26-Apr-1999 09:22

STL Envirotech

SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS2.i/625/04-13-99/23apr99.b/s2104.d
Lab Smp Id: 125127 Client Smp ID: MW-17
Inj Date : 24-APR-1999 00:26
Operator : BNAMS 1 Inst ID: BNAMS2.i
Smp Info : 125127;1000;2;1;;
Misc Info : N540;BIS2PHTH;4567;143
Comment :
Method : /chem/BNAMS2.i/625/04-13-99/23apr99.b/BNA625b.m
Meth Date : 23-Apr-1999 09:36 B Quant Type: ISTD
Cal Date : 13-APR-1999 12:42 Cal File: s1853.d
Als bottle: 22
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: BIS2PHTH.sub
Target Version: 3.40
Processing Host: hpd1

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

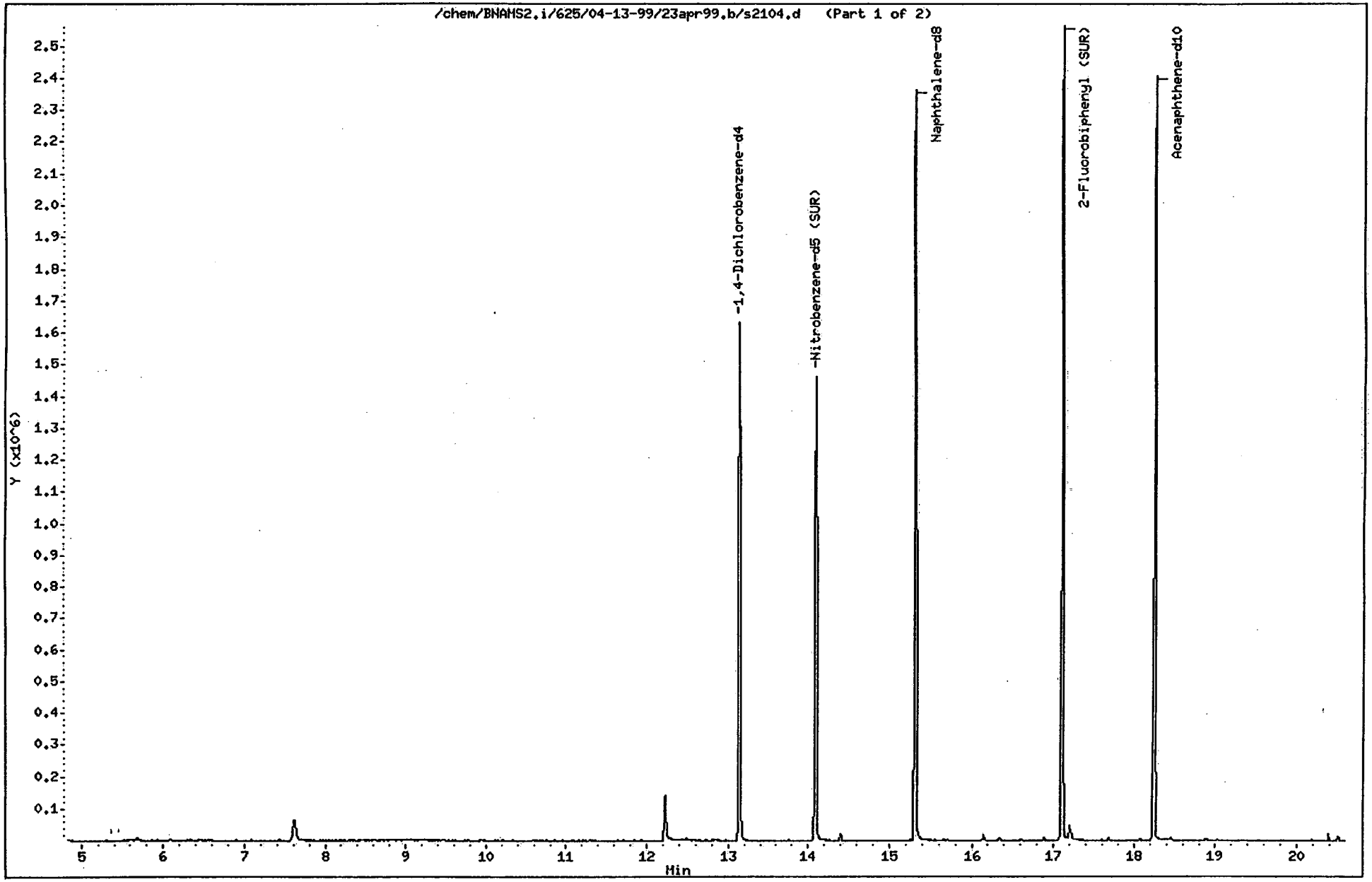
Name	Value	Description
DF	1.000	Dilution Factor
Vt	2.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)
* 79 1,4-Dichlorobenzene-d4	152	13.142	13.149	(1.000)	384221	40.0000	
$ 76 Nitrobenzene-d5 (SUR)	82	14.092	14.109	(0.920)	762573	45.1731	90
* 80 Naphthalene-d8	136	15.317	15.328	(1.000)	1541812	40.0000	
$ 77 2-Fluorobiphenyl (SUR)	172	17.106	17.112	(0.938)	1084624	44.7188	89
* 82 Acenaphthene-d10	164	18.246	18.252	(1.000)	792670	40.0000	
* 83 Phenanthrene-d10	188	20.716	20.725	(1.000)	1234636	40.0000	
$ 78 Terphenyl-d14 (SUR)	244	23.330	23.335	(0.928)	1137618	45.7088	91
* 81 Chrysene-d12	240	25.145	25.170	(1.000)	1127340	40.0000	
* 84 Perylene-d12	264	28.795	28.826	(1.000)	1187782	40.0000	

Data File: /chem/BNAMS2.i/625/04-13-99/23apr99.b/s2104.d
Date : 24-APR-1999 00:26
Client ID: MW-17
Sample Info: 125127;1000;2;1;;
Purge Volume: 1000.0
Column phase: DB-5

Instrument: BNAMS2.i

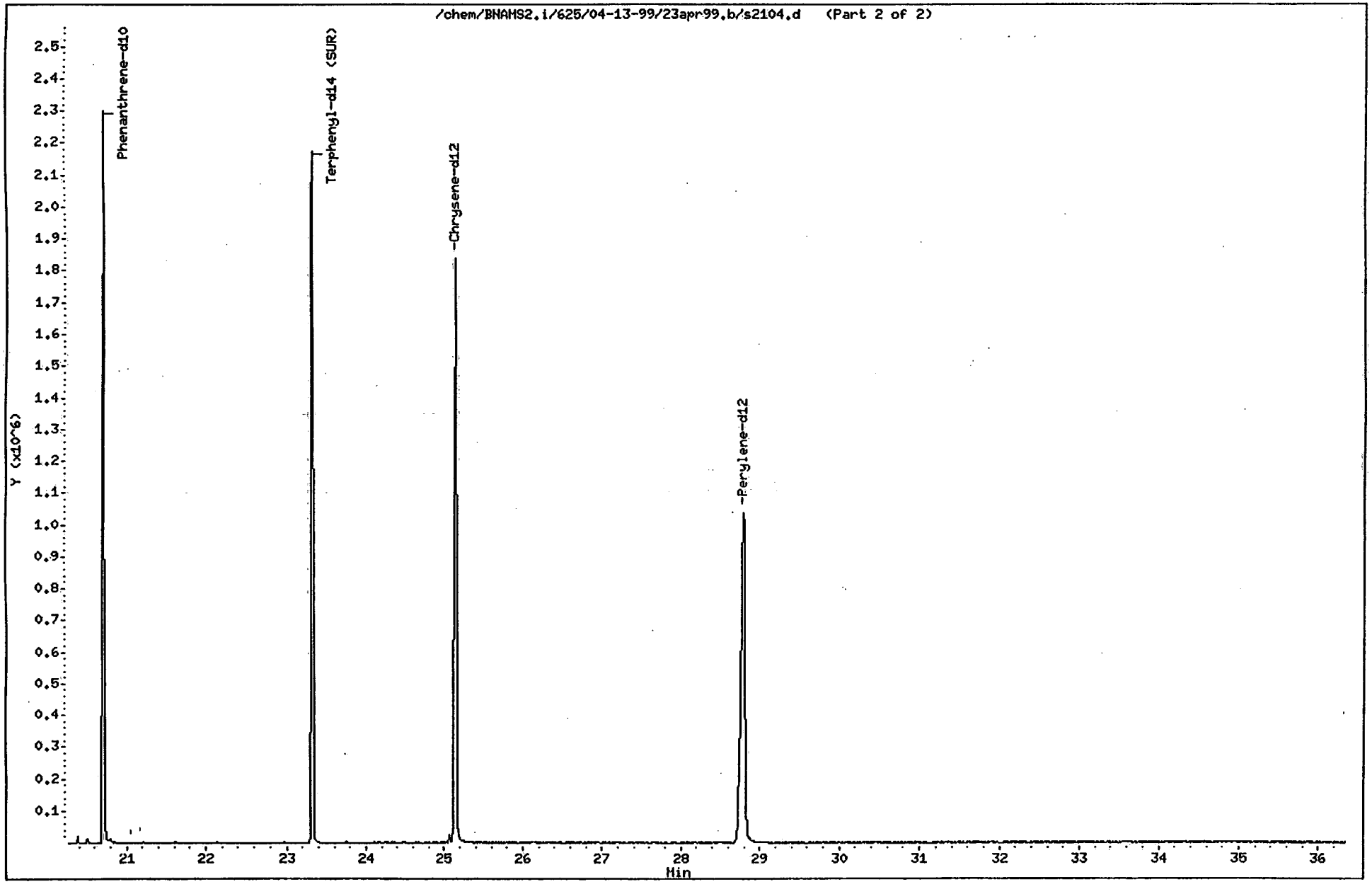
Operator: BNAMS 1
Column diameter: 0.53



Data File: /chem/BNAMS2.i/625/04-13-99/23apr99.b/s2104.d
Date : 24-APR-1999 00:26
Client ID: MW-17
Sample Info: 125127;1000;2;1;;
Purge Volume: 1000.0
Column phase: DB-5

Instrument: BNAMS2.i

Operator: BNAMS 1
Column diameter: 0.53



Client ID: **MW-4d**
Site: L.E. Carpenter

Lab Sample No: **125128**
Lab Job No: N540

Date Sampled: 04/15/99
Date Received: 04/15/99
Date Extracted: 04/22/99
Date Analyzed: 04/26/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s2132.d

Matrix: WATER
Level: LOW
Sample Volume: 990 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 20.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	4400	82

Data File: /chem/BNAMS2.i/625/04-13-99/26apr99.b/s2132.d
Report Date: 27-Apr-1999 08:39

STL Envirotech

SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS2.i/625/04-13-99/26apr99.b/s2132.d
Lab Smp Id: 125128 Client Smp ID: MW-4d
Inj Date : 26-APR-1999 17:52
Operator : BNAMS 1 Inst ID: BNAMS2.i
Smp Info : 125128;990;2;20;;
Misc Info : N540;BIS2PHTH;4567;143
Comment :
Method : /chem/BNAMS2.i/625/04-13-99/26apr99.b/BNA625b.m
Meth Date : 26-Apr-1999 09:43 B Quant Type: ISTD
Cal Date : 13-APR-1999 12:42 Cal File: s1853.d
Als bottle: 13
Dil Factor: 20.00000
Integrator: HP RTE Compound Sublist: BIS2PHTH.sub
Target Version: 3.40
Processing Host: hpd1

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

Name	Value	Description
DF	20.000	Dilution Factor
Vt	2.000	Volume of final extract (uL)
Vo	990.000	Volume of sample extracted (mL)

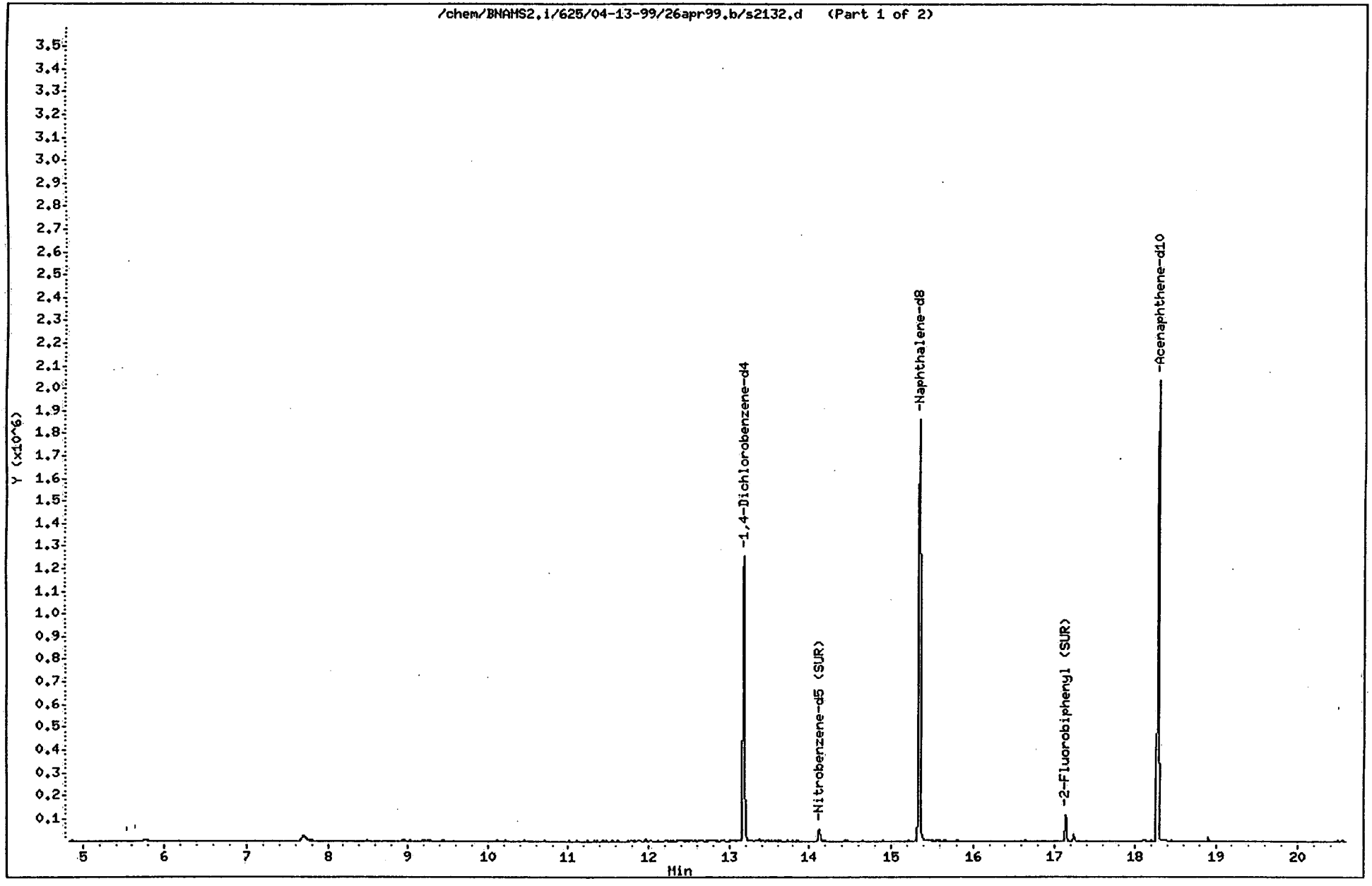
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)
* 79 1,4-Dichlorobenzene-d4	152	13.182	13.175	(1.000)	295005	40.0000	
$ 76 Nitrobenzene-d5 (SUR)	82	14.126	14.135	(0.920)	27776	2.04672	83(a)
* 80 Naphthalene-d8	136	15.350	15.353	(1.000)	1239484	40.0000	
$ 77 2-Fluorobiphenyl (SUR)	172	17.132	17.136	(0.937)	50018	2.47537	100(a)
* 82 Acenaphthene-d10	164	18.279	18.275	(1.000)	660373	40.0000	
* 83 Phenanthrene-d10	188	20.748	20.746	(1.000)	1082701	40.0000	
$ 78 Terphenyl-d14 (SUR)	244	23.349	23.356	(0.927)	61254	2.98011	120(a)
63 bis(2-Ethylhexyl)phthalate	149	25.114	25.111	(0.997)	2781457	109.139	4400(M)
* 81 Chrysene-d12	240	25.187	25.198	(1.000)	931024	40.0000	
* 84 Perylene-d12	264	28.868	28.880	(1.000)	1054545	40.0000	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

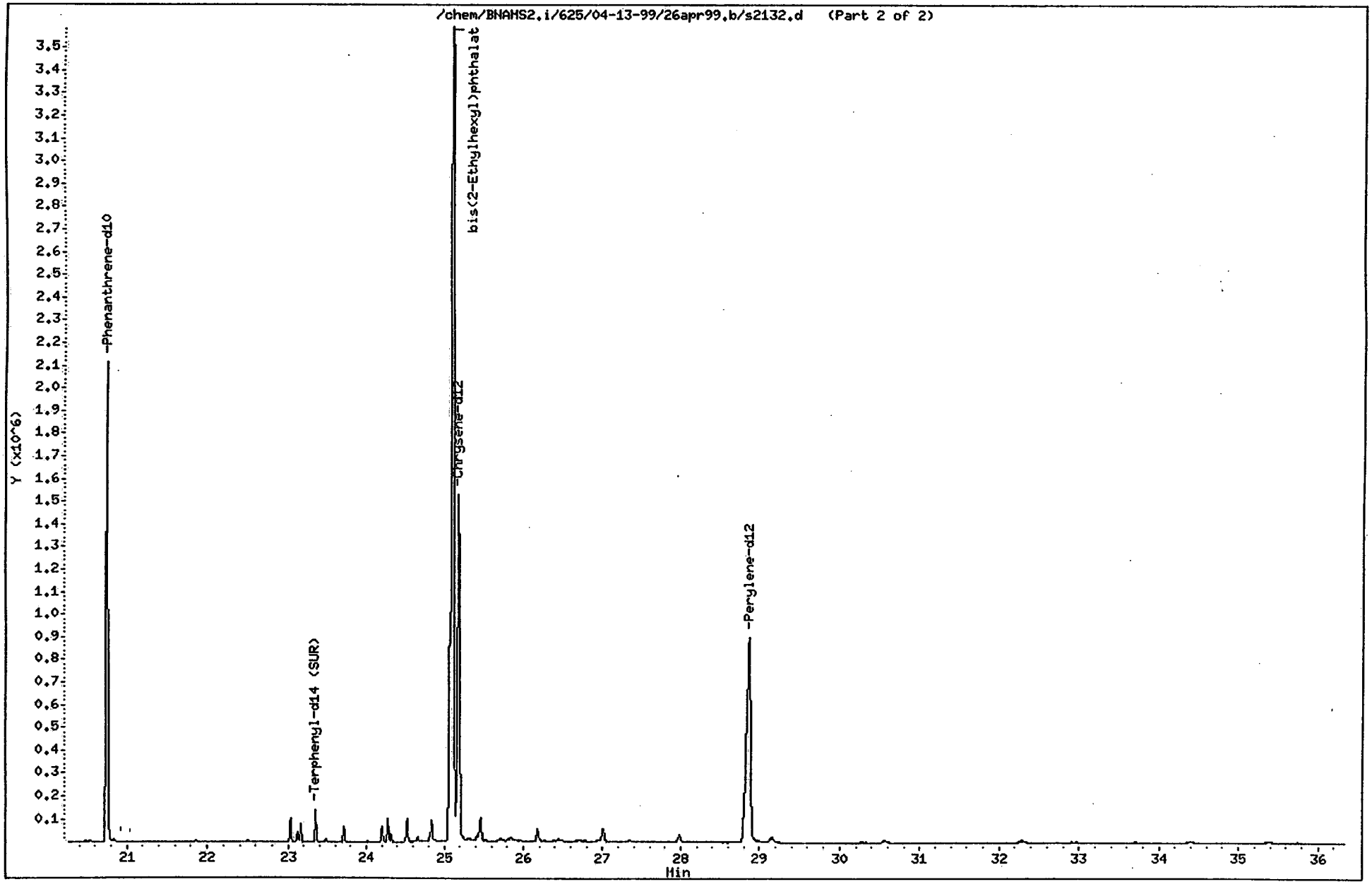
Data File: /chem/BNAMS2.i/625/04-13-99/26apr99.b/s2132.d
Date : 26-APR-1999 17:52
Client ID: MW-4d
Sample Info: 125128;990;2;20;;
Purge Volume: 990.0
Column phase: DB-5

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



Data File: /chem/BNAHS2.i/625/04-13-99/26apr99.b/s2132.d
Date : 26-APR-1999 17:52
Client ID: MW-4d
Sample Info: 125128;990;2;20;;
Purge Volume: 990.0
Column phase: DB-5

Instrument: BNAHS2.i
Operator: BNAHS 1
Column diameter: 0.53



Data File: /chem/BNAMS2.i/625/04-13-99/26apr99.b/s2132.d

Date : 26-APR-1999 17:52

Client ID: MW-4d

Instrument: BNAMS2.i

Sample Info: 125128;990;2;20;;

Purge Volume: 990.0

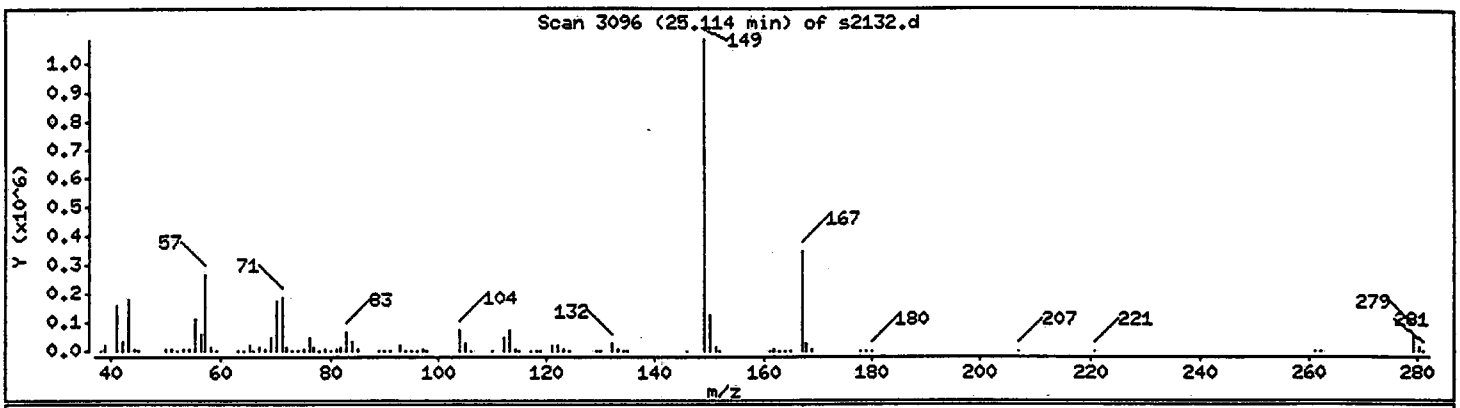
Operator: BNAMS 1

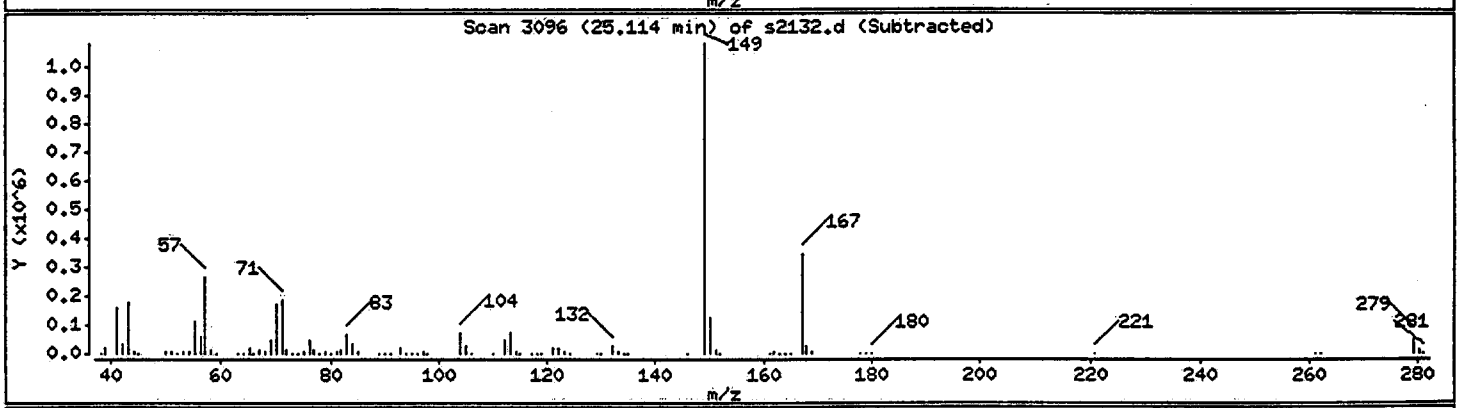
Column phase: DB-5

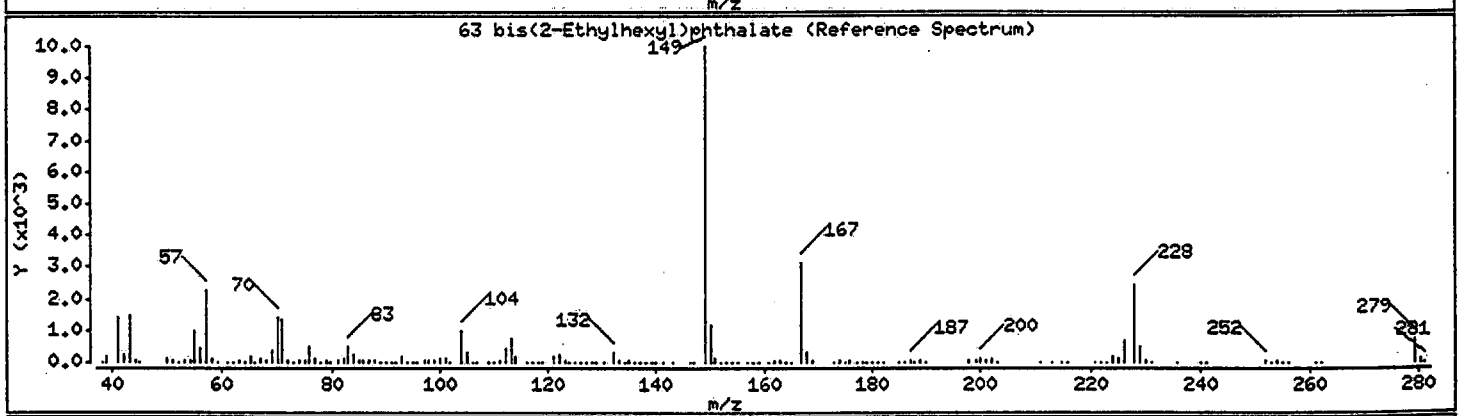
Column diameter: 0.53

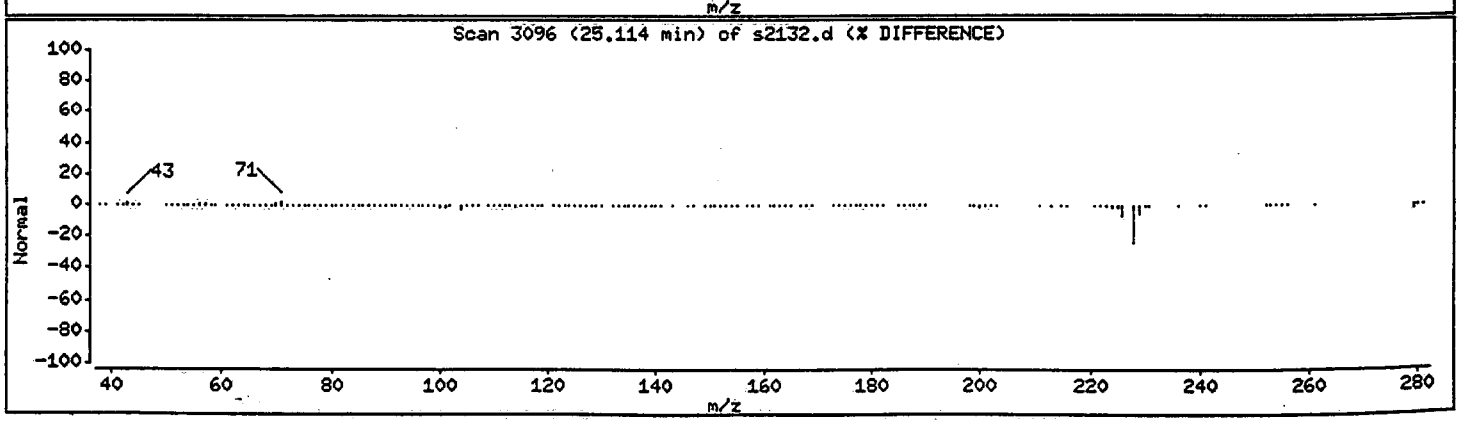
63 bis(2-Ethylhexyl)phthalate

Concentration: 4400 ug/L









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

Lab Sample No: **125130**
Lab Job No: N540

Date Sampled: 04/15/99
Date Received: 04/15/99
Date Extracted: 04/22/99
Date Analyzed: 04/24/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s2106.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/625/04-13-99/23apr99.b/s2106.d
Report Date: 26-Apr-1999 09:22

STL Envirotech

SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS2.i/625/04-13-99/23apr99.b/s2106.d
Lab Smp Id: 125130 Client Smp ID: Field_Blank
Inj Date : 24-APR-1999 01:53
Operator : BNAMS 1 Inst ID: BNAMS2.i
Smp Info : 125130;930;2;1;;
Misc Info : N540;BIS2PHTH;4567;143
Comment :
Method : /chem/BNAMS2.i/625/04-13-99/23apr99.b/BNA625b.m
Meth Date : 23-Apr-1999 09:36 B Quant Type: ISTD
Cal Date : 13-APR-1999 12:42 Cal File: s1853.d
Als bottle: 24
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: BIS2PHTH.sub
Target Version: 3.40
Processing Host: hpd1

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

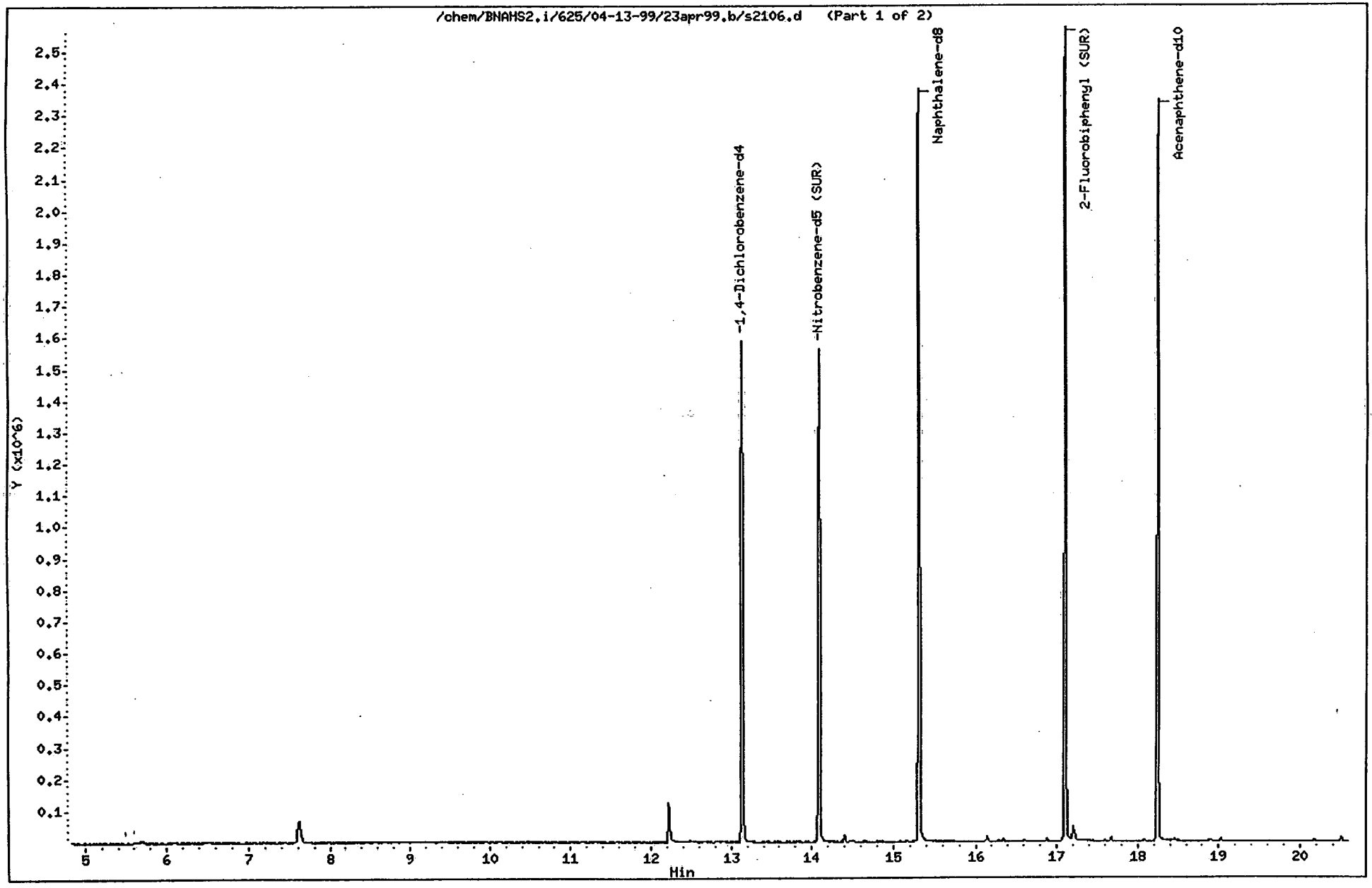
Name	Value	Description
DF	1.000	Dilution Factor
Vt	2.000	Volume of final extract (uL)
Vo	930.000	Volume of sample extracted (mL)

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)
* 79 1,4-Dichlorobenzene-d4	152	13.142	13.149	(1.000)	377557	40.0000	
$ 76 Nitrobenzene-d5 (SUR)	82	14.092	14.109	(0.920)	792077	46.6532	100
* 80 Naphthalene-d8	136	15.318	15.328	(1.000)	1550658	40.0000	
$ 77 2-Fluorobiphenyl (SUR)	172	17.106	17.112	(0.938)	1111601	45.5951	98
* 82 Acenaphthene-d10	164	18.247	18.252	(1.000)	796772	40.0000	
* 83 Phenanthrene-d10	188	20.710	20.725	(1.000)	1243474	40.0000	
$ 78 Terphenyl-d14 (SUR)	244	23.323	23.335	(0.928)	1136853	46.2455	99
* 81 Chrysene-d12	240	25.145	25.170	(1.000)	1113507	40.0000	
* 84 Perylene-d12	264	28.795	28.826	(1.000)	1155061	40.0000	

Data File: /chem/BNAMS2.i/625/04-13-99/23apr99.b/s2106.d
Date : 24-APR-1999 01:53
Client ID: Field_Blank
Sample Info: 125130;930;2;1;;
Purge Volume: 930.0
Column phase: DB-5

Instrument: BNAMS2.i

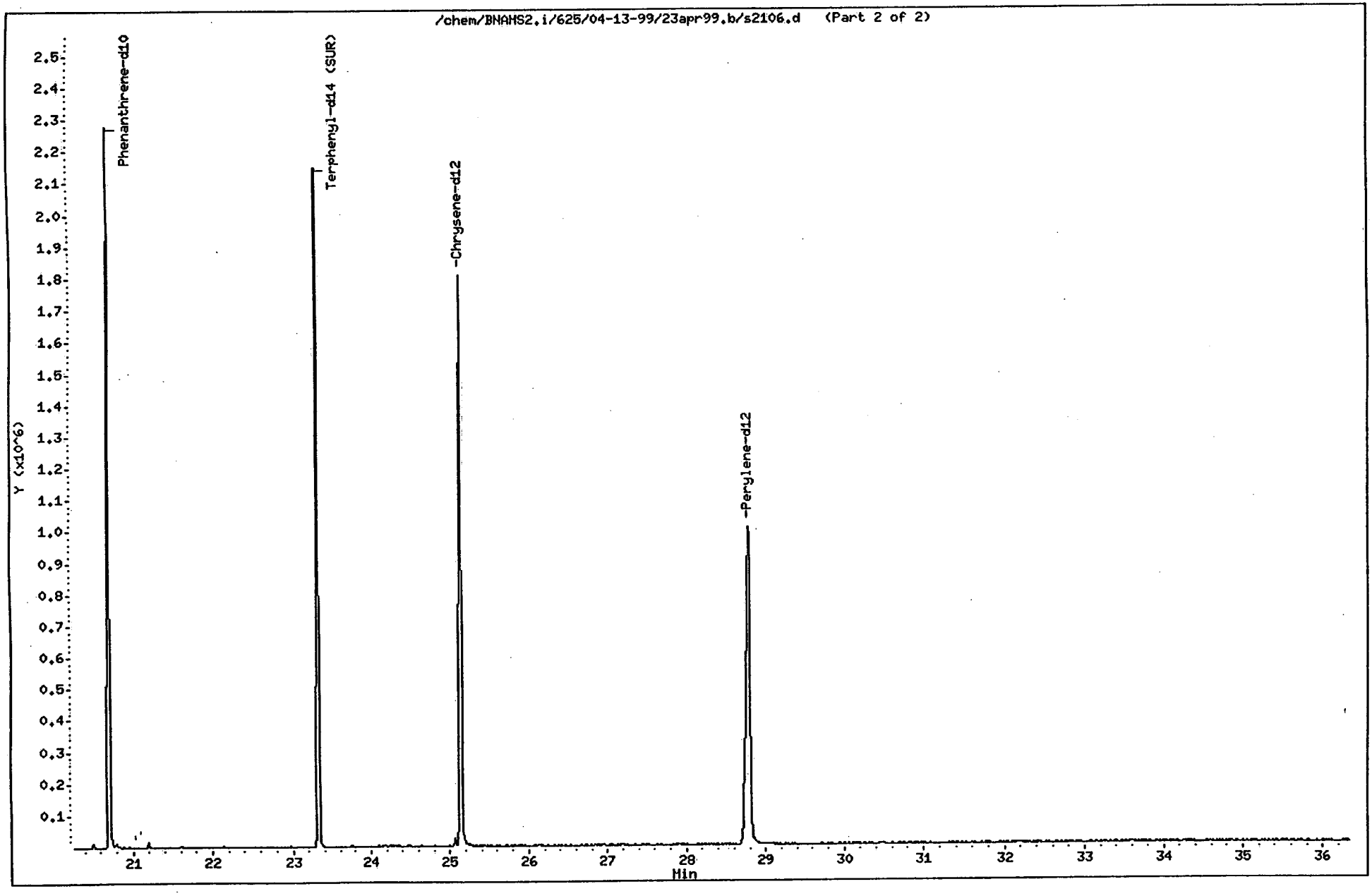
Operator: BNAMS 1
Column diameter: 0.53



Data File: /chem/BNAHS2.i/625/04-13-99/23apr99.b/s2106.d
Date : 24-APR-1999 01:53
Client ID: Field_Blank
Sample Info: 125130;930;2;1;;
Purge Volume: 930.0
Column phase: DB-5

Instrument: BNAHS2.i

Operator: BNAHS 1
Column diameter: 0.53



SEMI-VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab File ID: S1848

DFTPP Injection Date: 04/13/99

Instrument ID: BNAMS2

DFTPP Injection Time: 0843

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	39.1
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	58.3
70	Less than 2.0% of mass 69	0.3 (0.4)1
127	40.0 - 60.0% of mass 198	47.3
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	6.7
275	10.0 - 30.0% of mass 198	19.4
365	Greater than 1.0% of mass 198	1.92
441	0.0 - 100.0% of mass 443	11.0 (82.3)2
442	40.0 - 110.0% of mass 198	69.0
443	17.0 - 23.0% of mass 442	13.4 (19.4)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	SSTD120	SSTD120	S1849	04/13/99	0945
02	SSTD080	SSTD080	S1850	04/13/99	1029
03	SSTD050	SSTD050	S1851	04/13/99	1114
04	SSTD020	SSTD020	S1852	04/13/99	1158
05	SSTD010	SSTD010	S1853	04/13/99	1242
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					

Data File: /chem/BNAMS2.i/625/04-13-99/13apr99.b/s1848.d

Date : 13-APR-1999 08:43

Client ID:

Instrument: BNAMS2.i

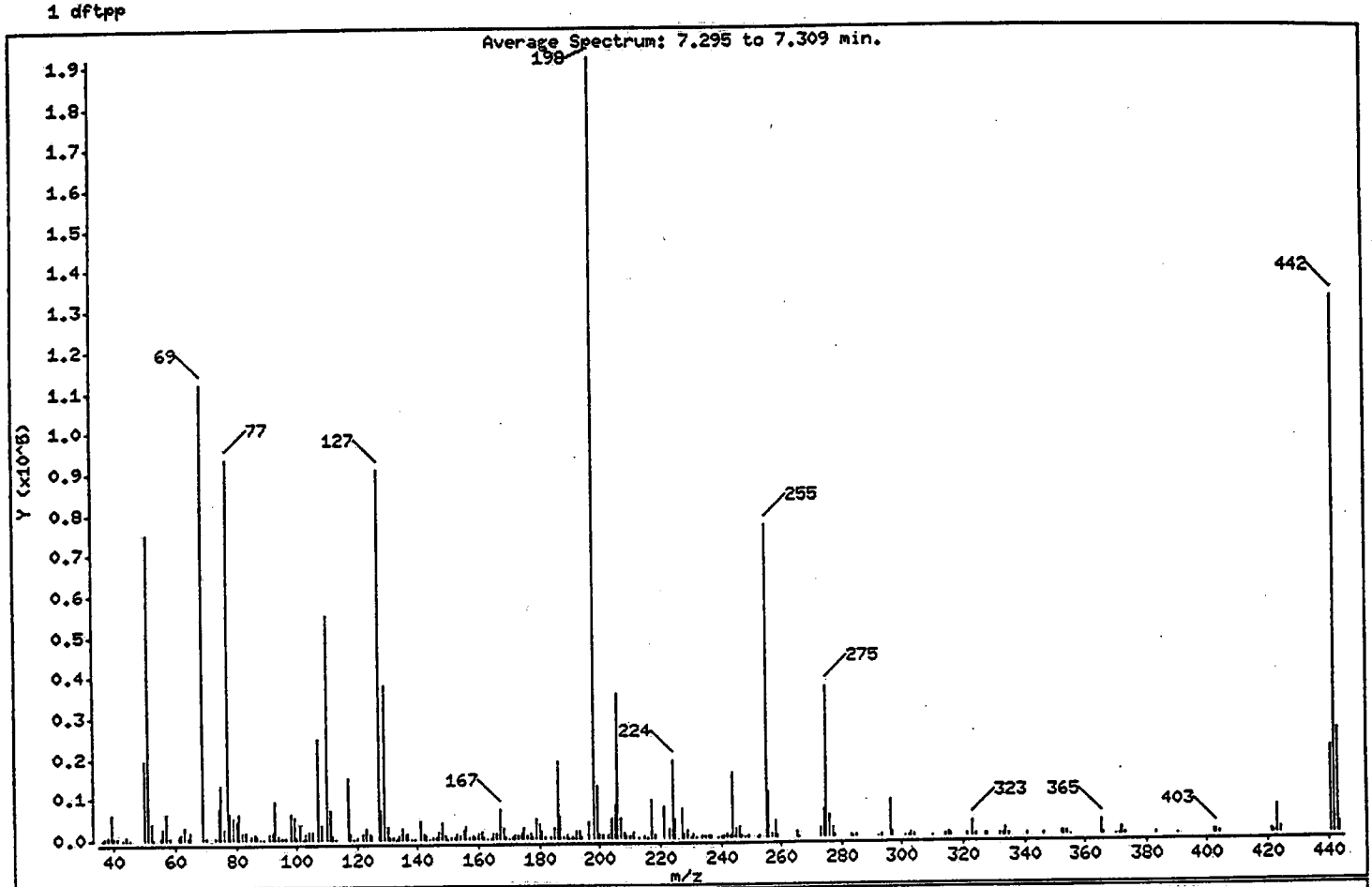
Sample Info: SDFT103

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	39.10
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Mass 69 relative abundance	58.33
70	Less than 2.00% of mass 69	0.26 (0.44)
127	40.00 - 60.00% of mass 198	47.31
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.71
275	10.00 - 30.00% of mass 198	19.37
365	Greater than 1.00% of mass 198	1.92
441	0.01 - 100.00% of mass 443	11.03 (82.28)
442	40.00 - 110.00% of mass 198	68.96
443	17.00 - 23.00% of mass 442	13.41 (19.45)

Data File: /chem/BNAHS2.i/625/04-13-99/13apr99.b/s1848.d

Date : 13-APR-1999 08:43

Client ID:

Instrument: BNAHS2.i

Sample Info: SDFT103

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25

Data File: s1848.d

Spectrum: Average Spectrum: 7.295 to 7.309 min.

Location of Maximum: 198.00

Number of points: 242

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	97	118.00	1222	182.00	229	258.00	3828
37.00	241	119.00	103	184.00	443	259.00	605
38.00	979	120.00	260	185.00	2470	265.00	1440
39.00	6393	122.00	1457	186.00	18848	266.00	206
40.00	401	123.00	2474	187.00	5459	273.00	2375
41.00	341	124.00	1226	188.00	617	274.00	6740
43.00	174	125.00	1034	189.00	1065	275.00	37144
44.00	697	127.00	90744	190.00	178	276.00	5152
45.00	197	128.00	6979	191.00	533	277.00	2352
50.00	19304	129.00	37768	192.00	1657	278.00	374
51.00	75000	130.00	2978	193.00	1882	283.00	319
52.00	3856	131.00	524	194.00	336	284.00	150
53.00	68	132.00	304	196.00	4052	285.00	491
55.00	415	133.00	164	198.00	191808	292.00	71
56.00	2574	134.00	951	199.00	12877	293.00	570
57.00	6297	135.00	2799	200.00	855	296.00	8744
58.00	227	136.00	1118	201.00	709	297.00	1101
61.00	853	137.00	1137	203.00	913	301.00	70
62.00	1135	138.00	189	204.00	4897	302.00	98
63.00	2908	139.00	78	205.00	8045	303.00	1025
64.00	365	141.00	4217	206.00	35696	304.00	230
65.00	1672	142.00	1340	207.00	4743	310.00	88
69.00	111872	143.00	985	208.00	1142	314.00	453
70.00	491	144.00	219	209.00	298	315.00	941
73.00	568	145.00	243	210.00	226	316.00	552
74.00	7648	146.00	649	211.00	1275	321.00	349
75.00	13270	147.00	1850	213.00	78	323.00	3496
76.00	2741	148.00	4012	215.00	263	324.00	525
77.00	93568	149.00	851	216.00	161	327.00	559
78.00	6284	150.00	191	217.00	9217	328.00	323
79.00	5407	151.00	440	218.00	1077	332.00	264
80.00	4475	152.00	247	221.00	7503	333.00	347
81.00	6216	153.00	1264	223.00	2228	334.00	1938
82.00	1708	154.00	1003	224.00	18968	335.00	447
83.00	1558	155.00	2064	225.00	4505	341.00	245

Data File: /chem/BNAHS2.i/625/04-13-99/13apr99.b/s1848.d

Date : 13-APR-1999 08:43

Client ID:

Instrument: BNAHS2.i

Sample Info: SDFT103

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25

Data File: s1848.d

Spectrum: Average Spectrum: 7.295 to 7.309 min.

Location of Maximum: 198.00

Number of points: 242

m/z	Y	m/z	Y	m/z	Y	m/z	Y
85.00	1026	156.00	3006	227.00	6944	346.00	588
86.00	1507	157.00	561	228.00	978	352.00	966
87.00	785	158.00	689	229.00	1566	353.00	675
88.00	192	159.00	510	230.00	195	354.00	916
89.00	77	160.00	1225	231.00	663	355.00	74
91.00	1537	161.00	1824	232.00	68	365.00	3685
92.00	1726	162.00	460	234.00	370	366.00	467
93.00	9310	163.00	73	235.00	530	370.00	69
94.00	673	164.00	218	236.00	256	371.00	97
95.00	289	165.00	1303	237.00	454	372.00	1619
96.00	328	166.00	1345	239.00	220	373.00	434
98.00	6264	167.00	7003	240.00	210	383.00	395
99.00	5255	168.00	2650	241.00	451	390.00	182
100.00	566	169.00	602	242.00	945	402.00	675
101.00	3436	170.00	187	243.00	418	403.00	1000
102.00	161	171.00	278	244.00	16000	404.00	363
103.00	1105	172.00	668	245.00	2315	421.00	966
104.00	1938	173.00	932	246.00	2559	422.00	234
105.00	1679	174.00	1543	247.00	541	423.00	6658
107.00	24688	175.00	2674	248.00	81	424.00	1222
108.00	3643	176.00	887	249.00	507	441.00	21160
110.00	54992	177.00	1180	252.00	87	442.00	132224
111.00	7190	178.00	316	253.00	284	443.00	25720
112.00	886	179.00	5044	255.00	76832	444.00	2392
113.00	210	180.00	3433	256.00	11017		
117.00	14941	181.00	1631	257.00	908		

Data File: /chem/BNAHS2.i/625/04-13-99/13apr99.b/s1848.d

Date : 13-APR-1999 08:43

Client ID:

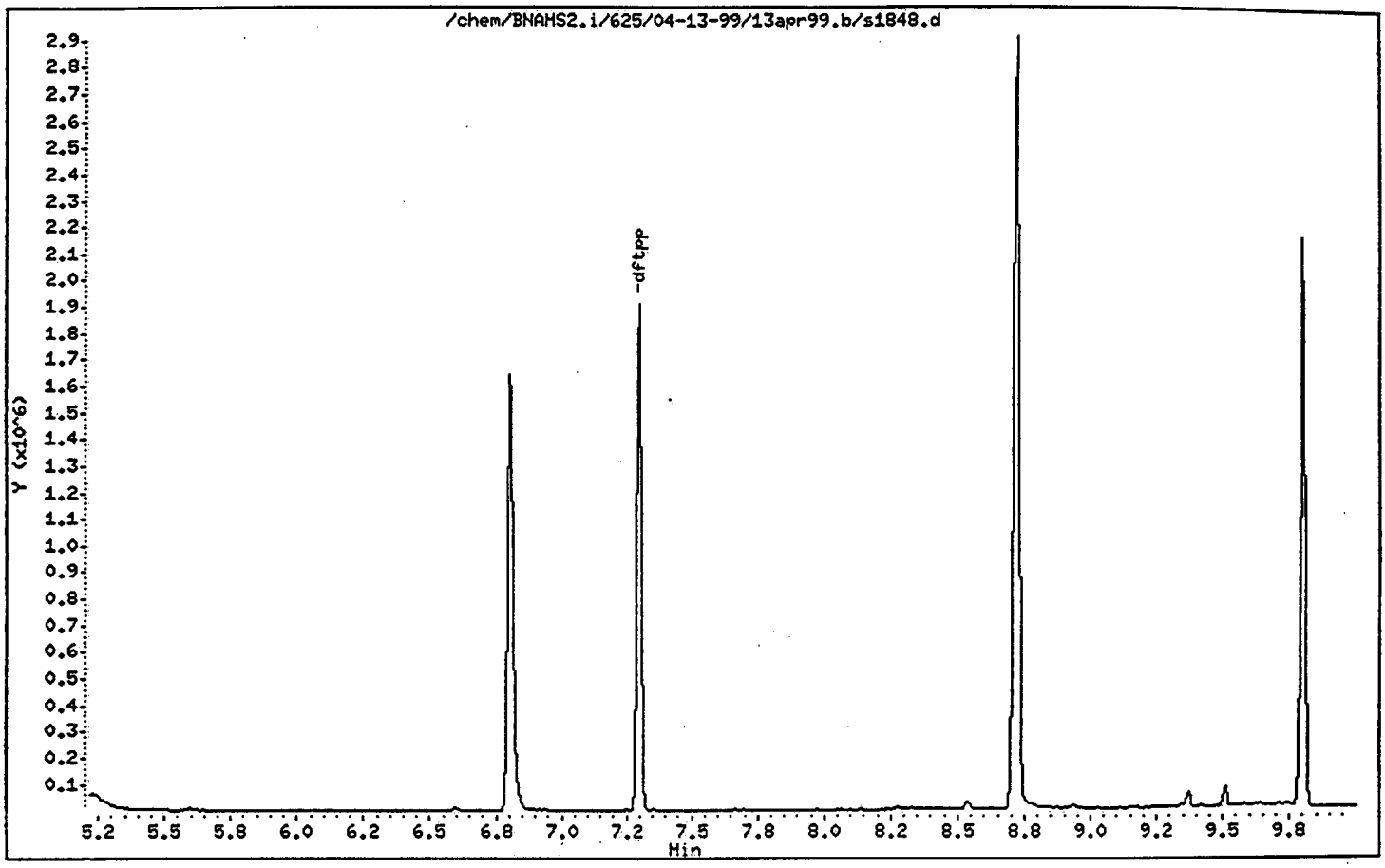
Instrument: BNAHS2.i

Sample Info: SDFT103

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25



SEMI-VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab File ID: S2082 DFTPP Injection Date: 04/23/99

Instrument ID: BNAMS2 DFTPP Injection Time: 0838

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	47.2
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	66.5
70	Less than 2.0% of mass 69	0.2 (0.3)1
127	40.0 - 60.0% of mass 198	52.4
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	7.0
275	10.0 - 30.0% of mass 198	18.8
365	Greater than 1.0% of mass 198	2.05
441	0.0 - 100.0% of mass 443	5.6 (50.8)2
442	40.0 - 110.0% of mass 198	54.5
443	17.0 - 23.0% of mass 442	10.9 (20.1)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	SSTD113	SSTD113	S2083	04/23/99	0858
02	WB112	WB112	S2088	04/23/99	1242
03	MW-15S	125118	S2097	04/23/99	1918
04	MW-15I	125119	S2098	04/23/99	2003
05	MW-14I	125120	S2099	04/23/99	2047
06	MW-22	125121	S2100	04/23/99	2130
07	MW-25	125122	S2101	04/23/99	2214
08	MW-21	125123	S2102	04/23/99	2258
09	MW-17	125127	S2104	04/24/99	0026
10	FIELD_BLANK	125130	S2106	04/24/99	0153
11					
12					
13					
14					
15					
16					
17					
18					

Data File: /chem/BNAMS2.i/625/04-13-99/23apr99.b/s2082.d

Date : 23-APR-1999 08:38

Client ID:

Instrument: BNAMS2.i

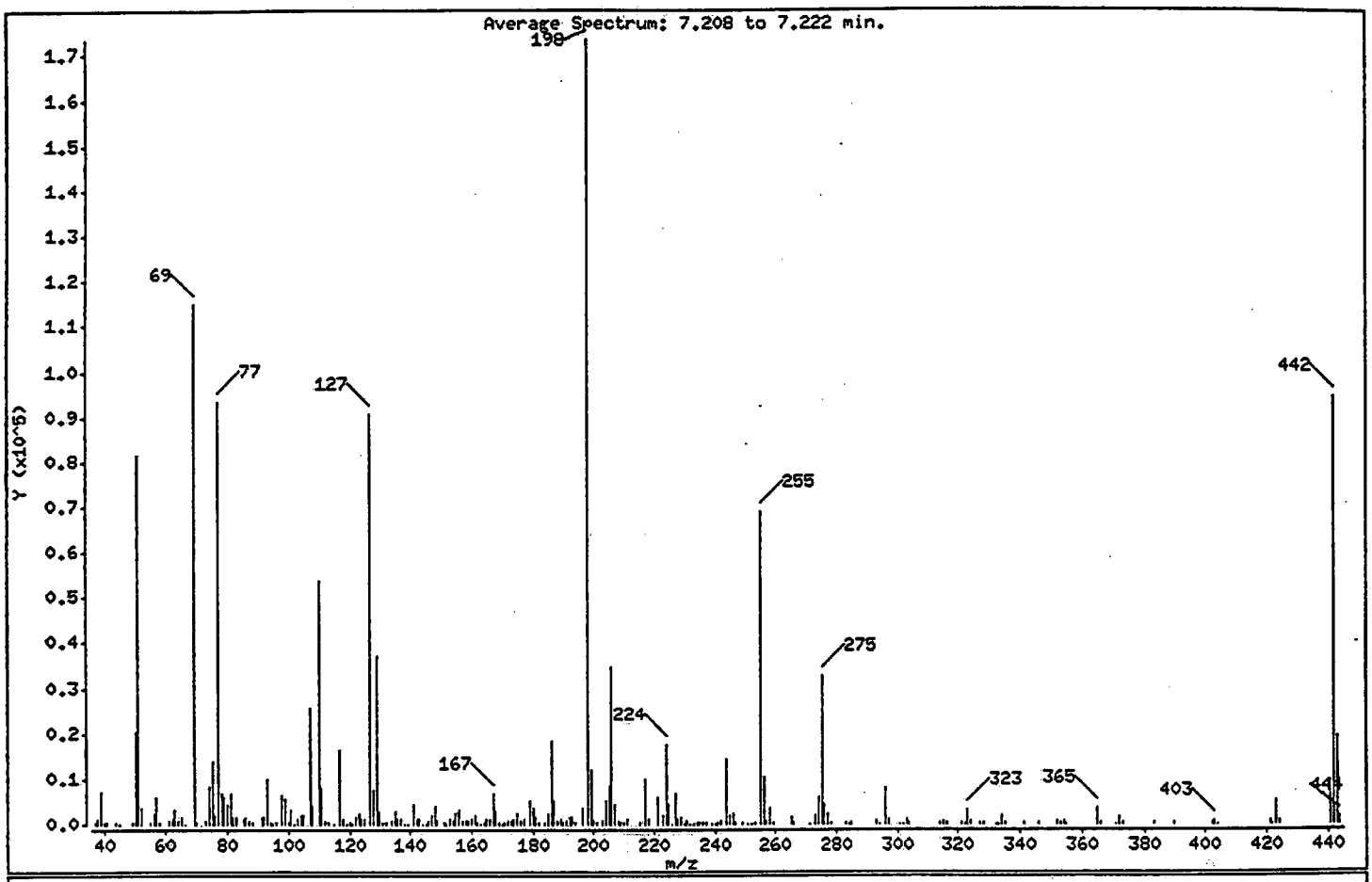
Sample Info: SDFT113

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	47.19
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Mass 69 relative abundance	66.53
70	Less than 2.00% of mass 69	0.22 (0.32)
127	40.00 - 60.00% of mass 198	52.37
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.98
275	10.00 - 30.00% of mass 198	18.77
365	Greater than 1.00% of mass 198	2.05
441	0.01 - 100.00% of mass 443	5.56 (50.77)
442	40.00 - 110.00% of mass 198	54.50
443	17.00 - 23.00% of mass 442	10.95 (20.08)

Data File: /chem/BNAMS2.i/625/04-13-99/23apr99.b/s2082.d

Date : 23-APR-1999 08:38

Client ID: Instrument: BNAMS2.i

Sample Info: SDFT113

Operator: BNA2

Column phase: DB-5 Column diameter: 0.25

Data File: s2082.d
Spectrum: Average Spectrum: 7.208 to 7.222 min.
Location of Maximum: 198.00
Number of points: 238

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	314	118.00	1105	184.00	498	259.00	533
38.00	1150	119.00	73	185.00	2514	265.00	1425
39.00	7057	120.00	308	186.00	18488	266.00	218
40.00	529	121.00	73	187.00	5189	271.00	177
41.00	339	122.00	1445	188.00	622	273.00	2176
44.00	413	123.00	2441	189.00	1105	274.00	6036
45.00	87	124.00	1123	190.00	234	275.00	32472
49.00	265	125.00	1051	191.00	663	276.00	4394
50.00	20472	127.00	90624	192.00	1626	277.00	2311
51.00	81656	128.00	7470	193.00	1569	278.00	309
52.00	3777	129.00	36992	194.00	408	283.00	318
55.00	489	130.00	2928	196.00	3633	284.00	100
56.00	2557	131.00	583	198.00	172992	285.00	359
57.00	5976	132.00	253	199.00	12075	293.00	662
58.00	266	134.00	953	200.00	770	294.00	113
61.00	881	135.00	2748	201.00	583	296.00	8140
62.00	1135	136.00	1121	203.00	915	297.00	998
63.00	3201	137.00	1187	204.00	5057	301.00	69
64.00	602	138.00	166	205.00	8366	302.00	154
65.00	1559	139.00	70	206.00	34488	303.00	1001
66.00	75	141.00	4490	207.00	4510	304.00	244
69.00	115112	142.00	1374	208.00	917	314.00	387
70.00	374	143.00	1001	209.00	457	315.00	939
73.00	684	144.00	83	210.00	225	316.00	454
74.00	8387	145.00	102	211.00	1173	321.00	244
75.00	13752	146.00	641	215.00	372	322.00	93
76.00	2084	147.00	2016	217.00	9757	323.00	3084
77.00	93648	148.00	4024	218.00	1039	324.00	610
78.00	6768	149.00	784	221.00	6121	327.00	435
79.00	5887	151.00	481	223.00	2122	328.00	209
80.00	4560	152.00	119	224.00	17624	332.00	197
81.00	6930	153.00	1309	225.00	4268	333.00	143
82.00	1685	154.00	822	226.00	95	334.00	1848
83.00	1629	155.00	2371	227.00	6930	335.00	425
85.00	1071	156.00	3281	228.00	1155	341.00	306

Data File: /chem/BNAMS2.i/625/04-13-99/23apr99.b/s2082.d

Date : 23-APR-1999 08:38

Client ID:

Instrument: BNAMS2.i

Sample Info: SDFT113

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25

Data File: s2082.d

Spectrum: Average Spectrum: 7.208 to 7.222 min.

Location of Maximum: 198.00

Number of points: 238

m/z	Y	m/z	Y	m/z	Y	m/z	Y
86.00	1556	157.00	620	229.00	1482	346.00	467
87.00	819	158.00	619	230.00	154	352.00	804
88.00	368	159.00	718	231.00	602	353.00	579
91.00	1491	160.00	1047	232.00	68	354.00	798
92.00	1605	161.00	1891	233.00	76	355.00	89
93.00	10025	162.00	523	234.00	421	365.00	3554
94.00	580	163.00	68	235.00	467	366.00	521
95.00	153	164.00	238	236.00	346	371.00	92
96.00	456	165.00	1308	237.00	444	372.00	1396
98.00	6517	166.00	1060	239.00	115	373.00	306
99.00	5612	167.00	6814	240.00	75	383.00	363
100.00	501	168.00	2749	241.00	415	390.00	200
101.00	3297	169.00	577	242.00	813	402.00	533
102.00	76	170.00	97	244.00	14386	403.00	809
103.00	1071	171.00	263	245.00	2003	404.00	194
104.00	2080	172.00	721	246.00	2550	421.00	627
105.00	1853	173.00	784	247.00	465	422.00	120
107.00	25440	174.00	1364	249.00	426	423.00	5074
108.00	4061	175.00	2370	251.00	87	424.00	870
110.00	53784	176.00	749	252.00	90	441.00	9616
111.00	7760	177.00	1198	253.00	246	442.00	94296
112.00	778	179.00	5327	255.00	68968	443.00	18936
113.00	237	180.00	3433	256.00	10265	444.00	1760
115.00	83	181.00	1595	257.00	955		
117.00	16295	182.00	289	258.00	3454		

Data File: /chem/BNAMS2.i/625/04-13-99/23apr99.b/s2082.d

Date : 23-APR-1999 08:38

Client ID:

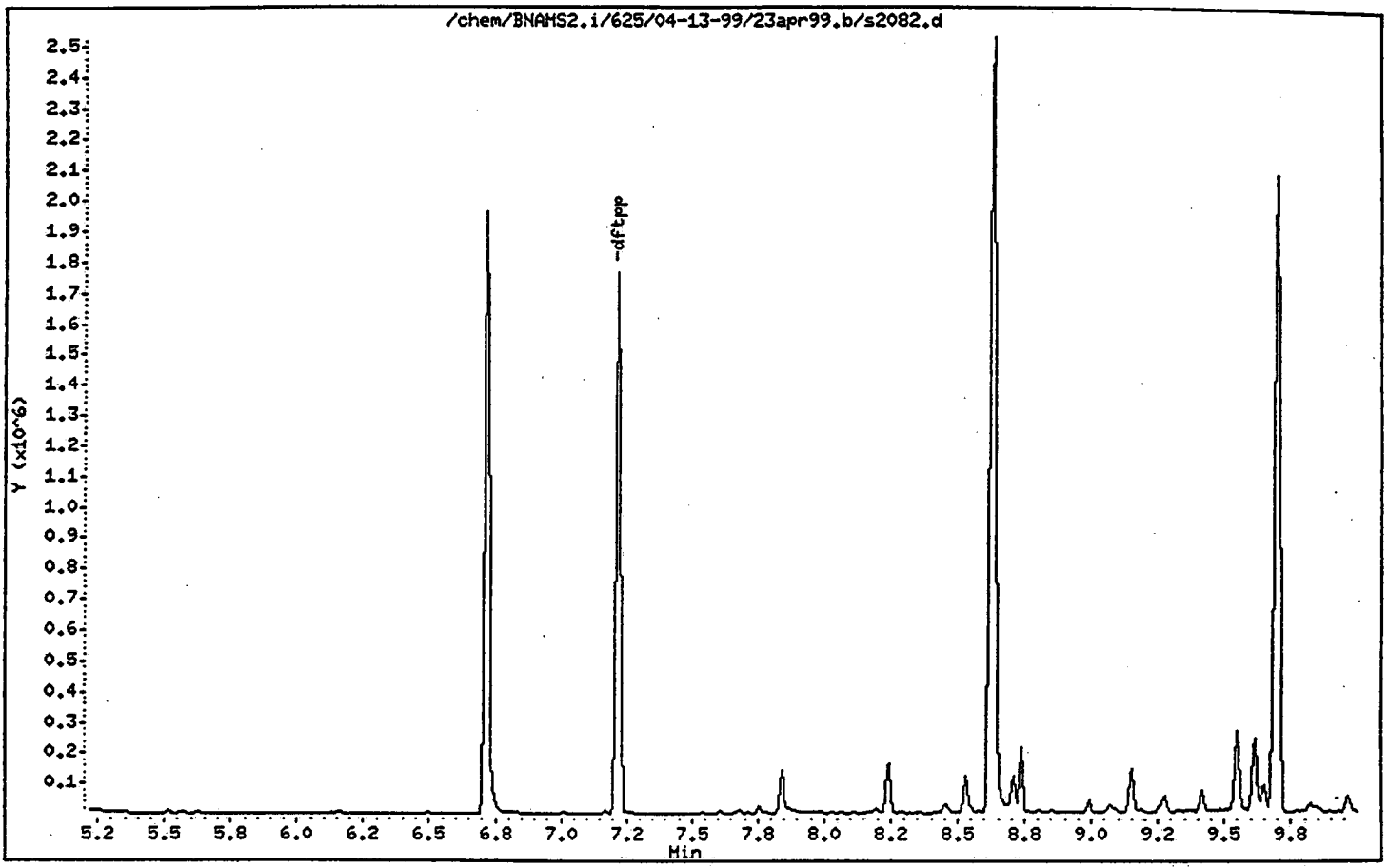
Instrument: BNAMS2.i

Sample Info: SDFT113

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25



SEMI-VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab File ID: S2119 DFTPP Injection Date: 04/26/99

Instrument ID: BNAMS2 DFTPP Injection Time: 0841

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0% of mass 198	48.3	
68	Less than 2.0% of mass 69	0.0	(0.0)1
69	Mass 69 relative abundance	67.9	
70	Less than 2.0% of mass 69	0.3	(0.4)1
127	40.0 - 60.0% of mass 198	53.1	
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	6.8	
275	10.0 - 30.0% of mass 198	19.0	
365	Greater than 1.0% of mass 198	1.94	
441	0.0 - 100.0% of mass 443	8.9	(85.0)2
442	40.0 - 110.0% of mass 198	52.9	
443	17.0 - 23.0% of mass 442	10.4	(19.7)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	SSTD116	SSTD116	S2120	04/26/99	0903
02	MW-4D	125128	S2132	04/26/99	1752
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					

Data File: /chem/BNAMS2.i/625/04-13-99/26apr99.b/s2119.d

Date : 26-APR-1999 08:41

Client ID:

Instrument: BNAMS2.i

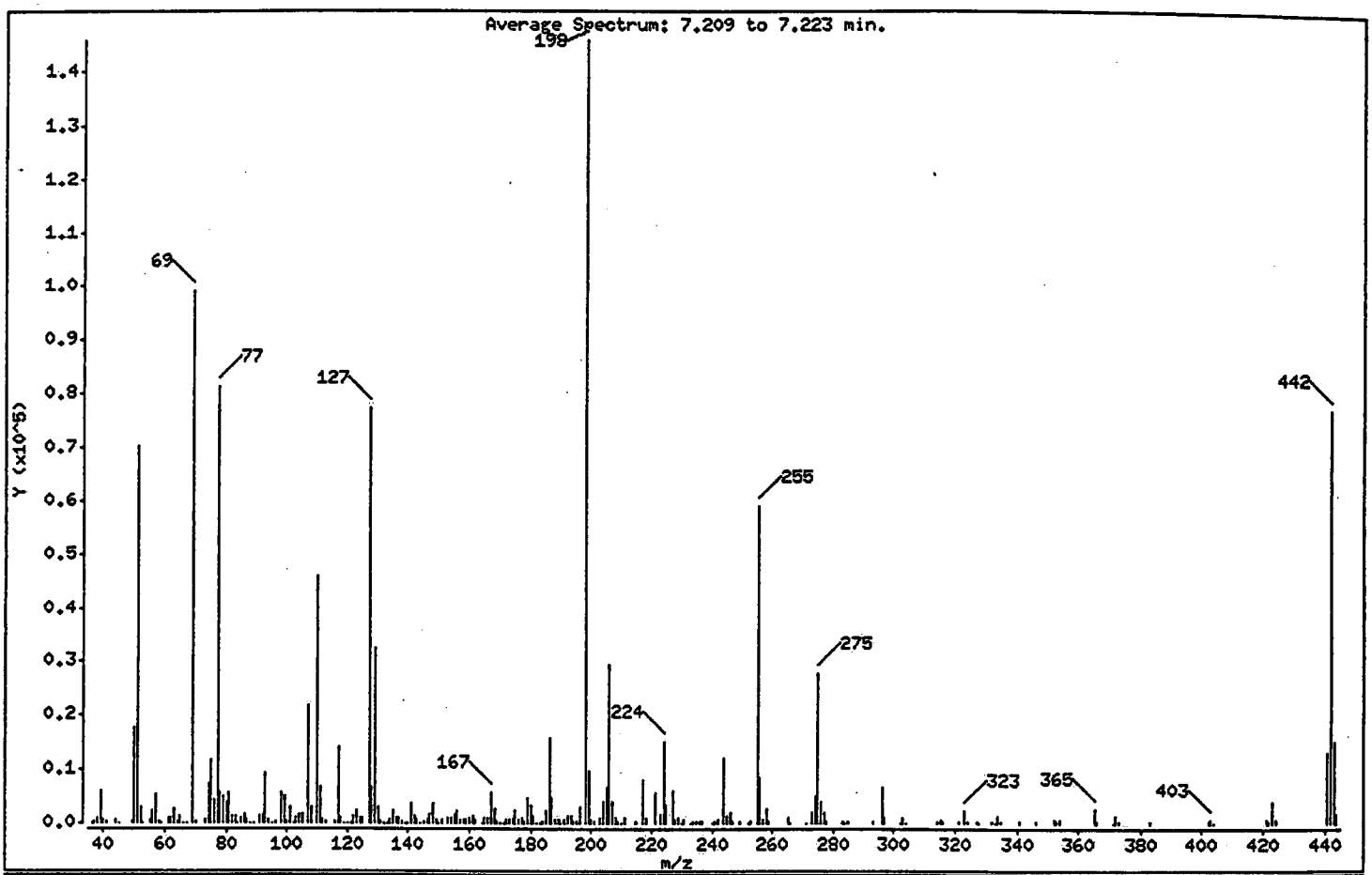
Sample Info: SDFT116

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	48.27
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Mass 69 relative abundance	67.93
70	Less than 2.00% of mass 69	0.25 (0.37)
127	40.00 - 60.00% of mass 198	53.12
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.76
275	10.00 - 30.00% of mass 198	18.98
365	Greater than 1.00% of mass 198	1.94
441	0.01 - 100.00% of mass 443	8.85 (84.99)
442	40.00 - 110.00% of mass 198	52.91
443	17.00 - 23.00% of mass 442	10.41 (19.68)

Data File: /chem/BNAMS2.i/625/04-13-99/26apr99.b/s2119.d

Date : 26-APR-1999 08:41

Client ID:

Instrument: BNAMS2.i

Sample Info: SDFT116

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25

Data File: s2119.d

Spectrum: Average Spectrum: 7.209 to 7.223 min.

Location of Maximum: 198.00

Number of points: 239

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	69	110.00	45728	175.00	2274	252.00	75
37.00	202	111.00	6693	176.00	690	253.00	193
38.00	1025	112.00	775	177.00	895	255.00	58864
39.00	6155	113.00	296	178.00	303	256.00	8462
40.00	678	116.00	493	179.00	4532	257.00	683
41.00	356	117.00	14064	180.00	3398	258.00	2736
44.00	531	118.00	1004	181.00	1452	259.00	452
45.00	157	119.00	70	182.00	146	265.00	1042
49.00	231	120.00	93	183.00	67	266.00	157
50.00	17792	121.00	69	184.00	262	271.00	67
51.00	70328	122.00	1297	185.00	2304	273.00	2035
52.00	3018	123.00	2220	186.00	15728	274.00	5006
53.00	70	124.00	1032	187.00	4630	275.00	27656
55.00	515	125.00	884	188.00	527	276.00	3977
56.00	2203	127.00	77392	189.00	837	277.00	2013
57.00	5503	128.00	6711	190.00	80	278.00	202
58.00	289	129.00	32560	191.00	618	283.00	182
59.00	74	130.00	2932	192.00	1379	284.00	70
61.00	847	131.00	486	193.00	1359	285.00	274
62.00	1016	132.00	153	194.00	314	293.00	415
63.00	2770	133.00	68	195.00	175	296.00	6661
64.00	427	134.00	796	196.00	3021	297.00	883
65.00	1468	135.00	2221	198.00	145664	302.00	79
66.00	71	136.00	979	199.00	9850	303.00	859
67.00	73	137.00	1141	200.00	677	304.00	154
69.00	98968	138.00	188	201.00	490	314.00	308
70.00	367	139.00	79	203.00	844	315.00	660
73.00	621	140.00	167	204.00	3954	316.00	303
74.00	7280	141.00	3566	205.00	6830	321.00	180
75.00	11809	142.00	1188	206.00	29392	323.00	2398
76.00	4303	143.00	739	207.00	3920	324.00	451
77.00	81400	144.00	78	208.00	993	327.00	338
78.00	5819	145.00	180	209.00	243	328.00	126
79.00	5114	146.00	579	210.00	141	332.00	177
80.00	3949	147.00	1750	211.00	1111	333.00	94

Data File: /chem/BNAMS2.i/625/04-13-99/26apr99.b/s2119.d

Date : 26-APR-1999 08:41

Client ID:

Instrument: BNAMS2.i

Sample Info: SDFT116

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25

Data File: s2119.d

Spectrum: Average Spectrum: 7.209 to 7.223 min.

Location of Maximum: 198.00

Number of points: 239

m/z	Y	m/z	Y	m/z	Y	m/z	Y
81.00	5827	148.00	3600	215.00	204	334.00	1427
82.00	1307	149.00	695	217.00	8014	335.00	325
83.00	1276	150.00	117	218.00	945	341.00	207
84.00	149	151.00	553	221.00	5537	346.00	363
85.00	855	153.00	1046	223.00	1745	352.00	695
86.00	1579	154.00	912	224.00	15114	353.00	431
87.00	755	155.00	1765	225.00	3491	354.00	613
88.00	89	156.00	2462	227.00	6003	365.00	2833
89.00	113	157.00	511	228.00	821	366.00	204
91.00	1200	158.00	631	229.00	1142	371.00	79
92.00	1508	159.00	517	230.00	88	372.00	1306
93.00	9305	160.00	1002	231.00	556	373.00	255
94.00	646	161.00	1458	233.00	74	383.00	312
95.00	100	162.00	508	234.00	398	402.00	444
96.00	393	164.00	78	235.00	396	403.00	597
98.00	5735	165.00	1124	236.00	257	404.00	78
99.00	4891	166.00	1098	237.00	368	421.00	573
100.00	452	167.00	5798	240.00	97	422.00	351
101.00	2913	168.00	2665	241.00	417	423.00	3955
102.00	71	169.00	443	242.00	808	424.00	824
103.00	840	170.00	75	244.00	11940	441.00	12896
104.00	1727	171.00	111	245.00	1496	442.00	77088
105.00	1640	172.00	611	246.00	2013	443.00	15173
107.00	21728	173.00	766	247.00	430	444.00	1530
108.00	3130	174.00	1083	249.00	417		

Data File: /chem/BNAMS2.i/625/04-13-99/26apr99.b/s2119.d

Date : 26-APR-1999 08:41

Client ID:

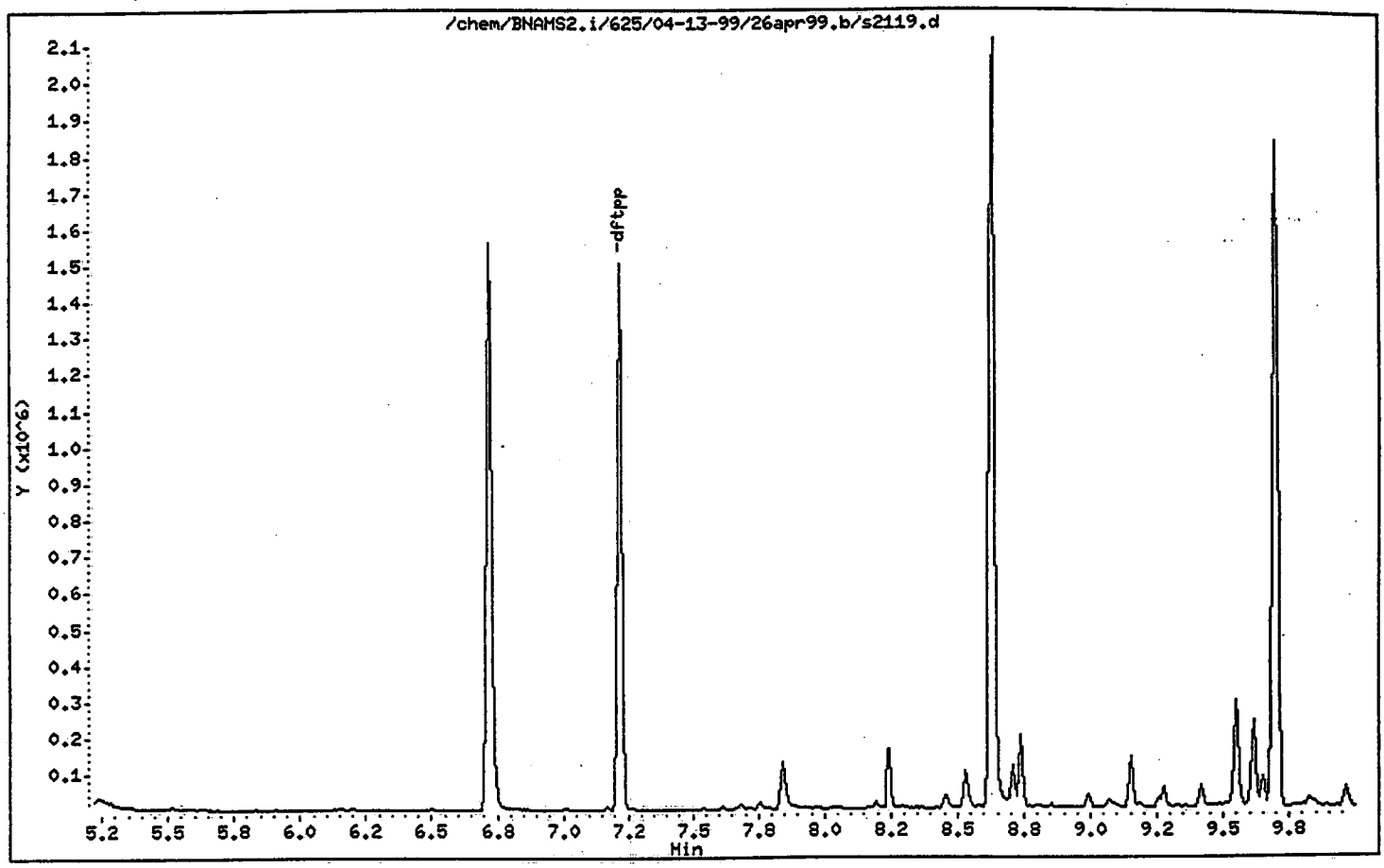
Instrument: BNAMS2.i

Sample Info: SDFT116

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25



SEMI-VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab File ID: S2218 DFTPP Injection Date: 04/29/99

Instrument ID: BNAMS2 DFTPP Injection Time: 0858

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0% of mass 198	48.2	
68	Less than 2.0% of mass 69	0.0	(0.0)1
69	Mass 69 relative abundance	68.9	
70	Less than 2.0% of mass 69	0.3	(0.4)1
127	40.0 - 60.0% of mass 198	52.0	
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	6.7	
275	10.0 - 30.0% of mass 198	18.2	
365	Greater than 1.0% of mass 198	1.85	
441	0.0 - 100.0% of mass 443	5.1	(48.5)2
442	40.0 - 110.0% of mass 198	53.4	
443	17.0 - 23.0% of mass 442	10.5	(19.6)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	SSTD119	SSTD119	S2219	04/29/99	0921
02	MW-4	125126	S2222	04/29/99	1139
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					

Data File: /chem/BNAMS2.i/625/04-13-99/29apr99.b/s2218.d

Date : 29-APR-1999 08:58

Client ID:

Instrument: BNAMS2.i

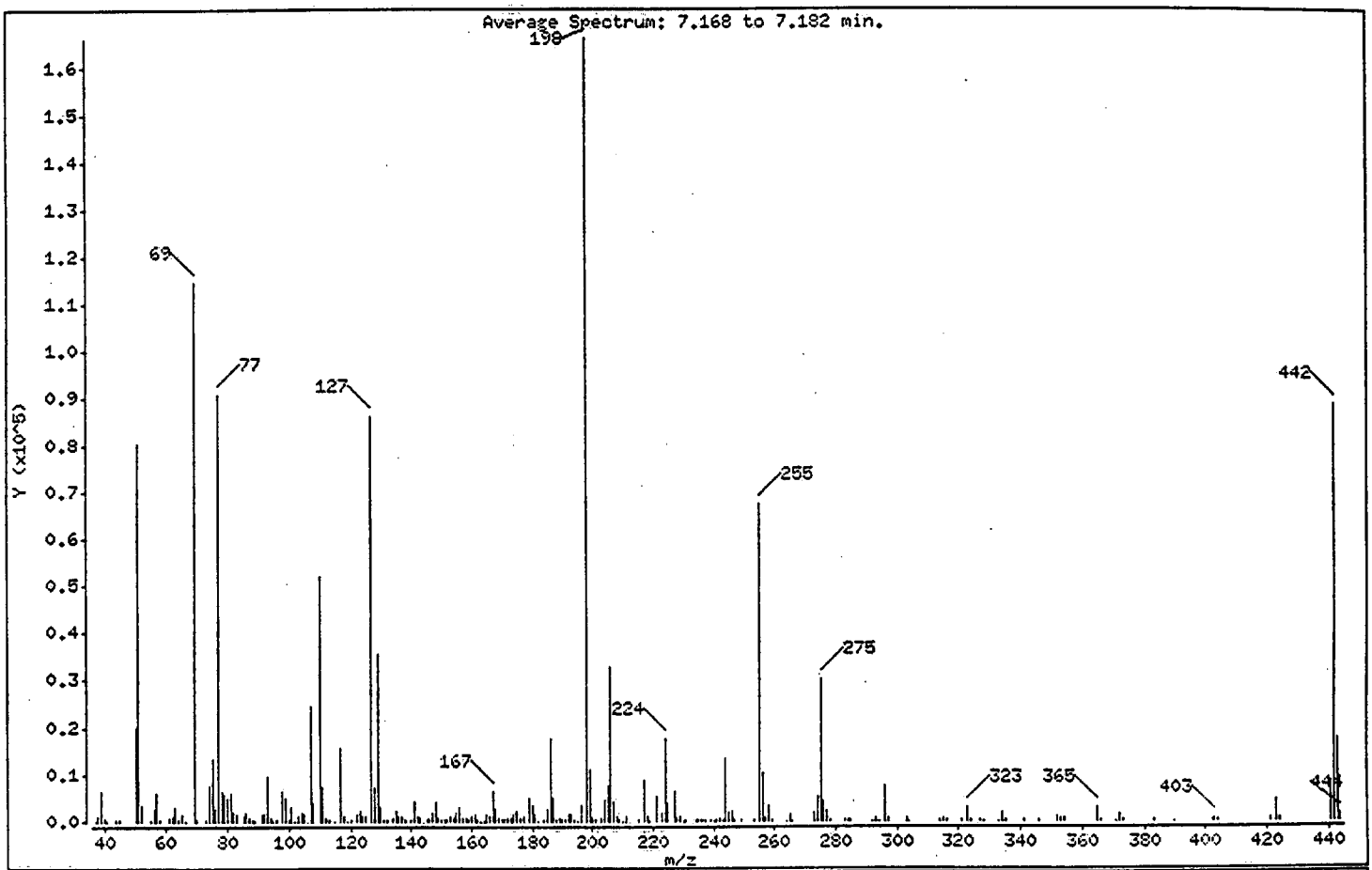
Sample Info: SDFT119

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	48.18
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Mass 69 relative abundance	68.88
70	Less than 2.00% of mass 69	0.25 (0.36)
127	40.00 - 60.00% of mass 198	52.02
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.69
275	10.00 - 30.00% of mass 198	18.25
365	Greater than 1.00% of mass 198	1.85
441	0.01 - 100.00% of mass 443	5.08 (48.53)
442	40.00 - 110.00% of mass 198	53.39
443	17.00 - 23.00% of mass 442	10.47 (19.61)

Data File: /chem/BNAMS2.i/625/04-13-99/29apr99.b/s2218.d

Date : 29-APR-1999 08:58

Client ID:

Instrument: BNAMS2.i

Sample Info: SDFT119

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25

Data File: s2218.d

Spectrum: Average Spectrum: 7.168 to 7.182 min.

Location of Maximum: 198.00

Number of points: 230

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	171	115.00	74	180.00	3268	256.00	10148
38.00	1115	117.00	15700	181.00	1560	257.00	789
39.00	6389	118.00	1209	182.00	104	258.00	3285
40.00	804	119.00	177	184.00	464	259.00	544
41.00	167	120.00	281	185.00	2550	264.00	73
44.00	457	122.00	1382	186.00	17608	265.00	1565
45.00	198	123.00	2409	187.00	4946	266.00	175
50.00	20048	124.00	1104	188.00	483	273.00	2088
51.00	80056	125.00	1040	189.00	899	274.00	5518
52.00	3360	127.00	86440	190.00	241	275.00	30320
55.00	500	128.00	7151	191.00	483	276.00	4130
56.00	2513	129.00	35472	192.00	1431	277.00	2266
57.00	5927	130.00	2920	193.00	1517	278.00	340
58.00	245	131.00	517	194.00	367	283.00	228
61.00	920	132.00	319	195.00	99	284.00	203
62.00	1134	134.00	899	196.00	3356	285.00	412
63.00	3052	135.00	2339	198.00	166144	292.00	84
64.00	399	136.00	1116	199.00	11115	293.00	635
65.00	1678	137.00	1260	200.00	695	294.00	91
66.00	68	138.00	300	201.00	521	296.00	7636
69.00	114456	140.00	263	203.00	952	297.00	936
70.00	416	141.00	4131	204.00	4489	303.00	927
73.00	526	142.00	1293	205.00	7593	304.00	174
74.00	7733	143.00	378	206.00	32792	314.00	380
75.00	13264	145.00	194	207.00	4291	315.00	837
76.00	2593	146.00	653	208.00	1090	316.00	477
77.00	90848	147.00	1926	209.00	438	321.00	278
78.00	6407	148.00	4014	210.00	183	323.00	2882
79.00	5868	149.00	718	211.00	1168	324.00	556
80.00	4832	150.00	197	215.00	339	327.00	371
81.00	6069	151.00	523	217.00	8621	328.00	172
82.00	1740	152.00	216	218.00	1011	333.00	131
83.00	1430	153.00	1221	219.00	80	334.00	1767
85.00	1100	154.00	944	221.00	5508	335.00	342
86.00	1760	155.00	1978	223.00	2047	341.00	246

Data File: /chem/BNAMS2.i/625/04-13-99/29apr99.b/s2218.d

Date : 29-APR-1999 08:58

Client ID:

Instrument: BNAMS2.i

Sample Info: SDFT119

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25

Data File: s2218.d
Spectrum: Average Spectrum: 7.168 to 7.182 min.
Location of Maximum: 198.00
Number of points: 230

m/z	Y	m/z	Y	m/z	Y	m/z	Y
87.00	705	156.00	3182	224.00	17640	346.00	337
88.00	321	157.00	595	225.00	3925	352.00	1004
89.00	77	158.00	694	227.00	6372	353.00	624
91.00	1390	159.00	524	228.00	936	354.00	701
92.00	1659	160.00	1043	229.00	1321	365.00	3077
93.00	9601	161.00	1654	230.00	77	366.00	372
94.00	633	162.00	529	231.00	485	371.00	102
95.00	77	163.00	66	234.00	397	372.00	1488
96.00	340	164.00	105	235.00	470	373.00	353
98.00	6389	165.00	1510	236.00	315	383.00	330
99.00	5155	166.00	1239	237.00	557	390.00	89
100.00	439	167.00	6348	239.00	201	402.00	523
101.00	3192	168.00	2628	240.00	190	403.00	732
102.00	187	169.00	577	241.00	307	404.00	222
103.00	1121	170.00	250	242.00	920	421.00	634
104.00	2022	171.00	282	243.00	303	423.00	4613
105.00	1691	172.00	594	244.00	13335	424.00	859
107.00	24352	173.00	728	245.00	1730	441.00	8446
108.00	3783	174.00	1353	246.00	2248	442.00	88720
110.00	51960	175.00	2366	247.00	454	443.00	17400
111.00	7248	176.00	793	249.00	410	444.00	1456
112.00	717	177.00	977	253.00	226		
113.00	222	179.00	5046	255.00	67160		

Data File: /chem/BNAMS2.i/625/04-13-99/29apr99.b/s2218.d

Date : 29-APR-1999 08:58

Client ID:

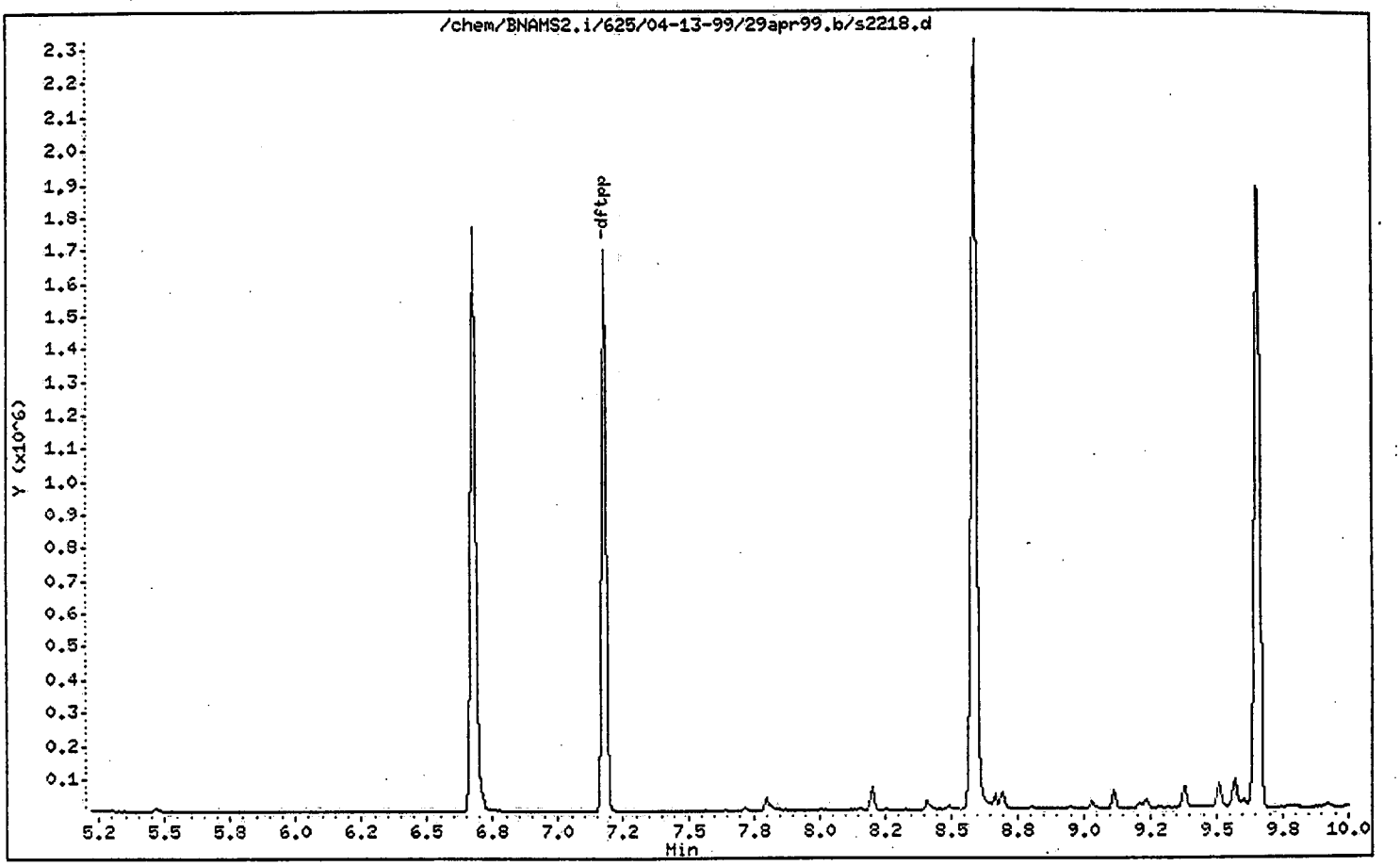
Instrument: BNAMS2.i

Sample Info: SDFT119

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25



LAB SAMPLE NO.

WB112

SEMIVOLATILE METHOD BLANK SUMMARY

Matrix: WATER

Level: LOW

Instrument ID: BNAMS2

Date Analyzed: 04/23/99

Time Analyzed: 1242

Lab File ID: S2088

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

	CLIENT ID.	LAB SAMPLE NO	LAB FILE ID	DATE ANALYZED
01	MW-15S	125118	S2097	04/23/99
02	MW-15I	125119	S2098	04/23/99
03	MW-14I	125120	S2099	04/23/99
04	MW-22	125121	S2100	04/23/99
05	MW-25	125122	S2101	04/23/99
06	MW-21	125123	S2102	04/23/99
07	MW-17	125127	S2104	04/24/99
08	FIELD_BLANK	125130	S2106	04/24/99
09	MW-4D	125128	S2132	04/26/99
10	MW-4	125126	S2222	04/29/99
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

Client ID: **WB112**
Site:

Lab Sample No: **WB112**
Lab Job No: N540

Date Sampled: _____
Date Received: _____
Date Extracted: 04/22/99
Date Analyzed: 04/23/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s2088.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	1.8
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	0.5
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: **WB112**
Site:

Lab Sample No: **WB112**
Lab Job No: N540

Date Sampled: _____
Date Received: _____
Date Extracted: 04/22/99
Date Analyzed: 04/23/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s2088.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: **WB112**
Site:

Lab Sample No: **WB112**
Lab Job No: N540

Date Sampled: _____
Date Received: _____
Date Extracted: 04/22/99
Date Analyzed: 04/23/99
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s2088.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.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			
26.			
27.			
28.			
29.			
30.			

TOTAL ESTIMATED CONCENTRATION	0.0

Data File: /chem/BNAMS2.i/625/04-13-99/23apr99.b/s2088.d
Report Date: 23-Apr-1999 13:32

STL Envirotech

SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS2.i/625/04-13-99/23apr99.b/s2088.d
Lab Smp Id: WB112 Client Smp ID: BN
Inj Date : 23-APR-1999 12:42
Operator : BNAMS 1 Inst ID: BNAMS2.i
Smp Info : WB112;1000;2;1;;
Misc Info : WB112;BN;;
Comment :
Method : /chem/BNAMS2.i/625/04-13-99/23apr99.b/BNA625b.m
Meth Date : 23-Apr-1999 09:36 B Quant Type: ISTD
Cal Date : 13-APR-1999 12:42 Cal File: s1853.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

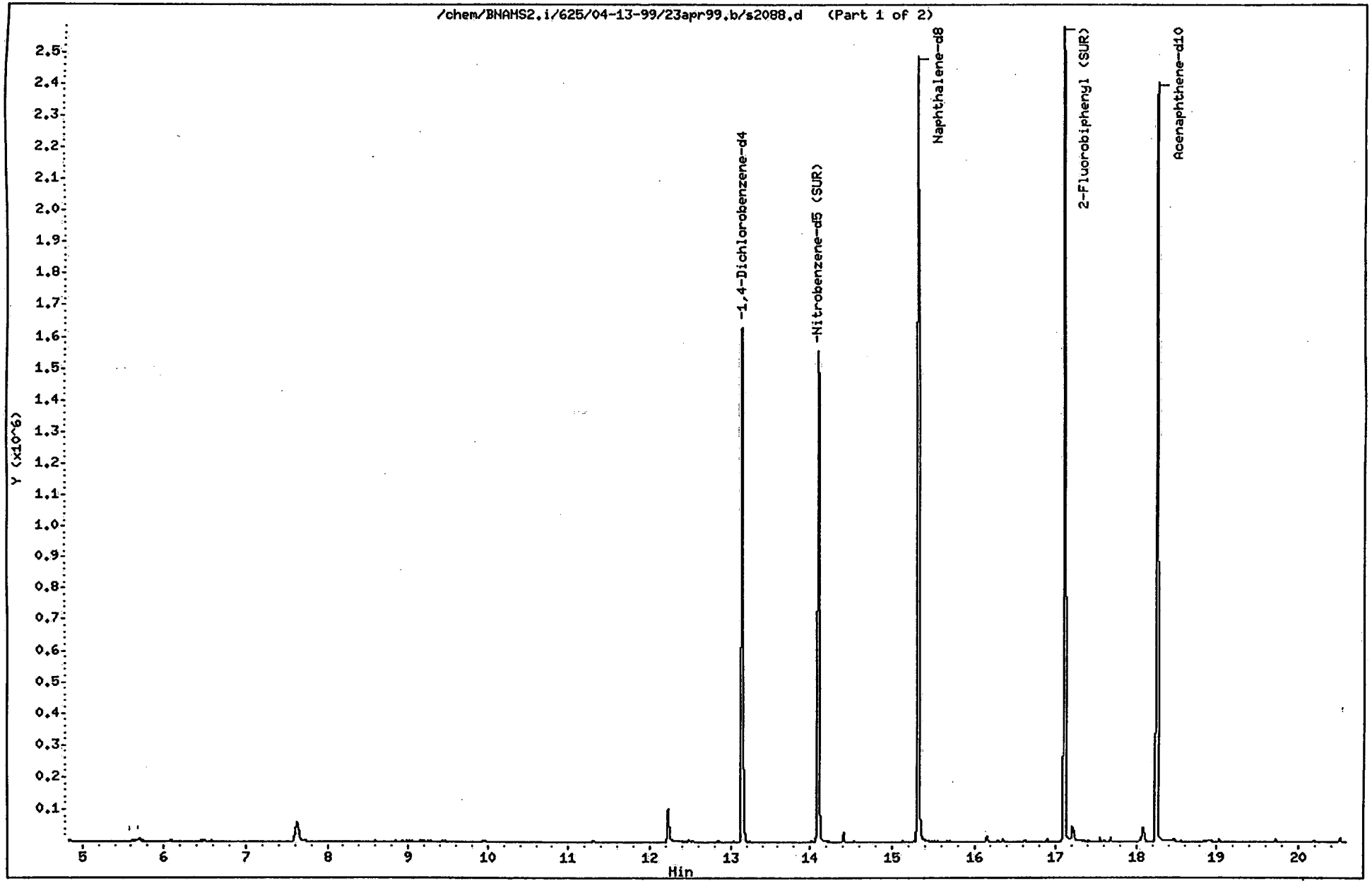
Name	Value	Description
DF	1.000	Dilution Factor
Vt	2.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)
* 79 1,4-Dichlorobenzene-d4	152	13.149	13.149	(1.000)	405711	40.0000	
$ 76 Nitrobenzene-d5 (SUR)	82	14.099	14.109	(0.920)	783521	43.9786	88
* 80 Naphthalene-d8	136	15.324	15.328	(1.000)	1627195	40.0000	
$ 77 2-Fluorobiphenyl (SUR)	172	17.106	17.112	(0.937)	1131919	43.2534	86
* 82 Acenaphthene-d10	164	18.253	18.252	(1.000)	855260	40.0000	
* 83 Phenanthrene-d10	188	20.717	20.725	(1.000)	1342793	40.0000	
$ 78 Terphenyl-d14 (SUR)	244	23.330	23.335	(0.928)	1203533	45.6436	91
* 81 Chrysene-d12	240	25.153	25.170	(1.000)	1194365	40.0000	
* 84 Perylene-d12	264	28.809	28.826	(1.000)	1235159	40.0000	

Data File: /chem/BNAMS2.i/625/04-13-99/23apr99.b/s2088.d
Date : 23-APR-1999 12:42
Client ID: BN
Sample Info: WB112;1000;2;1;;
Purge Volume: 1000.0
Column phase: DB-5

Instrument: BNAMS2.i

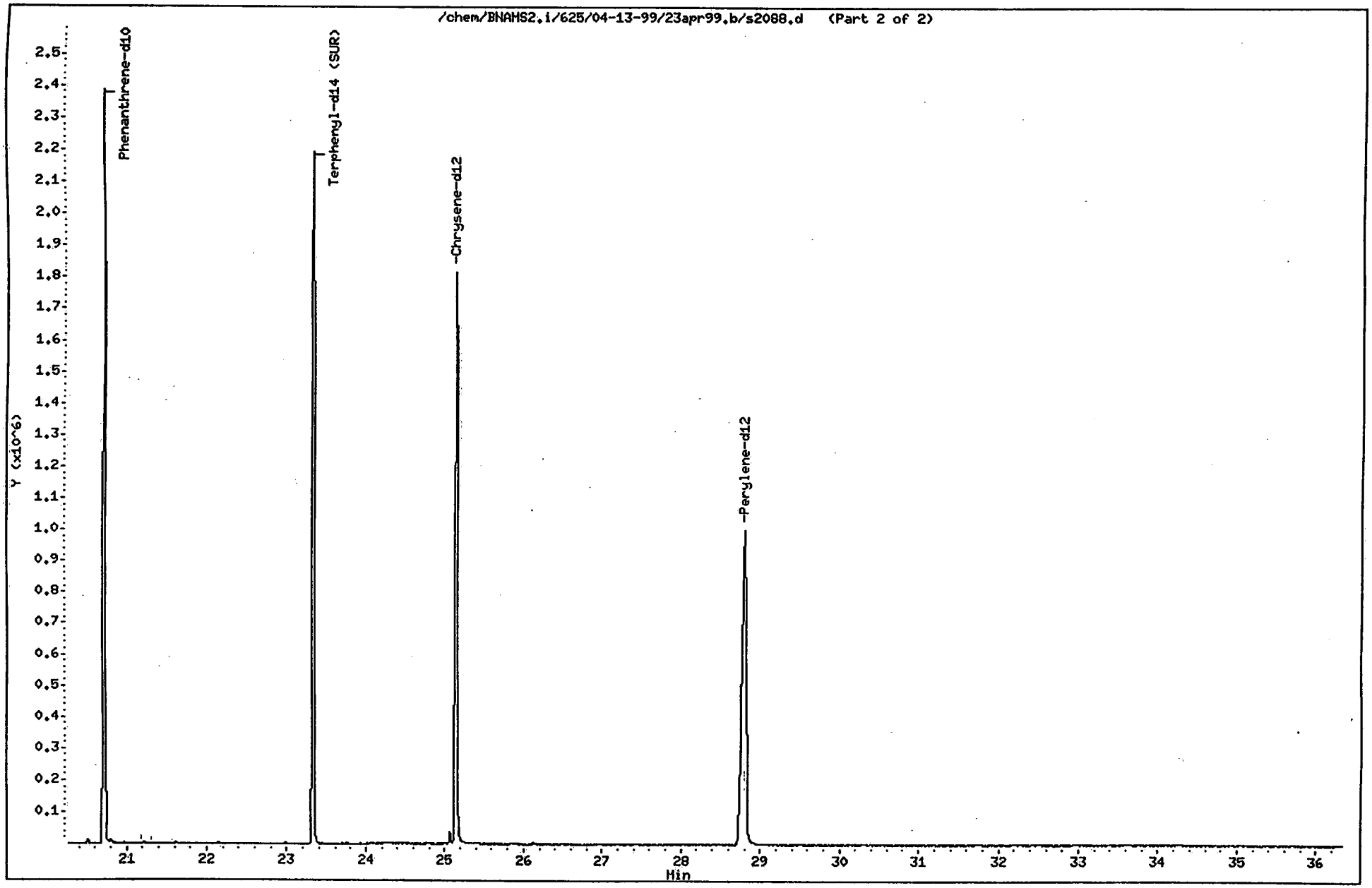
Operator: BNAMS 1
Column diameter: 0.53



Data File: /chem/BNAHS2.i/625/04-13-99/23apr99.b/s2088.d
Date : 23-APR-1999 12:42
Client ID: BN
Sample Info: WB112;1000;2;1;;
Purge Volume: 1000.0
Column phase: DB-5

Instrument: BNAHS2.i

Operator: BNAHS 1
Column diameter: 0.53



SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA
METHOD 625

Instrument ID: BNAMS2 Calibration Date(s): 04/13/99 04/13/99

Calibration Time(s): 0945 1242

LAB FILE ID: RRF10: S1853 RRF20: S1852 RRF50: S1851
RRF80: S1850 RRF120: S1849

COMPOUND	RRF10	RRF20	RRF50	RRF80	RRF120
Phenol	2.512	2.447	2.364	2.221	2.068
2-Chlorophenol	1.783	1.766	1.708	1.605	1.516
2-Methylphenol	1.633	1.620	1.564	1.517	1.439
4-Methylphenol	1.754	1.705	1.556	1.357	1.048
2-Nitrophenol	0.253	0.261	0.253	0.242	0.227
2,4-Dimethylphenol	0.332	0.339	0.329	0.308	0.289
2,4-Dichlorophenol	0.328	0.340	0.319	0.306	0.267
4-Chloro-3-methylphenol	0.381	0.391	0.375	0.363	0.318
2,4,6-Trichlorophenol	0.434	0.424	0.405	0.391	0.342
2,4,5-Trichlorophenol	0.461	0.459	0.437	0.438	0.400
2,4-Dinitrophenol	0.255	0.288	0.292	0.291	0.271
4-Nitrophenol	0.385	0.369	0.357	0.358	0.341
4,6-Dinitro-2-methylphenol	0.197	0.208	0.198	0.195	0.177
Pentachlorophenol	0.183	0.184	0.170	0.164	0.151
Benzoic Acid	0.218	0.274	0.209	0.204	0.168
N-Nitrosodimethylamine	1.235	1.269	1.265	1.229	1.205
bis(2-Chloroethyl)ether	1.895	1.823	1.753	1.694	1.566
1,3-Dichlorobenzene	1.710	1.708	1.606	1.494	1.357
1,4-Dichlorobenzene	1.678	1.622	1.560	1.452	1.298
1,2-Dichlorobenzene	1.684	1.652	1.551	1.422	1.296
bis(2-chloroisopropyl)ether	2.861	2.763	2.640	2.528	2.295
N-Nitroso-di-n-propylamine	1.253	1.209	1.039	0.951	0.866
Hexachloroethane	0.598	0.615	0.587	0.563	0.522
Nitrobenzene	0.589	0.585	0.522	0.493	0.448
Isophorone	0.985	0.978	0.928	0.918	0.904
bis(2-Chloroethoxy)methane	0.542	0.544	0.494	0.479	0.430
1,2,4-Trichlorobenzene	0.323	0.319	0.301	0.278	0.244
Naphthalene	1.164	1.149	1.051	0.961	0.816
4-Chloroaniline	0.537	0.549	0.498	0.452	0.383
Hexachlorobutadiene	0.161	0.160	0.155	0.143	0.125
2-Methylnaphthalene	0.749	0.736	0.678	0.611	0.513
Hexachlorocyclopentadiene	0.146	0.165	0.178	0.184	0.181
2-Chloronaphthalene	1.235	1.196	1.082	1.018	0.900
2-Nitroaniline	0.584	0.570	0.481	0.472	0.415
Dimethylphthalate	1.620	1.598	1.465	1.417	1.278
Acenaphthylene	1.987	1.934	1.795	1.658	1.420
2,6-Dinitrotoluene	0.386	0.392	0.384	0.381	0.350
3-Nitroaniline	0.479	0.482	0.466	0.453	0.406
Acenaphthene	1.384	1.303	1.185	1.077	0.887

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

Instrument ID: BNAMS2 Calibration Date(s): 04/13/99 04/13/99

Calibration Time(s): 0945 1242

LAB FILE ID: RRF10: S1853 RRF20: S1852 RRF50: S1851
RRF80: S1850 RRF120: S1849

COMPOUND	RRF10	RRF20	RRF50	RRF80	RRF120
Dibenzofuran	1.908	1.822	1.650	1.494	1.237
2,4-Dinitrotoluene	0.520	0.512	0.502	0.508	0.458
Diethylphthalate	1.722	1.675	1.533	1.438	1.207
4-Chlorophenyl-phenylether	0.656	0.642	0.561	0.495	0.384
Fluorene	1.478	1.418	1.246	1.104	0.859
4-Nitroaniline	0.558	0.548	0.530	0.522	0.465
N-Nitrosodiphenylamine	0.679	0.665	0.604	0.569	0.482
4-Bromophenyl-phenylether	0.239	0.239	0.216	0.194	0.159
Hexachlorobenzene	0.284	0.277	0.250	0.225	0.190
Phenanthrene	1.224	1.209	1.076	0.956	0.780
Anthracene	1.337	1.309	1.134	1.012	0.802
Carbazole	1.415	1.393	1.228	1.123	0.930
Di-n-butylphthalate	1.954	1.943	1.695	1.470	1.212
Fluoranthene	1.456	1.400	1.248	1.097	0.858
Pyrene	1.589	1.591	1.466	1.360	1.240
Benzidine	0.926	0.864	0.689	0.589	0.441
Butylbenzylphthalate	1.026	1.036	0.961	0.901	0.862
3,3'-Dichlorobenzidine	0.570	0.510	0.385	0.333	0.295
Benzo(a)anthracene	1.318	1.328	1.279	1.220	1.103
Chrysene	1.256	1.272	1.184	1.114	0.998
bis(2-Ethylhexyl)phthalate	1.416	1.300	1.006	0.889	0.863
Di-n-octylphthalate	2.262	2.279	2.106	2.066	2.088
Benzo(b)fluoranthene	1.262	1.268	1.234	1.247	1.269
Benzo(k)fluoranthene	1.368	1.382	1.298	1.260	1.243
Benzo(a)pyrene	1.156	1.168	1.149	1.124	1.110
Indeno(1,2,3-cd)pyrene	1.112	1.140	1.126	1.070	1.027
Dibenz(a,h)anthracene	1.131	1.096	1.098	1.076	1.032
Benzo(g,h,i)perylene	1.192	1.223	1.183	1.101	1.042
Pyridine	1.666	1.794	1.721	1.693	1.695
Aniline	2.802	2.730	2.586	2.489	2.283
Benzyl Alcohol	1.244	1.256	1.212	1.177	1.127
1,2-Diphenylhydrazine	1.263	1.243	1.081	0.998	0.874
Diphenyl	1.806	1.720	1.543	1.378	1.114
Diphenyl Ether	0.847	0.830	0.778	0.714	0.588
Acetophenone	2.343	2.257	1.982	1.744	1.465
N,N-Dimethylaniline	2.487	2.340	2.058	1.780	1.533
1,4-Dioxane	0.734	0.735	0.702	0.682	0.678
Dioxin Screen			0.184		
Benzaldehyde	1.480	1.388	1.300	1.233	1.131

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

Instrument ID: BNAMS2

Calibration Date(s): 04/13/99 04/13/99

Calibration Time(s): 0945 1242

LAB FILE ID: RRF10: S1853 RRF20: S1852 RRF50: S1851
RRF80: S1850 RRF120: S1849

COMPOUND	RRF10	RRF20	RRF50	RRF80	RRF120
Caprolactum	0.204	0.122	0.143	0.160	0.163
Atrazine	0.134	0.124	0.114	0.108	0.096
2-Fluorophenol (SUR)	1.560	1.552	1.541	1.509	1.442
Phenol-d5 (SUR)	2.255	2.192	2.171	2.081	2.032
2,4,6-Tribromophenol (SUR)	0.230	0.230	0.224	0.216	0.168
Nitrobenzene-d5 (SUR)	0.459	0.463	0.446	0.427	0.394
2-Fluorobiphenyl (SUR)	1.450	1.367	1.255	1.133	0.915
Terphenyl-d14 (SUR)	1.005	0.987	0.895	0.783	0.745

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

Instrument ID: BNAMS2 Calibration Date(s): 04/13/99 04/13/99

Calibration Time(s): 0945 1242

COMPOUND	CURVE	COEFFICENT A1	%RSD OR R^2
Phenol	AVRG	2.32246145	7.7*
2-Chlorophenol	AVRG	1.67551293	6.8*
2-Methylphenol	AVRG	1.55474517	5.1*
4-Methylphenol	AVRG	1.48391052	19.4*
2-Nitrophenol	AVRG	0.24716675	5.4*
2,4-Dimethylphenol	AVRG	0.31936757	6.4*
2,4-Dichlorophenol	AVRG	0.31198612	9.0*
4-Chloro-3-methylphenol	AVRG	0.36549716	7.8*
2,4,6-Trichlorophenol	AVRG	0.39916610	8.9*
2,4,5-Trichlorophenol	AVRG	0.43873806	5.6*
2,4-Dinitrophenol	AVRG	0.27946646	5.8**
4-Nitrophenol	AVRG	0.36210813	4.5**
4,6-Dinitro-2-methylphenol	AVRG	0.19505286	5.7*
Pentachlorophenol	AVRG	0.17050685	8.2*
Benzoic Acid	AVRG	0.21457630	17.9*
N-Nitrosodimethylamine	AVRG	1.24061709	2.2*
bis(2-Chloroethyl)ether	AVRG	1.74611994	7.2*
1,3-Dichlorobenzene	AVRG	1.57508104	9.6*
1,4-Dichlorobenzene	AVRG	1.52218288	9.9*
1,2-Dichlorobenzene	AVRG	1.52104916	10.7*
bis(2-chloroisopropyl)ether	AVRG	2.61751545	8.4*
N-Nitroso-di-n-propylamine	AVRG	1.06368845	15.5**
Hexachloroethane	AVRG	0.57715035	6.2*
Nitrobenzene	AVRG	0.52750108	11.5*
Isophorone	AVRG	0.94283764	3.9*
bis(2-Chloroethoxy)methane	AVRG	0.49776284	9.6*
1,2,4-Trichlorobenzene	AVRG	0.29322750	11.1*
Naphthalene	AVRG	1.02835412	14.0*
4-Chloroaniline	AVRG	0.48399267	14.0*
Hexachlorobutadiene	AVRG	0.14883108	10.1*
2-Methylnaphthalene	AVRG	0.65730670	14.8*
Hexachlorocyclopentadiene	AVRG	0.17068642	9.2**
2-Chloronaphthalene	AVRG	1.08610397	12.5*
2-Nitroaniline	AVRG	0.50453047	14.1*
Dimethylphthalate	AVRG	1.47583913	9.5*
Acenaphthylene	AVRG	1.75908064	13.0*
2,6-Dinitrotoluene	AVRG	0.37880902	4.3*
3-Nitroaniline	AVRG	0.45734800	6.7*
Acenaphthene	AVRG	1.16731464	16.7*

* 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): 04/13/99 04/13/99

Calibration Time(s): 0945 1242

COMPOUND	CURVE	COEFFICENT A1	%RSD OR R^2
Dibenzofuran	AVRG	1.62202466	16.5*
2,4-Dinitrotoluene	AVRG	0.50007319	4.9*
Diethylphthalate	AVRG	1.51500989	13.6*
4-Chlorophenyl-phenylether	AVRG	0.54753932	20.5*
Fluorene	AVRG	1.22108944	20.5*
4-Nitroaniline	AVRG	0.52470897	6.9*
N-Nitrosodiphenylamine	AVRG	0.59993034	13.3*
4-Bromophenyl-phenylether	AVRG	0.20964660	16.1*
Hexachlorobenzene	AVRG	0.24517893	15.7*
Phenanthrene	AVRG	1.04897575	17.7*
Anthracene	AVRG	1.11897232	19.8*
Carbazole	AVRG	1.21783610	16.5*
Di-n-butylphthalate	AVRG	1.65475465	19.2*
Fluoranthene	AVRG	1.21197114	20.0*
Pyrene	AVRG	1.44912304	10.4*
Benzidine	AVRG	0.70189867	28.3*
Butylbenzylphthalate	AVRG	0.95731189	8.0*
3,3'-Dichlorobenzidine	AVRG	0.41878152	28.0*
Benzo(a)anthracene	AVRG	1.24977648	7.4*
Chrysene	AVRG	1.16509991	9.7*
bis(2-Ethylhexyl)phthalate	AVRG	1.09494030	22.8*
Di-n-octylphthalate	AVRG	2.16018394	4.7*
Benzo(b)fluoranthene	AVRG	1.25602486	1.2*
Benzo(k)fluoranthene	AVRG	1.31000534	4.8*
Benzo(a)pyrene	AVRG	1.14138871	2.1*
Indeno(1,2,3-cd)pyrene	AVRG	1.09485220	4.2*
Dibenz(a,h)anthracene	AVRG	1.08667391	3.3*
Benzo(g,h,i)perylene	AVRG	1.14814620	6.5*
Pyridine	AVRG	1.71380631	2.9*
Aniline	AVRG	2.57808666	7.9*
Benzyl Alcohol	AVRG	1.20345529	4.4*
1,2-Diphenylhydrazine	AVRG	1.09184287	15.1*
Diphenyl	AVRG	1.51210477	18.3**
Diphenyl Ether	AVRG	0.75158263	14.0**
Acetophenone	AVRG	1.95834575	18.5**
N,N-Dimethylaniline	AVRG	2.03962078	19.2**
1,4-Dioxane	AVRG	0.70636903	3.9**
Dioxin Screen	AVRG	0.18383079	0.0*
Benzaldehyde	AVRG	1.30641103	10.3*

* 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): 04/13/99 04/13/99

Calibration Time(s): 0945 1242

COMPOUND	CURVE	COEFFICENT A1	%RSD OR R^2
Caprolactum	AVRG	0.15855527	19.3*
Atrazine	AVRG	0.11539894	12.7*
2-Fluorophenol (SUR)	AVRG	1.52066770	3.2*
Phenol-d5 (SUR)	AVRG	2.14629173	4.2*
2,4,6-Tribromophenol (SUR)	AVRG	0.21342751	12.3*
Nitrobenzene-d5 (SUR)	AVRG	0.43795558	6.4*
2-Fluorobiphenyl (SUR)	AVRG	1.22393063	17.1*
Terphenyl-d14 (SUR)	AVRG	0.88308293	13.3*

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

SEMIVOLATILE ORGANICS CONTINUING CALIBRATION CHECK
METHOD 625

Instrument ID: BNAMS2 Calibration Date: 04/23/99 Time: 0858

Lab File ID: S2083 Init. Calib. Date(s): 04/13/99 04/13/99

Init. Calib. Times: 0945 1242

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Phenol	2.322	2.440		-4.9	20.0
2-Chlorophenol	1.676	1.783		-6.2	20.0
2-Methylphenol	1.555	1.541		0.9	
4-Methylphenol	1.484	1.305		12.1	
2-Nitrophenol	0.247	0.255		-3.2	20.0
2,4-Dimethylphenol	0.319	0.322		0.1	20.0
2,4-Dichlorophenol	0.312	0.310		0.6	20.0
4-Chloro-3-methylphenol	0.366	0.360		1.6	20.0
2,4,6-Trichlorophenol	0.399	0.410		-2.6	20.0
2,4,5-Trichlorophenol	0.439	0.448		-2.0	
2,4-Dinitrophenol	0.279	0.285	0.05	-2.0	20.0
4-Nitrophenol	0.362	0.367	0.05	-1.2	20.0
4,6-Dinitro-2-methylphenol	0.195	0.196		-0.0	20.0
Pentachlorophenol	0.170	0.160		5.9	20.0
Benzoic Acid	0.215	0.253		-17.5	
N-Nitrosodimethylamine	1.241	1.328		-7.0	20.0
bis(2-Chloroethyl)ether	1.746	1.774		-1.6	20.0
1,3-Dichlorobenzene	1.575	1.627		-3.3	20.0
1,4-Dichlorobenzene	1.522	1.531		-0.0	20.0
1,2-Dichlorobenzene	1.521	1.559		-2.3	20.0
bis(2-chloroisopropyl)ether	2.617	2.803		-7.1	20.0
N-Nitroso-di-n-propylamine	1.064	1.030	0.5	3.2	20.0
Hexachloroethane	0.577	0.628		-8.8	20.0
Nitrobenzene	0.527	0.539		-2.1	20.0
Isophorone	0.943	0.997		-5.7	20.0
bis(2-Chloroethoxy)methane	0.498	0.489		1.8	20.0
1,2,4-Trichlorobenzene	0.293	0.287		2.0	20.0
Naphthalene	1.028	0.993		3.4	20.0
4-Chloroaniline	0.484	0.459		5.2	
Hexachlorobutadiene	0.149	0.154		-3.2	20.0
2-Methylnaphthalene	0.657	0.625		4.9	
Hexachlorocyclopentadiene	0.171	0.190	0.05	-11.1	20.0
2-Chloronaphthalene	1.086	1.089		-0.0	20.0
2-Nitroaniline	0.504	0.517		-2.4	
Dimethylphthalate	1.476	1.515		-2.6	20.0
Acenaphthylene	1.759	1.775		0.1	20.0
2,6-Dinitrotoluene	0.379	0.388		-2.2	20.0

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

Instrument ID: BNAMS2 Calibration Date: 04/23/99 Time: 0858

Lab File ID: S2083 Init. Calib. Date(s): 04/13/99 04/13/99

Init. Calib. Times: 0945 1242

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
3-Nitroaniline	0.457	0.463		-1.3	
Acenaphthene	1.167	1.114		4.5	20.0
Dibenzofuran	1.622	1.567		3.4	
2,4-Dinitrotoluene	0.500	0.503		0.1	20.0
Diethylphthalate	1.515	1.539		-1.4	20.0
4-Chlorophenyl-phenylether	0.548	0.494		9.8	20.0
Fluorene	1.221	1.116		8.6	20.0
4-Nitroaniline	0.525	0.500		4.8	
N-Nitrosodiphenylamine	0.600	0.599		0.2	20.0
4-Bromophenyl-phenylether	0.209	0.209		0.0	20.0
Hexachlorobenzene	0.245	0.238		2.8	20.0
Phenanthrene	1.049	1.018		3.0	20.0
Anthracene	1.119	1.070		4.4	20.0
Carbazole	1.218	1.146		5.9	
Di-n-butylphthalate	1.655	1.668		0.1	20.0
Fluoranthene	1.212	1.152		5.0	20.0
Pyrene	1.449	1.566		-7.9	20.0
Benzidine	0.702	0.549		21.8	
Butylbenzylphthalate	0.957	1.083		-13.0	20.0
3,3'-Dichlorobenzidine	0.419	0.366		12.6	20.0
Benzo(a)anthracene	1.250	1.346		-7.5	20.0
Chrysene	1.165	1.227		-5.3	20.0
bis(2-Ethylhexyl)phthalate	1.095	1.053		3.8	20.0
Di-n-octylphthalate	2.160	2.136		1.1	20.0
Benzo(b)fluoranthene	1.256	1.244		1.0	20.0
Benzo(k)fluoranthene	1.310	1.326		-1.2	20.0
Benzo(a)pyrene	1.141	1.189		-4.2	20.0
Indeno(1,2,3-cd)pyrene	1.095	1.250		-14.0	20.0
Dibenz(a,h)anthracene	1.087	1.212		-11.3	20.0
Benzo(g,h,i)perylene	1.148	1.309		-14.0	20.0
Pyridine	1.714	1.778		-3.7	
Aniline	2.578	2.624		-1.6	
Benzyl Alcohol	1.203	1.194		0.7	
1,2-Diphenylhydrazine	1.092	1.179		-7.8	
Diphenyl	1.512	1.456	0.001	3.7	20.0
Diphenyl Ether	0.751	0.762	0.001	-1.3	20.0
Acetophenone	1.958	1.784	0.001	8.9	20.0

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

Instrument ID: BNAMS2 Calibration Date: 04/23/99 Time: 0858

Lab File ID: S2083 Init. Calib. Date(s): 04/13/99 04/13/99

Init. Calib. Times: 0945 1242

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
N,N-Dimethylaniline	2.040	1.869	0.001	8.4	20.0
1,4-Dioxane	0.706	0.727	0.001	-2.8	20.0
Dioxin Screen	0.184	0.201		-9.2	20.0
Benzaldehyde	1.306	1.144		12.4	20.0
Caprolactum	0.158	0.132		16.4	20.0
Atrazine	0.115	0.110		4.3	20.0
2-Fluorophenol (SUR)	1.521	1.685		-10.6	
Phenol-d5 (SUR)	2.146	2.273		-5.9	
2,4,6-Tribromophenol (SUR)	0.214	0.208		2.8	20.0
Nitrobenzene-d5 (SUR)	0.438	0.467		-6.6	
2-Fluorobiphenyl (SUR)	1.224	1.218		0.5	
Terphenyl-d14 (SUR)	0.883	0.924		-4.6	

SEMIVOLATILE ORGANICS CONTINUING CALIBRATION CHECK
METHOD 625

Instrument ID: BNAMS2 Calibration Date: 04/26/99 Time: 0903

Lab File ID: S2120 Init. Calib. Date(s): 04/13/99 04/13/99

Init. Calib. Times: 0945 1242

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Phenol	2.322	2.579		-10.9	20.0
2-Chlorophenol	1.676	1.824		-8.8	20.0
2-Methylphenol	1.555	1.630		-4.8	
4-Methylphenol	1.484	1.473		0.7	
2-Nitrophenol	0.247	0.244		1.2	20.0
2,4-Dimethylphenol	0.319	0.314		1.6	20.0
2,4-Dichlorophenol	0.312	0.306		1.9	20.0
4-Chloro-3-methylphenol	0.366	0.379		-3.4	20.0
2,4,6-Trichlorophenol	0.399	0.389		2.5	20.0
2,4,5-Trichlorophenol	0.439	0.432		1.6	
2,4-Dinitrophenol	0.279	0.278	0.05	0.4	20.0
4-Nitrophenol	0.362	0.381	0.05	-5.2	20.0
4,6-Dinitro-2-methylphenol	0.195	0.194		0.5	20.0
Pentachlorophenol	0.170	0.164		3.5	20.0
Benzoic Acid	0.215	0.272		-26.5	
N-Nitrosodimethylamine	1.241	1.309		-5.3	20.0
bis(2-Chloroethyl)ether	1.746	1.847		-5.6	20.0
1,3-Dichlorobenzene	1.575	1.652		-4.7	20.0
1,4-Dichlorobenzene	1.522	1.614		-6.0	20.0
1,2-Dichlorobenzene	1.521	1.598		-4.9	20.0
bis(2-chloroisopropyl)ether	2.617	2.932		-12.0	20.0
N-Nitroso-di-n-propylamine	1.064	1.139	0.5	-7.0	20.0
Hexachloroethane	0.577	0.652		-12.8	20.0
Nitrobenzene	0.527	0.527		0.0	20.0
Isophorone	0.943	1.007		-6.6	20.0
bis(2-Chloroethoxy)methane	0.498	0.501		0.1	20.0
1,2,4-Trichlorobenzene	0.293	0.281		4.1	20.0
Naphthalene	1.028	1.005		2.2	20.0
4-Chloroaniline	0.484	0.482		0.4	
Hexachlorobutadiene	0.149	0.149		0.0	20.0
2-Methylnaphthalene	0.657	0.651		0.9	
Hexachlorocyclopentadiene	0.171	0.158	0.05	7.6	20.0
2-Chloronaphthalene	1.086	1.068		1.6	20.0
2-Nitroaniline	0.504	0.517		-2.4	
Dimethylphthalate	1.476	1.518		-2.8	20.0
Acenaphthylene	1.759	1.746		0.7	20.0
2,6-Dinitrotoluene	0.379	0.385		-1.4	20.0

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

Instrument ID: BNAMS2 Calibration Date: 04/26/99 Time: 0903

Lab File ID: S2120 Init. Calib. Date(s): 04/13/99 04/13/99

Init. Calib. Times: 0945 1242

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
3-Nitroaniline	0.457	0.464		-1.5	
Acenaphthene	1.167	1.130		3.2	20.0
Dibenzofuran	1.622	1.553		4.2	
2,4-Dinitrotoluene	0.500	0.496		0.8	20.0
Diethylphthalate	1.515	1.579		-4.2	20.0
4-Chlorophenyl-phenylether	0.548	0.501		8.6	20.0
Fluorene	1.221	1.125		7.9	20.0
4-Nitroaniline	0.525	0.520		1.0	
N-Nitrosodiphenylamine	0.600	0.593		1.2	20.0
4-Bromophenyl-phenylether	0.209	0.206		1.4	20.0
Hexachlorobenzene	0.245	0.234		4.5	20.0
Phenanthrene	1.049	1.030		1.8	20.0
Anthracene	1.119	1.067		4.6	20.0
Carbazole	1.218	1.175		3.5	
Di-n-butylphthalate	1.655	1.724		-4.0	20.0
Fluoranthene	1.212	1.207		0.4	20.0
Pyrene	1.449	1.521		-4.8	20.0
Benzidine	0.702	0.557		20.6	
Butylbenzylphthalate	0.957	1.060		-10.6	20.0
3,3'-Dichlorobenzidine	0.419	0.361		13.8	20.0
Benzo(a)anthracene	1.250	1.346		-7.5	20.0
Chrysene	1.165	1.176		0.1	20.0
bis(2-Ethylhexyl)phthalate	1.095	1.016		7.2	20.0
Di-n-octylphthalate	2.160	2.088		3.3	20.0
Benzo(b)fluoranthene	1.256	1.230		2.1	20.0
Benzo(k)fluoranthene	1.310	1.266		3.4	20.0
Benzo(a)pyrene	1.141	1.163		-1.9	20.0
Indeno(1,2,3-cd)pyrene	1.095	1.210		-10.5	20.0
Dibenz(a,h)anthracene	1.087	1.145		-5.3	20.0
Benzo(g,h,i)perylene	1.148	1.269		-10.5	20.0
Pyridine	1.714	1.738		-1.4	
Aniline	2.578	2.729		-5.8	
Benzyl Alcohol	1.203	1.265		-5.0	
1,2-Diphenylhydrazine	1.092	1.194		-9.3	
Diphenyl	1.512	1.443	0.001	4.6	20.0
Diphenyl Ether	0.751	0.746	0.001	0.7	20.0
Acetophenone	1.958	1.965	0.001	-0.0	20.0

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

Instrument ID: BNAMS2 Calibration Date: 04/26/99 Time: 0903

Lab File ID: S2120 Init. Calib. Date(s): 04/13/99 04/13/99

Init. Calib. Times: 0945 1242

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
N,N-Dimethylaniline	2.040	2.018	0.001	1.1	20.0
1,4-Dioxane	0.706	0.667	0.001	5.5	20.0
Dioxin Screen	0.184	0.213		-15.6	20.0
Benzaldehyde	1.306	1.101		15.7	20.0
Caprolactum	0.158	0.139		12.0	20.0
Atrazine	0.115	0.115		0.0	20.0
2-Fluorophenol (SUR)	1.521	1.697		-11.4	
Phenol-d5 (SUR)	2.146	2.338		-8.9	
2,4,6-Tribromophenol (SUR)	0.214	0.210		1.9	20.0
Nitrobenzene-d5 (SUR)	0.438	0.451		-2.8	
2-Fluorobiphenyl (SUR)	1.224	1.178		3.8	
Terphenyl-d14 (SUR)	0.883	0.876		0.8	

SEMIVOLATILE ORGANICS CONTINUING CALIBRATION CHECK
METHOD 625

Instrument ID: BNAMS2 Calibration Date: 04/29/99 Time: 0921

Lab File ID: S2219 Init. Calib. Date(s): 04/13/99 04/13/99

Init. Calib. Times: 0945 1242

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Phenol	2.322	2.394		-3.1	20.0
2-Chlorophenol	1.676	1.802		-7.5	20.0
2-Methylphenol	1.555	1.549		0.4	
4-Methylphenol	1.484	1.202		19.0	
2-Nitrophenol	0.247	0.257		-4.0	20.0
2,4-Dimethylphenol	0.319	0.315		1.2	20.0
2,4-Dichlorophenol	0.312	0.308		1.3	20.0
4-Chloro-3-methylphenol	0.366	0.367		-0.0	20.0
2,4,6-Trichlorophenol	0.399	0.405		-1.5	20.0
2,4,5-Trichlorophenol	0.439	0.439		0.0	
2,4-Dinitrophenol	0.279	0.284	0.05	-1.6	20.0
4-Nitrophenol	0.362	0.374	0.05	-3.3	20.0
4,6-Dinitro-2-methylphenol	0.195	0.194		0.5	20.0
Pentachlorophenol	0.170	0.159		6.5	20.0
Benzoic Acid	0.215	0.234		-8.8	
N-Nitrosodimethylamine	1.241	1.349		-8.7	20.0
bis(2-Chloroethyl)ether	1.746	1.810		-3.5	20.0
1,3-Dichlorobenzene	1.575	1.627		-3.3	20.0
1,4-Dichlorobenzene	1.522	1.540		-1.0	20.0
1,2-Dichlorobenzene	1.521	1.515		0.4	20.0
bis(2-chloroisopropyl)ether	2.617	2.799		-6.8	20.0
N-Nitroso-di-n-propylamine	1.064	0.992	0.5	6.8	20.0
Hexachloroethane	0.577	0.640		-10.9	20.0
Nitrobenzene	0.527	0.538		-1.9	20.0
Isophorone	0.943	1.003		-6.2	20.0
bis(2-Chloroethoxy)methane	0.498	0.498		0.0	20.0
1,2,4-Trichlorobenzene	0.293	0.289		1.4	20.0
Naphthalene	1.028	0.991		3.6	20.0
4-Chloroaniline	0.484	0.459		5.2	
Hexachlorobutadiene	0.149	0.150		0.1	20.0
2-Methylnaphthalene	0.657	0.624		5.0	
Hexachlorocyclopentadiene	0.171	0.179	0.05	-4.5	20.0
2-Chloronaphthalene	1.086	1.085		0.1	20.0
2-Nitroaniline	0.504	0.515		-2.0	
Dimethylphthalate	1.476	1.523		-3.0	20.0
Acenaphthylene	1.759	1.744		0.8	20.0
2,6-Dinitrotoluene	0.379	0.393		-3.5	20.0

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

Instrument ID: BNAMS2 Calibration Date: 04/29/99 Time: 0921

Lab File ID: S2219 Init. Calib. Date(s): 04/13/99 04/13/99

Init. Calib. Times: 0945 1242

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
3-Nitroaniline	0.457	0.470		-2.8	
Acenaphthene	1.167	1.109		5.0	20.0
Dibenzofuran	1.622	1.559		3.9	
2,4-Dinitrotoluene	0.500	0.506		-1.2	20.0
Diethylphthalate	1.515	1.528		0.1	20.0
4-Chlorophenyl-phenylether	0.548	0.488		10.9	20.0
Fluorene	1.221	1.116		8.6	20.0
4-Nitroaniline	0.525	0.496		5.5	
N-Nitrosodiphenylamine	0.600	0.595		0.8	20.0
4-Bromophenyl-phenylether	0.209	0.207		1.0	20.0
Hexachlorobenzene	0.245	0.234		4.5	20.0
Phenanthrene	1.049	1.027		2.1	20.0
Anthracene	1.119	1.059		5.4	20.0
Carbazole	1.218	1.155		5.2	
Di-n-butylphthalate	1.655	1.667		0.1	20.0
Fluoranthene	1.212	1.143		5.7	20.0
Pyrene	1.449	1.544		-6.4	20.0
Benzidine	0.702	0.504		28.2	
Butylbenzylphthalate	0.957	1.090		-13.7	20.0
3,3'-Dichlorobenzidine	0.419	0.358		14.6	20.0
Benzo(a)anthracene	1.250	1.340		-7.2	20.0
Chrysene	1.165	1.208		-3.5	20.0
bis(2-Ethylhexyl)phthalate	1.095	1.004		8.3	20.0
Di-n-octylphthalate	2.160	2.171		-0.0	20.0
Benzo(b)fluoranthene	1.256	1.259		-0.0	20.0
Benzo(k)fluoranthene	1.310	1.294		1.2	20.0
Benzo(a)pyrene	1.141	1.174		-2.7	20.0
Indeno(1,2,3-cd)pyrene	1.095	1.254		-14.5	20.0
Dibenz(a,h)anthracene	1.087	1.196		-10.0	20.0
Benzo(g,h,i)perylene	1.148	1.298		-12.9	20.0
Pyridine	1.714	1.775		-3.4	
Aniline	2.578	2.593		-0.0	
Benzyl Alcohol	1.203	1.189		1.2	
1,2-Diphenylhydrazine	1.092	1.204		-10.2	
Diphenyl	1.512	1.431	0.001	5.4	20.0
Diphenyl Ether	0.751	0.748	0.001	0.4	20.0
Acetophenone	1.958	1.724	0.001	12.0	20.0

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

Instrument ID: BNAMS2 Calibration Date: 04/29/99 Time: 0921

Lab File ID: S2219 Init. Calib. Date(s): 04/13/99 04/13/99

Init. Calib. Times: 0945 1242

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
N,N-Dimethylaniline	2.040	1.833	0.001	10.1	20.0
1,4-Dioxane	0.706	0.724	0.001	-2.5	20.0
Dioxin Screen	0.184	0.252		-36.8	20.0
Benzaldehyde	1.306	1.042		20.2	20.0
Caprolactum	0.158	0.131		17.1	20.0
Atrazine	0.115	0.107		7.0	20.0
2-Fluorophenol (SUR)	1.521	1.694		-11.2	
Phenol-d5 (SUR)	2.146	2.275		-6.0	
2,4,6-Tribromophenol (SUR)	0.214	0.210		1.9	20.0
Nitrobenzene-d5 (SUR)	0.438	0.471		-7.5	
2-Fluorobiphenyl (SUR)	1.224	1.208		1.3	
Terphenyl-d14 (SUR)	0.883	0.912		-3.1	

SEMI-VOLATILE SURROGATE RECOVERY
METHOD 625

Matrix: WATER Level: LOW Lab Job No: N540

	LAB SAMPLE NO.	S1 #	S2 #	S3 #	OTHER	TOT OUT
01	WB112	88	86	91		0
02	125118	85	86	87		0
03	125119	86	88	89		0
04	125120	89	87	89		0
05	125121	81	96	111		0
06	125122	90	90	90		0
07	125123	92	90	88		0
08	125127	90	89	91		0
09	125130	93	91	92		0
10	125128	82	99	119		0
11	125126	81	102	113		0
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		QC LIMITS
S1	= Nitrobenzene-d5	(55-115)
S2	= 2-Fluorobiphenyl	(59-109)
S3	= Terphenyl-d14	(73-132)

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.: 126582

MS Sample from Lab Job No: N739

QA Batch: 4567

Compound	MS % REC.	BS % REC.	LIMITS
bis(2-Chloroethyl)ether	94	100	12-158
1,3-Dichlorobenzene	75	75	0-172
1,4-Dichlorobenzene	75	76	20-124
1,2-Dichlorobenzene	76	78	32-129
bis(2-chloroisopropyl)ether	120	120	36-166
N-Nitroso-di-n-propylamine	130	130	0-230
Hexachloroethane	74	70	40-113
Nitrobenzene	77	81	35-180
Isophorone	96	98	21-196
bis(2-Chloroethoxy)methane	110	110	33-184
1,2,4-Trichlorobenzene	79	79	44-142
Naphthalene	87	90	21-133
Hexachlorobutadiene	69	63	24-116
2-Chloronaphthalene	100	100	60-118
Dimethylphthalate	19	7	0-112
Acenaphthylene	100	100	33-145
2,6-Dinitrotoluene	100	110	50-158
Acenaphthene	97	96	47-145
2,4-Dinitrotoluene	100	110	39-139
Diethylphthalate	65	51	0-114
4-Chlorophenyl-phenylether	97	100	25-158
Fluorene	93	95	59-121
4-Bromophenyl-phenylether	97	97	53-127
Hexachlorobenzene	94	94	0-152
Phenanthrene	97	96	54-120
Anthracene	90	92	27-133
Di-n-butylphthalate	88	82	1-118
Fluoranthene	91	93	26-137
Pyrene	100	100	52-115
Butylbenzylphthalate	78	74	0-152

* Values outside of QC limits

SEMI-VOLATILE SPIKE RECOVERY SUMMARY
METHOD 625

Matrix: WATER

Level: LOW

Matrix Spike - Lab Sample No.: 126582

MS Sample from Lab Job No: N739

QA Batch: 4567

Compound	MS % REC.	BS % REC.	LIMITS
3,3'-Dichlorobenzidine	97	110	0-262
Benzo(a)anthracene	100	100	33-143
Chrysene	100	100	17-168
bis(2-Ethylhexyl)phthalate	100	100	8-158
Di-n-octylphthalate	100	98	4-146
Benzo(b)fluoranthene	100	100	24-159
Benzo(k)fluoranthene	94	90	11-162
Benzo(a)pyrene	98	100	17-163
Indeno(1,2,3-cd)pyrene	120	110	0-171
Dibenz(a,h)anthracene	110	100	0-227
Benzo(g,h,i)perylene	120	110	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): S2083 Date Analyzed: 04/23/99

Instrument ID: BNAMS2 Time Analyzed: 0858

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(CRY) AREA #	RT #
	12 HOUR STD	418958	13.15	1618072	15.33	899901	25.17
	UPPER LIMIT	837916	13.65	3236144	15.83	1799802	25.67
	LOWER LIMIT	209479	12.65	809036	14.83	449950	24.67
	LABORATORY SAMPLE NO.						
01	WB112	405711	13.15	1627195	15.32	1194365	25.15
02	125118	421401	13.14	1703550	15.32	1192820	25.15
03	125119	405426	13.14	1621689	15.32	1203893	25.15
04	125120	402791	13.14	1626968	15.32	1179073	25.15
05	125121	397786	13.14	1608172	15.32	1068238	25.15
06	125122	396853	13.14	1601727	15.32	1145543	25.15
07	125123	400443	13.14	1614218	15.32	1188566	25.15
08	125127	384221	13.14	1541812	15.32	1127340	25.15
09	125130	377557	13.14	1550658	15.32	1113507	25.15
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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): S2083 Date Analyzed: 04/23/99

Instrument ID: BNAMS2 Time Analyzed: 0858

		IS4(ANT) AREA #	RT #	IS5(PHN) AREA #	RT #	IS6(PRY) AREA #	RT #
	12 HOUR STD	798750	18.25	1220597	20.72	1113957	28.83
	UPPER LIMIT	1597500	18.75	2441194	21.22	2227914	29.33
	LOWER LIMIT	399375	17.75	610298	20.22	556978	28.33
	LABORATORY SAMPLE NO.						
01	WB112	855260	18.25	1342793	20.72	1235159	28.81
02	125118	874678	18.25	1350708	20.72	1218049	28.81
03	125119	830733	18.25	1314461	20.72	1244981	28.81
04	125120	856795	18.25	1324228	20.72	1219610	28.80
05	125121	829543	18.25	1289918	20.72	1178267	28.80
06	125122	817898	18.25	1271708	20.72	1223445	28.80
07	125123	830044	18.25	1321259	20.72	1228711	28.80
08	125127	792670	18.25	1234636	20.72	1187782	28.79
09	125130	796772	18.25	1243474	20.71	1155061	28.80
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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.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): S2120 Date Analyzed: 04/26/99

Instrument ID: BNAMS2 Time Analyzed: 0903

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(CRY) AREA #	RT #
	12 HOUR STD	304209	13.18	1281314	15.35	843416	25.20
	UPPER LIMIT	608418	13.68	2562628	15.85	1686832	25.70
	LOWER LIMIT	152104	12.68	640657	14.85	421708	24.70
	LABORATORY SAMPLE NO.						
01	125128	295005	13.18	1239484	15.35	931024	25.19
02							
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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): S2120 Date Analyzed: 04/26/99

Instrument ID: BNAMS2 Time Analyzed: 0903

		IS4(ANT) AREA #	RT #	IS5(PHN) AREA #	RT #	IS6(PRY) AREA #	RT #
	12 HOUR STD	676151	18.28	1054733	20.75	1073025	28.88
	UPPER LIMIT	1352302	18.78	2109466	21.25	2146050	29.38
	LOWER LIMIT	338076	17.78	527366	20.25	536512	28.38
	LABORATORY SAMPLE NO.						
01	125128	660373	18.28	1082701	20.75	1054545	28.87
02							
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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.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): S2219 Date Analyzed: 04/29/99

Instrument ID: BNAMS2 Time Analyzed: 0921

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(CRY) AREA #	RT #
	12 HOUR STD	415690	13.12	1611036	15.30	889116	25.14
	UPPER LIMIT	831380	13.62	3222072	15.80	1778232	25.64
	LOWER LIMIT	207845	12.62	805518	14.80	444558	24.64
	LABORATORY SAMPLE NO.						
01	125126	349200	13.12	1402144	15.29	925078	25.12
02							
03							
04							
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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): S2219 Date Analyzed: 04/29/99

Instrument ID: BNAMS2 Time Analyzed: 0921

		IS4(ANT) AREA #	RT #	IS5(PHN) AREA #	RT #	IS6(PRY) AREA #	RT #
	12 HOUR STD	794078	18.23	1210955	20.70	1101090	28.78
	UPPER LIMIT	1588156	18.73	2421910	21.20	2202180	29.28
	LOWER LIMIT	397039	17.73	605478	20.20	550545	28.28
	LABORATORY SAMPLE NO.						
01	125126	712549	18.22	1126033	20.69	1028050	28.75
02							
03							
04							
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
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: **MW-15S**
Site: L.E. Carpenter

Lab Sample No: **125118**
Lab Job No: N540

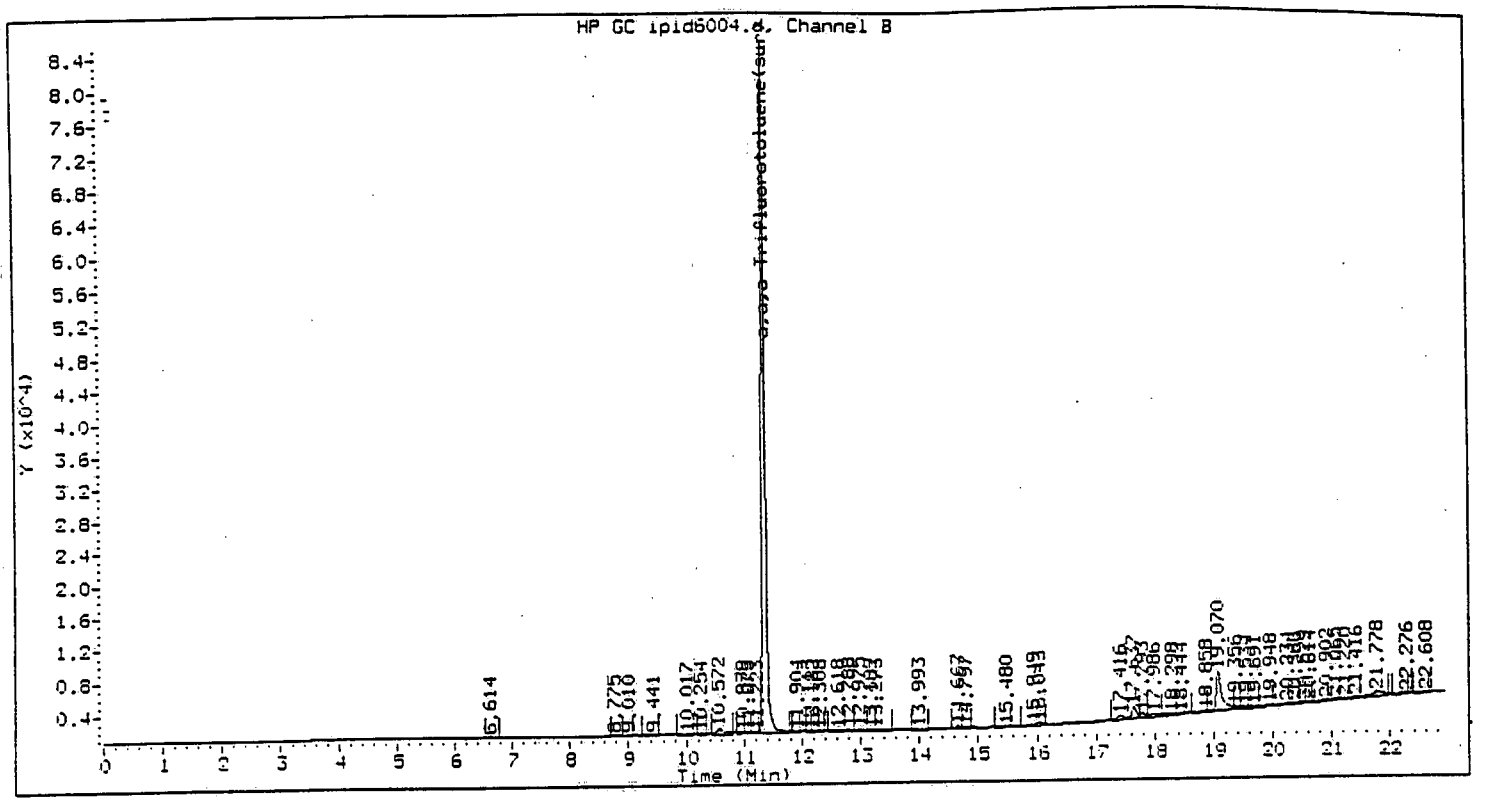
Date Sampled: 04/15/99
Date Received: 04/15/99
Date Analyzed: 04/20/99
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid6004.d

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	0.31
Toluene	ND	0.34
Ethylbenzene	ND	0.38
Xylene (Total)	ND	0.40

Data File: /chem/VOAGC3.i/602/04-20-99/20APR99.b/ipid6004.d
Report Date 04/21/1999 11:36



Method : /chem/VOAGC3.i/602/04-20-99/20APR99.b/602_99.m
Sample Info : 125118
Lab ID : 125118
Inj Date : 20-APR-1999 22:47
Operator : SK
Cond 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)	11.356	11.351	0.005	1700119	31.216	31.216

Client ID: **MW-15I**
Site: L.E. Carpenter

Lab Sample No: **125119**
Lab Job No: N540

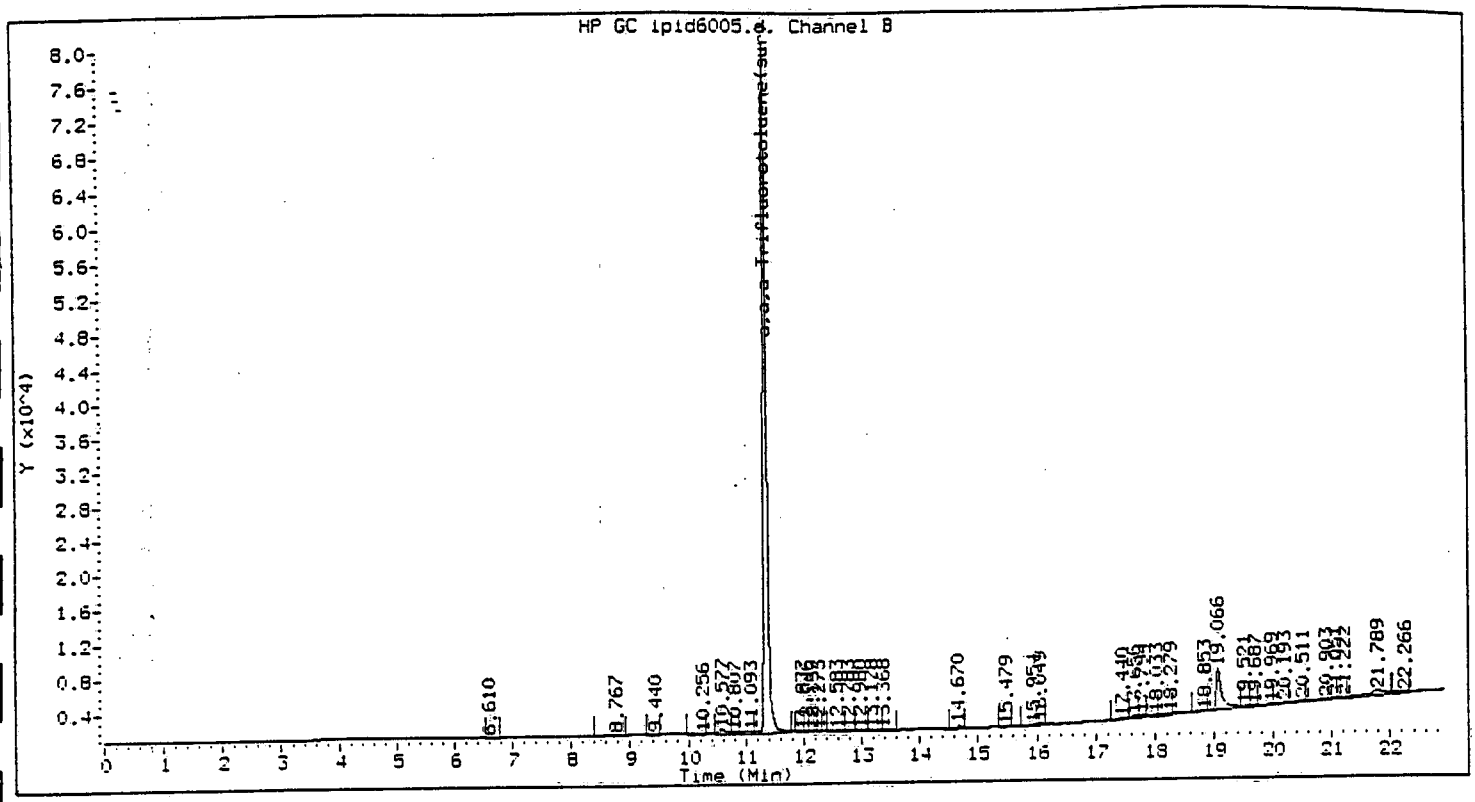
Date Sampled: 04/15/99
Date Received: 04/15/99
Date Analyzed: 04/20/99
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid6005.d

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	0.31
Toluene	ND	0.34
Ethylbenzene	ND	0.38
Xylene (Total)	ND	0.40

Data File: /chem/VOAGC3.i/602/04-20-99/20APR99.b/ipid6005.d
Report Date 04/21/1999 11:36



Method : /chem/VOAGC3.i/602/04-20-99/20APR99.b/602_99.m
Sample Info : 125119
Lab ID : 125119
Inj Date : 20-APR-1999 23:20
Operator : SK
Cmd 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)	11.357	11.351	0.007	1616007	29.672	29.672

Client ID: **MW-14I**
Site: L.E. Carpenter

Lab Sample No: **125120**
Lab Job No: N540

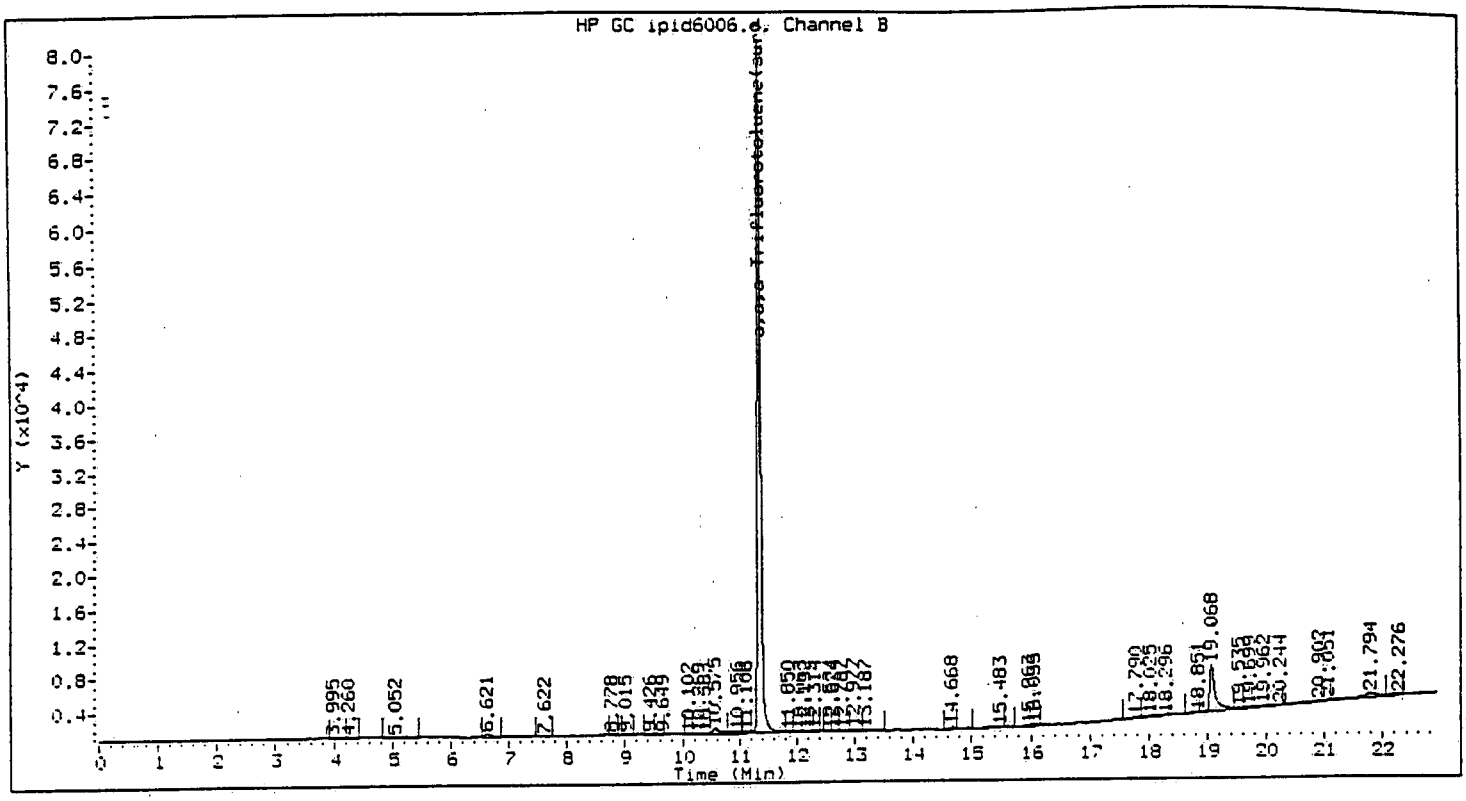
Date Sampled: 04/15/99
Date Received: 04/15/99
Date Analyzed: 04/20/99
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid6006.d

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	0.31
Toluene	ND	0.34
Ethylbenzene	ND	0.38
Xylene (Total)	ND	0.40

Data File: /chem/VOAGC3.i/602/04-20-99/20APR99.b/ipid6006.d Page 1
Report Date 04/21/1999 11:37



Method : /chem/VOAGC3.i/602/04-20-99/20APR99.b/602_99.m
Sample Info : 125120
Lab ID : 125120
Inj Date : 20-APR-1999 23:53
Operator : SK
Cond 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)	11.358	11.351	0.007	1620362	29.752	29.752

Client ID: MW-22
Site: L.E. Carpenter

Lab Sample No: 125121
Lab Job No: N540

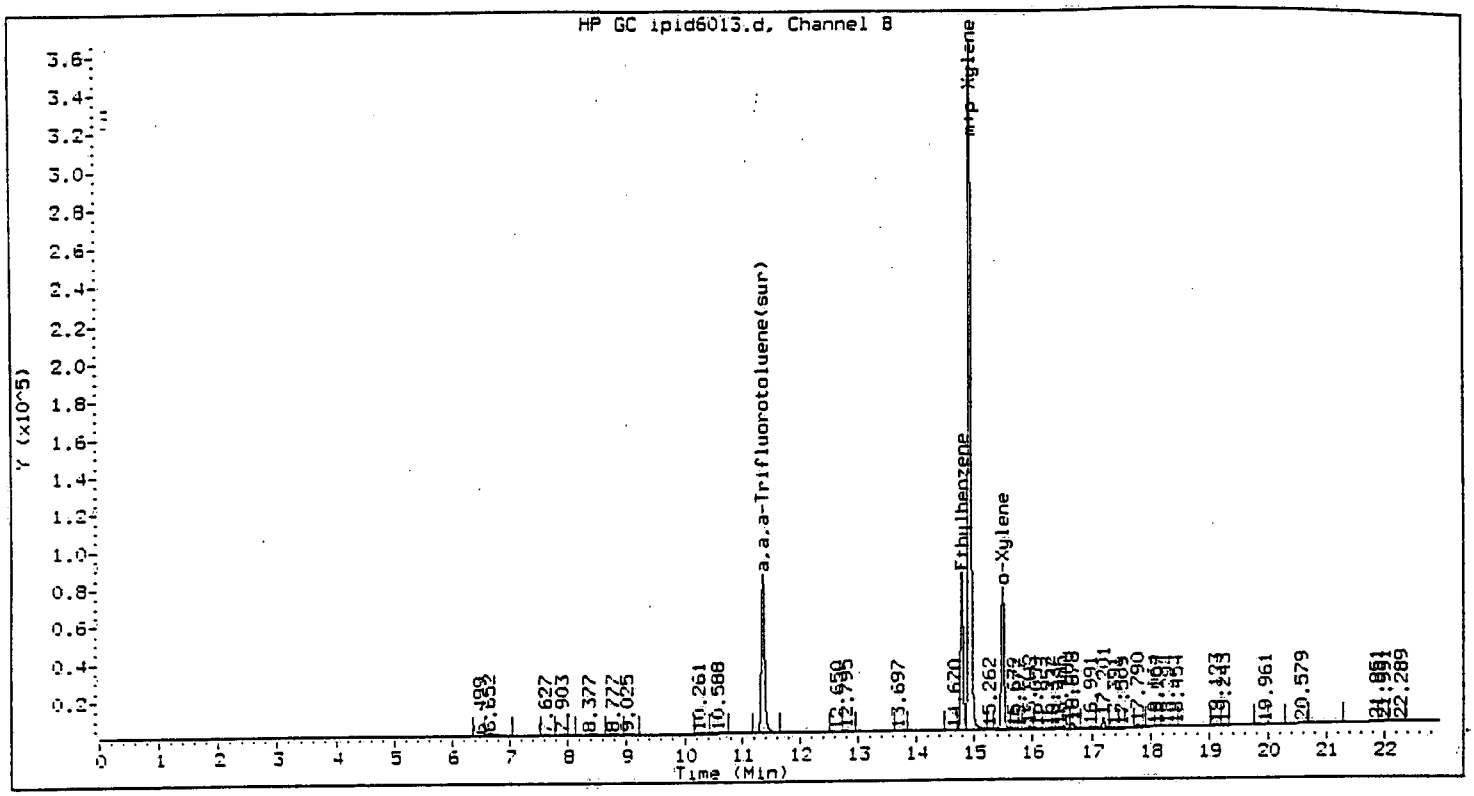
Date Sampled: 04/15/99
Date Received: 04/15/99
Date Analyzed: 04/21/99
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid6013.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 100.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	31
Toluene	ND	34
Ethylbenzene	1600	38
Xylene (Total)	7600	40

Data File: /chem/VOAGC3.i/602/04-20-99/20APR99.b/ipid6013.d Page 1
Report Date 04/21/1999 11:37



Method : /chem/VOAGC3.i/602/04-20-99/20APR99.b/602_99.m
Sample Info : 125121;;100
Lab ID : 125121
Inj Date : 21-APR-1999 03:44
Operator : SK
Cpnd Sublist: BTEX

Inst ID : VOAGC3.i
Dil Factor : 100
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	14.924	14.917	0.007	5994154	61.712	6171.192
o-Xylene	15.482	15.472	0.010	1243734	13.339	1333.948
Ethylbenzene	14.786	14.775	0.010	1333767	15.742	1574.233
Xylene (Total)	25.019	25.019	0.000	7237888	75.526	7552.593
a,a,a-Trifluorotoluene(sur)	11.363	11.351	0.012	1670681	30.676	30.676

Client ID: MW-25
Site: L.E. Carpenter

Lab Sample No: 125122
Lab Job No: N540

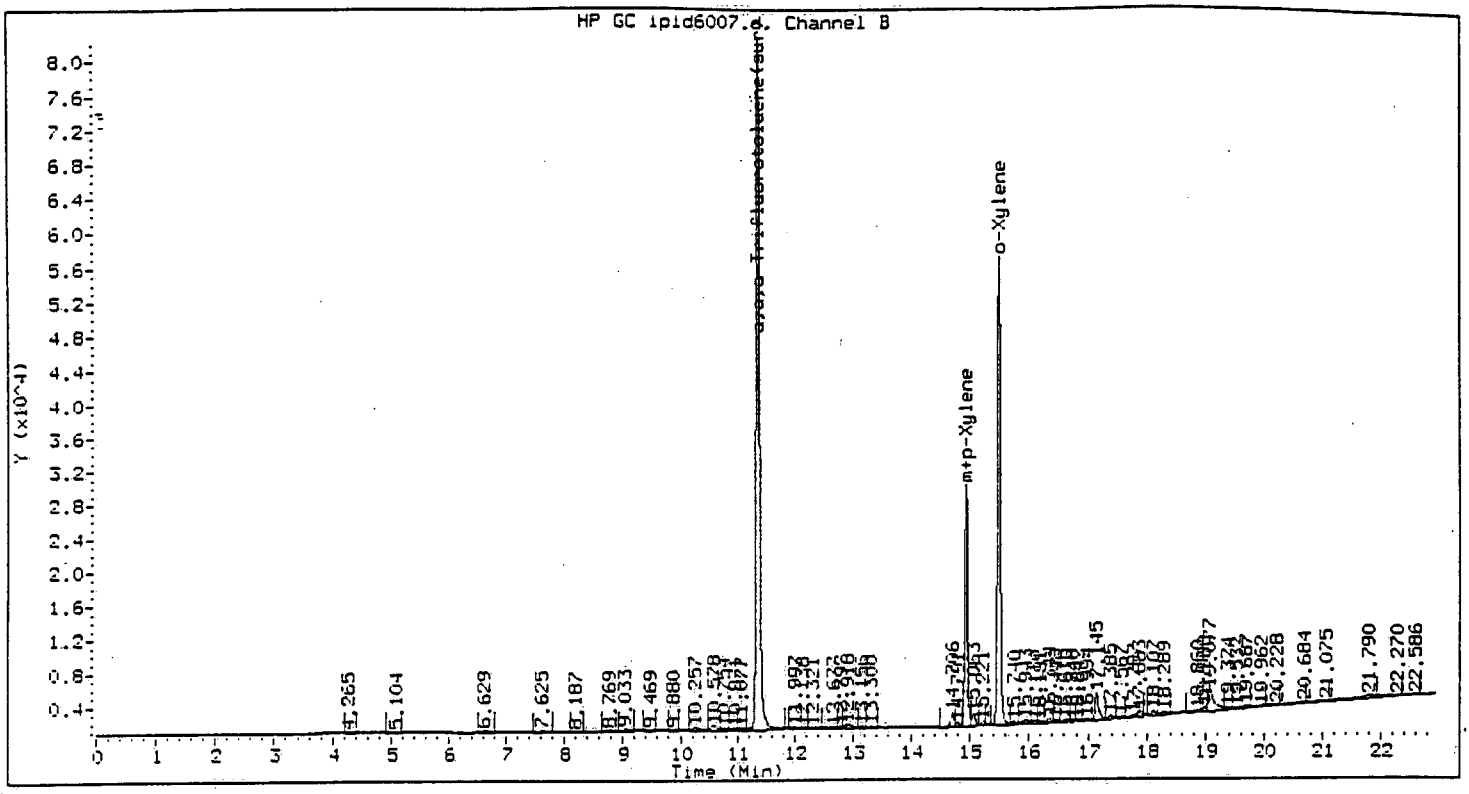
Date Sampled: 04/15/99
Date Received: 04/15/99
Date Analyzed: 04/21/99
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid6007.d

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	0.31
Toluene	ND	0.34
Ethylbenzene	ND	0.38
Xylene (Total)	14	0.40

ta File: /chem/VOAGC3.i/602/04-20-99/20APR99.b/ipid6007.d Page 1
port Date 04/21/1999 11:37



thod : /chem/VOAGC3.i/602/04-20-99/20APR99.b/602_99.m
Sample Info : 125122
b ID : 125122 Inst ID : VOAGC3.i
j Date : 21-APR-1999 00:26 Dil Factor : 1
Operator : SK Sample Matrix : WATER
Cpnd Sublist: BTEX Sample Type: SAMPLE

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
o-Xylene	14.931	14.917	0.014	448580	4.618	4.618
Xylene	15.480	15.472	0.008	905956	9.717	9.717
Xylene (Total)	25.019	25.019	0.000	1354536	14.134	14.134
a,a-Trifluorotoluene(sur)	11.360	11.351	0.009	1649555	30.288	30.288

Client ID: MW-21
Site: L.E. Carpenter

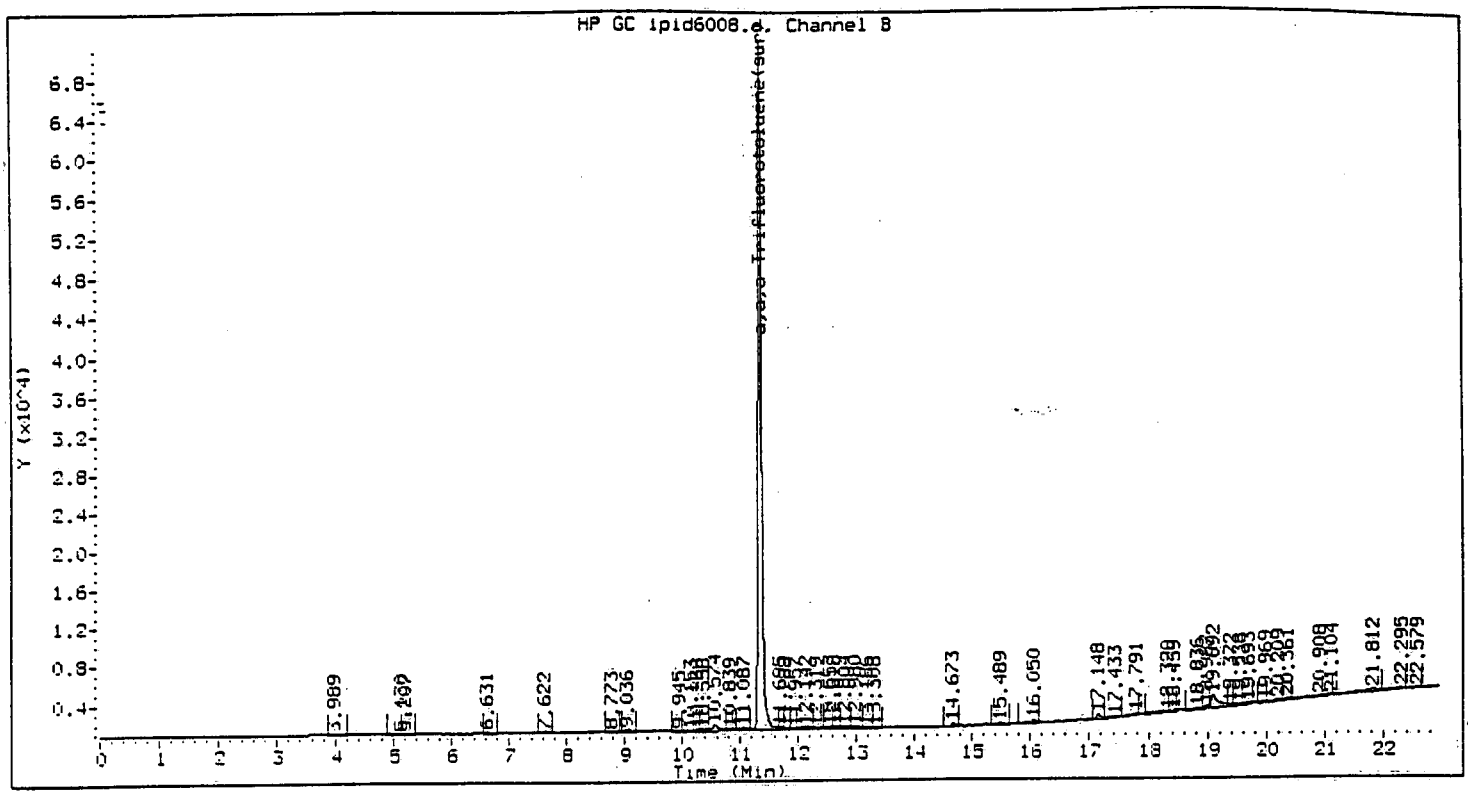
Lab Sample No: 125123
Lab Job No: N540

Date Sampled: 04/15/99
Date Received: 04/15/99
Date Analyzed: 04/21/99
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid6008.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	0.31
Toluene	ND	0.34
Ethylbenzene	ND	0.38
Xylene (Total)	ND	0.40



Method : /chem/VOAGC3.i/602/04-20-99/20APR99.b/602_99.m
Sample Info : 125123
ab ID : 125123
nj Date : 21-APR-1999 00:59
Operator : SK
Cond Sublist: BTEX

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

mpounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
a,a,a-Trifluorotoluene(sur)	11.361	11.351	0.011	1439218	26.426	26.426

Client ID: MW-4
Site: L.E. Carpenter

Lab Sample No: 125126
Lab Job No: N540

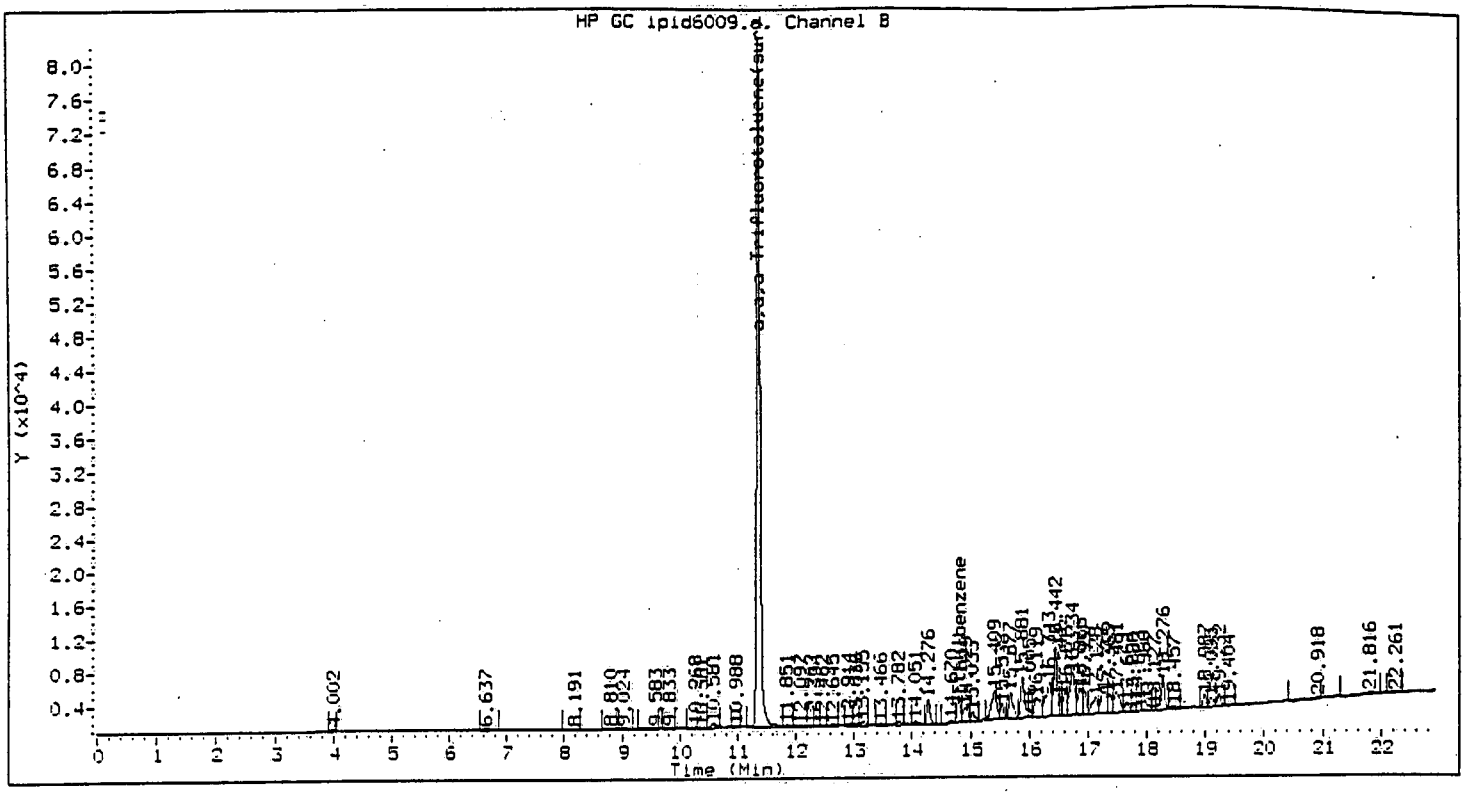
Date Sampled: 04/15/99
Date Received: 04/15/99
Date Analyzed: 04/21/99
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid6009.d

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	0.31
Toluene	ND	0.34
Ethylbenzene	0.66	0.38
Xylene (Total)	ND	0.40

Data File: /chem/VOAGC3.i/602/04-20-99/20APR99.b/ipid6009.d Page 1
Report Date 04/21/1999 11:37



Method : /chem/VOAGC3.i/602/04-20-99/20APR99.b/602_99.m
Sample Info : 125126
Lab ID : 125126
Inj Date : 21-APR-1999 01:32
Operator : SK
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)
Ethylbenzene	14.800	14.775	0.025	56278	0.664	0.664
a,a,a-Trifluorotoluene(sur)	11.361	11.351	0.010	1656667	30.419	30.419

Client ID: MW-17
Site: L.E. Carpenter

Lab Sample No: 125127
Lab Job No: N540

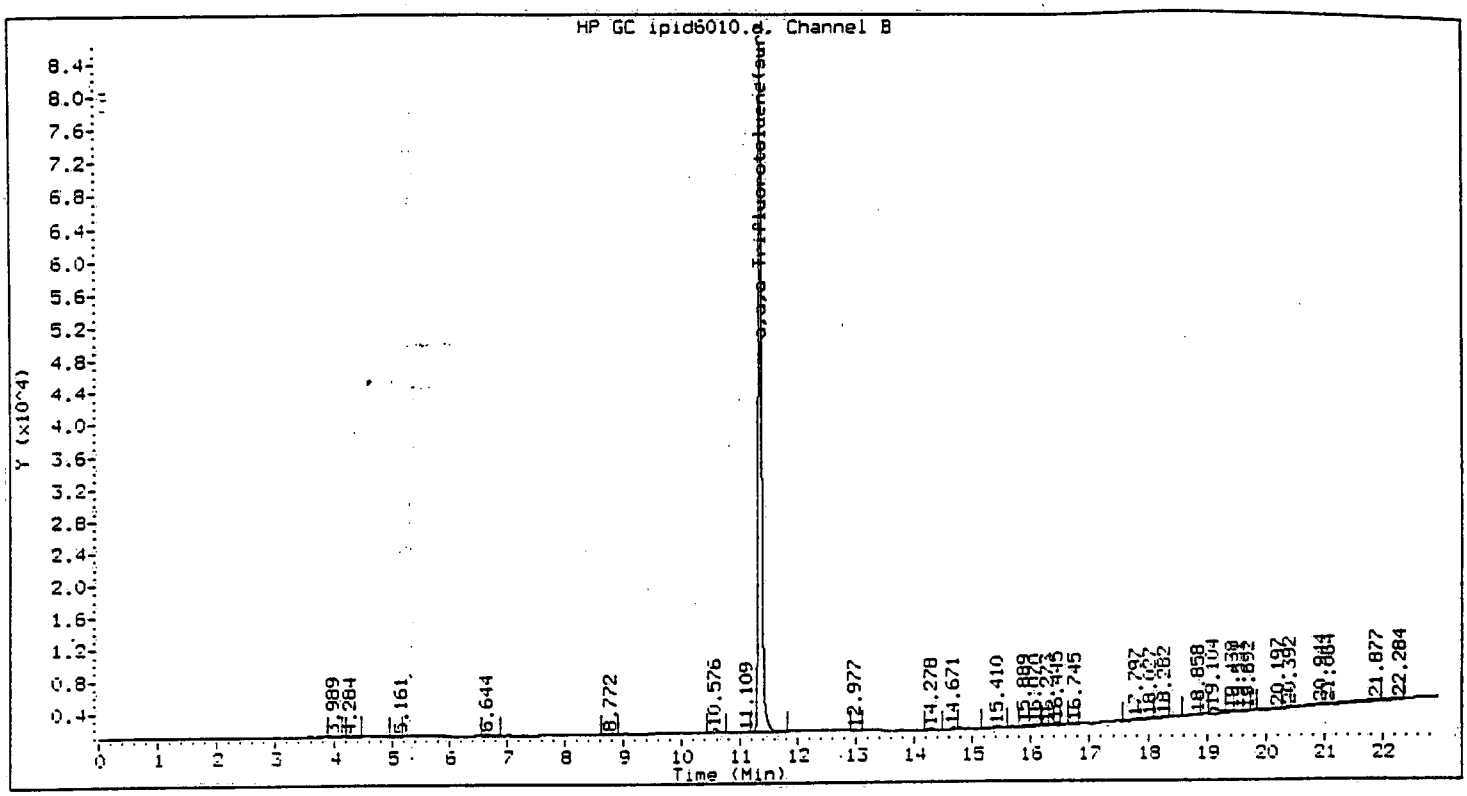
Date Sampled: 04/15/99
Date Received: 04/15/99
Date Analyzed: 04/21/99
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid6010.d

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	0.31
Toluene	ND	0.34
Ethylbenzene	ND	0.38
Xylene (Total)	ND	0.40

Data File: /chem/VOAGC3.i/602/04-20-99/20APR99.b/ipid6010.d Page 1
Report Date 04/21/1999 11:37



Method : /chem/VOAGC3.i/602/04-20-99/20APR99.b/602_99.m
Sample Info : 125127
Lab ID : 125127
Inj Date : 21-APR-1999 02:05
Operator : SK
Cond 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)	FINAL (ug/L)
a,a,a-Trifluorotoluene(sur)	11.361	11.351	0.010	1697270	31.164	31.164

Client ID: **MW-4d**
Site: L.E. Carpenter

Lab Sample No: **125128**
Lab Job No: N540

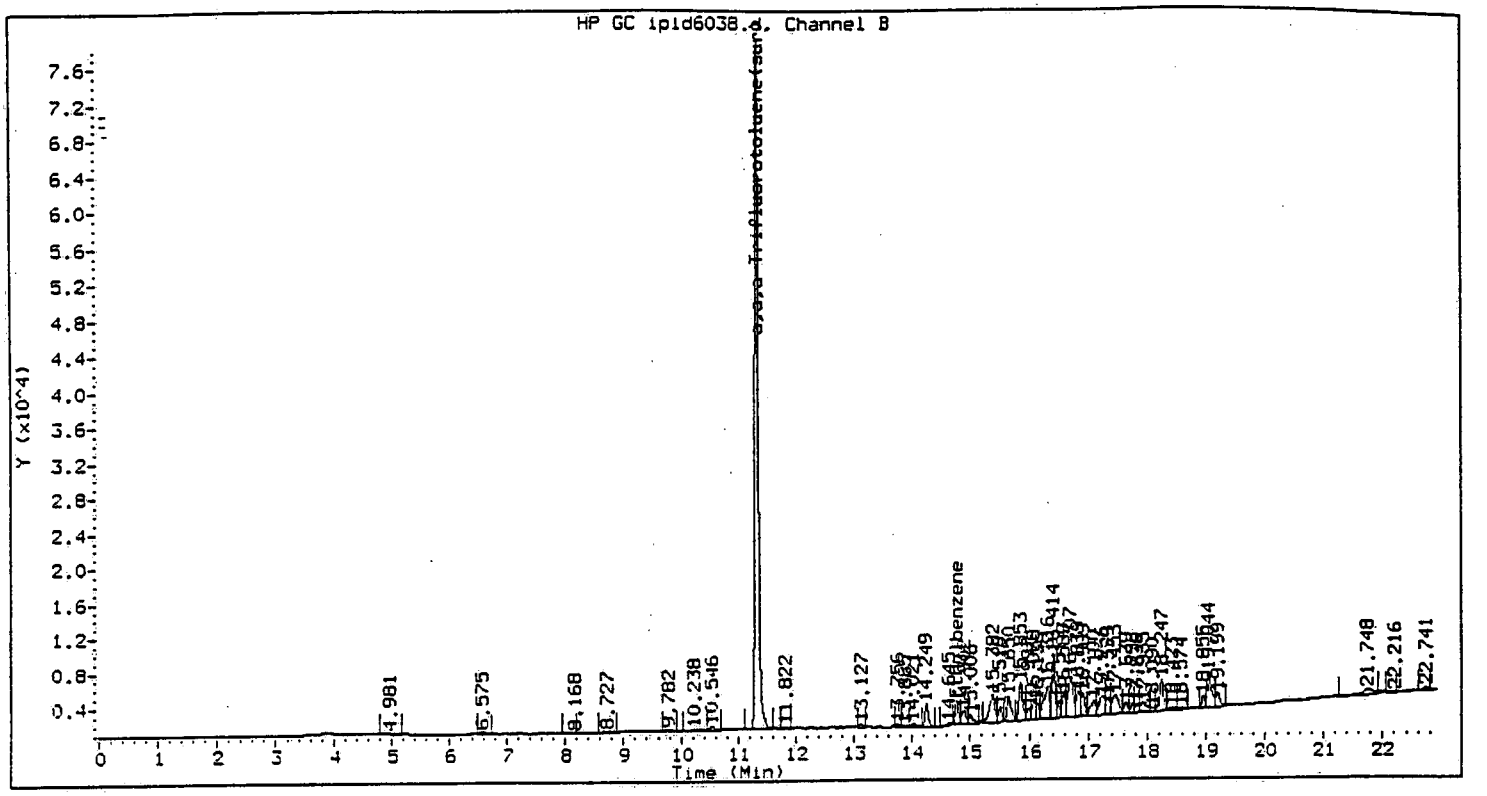
Date Sampled: 04/15/99
Date Received: 04/15/99
Date Analyzed: 04/21/99
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid6038.d

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	0.31
Toluene	ND	0.34
Ethylbenzene	0.43	0.38
Xylene (Total)	ND	0.40

Data File: /chem/VOAGC3.i/602/04-21-99/21apr99.b/ipid6038.d
Report Date 04/22/1999 15:32



Method : /chem/VOAGC3.i/602/04-21-99/21apr99.b/602_99.m
Sample Info : 125128
Lab ID : 125128
Inj Date : 21-APR-1999 19:49
Operator : SK
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)
========== hylbenzene	====== 14.773	======== 14.767	======== 0.005	======== 49102	======== 0.431	======== 0.431
a,a,a-Trifluorotoluene(sur)	11.332	11.343	0.011	1531894	31.977	31.977

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

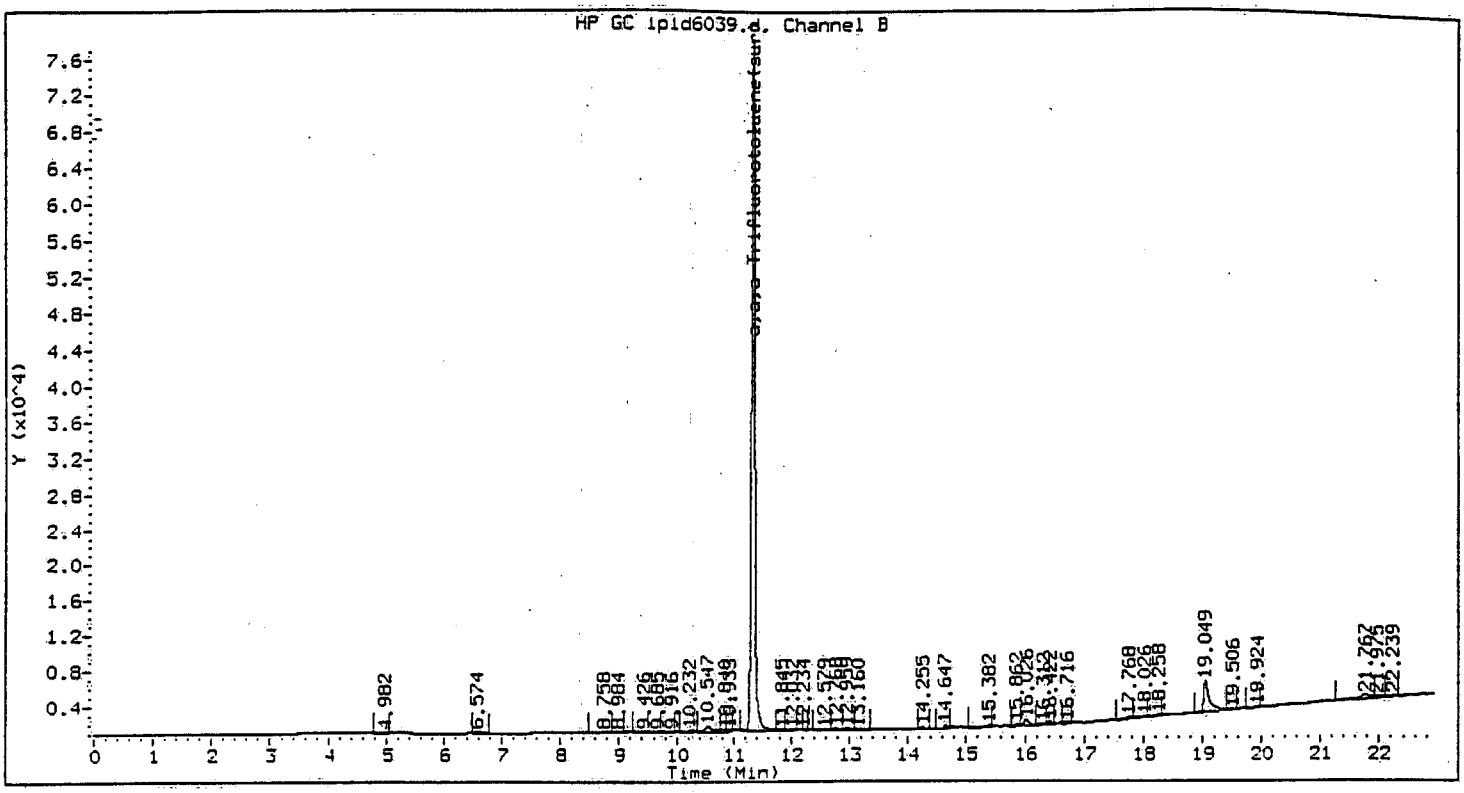
Lab Sample No: **125129**
Lab Job No: N540

Date Sampled: 04/15/99
Date Received: 04/15/99
Date Analyzed: 04/21/99
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid6039.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	0.31
Toluene	ND	0.34
Ethylbenzene	ND	0.38
Xylene (Total)	ND	0.40



Method : /chem/VOAGC3.i/602/04-21-99/21apr99.b/602_99.m
Sample Info : 125129
Lab ID : 125129 Inst ID : VOAGC3.i
Inj Date : 21-APR-1999 20:22 Dil Factor : 1
Operator : SK Sample Matrix : WATER
Cpnd Sublist: BTEX Sample Type: SAMPLE

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
a,a,a-Trifluorotoluene(sur)	11.335	11.343	0.008	1553892	32.436	32.436

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

Lab Sample No: **125130**
Lab Job No: N540

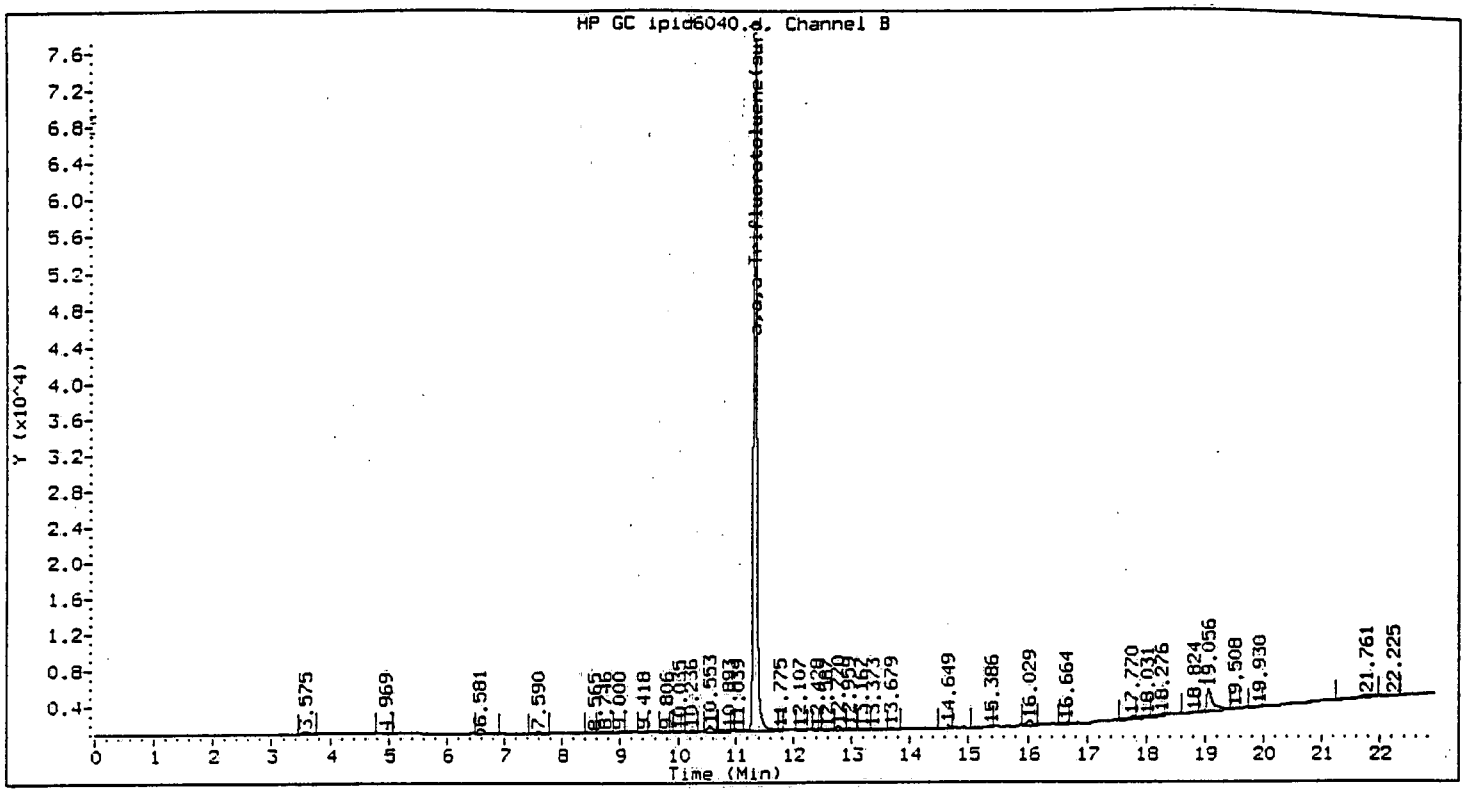
Date Sampled: 04/15/99
Date Received: 04/15/99
Date Analyzed: 04/21/99
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid6040.d

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	0.31
Toluene	ND	0.34
Ethylbenzene	ND	0.38
Xylene (Total)	ND	0.40

Data File: /chem/VOAGC3.i/602/04-21-99/21apr99.b/ipid6040.d
Report Date 04/22/1999 15:33



Method : /chem/VOAGC3.i/602/04-21-99/21apr99.b/602_99.m
Sample Info : 125130
Lab ID : 125130 Inst ID : VOAGC3.i
Inj Date : 21-APR-1999 20:55 Dil Factor : 1
Operator : SK Sample Matrix : WATER
Cpnd Sublist: BTEX Sample Type: SAMPLE

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
a,a-Trifluorotoluene(sur)	11.338	11.343	0.005	1534506	32.031	32.031

VOLATILE SPIKE RECOVERY SUMMARY
METHOD 602

Matrix: WATER

Level: LOW

Matrix Spike - Lab Sample No.: 125121

MS Sample from Lab Job No: N540

QA Batch: 6760

Compound	MS % REC.	BS % REC.	LIMITS
Benzene	120	110	39-150
Toluene	115	110	46-148
Chlorobenzene	115	110	55-135
Ethylbenzene	110	110	32-160
1,3-Dichlorobenzene	115	110	50-141
1,4-Dichlorobenzene	115	110	42-143
1,2-Dichlorobenzene	110	105	37-154

* Values outside of QC limits

Spike Recovery: 0 out of 14 outside limits

COMMENTS:

LAB SAMPLE NO.

IG110

VOLATILE METHOD BLANK SUMMARY

Date Analyzed: 04/20/99

Instrument ID: VOAGC3

Time Analyzed: 1345

Lab File ID: IPID5988

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

	CLIENT ID.	LAB SAMPLE NO	LAB FILE ID	TIME ANALYZED
01	MW-15S	125118	IPID6004	2247
02	MW-15I	125119	IPID6005	2320
03	MW-14I	125120	IPID6006	2353
04	MW-25	125122	IPID6007	0026
05	MW-21	125123	IPID6008	0059
06	MW-4	125126	IPID6009	0132
07	MW-17	125127	IPID6010	0205
08	MW-22	125121	IPID6013	0344
09				
10				
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25				
26				
27				
28				
29				
30				

COMMENTS:

Client ID: IG110
Site:

Lab Sample No: IG110
Lab Job No: N540

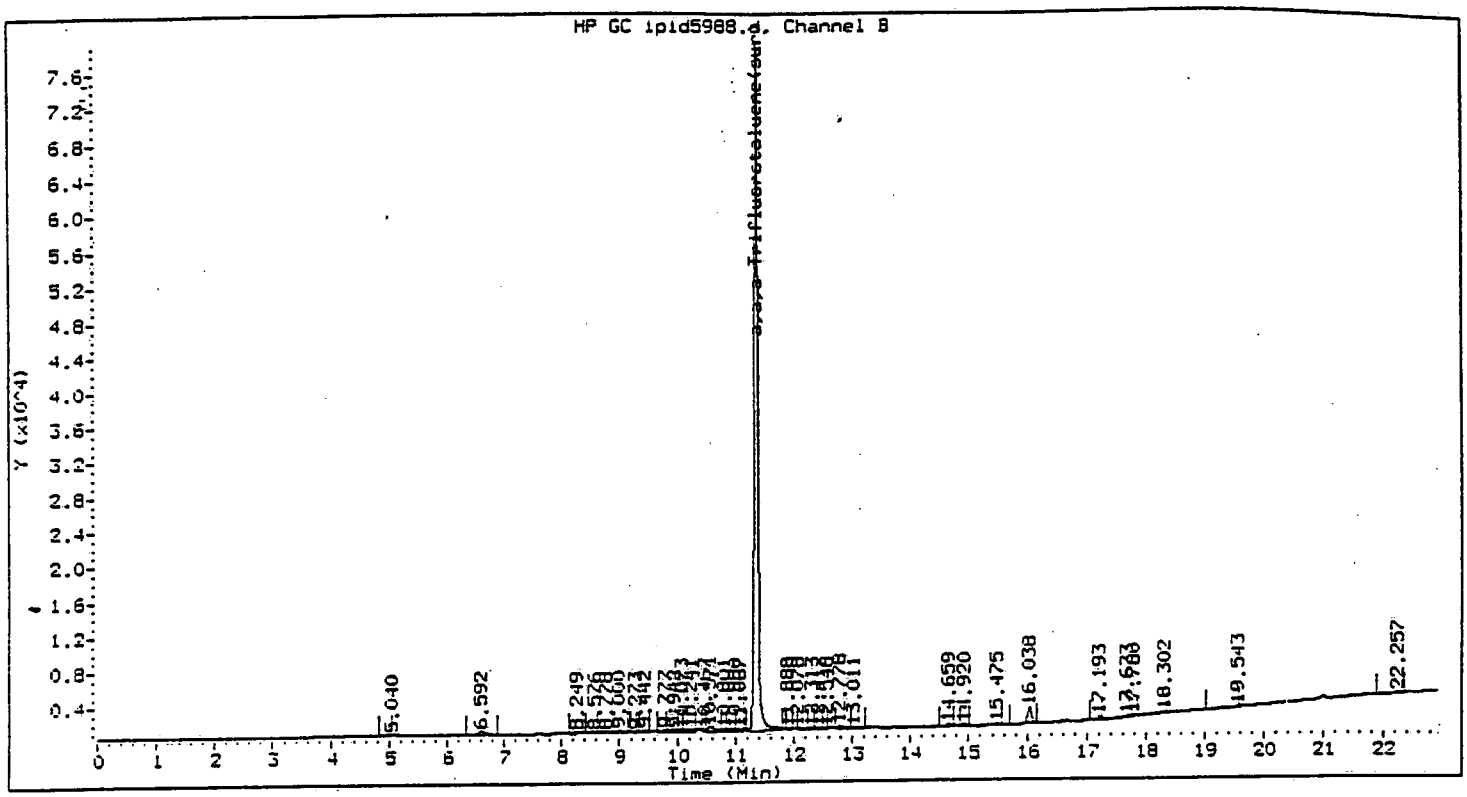
Date Sampled: _____
Date Received: _____
Date Analyzed: 04/20/99
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid5988.d

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	17
MTBE	ND	0.27
DIPE	ND	0.23
Benzene	ND	0.31
Toluene	ND	0.34
Chlorobenzene	ND	0.36
Ethylbenzene	ND	0.38
Xylene (Total)	ND	0.40
1,3-Dichlorobenzene	ND	0.48
1,4-Dichlorobenzene	ND	0.45
1,2-Dichlorobenzene	ND	0.43
Naphthalene	ND	0.55

Data File: /chem/VOAGC3.i/602/04-20-99/20APR99.b/ipid5988.d
Report Date 04/21/1999 11:35



Method : /chem/VOAGC3.i/602/04-20-99/20APR99.b/602_99.m
Sample Info : IG110
Lab ID : IG110
Inj Date : 20-APR-1999 13:45
Operator : SK
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)	11.345	11.351	0.006	1601997	29.415	29.415

LAB SAMPLE NO.

IG111

VOLATILE METHOD BLANK SUMMARY

Date Analyzed: 04/21/99

Instrument ID: VOAGC3

Time Analyzed: 1650

Lab File ID: IPID6033

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

	CLIENT ID.	LAB SAMPLE NO	LAB FILE ID	TIME ANALYZED
01	MW-4D	125128	IPID6038	1949
02	TRIP_BLANK	125129	IPID6039	2022
03	FIELD_BLANK	125130	IPID6040	2055
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

page 1 of 1

Client ID: IG111
Site:

Lab Sample No: IG111
Lab Job No: N540

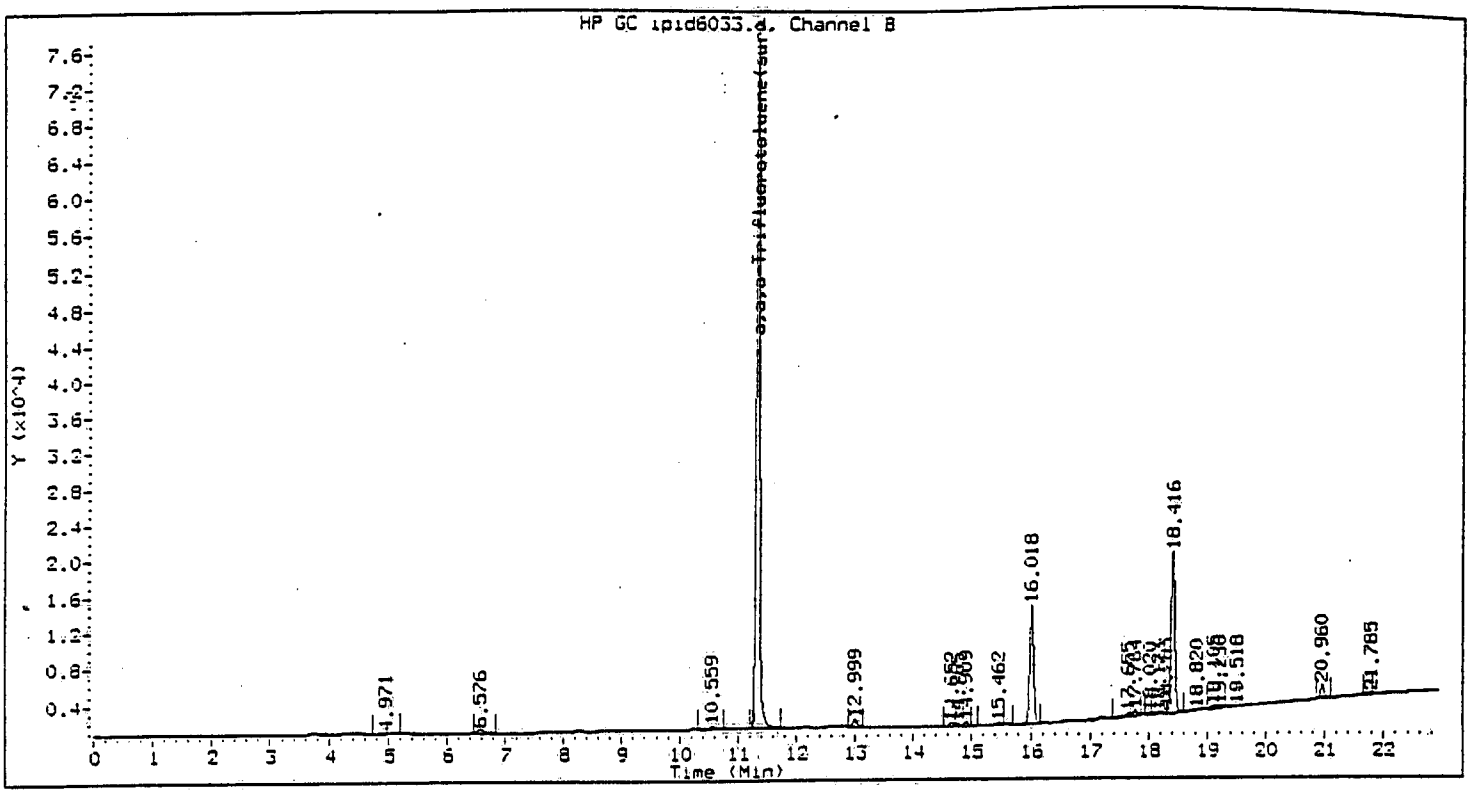
Date Sampled: _____
Date Received: _____
Date Analyzed: 04/21/99
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid6033.d

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	17
MTBE	ND	0.27
DIPE	ND	0.23
Benzene	ND	0.31
Toluene	ND	0.34
Chlorobenzene	ND	0.36
Ethylbenzene	ND	0.38
Xylene (Total)	ND	0.40
1,3-Dichlorobenzene	ND	0.48
1,4-Dichlorobenzene	ND	0.45
1,2-Dichlorobenzene	ND	0.43
Naphthalene	ND	0.55

Data File: /chem/VOAGC3.i/602/04-21-99/21apr99.b/ipid6033.d
Report Date 04/22/1999 15:32



Method : /chem/VOAGC3.i/602/04-21-99/21apr99.b/602_99.m
Sample Info : IG111
Lab ID : IG111
Inj Date : 21-APR-1999 16:50
Operator : SK
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)	11.334	11.343	0.008	1501758	31.348	31.348

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Instrument ID: VOAGC3

Calibration Date(s): 04/20/99 04/20/99

Calibration Time(s): 0909 1122

LAB FILE ID: RRF2: IPID5981 RRF5: IPID5982 RRF10: IPID5983
RRF20: IPID5984 RRF40: IPID5985

COMPOUND	RRF2	RRF5	RRF10	RRF20	RRF40
TBA **	418	510	519	520	
MTBE	48098	45727	49102	46470	47225
DIPE	75966	66388	73082	67371	69831
Benzene	118250	106700	115729	113326	120761
Toluene	111100	102040	108280	106042	112216
Chlorobenzene	106290	103500	111379	110612	114083
Ethylbenzene	86534	77356	83782	84133	91820
Xylene (Total)	98802	90042	94955	95512	99854
1,3-Dichlorobenzene	74809	76029	81435	81034	85572
1,4-Dichlorobenzene	85757	83997	89101	89113	94880
1,2-Dichlorobenzene	66166	68774	72034	70869	73925
Naphthalene	40232	38251	44916	46874	48227
a,a,a-Trifluorotoluene(sur)	51126	53975	56782	55856	54573

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

VOLATILE ORGANICS INITIAL CALIBRATION DATA

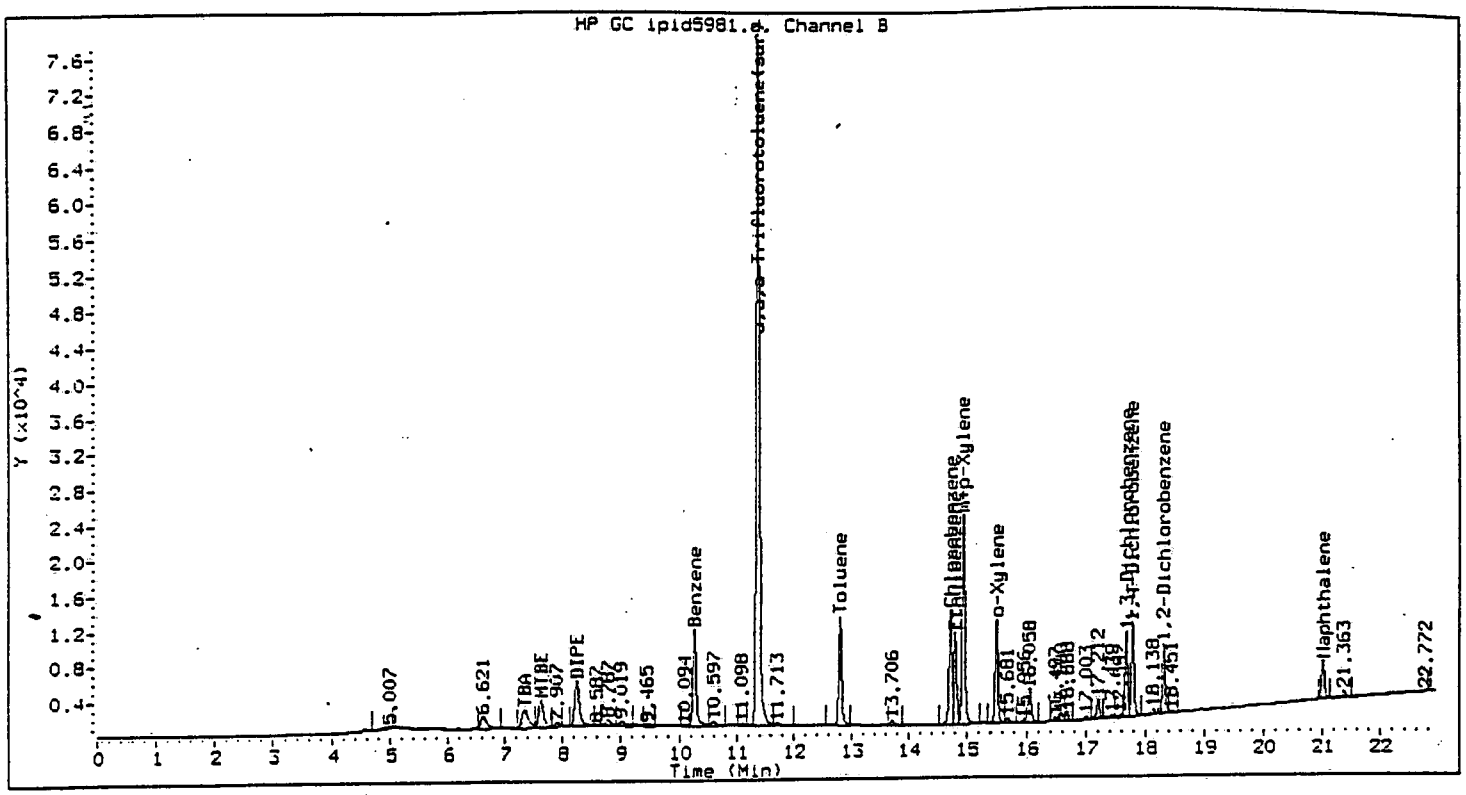
Instrument ID: VOAGC3

Calibration Date(s): 04/20/99 04/20/99

Calibration Time(s): 0909 1122

COMPOUND	CURVE	COEFFICENT A1	%RSD OR R^2
TBA **	AVRG	492	10.0*
MTBE	AVRG	47324	2.8*
DIPE	AVRG	70528	5.6*
Benzene	AVRG	114953	4.7*
Toluene	AVRG	107936	3.8*
Chlorobenzene	AVRG	109173	3.9*
Ethylbenzene	AVRG	84725	6.2*
Xylene (Total)	AVRG	95833	4.0*
1,3-Dichlorobenzene	AVRG	79776	5.5*
1,4-Dichlorobenzene	AVRG	88570	4.7*
1,2-Dichlorobenzene	AVRG	70354	4.2*
Naphthalene	AVRG	43700	9.8*
a,a,a-Trifluorotoluene(sur)	AVRG	54462	4.0*

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



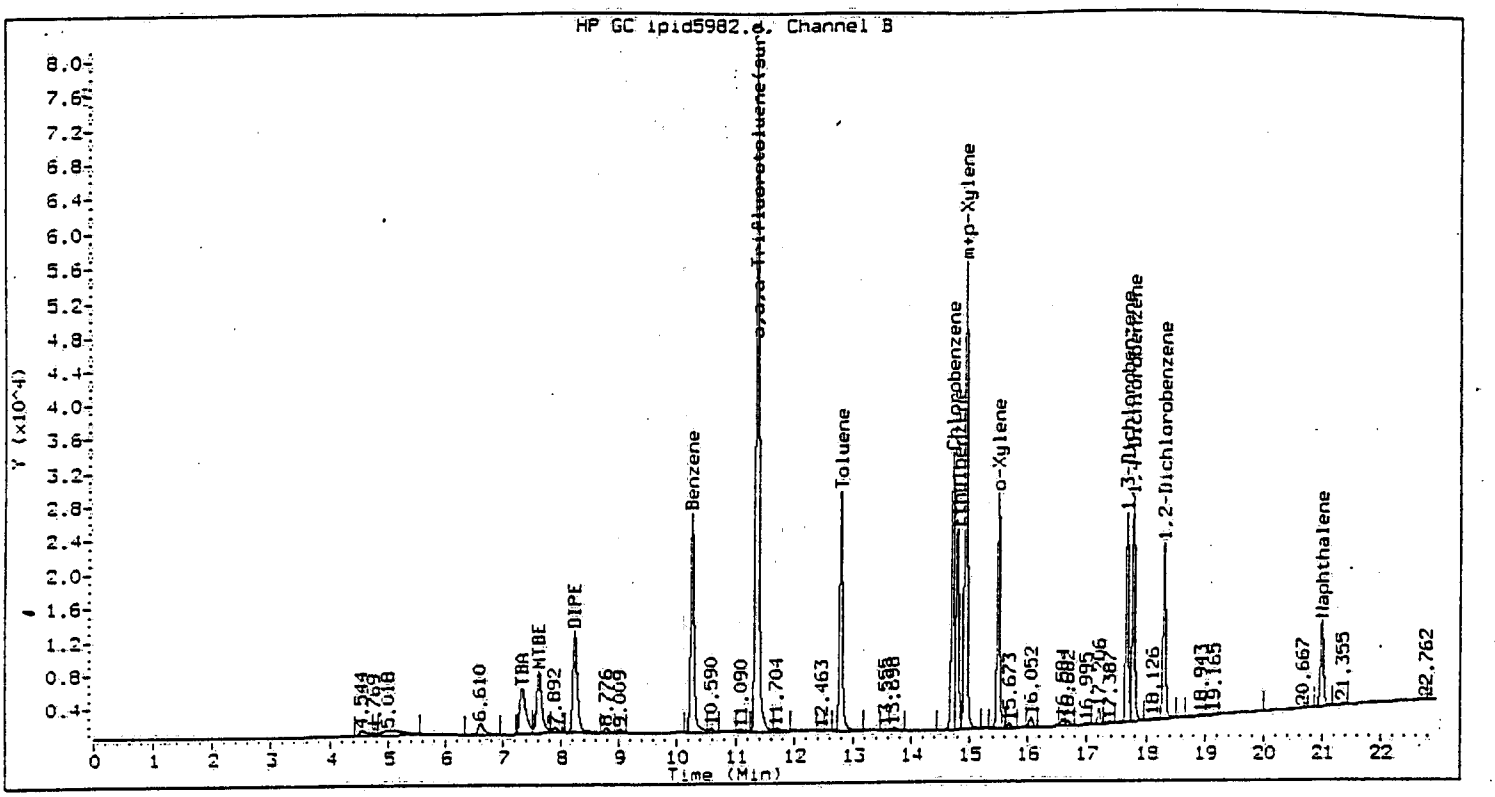
Method : /chem/VOAGC3.i/602/04-20-99/20APR99.b/602_99.m
Sample Info : ISTD002
ab ID : ISTD002
nj Date : 20-APR-1999 09:09
Operator : SK
Cpnd Sublist: all

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

ompounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
-Xylene	15.493	15.472	0.021	194566	2.053	2.053
+p-Xylene	14.938	14.917	0.021	398246	4.049	4.049
TBA	7.343	7.307	0.036	83703	178.313	178.313
TBE	7.630	7.604	0.027	96197	2.034	2.034
DIPE	8.251	8.224	0.027	151931	2.120	2.120
enzene	10.266	10.241	0.025	236500	2.043	2.043
Toluene	12.801	12.778	0.023	222200	2.047	2.047
hlorobenzene	14.717	14.694	0.022	212580	1.960	1.960
Ethylbenzene	14.796	14.775	0.021	173067	2.028	2.028

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
Xylene (Total)	25.019	25.019	0.000	592812	6.102	6.102
3-Dichlorobenzene	17.684	17.662	0.022	149618	1.920	1.920
1,4-Dichlorobenzene	17.793	17.769	0.023	171514	1.962	1.962
2-Dichlorobenzene	18.319	18.296	0.023	132332	1.931	1.931
Naphthalene	21.006	20.975	0.031	80465	1.848	1.848
a,a-Trifluorotoluene(sur)	11.372	11.351	0.022	1533780	28.674	28.674

ata File: /chem/VOAGC3.i/602/04-20-99/20APR99.b/ipid5982.d Page 1
Report Date 04/21/1999 11:35



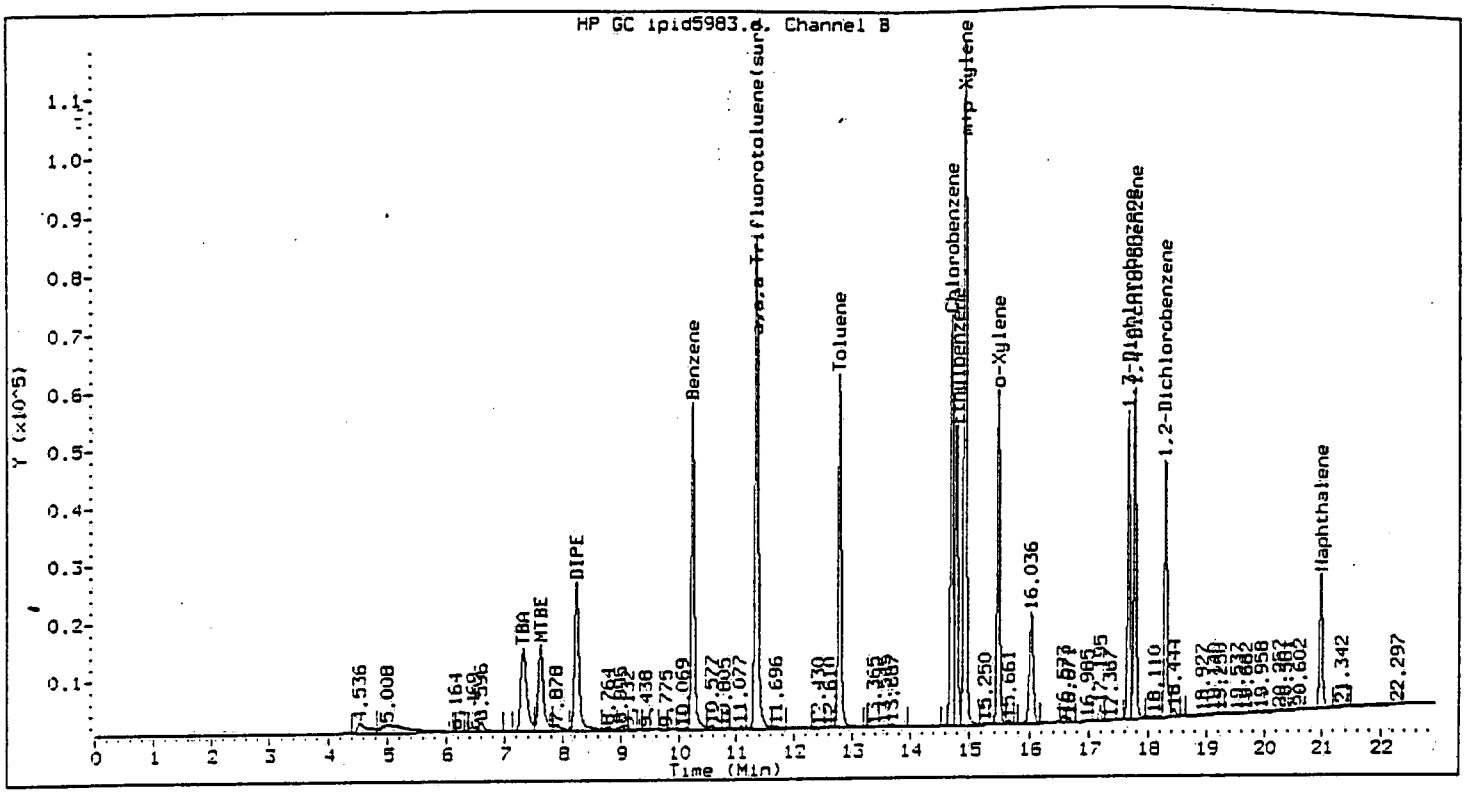
Method : /chem/VOAGC3.i/602/04-20-99/20APR99.b/602_99.m
Sample Info : ISTD005
Lab ID : ISTD005
Inj Date : 20-APR-1999 09:42
Operator : SK
Cmpnd Sublist: all

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	15.486	15.472	0.014	444704	4.791	4.791
m+p-Xylene	14.930	14.917	0.013	905932	9.460	9.460
TBA	7.331	7.307	0.024	204174	422.643	422.643
MTBE	7.619	7.604	0.015	228635	4.889	4.889
DIPE	8.239	8.224	0.016	331941	4.748	4.748
Benzene	10.257	10.241	0.016	533499	4.731	4.731
Toluene	12.793	12.778	0.014	510202	4.795	4.795
Chlorobenzene	14.709	14.694	0.015	517500	4.845	4.845
Ethylbenzene	14.789	14.775	0.014	386781	4.678	4.678

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
Xylene (Total)	25.019	25.019	0.000	1350636	14.249	14.249
3-Dichlorobenzene	17.677	17.662	0.015	380147	4.918	4.918
1,4-Dichlorobenzene	17.785	17.769	0.015	419984	4.867	4.867
2-Dichlorobenzene	18.311	18.296	0.015	343872	5.012	5.012
Naphthalene	20.995	20.975	0.020	191254	4.577	4.577
a,a-Trifluorotoluene(sur)	11.364	11.351	0.013	1619238	30.180	30.180

Data File: /chem/VOAGC3.i/602/04-20-99/20APR99.b/ipid5983.d
Report Date 04/21/1999 11:35

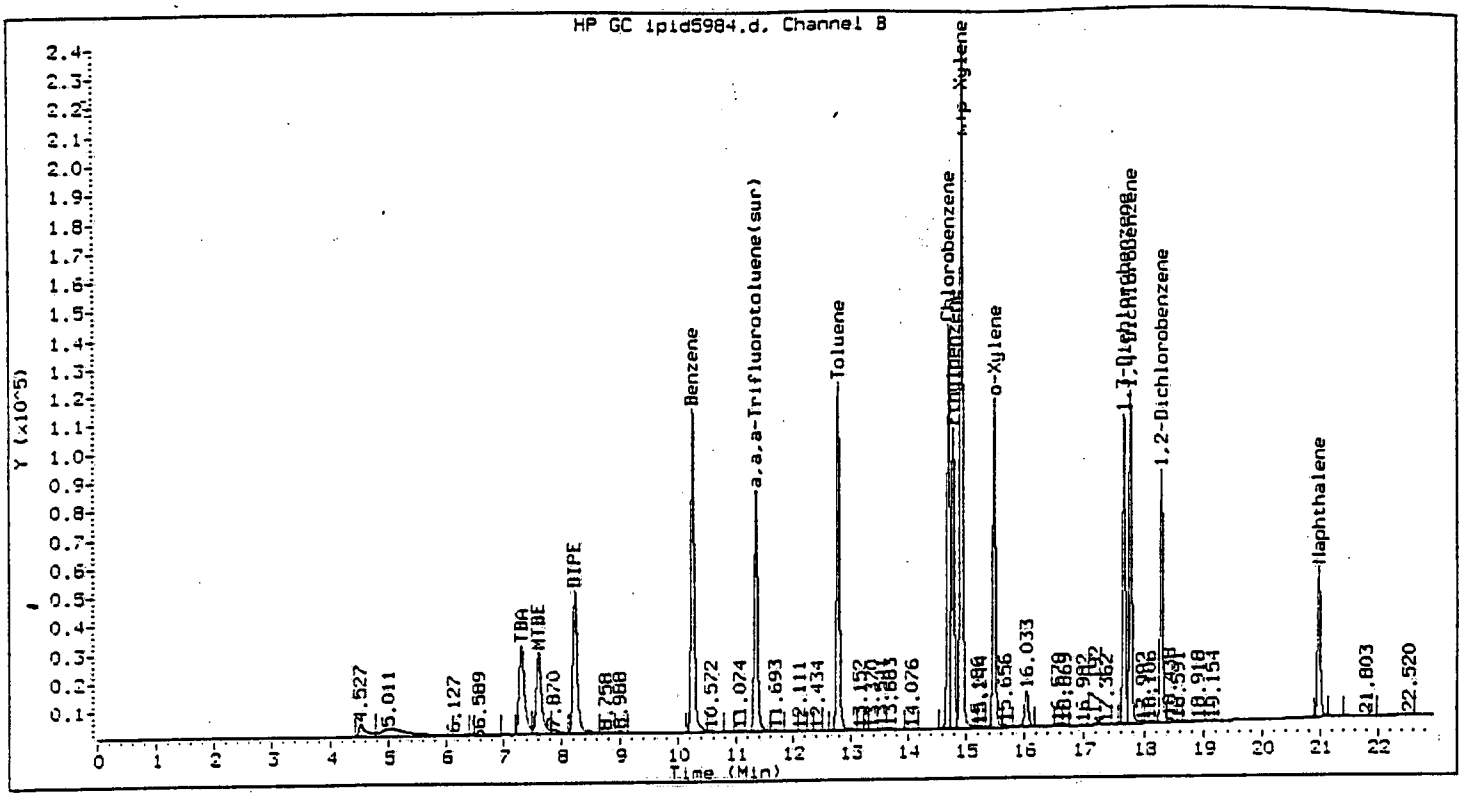


Method : /chem/VOAGC3.i/602/04-20-99/20APR99.b/602_99.m
Sample Info : ISTD010
Lab ID : ISTD010
Inj Date : 20-APR-1999 10:15
Operator : SK
Cpnd Sublist: all

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	15.475	15.472	0.003	925122	9.975	9.975
m+p-Xylene	14.920	14.917	0.003	1923523	20.064	20.064
TBA	7.313	7.307	0.006	518776	1054.400	1054.400
MTBE	7.607	7.604	0.004	491023	10.370	10.370
DIPE	8.228	8.224	0.004	730819	10.337	10.337
Benzene	10.246	10.241	0.004	1157293	10.196	10.196
Toluene	12.782	12.778	0.003	1082797	10.132	10.132
Chlorobenzene	14.698	14.694	0.004	1113788	10.318	10.318
Ethylbenzene	14.778	14.775	0.003	837822	10.100	10.100

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
Xylene (Total)	25.019	25.019	0.000	2848645	30.040	30.040
1,3-Dichlorobenzene	17.666	17.662	0.004	814348	10.397	10.397
1,4-Dichlorobenzene	17.773	17.769	0.004	891008	10.242	10.242
1,2-Dichlorobenzene	18.299	18.296	0.004	720338	10.370	10.370
Naphthalene	20.980	20.975	0.005	449155	10.551	10.551
a,a,a-Trifluorotoluene(sur)	11.354	11.351	0.003	1703461	31.294	31.294



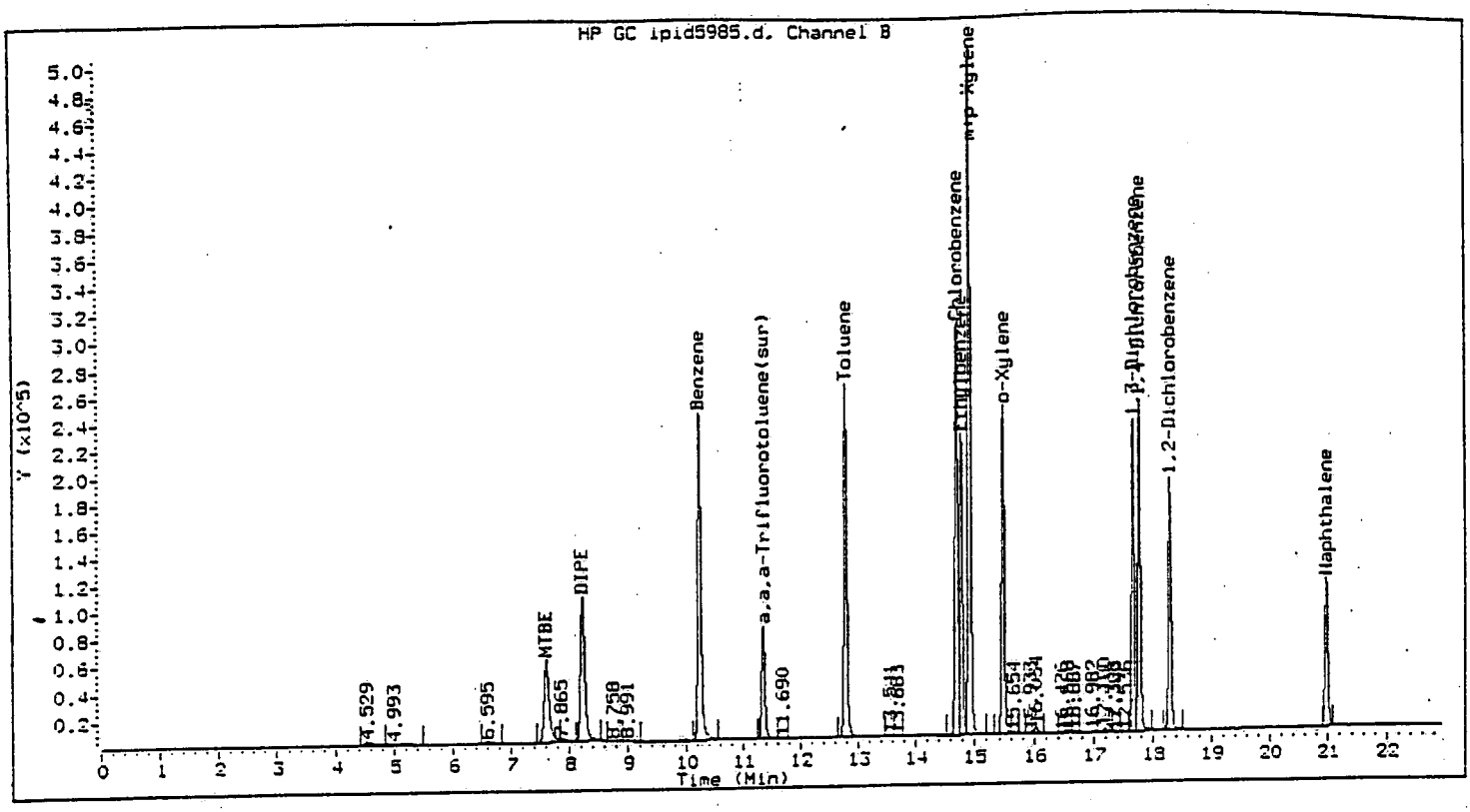
Method : /chem/VOAGC3.i/602/04-20-99/20APR99.b/602_99.m
Sample Info : ISTD020
Lab ID : ISTD020
Inj Date : 20-APR-1999 10:49
Operator : SK
Spnd Sublist: all

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	15.472	15.472	0.000	1844614	20.000	20.000
m+p-Xylene	14.917	14.917	0.000	3886129	40.000	40.000
TBA	7.307	7.307	0.000	1040633	2000.000	2000.000
TBE	7.604	7.604	0.000	929404	20.000	20.000
DIPE	8.224	8.224	0.000	1347429	20.000	20.000
Benzene	10.241	10.241	0.000	2266516	20.000	20.000
Toluene	12.778	12.778	0.000	2120835	20.000	20.000
Chlorobenzene	14.694	14.694	0.000	2212232	20.000	20.000
Ethylbenzene	14.775	14.775	0.000	1682653	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	5730743	60.000	60.000
1,3-Dichlorobenzene	17.662	17.662	0.000	1620688	20.000	20.000
1,4-Dichlorobenzene	17.769	17.769	0.000	1782264	20.000	20.000
1,2-Dichlorobenzene	18.296	18.296	0.000	1417382	20.000	20.000
Naphthalene	20.975	20.975	0.000	937473	20.000	20.000
a,a,a-Trifluorotoluene(sur)	11.351	11.351	0.000	1675688	30.000	30.000

Data File: /chem/VOAGC3.i/602/04-20-99/20APR99.b/ipid5985.d
Report Date 04/21/1999 11:35



Method : /chem/VOAGC3.i/602/04-20-99/20APR99.b/602_99.m
Sample Info : ISTD040
Lab ID : ISTD040
Inj Date : 20-APR-1999 11:22
Operator : SK
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	15.471	15.472	0.001	3808741	40.850	40.850
m+p-Xylene	14.916	14.917	0.001	8173760	84.152	84.152
MTBE	7.602	7.604	0.001	1888989	39.916	39.916
DIPE	8.221	8.224	0.002	2793259	39.605	39.605
Benzene	10.240	10.241	0.001	4830457	42.021	42.021
Toluene	12.777	12.778	0.002	4488634	41.586	41.586
Chlorobenzene	14.693	14.694	0.002	4563330	41.799	41.799
Ethylbenzene	14.774	14.775	0.001	3672791	43.350	43.350
Xylene (Total)	25.019	25.019	0.000	11982501	125.035	125.035

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1,3-Dichlorobenzene	17.660	17.662	0.002	3422874	42.906	42.906
1,4-Dichlorobenzene	17.768	17.769	0.002	3795216	42.850	42.850
1,2-Dichlorobenzene	18.294	18.296	0.001	2957008	42.031	42.031
Naphthalene	20.973	20.975	0.001	1929075	44.144	44.144
a,a,a-Trifluorotoluene(sur)	11.350	11.351	0.001	1637179	30.061	30.061

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Instrument ID: VOAGC3 Calibration Date(s): 04/21/99 04/21/99

Calibration Time(s): 1251 1534

LAB FILE ID: RRF2: IPID6027 RRF5: IPID6028 RRF10: IPID6029
RRF20: IPID6030 RRF40: IPID6031

COMPOUND	RRF2	RRF5	RRF10	RRF20	RRF40
TBA **	396	472	509	517	
MTBE	57830	55809	56916	53464	54253
DIPE	84918	85488	82453	79724	79085
Benzene	159976	163222	158117	154022	153317
Toluene	148485	146805	140256	136405	135274
Chlorobenzene	149672	148033	144638	142550	136177
Ethylbenzene	117272	120049	112504	108273	112091
Xylene (Total)	132966	131661	123841	120309	118732
1,3-Dichlorobenzene	105378	111693	99820	97905	96525
1,4-Dichlorobenzene	116890	120233	106918	104771	106348
1,2-Dichlorobenzene	92863	95155	85498	84793	81253
Naphthalene	66529	56194	46433	47990	48916
a,a,a-Trifluorotoluene(sur)	44408	46563	45593	51805	51164

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

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Instrument ID: VOAGC3

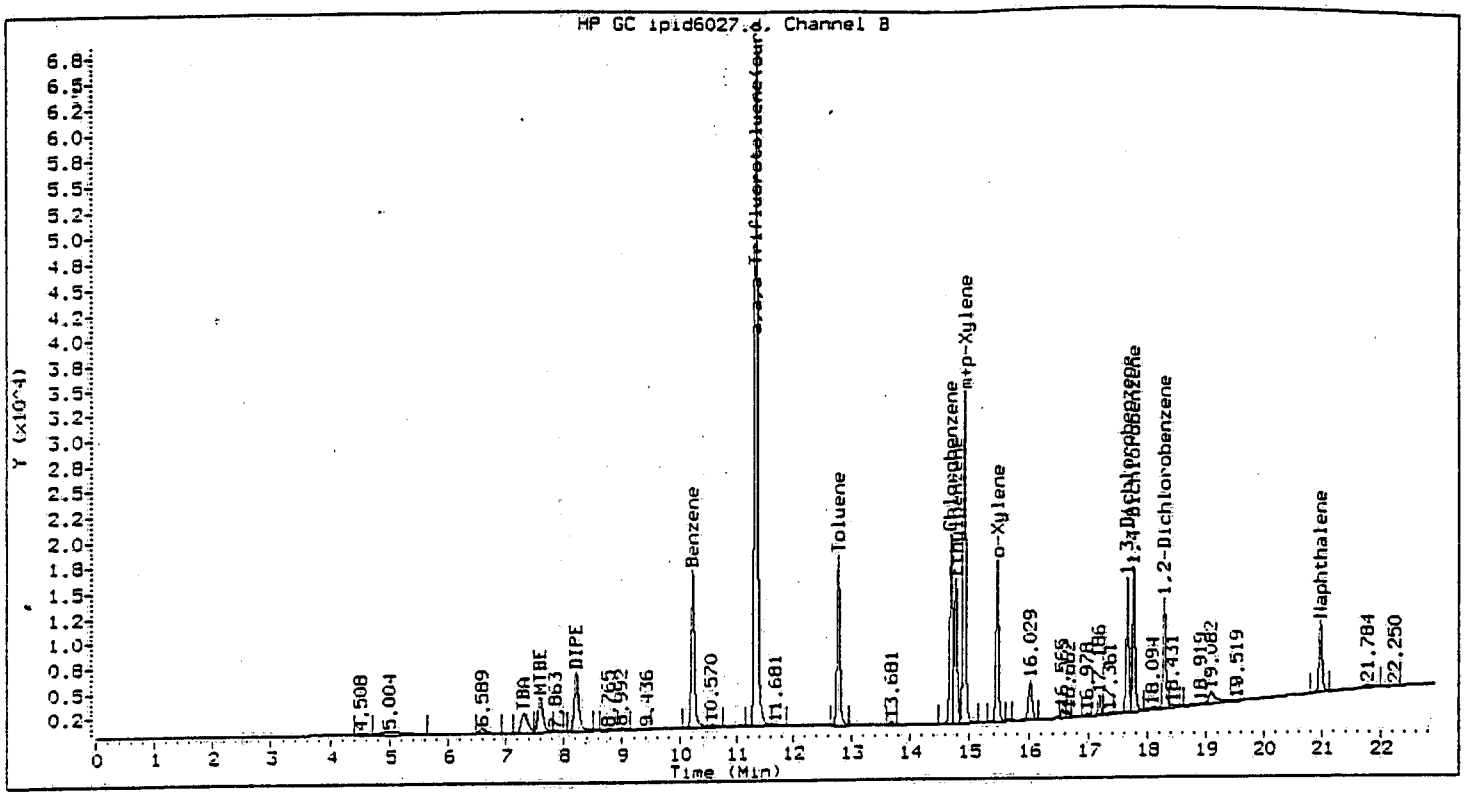
Calibration Date(s): 04/21/99 04/21/99

Calibration Time(s): 1251 1534

COMPOUND	CURVE	COEFFICENT A1	%RSD OR R^2
TBA **	AVRG	473	12*
MTBE	AVRG	55654	3.2*
DIPE	AVRG	82334	3.5*
Benzene	AVRG	157731	2.6*
Toluene	AVRG	141445	4.2*
Chlorobenzene	AVRG	144214	3.7*
Ethylbenzene	AVRG	114038	4.1*
Xylene (Total)	AVRG	125502	5.2*
1,3-Dichlorobenzene	AVRG	102264	6.1*
1,4-Dichlorobenzene	AVRG	111032	6.3*
1,2-Dichlorobenzene	AVRG	87912	6.6*
Naphthalene	AVRG	53212	16*
a,a,a-Trifluorotoluene(sur)	AVRG	47907	7.0*

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

Data File: /chem/VOAGC3.i/602/04-21-99/21apr99.b/ipid6027.d
Report Date 04/22/1999 15:32



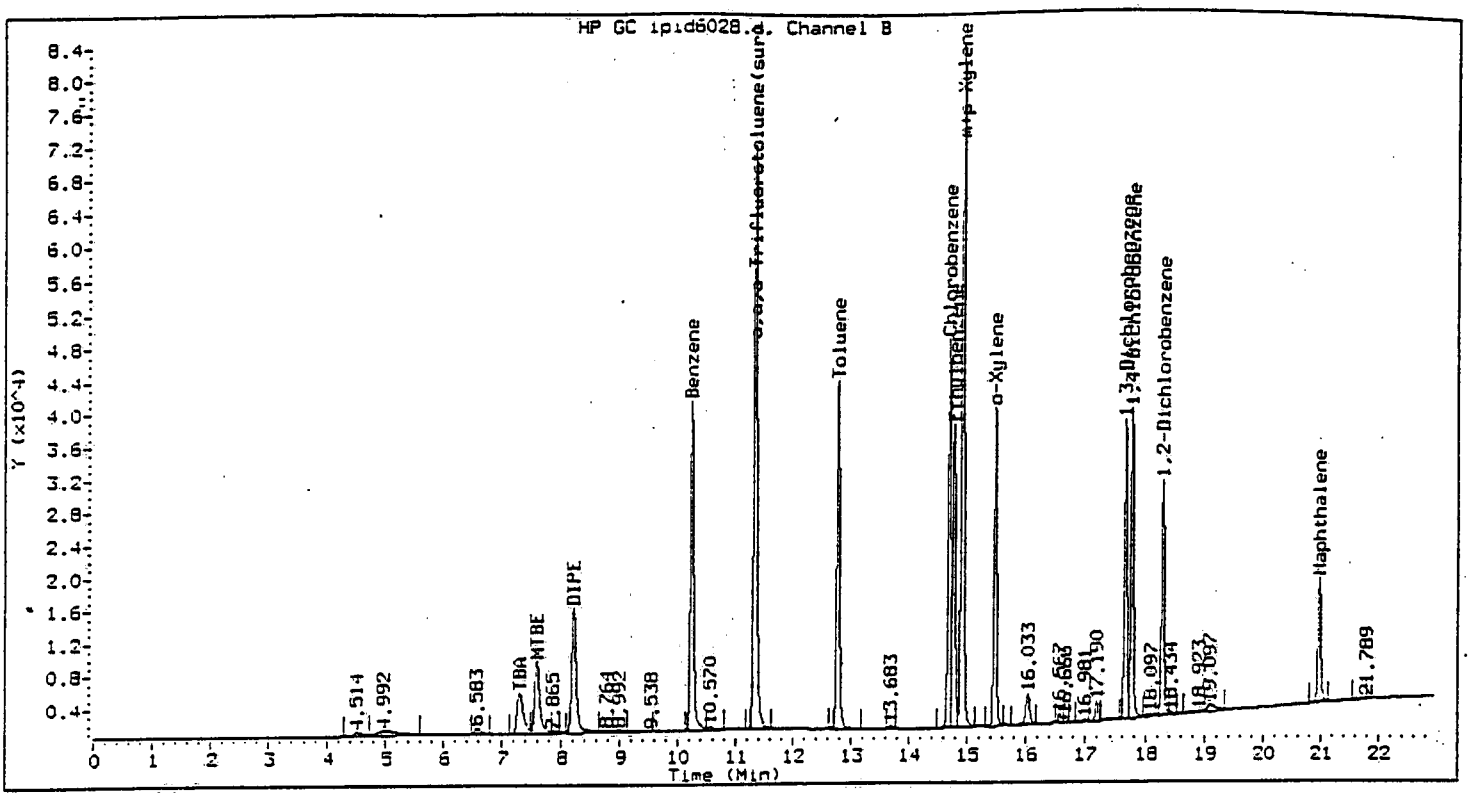
Method : /chem/VOAGC3.i/602/04-21-99/21apr99.b/602_99.m
Sample Info : ISTD002
Lab ID : ISTD002
Inj Date : 21-APR-1999 12:51
Operator : SK
Cpnd Sublist: all

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	15.467	15.464	0.003	260925	2.000	2.000
m+p-Xylene	14.912	14.909	0.003	536874	4.000	4.000
TBA	7.315	7.299	0.016	79124	200.000	200.000
MTBE	7.594	7.592	0.002	115660	2.000	2.000
DIPE	8.216	8.213	0.002	169835	2.000	2.000
Benzene	10.236	10.232	0.004	319953	2.000	2.000
Toluene	12.774	12.770	0.004	296970	2.000	2.000
Chlorobenzene	14.690	14.686	0.004	299345	2.000	2.000
Ethylbenzene	14.770	14.767	0.003	234544	2.000	2.000

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
Xylene (Total)	25.019	25.019	0.000	797799	6.000	6.000
,3-Dichlorobenzene	17.657	17.653	0.004	210755	2.000	2.000
1,4-Dichlorobenzene	17.765	17.761	0.004	233780	2.000	2.000
,2-Dichlorobenzene	18.290	18.287	0.003	185726	2.000	2.000
Naphthalene	20.970	20.964	0.006	133058	2.000	2.000
,a,a-Trifluorotoluene(sur)	11.345	11.343	0.002	1332255	30.000	30.000

Data File: /chem/VOAGC3.i/602/04-21-99/21apr99.b/ipid6028.d
Report Date 04/22/1999 15:32

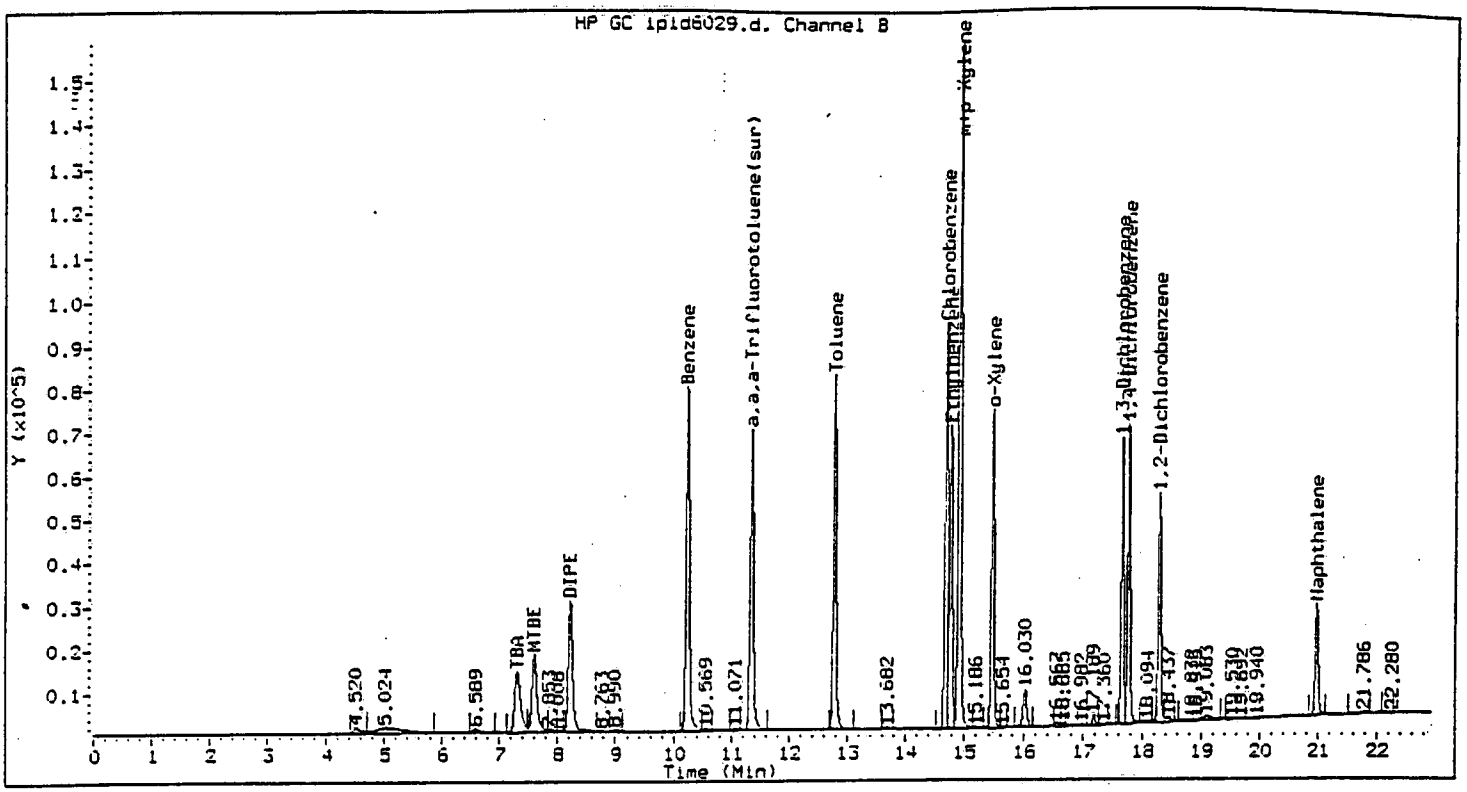


Method : /chem/VOAGC3.i/602/04-21-99/21apr99.b/602_99.m
Sample Info : ISTD005
Lab ID : ISTD005
Inj Date : 21-APR-1999 13:54
Operator : SK
Cpnd Sublist: all

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)	FINAL (ug/L)
o-Xylene	15.469	15.464	0.005	620804	4.876	4.876
m+p-Xylene	14.914	14.909	0.005	1354110	10.044	10.044
TBA	7.305	7.299	0.006	188739	435.149	435.149
MTBE	7.594	7.592	0.002	279043	4.911	4.911
DIPE	8.216	8.213	0.003	427440	5.017	5.017
Benzene	10.236	10.232	0.004	816110	5.050	5.050
Toluene	12.775	12.770	0.005	734025	4.972	4.972
Chlorobenzene	14.692	14.686	0.006	740166	4.972	4.972
Ethylbenzene	14.772	14.767	0.005	600243	5.058	5.058

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
Xylene (Total)	25.019	25.019	0.000	1974914	14.926	14.926
1,3-Dichlorobenzene	17.661	17.653	0.008	558466	5.145	5.145
1,4-Dichlorobenzene	17.769	17.761	0.008	601164	5.070	5.070
1,2-Dichlorobenzene	18.294	18.287	0.008	475777	5.061	5.061
Naphthalene	20.976	20.964	0.012	280969	4.579	4.579
a,a,a-Trifluorotoluene(sur)	11.346	11.343	0.003	1396901	30.711	30.711



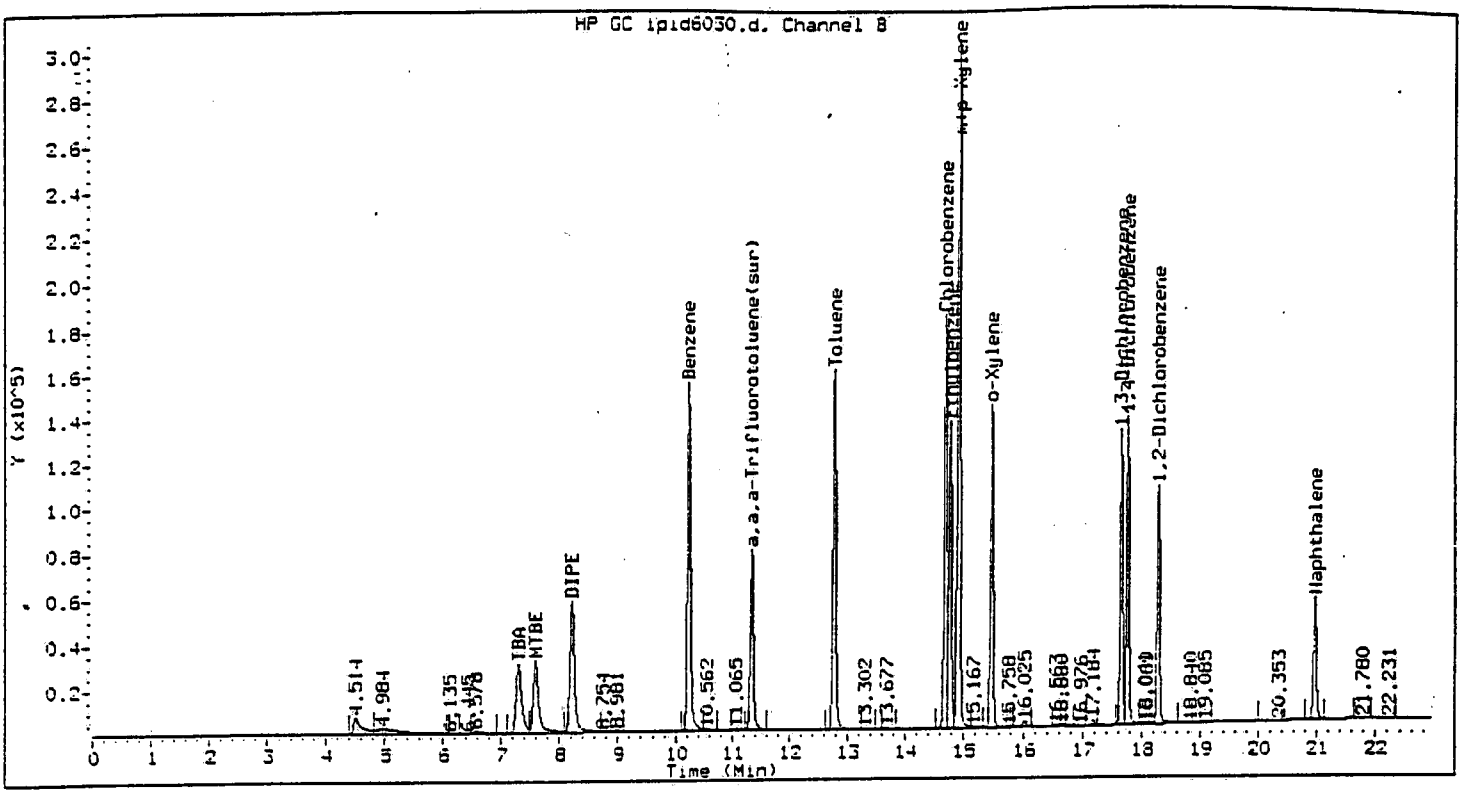
Method : /chem/VOAGC3.i/602/04-21-99/21apr99.b/602_99.m
Sample Info : ISTD010
Lab ID : ISTD010
Inj Date : 21-APR-1999 14:27
Operator : SK
Cpnd Sublist: all

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	15.469	15.464	0.005	1166467	9.425	9.425
m+p-Xylene	14.914	14.909	0.005	2548771	19.257	19.257
TBA	7.306	7.299	0.007	509060	1109.444	1109.444
MTBE	7.599	7.592	0.007	569157	10.011	10.011
DIPE	8.220	8.213	0.007	824534	9.783	9.783
Benzene	10.239	10.232	0.006	1581166	9.855	9.855
Toluene	12.776	12.770	0.005	1402564	9.661	9.661
Chlorobenzene	14.692	14.686	0.005	1446381	9.809	9.809
Ethylbenzene	14.772	14.767	0.005	1125045	9.648	9.648

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
Xylene (Total)	25.019	25.019	0.000	3715238	28.691	28.691
1,3-Dichlorobenzene	17.658	17.653	0.005	998197	9.450	9.450
1,4-Dichlorobenzene	17.766	17.761	0.005	1069182	9.323	9.323
1,2-Dichlorobenzene	18.292	18.287	0.005	854984	9.378	9.378
Naphthalene	20.971	20.964	0.007	464329	8.235	8.235
a,a,a-Trifluorotoluene(sur)	11.348	11.343	0.005	1367781	30.047	30.047

Data File: /chem/VOAGC3.i/602/04-21-99/21apr99.b/ipid6030.d
Report Date 04/22/1999 15:32

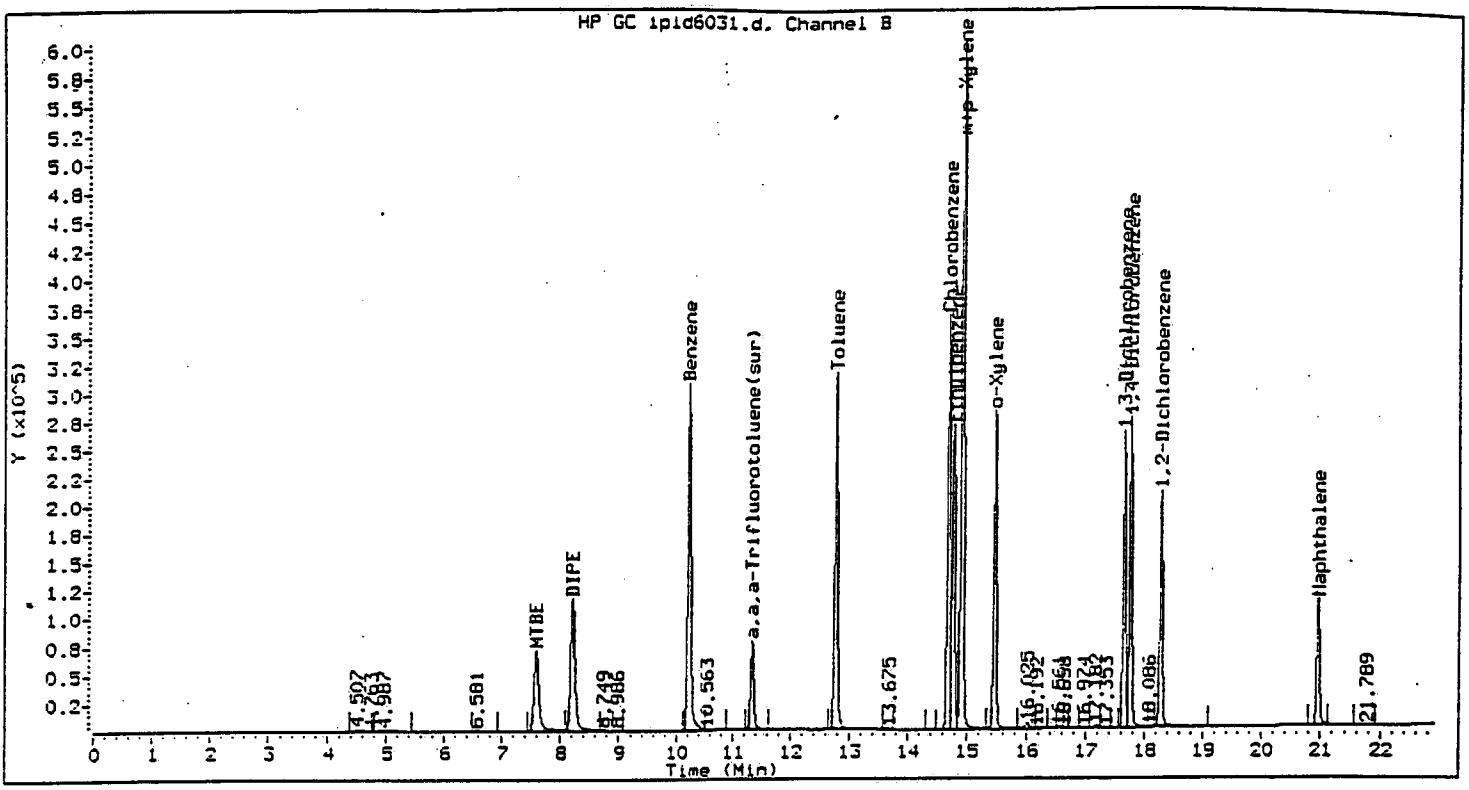


Method : /chem/VOAGC3.i/602/04-21-99/21apr99.b/602_99.m
Sample Info : ISTD020
Lab ID : ISTD020
Inj Date : 21-APR-1999 15:00
Operator : SK
Cpnd Sublist: all

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	15.464	15.464	0.000	2282081	18.807	18.807
m+p-Xylene	14.909	14.909	0.000	4936451	37.938	37.938
TBA	7.299	7.299	0.000	1033247	2183.126	2183.126
MTBE	7.592	7.592	0.000	1069291	19.093	19.093
DIPE	8.213	8.213	0.000	1594475	19.177	19.177
Benzene	10.232	10.232	0.000	3080448	19.394	19.394
Toluene	12.770	12.770	0.000	2728106	19.079	19.079
Chlorobenzene	14.686	14.686	0.000	2850997	19.498	19.498
Ethylbenzene	14.767	14.767	0.000	2165453	18.908	18.908

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
Xylene (Total)	25.019	25.019	0.000	7218532	56.752	56.752
1,3-Dichlorobenzene	17.653	17.653	0.000	1958099	18.883	18.883
1,4-Dichlorobenzene	17.761	17.761	0.000	2095412	18.675	18.675
1,2-Dichlorobenzene	18.287	18.287	0.000	1695860	18.932	18.932
Naphthalene	20.964	20.964	0.000	959795	17.680	17.680
a,a,a-Trifluorotoluene(sur)	11.343	11.343	0.000	1554153	33.002	33.002



Method : /chem/VOAGC3.i/602/04-21-99/21apr99.b/602_99.m
Sample Info : ISTD040
Lab ID : ISTD040
Inj Date : 21-APR-1999 15:34
Operator : SK
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)	FINAL (ug/L)
o-Xylene	15.462	15.464	0.002	4462235	37.377	37.377
m+p-Xylene	14.907	14.909	0.002	9785676	76.118	76.118
MTBE	7.590	7.592	0.002	2170129	38.993	38.993
DIPE	8.211	8.213	0.003	3163406	38.422	38.422
Benzene	10.231	10.232	0.001	6132669	38.881	38.881
Toluene	12.768	12.770	0.002	5410959	38.255	38.255
Chlorobenzene	14.684	14.686	0.002	5447086	37.771	37.771
Ethylbenzene	14.765	14.767	0.002	4483628	39.317	39.317
Xylene (Total)	25.019	25.019	0.000	14247911	113.527	113.527

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1,3-Dichlorobenzene	17.651	17.653	0.002	3861002	37.755	37.755
1,4-Dichlorobenzene	17.758	17.761	0.003	4253913	38.313	38.313
1,2-Dichlorobenzene	18.284	18.287	0.002	3250107	36.970	36.970
Naphthalene	20.961	20.964	0.003	1956630	36.770	36.770
a,a,a-Trifluorotoluene(sur)	11.341	11.343	0.001	1534919	32.040	32.040

VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Matrix: WATER Level: LOW Lab Job No: N540

	LAB SAMPLE NO.	SMC1 #	SMC2 #	OTHER	TOT OUT
01	IG110	97			0
02	125118	104			0
03	125119	99			0
04	125120	99			0
05	125122	101			0
06	125123	88			0
07	125126	100			0
08	125127	104			0
09	125121	102			0
10	IG111	103			0
11	125128	107			0
12	125129	108			0
13	125130	107			0
14					
15					
16					
17					
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21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

QC LIMITS

SMC1 = a,a,a-Trifluorotoluene (72-127)

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.: 124121

MS Sample from Lab Job No: N381

QA Batch: 6756

Compound	MS % REC.	BS % REC.	LIMITS
Benzene	95	115	39-150
Toluene	83	105	46-148
Chlorobenzene	95	110	55-135
Ethylbenzene	89	110	32-160
1,3-Dichlorobenzene	90	105	50-141
1,4-Dichlorobenzene	88	105	42-143
1,2-Dichlorobenzene	88	105	37-154

* Values outside of QC limits

Spike Recovery: 0 out of 14 outside limits

COMMENTS: