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QUARTERLY MONITORING REPORT
3RD QUARTER 1999

L.E.CARPENTER

October 1999

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318133

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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 3rd quarter 1999, to include routine quarterly groundwater monitoring activities and monthly free product recovery. Additionally, this report includes a summary of the various site activities scheduled for commencement during 4th 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 3rd 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).
- Completed a workplan to install three permanent off-site groundwater monitoring wells downgradient of the MW19/Hot Spot 1 area (Ref. Section 5).
- Completed a remedial investigation report documenting the on-site soil investigation activities performed to further delineate the extent of lead contamination in Hot Spots B and C (Ref. Section 5).
- Began modeling the volume of on-site recoverable free phase product to establish an accurate time frame for Phase I (free product removal) completion (Ref. Section 5).

A discussion of these activities is provided in the referenced 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 third quarter 1999 were performed on July 28, August 27 and September 22. 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 third 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 extracted product volume to date.

2.2 Freestanding Product Trends

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

2.2.1 Western Plume Region

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 measurable freestanding product during the third quarter 1999. Total freestanding product decreased from 6.34 gallons in July 1999 to 3.82 gallons in September 1999. With the exception of EFR well 1, all western EFR wells showed decreases in the volume of freestanding product from July 1999 to September

1999. In general, measurable free product volume in the western portion of the plume appears to be decreasing.

2.2.2 Central Plume Region

In the central portion of the plume (EFR wells 4, 5, 6, 7, 19, 22, 23, 24, 25, 26, and 27), there was a significant decrease in the volume of freestanding product measured throughout the 3rd quarter 1999. A decreasing trend throughout the third quarter in measurable free product volume was noted (8.94 gallons in July to 2.47 gallons in September). The measurable free product volume in the central portion of the plume appears to be decreasing.

2.2.3 Eastern Plume Region

In the eastern portion of the plume (EFR wells 8, 9, 10, 11, 12, 13, 14, 15, and 16), the volume of freestanding product remained relatively consistent between second and third quarter 1999, however, a gradual decrease in freestanding product volume can be seen throughout the third quarter. The measurable free product volume in the eastern portion of the plume appears to be decreasing.

2.2.4 Site Total Freestanding Product Plume

The total measurable freestanding product on site, accounting for all 28 EFR wells, decreased over the course of the third quarter (21.52 gallons in July to 10.36 gallons in September). Additionally, the total freestanding product trend chart indicates a steady decrease in the volume of measurable freestanding product existing on-site throughout the use of monthly EFR (1997 to present). A cumulative breakdown of free product thickness and freestanding product volumes specific to each region is presented in Table 2. Additionally, charts for each free product plume region (western, central, and eastern), and the site as a whole, that graphically display free product thickness fluctuations over time, and measurable freestanding product fluctuations trends are presented as Appendix B. Figure 3 displays the extent of measurable free product on-site prior to each EFR event conducted during this quarter.

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 a one hour prior to gauging to allow for separation of emulsified product resulting from aggressive extraction. Gauging was conducted on a level surface, and probe measurements were compared to vacuum truck manufacturer's volumetric calibration

curves (Models VR-111, VR-102, and VR-119) to determine the 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 airflow (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 three vacuum trucks utilized on-site are also presented in Table 3. During third quarter 1999, a total of 1,637 gallons of fluid was removed during EFR activities, of which, approximately 134 gallons was free phase product. Since start-up in December 1997, site EFR activities have removed approximately 2,213 gallons of free product to date.

Section 3
Quarterly Groundwater Monitoring

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

Pursuant to the NJDEP letter dated May 21, 1999, MW-11D was incorporated in to the quarterly groundwater monitoring program. However, during third quarter 1999, MW-11D was sampled for bis (2-ethylhexyl) phthalate (DEHP) only. Pursuant to the NJDEP letter dated August 17, 1999, MW-11D will be sampled and analyzed for both DEHP and benzene, toluene, ethylbenzene, and xylenes (BTEX). BTEX analysis was not performed on the MW-11D sample obtained during the third quarter 1999 as the August 17, 1999 NJDEP correspondence was received after the third quarter monitoring event had been performed. Analysis for all parameters will commence in fourth quarter 1999 as authorized by the NJDEP. Table 4 summarizes the revised quarterly groundwater monitoring protocol. A copy of the NJDEP letter dated August 17, 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-11D (duplicate sample No. MW-11DD). 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 with the exception of a 42 μg/L toluene concentration detected at MW-22. Monitoring well MW-22R

also exhibited concentrations of ethylbenzene and total xylenes at concentrations above both the NJGQS and the ROD discharge criteria (1,200 µg/L and 5,200 µg/L respectively). Monitoring well MW-4 was found to contain a residual concentrations of ethylbenzene (3.1 µg/L) and total xylenes (2.9 µg/L), however both concentrations are below both the NJGQS and the discharge criteria outlined in the ROD.

As previously mentioned, concentrations of ethylbenzene and total xylenes were detected in the sample collected from monitoring well MW-22R. An increase in the concentrations of these parameters was noted between first and second quarters 1999; however, the trend appears to be decreasing in the third quarter. 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 and MW-25 are presented as Appendix E. Contaminant concentration trends at both locations will continue to be closely monitored.

Historical groundwater monitoring data, to include the results from third 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 July 22, 1999, STL Envirotech measured static groundwater levels from 71 different locations throughout the site (not to include the EFR wells) to evaluate the groundwater flow pattern in the shallow aquifer system (see Table 6). It should be noted that 15 of the 71 locations monitored contained a measurable amount of free phase product. Figure 4 displays the water table potentiometric surface, and indicates that groundwater flow direction east of the rail spur is similar to that observed historically (generally toward the east).

Section 5
Site Investigation 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 and 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 Area

The NJDEP reviewed RMT's report MW19/Hot Spot 1 Off-Site Subsurface Investigation dated June 1999. As outlined in the NJDEP letter dated July 23, 1999, the department requested that additional monitoring wells be installed downgradient of this area as the initial Hydropunch® investigation encountered difficulties advancing borings in the proposed locations considered truly downgradient. Subsequently, RMT submitted an additional workplan entitled Further Off-Site Groundwater Investigation at MW19/Hot Spot 1, dated August 1999. This workplan proposed the installation of an additional three monitoring wells downgradient of the MW19/Hot Spot 1 area utilizing an air-rotary drill rig. On September 30, 1999, the NJDEP approved this workplan. Copies of the July 23, 1999 and September 30, 1999 NJDEP letters are presented in Appendix D.

RMT has tentatively scheduled the installation of the three groundwater monitoring wells in the MW19/Hot Spot 1 area for the last week in October 1999. All field activities will be coordinated with the completion of the October 1999 EFR event. RMT is in the process of coordinating appropriate permits with the Village of Wharton.

5.2 Hot Spots B and C

The comprehensive report documenting the on-site lead delineation in these two areas was completed and will be presented to the NJDEP for review.

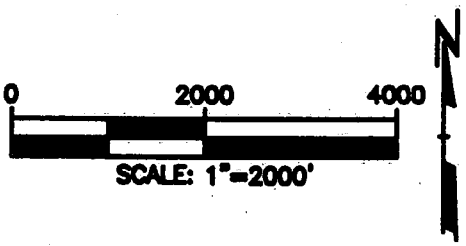
5.3 Recoverable Free Product Modeling

Per the NJDEP letter dated August 17, 1999, RMT has initiated an evaluation of the lateral extent, thickness and recoverability of the free phase product plume currently existing on the western portion of the subject site. Improved estimates of the volume of free product that exists in the subsurface at the site are being conducted using state-of-the-art analytical methods. The volume of LNAPL (light non-aqueous phase liquid) free product at the site is being calculated using a sophisticated free product estimation model developed by the American Petroleum Institute (API). The model, described in the publication Free-Product Recovery of Petroleum Hydrocarbon Liquids (Charbeneau et al., 1999), involves use of detailed soil, groundwater, and free product physical/chemical characteristics to estimate the actual volume of free product from monitoring well measurements of product thickness. In addition to the product thickness measurements and soil texture, site-specific physical parameters being collected to refine the model include product density, viscosity, surficial tension, and interfacial tension between the product and groundwater.

The model results will be used in conjunction with EFR data to estimate the recoverable fraction of free product at the site. This information will be important in evaluating the effectiveness of current approaches at removing free product, and in estimating the time needed to remove the recoverable portion of the free product plume.

RMT anticipates this model to be completed during forth quarter 1999. Upon completion, a comprehensive report detailing the API model itself, the modeling results, and subsequent recommendations will be forwarded to the NJDEP for review.

QUADRANGLE LOCATION



SITE LOCATOR MAP

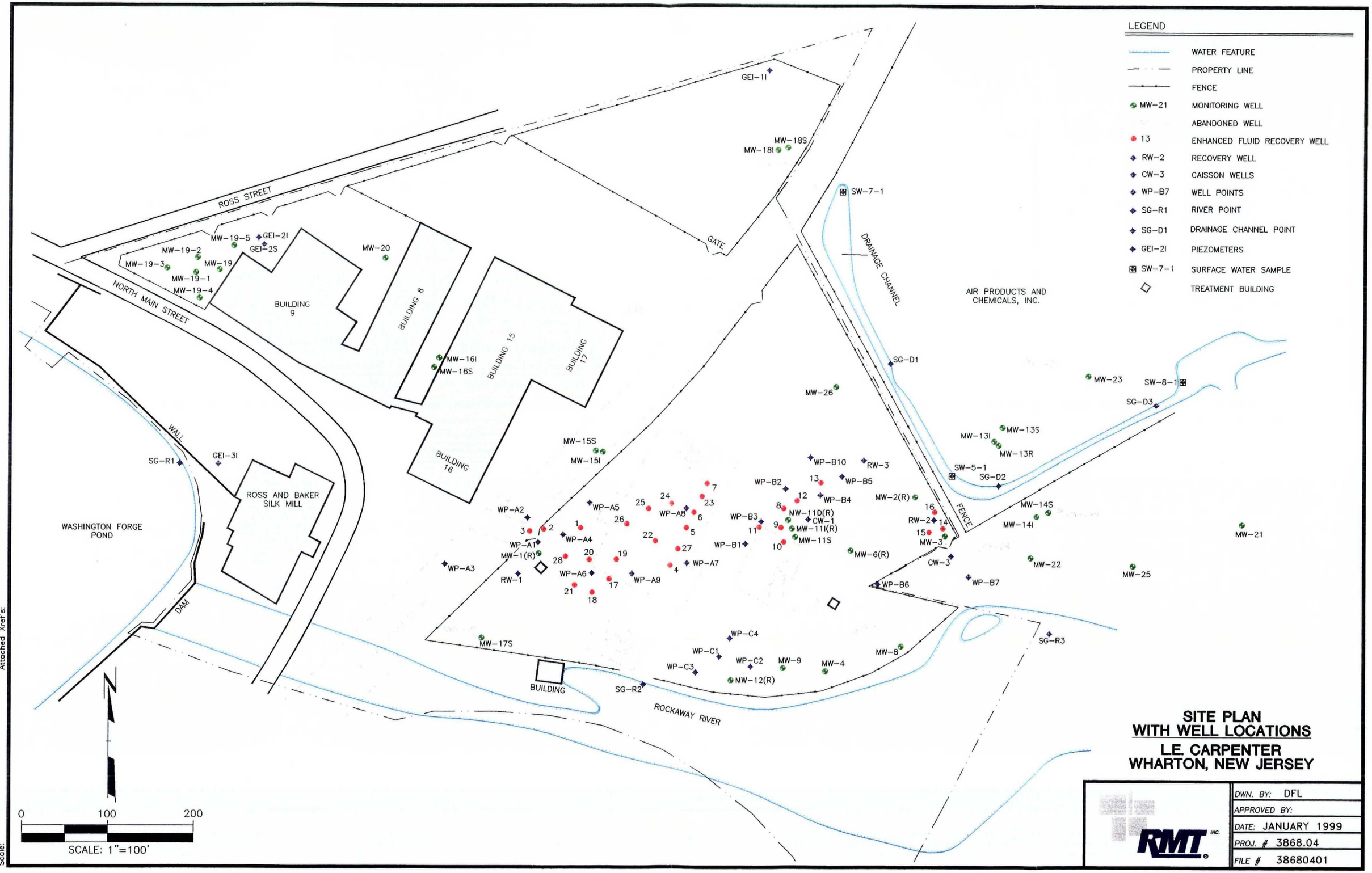
LE. CARPENTER
WHARTON, NEW JERSEY

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



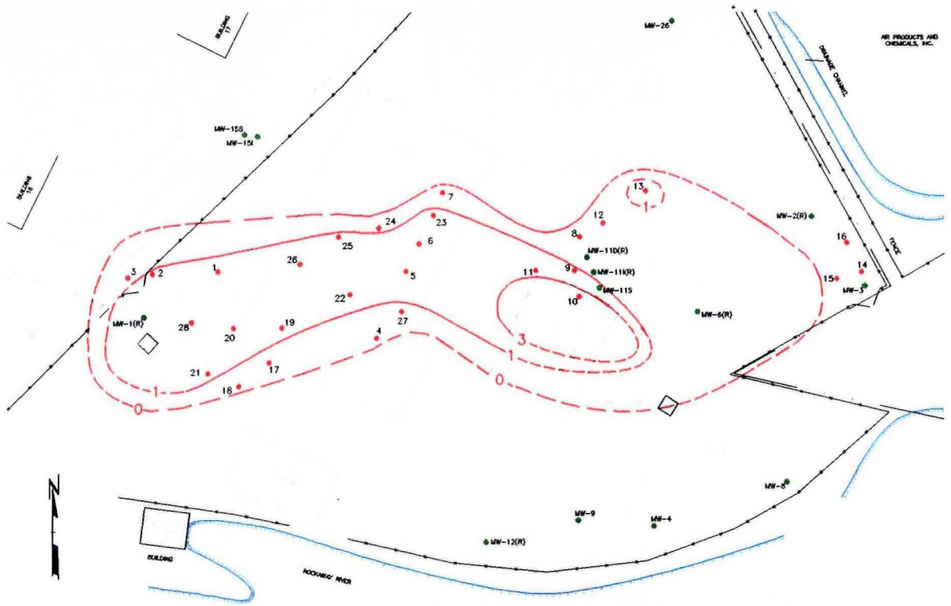
SITE PLAN
WITH WELL LOCATIONS
L.E. CARPENTER
WHARTON, NEW JERSEY

RMT INC.

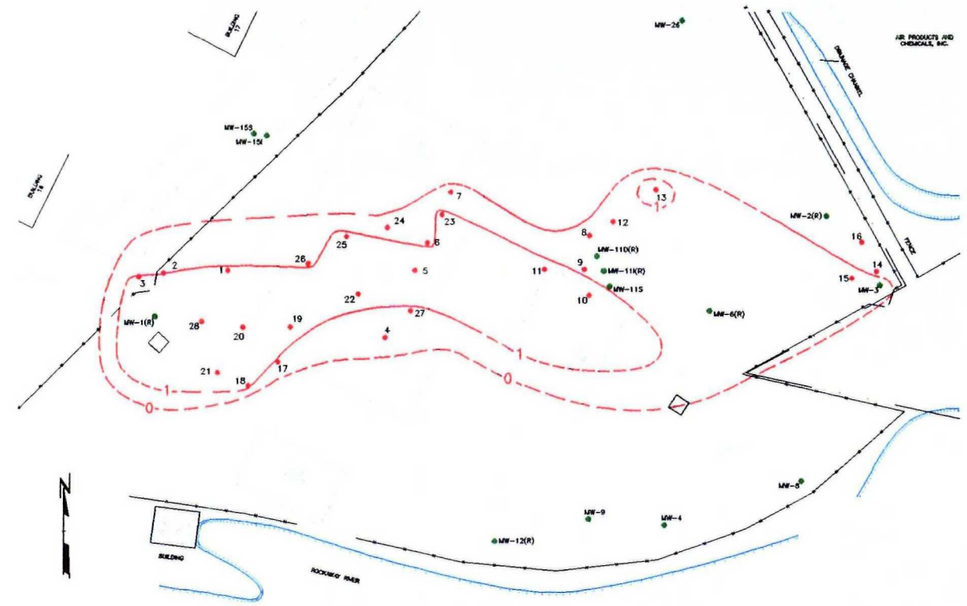
DWN. BY:	DFL
APPROVED BY:	
DATE:	JANUARY 1999
PROJ. #	3868.04
FILE #	38680401

FIGURE 2

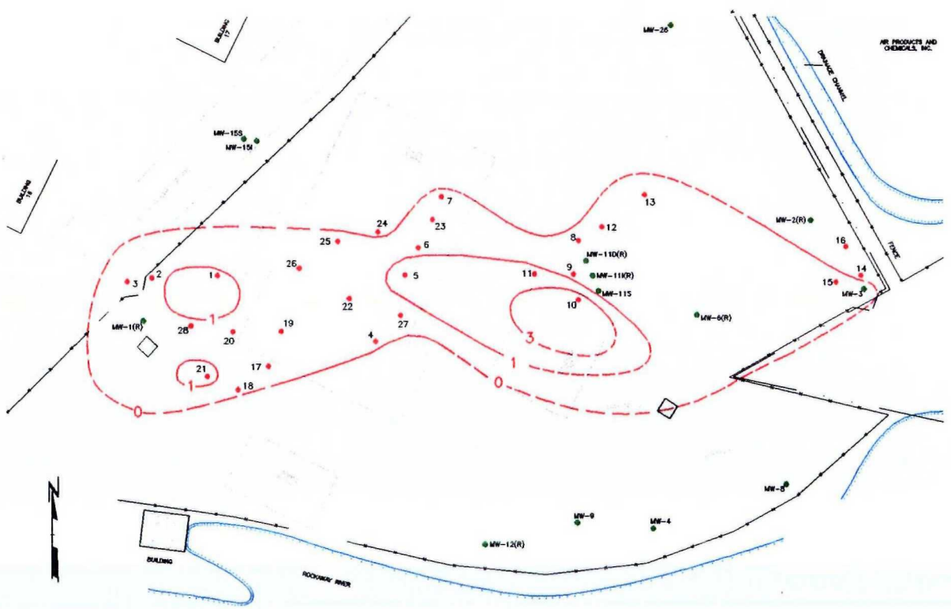
PLOT DATA
Drawing Name:
Operator Name:
Scale:
Dwg Size:
Plot Date:
Plot Time:
Attached Xref's:



EFR EVENT #22 (JULY 28, 1999)



EFR EVENT #23 (AUGUST 27, 1999)



EFR EVENT #24 (SEPTEMBER 22, 1999)

ENHANCED FLUID RECOVERY
SUMMARY FIGURES

LE. CARPENTER
WHARTON, NEW JERSEY

RMT INC.

DWN. BY:	DFL
APPROVED BY:	
DATE:	OCT. 1999
PROJ. #	3868.15
FILE #	38681506

FIGURE 3

PLOT DATA

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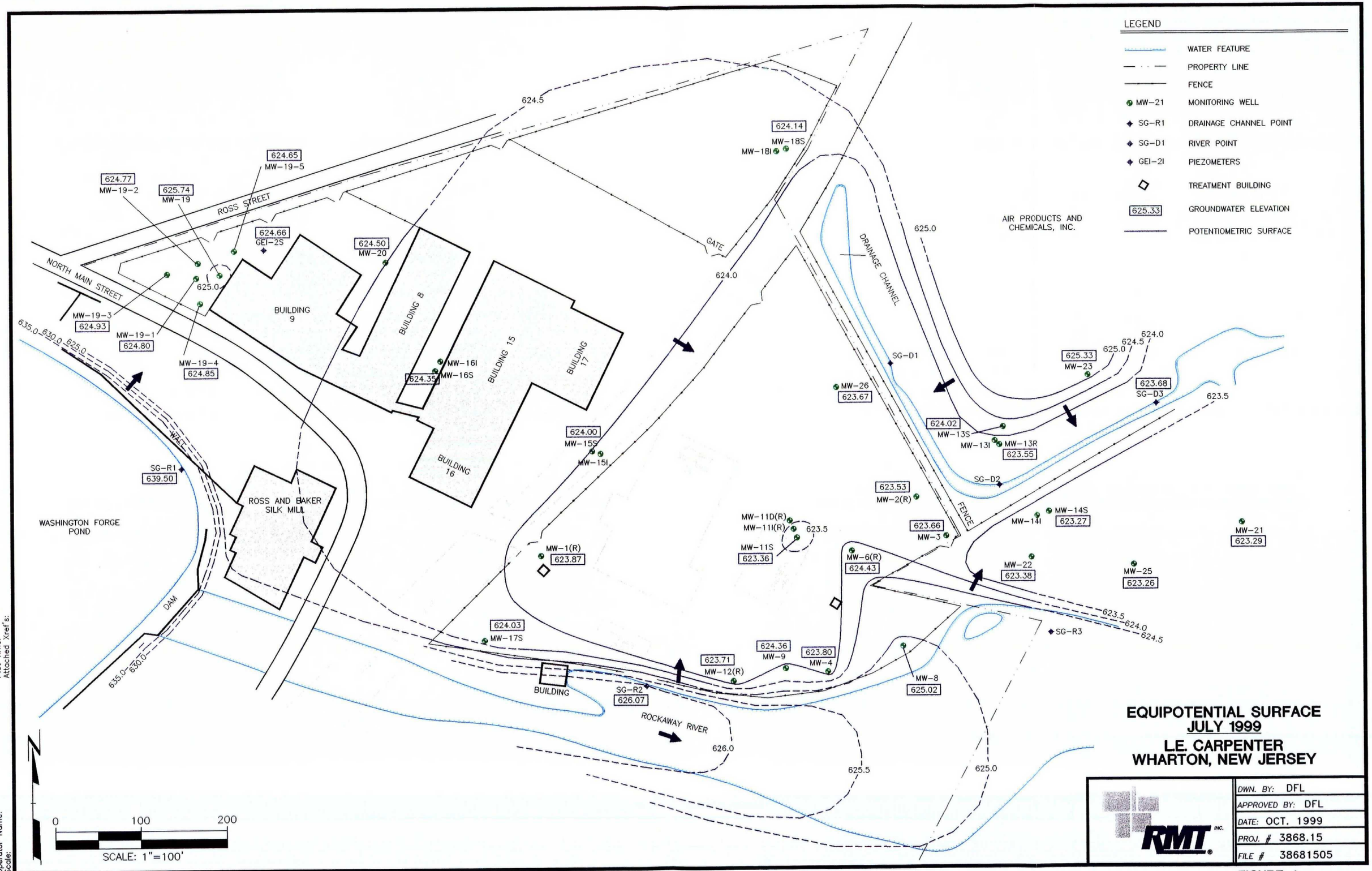
Operator Name: x x
Scale: x x

Dwg Size: x
Plot Date: x x
Plot Time: x x
Attached Xref's: x x



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

RMT INC.

DWN. BY:	DFL
APPROVED BY:	DFL
DATE:	OCT. 1999
PROJ. #	3868.15
FILE #	38681505

FIGURE 4

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

Table 1
L.E. CARPENTER - Wharton, New Jersey
Free Product Recovery - EFR Well # 1 - 28

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[4] August 24, 1998 Feet of Product	EFR #12 September 17, 1998 Feet of Product	EFR #13 October 22, 1998 Feet of Product	EFR #14 November 20, 1998 Feet of Product
EFR-1	1.04	1.53	1.94	0.36	2.48	0.93	0.94	1.12	1.55	2.11	1.28	1.22	1.71	1.59	1.71
EFR-2	1.55	1.50	1.86	0.06	2.20	2.96	2.92	2.05	2.44	1.78	1.12	1.09	1.21	1.29	1.51
EFR-3	0.85	1.02	1.27	--	1.58	1.19	0.03	0.21	0.19	0.77	0.72	0.93	1.03	1.01	1.19
EFR-4	1.03	2.27	0.54	0.07	0.30	--	--	-	--	0.03	0.38	1.23	2.10	2.17	1.75
EFR-5	4.03	3.74	4.25	0.32	3.29	3.39	1.71	2.71	2.02	1.86	2.38	2.52	2.33	2.52	2.19
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
EFR-7	0.17	0.09	0.16	--	--	-	--	--	--	0.02	0.02	0.03	0.07	0.05	0.20
EFR-8	0.00	0.00	0.00	--	0.08	--	--	--	--	0.03	0.04	0.08	0.13	0.09	0.07
EFR-9	0.00	1.10	1.79	1.15	0.16	3.08	0.08	0.07	0.11	0.29	0.61	0.98	1.23	1.31	1.26
EFR-10	5.20	5.80	6.42	2.34	7.47	7.06	6.05	6.71	5.47	5.68	4.94	4.52	4.34	4.38	3.98
EFR-11	3.07	4.04	4.28	3.64	4.47	4.32	4.67	5.91	5.73	6.08	4.73	4.47	3.95	4.06	3.65
EFR-12	0.04	0.03	0.00	-	0.07	-	--		0.02	0.28	0.22	0.28	0.24	0.15	0.29
EFR-13	0.48	0.56	1.33	0.05	1.28	1.07	1.07	0.67	--	0.90	0.56	0.48	0.66	0.82	1.13
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
EFR-16	0.00	0.00	0.00	-	--	--	--	-	--	-		--	--	--	--
EFR-17	0.04	0.17	1.56	0.39	0.17	0.08	--	0.09	-	0.02	0.37	0.29	0.46	0.56	0.71
EFR-18	0.10	0.10	0.09	-	--		--	--	-	0.01	0.08	0.14	0.48	0.68	0.98
EFR-19	0.54	2.80	1.89	0.49	4.95	4.03	1.44	0.88	0.65	0.12	0.90	1.26	1.68	1.95	2.31
EFR-20	0.10	0.34	0.95	0.47	0.27	--	--	0.04	0.21	0.37	0.65	0.63	0.79	1.24	1.85
EFR-21	2.36	2.40	2.71	2.74	2.74	4.14	3.97	4.23	3.98	3.29	1.97	1.87	1.86	1.77	1.67
EFR-22	3.78	4.10	0.05	4.81	3.40	4.09	3.42	1.82	4.22	0.96	2.86	2.87	2.97	2.83	2.58
EFR-23	0.00	0.06	0.06	-	0.02	-	--	-	--	0.05	0.11	0.08	0.27	1.03	3.07
EFR-24	0.00	0.00	0.00	--	--	-	--	--	-	--	-	--	--	0.03	0.12
EFR-25	2.95	3.00	3.55	0.26	4.15	3.11	0.72	0.82	0.79	0.78	0.60	0.41	0.29	0.41	1.33
EFR-26	2.20	2.05	2.06	0.29	2.30	2.12	1.43	1.32	1.95	1.21	2.06	1.58	1.17	1.24	1.08
EFR-27	0.15	0.02	2.71	0.02	0.74	-	-	0.03	--	0.02	0.33	0.45	1.49	0.54	0.47
EFR-28	2.20	2.30	1.78	0.48	2.60	3.20	3.48	4.40	3.16	2.61	1.47	1.73	1.69	1.83	1.79
MIN (ft)	0.00	0.00	0.00	0.02	0.02	0.08	0.03	0.03	0.02	0.01	0.02	0.03	0.03	0.03	0.07
MAX (ft)	5.20	5.80	6.42	5.64	7.47	7.06	6.05	6.71	5.73	6.08	4.94	4.52	4.34	4.38	3.98
Average (ft)	1.20	1.44	1.55	1.17	1.92	2.79	2.21	2.01	1.94	1.25	1.22	1.23	1.36	1.34	1.47
Total Free Product (ft)	33.60	40.30	43.36	19.94	44.05	44.68	33.10	36.24	31.07	31.16	30.38	30.73	33.90	34.92	38.30
Total Standing Free Product - Volume (gal)	21.60	25.83	27.79	12.78	28.24	28.64	21.22	23.23	19.92	19.97	19.47	19.70	22.04	22.70	24.90
Estimated Total Free Product Removed from Vacuum Truck Gauging plus Vapor/Phase Cals. (gal)[1]	315	250	210	80	120	130	100	110	95	105	76	55	60	15	25
Total Volume/Fluid Removed (gal)	2,350	1,110	376	256	314	300	339	403	390	561	211	220	329	212	420
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	1,110	376	256	314	638	489	1,003	460	671	282	220	439	212	120
Cumulative Total Free Product Removed (gal)	315	565	775	855	975	1,105	1,205	1,315	1,410	1,515	1,591	1,646	1,706	1,721	1,746
Disposal Cost[2]	$ 3,976.37	$ 2,712.62	$ 1,130.50	$ 1,130.50	$ 1,219.12	$ 1,431.87	$ 1,541.31	$ 2,038.43	$ 1,240.75	$ 1,347.68	$ 1,224.62	$ 1,838.93	$ 1,383.18	$ 915.25	$ 915.00
Total Cost per gal[3]	$ 1.69	$ 1.95	$ 3.01	$ 1.42	$ 3.88	$ 2.24	$ 3.15	$ 2.03	$ 2.70	$ 2.01	$ 4.70	$ 8.36	$ 3.15	$ 4.32	$ 7.63

Notes:

[illegible]

1) Estimated free product (gal) based on Vacuum Truck gauging interface probes directly after each EFR Event.
2) Total invoiced disposal cost for EFR event (product and groundwater) and monitoring well purge water from Drum Well development and monitoring events *if applicable*.
3) Total Cost per gallon includes product transportation & disposal, manifest fees, & regulatory admin. fee for combined EFR and GW purge water from volume *if applicable*.
4) EFR #11 free product volume was 15 gal and contained PCB's (aroclor 1260) at 50.0 ppm total (@ specific gravity of 8.38 lb/gal). Disposal costs were significantly higher due to PCB content.
5) EFR #28 cost and unit cost higher than normal due to additional vac truck time and mob time. A vac truck was broken when reached the site, [illegible] with a flat tire, [illegible] EFR #28.

10-08-1999 3:46 PM
Prepared By: Nicholas J. Clevett
RMT, Inc. - Project Manager

Table 1
L.E. CARPENTER - Wharton, New Jersey
Free Product Recovery - EFR Well # 1 - 28

EFR Event Date / Well No.	EFR #15 December 18, 1998 Feet of Product	EFR #16 January 13, 1999 Feet of Product	EFR #17 February 18, 1999 Feet of Product	EFR #18 March 24, 1999 Feet of Product	EFR #19 April 19, 1999 Feet of Product	EFR #20 May 18, 1999 Feet of Product	EFR #21 June 22, 1999 Feet of Product	EFR #22 July 28, 1999 Feet of Product	EFR #23 [3] August 27, 1999 Feet of Product	EFR #24 September 22, 1999 Feet of Product	EFR AVERAGES	EFR TOTALS
EFR-1	1.57	0.53	1.79	3.68	1.13	1.09	1.15	1.49	1.27	1.94		
EFR-2	1.41	0.95	1.40	2.42	1.46	1.22	0.92	1.21	1.00	0.63		
EFR-3	1.18	1.14	1.01	1.63	0.36	0.25	0.86	0.88	1.03	0.74		
EFR-4	1.79	0.73	0.10	0.14	0.08	0.05	0.03	0.44	0.99	0.51		
EFR-5	2.28	2.68	3.47	6.15	2.65	2.61	2.66	2.66	1.57	1.77		
EFR-6	1.38	0.49	0.84	0.88	0.61	1.07	1.16	1.51	0.91	0.15		
EFR-7	0.16	0.02	0.04	0.04	0.07	0.02	0.08	0.28	0.05	0.01		
EFR-8	0.03	0.12	--	0.03	0.03	0.03	0.09	0.39	0.27	0.09		
EFR-9	1.86	0.74	0.49	0.06	0.11	0.32	0.49	1.16	0.56	0.41		
EFR-10	3.99	3.68	5.79	5.52	4.97	4.23	3.71	3.63	2.47	3.02		
EFR-11	3.52	2.42	4.69	2.84	2.02	2.48	3.28	2.78	1.57	1.93		
EFR-12	0.17	0.04	0.11	0.05	0.02	0.02	0.10	0.30	0.20	0.03		
EFR-13	1.30	0.22	1.19	0.15	0.49	0.50	0.44	1.33	1.01	0.74		
EFR-14	--	--	--	-	0.00	0.00	0.00	0.00	0.00	0.00		
EFR-15	0.32	0.11	0.07	0.01	0.01	0.00	0.00	0.00	0.13	0.04		
EFR-16	--	--	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EFR-17	0.53	0.26	0.08	0.06	0.06	0.08	0.12	0.39	0.36	0.10		
EFR-18	1.08	0.56	0.11	-	0.06	0.16	0.46	0.96	1.37	0.61		
EFR-19	2.44	1.83	1.68	0.52	0.44	0.52	1.10	2.05	2.02	0.51		
EFR-20	2.11	0.65	1.33	0.88	0.43	0.89	0.87	1.59	1.86	0.47		
EFR-21	1.62	1.21	1.43	2.62	2.35	1.49	1.46	1.57	1.04	1.01		
EFR-22	2.27	2.06	0.84	0.34	0.95	1.39	1.93	1.47	1.41	0.17		
EFR-23	2.29	1.55	0.91	0.47	0.22	0.25	0.45	2.13	1.03	0.12		
EFR-24	0.14	0.38	0.06	0.00	0.00	0.00	0.08	0.08	0.05	0.00		
EFR-25	1.58	1.05	1.75	1.19	1.08	0.76	0.54	1.74	1.48	0.21		
EFR-26	1.09	0.73	0.55	0.45	0.75	1.29	1.28	1.23	0.72	0.29		
EFR-27	0.51	0.09	0.12	0.00	0.00	0.02	0.03	0.17	0.21	0.06		
EFR-28	1.74	1.03	1.29	1.71	1.65	1.46	1.25	1.67	1.78	0.38		
MIN (ft)	0.03	0.02	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
MAX (ft)	3.99	3.68	5.79	6.15	4.97	4.23	3.71	3.63	2.47	3.02		
Average (ft)	1.18	0.97	1.25	1.22	0.79	0.79	0.88	1.18	0.94	0.57		
Total Free Product (ft)	38.36	25.27	31.14	31.84	22.00	22.20	24.54	33.11	26.36	15.94		
Total Standing Free Product Volume (gal)	24.93	16.43	20.24	20.70	14.30	14.43	15.95	21.52	17.13	10.36		
Estimated Total Free Product Removed from Vacuum Truck Gauging plus Vapor Phase Cals. (gal)[1]	51	23	74	40	59	47	39	54	36	44	89	2,213
Total Volume Fluid Removed (gal)	256	234	498	683	905	360	564	726	298	239	502	12,554
Volume Resulting from Drum Purging (GW purge water) *if applicable*	110		235		139			374			210	2,308
Total Volume Removed from Site (gal) *(Invoiced volume)*	256	234	733	683	1044	360	564	1,100	298	239	590	14,751
Cumulative Total Free Product Removed (gal)	1,797	1,820	1,894	1,934	1,993	2,040	2,079	2,133	2,169	2,213	1541	N/A
Disposal Cost[2]	$ 973.00	$ 1,156.62	$ 1,641.56	$ 1,703.44	$ 2,049.75	$ 930.31	$ 1,598.13	$ 2,165.75	$ 2,162.12	$ 995.81	$ 1,582.10	$ 39,552.62
Total Cost per gal[2]	$ 3.80	$ 4.94	$ 2.24	$ 2.49	$ 1.96	$ 2.58	$ 2.83	$ 1.97	$ 7.26	$ 4.17	$ 3.58	N/A

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
	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
	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
	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
	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
	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
	EFR-18	0.10	0.10	0.09	--	--	--	--	--	0.01	0.08	0.14	0.48	0.68	0.98	1.08
	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
	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
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
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
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
		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
	EFR-4	1.03	2.27	0.54	0.30	--	--	--	--	0.03	0.38	1.23	2.40	2.17	1.75	1.79
	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
	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
	EFR-7	0.17	0.09	0.16	--	--	--	--	--	0.02	0.02	0.03	0.07	0.05	0.20	0.16
	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
	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
	EFR-23	0.00	0.06	0.06	0.02	--	--	--	--	0.05	0.11	0.08	0.27	1.03	3.07	2.29
	EFR-24	0.00	0.00	0.00	--	--	--	--	--	--	-	--	--	0.03	0.12	0.14
	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
	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
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
Total Free Product (ft)		15.57	19.13	17.11	18.42	16.65	9.89	9.81	8.18	6.94	11.60	11.99	14.09	14.02	16.39	15.93
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
		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
	EFR-8	0.00	0.00	0.00	0.08	--	--	--	--	0.03	0.04	0.08	0.13	0.09	0.07	0.03
	EFR-9	0.00	1.10	1.79	0.46	3.08	0.08	0.07	0.11	0.29	0.61	0.98	1.23	1.31	1.26	1.86
	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
	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
	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
	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
	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
Eastern Plume	EFR-16	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
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

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

TABLE 2
L.E. CARPENTER - WHARTON, NEW JERSEY
REGIONAL FREE STANDING PRODUCT TRENDS

	EFR Event Date	1/13/99	2/17/99	3/23/99	4/19/99	5/18/99	6/22/99	7/28/99	8/27/99	9/22/99
	Well No.									
		1/13/99	2/17/99	3/23/99	4/19/99	5/18/99	6/22/99	7/28/99	8/27/99	9/22/99
	EFR-1	0.53	1.79	3.68	1.13	1.09	1.15	1.49	1.27	1.94
	EFR-2	0.95	1.40	2.42	1.46	1.22	0.92	1.21	1.00	0.63
	EFR-3	1.14	1.01	1.63	0.36	0.25	0.86	0.88	1.03	0.74
	EFR-17	0.26	0.08	0.06	0.06	0.08	0.12	0.39	0.36	0.10
	EFR-18	0.56	0.11	0.00	0.06	0.16	0.46	0.96	1.37	0.61
	EFR-20	0.65	1.33	0.88	0.43	0.89	0.87	1.59	1.86	0.47
	EFR-21	1.21	1.43	2.62	2.35	1.49	1.46	1.57	1.04	1.01
Western Plume	EFR-28	1.03	1.29	1.71	1.65	1.46	1.25	1.67	1.78	0.38
Total Free Product (ft)		6.33	8.44	13.00	7.50	6.64	7.09	9.76	9.71	5.88
Total Free Product (gal)		4.11	5.49	8.45	4.88	4.32	4.61	6.34	6.31	3.82
		1/13/99	2/17/99	3/23/99	4/19/99	5/18/99	6/22/99	7/28/99	8/27/99	9/22/99
	EFR-4	0.73	0.10	0.14	0.08	0.05	0.03	0.44	0.99	0.51
	EFR-5	2.68	3.47	6.15	2.65	2.64	2.66	2.66	1.57	1.77
	EFR-6	0.49	0.84	0.88	0.61	1.07	1.16	1.51	0.91	0.15
	EFR-7	0.02	0.04	0.04	0.07	0.02	0.08	0.28	0.05	0.01
	EFR-19	1.83	1.68	0.52	0.44	0.52	1.10	2.05	2.02	0.51
	EFR-22	2.06	0.84	0.34	0.95	1.39	1.93	1.47	1.41	0.17
	EFR-23	1.55	0.91	0.47	0.22	0.25	0.45	2.13	1.03	0.12
	EFR-24	0.38	0.06	0.00	0.00	0.00	0.08	0.08	0.05	0.00
	EFR-25	1.05	1.75	1.19	1.08	0.76	0.54	1.74	1.48	0.21
	EFR-26	0.73	0.55	0.45	0.75	1.29	1.28	1.23	0.72	0.29
Central Plume	EFR-27	0.09	0.12	0.00	0.00	0.02	0.03	0.17	0.21	0.06
Total Free Product (ft)		11.61	10.36	10.18	6.85	7.98	9.34	13.76	10.44	3.80
Total Free Product (gal)		7.55	6.73	6.62	4.45	5.19	6.07	8.94	6.79	2.47
		1/13/99	2/17/99	3/23/99	4/19/99	5/18/99	6/22/99	7/28/99	8/27/99	9/22/99
	EFR-8	0.12	--	0.03	0.03	0.03	0.09	0.39	0.27	0.09
	EFR-9	0.74	0.49	0.06	0.11	0.32	0.49	1.16	0.56	0.41
	EFR-10	3.68	5.79	5.52	4.97	4.23	3.71	3.63	2.47	3.02
	EFR-11	2.42	4.69	2.84	2.02	2.48	3.28	2.78	1.57	1.93
	EFR-12	0.04	0.11	0.05	0.02	0.02	0.10	0.30	0.20	0.03
	EFR-13	0.22	1.19	0.15	0.49	0.50	0.44	1.33	1.01	0.74
	EFR-14	--	--	-	-	-	-	-	-	-
	EFR-15	0.11	0.07	0.01	0.01	-	-	-	0.13	0.04
Eastern Plume	EFR-16	--	--	-	0.00	-	-	-	-	-
Total Free Product (ft)		7.33	12.34	8.66	7.65	7.58	8.11	9.59	6.21	6.26
Total Free Product (gal)		4.76	8.02	5.63	4.97	4.93	5.27	6.23	4.04	4.07
TOTAL SITE FREE STANDING VOLUME (GAL)		16.43	20.24	20.70	14.30	14.43	15.95	21.52	17.13	10.36

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

MONTHLY EFR WELL GAUGING LOG

EFR # 22 DATE 7/28/99

WELL ID	DEPTH TO PRODUCT (ft)	DEPTH TO WATER (ft)	PRODUCT TICKNESS (ft)
EFR-1	13.97	15.46	1.49
EFR-2	14.89	16.1	1.21
EFR-3	14.41	15.29	0.88
EFR-4	17.21	17.65	0.44
EFR-5	14.75	17.41	2.66
EFR-6	12.9	14.41	1.51
EFR-7	11.51	11.79	0.28
EFR-8	8.64	9.03	0.39
EFR-9	9.78	10.94	1.16
EFR-10	11.1	14.73	3.63
EFR-11	9.43	12.21	2.78
EFR-12	9.02	9.32	0.3
EFR-13	8.78	10.11	1.33
EFR-14	7.25	7.25	0
EFR-15	5.84	5.84	0
EFR-16	7.02	7.02	0
EFR-17	12.97	13.36	0.39
EFR-18	12.71	13.67	0.96
EFR-19	15.41	17.46	2.05
EFR-20	13.6	15.19	1.59
EFR-21	13.36	14.93	1.57
EFR-22	15.74	17.21	1.47
EFR-23	11.81	13.94	2.13
EFR-24	15.81	15.89	0.08
EFR-25	15.7	17.44	1.74
EFR-26	15.86	17.09	1.23
EFR-27	16.24	16.41	0.17
EFR-28	12.12	13.79	1.67

Total Volume Of Free Standing Product (gal) 21.52

RMT FIELD TECHNICIAN Dan Leskovec

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

MONTHLY EFR
VAPOR AND LIQUID PHASE VOLUMETRIC CALCULATION LOG

EFR # 22 **28-Jul-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	2.0	0.0333	3,542	54	20	350	60.51	2.0169
EFR-2	2.0	0.0333	3,214	49	20	350	54.90	1.8301
EFR-3	2.0	0.0333	2,886	44	20	350	49.30	1.6434
EFR-4	1.0	0.0167	2,034	31	20	350	34.74	0.5789
EFR-5	2.0	0.0333	3,083	47	20	350	52.66	1.7554
EFR-6	2.0	0.0333	2,558	39	20	350	43.70	1.4566
EFR-7	0.5	0.0083	4,920	75	20	350	84.04	0.7003
EFR-8	0.5	0.0083	4,789	73	20	350	81.80	0.6816
EFR-9	2.0	0.0333	6,560	100	20	350	112.05	3.7350
EFR-10	4.0	0.0667	6,166	94	20	350	105.33	7.0218
EFR-11	4.0	0.0667	4,986	76	20	350	85.16	5.6772
EFR-12	0.5	0.0083	4,330	66	20	350	73.95	0.6163
EFR-13	0.5	0.0083	2,624	40	20	350	44.82	0.3735
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	0.5	0.0083	4,330	66	20	350	73.95	0.6163
EFR-18	0.5	0.0083	4,723	72	20	350	80.68	0.6723
EFR-19	2.0	0.0333	2,624	40	20	350	44.82	1.4940
EFR-20	2.0	0.0333	3,477	53	20	350	59.39	1.9795
EFR-21	4.0	0.0667	6,560	100	20	350	112.05	7.4700
EFR-22	4.0	0.0667	1,706	26	20	350	29.13	1.9422
EFR-23	1.0	0.0167	3,083	47	20	350	52.66	0.8777
EFR-24	0.5	0.0083	1,902	29	20	350	32.49	0.2708
EFR-25	2.0	0.0333	2,624	40	20	350	44.82	1.4940
EFR-26	2.0	0.0333	1,378	21	20	350	23.53	0.7843
EFR-27	1.0	0.0167	2,886	44	20	350	49.30	0.8217
EFR-28	4.0	0.0667	3,805	58	20	350	64.99	4.3326
Total EFR Time (hrs)		0.7750	AVG ppm	3712.36			TOTAL (LBS)	50.8426
							TOTAL VAPOR PHASE VOLUME (GAL)	6.7169

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 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-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	3.463
Depth to Water (ft)	B	3.523
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 =	1.407	16.884
Total Water Volume Gauging	C - B =	1.347	16.164

VR-111 $y = 0.0284x^2 + 1.4093x^2 - 3.5912x + 3.2798$
VR-102 $y = -0.0453x^3 + 2.9631x^2 + 5.4379x + 6.8628$
VR-119 $y = -0.0264x3 + 1.7505x2 + 11.903x - 4.5543$

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	725.54
Total Water Volume		B	677.78
Total Gauged Liquid Product Volume		A - B	47.76

Date	28-Jul-99
Project #	3868.16
Subcontractor	CleanVenture/CycleChem
Vac Truck Used	VR-102

TOTAL EFR VOLUME 54.48 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

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

MONTHLY EFR WELL GAUGING LOG

EFR # 23 DATE 8/27/99

WELL ID	DEPTH TO PRODUCT (ft)	DEPTH TO WATER (ft)	PRODUCT TICKNESS (ft)
EFR-1	12.73	14	1.27
EFR-2	13.31	14.31	1
EFR-3	13.18	14.21	1.03
EFR-4	14.81	15.8	0.99
EFR-5	13.04	14.61	1.57
EFR-6	12.62	13.53	0.91
EFR-7	9.71	9.76	0.05
EFR-8	8.5	8.77	0.27
EFR-9	8.85	9.41	0.56
EFR-10	9.64	12.11	2.47
EFR-11	9.17	10.74	1.57
EFR-12	8.08	8.28	0.2
EFR-13	7.65	8.66	1.01
EFR-14	7.41	7.41	0
EFR-15	6.78	6.91	0.13
EFR-16	7.21	7.21	0
EFR-17	13.05	13.41	0.36
EFR-18	11.98	13.35	1.37
EFR-19	14.91	16.93	2.02
EFR-20	13.11	14.97	1.86
EFR-21	11.62	12.66	1.04
EFR-22	15.25	16.66	1.41
EFR-23	11.35	12.38	1.03
EFR-24	14.42	14.47	0.05
EFR-25	14.13	15.61	1.48
EFR-26	15.82	16.54	0.72
EFR-27	14.44	14.65	0.21
EFR-28	12.07	13.85	1.78

Total Volume Of Free Standing Product (gal) 17.13

RMT FIELD TECHNICIAN Dan Leskovec

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

MONTHLY EFR
VAPOR AND LIQUID PHASE VOLUMETRIC CALCULATION LOG

EFR # 23 — **27-Aug-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	1.0	0.0167	4,395	67	20	350	75.07	1.2512
EFR-2	0.8	0.0125	3,870	59	20	350	66.11	0.8264
EFR-3	0.6	0.0097	4,264	65	20	350	72.83	0.7081
EFR-4	1.0	0.0167	3,280	50	20	350	56.02	0.9337
EFR-5	0.7	0.0111	2,952	45	20	350	50.42	0.5602
EFR-6	0.4	0.0069	3,280	50	20	350	56.02	0.3891
EFR-7	0.2	0.0028	1,246	19	20	350	21.29	0.0591
EFR-8	0.3	0.0042	0	0	20	350	0.00	0.0000
EFR-9	0.4	0.0069	3,936	60	20	350	67.23	0.4669
EFR-10	0.8	0.0125	3,936	60	20	350	67.23	0.8404
EFR-11	0.8	0.0125	4,920	75	20	350	84.04	1.0505
EFR-12	0.3	0.0042	0	0	20	350	0.00	0.0000
EFR-13	0.5	0.0083	1,640	25	20	350	28.01	0.2334
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	0.0042	3,214	49	20	350	54.90	0.2288
EFR-18	0.6	0.0097	3,214	49	20	350	54.90	0.5338
EFR-19	0.4	0.0069	1,837	28	20	350	31.37	0.2179
EFR-20	1.1	0.0181	2,952	45	20	350	50.42	0.9104
EFR-21	0.8	0.0139	4,264	65	20	350	72.83	1.0116
EFR-22	1.8	0.0292	3,477	53	20	350	59.39	1.7321
EFR-23	0.2	0.0028	2,296	35	20	350	39.22	0.1089
EFR-24	0.8	0.0125	984	15	20	350	16.81	0.2101
EFR-25	2.7	0.0444	3,018	46	20	350	51.54	2.2908
EFR-26	0.8	0.0139	3,936	60	20	350	67.23	0.9337
EFR-27	0.8	0.0139	984	15	20	350	16.81	0.2334
EFR-28	0.6	0.0097	3,674	56	20	350	62.75	0.6100
Total EFR Time (hrs)		0.3042	AVG ppm	3163.71			TOTAL (LBS)	16.3406
							TOTAL VAPOR PHASE VOLUME (GAL)	2.1588

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-B4
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	5.803
Depth to Water (ft)	B	5.873
Depth to Truck Base	C	6.710

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 =	0.907	10.884
Total Water Volume Gauging	C - B =	0.837	10.044

VR-111 $y = 0.0284x^3 + 1.4093x^2 - 3.5912x + 3.2798$
VR-102 $y = -0.0453x^3 + 2.9631x^2 + 5.4379x + 6.8628$
VR-119 $y = -0.0264x3 + 1.7505x2 + 11.903x - 4.5543$

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	298.33
Total Water Volume	B	264.84
Total Gauged Liquid Product Volume	A - B	33.48

Date	27-Aug-99
Project #	3868.16
Subcontractor	CleanVenture/CycleChem
Vac Truck Used	VR-119

TOTAL EFR VOLUME 35.64 GAL

RMT Field Technician: Dan Leskovec
Vac Truck Operator: Pete
RMT Project Manager: Nick Clevett

Use either formula to calculate volume dependent of which Model Vac Truck is used
All formuli developed from manufacturer's volumetric calibration curves

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

MONTHLY EFR WELL GAUGING LOG

EFR # 24 DATE 9/22/99

WELL ID	DEPTH TO PRODUCT (ft)	DEPTH TO WATER (ft)	PRODUCT TICKNESS (ft)
EFR-1	9.77	11.71	1.94
EFR-2	10.43	11.06	0.63
EFR-3	10.21	10.95	0.74
EFR-4	11.78	12.29	0.51
EFR-5	10.21	11.98	1.77
EFR-6	9.85	10	0.15
EFR-7	6.87	6.88	0.01
EFR-8	5.73	5.82	0.09
EFR-9	6.06	6.47	0.41
EFR-10	6.74	9.76	3.02
EFR-11	6.36	8.29	1.93
EFR-12	5.35	5.38	0.03
EFR-13	4.85	5.59	0.74
EFR-14	5.67	5.67	0
EFR-15	4.13	4.17	0.04
EFR-16	4.81	4.81	0
EFR-17	9.21	9.31	0.1
EFR-18	9.18	9.79	0.61
EFR-19	12.1	12.61	0.51
EFR-20	10.41	10.88	0.47
EFR-21	8.75	9.76	1.01
EFR-22	12.21	12.38	0.17
EFR-23	8.59	8.71	0.12
EFR-24	11.58	11.58	0
EFR-25	11.26	11.47	0.21
EFR-26	13.02	13.31	0.29
EFR-27	11.54	11.6	0.06
EFR-28	9.27	9.65	0.38

Total Volume Of Free Standing Product (gal) 10.36

RMT FIELD TECHNICIAN Dan Leskovec

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

MONTHLY EFR
VAPOR AND LIQUID PHASE VOLUMETRIC CALCULATION LOG

EFR # 24 22-Sep-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	1.0	0.0167	4,395	67	20	350	75.07	1.2512
EFR-2	0.5	0.0083	3,870	59	20	350	66.11	0.5509
EFR-3	0.5	0.0083	4,264	65	20	350	72.83	0.6069
EFR-4	0.5	0.0083	3,280	50	20	350	56.02	0.4669
EFR-5	1.0	0.0167	2,952	45	20	350	50.42	0.8404
EFR-6	0.5	0.0083	3,280	50	20	350	56.02	0.4669
EFR-7	0.3	0.0042	1,246	19	20	350	21.29	0.0887
EFR-8	0.3	0.0042	1,312	20	20	350	22.41	0.0934
EFR-9	0.5	0.0083	3,936	60	20	350	67.23	0.5602
EFR-10	1.0	0.0167	3,936	60	20	350	67.23	1.1205
EFR-11	1.0	0.0167	4,920	75	20	350	84.04	1.4006
EFR-12	0.3	0.0042	1,312	20	20	350	22.41	0.0934
EFR-13	0.5	0.0083	1,640	25	20	350	28.01	0.2334
EFR-14	0.0	0.0000	0	0	20	350	0.00	0.0000
EFR-15	0.3	0.0042	1,312	20	20	350	22.41	0.0934
EFR-16	0.0	0.0000	0	0	20	350	0.00	0.0000
EFR-17	0.3	0.0042	3,214	49	20	350	54.90	0.2288
EFR-18	0.5	0.0083	3,214	49	20	350	54.90	0.4575
EFR-19	0.5	0.0083	1,837	28	20	350	31.37	0.2614
EFR-20	0.5	0.0083	2,952	45	20	350	50.42	0.4202
EFR-21	1.0	0.0167	4,264	65	20	350	72.83	1.2139
EFR-22	0.5	0.0083	3,477	53	20	350	59.39	0.4949
EFR-23	0.3	0.0042	2,296	35	20	350	39.22	0.1634
EFR-24	0.0	0.0000	984	15	20	350	16.81	0.0000
EFR-25	0.5	0.0083	3,018	46	20	350	51.54	0.4295
EFR-26	0.5	0.0083	3,936	60	20	350	67.23	0.5602
EFR-27	0.3	0.0042	984	15	20	350	16.81	0.0700
EFR-28	1.0	0.0167	3,674	56	20	350	62.75	1.0458
Total EFR Time (hrs)		0.2292	AVG ppm	3223.35			TOTAL (LBS)	13.2126
							TOTAL VAPOR PHASE VOLUME (GAL)	1.7455

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-B4
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 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-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)

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

Vacuum Truck Gauging		FT
Depth to Product (ft)	A	4.163
Depth to Water (ft)	B	4.243
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 =	0.707	8.484
Total Water Volume Gauging	C - B =	0.627	7.524

VR-111 $y = 0.0284x^3 + 1.4093x^2 - 3.5912x + 3.2798$
VR-102 $y = -0.0453x^3 + 2.9631x^2 + 5.4379x + 6.8628$
VR-119 $y = -0.0264x3 + 1.7505x2 + 11.903x - 4.5543$
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	238.61
Total Water Volume		B	196.23
Total Gauged Liquid Product Volume		A - B	42.39

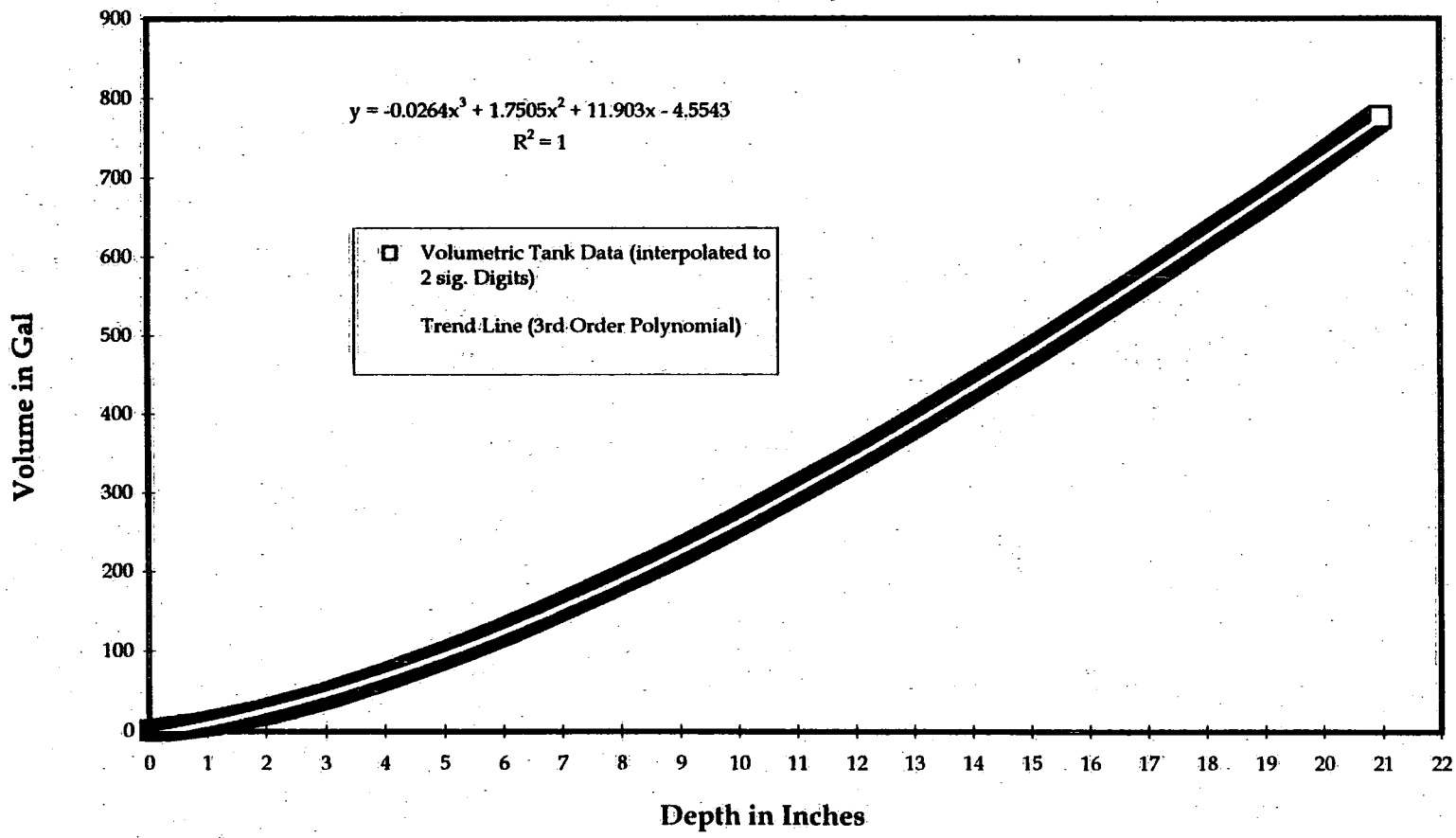
Date	22-Sep-99
Project #	3868.16
Subcontractor	CleanVenture/CycleChem
Vac Truck Used	VR-102

TOTAL EFR VOLUME 44.13 GAL

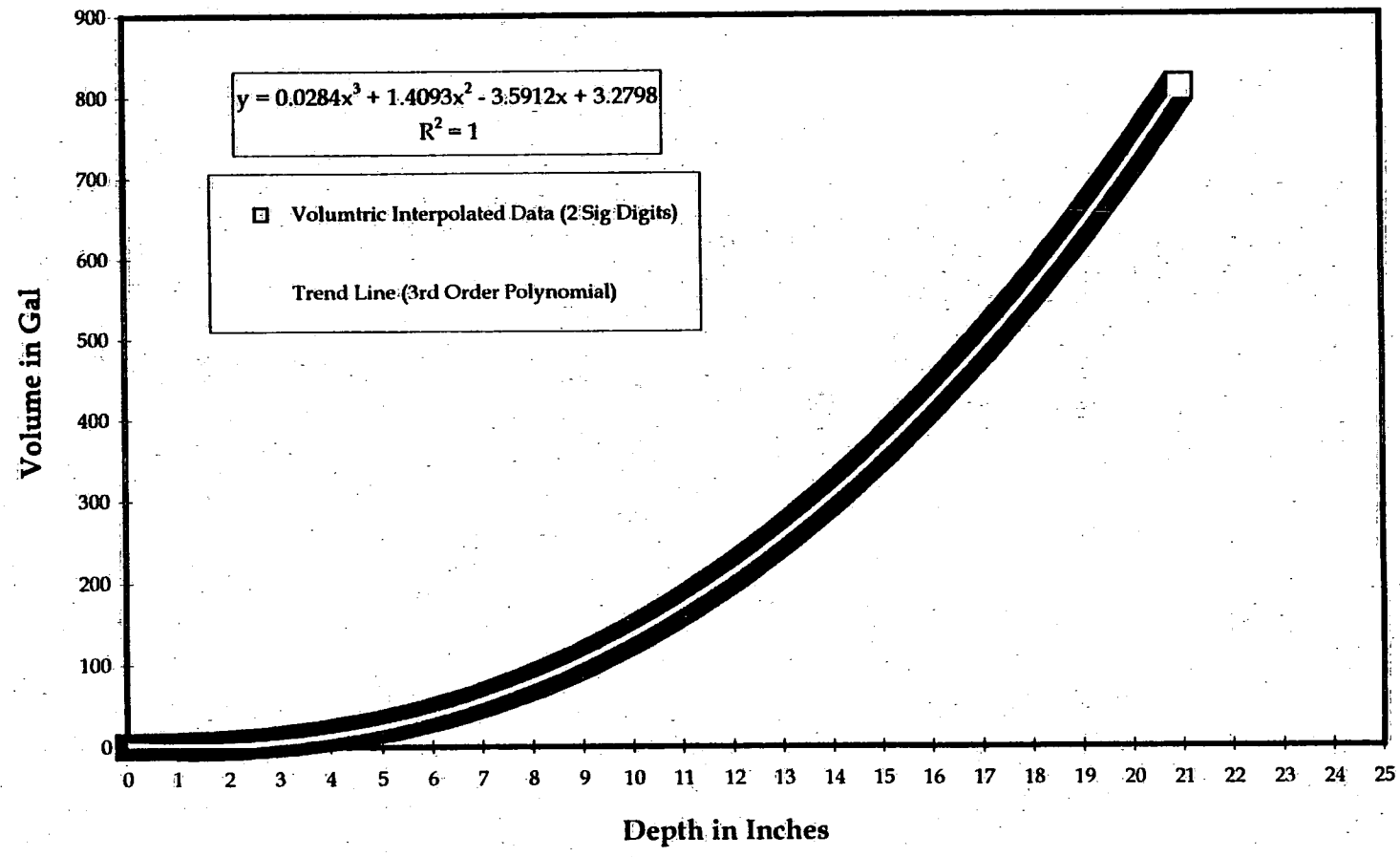
Use either formula to calculate volume dependent of which Model Vac Truck is used
All formuli developed from manufacturer's volumetric calibration curves

RMT Field Technician: Dan Leskovec
Vac Truck Operator: Pete
RMT Project Manager: Nick Clevett

VR-119 EFR Vac Truck
Volume Calibration Curve
(*Interpolated Data*)



VR-111 EFR Vac Truck
Volume Calibration Curve
(Interpolated Data)



VR-102 EFR Vac Truck
Volume Calibration Curve
Interpolated Data

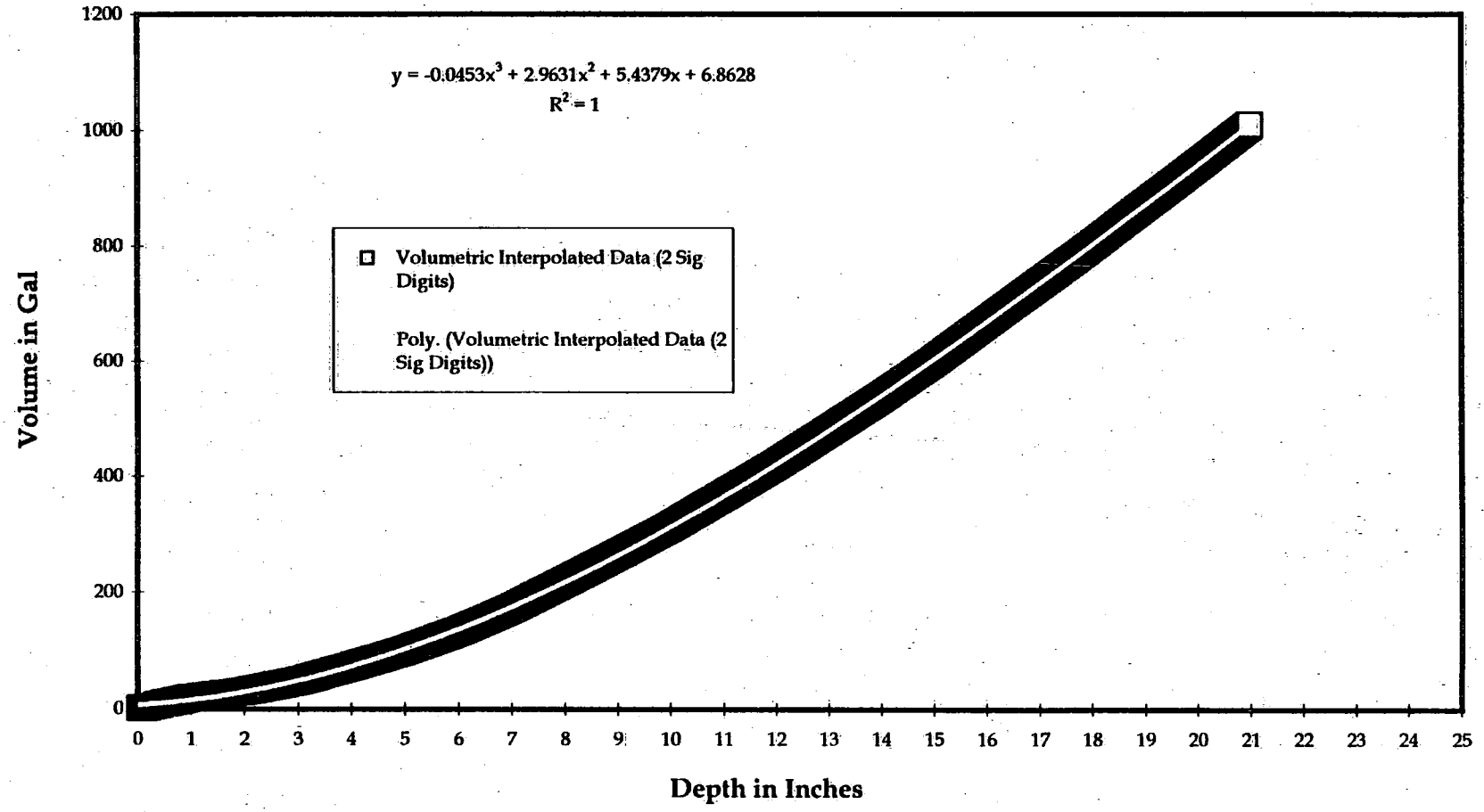


TABLE 4

L.E. CARPENTER - WHARTON, NEW JERSEY

REVISED QUARTERLY MONITORING PROTOCOL

Per NJDEP Letter Dated Aug 17, 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 subject site, bordering on the Rockaway River)	Original Monitoring Well
MW-11D[4]	161'	BTEX[1] DEHP[2]	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 exhibited DEHP contamination potentially as the result of draw down during well installation. Well will be sampled for both monitoring program parameters (BTEX & DEHP) per NJDEP letter dated Aug 17, 1999
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.
(4) MW11-D was sampled for ONLY DEHP starting in 3rd 1/4 1999 as the third quarter sampling had taken place (7/22/99) before receipt of the NJDEP letter dated Aug 17, 1999.
Per conversations with the NJDEP, from this point forward (next three quarters) this well will be sampled for both BTEX and DEHP.

QA/QC PROTOCOL
One (1) field blank will be collected for each parameter per each event (an additional 8 samples - 4 BTEX and 4 DEHP)
One (1) trip blank will be collected, alternating parameters per each event (an additional 4 samples - 2 BTEX and 2 DEHP)
One (1) duplicate sample will be collected from alternating wells and analyzed for alternating parameters (2 BTEX and 2 DEHP)

TABLE 5
L.E. CARPENTER - Wharton, New Jersey
Quarterly Groundwater Monitoring Data

MONITORING WELLS	SAMPLING DATE		CHEMICAL ANALYSIS RESULTS					ABOVE NJGWQS ?					ABOVE ROD DISCHARGE CRITERIA ?				
	YEAR	QUARTER	Benzene µg/L	Ethylbenzene µg/L	Toluene µg/L	Total Xylenes µg/L	bis-2-Ethylhexylphthalate (DEHP) µg/L	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)
NJDEP GWQS			1	700	1,000	40	30										
ROD DISCHARGE CRITERIA			1	350	500	20	30										
MW-4	1995	1	ND	26	ND	32	25,000	NO	NO	NO	NO	YES	NO	NO	NO	YES	YES
		2	ND	16	ND	13	46,000	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES
		3	ND	9.7	ND	8.7	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		4	ND	8.8	ND	11	17,000	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES
	1996	1	ND	24	ND	47	NS	NO	NO	NO	YES	--	NO	NO	NO	YES	--
		2	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
		3	ND	6.8	ND	4.3	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		4	ND	2.3	ND	ND	11,000	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES
	1997	1	ND	3.5	ND	1.8	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		2	ND	1.2	ND	4.2	120	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES
		3	ND	2.2	ND	12.6	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		4	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
	1998	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		2	ND	1.0	ND	1.4	710	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES
		3	ND	1.9	ND	1.2	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		4	ND	9.3	ND	3.3	650	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES
	1999	1	ND	1.1	ND	2.5	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		2	ND	0.66	ND	ND	3,000	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES
		2 duplicate	ND	0.43	ND	ND	4,400	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES
		3	ND	3.10	ND	2.9	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
								NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
MW-11(IR) (2)	1999	1	ND	ND	ND	0.8	ND	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		2	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
		3	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
								NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
MW-11(DR) (2)(3)	1999	1	ND	ND	ND	ND	64	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES
		1 duplicate	ND	ND	ND	ND	20	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		2	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
		3(2)	NS	NS	NS	NS	59	--	--	--	--	YES	--	--	--	--	YES
		3 duplicate	NS	NS	NS	NS	13	--	--	--	--	NO	--	--	--	--	NO
								NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
MW-14I	1995	1	ND	0.4	ND	1.2	140	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES
		2	ND	ND	ND	ND	1.6	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		4	ND	ND	ND	ND	2.6	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
	1996	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		2	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		4	ND	ND	ND	ND	2.7	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
	1997	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		2	ND	ND	ND	ND	1.6	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		3	1.2	22.1	ND	176	NS	YES	NO	NO	YES	--	YES	NO	NO	YES	--
		4	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
	1998	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		2	ND	0.34	ND	2	24	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
	1999	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
								NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

TABLE 5
L.E. CARPENTER - Wharton, New Jersey
Quarterly Groundwater Monitoring Data

MONITORING WELLS	SAMPLING DATE		CHEMICAL ANALYSIS RESULTS					ABOVE NJGWQS ?					ABOVE ROD DISCHARGE CRITERIA ?				
	YEAR	QUARTER	Benzene µg/L	Ethylbenzene µg/L	Toluene µg/L	Total Xylenes µg/L	bis-2-Ethylhexylphthalate (DEHP) µg/L	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)
NJDEP GWQS			1	700	1,000	40	30										
ROD DISCHARGE CRITERIA			1	350	500	20	30										
MW-15S	1995	1	ND	ND	ND	ND	2.4	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
	1996	1	ND	33	ND	83	NS	NO	NO	NO	YES	--	NO	NO	NO	YES	--
		2	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		4	ND	0.21	ND	1.7	ND	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
	1997	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		2	ND	ND	ND	ND	1.2	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		4	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
	1998	1	ND	ND	1.4	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		2	ND	ND	ND	1.3	ND	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
	1999	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
								NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
MW-15I	1995	1	ND	ND	ND	ND	250	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES
		2	ND	ND	ND	ND	7.2	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		4	ND	ND	ND	ND	2.8	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
	1996	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		2	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		4	ND	ND	ND	ND	1.7	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		4 duplicate	ND	ND	ND	ND	1.9	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
	1997	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		2	ND	ND	ND	ND	2.2	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		4	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
	1998	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		2	ND	ND	ND	ND	1.9	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		2 duplicate	ND	ND	ND	ND	3.8	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		4	ND	ND	ND	0.53	11	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		4 duplicate	ND	0.2	ND	0.8	9.8	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
	1999	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		2	ND	ND	ND	ND	4.8	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
								NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
MW-17S(4)	1995	1	ND	0.6	0.3	1.9	11	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		2	0.2	ND	0.18	ND	ND	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		3	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
		4	ND	ND	ND	0.63	ND	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
	1996	1	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
		2	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
		3	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
		4	ND	ND	ND	ND	1.5	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
	1997	1	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
		2	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		3	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
		4	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
	1998	1	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
		2	ND	ND	ND	1.2	6.1	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		3	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
		4	ND	ND	ND	ND	6	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
	1999	1	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		3	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
								NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

TABLE 5
L.E. CARPENTER - Wharton, New Jersey
Quarterly Groundwater Monitoring Data

MONITORING WELLS	SAMPLING DATE		CHEMICAL ANALYSIS RESULTS					ABOVE NJGWQS ?					ABOVE ROD DISCHARGE CRITERIA ?				
	YEAR	QUARTER	Benzene µg/L	Ethylbenzene µg/L	Toluene µg/L	Total Xylenes µg/L	bis-2-Ethylhexylphthalate (DEHP) µg/L	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)
NJDEP GWQS			1	700	1,000	40	30										
ROD DISCHARGE CRITERIA			1	350	500	20	30										
MW-21[1]	1999	1	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		4	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
MW-22	1995	1	ND	57	ND	268	6,500	NO	NO	NO	YES	YES	NO	NO	NO	YES	YES
		2	ND	311	ND	955	380	NO	NO	NO	YES	YES	NO	NO	NO	YES	YES
		3	ND	171	ND	693	NS	NO	NO	NO	YES	--	NO	NO	NO	YES	--
		4	ND	123	ND	494	320	NO	NO	NO	YES	YES	NO	NO	NO	YES	YES
	1996	1	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
		2	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
		3	ND	359	ND	1,320	NS	NO	NO	NO	YES	--	NO	YES	NO	YES	--
		4	ND	320	ND	1,330	ND	NO	NO	NO	YES	NO	NO	NO	NO	YES	NO
	1997	1	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
		2	ND	5,730	ND	32,900	7,580	NO	YES	NO	YES	YES	NO	YES	NO	YES	YES
		3	ND	11,480	348	46,800	NS	NO	YES	NO	YES	--	NO	YES	NO	YES	--
		4	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
	1998	1	ND	4,070	348	28,600	NS	NO	YES	NO	YES	--	NO	YES	NO	YES	--
		2	ND	2,260	ND	11,300	5,800	NO	YES	NO	YES	YES	NO	YES	NO	YES	YES
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		3 duplicate	ND	2,510	ND	11,000	NS	NO	YES	NO	YES	--	NO	YES	NO	YES	--
		4	ND	1,650	ND	7,230	1,100	NO	YES	NO	YES	YES	NO	YES	NO	YES	YES
	1999	1	ND	18	ND	84	NS	NO	NO	NO	YES	--	NO	NO	NO	YES	--
		2	ND	1,600	ND	7,600	670	NO	YES	NO	YES	YES	NO	YES	NO	YES	YES
		3	ND	1,200	42	5,200	NS	NO	YES	NO	YES	--	NO	YES	NO	YES	--
								NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
MW-25	1995	1	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
		2	ND	ND	ND	ND	1.6	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		4	ND	ND	ND	ND	68	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES
	1996	1	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
		2	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
		3	ND	0.34	ND	2.2	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
	1997	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		2	ND	13.5	ND	89	63	NO	NO	NO	YES	YES	NO	NO	NO	YES	YES
		3	ND	4.1	ND	30.7	NS	NO	NO	NO	NO	--	NO	NO	NO	YES	--
		4	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
	1998	1	ND	0.33	ND	1.5	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		1 duplicate	ND	0.39	ND	0.94	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		2	ND	ND	ND	ND	5.3	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		4	ND	ND	ND	ND	1.9	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
	1999	1	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		2	ND	ND	ND	14	ND	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		3	ND	0.39	ND	1.4	9.6	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
								NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

TABLE 5
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Quarterly Groundwater Monitoring Data

MONITORING WELLS	SAMPLING DATE		CHEMICAL ANALYSIS RESULTS					ABOVE NJGWQS ?					ABOVE ROD DISCHARGE CRITERIA ?				
	YEAR	QUARTER	Benzene µg/L	Ethylbenzene µg/L	Toluene µg/L	Total Xylenes µg/L	bis-2-Ethylhexylphthalate (DEHP) µg/L	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)
NJDEP GWQS			1	700	1,000	40	30										
ROD DISCHARGE CRITERIA			1	350	500	20	30										
MW-30	1995	1	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
		2	ND	17	ND	13	**45,000**	NO	NO	NO	NO	**YES**	NO	NO	NO	NO	**YES**
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
	1996	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		2	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		4	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
	1997	1	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
		2	ND	ND	ND	ND	2.2	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
MW-30S	1997	1	ND	0.2	ND	1.0	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		2	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
		3	ND	4.1	ND	30.7	NS	NO	NO	NO	NO	--	NO	NO	NO	**YES**	--
		4	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
Trip Blank	1995	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		2	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		4	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
	1996	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		2	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		4	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
	1997	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		4	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
	1998	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		4	ND	ND	ND	NS	1.3	NO	NO	NO	--	NO	NO	NO	NO	--	NO
	1999	1	ND	ND	ND	NS	ND	NO	NO	NO	--	NO	NO	NO	NO	--	NO
		2	ND	ND	ND	NS	ND	NO	NO	NO	--	NO	NO	NO	NO	--	NO
		3	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
								NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Field Blank	1995	1	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		2	ND	0.73	ND	ND	1.3	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
	1996	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		2	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
	1997	1	ND	ND	0.2	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		2	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		4	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--
	1998	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		2	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--	NO	NO	NO	NO	--
		4	ND	ND	ND	ND	1.3	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
	1999	1	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

LEGEND
µg/L = micrograms per liter
NJGWQS = New Jersey Groundwater Quality Standards
ROD: Record of Decision
NA = Not Applicable
NS = Not Sampled
ND: No Detection
duplicate = Duplicate sample

Values in **BOLD BLUE FONT** are above BOTH the NJDEP GWQS and the ROD Discharge Criteria
-- Used when comparison against known standards does not apply as the well was not sampled (NS) for a specific analyte

Sampling 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)
(3) MW-11D required to be sampled quarterly per NJDEP letter dated August 17, 1999. Third quarter 1999 sampling was performed prior to receiving the NJDEP letter. Subsequently, the well was only sampled for DEHP. Starting 4th quarter 1999, MW-11D will be sampled for both DEHP and BTEX.
(4) Well sampled Biannually - 2nd and 4th Quarter Only as of the beginning of 1998

Prepared By: RMT, Inc - Chicago
Nicholas J. Clevett
Project Manager

Table 6
Water Level Elevations (3rd. 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 (ft)	CORRECTED WATER LEVEL ELEVATIONS (2)
CW-1	40° 54' 14.2"	74° 34' 34.7"	630.83	634.35	--	Jul-99	9.11	9.92	--	620.91	0.11	621.01
CW-3	40° 54' 13.8"	74° 34' 32.5"	628.63	633.30	--	Jul-99	--	9.41	--	619.22	--	--
GEI-1I	40° 54' 19.3"	74° 34' 35.3"	628.44	630.93	630.78	Jul-99	--	6.62	--	624.16	--	--
GEI-2 I	40° 54' 17.4"	74° 34' 43.1"	635.92	638.35	638.20	Jul-99	--	13.05	--	625.15	--	--
GEI-2 S	40° 54' 17.3"	74° 34' 43.0"	635.46	637.87	637.67	Jul-99	--	13.01	--	624.66	--	--
GEI-3 I	40° 54' 14.8"	74° 34' 43.7"	637.56	639.99	639.85	Jul-99	--	15.22	--	624.63	--	--
MW-1R	40° 54' 13.8"	74° 34' 38.8"	635.79	635.78	635.47	Jul-99	11.52	12.37	623.95	623.10	0.85	623.87
MW-2R	40° 54' 14.4"	74° 34' 33.1"	629.06	632.28	632.14	Jul-99	--	8.61	--	623.53	--	--
MW-3	40° 54' 14.0"	74° 34' 32.6"	628.64	632.27	632.56	Jul-99	8.72	10.69	623.84	621.87	1.97	623.66
MW-4	40° 54' 12.4"	74° 34' 34.4"	628.86	632.31	632.50	Jul-99	--	8.70	--	623.80	--	--
MW-6R	40° 54' 13.8"	74° 34' 34.1"	629.82	632.64	632.42	Jul-99	7.93	8.62	624.49	623.80	0.69	624.43
MW-8	40° 54' 12.7"	74° 34' 33.3"	627.99	630.56	628.79	Jul-99	--	3.77	--	625.02	--	--
MW-9	40° 54' 12.5"	74° 34' 35.1"	629.21	631.69	630.18	Jul-99	--	5.82	--	624.36	--	--
MW-11D (R)	40° 54' 14.2"	74° 34' 34.9"	630.66	633.35	633.09	Jul-99	--	7.59	--	625.50	--	--
MW-11I (R)	40° 54' 14.1"	74° 34' 34.9"	630.89	633.67	633.33	Jul-99	--	9.59	--	623.74	--	--
MW-11 S	40° 54' 14.0"	74° 34' 34.9"	631.23	633.26	632.96	Jul-99	9.20	13.57	623.76	619.39	4.37	623.36
MW-12R	40° 54' 12.3"	74° 34' 35.9"	632.17	634.86	634.33	Jul-99	--	10.62	--	623.71	--	--
MW-13 I	40° 54' 15.1"	74° 34' 31.9"	628.36	630.88	630.66	Jul-99	--	7.04	--	623.62	--	--
MW-13R	40° 54' 15.0"	74° 34' 31.8"	628.26	630.96	630.59	Jul-99	--	7.04	--	623.55	--	--
MW-13 S	40° 54' 15.3"	74° 34' 31.7"	628.34	631.40	631.23	Jul-99	--	7.21	--	624.02	--	--
MW-14 I	40° 54' 14.2"	74° 34' 31.2"	625.93	628.32	628.23	Jul-99	--	4.72	--	623.51	--	--
MW-14 S	40° 54' 14.3"	74° 34' 31.0"	625.78	628.63	628.41	Jul-99	--	5.14	--	623.27	--	--
MW-15 I	40° 54' 15.0"	74° 34' 37.9"	634.74	636.88	636.66	Jul-99	--	12.66	--	624.00	--	--
MW-15 S	40° 54' 15.0"	74° 34' 38.0"	634.83	637.03	636.77	Jul-99	--	12.77	--	624.00	--	--
MW-16 I	40° 54' 16.0"	74° 34' 40.3"	632.43	635.08	634.96	Jul-99	--	10.52	--	624.44	--	--
MW-16 S	40° 54' 15.9"	74° 34' 40.4"	632.57	634.69	634.47	Jul-99	--	10.12	--	624.35	--	--
MW-17 S	40° 54' 12.8"	74° 34' 39.7"	632.95	634.92	634.79	Jul-99	--	10.76	--	624.03	--	--
MW-18 I	40° 54' 18.4"	74° 34' 35.2"	628.35	631.19	631.04	Jul-99	--	6.92	--	624.12	--	--
MW-18 S	40° 54' 18.4"	74° 34' 35.0"	628.22	631.48	631.26	Jul-99	--	7.12	--	624.14	--	--
MW-19	40° 54' 17.1"	74° 34' 43.7"	636.72	639.24	638.88	Jul-99	--	13.14	--	625.74	--	--
MW-19-1	40° 54' 17.0"	74° 34' 44.0"	636.50	639.26	638.86	Jul-99	--	14.06	--	624.80	--	--
MW-19-2	40° 54' 17.2"	74° 34' 44.0"	637.05	639.36	638.76	Jul-99	--	13.99	--	624.77	--	--
MW-19-3	40° 54' 17.1"	74° 34' 44.5"	637.54	640.04	639.65	Jul-99	--	14.72	--	624.93	--	--
MW-19-4	40° 54' 16.7"	74° 34' 44.0"	636.27	638.44	637.74	Jul-99	--	12.89	--	624.85	--	--

Prepared By: Nicholas J. Clevett
RMT, Inc. Project Manager

Table 6
Water Level Elevations (3rd. 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 (ft)	CORRECTED WATER LEVEL ELEVATIONS [2]
MW-19-5	40° 54' 17.3"	74° 34' 43.5"	636.39	639.07	638.74	Jul-99	--	14.09	--	624.65	--	--
MW-20	40° 54' 17.2"	74° 34' 41.2"	634.82	637.03	636.77	Jul-99	--	12.27	--	624.50	--	--
MW-21	40° 54' 14.1"	74° 34' 28.2"	625.17	629.09	628.80	Jul-99	--	5.51	--	623.29	--	--
MW-22 (R)	40° 54' 13.7"	74° 34' 31.2"	625.94	628.31	628.13	Jul-99	--	4.75	--	623.38	--	--
MW-23	40° 54' 15.8"	74° 34' 30.5"	628.70	630.95	630.64	Jul-99	--	5.31	--	625.33	--	--
MW-25 (R)	40° 54' 13.7"	74° 34' 29.8"	625.25	627.37	627.22	Jul-99	--	3.96	--	623.26	--	--
MW-26	40° 54' 15.7"	74° 34' 34.3"	630.84	634.39	633.26	Jul-99	--	9.59	--	623.67	--	--
RW-1	40° 54' 13.6"	74° 34' 39.1"	635.19	637.81	637.38	Jul-99	--	13.45	--	623.93	--	--
RW-2	40° 54' 14.2"	74° 34' 32.8"	629.80	631.78	631.68	Jul-99	--	8.20	--	623.48	--	--
RW-3	40° 54' 14.9"	74° 34' 33.9"	629.89	632.15	631.99	Jul-99	--	8.16	--	623.83	--	--
SG-D1 [1]	--	--	626.41	--	--	Jul-99	--	DRY	--	--	--	--
SG-D2 [1]	--	--	626.86	--	--	Jul-99	--	DRY	--	--	--	--
SG-D3 [1]	--	--	626.43	--	--	Jul-99	--	0.58	--	623.68	--	--
SG-R1 [1]	--	--	641.52	--	--	Jul-99	--	1.31	--	639.50	--	--
SG-R2 [1]	--	--	628.84	--	--	Jul-99	--	0.56	--	626.07	--	--
SG-R3 [1]	--	--	627.38	--	--	Jul-99	--	DRY	--	--	--	--
WP-A1	40° 54' 13.9"	74° 34' 38.8"	636.29	636.32	635.81	Jul-99	11.77	12.15	624.04	623.66	0.38	624.00
WP-A2	40° 54' 14.2"	74° 34' 39.0"	637.31	639.62	639.19	Jul-99	*BENT WELL CASING - NOT EVALUATED*					
WP-A3	40° 54' 13.7"	74° 34' 40.3"	635.97	635.97	635.56	Jul-99	--	11.58	--	623.98	--	--
WP-A4	40° 54' 14.0"	74° 34' 38.5"	635.63	635.66	635.10	Jul-99	12.91	14.04	622.19	621.06	1.13	622.09
WP-A5	40° 54' 14.4"	74° 34' 38.1"	635.70	--	637.85	Jul-99	--	14.10	--	623.75	--	--
WP-A6	40° 54' 13.6"	74° 34' 38.0"	634.95	--	637.28	Jul-99	13.38	14.77	623.90	622.51	1.39	623.77
WP-A7	40° 54' 13.7"	74° 34' 36.6"	632.94	--	634.88	Jul-99	11.12	13.45	623.76	621.43	2.33	623.54
WP-A8	40° 54' 14.3"	74° 34' 36.6"	634.70	--	637.56	Jul-99	13.62	16.38	623.94	621.18	2.76	623.68
WP-A9	40° 54' 13.6"	74° 34' 37.4"	637.22	--	639.32	Jul-99	15.40	17.24	623.92	622.08	1.84	623.75
WP-B1	40° 54' 13.9"	74° 34' 35.7"	631.85	--	633.65	Jul-99	8.43	8.71	625.22	624.94	0.28	625.19
WP-B2	40° 54' 14.5"	74° 34' 35.1"	630.48	632.58	632.25	Jul-99	8.61	8.67	623.64	623.58	0.06	623.63
WP-B3	40° 54' 14.2"	74° 34' 35.4"	631.71	--	633.33	Jul-99	9.47	9.82	623.86	623.51	0.35	623.83
WP-B4	40° 54' 14.5"	74° 34' 34.5"	629.93	--	632.56	Jul-99	*DRY*					
WP-B5	40° 54' 14.7"	74° 34' 34.2"	630.03	--	632.11	Jul-99	7.26	7.88	624.85	624.23	0.62	624.79
WP-B6	40° 54' 13.4"	74° 34' 33.7"	629.72	--	631.86	Jul-99	--	8.41	--	623.45	--	--
WP-B7	40° 54' 13.5"	74° 34' 32.3"	627.62	--	629.49	Jul-99	6.17	6.35	623.32	623.14	0.18	623.30
WP-B10	40° 54' 14.9"	74° 34' 34.7"	630.42	633.12	632.74	Jul-99	--	9.05	--	623.69	--	--
WP-C1	40° 54' 12.6"	74° 34' 36.1"	632.81	--	633.51	Jul-99	--	9.77	--	623.74	--	--

Prepared By: Nicholas J. Clevett
RMT, Inc. Project Manager

Table 6
Water Level Elevations (3rd. 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 (ft)	CORRECTED WATER LEVEL ELEVATIONS (2)
WP-C2	40° 54' 12.5"	74° 34' 35.6"	633.02	--	634.46	Jul-99	--	9.85	--	624.61	--	--
WP-C3	40° 54' 12.4"	74° 34' 36.4"	631.00	--	632.64	Jul-99	--	8.92	--	623.72	--	--
WP-C4	40° 54' 12.8"	74° 34' 35.9"	632.44	--	633.27	Jul-99	DRY					

(1) 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.

(2) Corrected water level elevations utilize an average specific gravity of 0.9076 (Roy F. Weston product sampling on Feb 27, 1995 @ MW-1R; MW-11S; MW-6R; WP-B5 & WP-B4)

Prepared By: Nicholas J. Clevett
RMT, Inc. Project Manager

Appendix A
Certification

CERTIFICATION

In accordance with N.J.A.C. 7:26C-1.2(b):

"I certify under penalty of law that the information provided in this document 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 personably liable for the penalties."

In accordance with N.J.A.C. 7:26C-1.2(c):

"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."

Mr. Cristopher R. Anderson

PRINTED NAME

Director, Environmental Affairs

TITLE

L.E. Carpenter Company

COMPANY

Cristopher Anderson

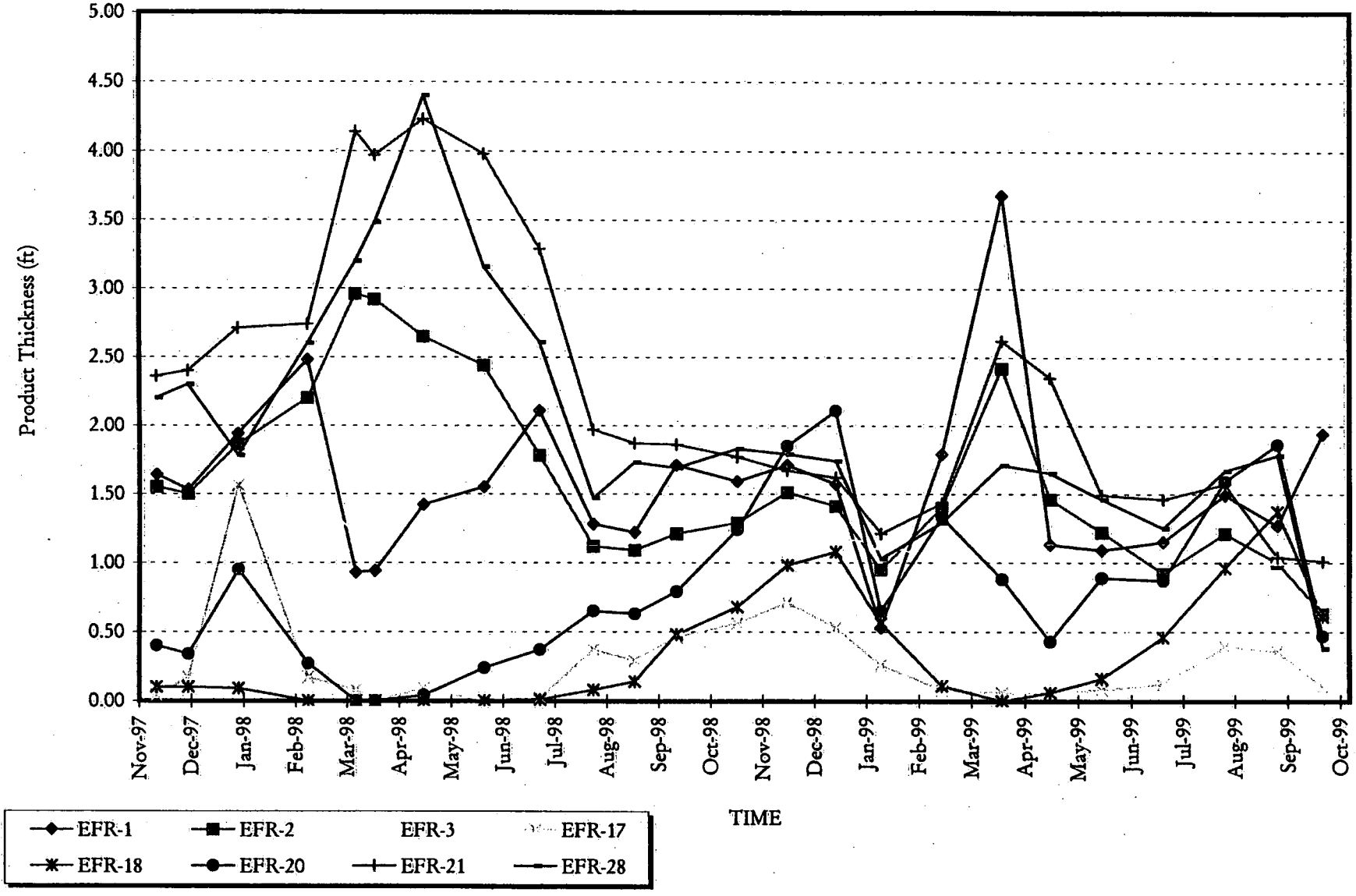
SIGNATURE

Oct 20, 1999

DATE

Appendix B
3rd Quarter Free Product Fluctuation and Trend Charts

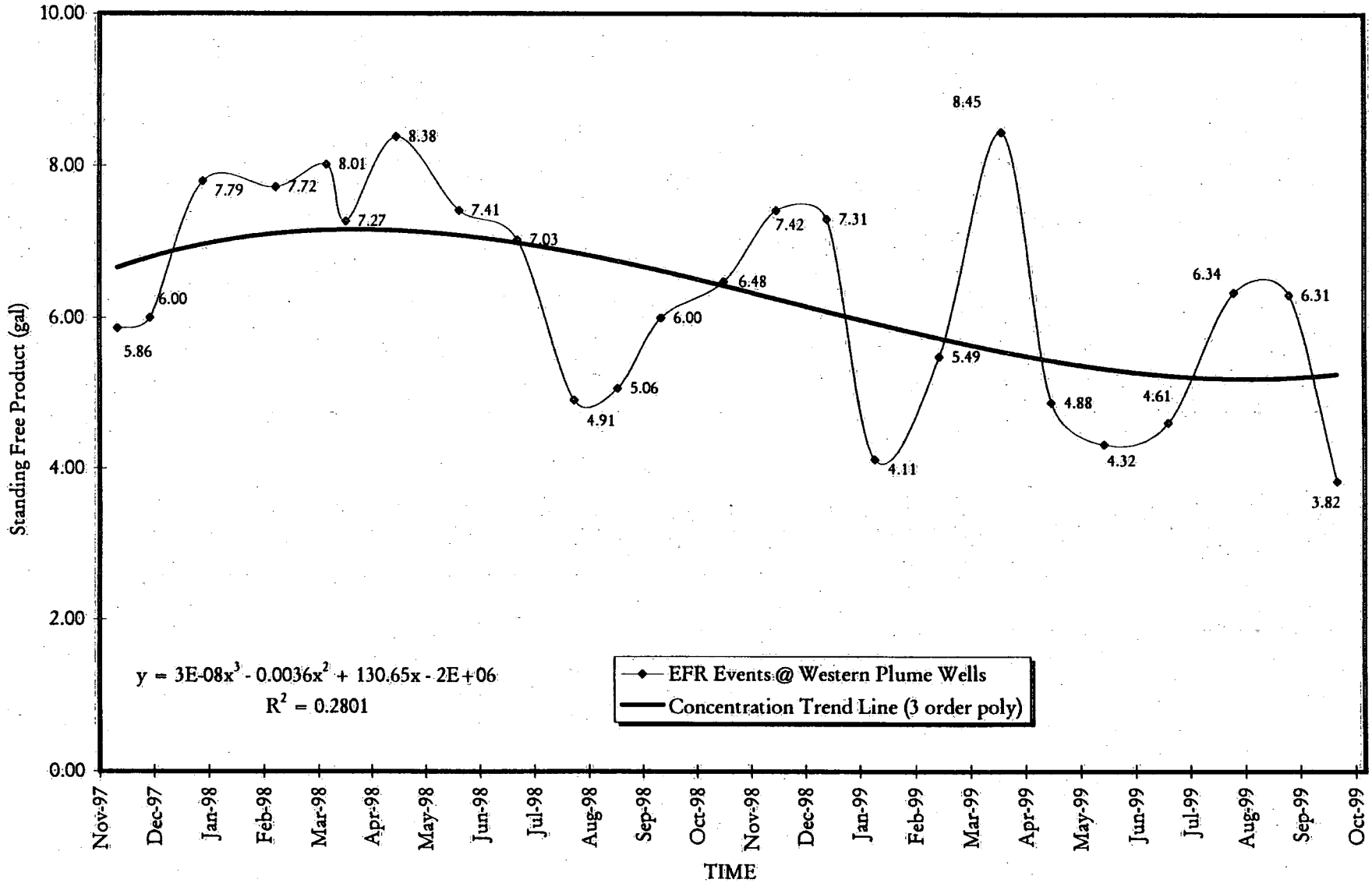
Free Product Changes vs. Time
Western Portion of Plume
L.E. Carpenter, Wharton, New Jersey
Through 3rd Quarter 1999



10/04/199912:53 PM
Prepared By: Nicholas J. Clevett
RMT, Inc. - Project Manager

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

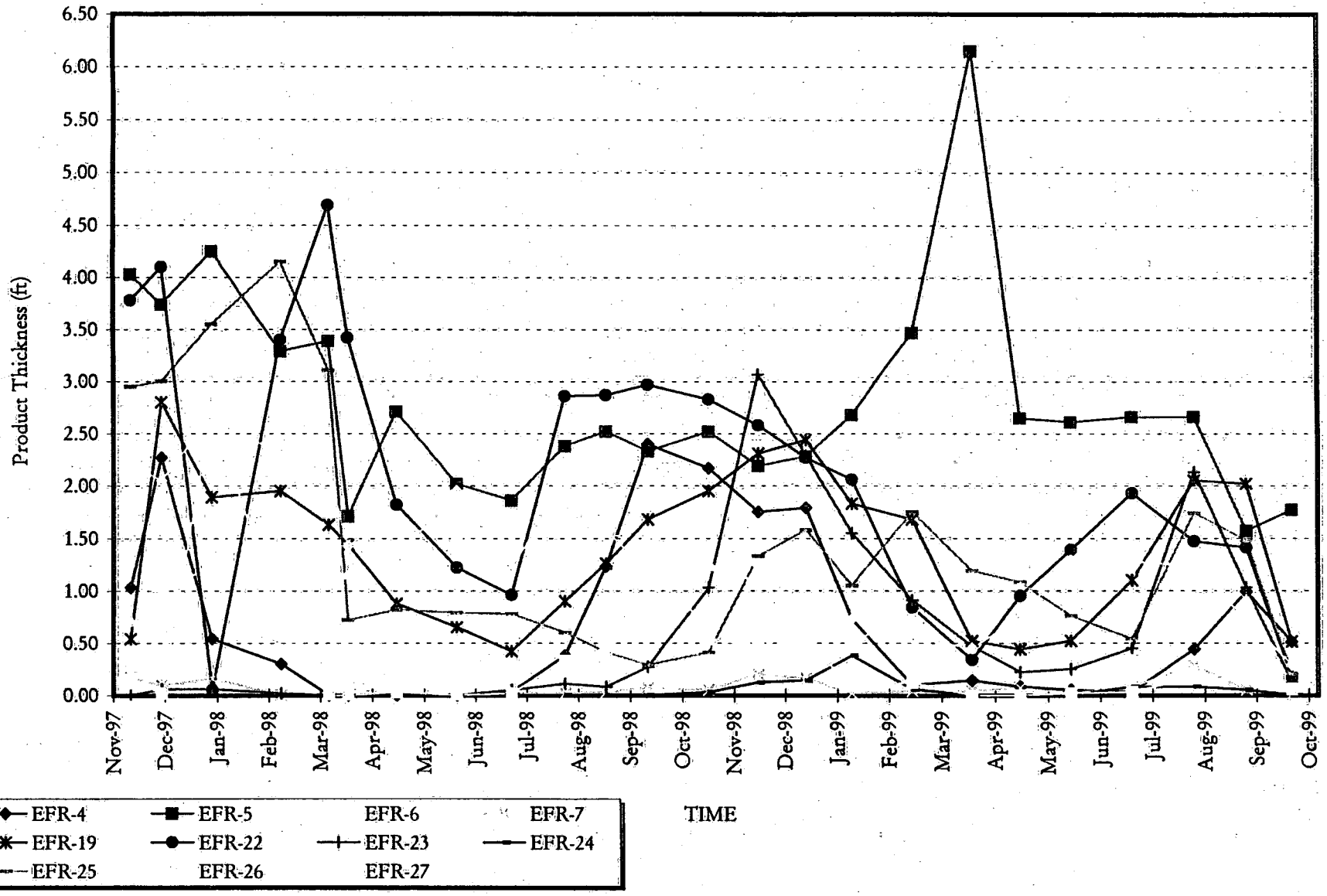
Free Standing Product vs. Time
Western Portion of Plume
L.E. Carpenter, Wharton, New Jersey
Through 3rd Quarter 1999



10/04/19991:11 PM
Prepared By: Nicholas J. Clevett
RMT, Inc. - Project Manager

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

Free Product Changes vs. Time
Central Portion of Plume
L.E. Carpenter, Wharton, New Jersey
Through 3rd Quarter 1999



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Prepared By: Nicholas J. Clevett
RMT, Inc. - Project Manager

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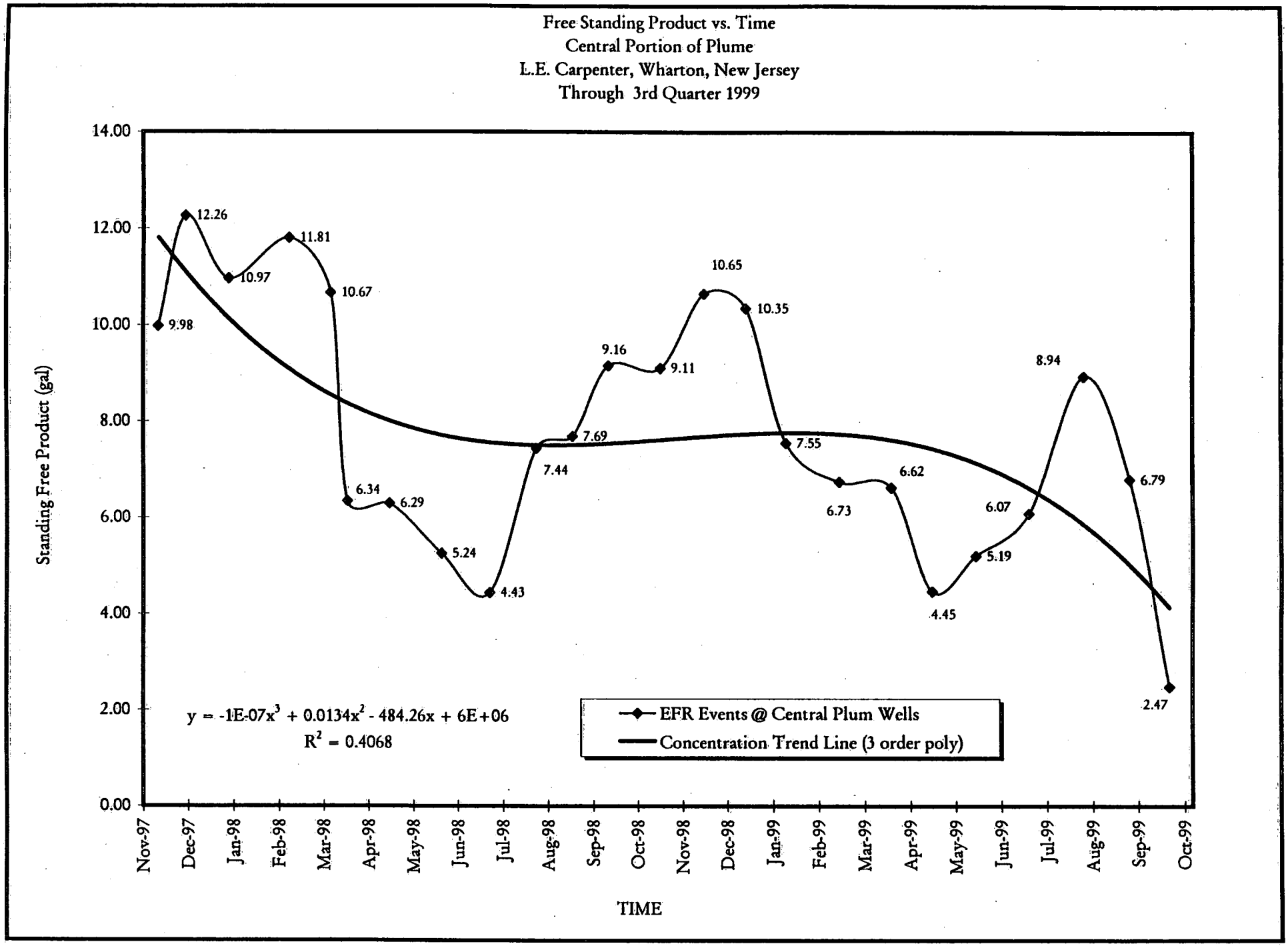
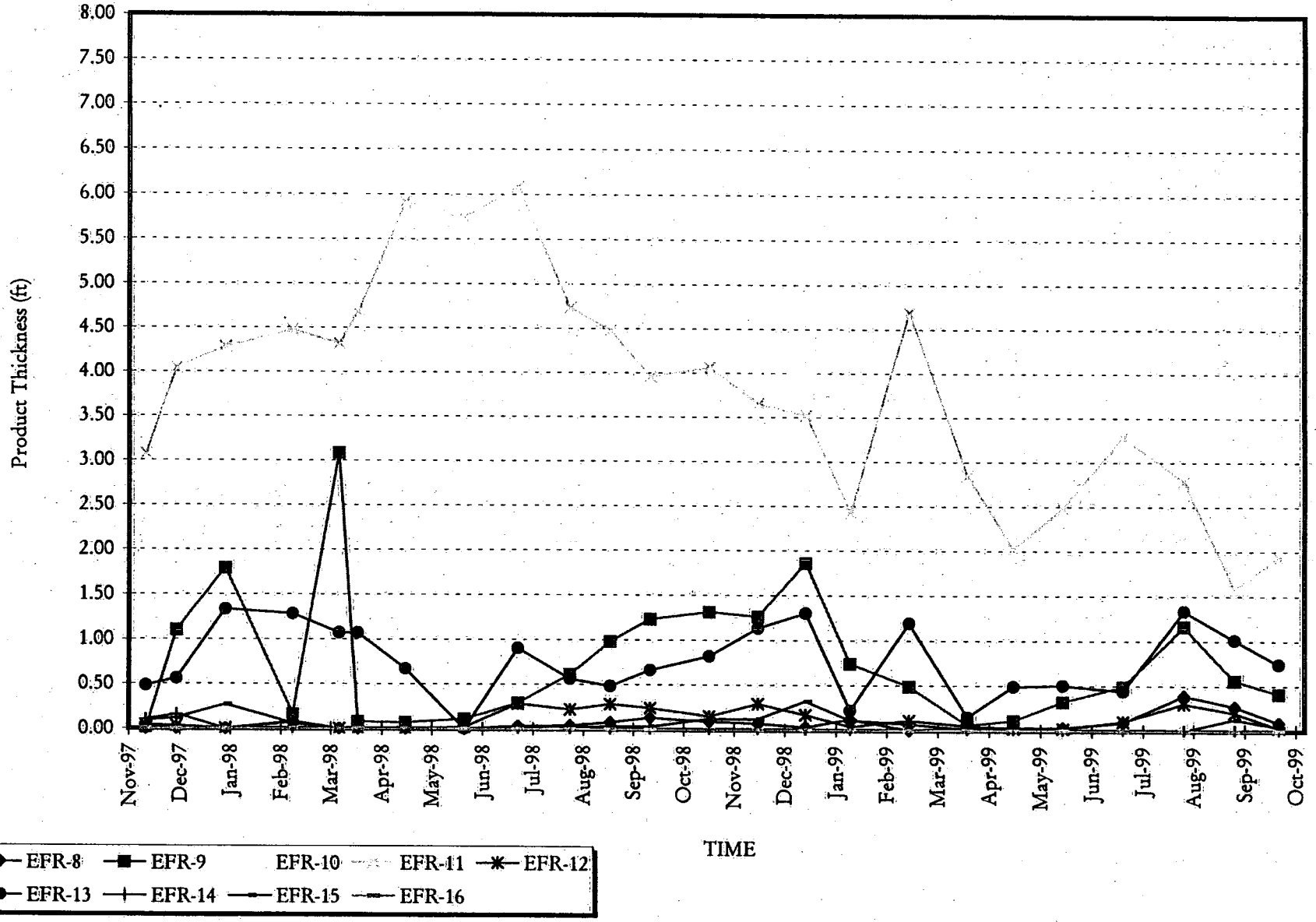


H:/data/projects/lecarpen/quarters/Freeprdt.xls/stand_prod_central trend

10/04/19991:11 PM
Prepared By; Nicholas J. Clevett
RMT, Inc. - Project Manager

Free Product Changes vs. Time
Eastern Portion of Plume
L.E. Carpenter, Wharton, New Jersey
Through 3rd Quarter 1999



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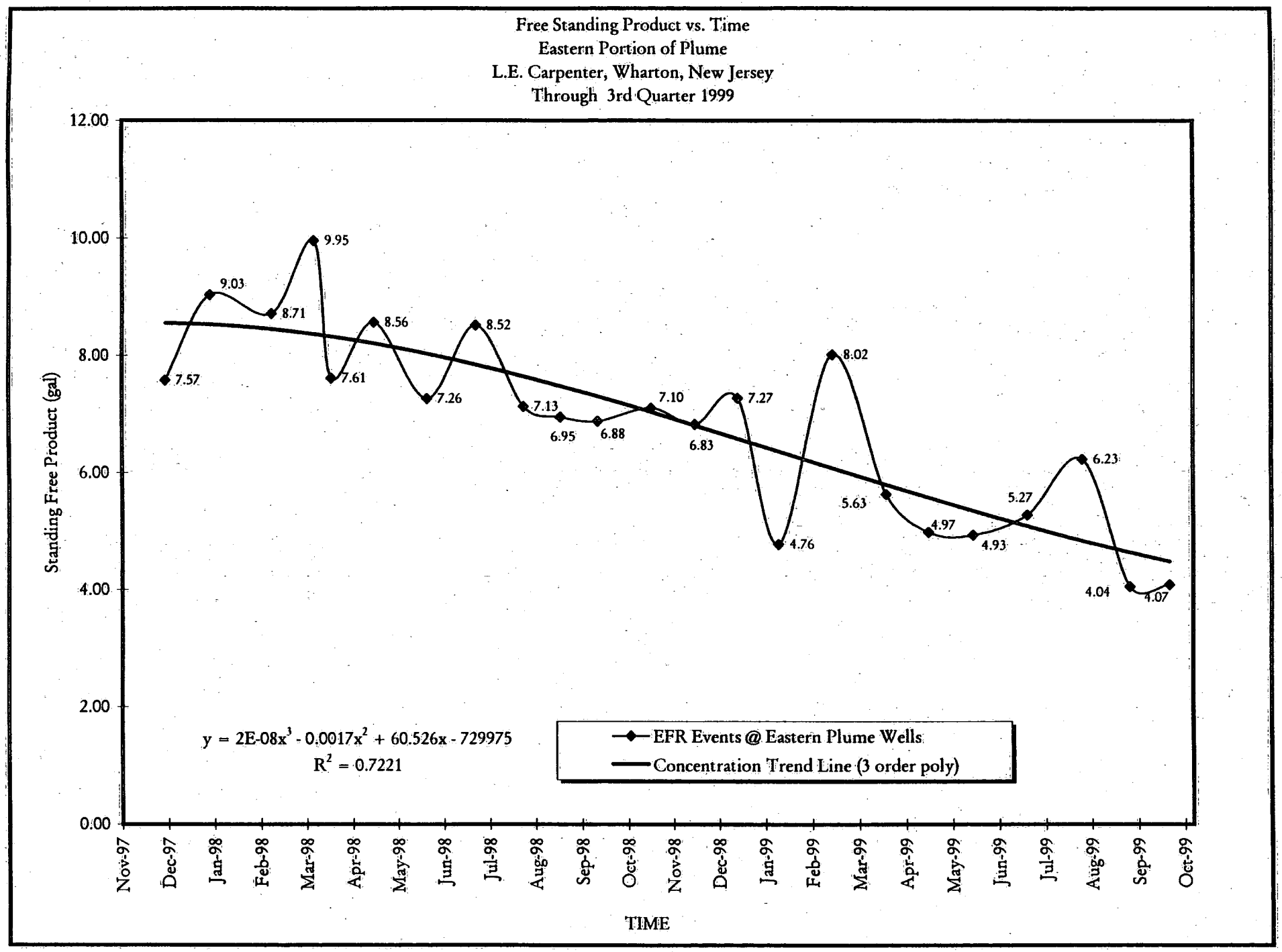
10/04/199912:54 PM
Prepared By: Nicholas J. Clevett
RMT, Inc. - Project Manager



10/04/19991:11 PM
Prepared By: Nicholas J. Clevett
RMT, Inc. - Project Manager

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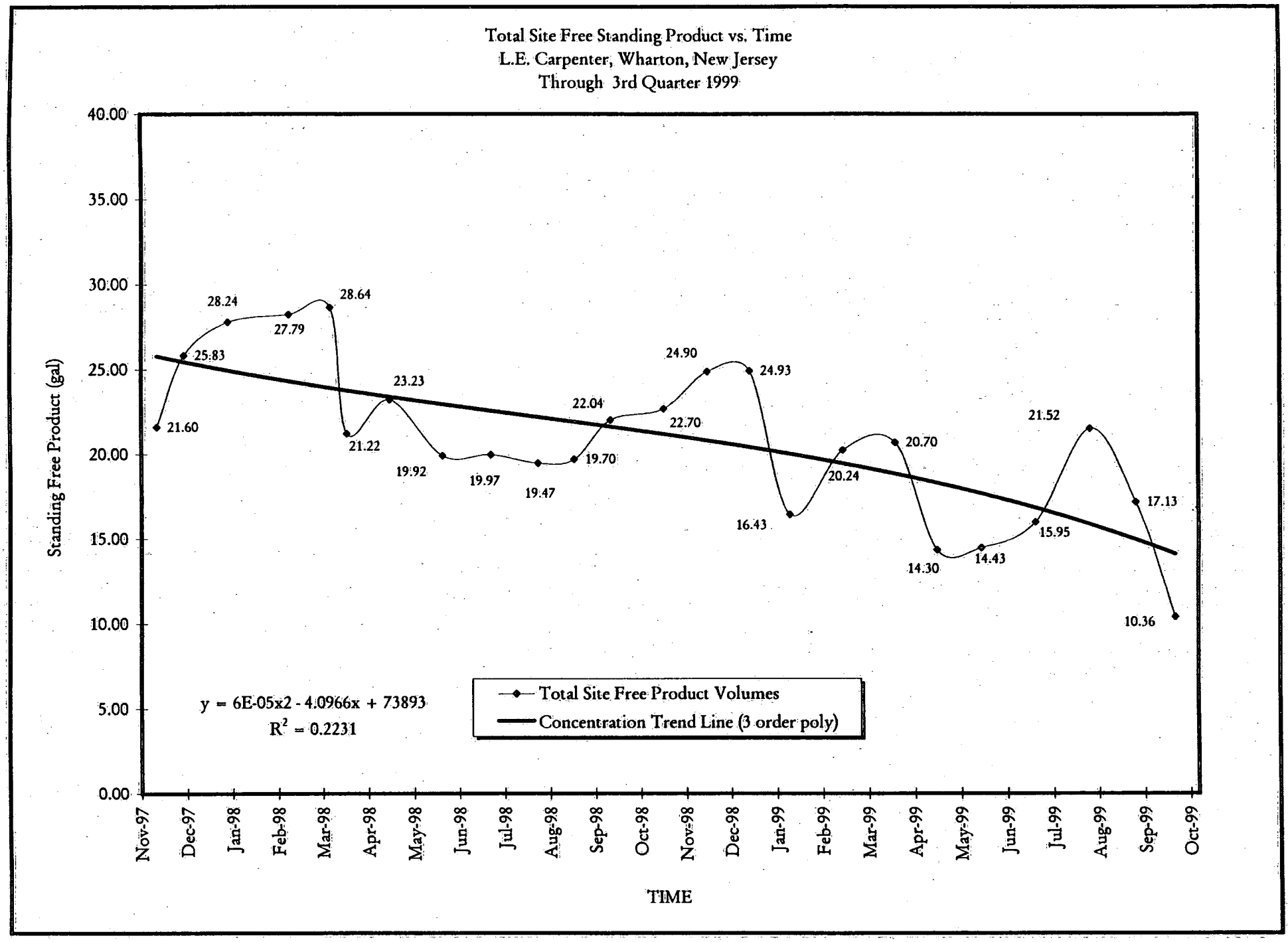

10/04/19991:11 PM
Prepared By: Nicholas J. Clevett
RMT, Inc. - Project Manager

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

Appendix C
Monitoring Well Sampling Data

Monitoring Well Data

Client: RMT Project: LE Carpenter

Job No: R 704 Date Sampled: 7/22/99 Analyst: M. Morse

Well ID	MW 15I	MW 15S	MW 11D	MW 4	MW 14I	MW 22R	MW 25R
Depth to Water From TOC feet (before purging)	12.66	12.77	7.59	8.70	4.72	4.75	3.96
Depth to Water From TOC feet (after purging)	12.66	12.88	7.73	8.86	4.97	6.16	8.55
Depth to Water From TOC feet (before sampling)	12.65	12.79	7.59	8.77	4.83	4.79	3.97
Depth to Bottom From TOC feet	40.14	19.48	161.25	18.31	43.32	8.81	9.11
PID Reading from Well Casing (ppm)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
pH before Purge	7.31	6.65	9.12	6.49	8.02	6.46	7.03
Temp. before Purge (°C)	17.9	16.5	19.8	18.8	18.4	17.5	17.7
Diss. Oxygen before Purge (ppm)	3.55	3.41	3.25	1.42	4.79	0.94	1.02
Cond. before Purge (umhos/cm)	431	328	452	720	435	832	783
Water Volume in Well (gal.)	4.9	4.4	27.6	1.7	6.9	0.7	0.9
Purge Method	peristaltic pump	peristaltic pump	peristaltic pump	peristaltic pump	peristaltic pump	peristaltic pump	peristaltic pump
Purge Start Time	9:55	9:57	10:44	11:52	12:43	12:46	12:58
Purge End Time	10:14	10:18	12:26	12:01	13:12	12:56	13:05
Purge Rate (gpm)	0.8	0.7	0.8	0.6	0.7	0.2	0.4
Volume Purged (gal.)	15	14	83	6	21	2.5	3
pH after Purge	7.00	6.79	8.12	6.64	7.93	6.72	7.06
Temp. after Purge (°C)	15.7	15.2	15.9	16.2	16.2	17.8	17.1
Diss. Oxygen after Purge (ppm)	0.14	1.01	3.61	0.95	3.12	0.85	1.52
Cond. after Purge (umhos/cm)	720	580	317	633	415	795	779
pH after Sample	7.09	6.85	8.19	6.75	8.04	6.69	7.03
Temp. after Sample (°C)	15.9	16.1	14.8	15.6	16.9	18.2	17.8
Diss. Oxygen after Sampling (ppm)	0.28	0.98	4.03	1.12	3.69	0.93	1.85
Cond. after Sample (umhos/cm)	615	452	312	643	425	786	731
Sampling Method	teflon bailer	teflon bailer	teflon bailer	teflon bailer	teflon bailer	teflon bailer	teflon bailer
Time of Sampling	10:20	10:25	12:30	12:09	13:40	13:46	13:52

Monitoring Well Data

Client: RMT Project: LE Carpenter

Job No: R 704 Date Sampled: 7/22/99 Analyst: M. Morse

Well ID	MW 21
Depth to Water From TOC feet (before purging)	5.51
Depth to Water From TOC feet (after purging)	5.55
Depth to Water From TOC feet (before sampling)	5.51
Depth to Bottom From TOC feet	14.68
PID Reading from Well Casing (ppm)	0.0
pH before Purge	7.66
Temp. before Purge (°C)	17.9
Diss. Oxygen before Purge (ppm)	2.24
Cond. before Purge (umhos/cm)	791
Water Volume in Well (gal.)	6.0
Purge Method	peristaltic pump
Purge Start Time	13:11
Purge End Time	13:30
Purge Rate (gpm)	0.9
Volume Purged (gal.)	18
pH after Purge	7.37
Temp. after Purge (°C)	17.2
Diss. Oxygen after Purge (ppm)	1.09
Cond. after Purge (umhos/cm)	908
pH after Sample	7.36
Temp. after Sample (°C)	18.1
Diss. Oxygen after Sampling (ppm)	1.35
Cond. after Sample (umhos/cm)	869
Sampling Method	teflon bailer
Time of Sampling	14:05

Appendix D
NJDEP Correspondence

State of New Jersey
Department of Environmental Protection

Christine Todd Whitman
Governor

Robert C. Shinn, Jr.
Commissioner

JUL 23 1999

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

RECEIVED
JUL 28 1999
N.C. Mail

Dear Mr. Anderson:

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

The New Jersey Department of Environmental Protection (Department) and EPA have reviewed the MW-19/Hot Spot 1 Off-Site Subsurface Investigation dated June 1999 and have the following comments:

1. This document, as well as all documents submitted to the Department must be certified as per N.J.A.C. 7:26E-1.5.

2. The document states that no BTEX or DEHP above the applicable standards were detected in any of the four hydropunch samples and based upon these results, the observed ground water flow direction, and historical on-site sampling there is no evidence that off-site migration of BTEX or DEHP has occurred. The Department disagrees with this conclusion. Figure 3 indicates that no ground water samples were taken downgradient of the storage tanks due to hydropunch refusal. The Department requests that wells be installed downgradient to delineate the off-site extent, if any, of ground water contamination originating from the MW-19/Hot Spot 1 Area.

3. The proximity of the MW-19 ground water contamination to the homes along Ross Street has raised concerns regarding the possibility of BTEX vapors seeping into basements. Since the downgradient extent of ground water contamination has not yet been established, an evaluation of these homes must be conducted to determine whether any of these homes have basements. If additional delineation of the MW-19 ground water contaminant plume indicates that contamination has migrated beyond Ross Street, then an evaluation of potential exposure (via air pathway) must be conducted.

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

Sincerely,

Gwen B Zervas

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

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

** TOTAL PAGE.02 **

State of New Jersey

Department of Environmental Protection

Christine Todd Whitman
Governor

Robert C. Shinn, Jr.
Commissioner

AUG 17 1999

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

Dear Mr. Anderson:

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

The New Jersey Department of Environmental Protection (Department) and EPA have reviewed the 2nd Quarter 1999 Monitoring Report dated July 1999 and have the following comments:

1. Monitor well MW-11D should be analyzed for the parameters required by the monitoring program, including DEHP, at least for a few quarters to ensure that there are no other contaminants of concern in that well.

2. Please provide an estimate of the total volume of remaining free product at the site, as well as an estimate of the time needed for full removal of the free product.

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

Sincerely,

Gwen B Zervas

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

C: Stephen Cipit, EPA
George Blyskun, BGWPA
John Prendergast, BEERA

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AUG 18 1999 10:54 FR HAZ SUB CTRL OFF 1 609 633 1439 TO 913125750300 P.02/02

** TOTAL PAGE.02 **

State of New Jersey

Department of Environmental Protection

Christine Todd Whitman
Governor

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

SEP 30 1999

Dear Mr. Anderson:

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

The New Jersey Department of Environmental Protection (Department) and EPA have reviewed the Workplan, Further Off-Site Groundwater Investigation at MW19/Hot Spot 1 dated August 1999. This document is approved as submitted.

Please notify the Department two weeks before field work begins. If you have any questions, please contact me at (609) 633-7261.

Sincerely,

Gwen B Zervas

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

C: Stephen Cipit, EPA
George Blyskun, BGWPA
John Prendergast, BEERA

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Appendix E
MW-22R & MW-25 Concentration Trend Analysis

MW-22R
BTEX and DEHP Concentration(s) Trend Analysis

	ANALYTE				
Sampling Date(s)	Benzene (ug/L)	Ethylbenzene (ug/L)	Toluene (ug/L)	Total Xylenes (ug/L)	DEHP (ug/L)
21-Feb-95	ND	57	ND	260	6500
13-Jun-95	ND	311	ND	955	380
13-Sep-95	ND	171	ND	693	NS
07-Dec-95	ND	123	ND	494	320
17-Sep-96	ND	359	ND	1320	NS
12-Dec-96	ND	320	ND	1330	ND
14-Aug-97	ND	5,730	ND	32,900	7,500
03-Oct-97	ND	11,400	348	66,000	NS
12-Mar-98	ND	4,070	348	20,600	NS
26-Aug-98	ND	2,260	ND	11,300	5,800
28-Aug-98	ND	1,880	ND	10,300	NS
18-Dec-98	ND	1,650	ND	7,230	1,100
21-Jan-99	ND	18	ND	84	NS
15-Apr-99	ND	1,600	ND	7,600	670
22-Jul-99	ND	1,200	ND	5,200	NS
NJGWQS (ug/l)	1	700	1000	40	30
ROD Discharge Criteria (ug/l)	1	350	500	20	30

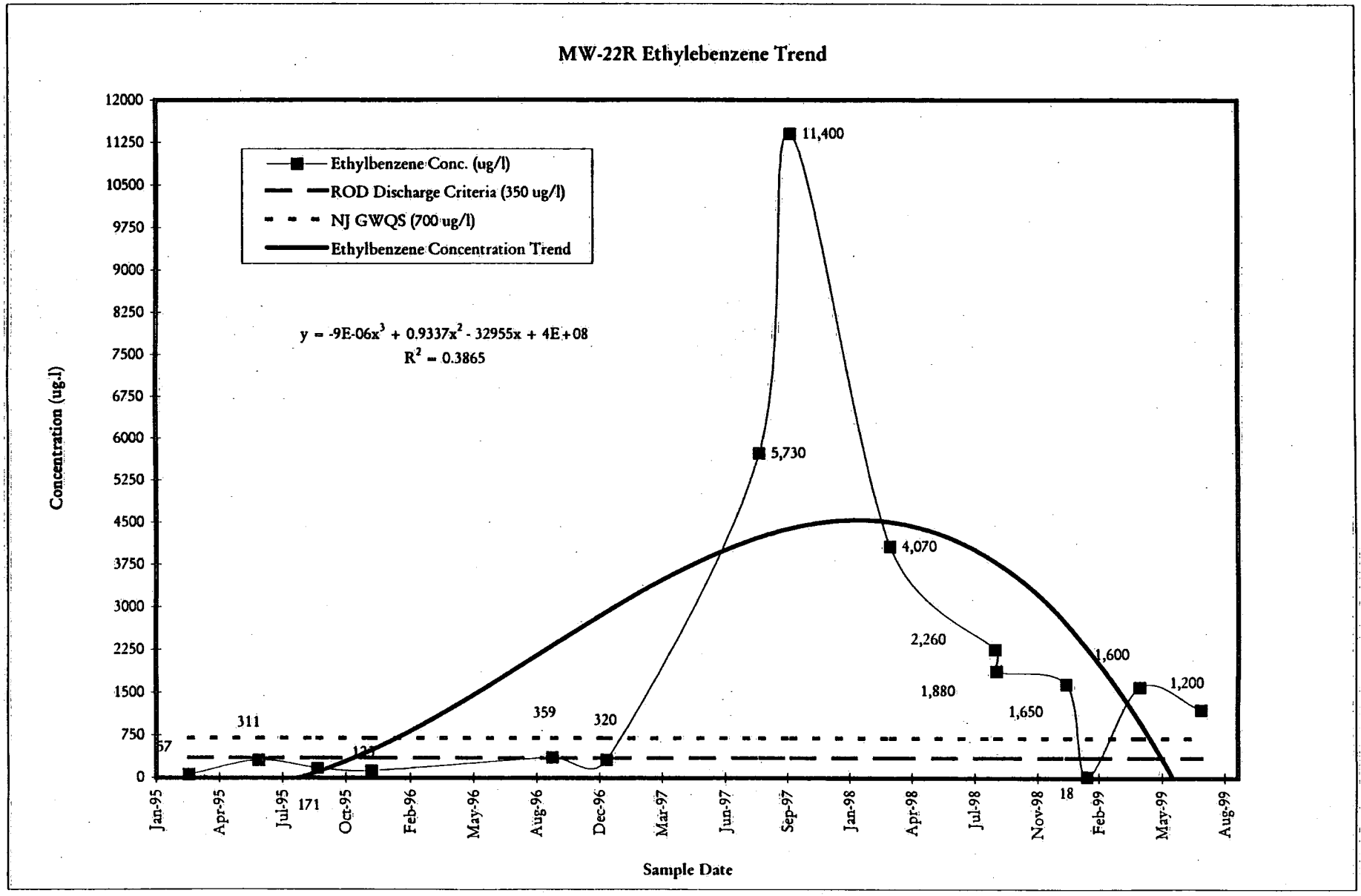
NOTES:

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

ND = Not detected above method detection limits

NS = Not Sampled

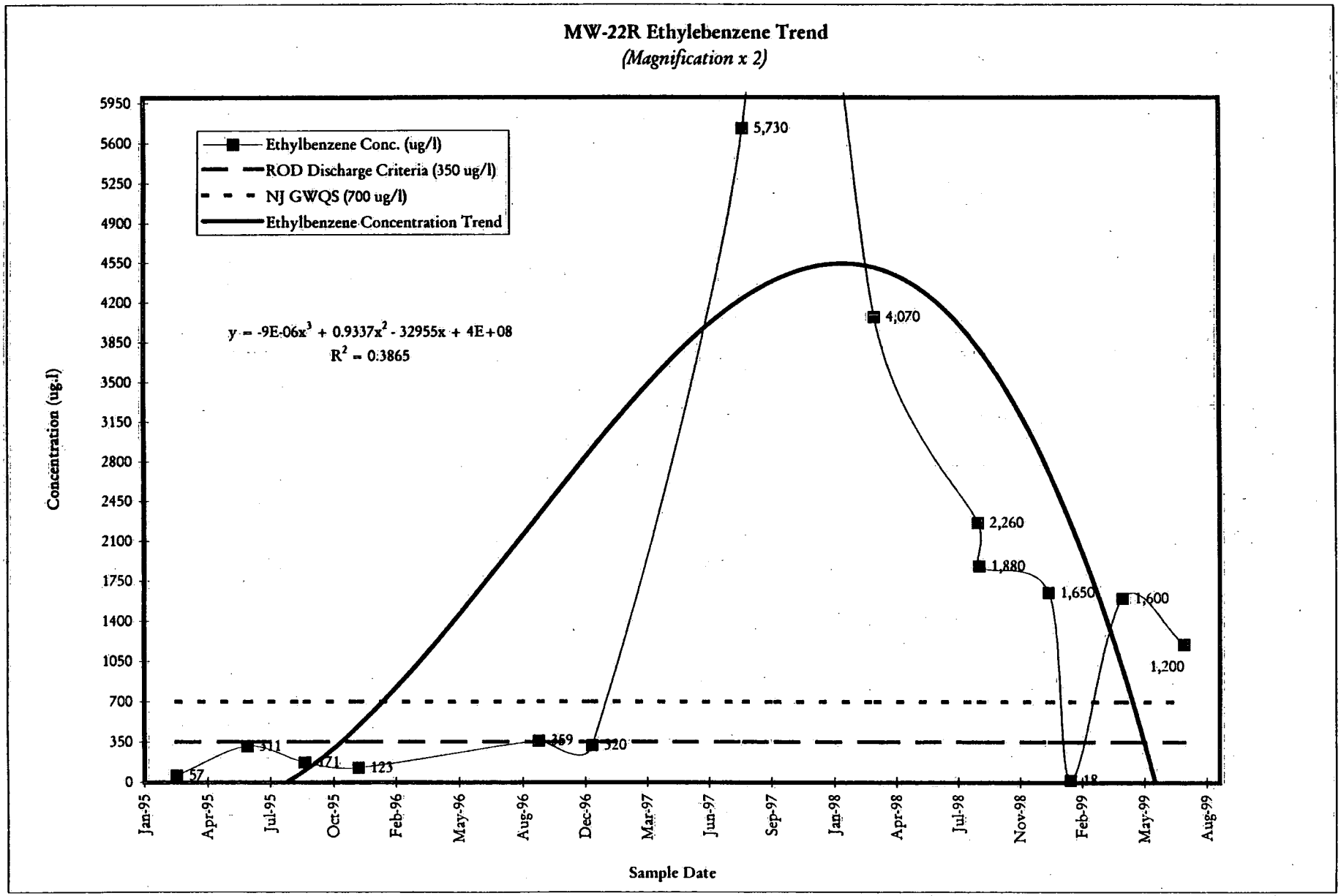
MW-22R
CONTAMINANT OF CONCERN
Concentration vs. Time



MW-22R Ethylbenzene Conc. Chart Chart 3MW-22R Ethylbenzene Conc. Chart Chart 3

10/04/199910:42 AM
Prepared By: Nicholas J. Clevett
RMT, Inc. - Project Manager

MW-22R
CONTAMINANT OF CONCERN
Concentration vs. Time



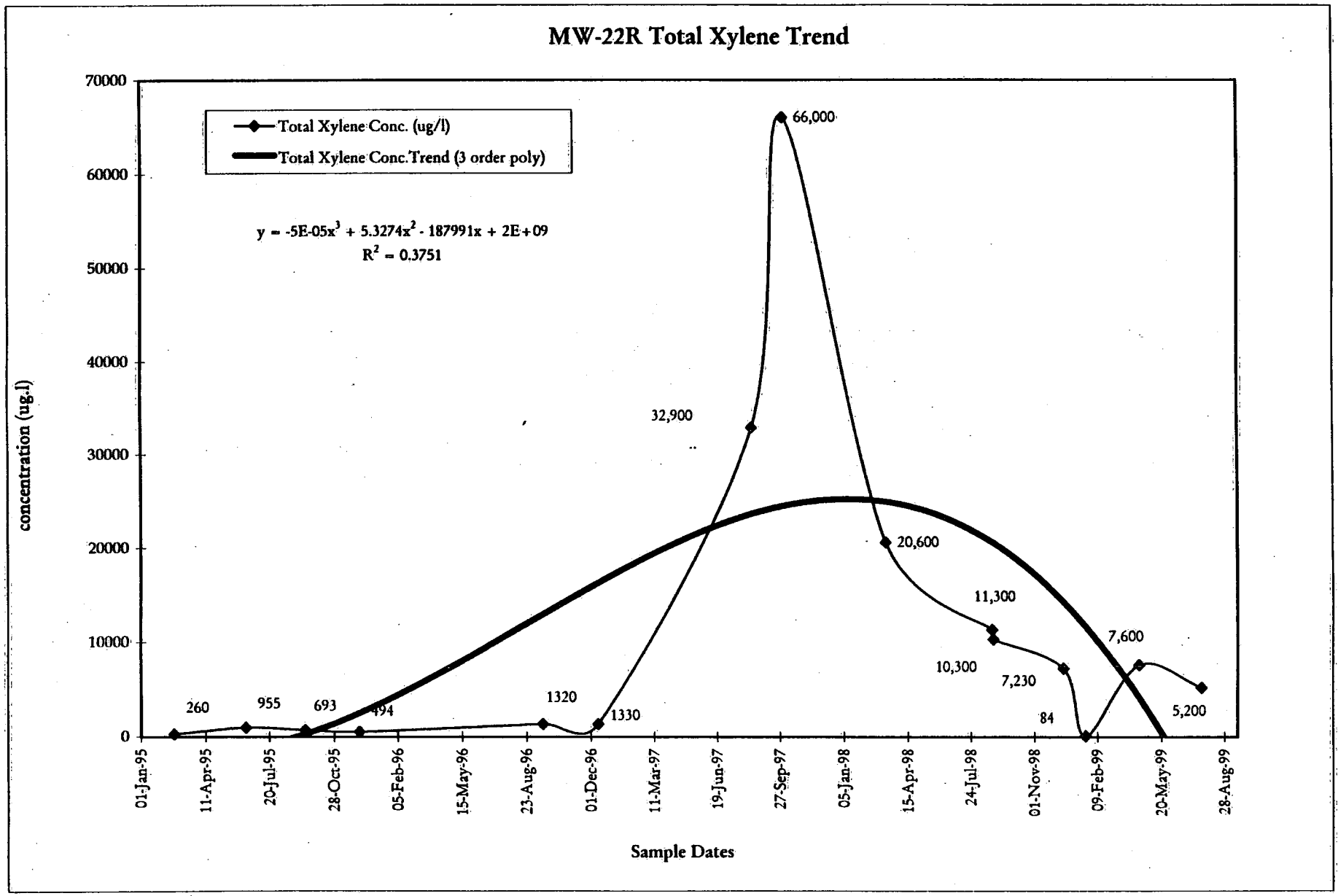
MW-22R Ethylbenzene Conc. Chart Chart 4MW-22R Ethylbenzene Conc. Chart Chart 4

10/04/199910:41 AM
Prepared By: Nicholas J. Clevett
RMT, Inc. - Project Manager

MW-22R

CONTAMINANTS OF CONCERN

Concentration vs. Time



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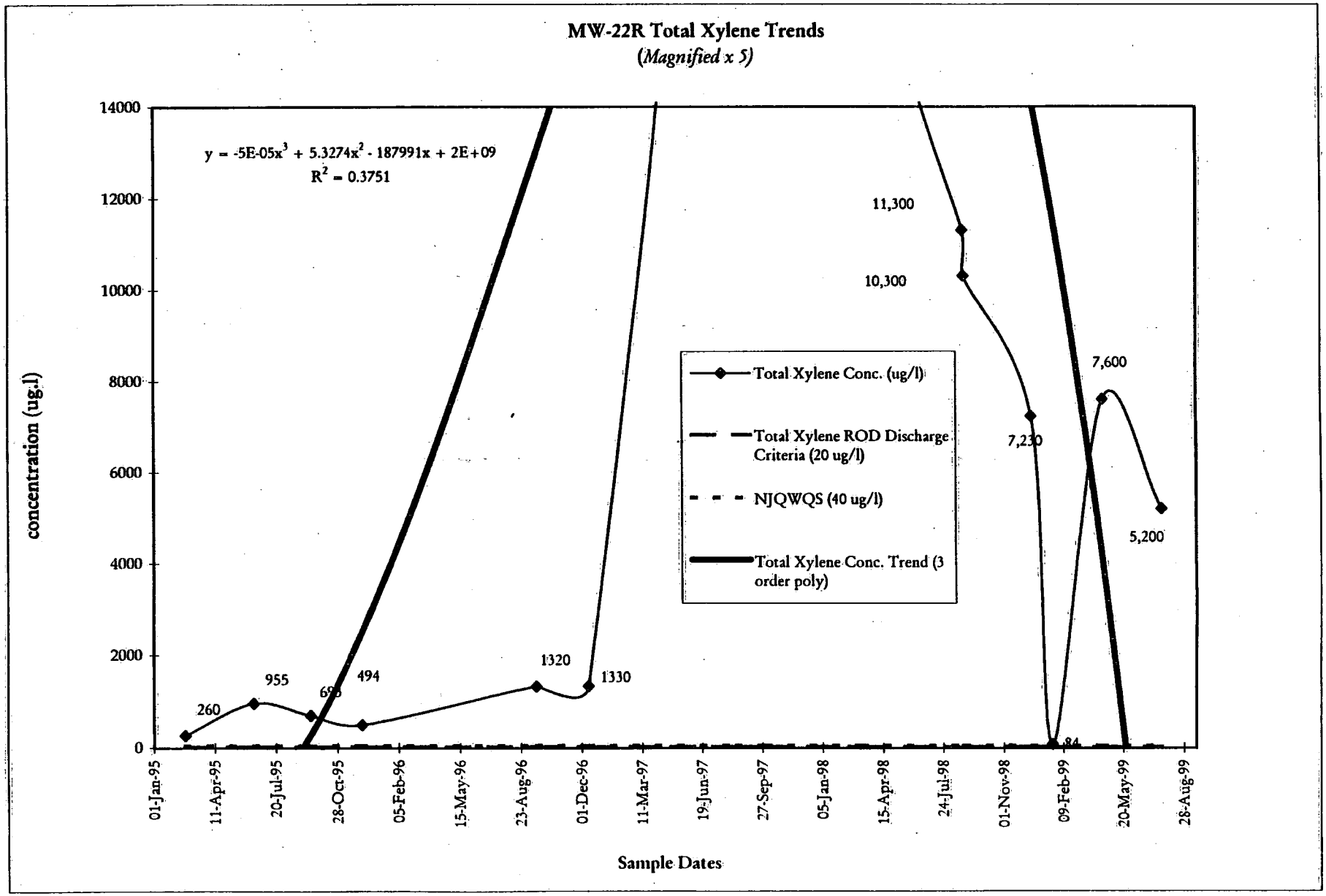
10/04/1999 10:51 AM
Prepared By: Nicholas J. Clevett
RMT, Inc. - Project Manager

MW-22R
CONTAMINANTS OF CONCERN
Concentration vs. Time



10/04/1999 10:58 AM
Prepared By: Nicholas J. Clevett
RMT, Inc. - Project Manager

h:\data\projects\lecarpen\quarters\gwresult\qtrqwsam\MW-22R Total Xylene Conc. Chart Chart 1026\MW-22R Total Xylene Conc. Chart Chart 1026

MW-25R
BTEX and DEHP Concentration(s) Trend Analysis

	ANALYTE				
Sampling Date(s)	Benzene (ug/L)	Ethylbenzene (ug/L)	Toluene (ug/L)	Total Xylenes (ug/L)	DEHP (ug/L)
01-Apr-95	ND	ND	ND	ND	1.6
01-Jul-95	ND	ND	ND	ND	NS
07-Dec-95	ND	ND	ND	ND	68
17-Sep-96	ND	0.34	ND	2.2	NS
12-Dec-96	ND	ND	ND	ND	ND
01-Jan-97	ND	ND	ND	ND	NS
01-Apr-97	ND	13.5	ND	89	63
01-Jul-97	ND	4.1	ND	30.7	NS
12-Mar-98	ND	0.33	ND	1.5	NS
01-Apr-98	ND	ND	ND	ND	5.3
28-Aug-98	ND	ND	ND	ND	NS
18-Dec-98	ND	ND	ND	ND	1.9
21-Jan-99	ND	ND	ND	ND	ND
15-Apr-99	ND	ND	ND	14	ND
22-Jul-99	ND	0.39	ND	1.4	9.6
NJGWQS (ug/l)	NA	700	1000	40	30
ROD Discharge Criteria (ug/l)	NA	350	500	20	30

NOTES

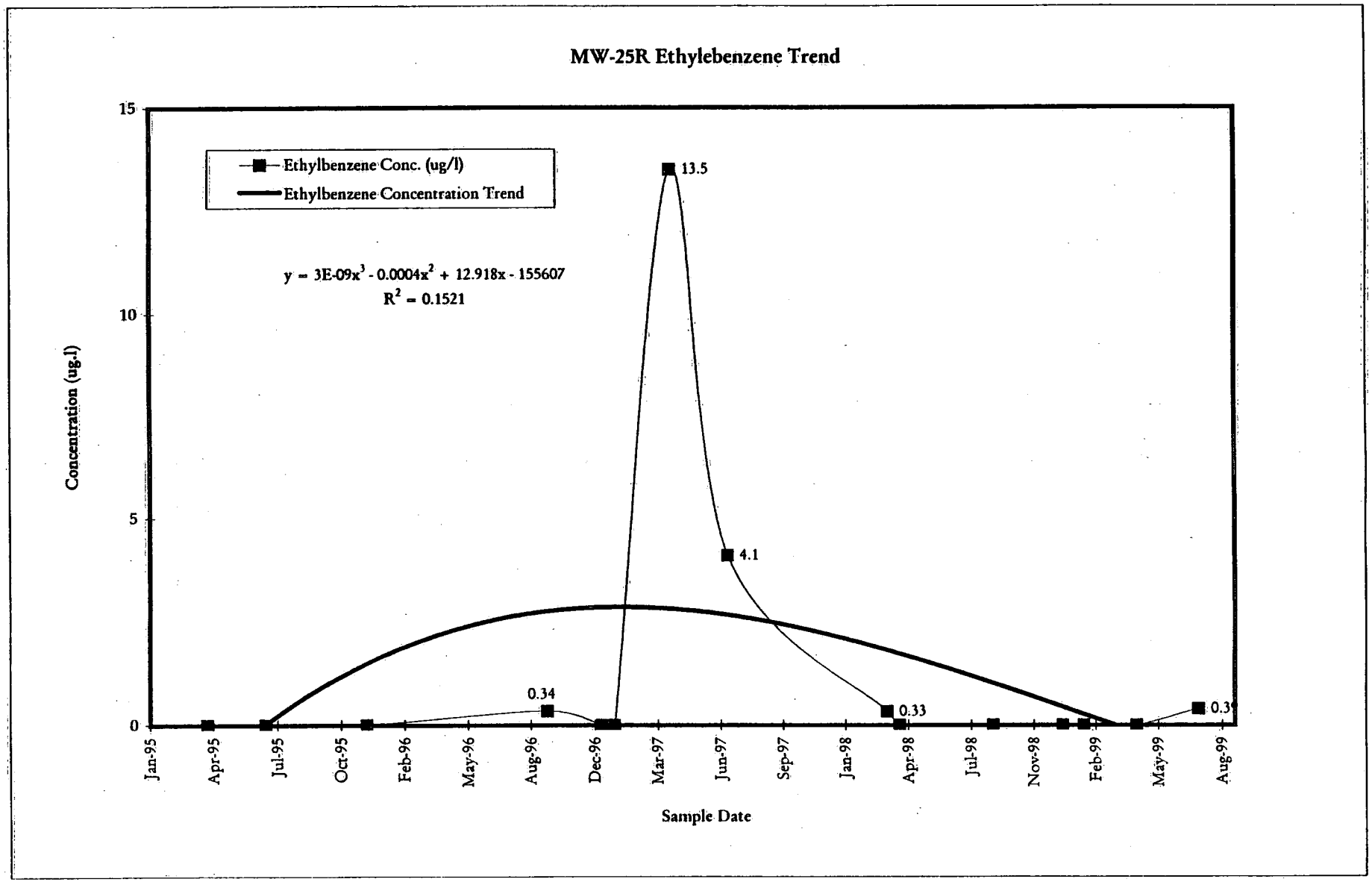
Concentrations in bold exceed both the ROD discharge criteria and NJDEP GWQS

ND = Not detected above method detection limits

NS = Not Sampled

10/04/1999 11:47 AM
Prepared By: Nicholas J. Clevett
RMT, Inc. -Project Manager

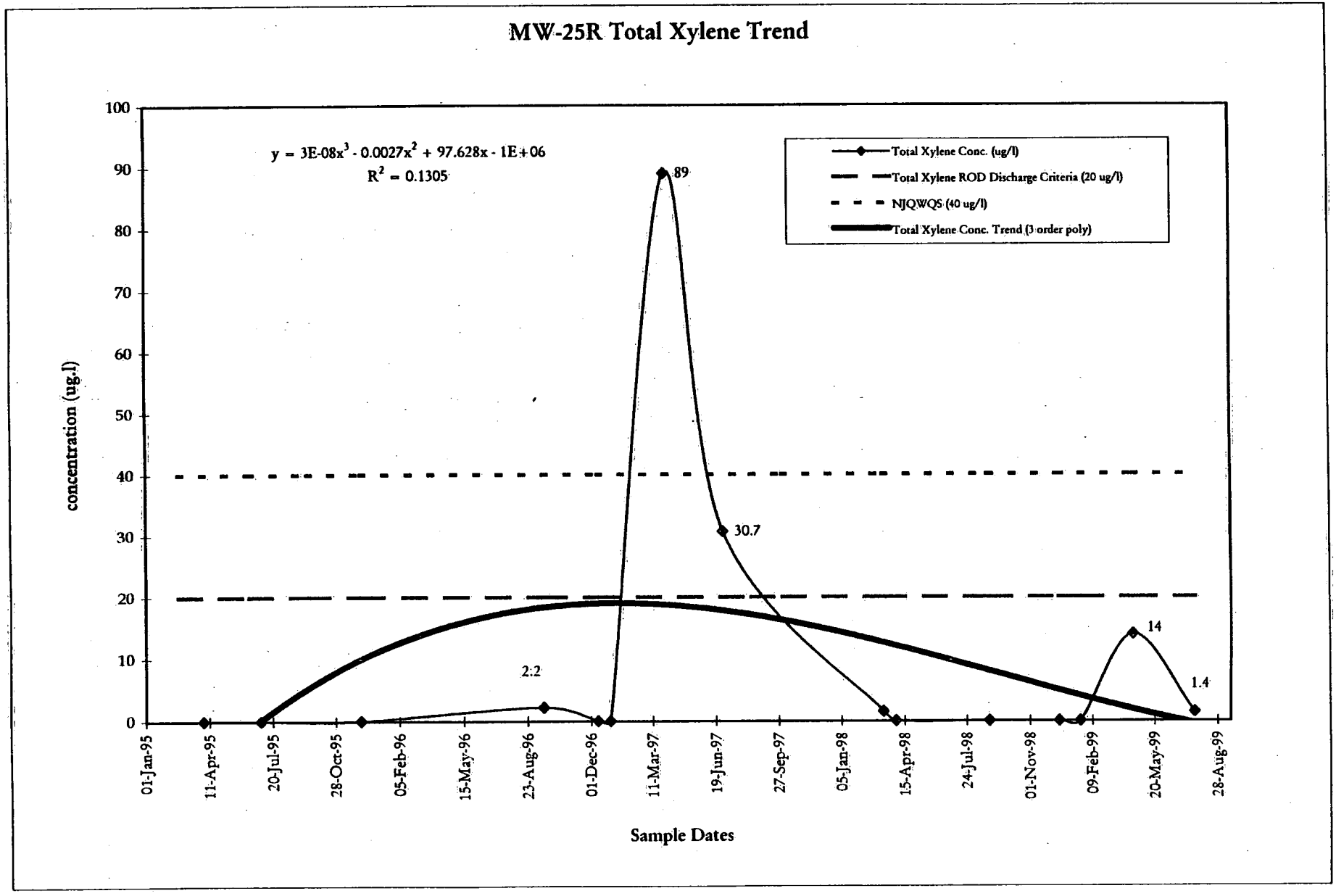
MW-25R
CONTAMINANT OF CONCERN
Concentration vs. Time



MW-25R Ethylbenzene Conc. Chart Chart 2MW-25R Ethylbenzene Conc. Chart Chart 2

10/04/199911:57 AM
Prepared By; Nicholas J. Clevett
RMT, Inc. - Project Manager

MW-25R
CONTAMINANTS OF CONCERN
Concentration vs. Time



10/04/1999 12:09 PM
Prepared By: Nicholas J. Clevett
RMT, Inc. - Project Manager

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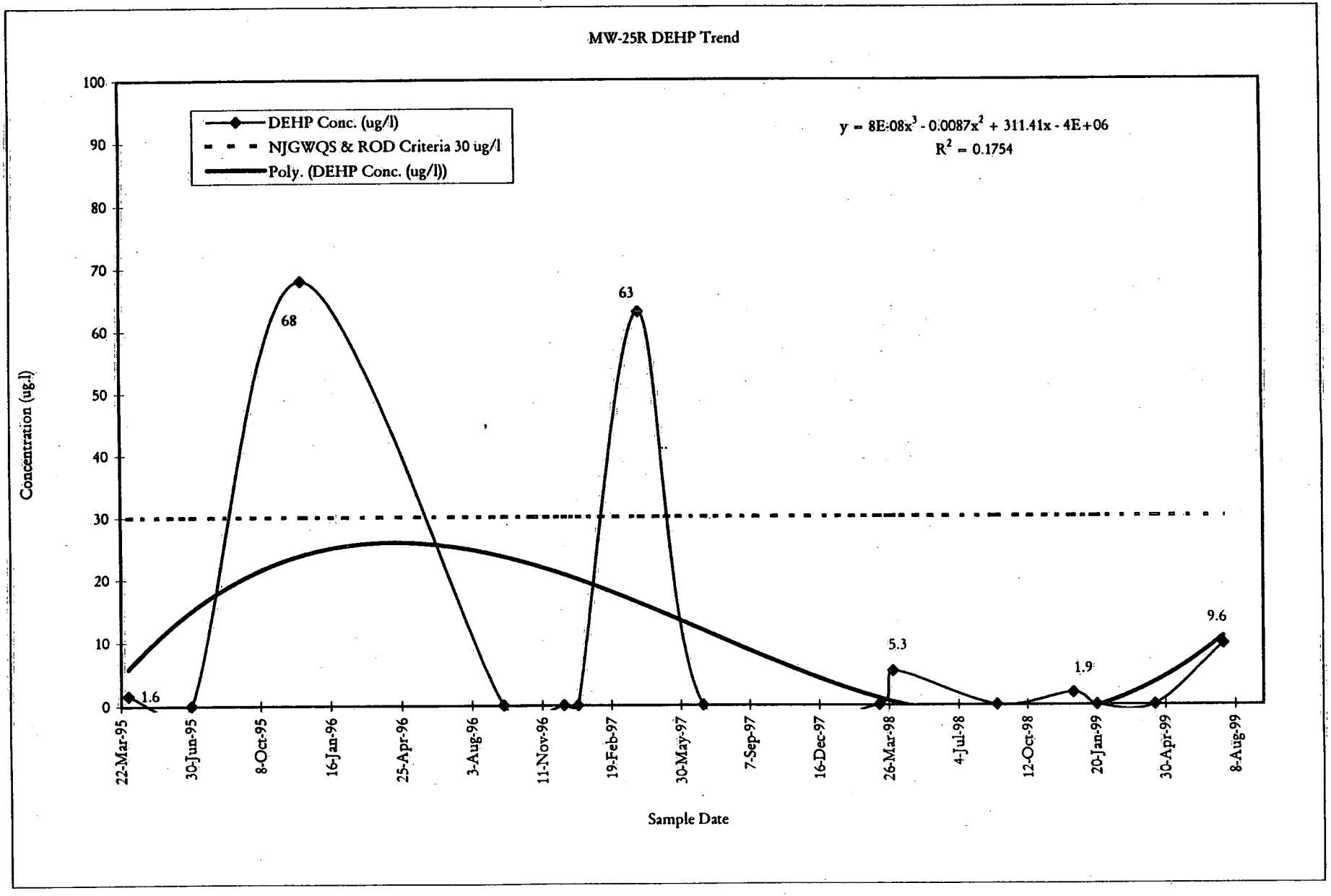
MW-25R
CONTAMINANT OF CONCERN
Concentration vs. Time



10/04/1999 12:16 PM
Prepared By: Nicholas J. Clevett
RMT, Inc. - Project Manager

h:\data\projects\lecarpen\quarters\gwresult\qtrqwsam\MW-25R DEHP Conc. Chart Chart 1\MW-25R DEHP Conc. Chart Chart 1

Appendix F
3rd Quarter Analytical Results
STL Envirotech 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

3868.15

August 24, 1999

3rd 1/4 99
GW Monitoring

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

Attention: Mr. Nick Clevett

Re: Job No. R704 - L.E. Carpenter

Dear Mr. Clevett:

Enclosed are the results you requested for the following sample(s) received at our laboratory on July 22, 1999:

Lab No.	Client ID	Analysis Required
145553	MW15I	BTEX (GC)
145554	MW15S	BTEX (GC)
145555	MW11D	bis(2-Ethylhexyl)phthalate
145557	MW4	BTEX (GC)
145558	MW14I	BTEX (GC)
145559	MW22R	BTEX (GC)
145560	MW25R	BTEX (GC), bis(2-Ethylhexyl)phthalate
145561	MW21	BTEX (GC), bis(2-Ethylhexyl)phthalate
145562	MW11DD	bis(2-Ethylhexyl)phthalate
145563	Field_Blank	BTEX (GC), bis(2-Ethylhexyl)phthalate
145564	Trip_Blank	bis(2-Ethylhexyl)phthalate

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

Very truly yours,

Michael J. Urban
Laboratory Manager

Envirotech
a division of Severn Trent Laboratories, Inc.

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Envirotech

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

Lab Sample No: **145553**
Lab Job No: R704

Date Sampled: 07/22/99
Date Received: 07/22/99
Date Analyzed: 07/30/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid1613.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

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

Lab Sample No: **145554**
Lab Job No: R704

Date Sampled: 07/22/99
Date Received: 07/22/99
Date Analyzed: 07/30/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid1614.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

Client ID: **MW11D**
Site: L.E. Carpenter

Lab Sample No: **145555**
Lab Job No: R704

Date Sampled: 07/22/99
Date Received: 07/22/99
Date Extracted: 07/24/99
Date Analyzed: 08/02/99
GC Column: DB-5
Instrument ID: BNAMS3.i
Lab File ID: t5792.d

Matrix: WATER
Level: LOW
Sample Volume: 940 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	59	4.3

a part of
Severn Trent Services Inc.

Envirotech

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

Lab Sample No: **145557**
Lab Job No: R704

Date Sampled: 07/22/99
Date Received: 07/22/99
Date Analyzed: 07/30/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid1615.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	3.1	0.38
Xylene (Total)	2.9	0.40

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Severn Trent Services Inc.

Envirotech

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

Lab Sample No: **145558**
Lab Job No: R704

Date Sampled: 07/22/99
Date Received: 07/22/99
Date Analyzed: 07/30/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid1616.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

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

Lab Sample No: **145559**
Lab Job No: R704

Date Sampled: 07/22/99
Date Received: 07/22/99
Date Analyzed: 08/02/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid1646.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	42	34
Ethylbenzene	1200	38
Xylene (Total)	5200	40

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Severn Trent Services Inc.

Envirotech

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

Lab Sample No: **145560**
Lab Job No: R704

Date Sampled: 07/22/99
Date Received: 07/22/99
Date Extracted: 07/24/99
Date Analyzed: 08/02/99
GC Column: DB-5
Instrument ID: BNAMS3.i
Lab File ID: t5793.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	9.6	4.1

Envirotech
a division of Severn Trent Laboratories, Inc

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

Lab Sample No: **145560**
Lab Job No: R704

Date Sampled: 07/22/99
Date Received: 07/22/99
Date Analyzed: 07/30/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid1617.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	0.39	0.38
Xylene (Total)	1.4	0.40

a part of
Severn Trent Services Inc.

Envirotech

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

Lab Sample No: **145561**
Lab Job No: R704

Date Sampled: 07/22/99
Date Received: 07/22/99
Date Extracted: 07/24/99
Date Analyzed: 08/03/99
GC Column: DB-5
Instrument ID: BNAMS3.i
Lab File ID: t5815.d

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

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

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

a part of
Severn Trent Services Inc.

Envirotech

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

Lab Sample No: **145561**
Lab Job No: R704

Date Sampled: 07/22/99
Date Received: 07/22/99
Date Analyzed: 07/30/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid1618.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

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Severn Trent Services Inc.

Envirotech

Client ID: **MW11DD**
Site: L.E. Carpenter

Lab Sample No: **145562**
Lab Job No: R704

Date Sampled: 07/22/99
Date Received: 07/22/99
Date Extracted: 07/24/99
Date Analyzed: 08/02/99
GC Column: DB-5
Instrument ID: BNAMS3.i
Lab File ID: t5795.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	13	4.1

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Severn Trent Services Inc.

Envirotech

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

Lab Sample No: **145563**
Lab Job No: R704

Date Sampled: 07/22/99
Date Received: 07/22/99
Date Extracted: 07/24/99
Date Analyzed: 08/02/99
GC Column: DB-5
Instrument ID: BNAMS3.i
Lab File ID: t5796.d

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

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

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

a part of
Severn Trent Services Inc.

Envirotech

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

Lab Sample No: **145563**
Lab Job No: R704

Date Sampled: 07/22/99
Date Received: 07/22/99
Date Analyzed: 07/30/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid1619.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: **Trip_Blank**
Site: L.E. Carpenter

Lab Sample No: **145564**
Lab Job No: R704

Date Sampled: 07/22/99
Date Received: 07/22/99
Date Extracted: 07/24/99
Date Analyzed: 08/02/99
GC Column: DB-5
Instrument ID: BNAMS3.i
Lab File ID: t5797.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

Monitoring Well Data

Client: RMT

Project: LE Carpenter

Date Sampled: 7/22/99

Job No.: R 704

Name of Analyst: Matt Morse

Names & Signatures of Samplers: Matt Morse

Matt Morse

Rick Toogood

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

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice): Nick Clevett	Samplers Name (Printed): Matt Morse / Rick Tourjeel	Site/Project Identification: LE Carpenter - Quarterly
Company: RMT	P.O. #	State (Location of site): NJ: [X] NY: [ ] Other:
Address		Regulatory Program:
City / State		
Phone / Fax		

Analysis Turnaround Time
Standard [ ]
Rush Charges Authorized For:
2 Week [ ]
1 Week [ ]
Other [ ] ______

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

LAB USE ONLY
Project No:
Job No: R704

Sample Identification	Date	Time	Matrix	No. of. Cont.	DEHP											Sample Numbers
Trip Blank	7/22/99	–			X											145564

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

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

Relinquished by	Company	Date / Time	Received by	Company
1) [signature]	STL-Envirotech	7/22/99 15:15	1) [signature]	7/22 1515 Envirotech
2)			2)	
3)			3)	
4)			4)	

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

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

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice) Nick Clevett	Samplers Name (Printed) Matt Morse	Site/Project Identification LE Carpenter - Quarterly
Company RMT	P.O. #	State (Location of site): NJ: [X] NY: [ ] Other:
		Regulatory Program:
Address 222 South Riverside Plaza	Analysis Turnaround Time: Standard [ ]	
City Chicago State IL 60606	Rush Charges Authorized For: 2 Week [ ] 1 Week [ ] Other [ ]	
Phone 312-575-0200 Fax		

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

LAB USE ONLY
Project No:
Job No: R704

Sample Identification	Date	Time	Matrix	No. of. Cont.	BTEX	DEHP										Sample Numbers
MW 15 I	7/22/99	10:20			X											145553
MW 15 S		10:25			X											145554
MW 11 D		12:30				X										145555 *
MW 4		12:09			X											145557
MW 14 I		13:40			X											145558
MW 22R		13:46			X											145559
MW 25R		13:52			X	X										145560
MW 21		14:05			X	X										145561
MW 11 DP		-				X										145562
Field Blank		13:35			X	X										145563

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

Soil:
Water:

Special Instructions

Water Metals Filtered (Yes/No)?

Relinquished by	Company	Date / Time	Received by	Company
1) Matt Morse	STL-Envirotech	7/22/99 11:15	1) Paul [illegible]	7/22 STL: Envirotech
2)			2)	
3)			3)	
4)			4)	

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

* 145556 canceled. Not required this quarter 7/23 PJ

Monitoring Well Data

Client: RMT Project: LE Carpenter

Job No: R 704 Date Sampled: 7/22/99 Analyst: M. Morse

Well ID	MW 15I	MW 15S	MW 11D	MW 4	MW 14I	MW 22R	MW 25R
Depth to Water From TOC feet (before purging)	12.66	12.77	7.59	8.70	4.72	4.75	3.96
Depth to Water From TOC feet (after purging)	12.66	12.88	7.73	8.86	4.97	6.16	8.55
Depth to Water From TOC feet (before sampling)	12.65	12.79	7.59	8.77	4.83	4.79	3.97
Depth to Bottom From TOC feet	40.14	19.48	161.25	18.31	43.32	8.81	9.11
PID Reading from Well Casing (ppm)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
pH before Purge	7.31	6.65	9.12	6.49	8.02	6.46	7.03
Temp. before Purge (°C)	17.9	16.5	19.8	18.8	18.4	17.5	17.7
Diss. Oxygen before Purge (ppm)	3.55	3.41	3.25	1.42	4.79	0.94	1.02
Cond. before Purge (umhos/cm)	431	328	452	720	435	832	783
Water Volume in Well (gal.)	4.9	4.4	27.6	1.7	6.9	0.7	0.9
Purge Method	peristaltic pump	peristaltic pump	peristaltic pump	peristaltic pump	peristaltic pump	peristaltic pump	peristaltic pump
Purge Start Time	9:55	9:57	10:44	11:52	12:43	12:46	12:58
Purge End Time	10:14	10:18	12:26	12:01	13:12	12:56	13:05
Purge Rate (gpm)	0.8	0.7	0.8	0.6	0.7	0.2	0.4
Volume Purged (gal.)	15	14	83	6	21	2.5	3
pH after Purge	7.00	6.79	8.12	6.64	7.93	6.72	7.06
Temp. after Purge (°C)	15.7	15.2	15.9	16.2	16.2	17.8	17.1
Diss. Oxygen after Purge (ppm)	0.14	1.01	3.61	0.95	3.12	0.85	1.52
Cond. after Purge (umhos/cm)	720	580	317	633	415	795	779
pH after Sample	7.09	6.85	8.19	6.75	8.04	6.69	7.03
Temp. after Sample (°C)	15.9	16.1	14.8	15.6	16.9	18.2	17.8
Diss. Oxygen after Sampling (ppm)	0.28	0.98	4.03	1.12	3.69	0.93	1.85
Cond. after Sample (umhos/cm)	615	452	312	643	425	786	731
Sampling Method	teflon bailer	teflon bailer	teflon bailer	teflon bailer	teflon bailer	teflon bailer	teflon bailer
Time of Sampling	10:20	10:25	12:30	12:09	13:40	13:46	13:52

Monitoring Well Data

Client: RMT Project: LE Carpenter

Job No: R 704 Date Sampled: 7/22/99 Analyst: M. Morse

Well ID	MW 21
Depth to Water From TOC feet (before purging)	5.51
Depth to Water From TOC feet (after purging)	5.55
Depth to Water From TOC feet (before sampling)	5.51
Depth to Bottom From TOC feet	14.68
PID Reading from Well Casing (ppm)	0.0
pH before Purge	7.66
Temp. before Purge (°C)	17.9
Diss. Oxygen before Purge (ppm)	2.24
Cond. before Purge (umhos/cm)	791
Water Volume in Well (gal.)	6.0
Purge Method	peristaltic pump
Purge Start Time	13:11
Purge End Time	13:30
Purge Rate (gpm)	0.9
Volume Purged (gal.)	18
pH after Purge	7.37
Temp. after Purge (°C)	17.2
Diss. Oxygen after Purge (ppm)	1.09
Cond. after Purge (umhos/cm)	908
pH after Sample	7.36
Temp. after Sample (°C)	18.1
Diss. Oxygen after Sampling (ppm)	1.35
Cond. after Sample (umhos/cm)	869
Sampling Method	teflon bailer
Time of Sampling	14:05

Client: RMT Project: LE Carpenter

Job No: R 704 Date Sampled: 7/22/99 Analyst: M. Morse

Water / Product Levels

Well ID	Depth to Product (ft)	Depth to Water (ft)
MW-1 (R)	11.52	12.37
MW-2 (R)	N	8.61
MW-3	8.72	10.69
MW-4	N	8.70
MW-6 (R)	7.93	8.62
MW-8	N	3.77
MW-9	N	5.82
MW-11S	9.20	13.57
MW-11IR	N	9.59
MW-11DR	N	7.59
MW-12R	N	10.62
MW-13S	N	7.21
MW-13(R)	N	7.04
MW-13I	N	7.04
MW-14S	N	5.14
MW-14I	N	4.72
MW-15S	N	12.77
MW-15I	N	12.66
MW-16S	N	10.12
MW-16I	N	10.52
MW-17S	N	10.76
MW-18S	N	7.12
MW-18I	N	6.92
MW-19	N	13.14
MW-20	N	12.27
MW-21	N	5.51
MW-22 (R)	N	4.75
MW-23	N	5.31
MW-25 (R)	N	3.96
MW-26	N	9.59
RW-1	N	13.45
RW-2	N	8.20
RW-3	N	8.16
CW-1	9.11	9.92
CW-3	N	9.41
GEI-1I	N	6.62

Well ID	Depth to Product (ft)	Depth to Water (ft)
GEI-2S	N	13.01
GEI-2I	N	1305
GEI-3I	N	15.22
WP-A1	11.77	12.15
WP-A2	Bent casing	
WP-A3	N	11.58
WP-A4	12.91	14.04
WP-A5	N	14.10
WP-A6	13.38	14.77
WP-A7	11.12	13.45(bottom)
WP-A8	13.62	16.38
WP-A9	15.40	17.24
WP-B1	8.43	8.71
WP-B2	8.61	8.67
WP-B3	9.47	9.82
WP-B4	N	DRY
WP-B5	7.26	7.88
WP-B6	N	8.41
WP-B7	6.17	6.35
WP-B10	N	9.05
WP-C1	N	9.77
WP-C2	N	9.85
WP-C3	N	8.92
WP-C4	N	DRY
SG-D1	N	DRY
SG-D2	N	DRY
SG-D3	N	0.58
SG-R1	N	1.31
SG-R2	N	0.56
SG-R3	N	DRY
MW-19-1	N	14.06
MW-19-2	N	13.99
MW-19-3	N	14.72
MW-19-4	N	12.89
MW-19-5	N	14.09

Well ID	Depth to Product (ft)	Depth to Water (ft)
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	*	*
EFR-24	*	*
EFR-25	*	*
EFR-26	*	*
EFR-27	*	*
EFR-28	*	*

* Measurements Collected by RMT on later date

INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Envirotech

777 New Durham Road, Edison, New Jersey
08817

Job No: R704 **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
145555	7/22/1999	7/22/1999	7.24.99	JJ	8/2/99	LL	4811
145560	7/22/1999	7/22/1999					
145561	7/22/1999	7/22/1999			8/3/99		
145562	7/22/1999	7/22/1999			8/2/99		
145563	7/22/1999	7/22/1999					
145564	7/22/1999	7/22/1999					

INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Envirotech

777 New Durham Road, Edison, New Jersey
08817

Job No: R704 **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							
145553	7/22/1999	7/22/1999			7/30/99	CK	6839
145554	7/22/1999	7/22/1999					
145557	7/22/1999	7/22/1999					
145558	7/22/1999	7/22/1999					
145559	7/22/1999	7/22/1999			8/2/99		
145560	7/22/1999	7/22/1999			7/30/99		
145561	7/22/1999	7/22/1999					
145563	7/22/1999	7/22/1999					

Analytical Methodology Summary

Volatile Organics:

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

Acid and Base/Neutral Extractable Organics:

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

GC/MS Nontarget Compound Analysis:

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

Organochlorine Pesticides and PCBs:

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

Total Petroleum Hydrocarbons:

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

Metals Analysis:

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

P - Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP)

A - Flame Atomic Absorption

F - Furnace Atomic Absorption

CV - Manual Cold Vapor (Mercury)

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

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

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

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: R704

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: R704

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: 8/26/99

Client ID: **MW11D**
Site: L.E. Carpenter

Lab Sample No: **145555**
Lab Job No: R704

Date Sampled: 07/22/99
Date Received: 07/22/99
Date Extracted: 07/24/99
Date Analyzed: 08/02/99
GC Column: DB-5
Instrument ID: BNAMS3.i
Lab File ID: t5792.d

Matrix: WATER
Level: LOW
Sample Volume: 940 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	59	4.3

Data File: /chem/BNAMS3.i/625/07-27-99/02aug99.b/t5792.d
Report Date: 03-Aug-1999 08:31

STL Envirotech

SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS3.i/625/07-27-99/02aug99.b/t5792.d
Lab Smp Id: 145555 Client Smp ID: MW11D
Inj Date : 02-AUG-1999 19:30
Operator : BNAMS 1 Inst ID: BNAMS3.i
Smp Info : 145555;940;2;1;;
Misc Info : R704;BIS2PHTH;4811;156
Comment :
Method : /chem/BNAMS3.i/625/07-27-99/02aug99.b/BNA625b.m
Meth Date : 03-Aug-1999 08:08 lisa Quant Type: ISTD
Cal Date : 27-JUL-1999 15:41 Cal File: t5660.d
Als bottle: 14
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

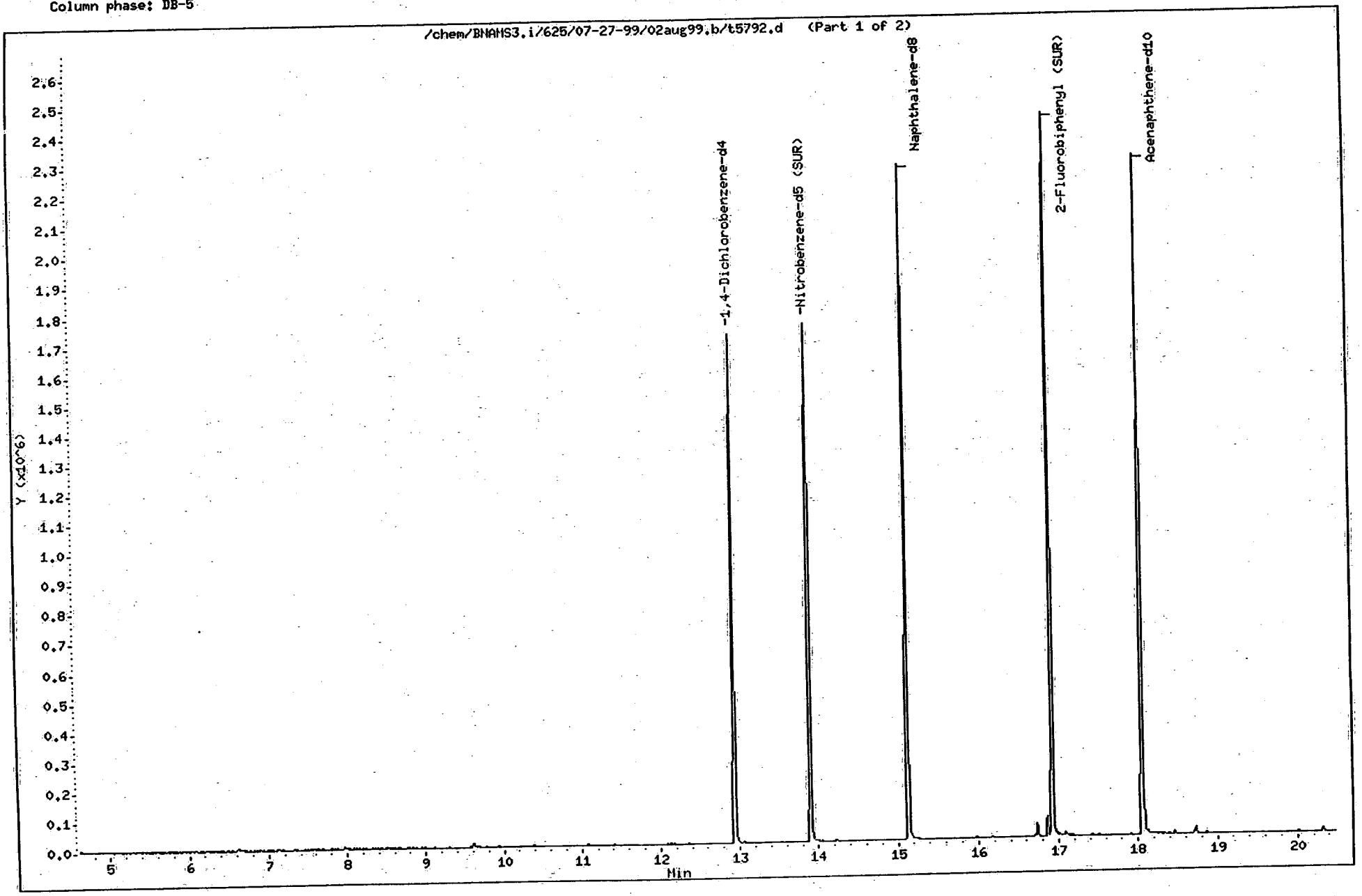
Name	Value	Description
DF	1.000	Dilution Factor
Vt	2.000	Volume of final extract (uL)
Vo	940.000	Volume of sample extracted (mL)

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)
* 79 1,4-Dichlorobenzene-d4	152	12.938	12.953	(1.000)	312499	40.0000	
$ 76 Nitrobenzene-d5 (SUR)	82	13.904	13.923	(0.919)	843350	43.7685	93
* 80 Naphthalene-d8	136	15.133	15.147	(1.000)	1255414	40.0000	
$ 77 2-Fluorobiphenyl (SUR)	172	16.927	16.939	(0.937)	909075	42.2567	90
* 82 Acenaphthene-d10	164	18.064	18.078	(1.000)	718976	40.0000	
* 83 Phenanthrene-d10	188	20.534	20.545	(1.000)	1419377	40.0000	
$ 78 Terphenyl-d14 (SUR)	244	23.155	23.162	(0.928)	1291895	42.9842	91
63 bis(2-Ethylhexyl)phthalate	149	24.872	24.885	(0.997)	853023	27.8679	59
* 81 Chrysene-d12	240	24.939	24.966	(1.000)	1205723	40.0000	
* 84 Perylene-d12	264	28.404	28.435	(1.000)	1267152	40.0000	

Data File: /chem/BNAMS3.i/625/07-27-99/02aug99.b/t5792.d
Date : 02-AUG-1999 19:30
Client ID: MW11D
Sample Info: 145555;940;2;1;;
Purge Volume: 940.0
Column phase: DB-5

Instrument: BNAMS3.i

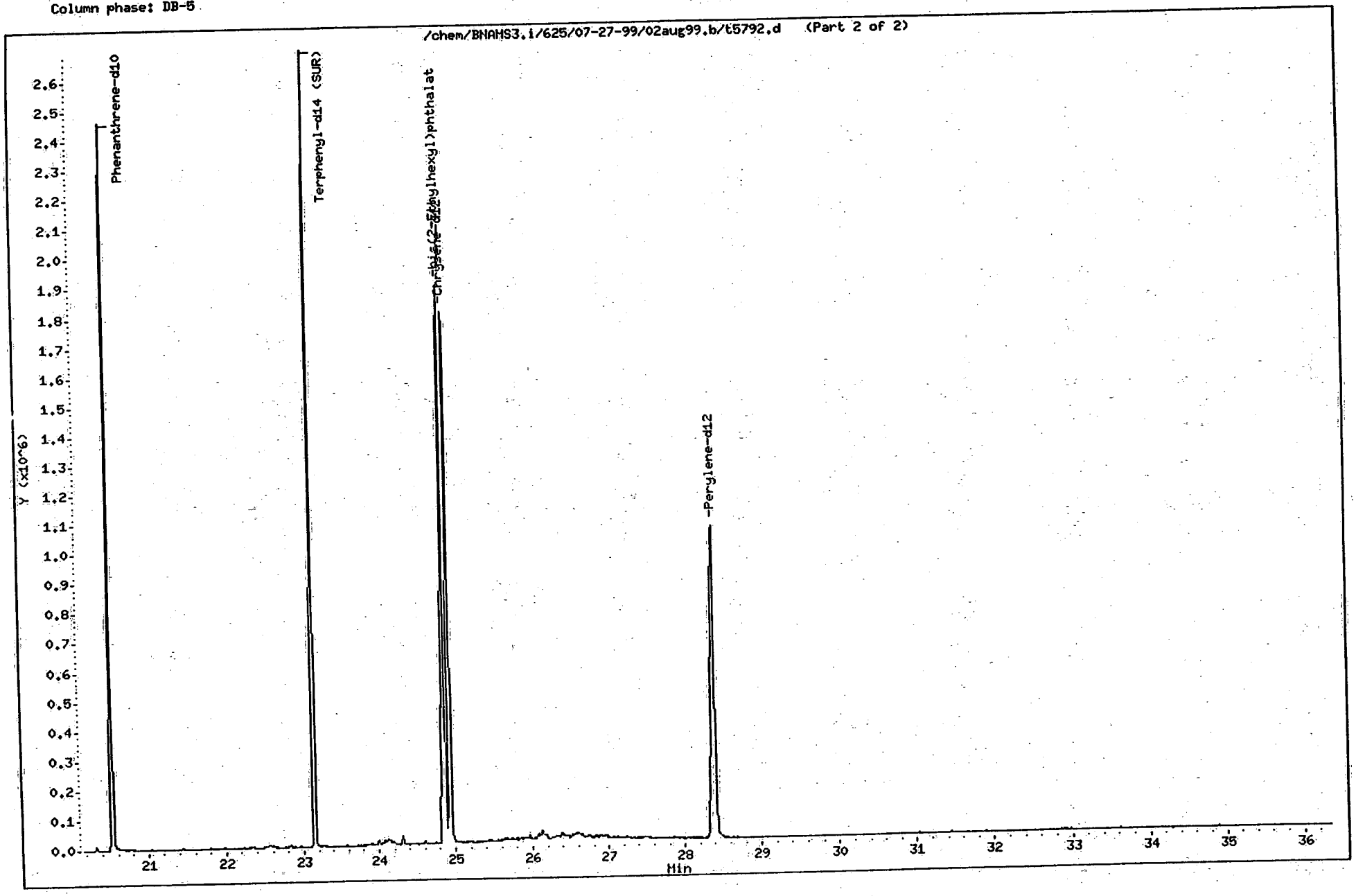
Operator: BNAMS 1
Column diameter: 0.53



Data File: /chem/BNAMS3.i/625/07-27-99/02aug99.b/t5792.d
Date : 02-AUG-1999 19:30
Client ID: MW11D
Sample Info: 145555;940;2;1;;
Purge Volume: 940.0
Column phase: DB-5

Instrument: BNAMS3.i

Operator: BNAMS 1
Column diameter: 0.53



Data File: /chem/BNAMS3.i/625/07-27-99/02aug99.b/t5792.d

Date : 02-AUG-1999 19:30

Client ID: MW11D

Sample Info: 145555;940;2;1;;

Purge Volume: 940.0

Column phase: DB-5

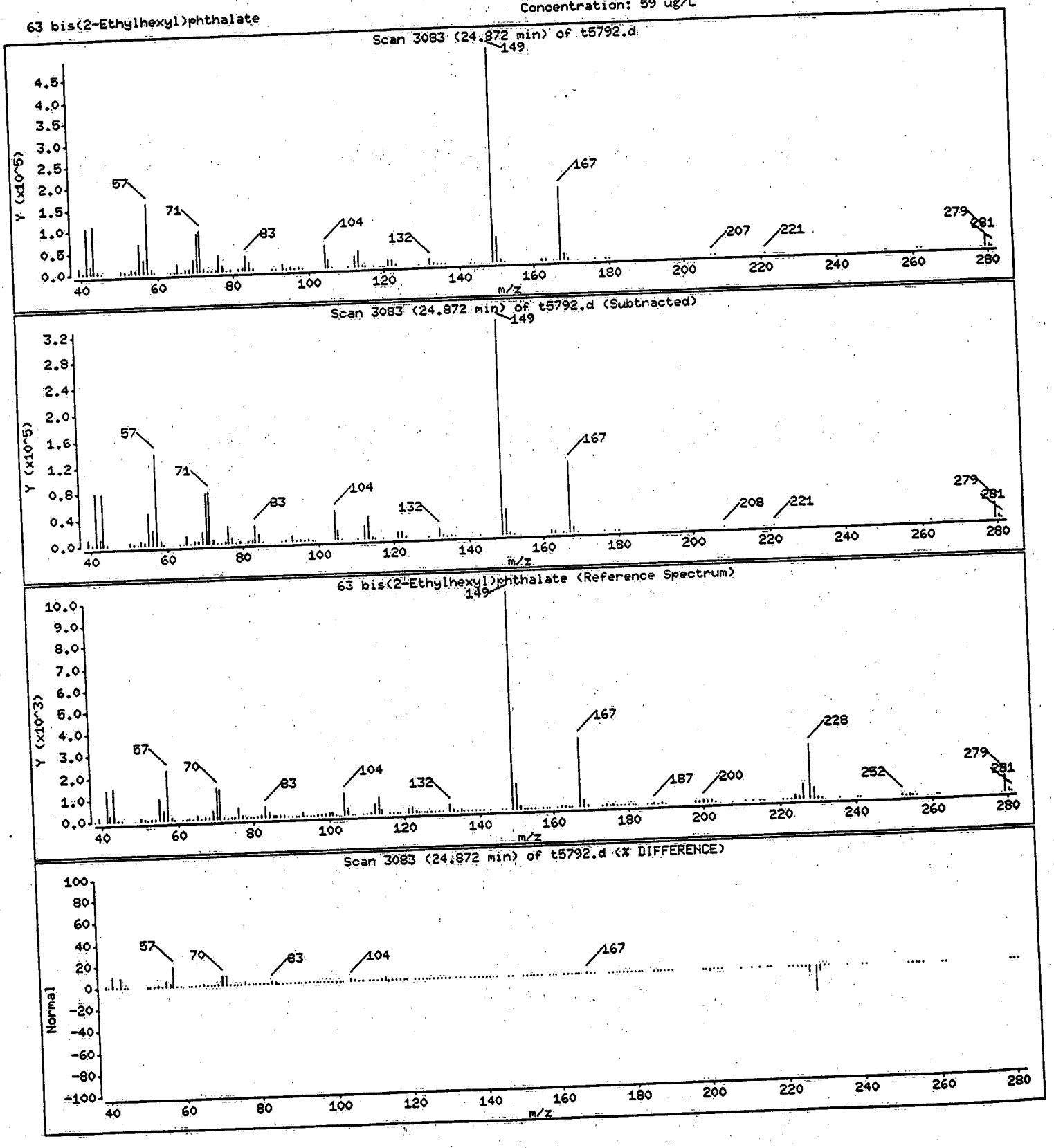
Instrument: BNAMS3.i

Operator: BNAMS 1

Column diameter: 0.53

Concentration: 59 ug/L

63 bis(2-Ethylhexyl)phthalate



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

Lab Sample No: **145560**
Lab Job No: R704

Date Sampled: 07/22/99
Date Received: 07/22/99
Date Extracted: 07/24/99
Date Analyzed: 08/02/99
GC Column: DB-5
Instrument ID: BNAMS3.i
Lab File ID: t5793.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	9.6	4.1

Data File: /chem/BNAMS3.i/625/07-27-99/02aug99.b/t5793.d
Report Date: 03-Aug-1999 08:31

STL Envirotech

SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS3.i/625/07-27-99/02aug99.b/t5793.d
Lab Smp Id: 145560 Client Smp ID: MW25R
Inj Date : 02-AUG-1999 20:16
Operator : BNAMS 1 Inst ID: BNAMS3.i
Smp Info : 145560;1000;2;1;;
Misc Info : R704;BIS2PHTH;4811;156
Comment :
Method : /chem/BNAMS3.i/625/07-27-99/02aug99.b/BNA625b.m
Meth Date : 03-Aug-1999 08:08 lisa Quant Type: ISTD
Cal Date : 27-JUL-1999 15:41 Cal File: t5660.d
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: BIS2PHTH.sub
Target Version: 3.40
Processing Host: hpd1

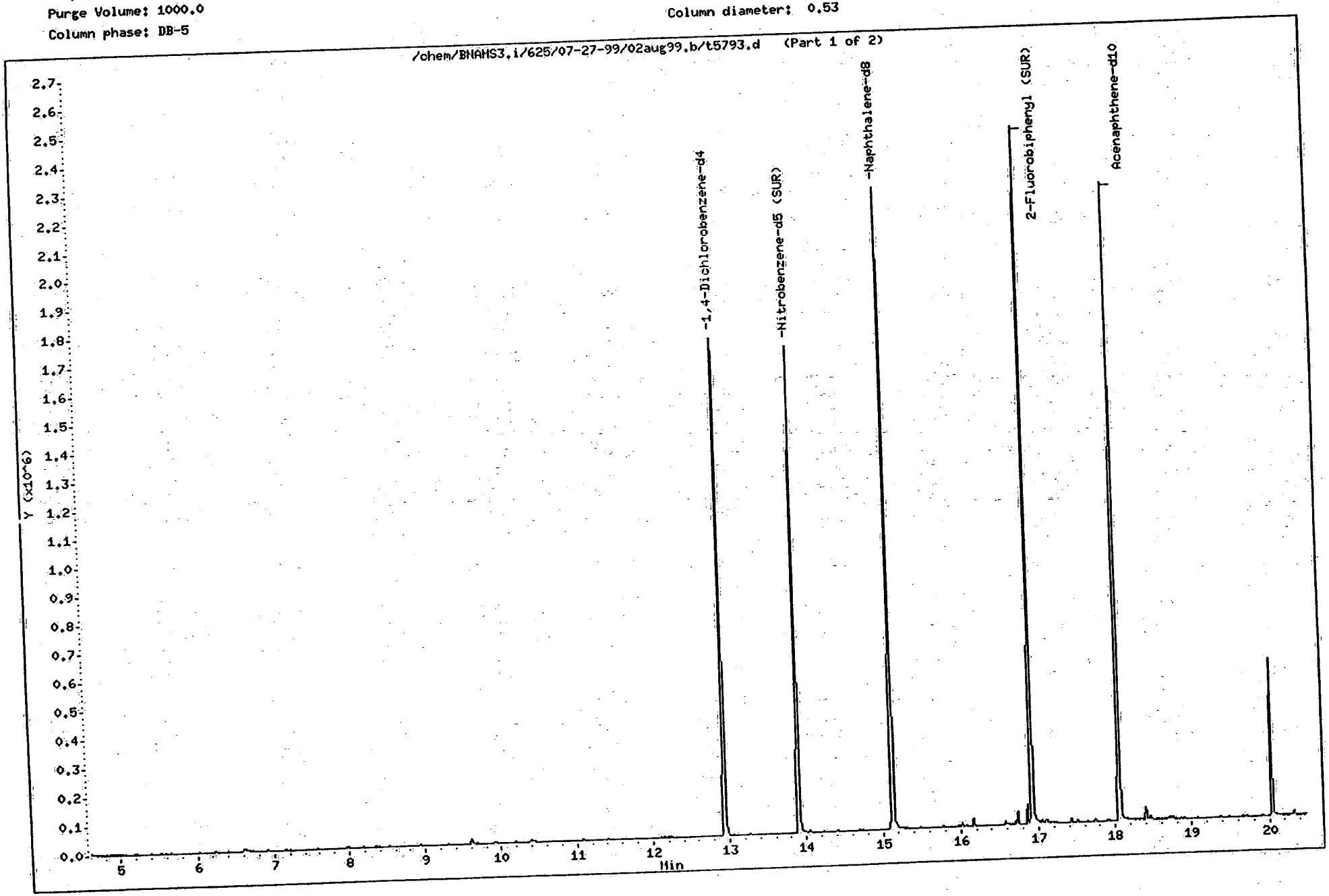
Concentration Formula: Amt * DF * 1000*Vt/Vo

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ug/L)
* 79 1,4-Dichlorobenzene-d4	152	12.937	12.953	(1.000)	317169	40.0000	
$ 76 Nitrobenzene-d5 (SUR)	82	13.910	13.923	(0.919)	818294	41.2018	82
* 80 Naphthalene-d8	136	15.132	15.147	(1.000)	1293999	40.0000	
$ 77 2-Fluorobiphenyl (SUR)	172	16.926	16.939	(0.937)	884029	40.5321	81
* 82 Acenaphthene-d10	164	18.063	18.078	(1.000)	728916	40.0000	
* 83 Phenanthrene-d10	188	20.535	20.545	(1.000)	1382957	40.0000	
$ 78 Terphenyl-d14 (SUR)	244	23.155	23.162	(0.928)	1266899	39.3341	79
63 bis(2-Ethylhexyl)phthalate	149	24.867	24.885	(0.997)	157752	4.80911	9.6
* 81 Chrysene-d12	240	24.940	24.966	(1.000)	1292117	40.0000	
* 84 Perylene-d12	264	28.404	28.435	(1.000)	1303938	40.0000	

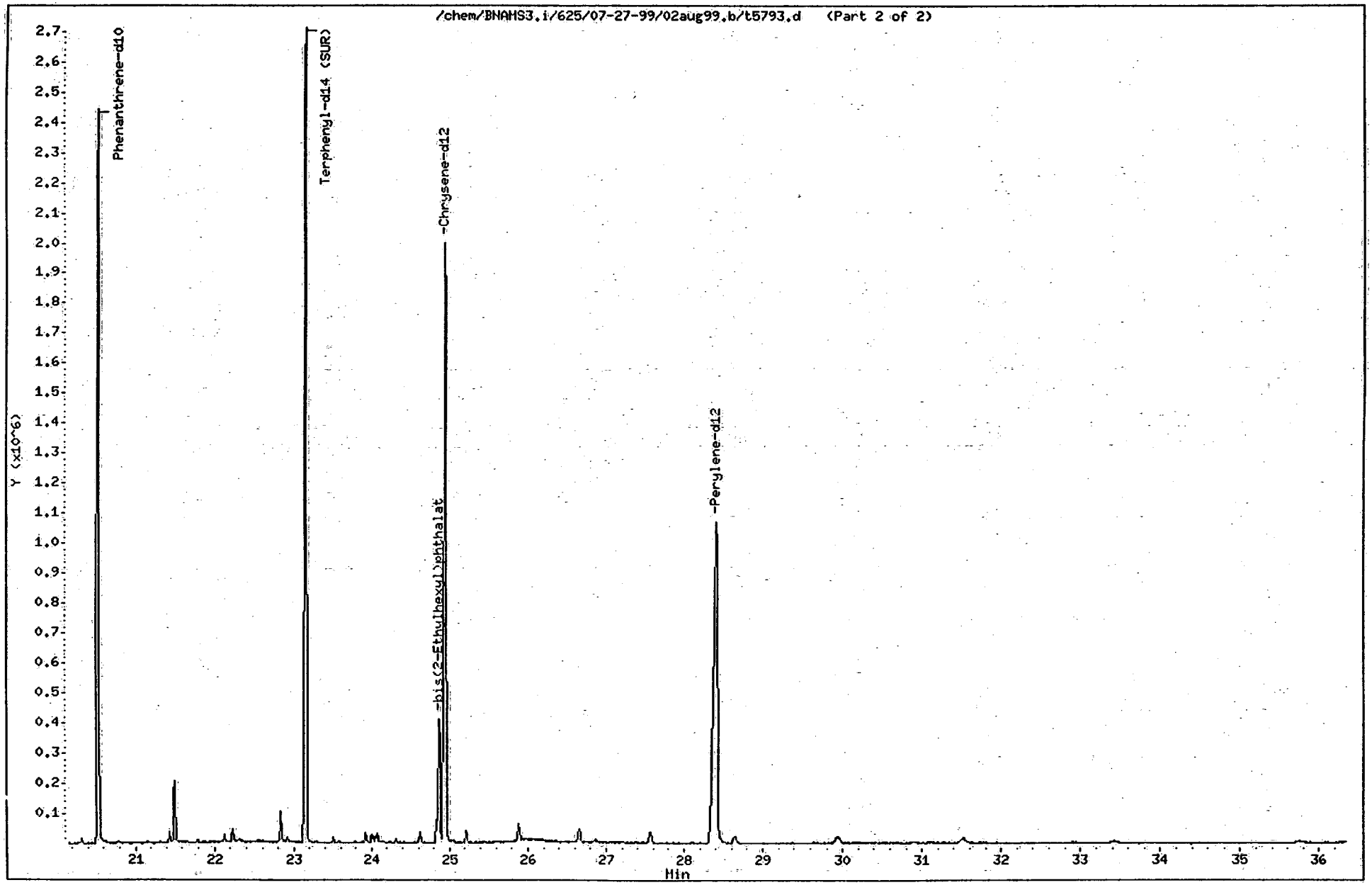
Data File: /chem/BNAMS3.i/625/07-27-99/02aug99.b/t5793.d
Date : 02-AUG-1999 20:16
Client ID: MW25R
Sample Info: 145560;1000;2;1;;
Purge Volume: 1000.0
Column phase: DB-5

Instrument: BNAMS3.i
Operator: BNAMS 1
Column diameter: 0.53



Data File: /chem/BNAMS3.i/625/07-27-99/02aug99.b/t5793.d
Date : 02-AUG-1999 20:16
Client ID: MW25R
Sample Info: 145560;1000;2;1;;
Purge Volume: 1000.0
Column phase: DB-5

Instrument: BNAMS3.i
Operator: BNAMS 1
Column diameter: 0.53



Data File: /chem/BNAMS3.i/625/07-27-99/02aug99.b/t5793.d

Date : 02-AUG-1999 20:16

Client ID: MW25R

Instrument: BNAMS3.i

Sample Info: 145560;1000;2;1;;

Purge Volume: 1000.0

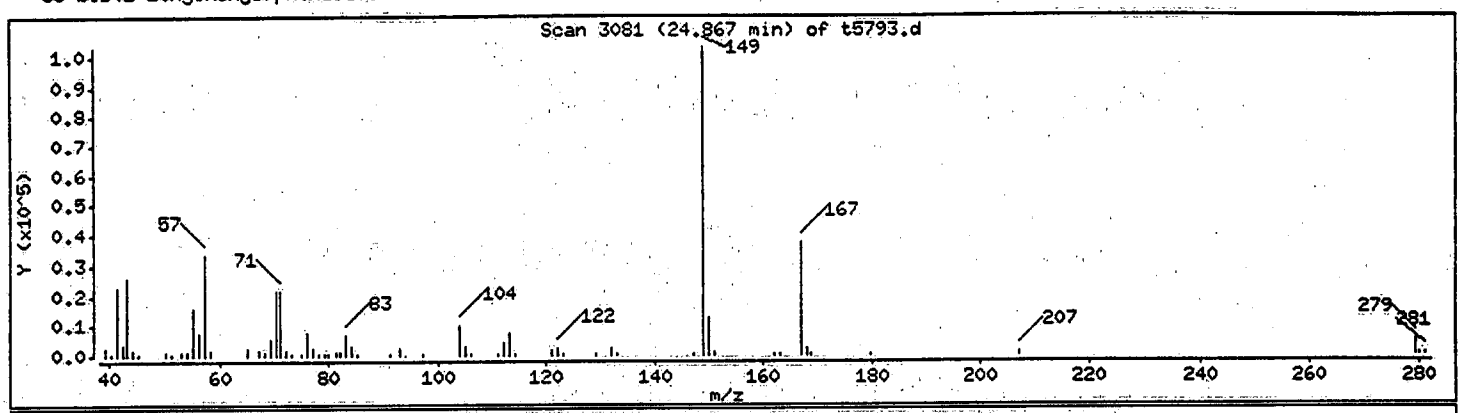
Operator: BNAMS 1

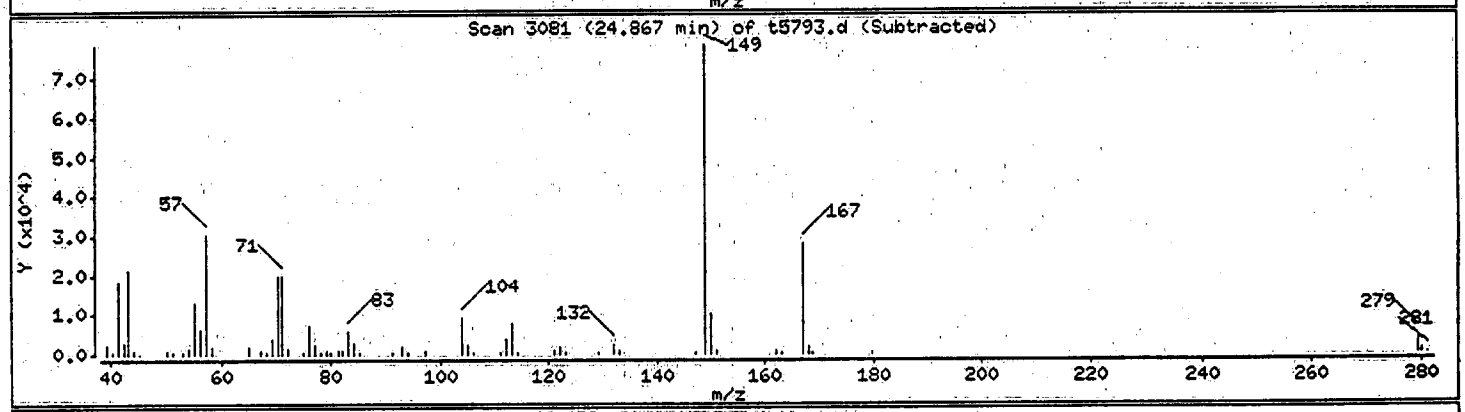
Column phase: DB-5

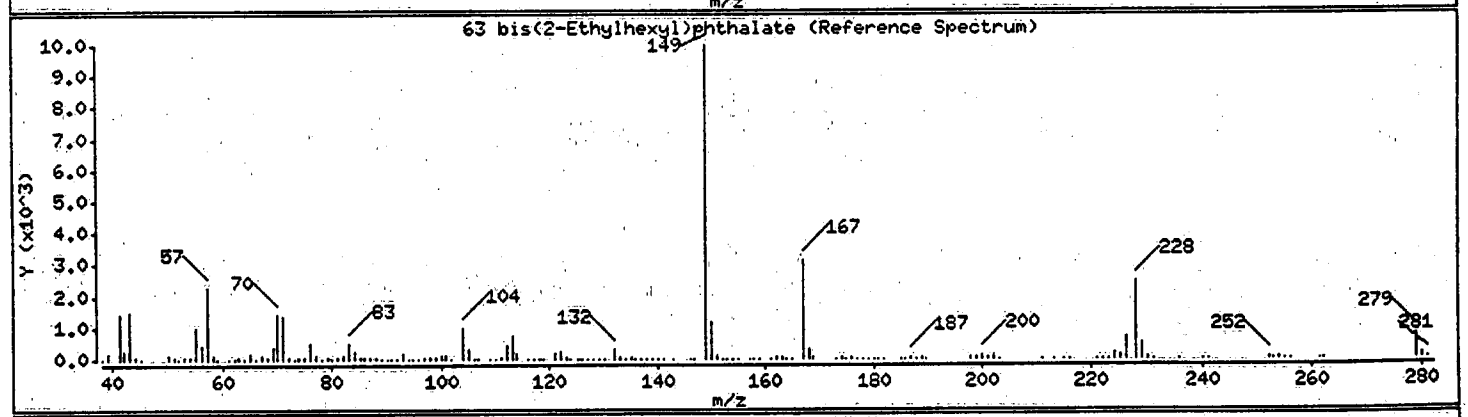
Column diameter: 0.53

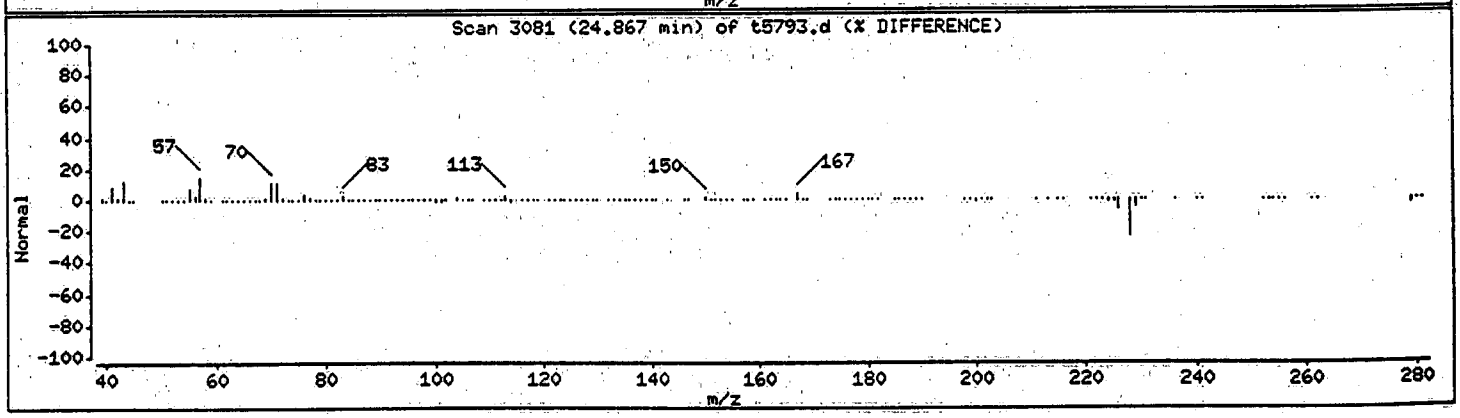
63 bis(2-Ethylhexyl)phthalate

Concentration: 9.6 ug/L









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

Lab Sample No: **145561**
Lab Job No: R704

Date Sampled: 07/22/99
Date Received: 07/22/99
Date Extracted: 07/24/99
Date Analyzed: 08/03/99
GC Column: DB-5
Instrument ID: BNAMS3.i
Lab File ID: t5815.d

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

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

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

Data File: /chem/BNAMS3.i/625/07-27-99/03aug99.b/t5815.d
Report Date: 04-Aug-1999 15:07

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SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS3.i/625/07-27-99/03aug99.b/t5815.d
Lab Smp Id: 145561 Client Smp ID: MW21
Inj Date : 03-AUG-1999 15:57
Operator : BNAMS 1 Inst ID: BNAMS3.i
Smp Info : 145561;950;2;1;;
Misc Info : R704;BIS2PHTH;4811;156
Comment :
Method : /chem/BNAMS3.i/625/07-27-99/03aug99.b/BNA625b.m
Meth Date : 03-Aug-1999 10:55 B Quant Type: ISTD
Cal Date : 27-JUL-1999 15:41 Cal File: t5660.d
Als bottle: 8
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

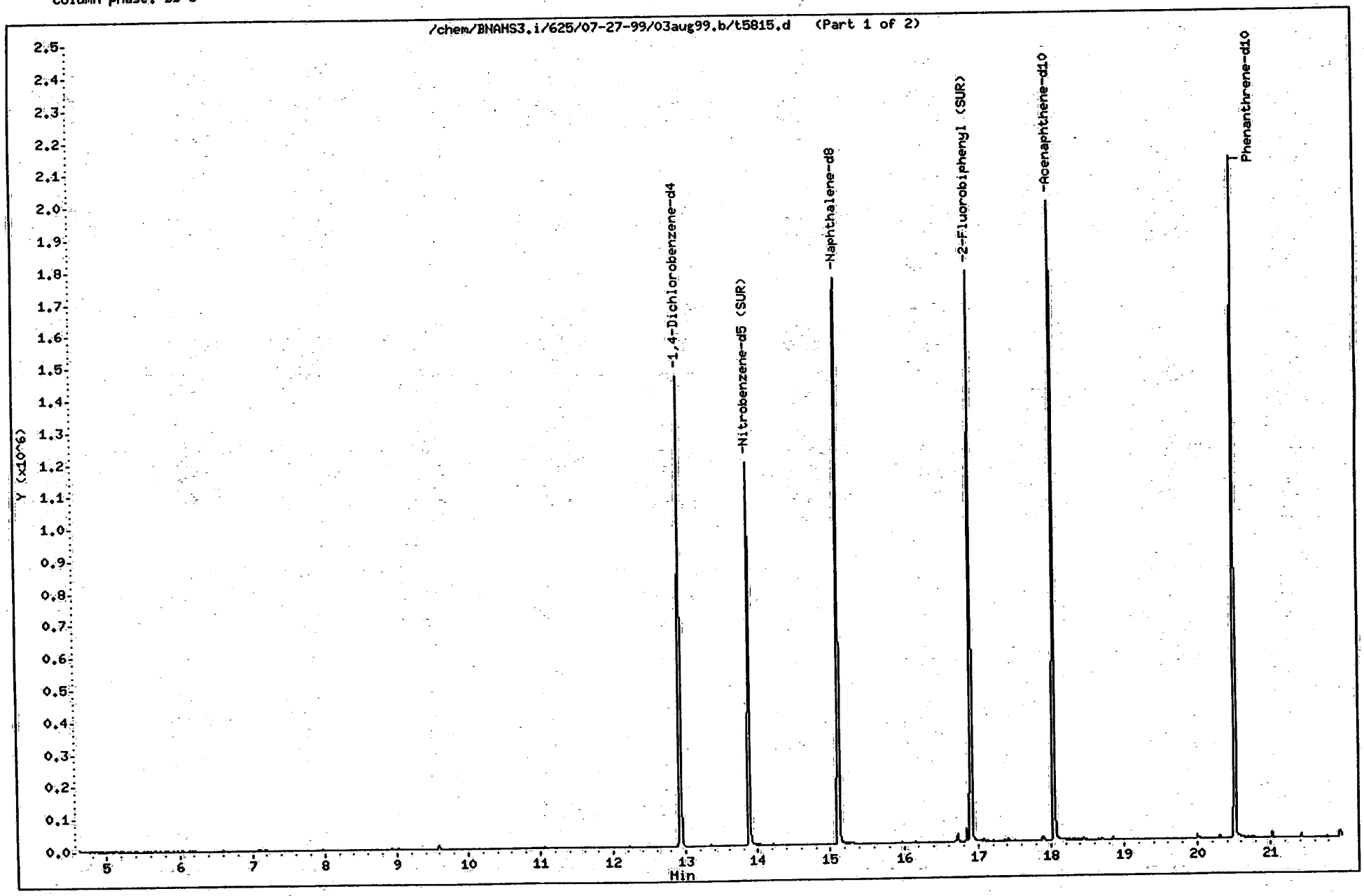
Name	Value	Description
DF	1.000	Dilution Factor
Vt	2.000	Volume of final extract (uL)
Vo	950.000	Volume of sample extracted (mL)

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)
* 79 1,4-Dichlorobenzene-d4	152	12.923	12.926	(1.000)	251180	40.0000	
$ 76 Nitrobenzene-d5 (SUR)	82	13.889	13.903	(0.919)	549705	34.6768	73
* 80 Naphthalene-d8	136	15.117	15.119	(1.000)	1032837	40.0000	
$ 77 2-Fluorobiphenyl (SUR)	172	16.911	16.917	(0.937)	663396	36.7854	77
* 82 Acenaphthene-d10	164	18.048	18.055	(1.000)	602709	40.0000	
* 83 Phenanthrene-d10	188	20.518	20.526	(1.000)	1192077	40.0000	
$ 78 Terphenyl-d14 (SUR)	244	23.133	23.135	(0.928)	1109634	37.5851	79
* 81 Chrysene-d12	240	24.922	24.939	(1.000)	1184384	40.0000	
* 84 Perylene-d12	264	28.362	28.378	(1.000)	1023072	40.0000	

Data File: /chem/BNAHS3.i/625/07-27-99/03aug99.b/t5815.d
Date : 03-AUG-1999 15:57
Client ID: HW21
Sample Info: 145561;950;2;1;;
Purge Volume: 950.0
Column phase: DB-5

Instrument: BNAHS3.i

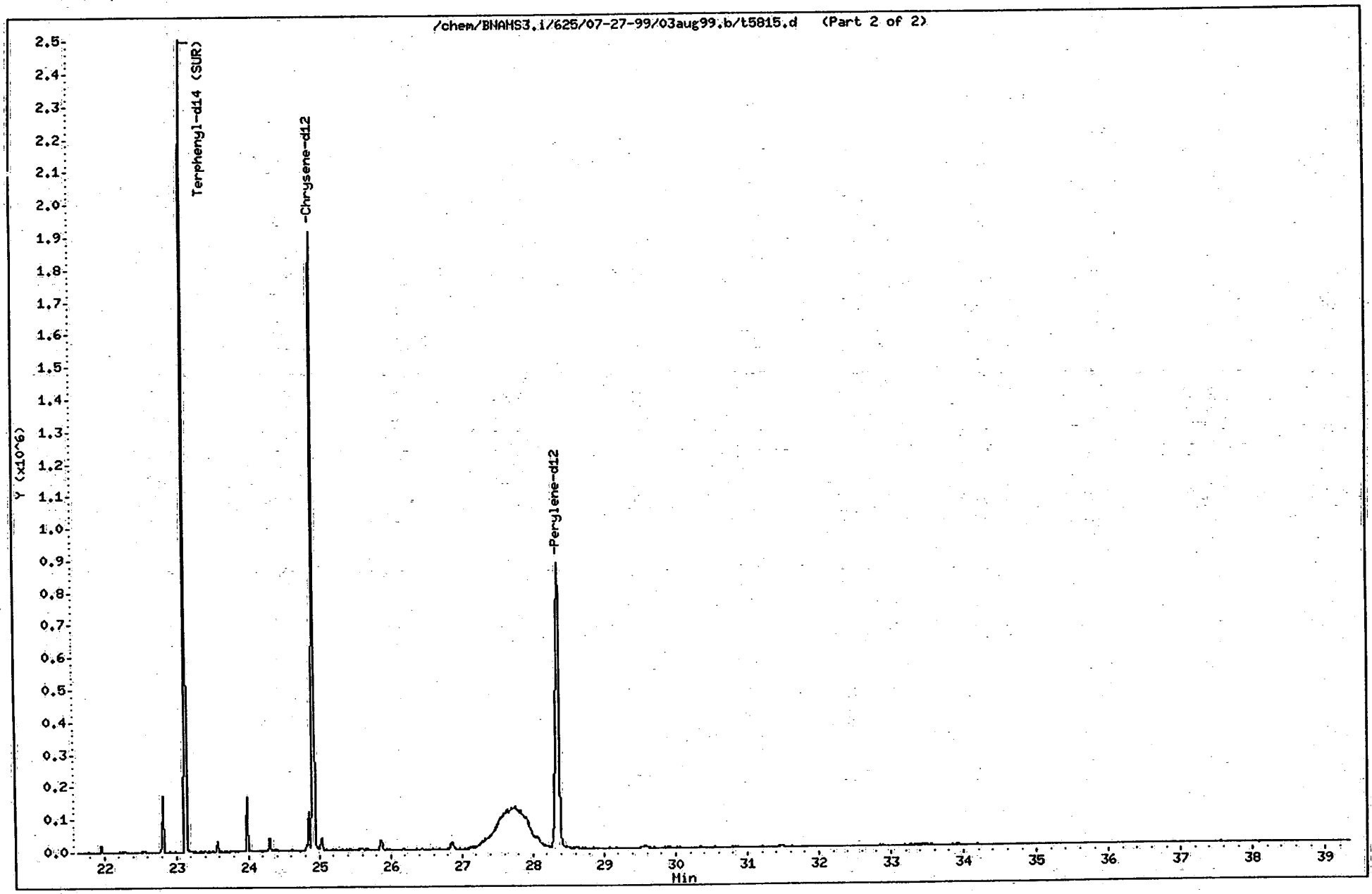
Operator: BNAHS 1
Column diameter: 0.53



Data File: /chem/BNAMS3.i/625/07-27-99/03aug99.b/t5815.d
Date : 03-AUG-1999 15:57
Client ID: MW21
Sample Info: 145561;950;2;1;;
Purge Volume: 950.0
Column phase: DB-5

Instrument: BNAMS3.i

Operator: BNAMS 1
Column diameter: 0.53



Client ID: **MW11DD**
Site: L.E. Carpenter

Lab Sample No: **145562**
Lab Job No: R704

Date Sampled: 07/22/99
Date Received: 07/22/99
Date Extracted: 07/24/99
Date Analyzed: 08/02/99
GC Column: DB-5
Instrument ID: BNAMS3.i
Lab File ID: t5795.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	13	4.1

Data File: /chem/BNAMS3.i/625/07-27-99/02aug99.b/t5795.d
Report Date: 03-Aug-1999 08:31

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SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS3.i/625/07-27-99/02aug99.b/t5795.d
Lab Smp Id: 145562 Client Smp ID: MW11DD
Inj Date : 02-AUG-1999 21:47
Operator : BNAMS 1 Inst ID: BNAMS3.i
Smp Info : 145562;1000;2;1;;
Misc Info : R704;BIS2PHTH;4811;156
Comment :
Method : /chem/BNAMS3.i/625/07-27-99/02aug99.b/BNA625b.m
Meth Date : 03-Aug-1999 08:08 lisa Quant Type: ISTD
Cal Date : 27-JUL-1999 15:41 Cal File: t5660.d
Als bottle: 17
Dil Factor: 1.00000 Compound Sublist: BIS2PHTH.sub
Integrator: HP RTE
Target Version: 3.40
Processing Host: hpd1

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

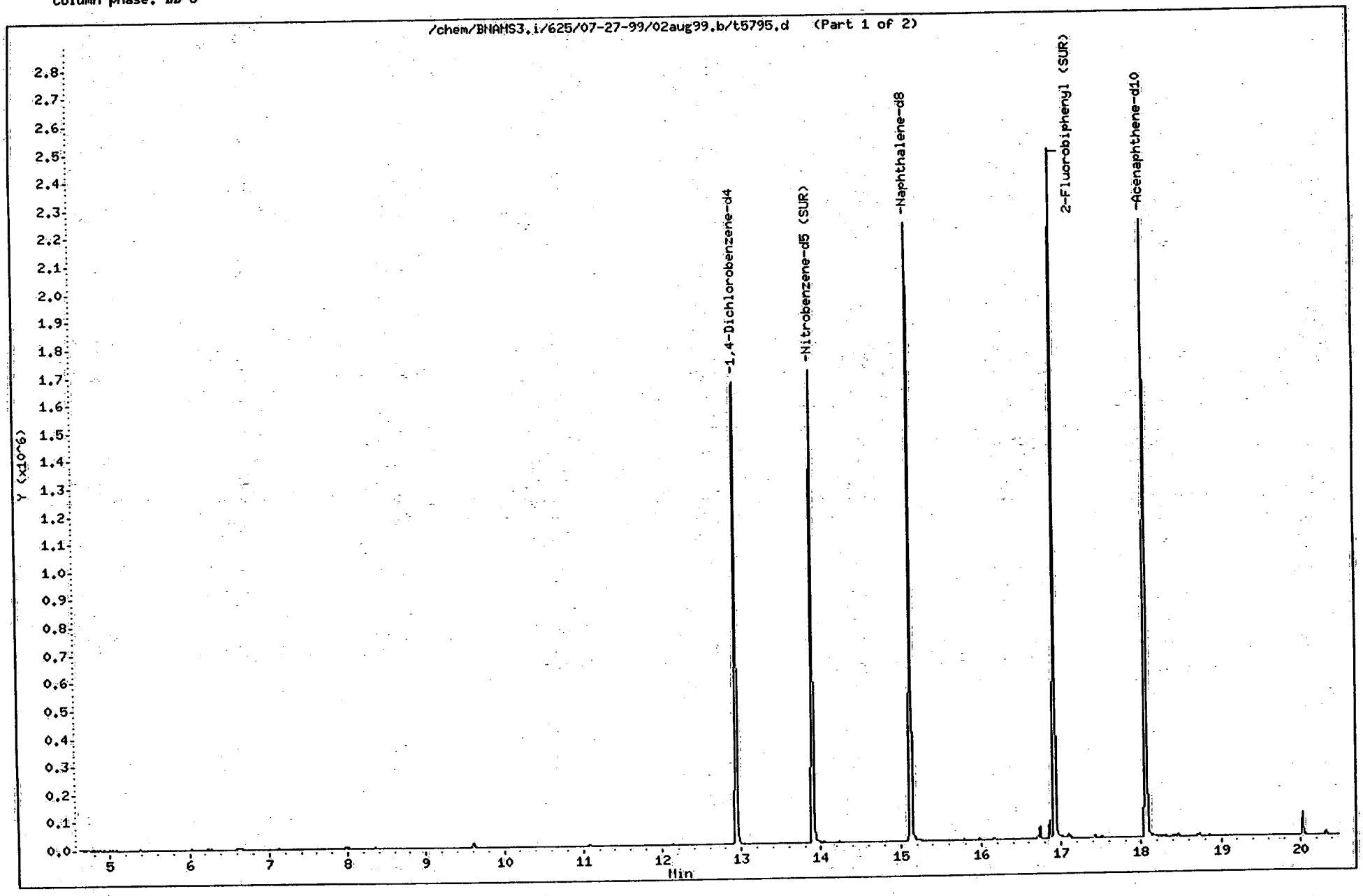
Name	Value	Description
DF	1.000	Dilution Factor
Vt	2.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)
* 79 1,4-Dichlorobenzene-d4	152	12.943	12.953	(1.000)	307591	40.0000	
$ 76 Nitrobenzene-d5 (SUR)	82	13.909	13.923	(0.919)	825248	42.5874	85
* 80 Naphthalene-d8	136	15.130	15.147	(1.000)	1262537	40.0000	
$ 77 2-Fluorobiphenyl (SUR)	172	16.924	16.939	(0.937)	932069	43.6926	87
* 82 Acenaphthene-d10	164	18.061	18.078	(1.000)	712936	40.0000	
* 83 Phenanthrene-d10	188	20.531	20.545	(1.000)	1398208	40.0000	
$ 78 Terphenyl-d14 (SUR)	244	23.153	23.162	(0.928)	1323351	41.3991	83
63 bis(2-Ethylhexyl)phthalate	149	24.869	24.885	(0.997)	209493	6.43499	13
* 81 Chrysene-d12	240	24.942	24.966	(1.000)	1282369	40.0000	
* 84 Perylene-d12	264	28.403	28.435	(1.000)	1264624	40.0000	

Data File: /chem/BNAMS3.i/625/07-27-99/02aug99.b/t5795.d
Date : 02-AUG-1999 21:47
Client ID: MW11DD
Sample Info: 145562;1000;2;1;;
Purge Volume: 1000.0
Column phase: DB-5

Instrument: BNAMS3.i

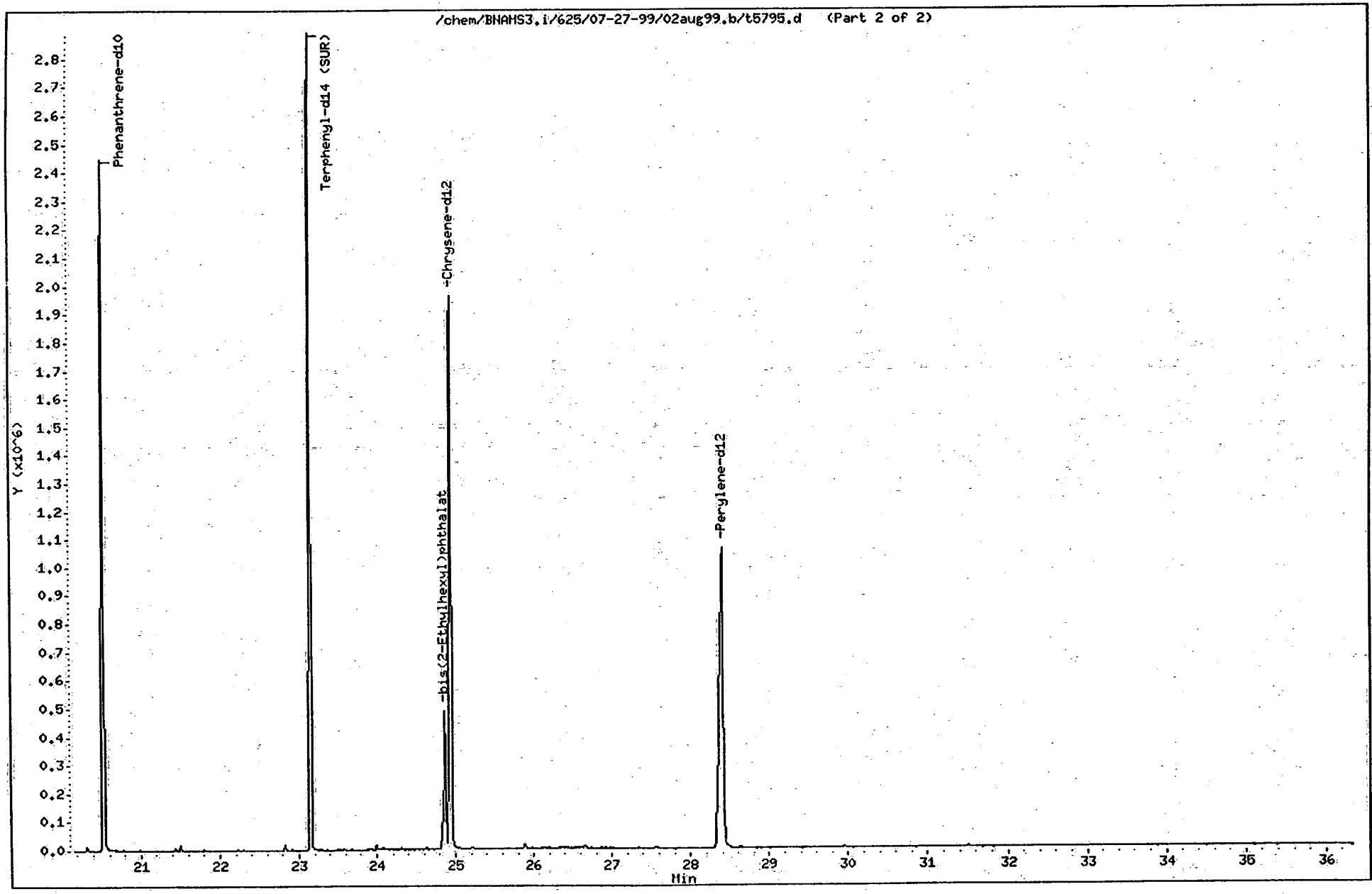
Operator: BNAMS 1
Column diameter: 0.53



Data File: /chem/BNAHS3.i/625/07-27-99/02aug99.b/t5795.d
Date : 02-AUG-1999 21:47
Client ID: MW11DD
Sample Info: 145562;1000;2;1;;
Purge Volume: 1000.0
Column phase: DB-5

Instrument: BNAHS3.i

Operator: BNAHS 1
Column diameter: 0.53



Data File: /chem/BNAMS3.i/625/07-27-99/02aug99.b/t5795.d

Date : 02-AUG-1999 21:47

Client ID: MW11DD

Instrument: BNAMS3.i

Sample Info: 145562;1000;2;1;;

Purge Volume: 1000.0

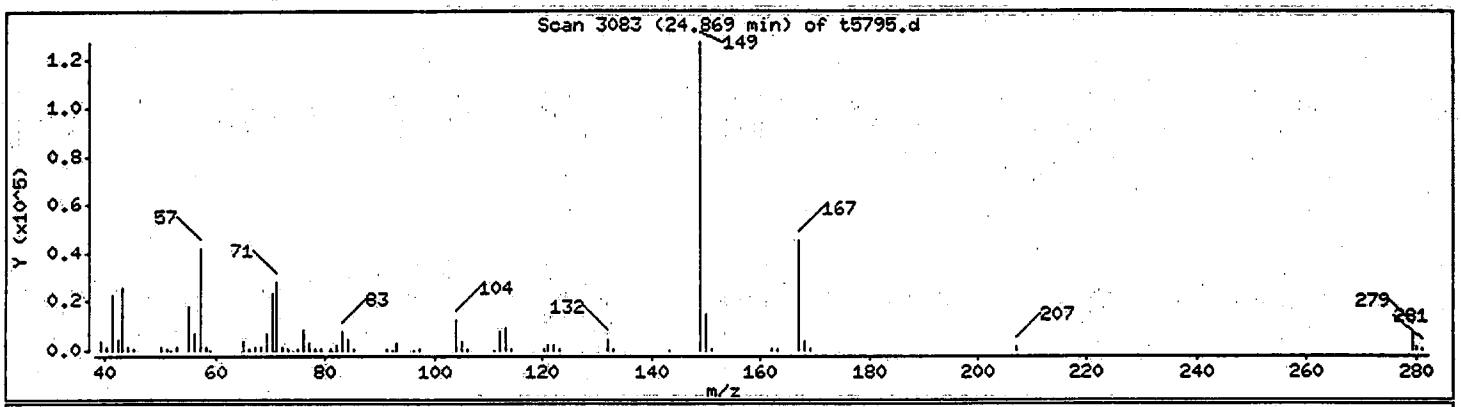
Operator: BNAMS 1

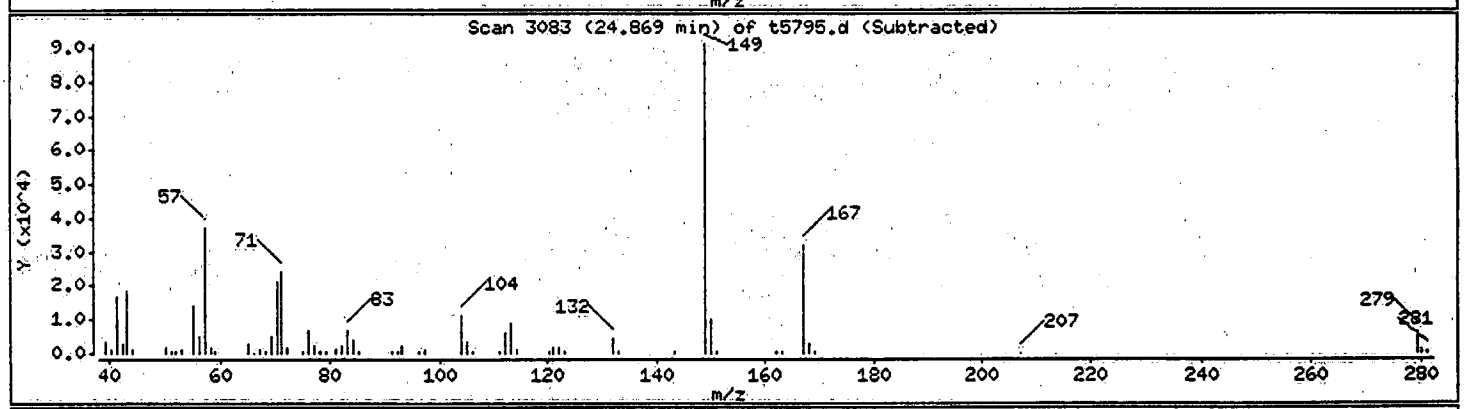
Column phase: DB-5

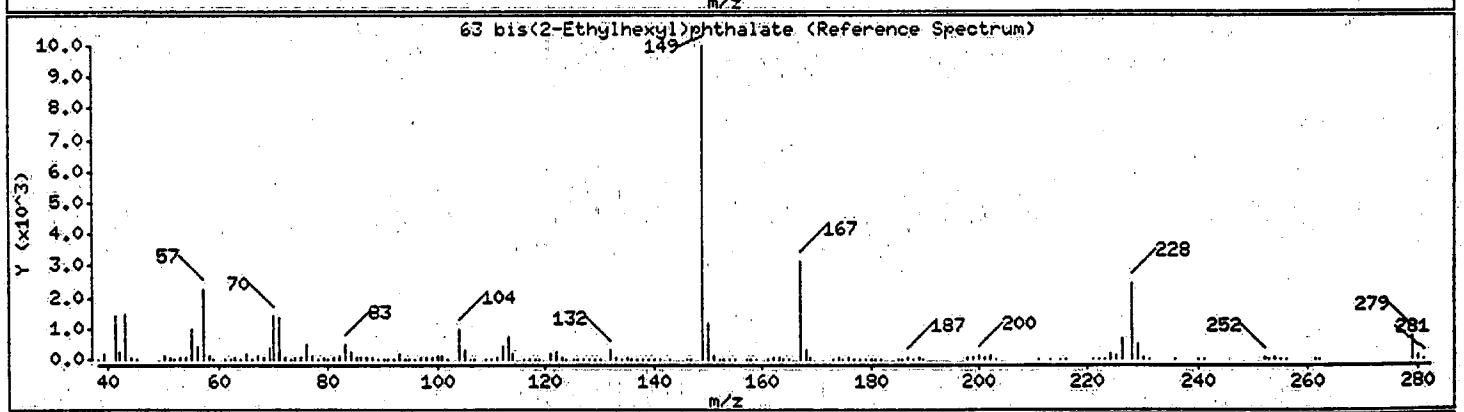
Column diameter: 0.53

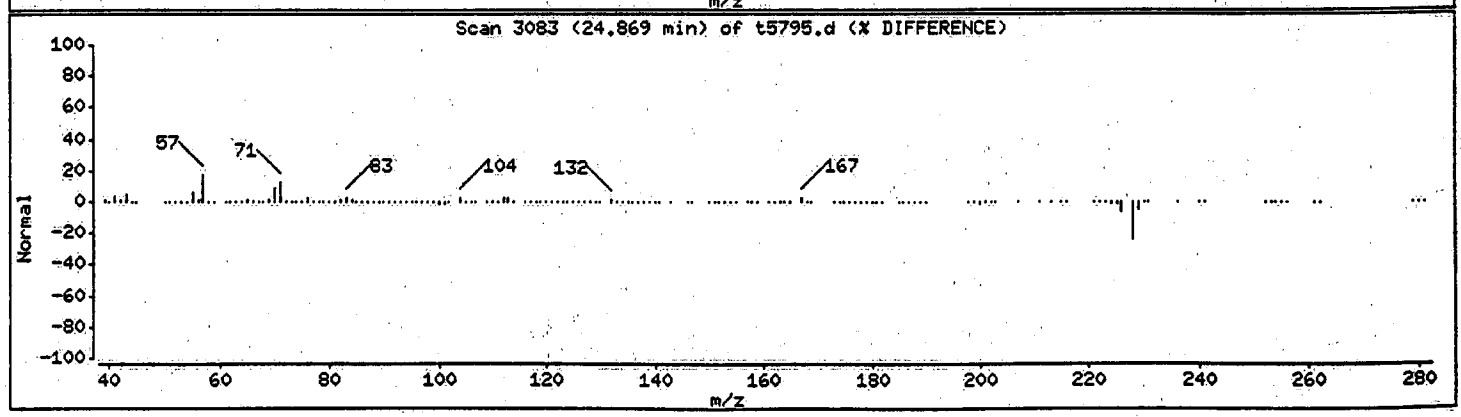
63 bis(2-Ethylhexyl)phthalate

Concentration: 13 ug/L









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

Lab Sample No: **145563**
Lab Job No: R704

Date Sampled: 07/22/99
Date Received: 07/22/99
Date Extracted: 07/24/99
Date Analyzed: 08/02/99
GC Column: DB-5
Instrument ID: BNAMS3.i
Lab File ID: t5796.d

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

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

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

Data File: /chem/BNAMS3.i/625/07-27-99/02aug99.b/t5796.d
Report Date: 03-Aug-1999 08:31

STL Envirotech

SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS3.i/625/07-27-99/02aug99.b/t5796.d
Lab Smp Id: 145563 Client Smp ID: Field_Blank
Inj Date : 02-AUG-1999 22:33
Operator : BNAMS 1 Inst ID: BNAMS3.i
Smp Info : 145563;950;2;1;;
Misc Info : R704;BIS2PHTH;4811;156
Comment :
Method : /chem/BNAMS3.i/625/07-27-99/02aug99.b/BNA625b.m
Meth Date : 03-Aug-1999 08:08 lisa Quant Type: ISTD
Cal Date : 27-JUL-1999 15:41 Cal File: t5660.d
Als bottle: 18
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

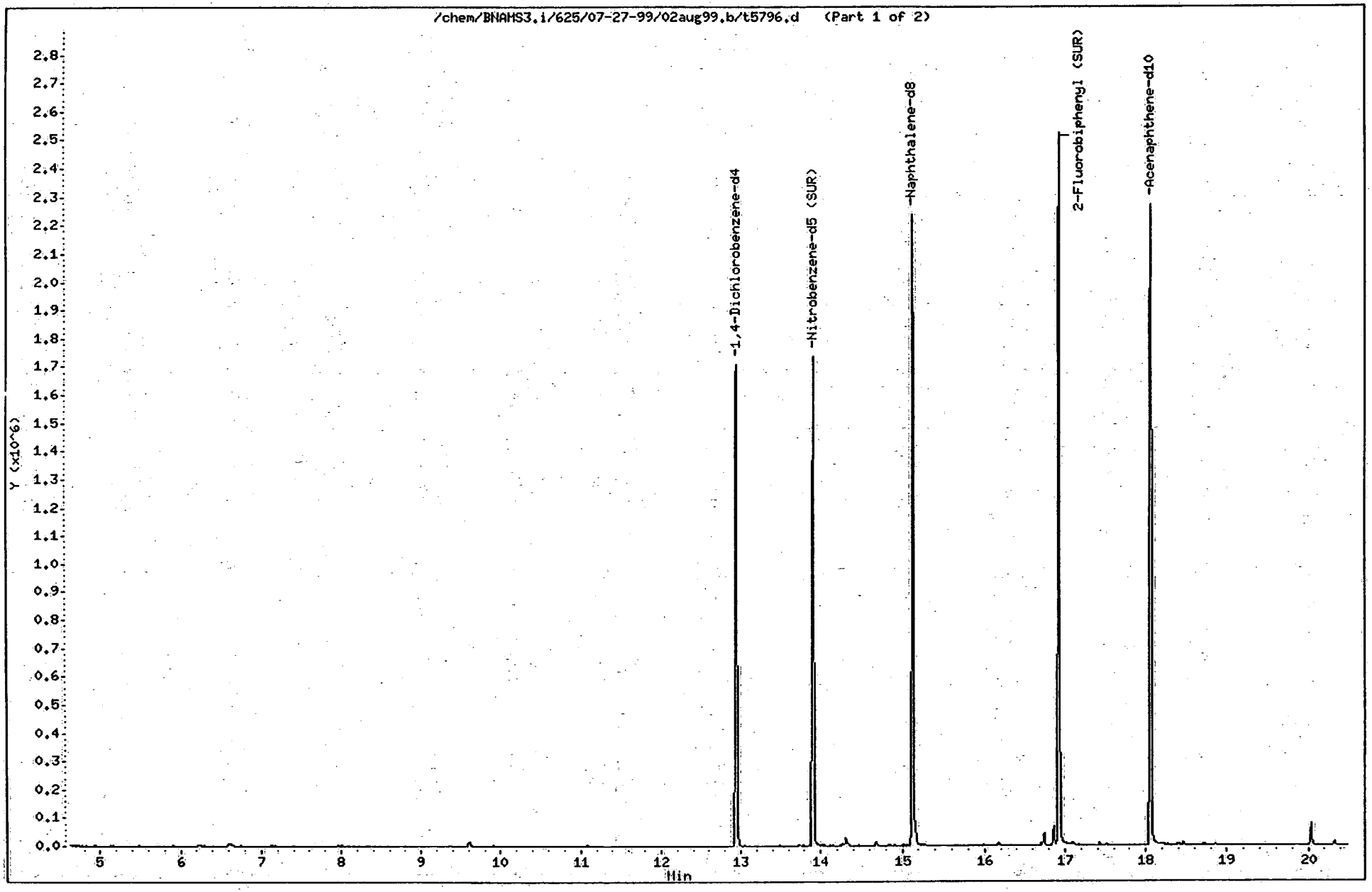
Name	Value	Description
DF	1.000	Dilution Factor
Vt	2.000	Volume of final extract (uL)
Vo	950.000	Volume of sample extracted (mL)

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)
* 79 1,4-Dichlorobenzene-d4	152	12.943	12.953	(1.000)	308972	40.0000	
$ 76 Nitrobenzene-d5 (SUR)	82	13.909	13.923	(0.919)	862835	45.3306	95
* 80 Naphthalene-d8	136	15.131	15.147	(1.000)	1240160	40.0000	
$ 77 2-Fluorobiphenyl (SUR)	172	16.925	16.939	(0.937)	945769	44.5027	94
* 82 Acenaphthene-d10	164	18.062	18.078	(1.000)	710247	40.0000	
* 83 Phenanthrene-d10	188	20.532	20.545	(1.000)	1370564	40.0000	
$ 78 Terphenyl-d14 (SUR)	244	23.154	23.162	(0.928)	1306423	39.7697	84
* 81 Chrysene-d12	240	24.942	24.966	(1.000)	1317832	40.0000	
* 84 Perylene-d12	264	28.402	28.435	(1.000)	1269958	40.0000	

Data File: /chem/BNAMS3.i/625/07-27-99/02aug99.b/t5796.d
Date : 02-AUG-1999 22:33
Client ID: Field_Blank
Sample Info: 145563;950;2;1;;
Purge Volume: 950.0
Column phase: DB-5

Instrument: BNAMS3.i

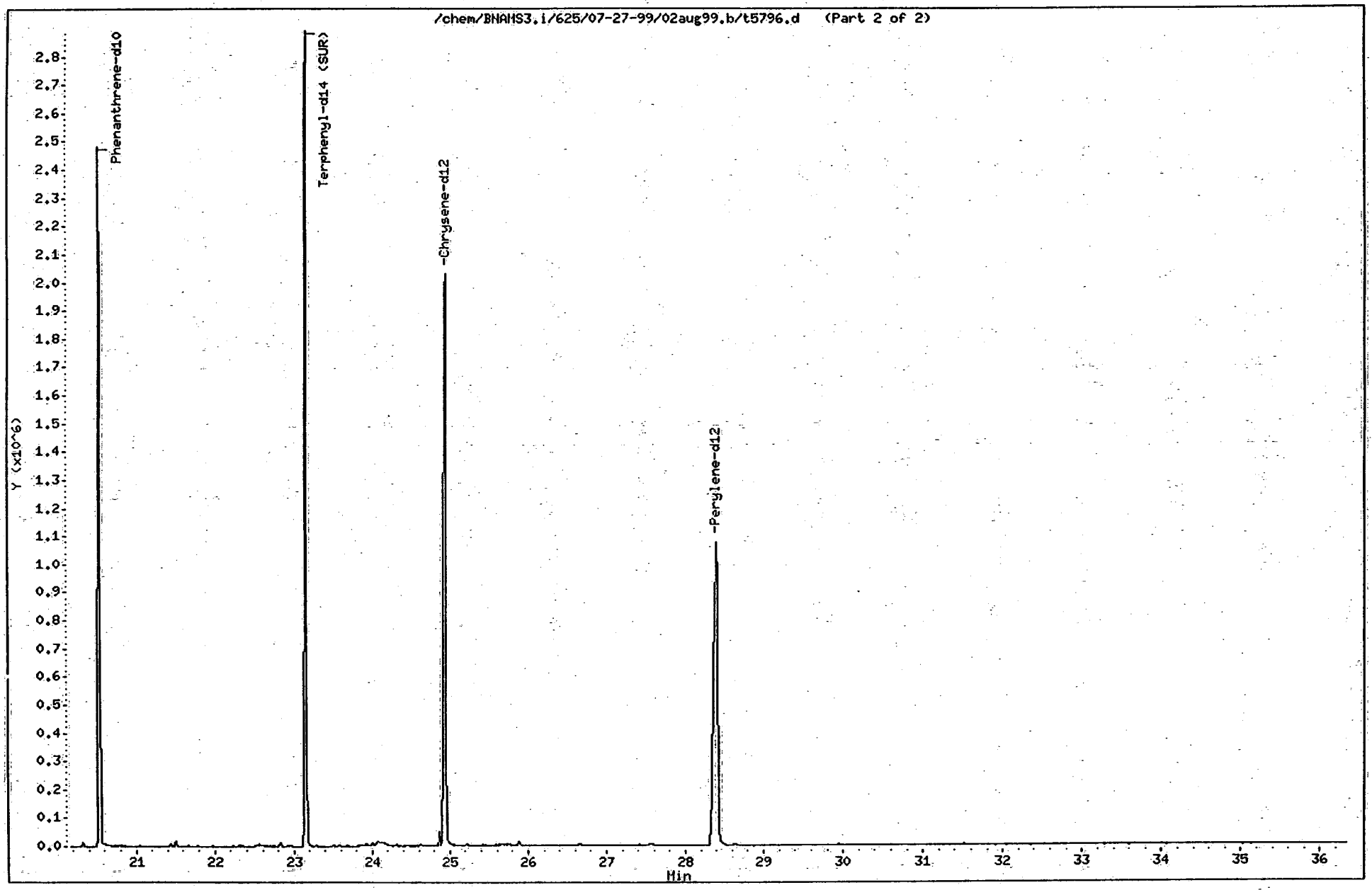
Operator: BNAMS 1
Column diameter: 0.53



Data File: /chem/BNAMS3.i/625/07-27-99/02aug99.b/t5796.d
Date : 02-AUG-1999 22:33
Client ID: Field_Blank
Sample Info: 145563;950;2;1;;
Purge Volume: 950.0
Column phase: DB-5

Instrument: BNAMS3.i

Operator: BNAMS 1
Column diameter: 0.53



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

Lab Sample No: **145564**
Lab Job No: R704

Date Sampled: 07/22/99
Date Received: 07/22/99
Date Extracted: 07/24/99
Date Analyzed: 08/02/99
GC Column: DB-5
Instrument ID: BNAMS3.i
Lab File ID: t5797.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/BNAMS3.i/625/07-27-99/02aug99.b/t5797.d
Report Date: 03-Aug-1999 08:32

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SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS3.i/625/07-27-99/02aug99.b/t5797.d
Lab Smp Id: 145564 Client Smp ID: Trip_Blank
Inj Date : 02-AUG-1999 23:19
Operator : BNAMS 1 Inst ID: BNAMS3.i
Smp Info : 145564;980;2;1;;
Misc Info : R704;BIS2PHTH;4811;156
Comment :
Method : /chem/BNAMS3.i/625/07-27-99/02aug99.b/BNA625b.m
Meth Date : 03-Aug-1999 08:08 lisa Quant Type: ISTD
Cal Date : 27-JUL-1999 15:41 Cal File: t5660.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

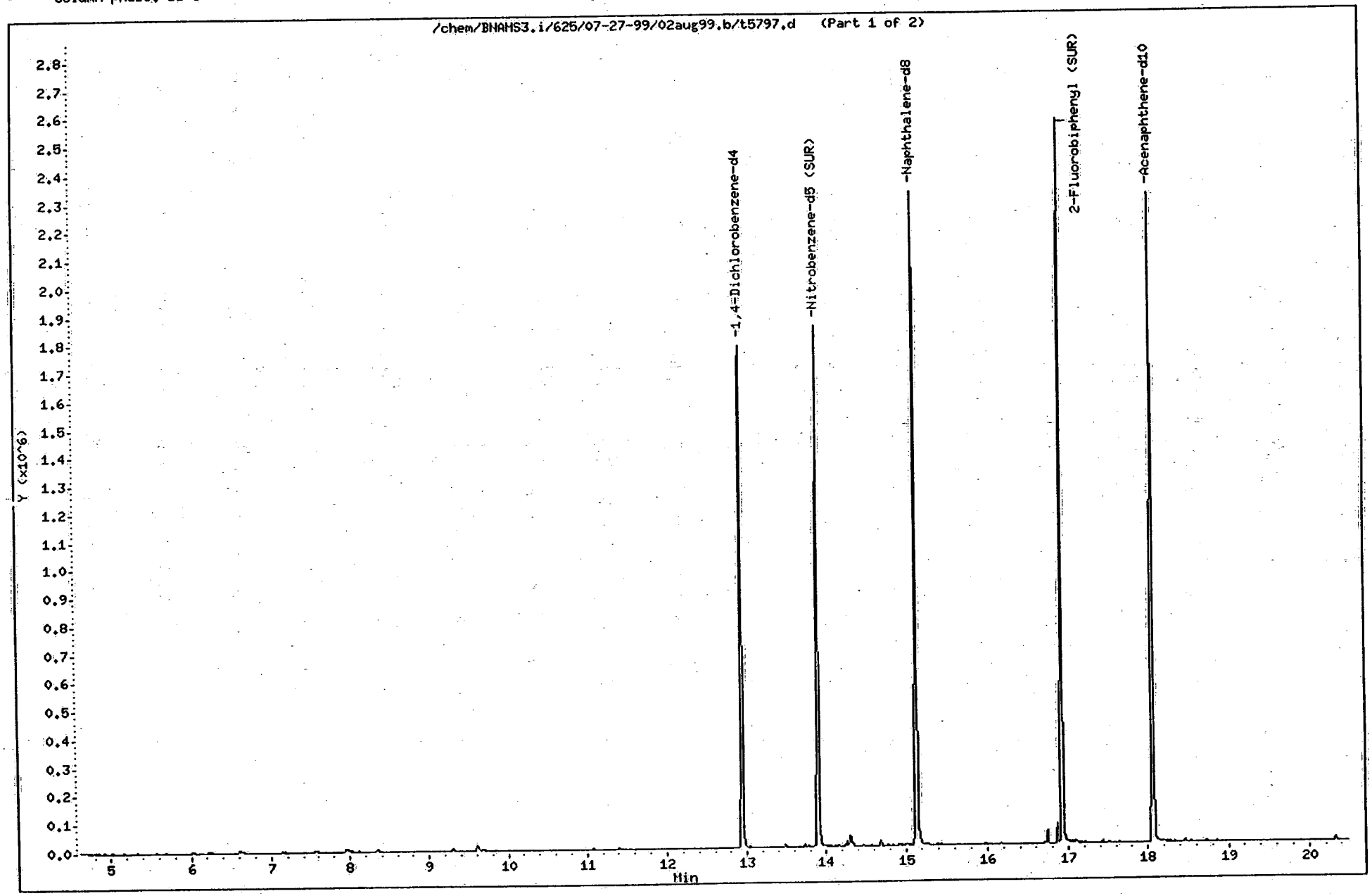
Name	Value	Description
DF	1.000	Dilution Factor
Vt	2.000	Volume of final extract (uL)
Vo	980.000	Volume of sample extracted (mL)

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)
* 79 1,4-Dichlorobenzene-d4	152	12.942	12.953	(1.000)	327123	40.0000	
$ 76 Nitrobenzene-d5 (SUR)	82	13.908	13.923	(0.919)	872970	44.3586	90
* 80 Naphthalene-d8	136	15.131	15.147	(1.000)	1282221	40.0000	
$ 77 2-Fluorobiphenyl (SUR)	172	16.924	16.939	(0.937)	961145	43.1859	88
* 82 Acenaphthene-d10	164	18.061	18.078	(1.000)	743802	40.0000	
* 83 Phenanthrene-d10	188	20.531	20.545	(1.000)	1444387	40.0000	
$ 78 Terphenyl-d14 (SUR)	244	23.152	23.162	(0.928)	1278699	37.1084	76
* 81 Chrysene-d12	240	24.940	24.966	(1.000)	1382373	40.0000	
* 84 Perylene-d12	264	28.399	28.435	(1.000)	1325788	40.0000	

Data File: /chem/BNAMS3.i/625/07-27-99/02aug99.b/t5797.d
Date : 02-AUG-1999 23:19
Client ID: Trip_Blank
Sample Info: 145564;980;2;1;;
Purge Volume: 980.0
Column phase: DB-5

Instrument: BNAMS3.i

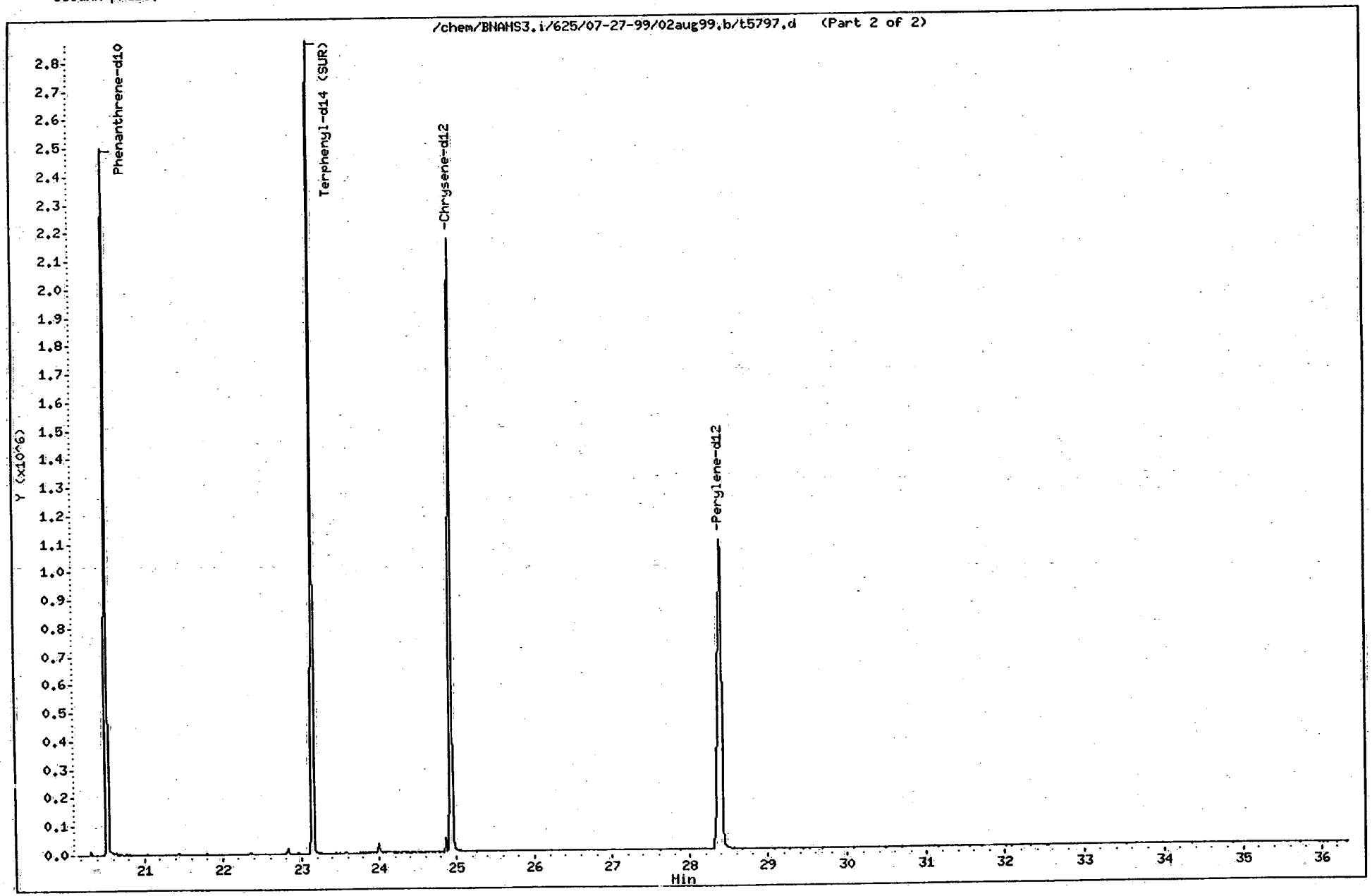
Operator: BNAMS 1
Column diameter: 0.53



Data File: /chem/BNAMS3.i/625/07-27-99/02aug99.b/t5797.d
Date : 02-AUG-1999 23:19
Client ID: Trip_Blank
Sample Info: 145564;980;2;1;;
Purge Volume: 980.0
Column phase: DB-5

Instrument: BNAMS3.i

Operator: BNAMS 1
Column diameter: 0.53



SEMI-VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab File ID: T5455 DFTPP Injection Date: 07/19/99

Instrument ID: BNAMS3 DFTPP Injection Time: 0831

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	49.0
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	70.3
70	Less than 2.0% of mass 69	0.4 (0.6)1
127	40.0 - 60.0% of mass 198	41.0
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	6.9
275	10.0 - 30.0% of mass 198	22.6
365	Greater than 1.0% of mass 198	2.41
441	0.0 - 100.0% of mass 443	9.0 (76.6)2
442	40.0 - 110.0% of mass 198	60.8
443	17.0 - 23.0% of mass 442	11.7 (19.3)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	TSTD050	TSTD050	T5456	07/19/99	0854
02	TSTD120	TSTD120	T5457	07/19/99	0954
03	TSTD080	TSTD080	T5458	07/19/99	1040
04	TSTD020	TSTD020	T5459	07/19/99	1125
05	TSTD010	TSTD010	T5460	07/19/99	1210
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					

Data File: /chem/BNAMS3.i/625/07-19-99/19jul99.b/t5455.d

Date : 19-JUL-1999 08:31

Client ID:

Sample Info: TDFT200

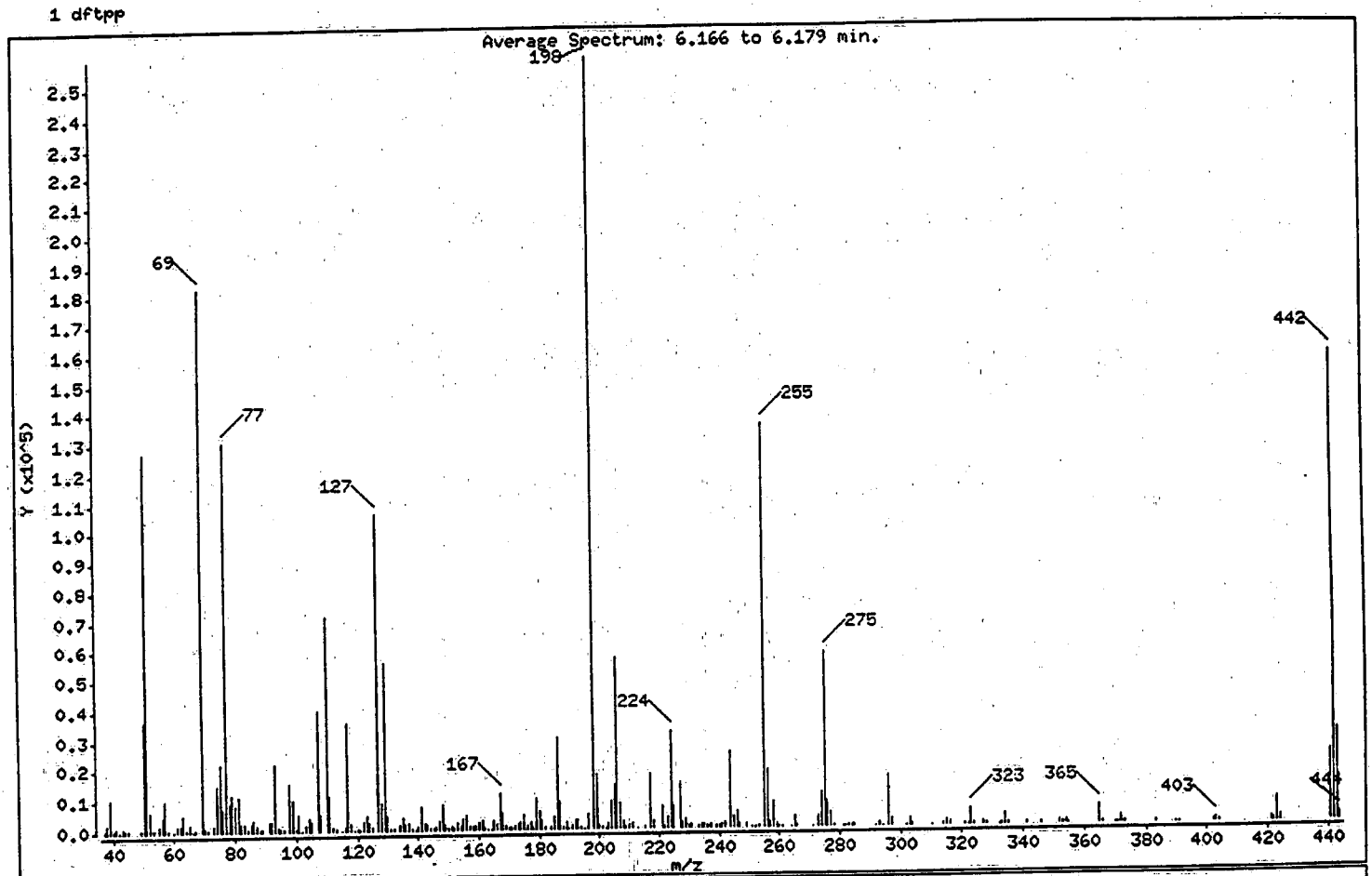
Instrument: BNAMS3.i

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	49.02
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Mass 69 relative abundance	70.28
70	Less than 2.00% of mass 69	0.39 (0.55)
127	40.00 - 60.00% of mass 198	41.04
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.91
275	10.00 - 30.00% of mass 198	22.61
365	Greater than 1.00% of mass 198	2.41
441	0.01 - 100.00% of mass 443	8.99 (76.62)
442	40.00 - 110.00% of mass 198	60.82
443	17.00 - 23.00% of mass 442	11.73 (19.28)

Data File: /chem/BNAMS3.i/625/07-19-99/19jul99.b/t5455.d

Date : 19-JUL-1999 08:31

Client ID:

Instrument: BNAMS3.i

Sample Info: TDFT200

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25

Data File: t5455.d

Spectrum: Average Spectrum: 6.166 to 6.179 min.

Location of Maximum: 198.00

Number of points: 260

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	741	115.00	276	184.00	784	265.00	3530
38.00	2111	116.00	1107	185.00	4433	266.00	688
39.00	10974	117.00	35848	186.00	30584	271.00	106
40.00	874	118.00	2185	187.00	8824	273.00	3864
41.00	1187	119.00	298	188.00	764	274.00	11525
42.00	123	120.00	438	189.00	2257	275.00	58712
43.00	987	121.00	126	190.00	279	276.00	8341
44.00	588	122.00	2970	191.00	1157	277.00	4991
45.00	307	123.00	4477	192.00	2882	278.00	753
49.00	502	124.00	2146	193.00	2859	281.00	104
50.00	36560	125.00	1460	194.00	683	282.00	101
51.00	127280	127.00	106544	195.00	122	283.00	629
52.00	6696	128.00	8757	196.00	4556	284.00	341
53.00	302	129.00	56400	198.00	259648	285.00	849
55.00	1605	130.00	4839	199.00	17944	292.00	244
56.00	5053	131.00	836	200.00	1413	293.00	1125
57.00	10192	132.00	425	201.00	478	294.00	119
58.00	681	134.00	1686	202.00	215	296.00	16992
60.00	115	135.00	4152	203.00	1890	297.00	2156
61.00	2032	136.00	1621	204.00	8995	302.00	172
62.00	1983	137.00	2243	205.00	14033	303.00	2105
63.00	5280	138.00	318	206.00	57600	304.00	332
64.00	857	139.00	277	207.00	8451	310.00	100
65.00	2202	140.00	931	208.00	2179	314.00	779
66.00	146	141.00	7509	209.00	716	315.00	1806
67.00	360	142.00	2340	210.00	1058	316.00	1010
69.00	182464	143.00	1745	211.00	2066	321.00	525
70.00	1012	144.00	411	213.00	115	322.00	114
71.00	372	145.00	423	215.00	826	323.00	5250
73.00	1740	146.00	1282	217.00	17720	324.00	838
74.00	14738	147.00	3202	218.00	2258	327.00	905
75.00	21968	148.00	8210	221.00	7006	328.00	500
76.00	7230	149.00	1601	222.00	676	332.00	275
77.00	130864	150.00	303	223.00	3566	333.00	366
78.00	9092	151.00	947	224.00	32456	334.00	3567

Data File: /chem/BNAMS3.i/625/07-19-99/19jul99.b/t5455.d

Date : 19-JUL-1999 08:31

Client ID:

Instrument: BNAMS3.i

Sample Info: TDFT200

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25

Data File: t5455.d

Spectrum: Average Spectrum: 6.166 to 6.179 min.

Location of Maximum: 198.00

Number of points: 260

m/z	Y	m/z	Y	m/z	Y	m/z	Y
79.00	11806	152.00	366	225.00	7461	335.00	763
80.00	8317	153.00	2164	227.00	14646	341.00	471
81.00	11393	154.00	1340	228.00	2035	346.00	883
82.00	2521	155.00	3420	229.00	2835	352.00	1306
83.00	2587	156.00	4964	230.00	330	353.00	888
84.00	638	157.00	968	231.00	1203	354.00	1413
85.00	2154	158.00	1246	233.00	320	355.00	125
86.00	3338	159.00	1247	234.00	1089	365.00	6247
87.00	1597	160.00	2180	235.00	1047	366.00	809
88.00	527	161.00	2811	236.00	699	370.00	104
89.00	338	162.00	865	237.00	1072	371.00	108
91.00	3125	163.00	102	239.00	587	372.00	2311
92.00	3026	164.00	151	240.00	512	373.00	597
93.00	22240	165.00	2688	241.00	896	383.00	666
94.00	1354	166.00	1920	242.00	1591	390.00	260
95.00	515	167.00	11917	244.00	24960	391.00	137
96.00	792	168.00	5377	245.00	3681	402.00	839
98.00	15397	169.00	918	246.00	5492	403.00	1410
99.00	10154	170.00	394	247.00	1042	404.00	321
100.00	714	171.00	458	249.00	959	421.00	1005
101.00	5402	172.00	1165	251.00	216	422.00	697
102.00	288	173.00	1598	252.00	141	423.00	8049
103.00	1949	174.00	2555	253.00	524	424.00	1535
104.00	3944	175.00	4588	255.00	135744	441.00	23328
105.00	3224	176.00	1230	256.00	19336	442.00	157888
107.00	39776	177.00	2310	257.00	1665	443.00	30448
108.00	5528	178.00	767	258.00	8209	444.00	2494
110.00	71552	179.00	10317	259.00	1297		
111.00	11099	180.00	6021	260.00	110		
112.00	1426	181.00	2717	261.00	129		
113.00	341	182.00	340	264.00	141		

Data File: /chem/BNAMS3.i/625/07-19-99/19jul99.b/t5455.d

Date : 19-JUL-1999 08:31

Client ID:

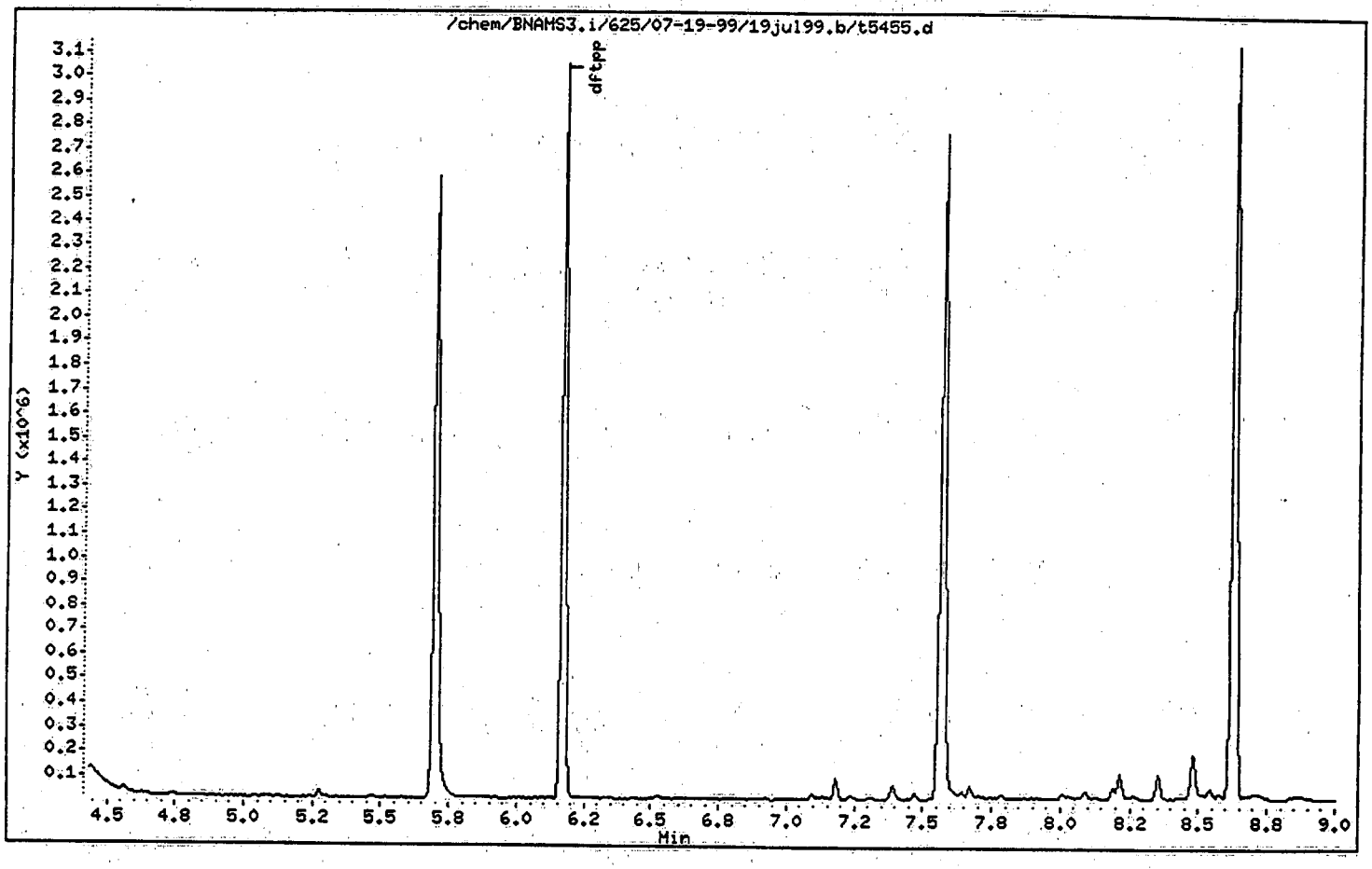
Instrument: BNAMS3.i

Sample Info: TDFT200

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25



SEMI-VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab File ID: T5619 DFTPP Injection Date: 07/26/99

Instrument ID: BNAMS3 DFTPP Injection Time: 0845

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	52.0
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	73.9
70	Less than 2.0% of mass 69	0.3 (0.5)1
127	40.0 - 60.0% of mass 198	44.6
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	7.2
275	10.0 - 30.0% of mass 198	22.4
365	Greater than 1.0% of mass 198	2.63
441	0.0 - 100.0% of mass 443	9.2 (76.8)2
442	40.0 - 110.0% of mass 198	62.0
443	17.0 - 23.0% of mass 442	12.0 (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	TSTD207	TSTD207	T5620	07/26/99	0903
02	WB205A	WB205A	T5628	07/26/99	1510
03					
04					
05					
06					
07					
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09					
10					
11					
12					
13					
14					
15					
16					
17					
18					

Data File: /chem/BNAMS3.i/625/07-19-99/26jul99.b/t5619.d

Date : 26-JUL-1999 08:45

Client ID:

Sample Info: TDFT207

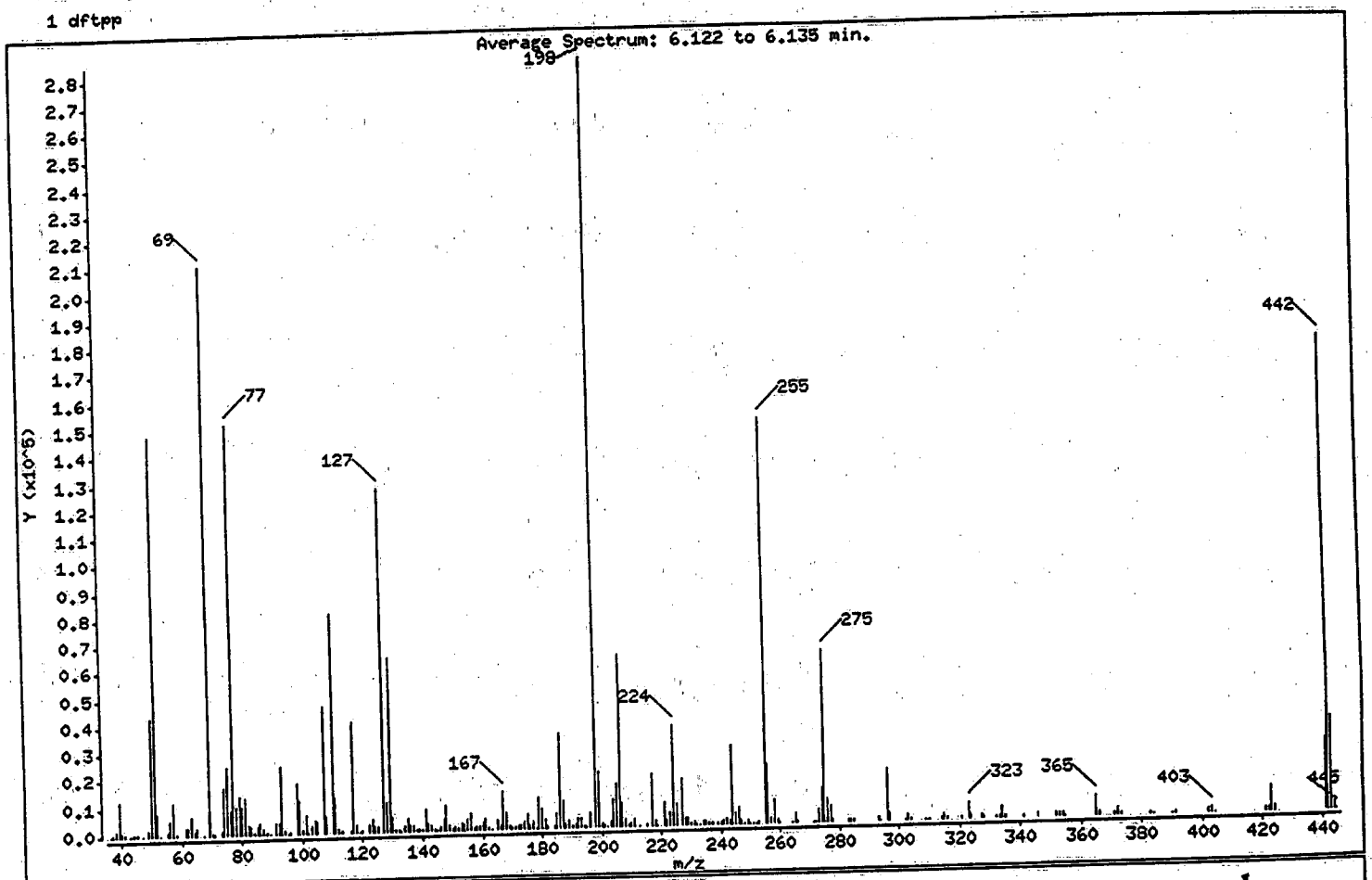
Instrument: BNAMS3.i

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	52.00
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Mass 69 relative abundance	73.95
70	Less than 2.00% of mass 69	0.33 (0.45)
127	40.00 - 60.00% of mass 198	44.57
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	7.17
275	10.00 - 30.00% of mass 198	22.39
365	Greater than 1.00% of mass 198	2.63
441	0.01 - 100.00% of mass 443	9.25 (76.84)
442	40.00 - 110.00% of mass 198	61.97
443	17.00 - 23.00% of mass 442	12.03 (19.42)

Data File: /chem/BNAMS3.i/625/07-19-99/26jul99.b/t5619.d

Date : 26-JUL-1999 08:45

Instrument: BNAMS3.i

Client ID:

Sample Info: TDFT207

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25

Data File: t5619.d

Spectrum: Average Spectrum: 6.122 to 6.135 min.

Location of Maximum: 198.00

Number of points: 260

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	107	117.00	40888	187.00	10062	264.00	185
37.00	708	118.00	2941	188.00	1026	265.00	3390
38.00	2020	119.00	289	189.00	2613	266.00	498
39.00	12174	120.00	527	190.00	376	271.00	276
40.00	1545	122.00	2863	191.00	1253	272.00	159
41.00	553	123.00	4591	192.00	3051	273.00	4620
43.00	149	124.00	2041	193.00	3540	274.00	12436
44.00	495	125.00	1670	194.00	708	275.00	63792
45.00	422	127.00	126984	195.00	276	276.00	8754
47.00	117	128.00	10373	196.00	5087	277.00	5570
49.00	1974	129.00	64320	198.00	284928	278.00	813
50.00	43496	130.00	5246	199.00	20440	283.00	552
51.00	148160	131.00	925	200.00	1351	284.00	521
52.00	7684	132.00	404	201.00	858	285.00	972
53.00	309	133.00	118	202.00	155	293.00	1093
55.00	1154	134.00	1948	203.00	2190	294.00	136
56.00	5398	135.00	4807	204.00	9771	296.00	18792
57.00	11524	136.00	1830	205.00	15870	297.00	2349
58.00	562	137.00	1986	206.00	63856	302.00	253
61.00	2378	138.00	394	207.00	8689	303.00	2228
62.00	2451	139.00	340	208.00	2355	304.00	496
63.00	6440	140.00	711	209.00	755	309.00	136
64.00	994	141.00	8127	210.00	1012	310.00	107
65.00	2520	142.00	2559	211.00	2505	314.00	751
67.00	261	143.00	1727	213.00	122	315.00	1812
69.00	210688	144.00	402	215.00	843	316.00	970
70.00	953	145.00	258	217.00	18952	321.00	619
71.00	139	146.00	1442	218.00	2121	323.00	5635
73.00	1543	147.00	3934	219.00	120	324.00	1090
74.00	17200	148.00	9160	221.00	8215	327.00	1149
75.00	25144	149.00	1781	222.00	1699	328.00	522
76.00	8471	150.00	330	223.00	4265	332.00	328
77.00	151808	151.00	1105	224.00	36496	333.00	466
78.00	9999	152.00	538	225.00	8052	334.00	3617
79.00	13744	153.00	2620	227.00	17176	335.00	925

Data File: /chem/BNAMS3.i/625/07-19-99/26jul99.b/t5619.d

Date : 26-JUL-1999 08:45

Client ID:

Instrument: BNAMS3.i

Sample Info: TDFT207

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25

Data File: t5619.d

Spectrum: Average Spectrum: 6.122 to 6.135 min.

Location of Maximum: 198.00

Number of points: 260

m/z	Y	m/z	Y	m/z	Y	m/z	Y
80.00	9866	154.00	1679	228.00	2517	341.00	643
81.00	12859	155.00	4118	229.00	2858	346.00	1074
82.00	3105	156.00	5856	230.00	361	352.00	1552
83.00	2718	157.00	805	231.00	1387	353.00	1074
84.00	697	158.00	1453	232.00	135	354.00	1590
85.00	2420	159.00	1005	233.00	110	355.00	166
86.00	4249	160.00	2614	234.00	1028	365.00	7502
87.00	1670	161.00	3730	235.00	1098	366.00	1018
88.00	555	162.00	888	236.00	634	371.00	354
89.00	153	163.00	110	237.00	872	372.00	2892
91.00	3627	165.00	3323	239.00	767	373.00	497
92.00	3829	166.00	1420	240.00	646	383.00	700
93.00	25144	167.00	13569	241.00	989	384.00	113
94.00	1476	168.00	5604	242.00	1666	390.00	267
95.00	300	169.00	1044	243.00	1239	391.00	328
96.00	672	170.00	544	244.00	28896	402.00	1257
98.00	18032	171.00	551	245.00	3688	403.00	1666
99.00	11858	172.00	1384	246.00	5906	404.00	304
100.00	1176	173.00	1507	247.00	1079	421.00	1158
101.00	6492	174.00	2788	248.00	123	422.00	1193
102.00	307	175.00	5000	249.00	1010	423.00	9328
103.00	2369	176.00	1311	250.00	107	424.00	1784
104.00	4815	177.00	2403	251.00	159	441.00	26344
105.00	4048	178.00	296	252.00	106	442.00	176512
107.00	46640	179.00	10975	253.00	590	443.00	34280
108.00	6007	180.00	6891	255.00	150208	444.00	2944
110.00	81000	181.00	3209	256.00	21680	445.00	104
111.00	12727	182.00	482	257.00	1785		
112.00	1518	184.00	963	258.00	8546		
113.00	481	185.00	5354	259.00	1355		
116.00	634	186.00	34848	260.00	203		

Data File: /chem/BNAMS3.i/625/07-19-99/26jul99.b/t5619.d

Date : 26-JUL-1999 08:45

Client ID:

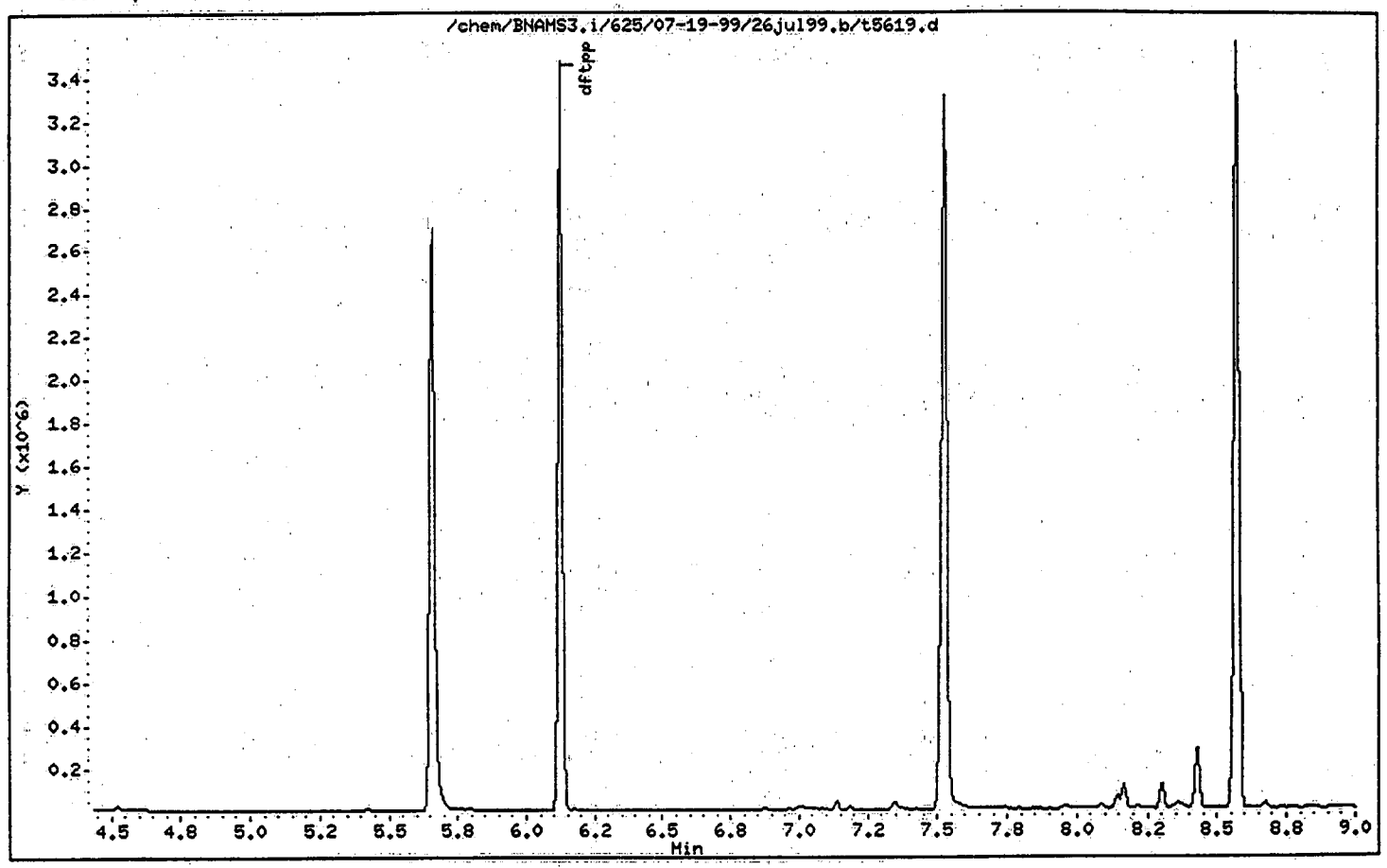
Instrument: BNAMS3.i

Sample Info: TDFT207

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25



SEMI-VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab File ID: T5655 DFTPP Injection Date: 07/27/99

Instrument ID: BNAMS3 DFTPP Injection Time: 1219

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	74.8
70	Less than 2.0% of mass 69	0.4 (0.5)1
127	40.0 - 60.0% of mass 198	45.5
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	19.5
365	Greater than 1.0% of mass 198	2.74
441	0.0 - 100.0% of mass 443	8.3 (83.0)2
442	40.0 - 110.0% of mass 198	51.4
443	17.0 - 23.0% of mass 442	10.0 (19.5)3

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

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

	CLIENT ID	LAB SAMPLE No.	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	TSTD050	TSTD050	T5656	07/27/99	1237
02	TSTD120	TSTD120	T5657	07/27/99	1323
03	TSTD080	TSTD080	T5658	07/27/99	1409
04	TSTD020	TSTD020	T5659	07/27/99	1454
05	TSTD010	TSTD010	T5660	07/27/99	1541
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					

Data File: /chem/BNAMS3.i/625/07-27-99/27jul99.b/t5655.d

Date : 27-JUL-1999 12:19

Client ID:

Instrument: BNAMS3.i

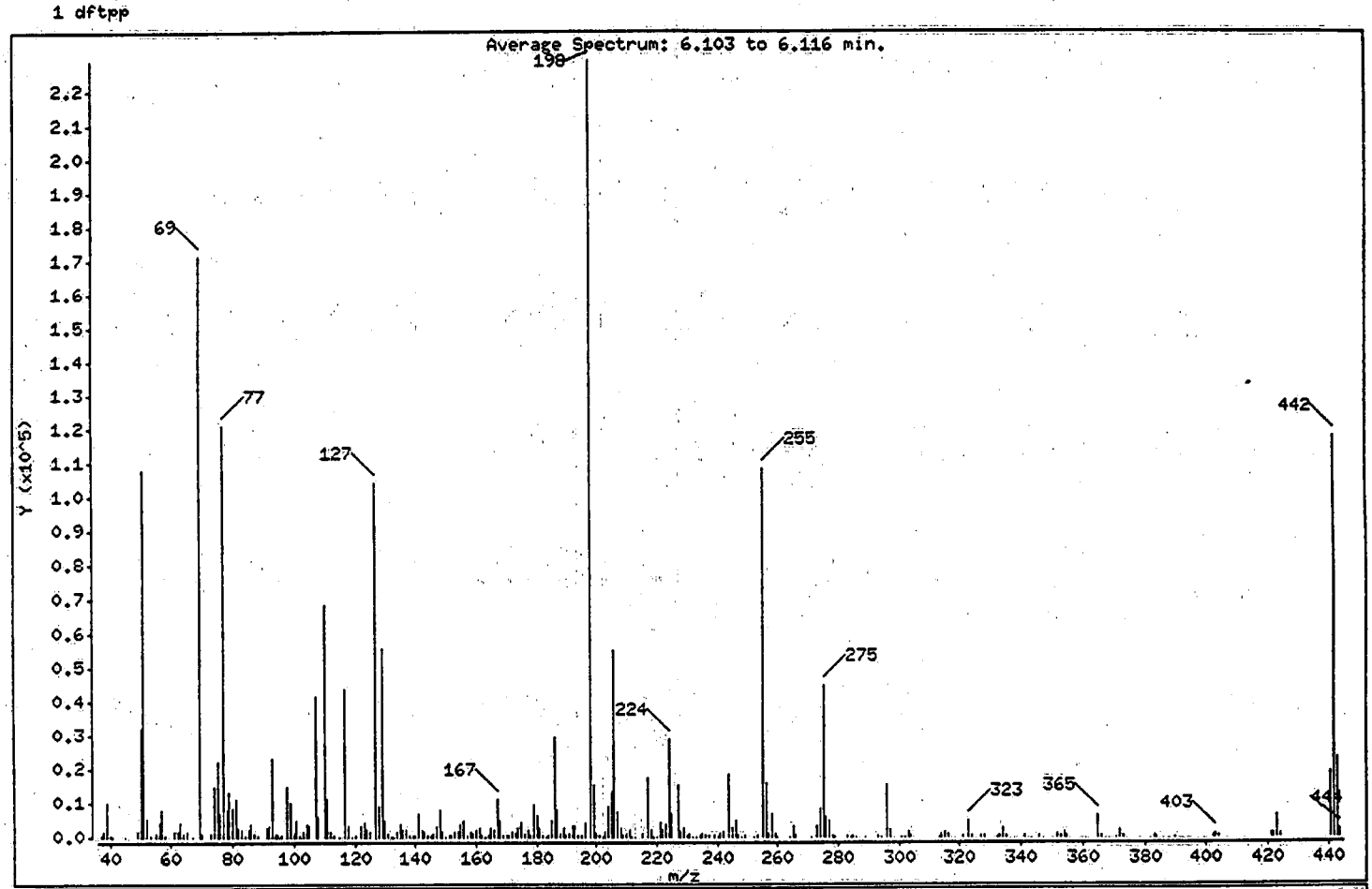
Sample Info: TDFT208

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	47.17
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Mass 69 relative abundance	74.83
70	Less than 2.00% of mass 69	0.36 (0.48)
127	40.00 - 60.00% of mass 198	45.53
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.75
275	10.00 - 30.00% of mass 198	19.55
365	Greater than 1.00% of mass 198	2.74
441	0.01 - 100.00% of mass 443	8.33 (83.02)
442	40.00 - 110.00% of mass 198	51.44
443	17.00 - 23.00% of mass 442	10.04 (19.52)

Data File: /chem/BNAMS3.i/625/07-27-99/27jul99.b/t5655.d

Date : 27-JUL-1999 12:19

Client ID:

Instrument: BNAMS3.i

Sample Info: TDFT208

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25

Data File: t5655.d

Spectrum: Average Spectrum: 6.103 to 6.116 min.

Location of Maximum: 198.00

Number of points: 255

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	702	122.00	2898	187.00	8018	260.00	132
38.00	1771	123.00	4415	188.00	863	264.00	154
39.00	10068	124.00	2222	189.00	2411	265.00	3065
40.00	300	125.00	1596	190.00	502	266.00	534
41.00	100	127.00	104280	191.00	1279	271.00	139
45.00	106	128.00	8760	192.00	3263	273.00	3205
49.00	1693	129.00	55800	193.00	2919	274.00	8645
50.00	32360	130.00	4950	194.00	617	275.00	44768
51.00	108032	131.00	794	195.00	518	276.00	5618
52.00	5289	132.00	119	196.00	4063	277.00	4636
53.00	272	133.00	226	198.00	228992	278.00	724
55.00	965	134.00	1533	199.00	15458	279.00	112
56.00	4024	135.00	3748	200.00	1239	283.00	388
57.00	7692	136.00	1876	201.00	556	284.00	217
58.00	303	137.00	1894	202.00	106	285.00	765
61.00	1514	138.00	400	203.00	1710	286.00	100
62.00	1726	139.00	264	204.00	8905	289.00	119
63.00	4443	140.00	699	205.00	13345	293.00	713
64.00	843	141.00	6932	206.00	55392	294.00	131
65.00	1721	142.00	2048	207.00	7211	296.00	15167
67.00	126	143.00	1375	208.00	2468	297.00	2048
69.00	171392	144.00	404	209.00	762	301.00	114
70.00	829	145.00	335	210.00	1013	302.00	134
73.00	1249	146.00	1058	211.00	1923	303.00	1428
74.00	14970	147.00	3342	212.00	100	304.00	362
75.00	22272	148.00	7944	213.00	216	313.00	110
76.00	7044	149.00	1382	215.00	911	314.00	840
77.00	121304	150.00	234	217.00	17184	315.00	1784
78.00	7715	151.00	585	218.00	1931	316.00	840
79.00	13146	152.00	392	219.00	125	321.00	332
80.00	8590	153.00	1784	220.00	111	323.00	4823
81.00	11131	154.00	1501	221.00	4004	324.00	542
82.00	2401	155.00	3518	222.00	1898	327.00	689
83.00	2067	156.00	4644	223.00	3473	328.00	410
84.00	269	157.00	768	224.00	28856	332.00	113

Data File: /chem/BNAMS3.i/625/07-27-99/27jul99.b/t5655.d

Date : 27-JUL-1999 12:19

Client ID:

Sample Info: TDFT208

Instrument: BNAMS3.i

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25

Data File: t5655.d

Spectrum: Average Spectrum: 6.103 to 6.116 min.

Location of Maximum: 198.00

Number of points: 255

m/z	Y	m/z	Y	m/z	Y	m/z	Y
85.00	2062	158.00	1441	225.00	6839	333.00	404
86.00	3939	159.00	916	227.00	15337	334.00	2437
87.00	1246	160.00	2025	228.00	1636	335.00	671
88.00	603	161.00	2376	229.00	2662	341.00	411
91.00	2647	162.00	653	230.00	351	346.00	719
92.00	3037	163.00	100	231.00	1107	352.00	1196
93.00	23064	164.00	279	232.00	138	353.00	778
94.00	1084	165.00	2704	233.00	260	354.00	1371
95.00	272	166.00	2084	234.00	779	355.00	267
96.00	740	167.00	11011	235.00	981	365.00	6267
98.00	15002	168.00	4866	236.00	557	366.00	690
99.00	10013	169.00	692	237.00	675	371.00	163
100.00	878	170.00	482	239.00	476	372.00	2164
101.00	4779	171.00	469	240.00	232	373.00	404
102.00	290	172.00	1319	241.00	952	383.00	527
103.00	1588	173.00	1297	242.00	1544	384.00	123
104.00	3599	174.00	2608	244.00	18376	390.00	172
105.00	3372	175.00	4146	245.00	2648	402.00	747
107.00	41632	176.00	960	246.00	4979	403.00	935
108.00	5991	177.00	2291	247.00	719	404.00	344
110.00	68432	178.00	633	248.00	100	421.00	806
111.00	10949	179.00	9226	249.00	772	422.00	799
112.00	1418	180.00	6126	252.00	261	423.00	6148
113.00	404	181.00	2843	253.00	703	424.00	1207
115.00	226	182.00	529	255.00	108456	441.00	19088
117.00	43456	183.00	116	256.00	15827	442.00	117824
118.00	2906	184.00	607	257.00	1171	443.00	22992
119.00	217	185.00	4621	258.00	6951	444.00	2197
120.00	365	186.00	29384	259.00	1072		

Data File: /chem/BNAMS3.i/625/07-27-99/27jul99.b/t5655.d

Date : 27-JUL-1999 12:19

Client ID:

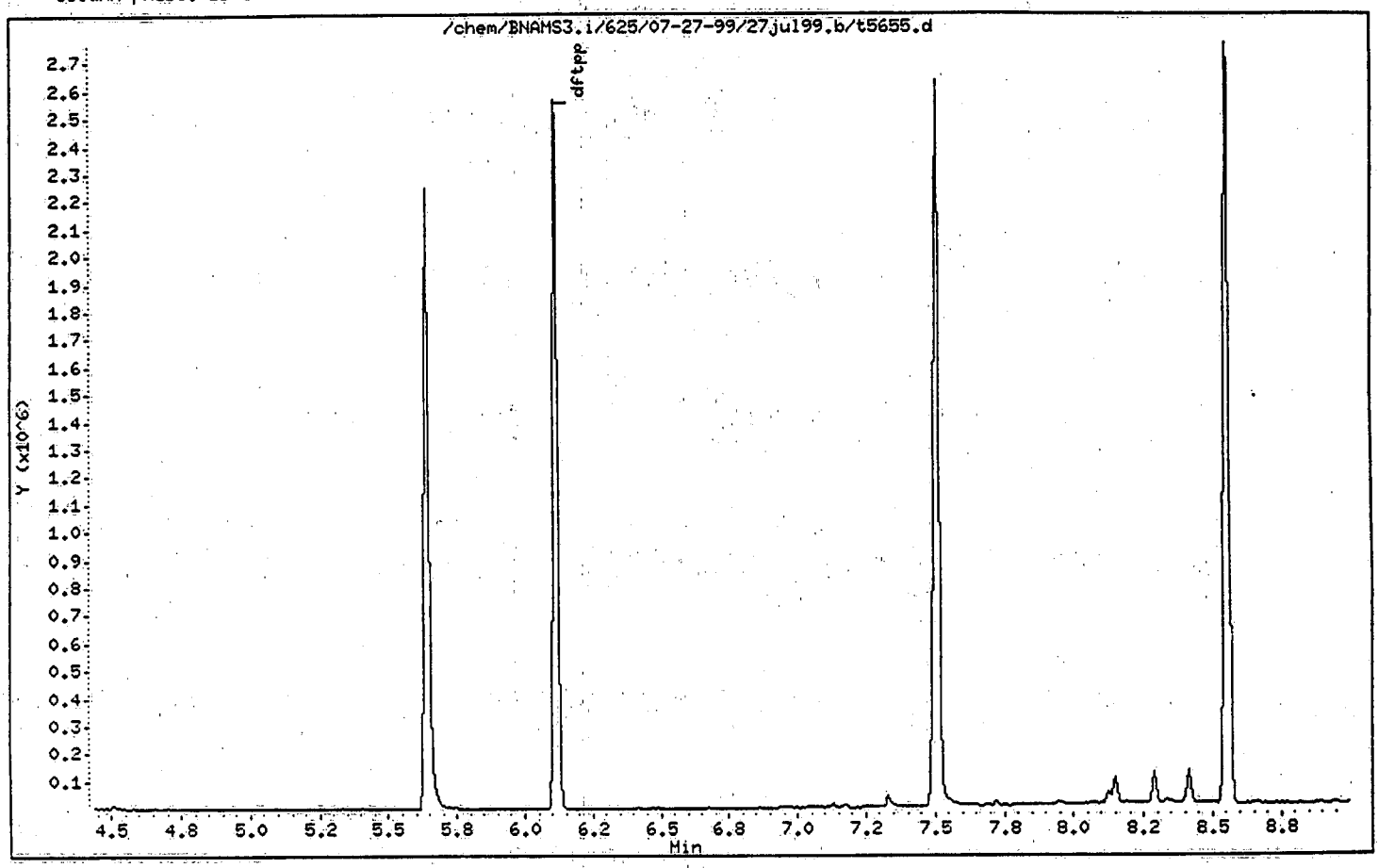
Instrument: BNAMS3.i

Sample Info: TDFT208

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25



SEMI-VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab File ID: T5778 DFTPP Injection Date: 08/02/99

Instrument ID: BNAMS3 DFTPP Injection Time: 0912

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	41.4
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	69.1
70	Less than 2.0% of mass 69	0.3 (0.5)1
127	40.0 - 60.0% of mass 198	44.4
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	6.9
275	10.0 - 30.0% of mass 198	20.3
365	Greater than 1.0% of mass 198	3.05
441	0.0 - 100.0% of mass 443	10.1 (86.3)2
442	40.0 - 110.0% of mass 198	62.1
443	17.0 - 23.0% of mass 442	11.8 (18.9)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	TSTD214	TSTD214	T5779	08/02/99	0931
02	MW11D	145555	T5792	08/02/99	1930
03	MW25R	145560	T5793	08/02/99	2016
04	MW11DD	145562	T5795	08/02/99	2147
05	FIELD_BLANK	145563	T5796	08/02/99	2233
06	TRIP_BLANK	145564	T5797	08/02/99	2319
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					

page 1 of 1

Data File: /chem/BNAMS3.i/625/07-27-99/02aug99.b/t5778.d

Date : 02-AUG-1999 09:12

Client ID:

Instrument: BNAMS3.i

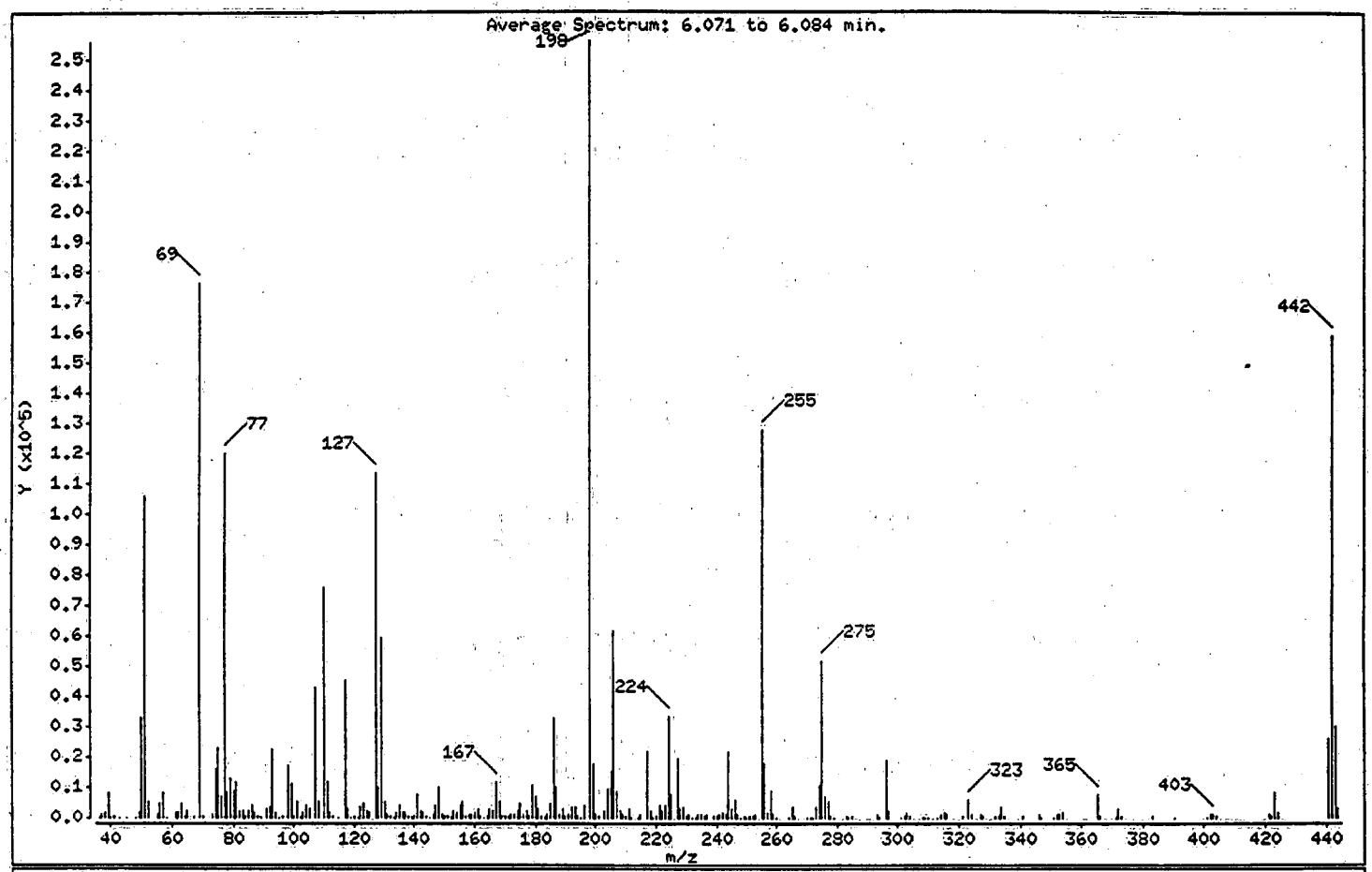
Sample Info: TDFT214

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	41.43
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Mass 69 relative abundance	69.07
70	Less than 2.00% of mass 69	0.33 (0.47)
127	40.00 - 60.00% of mass 198	44.39
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.87
275	10.00 - 30.00% of mass 198	20.26
365	Greater than 1.00% of mass 198	3.05
441	0.01 - 100.00% of mass 443	10.15 (86.32)
442	40.00 - 110.00% of mass 198	62.13
443	17.00 - 23.00% of mass 442	11.76 (18.92)

Data File: /chem/BNAMS3.i/625/07-27-99/02aug99.b/t5778.d

Date : 02-AUG-1999 09:12

Client ID:

Instrument: BNAMS3.i

Sample Info: TDFT214

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25

Data File: t5778.d

Spectrum: Average Spectrum: 6.071 to 6.084 min.

Location of Maximum: 198.00

Number of points: 265

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	112	121.00	176	189.00	2855	266.00	555
37.00	903	122.00	3368	190.00	540	270.00	103
38.00	2027	123.00	4640	191.00	1182	271.00	117
39.00	8458	124.00	2357	192.00	3484	272.00	219
40.00	209	125.00	1966	193.00	3513	273.00	3528
41.00	299	127.00	113520	194.00	755	274.00	10496
43.00	126	128.00	9743	195.00	150	275.00	51816
45.00	112	129.00	59496	196.00	4245	276.00	6876
48.00	123	130.00	5509	198.00	255744	277.00	5458
49.00	1763	131.00	1082	199.00	17568	278.00	770
50.00	32920	132.00	379	200.00	1291	279.00	107
51.00	105960	133.00	146	201.00	540	283.00	486
52.00	5142	134.00	1825	203.00	2116	284.00	258
55.00	1009	135.00	4381	204.00	9375	285.00	789
56.00	4438	136.00	1702	205.00	15226	293.00	1031
57.00	8353	137.00	2023	206.00	61616	294.00	252
58.00	235	138.00	332	207.00	8816	296.00	18784
61.00	1800	139.00	274	208.00	2470	297.00	2403
62.00	1698	140.00	773	209.00	992	301.00	114
63.00	4554	141.00	7789	210.00	857	302.00	296
64.00	676	142.00	2181	211.00	2754	303.00	1860
65.00	2131	143.00	1613	212.00	173	304.00	680
67.00	374	144.00	373	214.00	107	308.00	218
69.00	176576	145.00	173	215.00	1010	309.00	122
70.00	834	146.00	1419	217.00	21872	310.00	291
73.00	1209	147.00	3993	218.00	2479	313.00	150
74.00	15966	148.00	10198	219.00	209	314.00	895
75.00	22768	149.00	1336	220.00	320	315.00	2057
76.00	7106	150.00	341	221.00	4375	316.00	1174
77.00	120184	151.00	881	222.00	2333	321.00	711
78.00	8437	152.00	229	223.00	4109	323.00	5706
79.00	12891	153.00	2603	224.00	33560	324.00	1047
80.00	8833	154.00	1887	225.00	7847	327.00	1113
81.00	12012	155.00	4097	227.00	19536	328.00	483
82.00	2303	156.00	5448	228.00	2651	332.00	403

Data File: /chem/BNAMS3.i/625/07-27-99/02aug99.b/t5778.d

Date : 02-AUG-1999 09:12

Client ID:

Instrument: BNAMS3.i

Sample Info: TDFT214

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25

Data File: t5778.d

Spectrum: Average Spectrum: 6.071 to 6.084 min.

Location of Maximum: 198.00

Number of points: 265

m/z	Y	m/z	Y	m/z	Y	m/z	Y
83.00	2333	157.00	880	229.00	3664	333.00	514
84.00	483	158.00	1154	230.00	680	334.00	3268
85.00	2189	159.00	1057	231.00	1428	335.00	742
86.00	4329	160.00	2023	232.00	104	341.00	516
87.00	1520	161.00	2672	233.00	141	346.00	999
88.00	404	162.00	867	234.00	1159	347.00	129
89.00	150	163.00	133	235.00	1068	351.00	129
91.00	3046	164.00	308	236.00	767	352.00	1421
92.00	3411	165.00	3222	237.00	1115	353.00	1270
93.00	22464	166.00	2058	239.00	816	354.00	1548
94.00	1480	167.00	12039	240.00	574	365.00	7802
95.00	136	168.00	5540	241.00	969	366.00	747
96.00	708	169.00	855	242.00	1854	371.00	144
98.00	17000	170.00	407	243.00	943	372.00	2837
99.00	11047	171.00	425	244.00	21912	373.00	686
100.00	858	172.00	1453	245.00	2938	383.00	646
101.00	5069	173.00	1411	246.00	6168	390.00	156
102.00	175	174.00	2576	247.00	1232	401.00	109
103.00	2054	175.00	4739	248.00	106	402.00	967
104.00	4277	176.00	1025	249.00	813	403.00	1211
105.00	3096	177.00	2537	250.00	255	404.00	309
107.00	42760	178.00	617	251.00	304	421.00	1357
108.00	5016	179.00	10618	252.00	376	422.00	614
110.00	76128	180.00	6842	253.00	1019	423.00	8400
111.00	11851	181.00	3178	255.00	127840	424.00	1803
112.00	1511	182.00	538	256.00	17584	441.00	25952
113.00	405	183.00	114	257.00	1624	442.00	158848
115.00	125	184.00	1101	258.00	8656	443.00	30064
117.00	45312	185.00	4885	259.00	1164	444.00	2687
118.00	2947	186.00	32776	260.00	143		
119.00	240	187.00	9807	264.00	273		
120.00	384	188.00	1022	265.00	3640		

Data File: /chem/BNAMS3.i/625/07-27-99/02aug99.b/t5778.d

Date : 02-AUG-1999 09:12

Client ID:

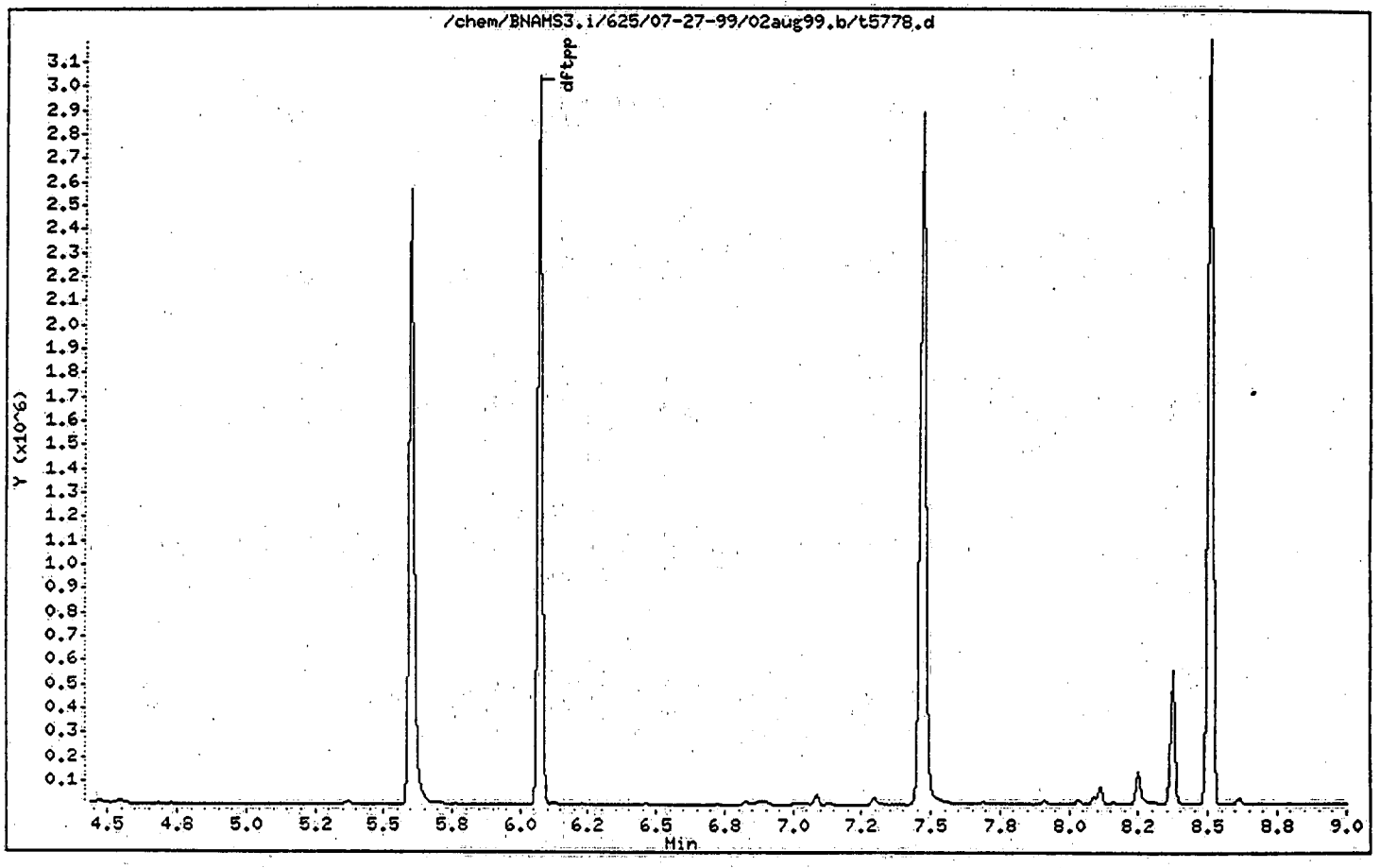
Instrument: BNAMS3.i

Sample Info: TDFT214

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25



SEMI-VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab File ID: T5807 DFTPP Injection Date: 08/03/99

Instrument ID: BNAMS3 DFTPP Injection Time: 0954

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	42.2
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	69.0
70	Less than 2.0% of mass 69	0.3 (0.4)1
127	40.0 - 60.0% of mass 198	42.5
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	20.9
365	Greater than 1.0% of mass 198	3.44
441	0.0 - 100.0% of mass 443	9.3 (79.0)2
442	40.0 - 110.0% of mass 198	58.2
443	17.0 - 23.0% of mass 442	11.8 (20.3)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	TSTD215	TSTD215	T5808	08/03/99	1014
02	MW21	145561	T5815	08/03/99	1557
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					

Data File: /chem/BNAMS3.i/625/07-27-99/03aug99.b/t5807.d

Date : 03-AUG-1999 09:54

Client ID:

Sample Info: TDFT215

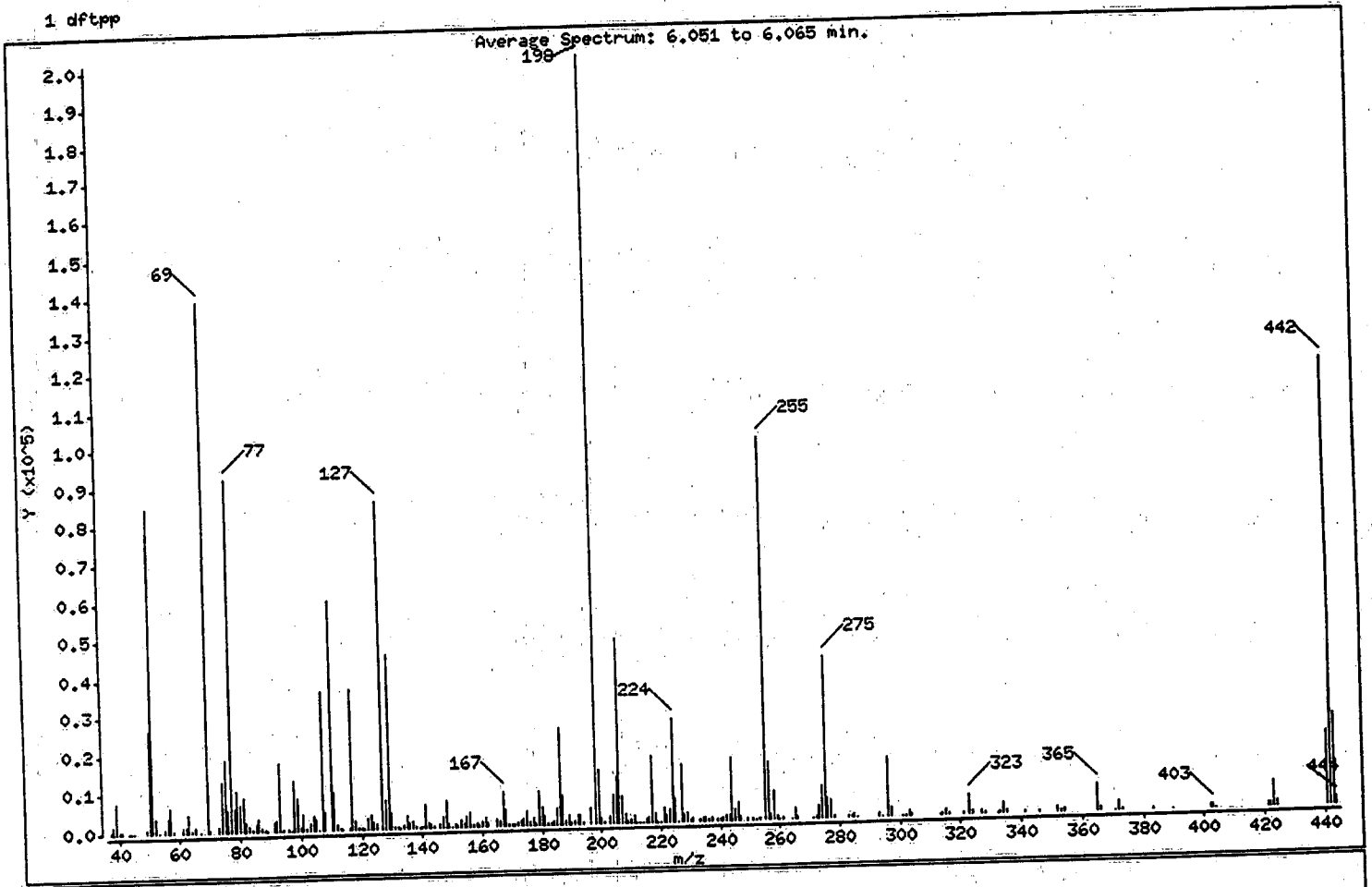
Instrument: BNAMS3.i

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	42.18
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Mass 69 relative abundance	69.03
70	Less than 2.00% of mass 69	0.31 (0.44)
127	40.00 - 60.00% of mass 198	42.53
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.85
275	10.00 - 30.00% of mass 198	20.91
365	Greater than 1.00% of mass 198	3.44
441	0.01 - 100.00% of mass 443	9.31 (78.99)
442	40.00 - 110.00% of mass 198	58.22
443	17.00 - 23.00% of mass 442	11.79 (20.25)

Data File: /chem/BNAMS3.i/625/07-27-99/03aug99.b/t5807.d

Date : 03-AUG-1999 09:54

Client ID:

Instrument: BNAMS3.i

Sample Info: TDFT215

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25

Data File: t5807.d

Spectrum: Average Spectrum: 6.051 to 6.065 min.

Location of Maximum: 198.00

Number of points: 257

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	426	117.00	36656	186.00	24856	259.00	909
38.00	1686	118.00	2275	187.00	7369	260.00	135
39.00	7853	119.00	255	188.00	851	261.00	234
40.00	650	120.00	312	189.00	2317	264.00	200
41.00	329	121.00	125	190.00	396	265.00	2878
43.00	224	122.00	2651	191.00	766	266.00	530
44.00	124	123.00	3544	192.00	2387	271.00	102
45.00	163	124.00	1894	193.00	2509	272.00	312
49.00	1108	125.00	1378	194.00	607	273.00	3087
50.00	26544	127.00	85792	196.00	3947	274.00	8204
51.00	85096	128.00	7297	198.00	201728	275.00	42192
52.00	3582	129.00	45576	199.00	13817	276.00	5267
53.00	101	130.00	4058	200.00	1292	277.00	4449
55.00	937	131.00	548	201.00	452	278.00	694
56.00	3681	132.00	340	203.00	1729	283.00	501
57.00	6536	133.00	101	204.00	7600	284.00	270
58.00	251	134.00	1148	205.00	12225	285.00	730
61.00	1293	135.00	3083	206.00	48424	286.00	124
62.00	1302	136.00	1422	207.00	6973	293.00	979
63.00	4437	137.00	1751	208.00	2321	294.00	136
64.00	273	138.00	327	209.00	451	296.00	15257
65.00	1269	139.00	114	210.00	1103	297.00	2302
67.00	186	140.00	590	211.00	1859	301.00	108
69.00	139200	141.00	6042	212.00	129	302.00	100
70.00	616	142.00	1494	213.00	118	303.00	1465
73.00	1185	143.00	1014	214.00	125	304.00	339
74.00	13105	144.00	323	215.00	827	313.00	136
75.00	18512	146.00	1153	216.00	1301	314.00	464
76.00	5776	147.00	2784	217.00	17064	315.00	1622
77.00	92488	148.00	6878	218.00	2285	316.00	690
78.00	6233	149.00	1119	219.00	216	321.00	404
79.00	10731	150.00	116	220.00	187	323.00	5051
80.00	7181	151.00	698	221.00	3482	324.00	854
81.00	8649	152.00	252	222.00	1829	327.00	953
82.00	2092	153.00	1775	223.00	3265	328.00	342

Data File: /chem/BNAMS3.i/625/07-27-99/03aug99.b/t5807.d

Date : 03-AUG-1999 09:54

Client ID:

Instrument: BNAMS3.i

Sample Info: TDFT215

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25

Data File: t5807.d

Spectrum: Average Spectrum: 6.051 to 6.065 min.

Location of Maximum: 198.00

Number of points: 257

m/z	Y	m/z	Y	m/z	Y	m/z	Y
83.00	1620	154.00	1028	224.00	26680	332.00	137
84.00	247	155.00	2816	225.00	6058	333.00	432
85.00	1631	156.00	3734	226.00	130	334.00	2767
86.00	3176	157.00	692	227.00	14805	335.00	697
87.00	754	158.00	969	228.00	2009	341.00	451
88.00	375	159.00	629	229.00	2482	346.00	680
89.00	104	160.00	1609	230.00	302	352.00	1323
91.00	2397	161.00	2358	231.00	773	353.00	633
92.00	2648	162.00	769	233.00	276	354.00	942
93.00	17624	165.00	2082	234.00	830	365.00	6935
94.00	624	166.00	1517	235.00	828	366.00	711
96.00	396	167.00	8971	236.00	597	371.00	126
97.00	135	168.00	4198	237.00	793	372.00	2494
98.00	12953	169.00	651	239.00	557	373.00	557
99.00	8451	170.00	365	240.00	332	383.00	393
100.00	732	171.00	430	241.00	784	390.00	148
101.00	4036	172.00	874	242.00	1370	402.00	893
102.00	324	173.00	1176	243.00	1476	403.00	942
103.00	1754	174.00	1972	244.00	16456	404.00	131
104.00	3516	175.00	3662	245.00	2571	421.00	1028
105.00	2673	176.00	863	246.00	4552	422.00	954
106.00	116	177.00	1752	247.00	925	423.00	6442
107.00	36168	178.00	379	249.00	461	424.00	1300
108.00	4688	179.00	8812	251.00	237	441.00	18784
110.00	59616	180.00	4726	252.00	174	442.00	117448
111.00	9861	181.00	2443	253.00	502	443.00	23784
112.00	1193	182.00	360	255.00	100296	444.00	1733
113.00	395	183.00	276	256.00	15063		
114.00	123	184.00	730	257.00	1303		
116.00	253	185.00	4047	258.00	7343		

Data File: /chem/BNAMS3.i/625/07-27-99/03aug99.b/t5807.d

Date : 03-AUG-1999 09:54

Client ID:

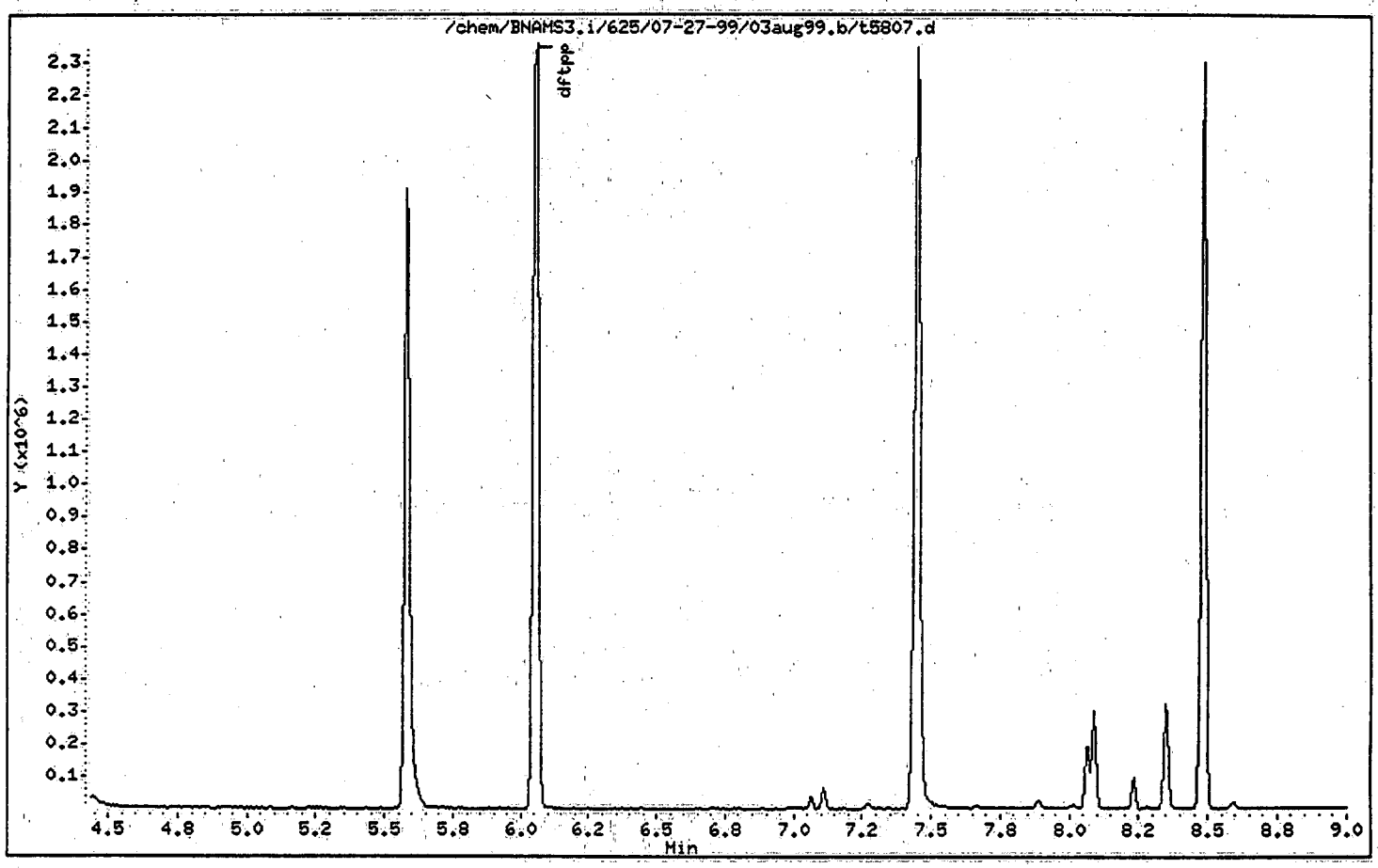
Instrument: BNAMS3.i

Sample Info: TDFT215

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25



SEMIVOLATILE METHOD BLANK SUMMARY

LAB SAMPLE NO.

WB205A

Matrix: WATER

Date Analyzed: 07/26/99

Level: LOW

Time Analyzed: 1510

Instrument ID: BNAMS3

Lab File ID: T5628

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

	CLIENT ID.	LAB SAMPLE NO	LAB FILE ID	DATE ANALYZED
01	MW11D	145555	T5792	08/02/99
02	MW25R	145560	T5793	08/02/99
03	MW11DD	145562	T5795	08/02/99
04	FIELD_BLANK	145563	T5796	08/02/99
05	TRIP_BLANK	145564	T5797	08/02/99
06	MW21	145561	T5815	08/03/99
07				
08				
09				
10				
11				
12				
13				
14				
15				
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17				
18				
19				
20				
21				
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23				
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26				
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28				
29				
30				

COMMENTS:

Client ID: **WB205A**
Site:

Lab Sample No: **WB205A**
Lab Job No: R704

Date Sampled: _____
Date Received: _____
Date Extracted: 07/24/99
Date Analyzed: 07/26/99
GC Column: DB-5
Instrument ID: BNAMS3.i
Lab File ID: t5628.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
Phenol	ND	2.0
2-Chlorophenol	ND	3.5
2-Methylphenol	ND	3.9
4-Methylphenol	ND	3.8
2-Nitrophenol	ND	3.9
2,4-Dimethylphenol	ND	3.3
2,4-Dichlorophenol	ND	3.2
4-Chloro-3-methylphenol	ND	3.8
2,4,6-Trichlorophenol	ND	3.6
2,4,5-Trichlorophenol	ND	3.8
2,4-Dinitrophenol	ND	3.7
4-Nitrophenol	ND	2.8
4,6-Dinitro-2-methylphenol	ND	5.0
Pentachlorophenol	ND	2.0
Benzoic Acid	ND	18
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

Client ID: **WB205A**
Site:

Lab Sample No: **WB205A**
Lab Job No: R704

Date Sampled: _____
Date Received: _____
Date Extracted: 07/24/99
Date Analyzed: 07/26/99
GC Column: DB-5
Instrument ID: BNAMS3.i
Lab File ID: t5628.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
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
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

Client ID: **WB205A**
Site:

Lab Sample No: **WB205A**
Lab Job No: R704

Date Sampled: _____
Date Received: _____
Date Extracted: 07/24/99
Date Analyzed: 07/26/99
GC Column: DB-5
Instrument ID: BNAMS3.i
Lab File ID: t5628.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
Aniline	ND	0.5
Benzyl Alcohol	ND	0.8
1,2-Diphenylhydrazine	ND	0.8
Diphenyl	ND	10
Diphenyl Ether	ND	10
Acetophenone	ND	10
N,N-Dimethylaniline	ND	10
1,4-Dioxane	ND	0.8
2,3,7,8-TCDD (screen)	ND	1.0
Benzaldehyde	ND	10
Caprolactum	ND	10
Atrazine	ND	10

Client ID: **WB205A**
Site:

Lab Sample No: **WB205A**
Lab Job No: R704

Date Sampled: _____
Date Received: _____
Date Extracted: 07/24/99
Date Analyzed: 07/26/99
GC Column: DB-5
Instrument ID: BNAMS3.i
Lab File ID: t5628.d

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

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

COMPOUND NAME	RT	EST. CONC. ug/l	Q
1. NO SEMI-VOLATILE ORGANIC COMPOUNDS FOUND			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
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28.			
29.			
30.			

TOTAL ESTIMATED CONCENTRATION 0.0

Data File: /chem/BNAMS3.i/625/07-19-99/26jul99.b/t5628.d
Report Date: 26-Jul-1999 16:02

STL Envirotech

SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS3.i/625/07-19-99/26jul99.b/t5628.d
Lab Smp Id: WB205A Client Smp ID: BNA
Inj Date : 26-JUL-1999 15:10
Operator : BNAMS 1 Inst ID: BNAMS3.i
Smp Info : WB205A;1000;2;1;;
Misc Info : ;BNA;;
Comment :
Method : /chem/BNAMS3.i/625/07-19-99/26jul99.b/BNA625b.m
Meth Date : 26-Jul-1999 09:43 B Quant Type: ISTD
Cal Date : 19-JUL-1999 12:10 Cal File: t5460.d
Als bottle: 9 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.40
Processing Host: hpd1

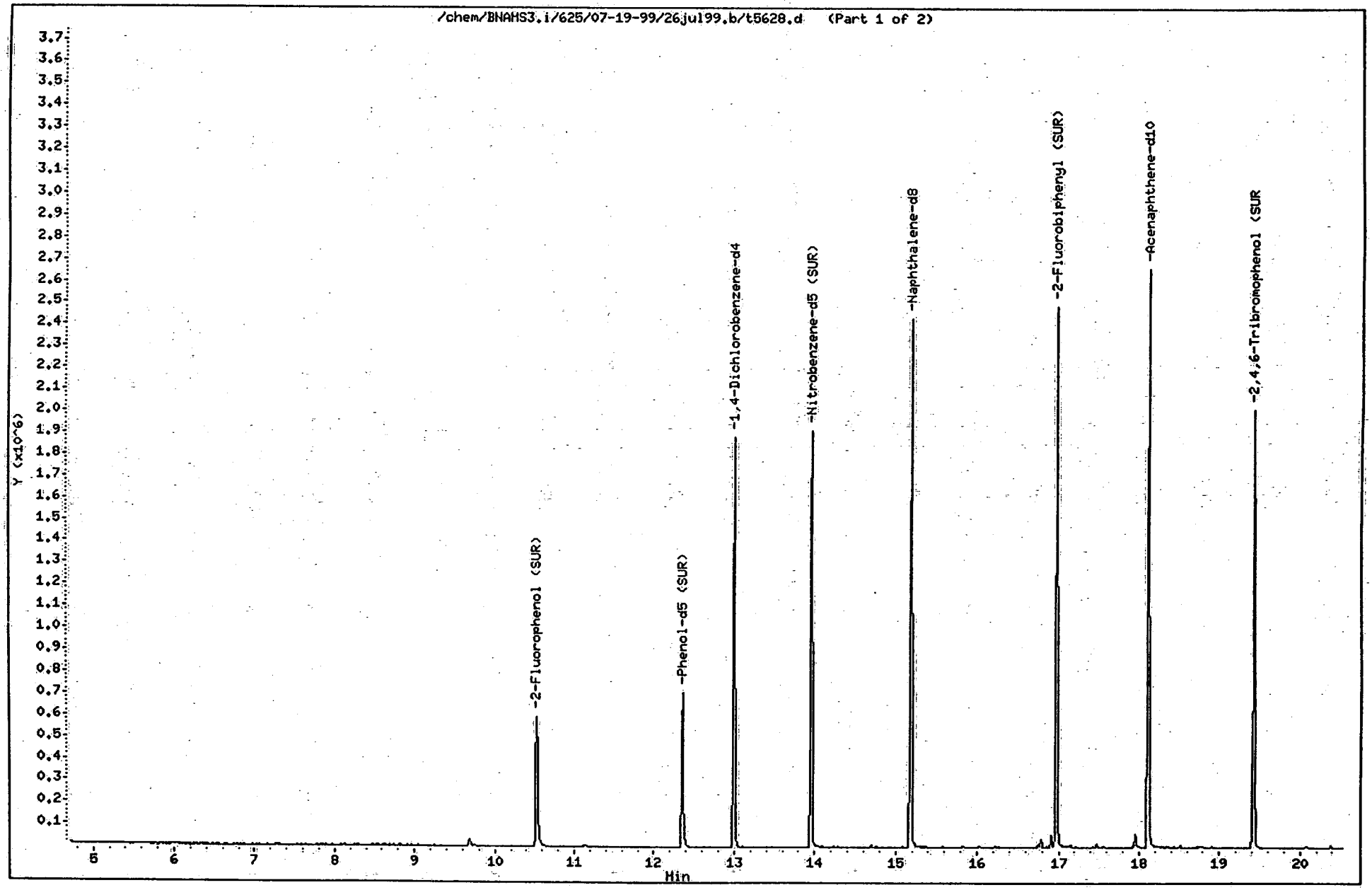
Concentration Formula: Amt * DF * 1000*Vt/Vo

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)
$ 16 2-Fluorophenol (SUR)	112	10.529	10.551	(0.810)	225270	17.8186	36
$ 17 Phenol-d5 (SUR)	99	12.356	12.388	(0.950)	289189	13.9515	28
* 79 1,4-Dichlorobenzene-d4	152	13.000	13.015	(1.000)	351662	40.0000	
$ 76 Nitrobenzene-d5 (SUR)	82	13.960	13.986	(0.919)	862278	33.2778	66
* 80 Naphthalene-d8	136	15.189	15.204	(1.000)	1316221	40.0000	
$ 77 2-Fluorobiphenyl (SUR)	172	16.976	16.991	(0.937)	865671	31.4319	63
* 82 Acenaphthene-d10	164	18.121	18.131	(1.000)	782027	40.0000	
$ 18 2,4,6-Tribromophenol (SUR)	330	19.422	19.446	(1.072)	267699	41.8631	84
* 83 Phenanthrene-d10	188	20.586	20.606	(1.000)	1509470	40.0000	
$ 78 Terphenyl-d14 (SUR)	244	23.208	23.217	(0.928)	1887889	40.0765	80
* 81 Chrysene-d12	240	25.003	25.036	(1.000)	1655288	40.0000	
* 84 Perylene-d12	264	28.523	28.551	(1.000)	1774992	40.0000	

Data File: /chem/BNAHS3.i/625/07-19-99/26jul99.b/t5628.d
Date : 26-JUL-1999 15:10
Client ID: BNA
Sample Info: WB205A;1000;2;1;;
Purge Volume: 1000.0
Column phase: DB-5

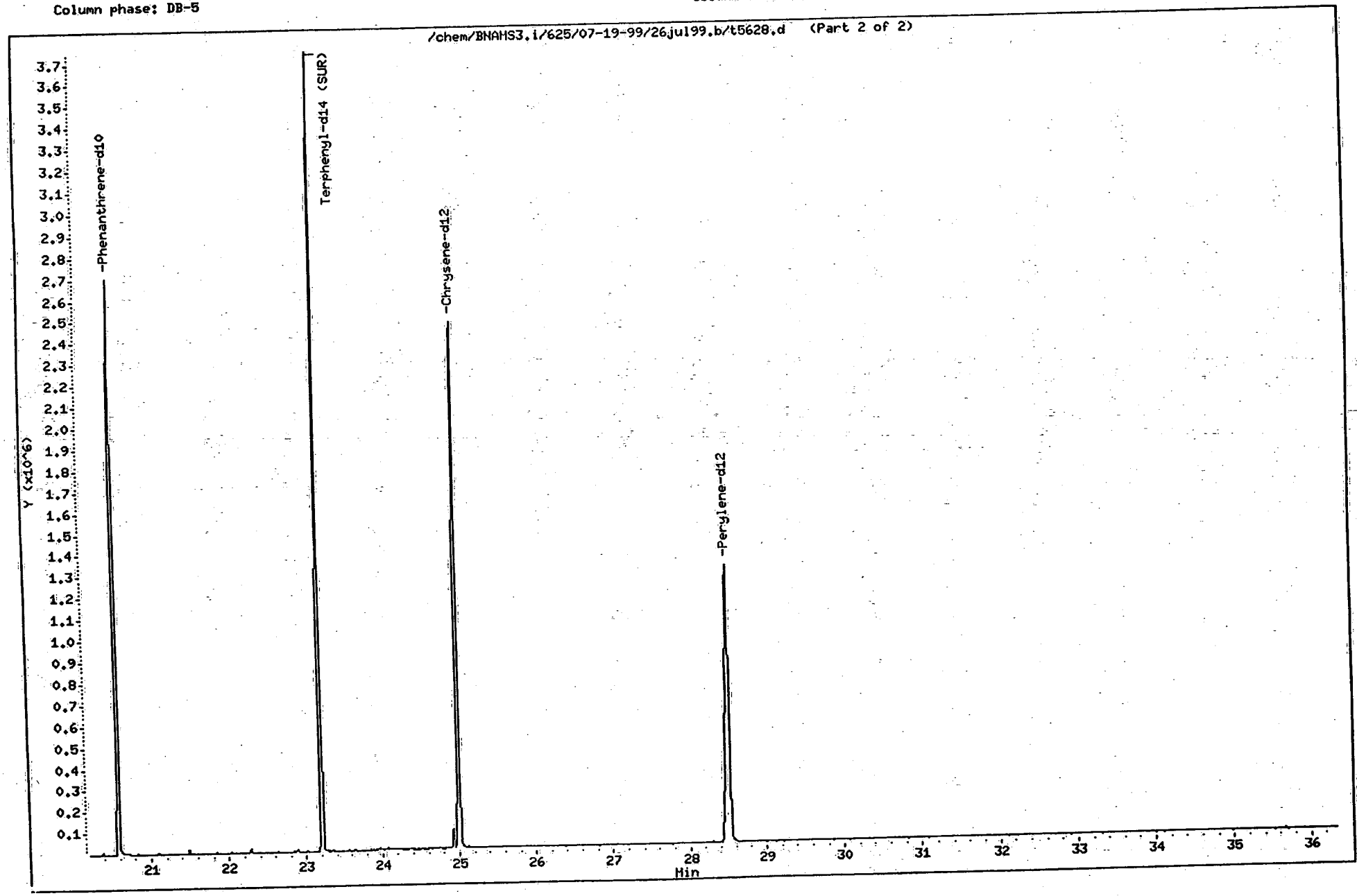
Instrument: BNAHS3.i
Operator: BNAHS 1
Column diameter: 0.53



Data File: /chem/BNAHS3.i/625/07-19-99/26jul99.b/t5628.d
Date : 26-JUL-1999 15:10
Client ID: BNA
Sample Info: WB205A;1000;2;1;;
Purge Volume: 1000.0
Column phase: DB-5

Instrument: BNAHS3.i

Operator: BNAHS 1
Column diameter: 0.53



SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA
METHOD 625

Instrument ID: BNAMS3 Calibration Date(s): 07/19/99 07/19/99

Calibration Time(s): 0854 1210

LAB FILE ID: RRF10: T5460 RRF20: T5459 RRF50: T5456
RRF80: T5458 RRF120: T5457

COMPOUND	RRF10	RRF20	RRF50	RRF80	RRF120
Phenol	2.913	2.816	2.381	2.198	1.987
2-Chlorophenol	1.653	1.598	1.488	1.392	1.268
2-Methylphenol	1.523	1.513	1.388	1.300	1.178
4-Methylphenol	1.517	1.431	1.243	1.180	1.143
2-Nitrophenol	0.275	0.273	0.244	0.226	0.203
2,4-Dimethylphenol	0.352	0.343	0.295	0.277	0.255
2,4-Dichlorophenol	0.394	0.388	0.346	0.332	0.318
4-Chloro-3-methylphenol	0.530	0.526	0.480	0.445	0.411
2,4,6-Trichlorophenol	0.504	0.509	0.476	0.456	0.464
2,4,5-Trichlorophenol	0.524	0.510	0.491	0.482	0.471
2,4-Dinitrophenol	0.241	0.276	0.294	0.287	0.294
4-Nitrophenol	0.538	0.560	0.559	0.545	0.542
4,6-Dinitro-2-methylphenol	0.183	0.184	0.180	0.176	0.174
Pentachlorophenol	0.203	0.211	0.229	0.219	0.222
Benzoic Acid	0.175	0.246	0.226	0.222	0.197
N-Nitrosodimethylamine	1.238	1.289	1.359	1.290	1.222
bis(2-Chloroethyl)ether	2.167	2.076	1.968	1.846	1.696
1,3-Dichlorobenzene	1.725	1.637	1.495	1.413	1.299
1,4-Dichlorobenzene	1.538	1.478	1.369	1.295	1.213
1,2-Dichlorobenzene	1.577	1.481	1.345	1.253	1.115
bis(2-chloroisopropyl)ether	3.785	3.532	3.163	2.783	2.356
N-Nitroso-di-n-propylamine	1.643	1.502	1.335	1.288	1.221
Hexachloroethane	0.767	0.718	0.705	0.659	0.605
Nitrobenzene	0.924	0.886	0.810	0.732	0.711
Isophorone	1.384	1.377	1.326	1.251	1.265
bis(2-Chloroethoxy)methane	0.738	0.701	0.644	0.588	0.553
1,2,4-Trichlorobenzene	0.402	0.387	0.358	0.339	0.323
Naphthalene	1.094	1.036	0.889	0.824	0.820
4-Chloroaniline	0.429	0.419	0.366	0.320	0.271
Hexachlorobutadiene	0.286	0.294	0.275	0.254	0.244
2-Methylnaphthalene	0.794	0.760	0.664	0.617	0.609
Hexachlorocyclopentadiene	0.322	0.354	0.438	0.385	0.407
2-Chloronaphthalene	1.334	1.284	1.166	1.087	1.083
2-Nitroaniline	0.778	0.778	0.713	0.655	0.645
Dimethylphthalate	1.784	1.747	1.604	1.508	1.507
Acenaphthylene	2.135	2.027	1.828	1.718	1.686
2,6-Dinitrotoluene	0.403	0.420	0.389	0.365	0.350
3-Nitroaniline	0.443	0.437	0.401	0.386	0.360
Acenaphthene	1.241	1.223	1.085	1.014	1.059

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

Instrument ID: BNAMS3 Calibration Date(s): 07/19/99 07/19/99

Calibration Time(s): 0854 1210

LAB FILE ID: RRF10: T5460 RRF20: T5459 RRF50: T5456
RRF80: T5458 RRF120: T5457

COMPOUND	RRF10	RRF20	RRF50	RRF80	RRF120
Dibenzofuran	1.889	1.792	1.580	1.481	1.502
2,4-Dinitrotoluene	0.581	0.584	0.543	0.518	0.498
Diethylphthalate	1.990	1.946	1.724	1.592	1.538
4-Chlorophenyl-phenylether	0.784	0.752	0.730	0.678	0.670
Fluorene	1.452	1.316	1.152	1.132	1.172
4-Nitroaniline	0.469	0.461	0.408	0.378	0.354
N-Nitrosodiphenylamine	0.609	0.570	0.515	0.482	0.474
4-Bromophenyl-phenylether	0.318	0.316	0.313	0.292	0.278
Hexachlorobenzene	0.351	0.340	0.336	0.312	0.296
Phenanthrene	1.194	1.105	1.036	1.017	1.011
Anthracene	1.183	1.095	1.001	0.961	0.945
Carbazole	1.201	1.117	0.978	0.926	0.907
Di-n-butylphthalate	1.912	1.782	1.530	1.402	1.344
Fluoranthene	1.432	1.376	1.282	1.208	1.171
Pyrene	1.440	1.380	1.230	1.255	1.175
Benzidine	0.567	0.624	0.559	0.486	0.416
Butylbenzylphthalate	0.926	0.897	0.727	0.718	0.672
3,3'-Dichlorobenzidine	0.558	0.545	0.470	0.376	0.313
Benzo(a)anthracene	1.324	1.288	1.251	1.242	1.180
Chrysene	1.182	1.193	1.153	1.136	1.066
bis(2-Ethylhexyl)phthalate	1.108	0.973	0.866	0.857	0.809
Di-n-octylphthalate	1.825	1.728	1.478	1.416	1.320
Benzo(b)fluoranthene	1.319	1.315	1.278	1.352	1.439
Benzo(k)fluoranthene	1.280	1.254	1.236	1.169	1.007
Benzo(a)pyrene	1.191	1.201	1.158	1.170	1.130
Indeno(1,2,3-cd)pyrene	1.133	1.174	1.178	1.240	1.188
Dibenz(a,h)anthracene	1.069	1.027	1.040	1.061	1.053
Benzo(g,h,i)perylene	1.192	1.189	1.167	1.151	1.128
Pyridine	1.890	1.822	1.969	1.843	1.824
Aniline	1.759	1.719	1.511	1.401	1.274
Benzyl Alcohol	1.057	1.072	1.016	1.002	0.920
1,2-Diphenylhydrazine	1.475	1.367	1.244	1.077	1.008
Diphenyl	1.632	1.517	1.388	1.324	1.337
Diphenyl Ether	0.890	0.869	0.766	0.732	0.725
Acetophenone	2.493	2.290	2.090	2.037	1.959
N,N-Dimethylaniline	1.924	1.759	1.453	1.407	1.316
1,4-Dioxane	0.724	0.697	0.705	0.714	0.674
2,3,7,8-TCDD (screen)			0.209		
Benzaldehyde					

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

Instrument ID: BNAMS3

Calibration Date(s): 07/19/99 07/19/99

Calibration Time(s): 0854 1210

LAB FILE ID: RRF10: T5460 RRF20: T5459 RRF50: T5456
RRF80: T5458 RRF120: T5457

COMPOUND	RRF10	RRF20	RRF50	RRF80	RRF120
Caprolactum	0.187	0.200	0.184	0.150	0.135
Atrazine	0.157	0.153	0.140	0.134	0.129
2-Fluorophenol (SUR)	1.458	1.502	1.493	1.426	1.312
Phenol-d5 (SUR)	2.511	2.502	2.421	2.283	2.071
2,4,6-Tribromophenol (SUR)	0.320	0.332	0.343	0.324	0.315
Nitrobenzene-d5 (SUR)	0.867	0.834	0.786	0.751	0.699
2-Fluorobiphenyl (SUR)	1.641	1.515	1.319	1.294	1.275
Terphenyl-d14 (SUR)	1.290	1.254	1.146	1.057	0.944

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

Instrument ID: BNAMS3 Calibration Date(s): 07/19/99 07/19/99

Calibration Time(s): 0854 1210

COMPOUND	CURVE	COEFFICENT A1	%RSD OR R^2
Phenol	AVRG	2.45906515	16.1*
2-Chlorophenol	AVRG	1.47980907	10.5*
2-Methylphenol	AVRG	1.38034195	10.6*
4-Methylphenol	AVRG	1.30294530	12.5*
2-Nitrophenol	AVRG	0.24420270	12.6*
2,4-Dimethylphenol	AVRG	0.30455874	13.8*
2,4-Dichlorophenol	AVRG	0.35535716	9.6*
4-Chloro-3-methylphenol	AVRG	0.47840979	10.7*
2,4,6-Trichlorophenol	AVRG	0.48165167	4.9*
2,4,5-Trichlorophenol	AVRG	0.49562595	4.3*
2,4-Dinitrophenol	AVRG	0.27841336	8.0**
4-Nitrophenol	AVRG	0.54877281	1.9**
4,6-Dinitro-2-methylphenol	AVRG	0.17944539	2.5*
Pentachlorophenol	AVRG	0.21705989	4.7*
Benzoic Acid	AVRG	0.21295159	12.9*
N-Nitrosodimethylamine	AVRG	1.27944238	4.2*
bis(2-Chloroethyl)ether	AVRG	1.95065528	9.5*
1,3-Dichlorobenzene	AVRG	1.51394715	11.3*
1,4-Dichlorobenzene	AVRG	1.37866420	9.6*
1,2-Dichlorobenzene	AVRG	1.35420430	13.5*
bis(2-chloroisopropyl)ether	AVRG	3.12384153	18.3*
N-Nitroso-di-n-propylamine	AVRG	1.39767610	12.3**
Hexachloroethane	AVRG	0.69078936	8.9*
Nitrobenzene	AVRG	0.81242645	11.4*
Isophorone	AVRG	1.32054024	4.6*
bis(2-Chloroethoxy)methane	AVRG	0.64496457	11.8*
1,2,4-Trichlorobenzene	AVRG	0.36157194	9.0*
Naphthalene	AVRG	0.93252845	13.5*
4-Chloroaniline	AVRG	0.36103198	18.4*
Hexachlorobutadiene	AVRG	0.27089047	7.8*
2-Methylnaphthalene	AVRG	0.68869759	12.2*
Hexachlorocyclopentadiene	AVRG	0.38144457	11.8**
2-Chloronaphthalene	AVRG	1.19081062	9.6*
2-Nitroaniline	AVRG	0.71396712	9.0*
Dimethylphthalate	AVRG	1.62991320	8.0*
Acenaphthylene	AVRG	1.87890435	10.4*
2,6-Dinitrotoluene	AVRG	0.38543383	7.3*
3-Nitroaniline	AVRG	0.40557350	8.6*
Acenaphthene	AVRG	1.12440822	9.0*

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

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

Instrument ID: BNAMS3

Calibration Date(s): 07/19/99 07/19/99

Calibration Time(s): 0854 1210

COMPOUND	CURVE	COEFFICENT A1	%RSD OR R^2
Dibenzofuran	AVRG	1.64894414	11.0*
2,4-Dinitrotoluene	AVRG	0.54492798	7.0*
Diethylphthalate	AVRG	1.75814155	11.6*
4-Chlorophenyl-phenylether	AVRG	0.72267263	6.7*
Fluorene	AVRG	1.24478372	11.0*
4-Nitroaniline	AVRG	0.41407526	12.1*
N-Nitrosodiphenylamine	AVRG	0.53023263	10.9*
4-Bromophenyl-phenylether	AVRG	0.30337376	5.9*
Hexachlorobenzene	AVRG	0.32715125	6.9*
Phenanthrene	AVRG	1.07284709	7.2*
Anthracene	AVRG	1.03708786	9.7*
Carbazole	AVRG	1.02550850	12.5*
Di-n-butylphthalate	AVRG	1.59412072	15.3*
Fluoranthene	AVRG	1.29368516	8.5*
Pyrene	AVRG	1.29591327	8.5*
Benzidine	AVRG	0.53055592	15.2*
Butylbenzylphthalate	AVRG	0.78816647	14.6*
3,3'-Dichlorobenzidine	AVRG	0.45250733	23.5*
Benzo(a)anthracene	AVRG	1.25718696	4.3*
Chrysene	AVRG	1.14607490	4.3*
bis(2-Ethylhexyl)phthalate	AVRG	0.92246494	13.0*
Di-n-octylphthalate	AVRG	1.55329164	13.8*
Benzo(b)fluoranthene	AVRG	1.34072810	4.5*
Benzo(k)fluoranthene	AVRG	1.18907003	9.2*
Benzo(a)pyrene	AVRG	1.16984528	2.4*
Indeno(1,2,3-cd)pyrene	AVRG	1.18281803	3.2*
Dibenz(a,h)anthracene	AVRG	1.04998489	1.6*
Benzo(g,h,i)perylene	AVRG	1.16524527	2.3*
Pyridine	AVRG	1.86952627	3.3*
Aniline	AVRG	1.53302770	13.5*
Benzyl Alcohol	AVRG	1.01345229	5.8*
1,2-Diphenylhydrazine	AVRG	1.23433441	15.8*
Diphenyl	AVRG	1.43971354	9.2**
Diphenyl Ether	AVRG	0.79628629	9.8**
Acetophenone	AVRG	2.17374698	10.0**
N,N-Dimethylaniline	AVRG	1.57173654	16.4**
1,4-Dioxane	AVRG	0.70288927	2.7**
2,3,7,8-TCDD (screen)	AVRG	0.20886788	0.0*
Benzaldehyde	AVRG		

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

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

Instrument ID: BNAMS3 Calibration Date(s): 07/19/99 07/19/99

Calibration Time(s): 0854 1210

COMPOUND	CURVE	COEFFICENT A1	%RSD OR R^2
Caprolactum	AVRG	0.17135894	16.0*
Atrazine	AVRG	0.14278839	8.5*
2-Fluorophenol (SUR)	AVRG	1.43801464	5.3*
Phenol-d5 (SUR)	AVRG	2.35774432	7.8*
2,4,6-Tribromophenol (SUR)	AVRG	0.32707946	3.4*
Nitrobenzene-d5 (SUR)	AVRG	0.78745138	8.4*
2-Fluorobiphenyl (SUR)	AVRG	1.40870416	11.5*
Terphenyl-d14 (SUR)	AVRG	1.13834212	12.5*

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

SEMIVOLATILE ORGANICS CONTINUING CALIBRATION CHECK
METHOD 625

Instrument ID: BNAMS3 Calibration Date: 07/26/99 Time: 0903

Lab File ID: T5620 Init. Calib. Date(s): 07/19/99 07/19/99

Init. Calib. Times: 0854 1210

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Phenol	2.459	2.476		0.1	20.0
2-Chlorophenol	1.480	1.562		-5.5	20.0
2-Methylphenol	1.380	1.436		-4.0	
4-Methylphenol	1.303	1.226		5.9	
2-Nitrophenol	0.244	0.242		0.8	20.0
2,4-Dimethylphenol	0.304	0.296		2.6	20.0
2,4-Dichlorophenol	0.356	0.337		5.3	20.0
4-Chloro-3-methylphenol	0.478	0.464		2.9	20.0
2,4,6-Trichlorophenol	0.482	0.467		3.1	20.0
2,4,5-Trichlorophenol	0.496	0.479		3.4	
2,4-Dinitrophenol	0.278	0.299	0.05	-7.4	20.0
4-Nitrophenol	0.549	0.578	0.05	-5.1	20.0
4,6-Dinitro-2-methylphenol	0.179	0.184		-2.6	20.0
Pentachlorophenol	0.217	0.239		-10.1	20.0
Benzoic Acid	0.213	0.258		-21.1	
N-Nitrosodimethylamine	1.280	1.490		-16.4	20.0
bis(2-Chloroethyl)ether	1.951	2.100		-7.6	20.0
1,3-Dichlorobenzene	1.514	1.519		-0.0	20.0
1,4-Dichlorobenzene	1.379	1.374		0.4	20.0
1,2-Dichlorobenzene	1.354	1.363		0.1	20.0
bis(2-chloroisopropyl)ether	3.124	3.443		-10.2	20.0
N-Nitroso-di-n-propylamine	1.398	1.384	0.5	1.0	20.0
Hexachloroethane	0.691	0.732		-5.9	20.0
Nitrobenzene	0.813	0.807		0.7	20.0
Isophorone	1.321	1.332		0.1	20.0
bis(2-Chloroethoxy)methane	0.645	0.647		-0.0	20.0
1,2,4-Trichlorobenzene	0.362	0.338		6.6	20.0
Naphthalene	0.933	0.881		5.6	20.0
4-Chloroaniline	0.361	0.360		0.3	
Hexachlorobutadiene	0.271	0.263		3.0	20.0
2-Methylnaphthalene	0.689	0.626		9.1	
Hexachlorocyclopentadiene	0.381	0.432	0.05	-13.2	20.0
2-Chloronaphthalene	1.191	1.138		4.4	20.0
2-Nitroaniline	0.714	0.737		-3.2	
Dimethylphthalate	1.630	1.637		-0.0	20.0
Acenaphthylene	1.879	1.843		1.9	20.0
2,6-Dinitrotoluene	0.385	0.390		-1.1	20.0

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

Instrument ID: BNAMS3 Calibration Date: 07/26/99 Time: 0903

Lab File ID: T5620 Init. Calib. Date(s): 07/19/99 07/19/99

Init. Calib. Times: 0854 1210

COMPOUND	RRF	RRF50	MIN RRF	%D	MAX %D
3-Nitroaniline	0.405	0.410		-1.2	
Acenaphthene	1.124	1.085		3.5	20.0
Dibenzofuran	1.649	1.518		7.9	
2,4-Dinitrotoluene	0.545	0.544		0.2	20.0
Diethylphthalate	1.758	1.697		3.5	20.0
4-Chlorophenyl-phenylether	0.723	0.706		2.4	20.0
Fluorene	1.245	1.110		10.8	20.0
4-Nitroaniline	0.414	0.424		-2.4	
N-Nitrosodiphenylamine	0.530	0.509		4.0	20.0
4-Bromophenyl-phenylether	0.303	0.307		-1.3	20.0
Hexachlorobenzene	0.327	0.334		-2.1	20.0
Phenanthrene	1.073	1.032		3.8	20.0
Anthracene	1.037	1.001		3.5	20.0
Carbazole	1.026	0.984		4.1	
Di-n-butylphthalate	1.594	1.546		3.0	20.0
Fluoranthene	1.294	1.247		3.6	20.0
Pyrene	1.296	1.230		5.1	20.0
Benzidine	0.530	0.532		-0.0	
Butylbenzylphthalate	0.788	0.754		4.3	20.0
3,3'-Dichlorobenzidine	0.452	0.478		-5.6	20.0
Benzo(a)anthracene	1.257	1.247		0.8	20.0
Chrysene	1.146	1.159		-1.1	20.0
bis(2-Ethylhexyl)phthalate	0.923	0.868		6.0	20.0
Di-n-octylphthalate	1.553	1.522		2.0	20.0
Benzo(b)fluoranthene	1.341	1.342		-0.0	20.0
Benzo(k)fluoranthene	1.189	1.231		-3.5	20.0
Benzo(a)pyrene	1.170	1.196		-2.2	20.0
Indeno(1,2,3-cd)pyrene	1.183	1.231		-4.0	20.0
Dibenz(a,h)anthracene	1.050	1.052		-0.0	20.0
Benzo(g,h,i)perylene	1.165	1.193		-2.4	20.0
Pyridine	1.870	2.027		-8.2	
Aniline	1.533	1.576		-2.8	
Benzyl Alcohol	1.013	1.083		-6.9	
1,2-Diphenylhydrazine	1.234	1.320		-6.8	
Diphenyl	1.440	1.382	0.001	4.0	20.0
Diphenyl Ether	0.796	0.746	0.001	6.3	20.0
Acetophenone	2.174	2.087	0.001	4.0	20.0

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

Instrument ID: BNAMS3 Calibration Date: 07/26/99 Time: 0903

Lab File ID: T5620 Init. Calib. Date(s): 07/19/99 07/19/99

Init. Calib. Times: 0854 1210

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
N,N-Dimethylaniline	1.572	1.492	0.001	5.1	20.0
1,4-Dioxane	0.703	0.819	0.001	-16.5	20.0
2,3,7,8-TCDD (screen)	0.209	0.176		15.8	20.0
Benzaldehyde					20.0
Caprolactum	0.171	0.184		-7.6	20.0
Atrazine	0.143	0.135		5.6	20.0
2-Fluorophenol (SUR)	1.438	1.561		-8.4	
Phenol-d5 (SUR)	2.358	2.546		-7.8	
2,4,6-Tribromophenol (SUR)	0.327	0.334		-2.1	20.0
Nitrobenzene-d5 (SUR)	0.787	0.796		-1.1	
2-Fluorobiphenyl (SUR)	1.409	1.315		6.7	
Terphenyl-d14 (SUR)	1.138	1.135		0.3	

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA
METHOD 625

Instrument ID: BNAMS3

Calibration Date(s): 07/27/99 07/27/99

Calibration Time(s): 1237 1541

LAB FILE ID: RRF10: T5660 RRF20: T5659 RRF50: T5656
RRF80: T5658 RRF120: T5657

COMPOUND	RRF10	RRF20	RRF50	RRF80	RRF120
Phenol	2.930	2.670	2.139	1.707	1.479
2-Chlorophenol	1.814	1.724	1.583	1.481	1.341
2-Methylphenol	1.912	1.833	1.584	1.470	1.282
4-Methylphenol	1.837	1.641	1.146	0.960	1.026
2-Nitrophenol	0.250	0.258	0.236	0.205	0.182
2,4-Dimethylphenol	0.400	0.387	0.354	0.309	0.279
2,4-Dichlorophenol	0.354	0.355	0.323	0.276	0.246
4-Chloro-3-methylphenol	0.544	0.529	0.496	0.449	0.396
2,4,6-Trichlorophenol	0.504	0.505	0.475	0.416	0.387
2,4,5-Trichlorophenol	0.498	0.541	0.483	0.431	0.392
2,4-Dinitrophenol	0.246	0.283	0.271	0.253	0.253
4-Nitrophenol	0.548	0.545	0.523	0.504	0.499
4,6-Dinitro-2-methylphenol	0.201	0.190	0.177	0.165	0.152
Pentachlorophenol	0.175	0.166	0.161	0.155	0.157
Benzoic Acid	0.207	0.232	0.229	0.234	0.212
N-Nitrosodimethylamine	1.464	1.422	1.605	1.549	1.497
bis(2-Chloroethyl)ether	2.236	2.176	1.943	1.775	1.601
1,3-Dichlorobenzene	1.855	1.757	1.503	1.396	1.216
1,4-Dichlorobenzene	1.791	1.706	1.460	1.296	1.110
1,2-Dichlorobenzene	1.777	1.639	1.380	1.229	0.983
bis(2-chloroisopropyl)ether	2.824	2.593	2.312	2.022	1.694
N-Nitroso-di-n-propylamine	1.844	1.626	1.378	1.264	1.286
Hexachloroethane	0.988	0.918	0.872	0.817	0.741
Nitrobenzene	0.920	0.854	0.783	0.686	0.657
Isophorone	1.258	1.227	1.227	1.127	1.124
bis(2-Chloroethoxy)methane	0.661	0.623	0.564	0.483	0.428
1,2,4-Trichlorobenzene	0.411	0.386	0.351	0.310	0.283
Naphthalene	1.156	1.064	0.940	0.781	0.701
4-Chloroaniline	0.491	0.481	0.456	0.383	0.348
Hexachlorobutadiene	0.257	0.256	0.242	0.222	0.217
2-Methylnaphthalene	0.779	0.727	0.618	0.515	0.490
Hexachlorocyclopentadiene	0.237	0.300	0.357	0.349	0.344
2-Chloronaphthalene	1.329	1.355	1.116	0.947	0.862
2-Nitroaniline	0.695	0.719	0.672	0.612	0.557
Dimethylphthalate	1.885	1.866	1.644	1.450	1.332
Acenaphthylene	2.040	2.016	1.659	1.400	1.281
2,6-Dinitrotoluene	0.431	0.440	0.407	0.355	0.326
3-Nitroaniline	0.440	0.430	0.421	0.388	0.351
Acenaphthene	1.302	1.268	1.041	0.924	0.892

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

Instrument ID: BNAMS3 Calibration Date(s): 07/27/99 07/27/99

Calibration Time(s): 1237 1541

LAB FILE ID: RRF10: T5660 RRF20: T5659 RRF50: T5656
RRF80: T5658 RRF120: T5657

COMPOUND	RRF10	RRF20	RRF50	RRF80	RRF120
Dibenzofuran	1.836	1.821	1.501	1.277	1.144
2,4-Dinitrotoluene	0.609	0.616	0.549	0.504	0.426
Diethylphthalate	1.906	1.879	1.627	1.456	1.349
4-Chlorophenyl-phenylether	0.841	0.822	0.659	0.622	0.661
Fluorene	1.476	1.421	1.134	0.960	1.011
4-Nitroaniline	0.445	0.452	0.424	0.378	0.324
N-Nitrosodiphenylamine	0.560	0.519	0.422	0.365	0.335
4-Bromophenyl-phenylether	0.255	0.242	0.214	0.202	0.199
Hexachlorobenzene	0.273	0.260	0.234	0.217	0.218
Phenanthrene	1.177	1.085	0.894	0.814	0.806
Anthracene	1.196	1.100	0.900	0.815	0.806
Carbazole	1.080	0.994	0.850	0.742	0.653
Di-n-butylphthalate	1.784	1.592	1.339	1.170	1.117
Fluoranthene	1.514	1.425	1.222	1.116	1.095
Pyrene	1.553	1.534	1.367	1.321	1.265
Benzidine	0.272	0.368	0.305	0.235	0.152
Butylbenzylphthalate	0.828	0.812	0.765	0.685	0.656
3,3'-Dichlorobenzidine	0.495	0.463	0.465	0.414	0.295
Benzo(a)anthracene	1.330	1.301	1.190	1.154	1.145
Chrysene	1.246	1.212	1.129	1.102	1.110
bis(2-Ethylhexyl)phthalate	1.166	1.055	0.918	0.963	0.975
Di-n-octylphthalate	2.362	2.255	2.030	1.799	1.690
Benzo(b)fluoranthene	1.529	1.498	1.467	1.440	1.549
Benzo(k)fluoranthene	1.537	1.437	1.337	1.235	1.049
Benzo(a)pyrene	1.421	1.425	1.348	1.306	1.240
Indeno(1,2,3-cd)pyrene	1.332	1.381	1.459	1.448	1.479
Dibenz(a,h)anthracene	1.294	1.365	1.318	1.250	1.243
Benzo(g,h,i)perylene	1.398	1.423	1.512	1.439	1.427
Pyridine	2.254	2.166	2.393	2.294	2.209
Aniline	2.969	2.786	2.256	1.891	1.576
Benzyl Alcohol	1.369	1.364	1.233	1.150	0.978
1,2-Diphenylhydrazine	1.392	1.290	1.127	0.950	0.844
Diphenyl	1.706	1.641	1.302	1.147	1.127
Diphenyl Ether	0.896	0.870	0.722	0.619	0.582
Acetophenone	2.945	2.593	2.026	1.934	1.995
N,N-Dimethylaniline	2.521	2.320	1.800	1.565	1.331
1,4-Dioxane	0.753	0.682	0.789	0.788	0.756
2,3,7,8-TCDD (screen)			0.189		
Benzaldehyde					

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

Instrument ID: BNAMS3

Calibration Date(s): 07/27/99 07/27/99

Calibration Time(s): 1237 1541

LAB FILE ID: RRF10: T5660 RRF20: T5659 RRF50: T5656
RRF80: T5658 RRF120: T5657

COMPOUND	RRF10	RRF20	RRF50	RRF80	RRF120
Caprolactum	0.202	0.214	0.212	0.190	0.173
Atrazine	0.154	0.134	0.111	0.102	0.096
2-Fluorophenol (SUR)	1.840	1.839	1.827	1.810	1.682
Phenol-d5 (SUR)	2.757	2.719	2.477	2.265	1.890
2,4,6-Tribromophenol (SUR)	0.308	0.313	0.296	0.293	0.283
Nitrobenzene-d5 (SUR)	0.656	0.658	0.634	0.581	0.540
2-Fluorobiphenyl (SUR)	1.435	1.425	1.162	1.006	0.956
Terphenyl-d14 (SUR)	1.087	1.055	0.953	0.951	0.939

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

Instrument ID: BNAMS3

Calibration Date(s): 07/27/99 07/27/99

Calibration Time(s): 1237 1541

COMPOUND	CURVE	COEFFICENT A1	%RSD OR R^2
Phenol	AVRG	2.18474736	28.2*
2-Chlorophenol	AVRG	1.58865630	11.9*
2-Methylphenol	AVRG	1.61609529	16.0*
4-Methylphenol	AVRG	1.32212722	29.7*
2-Nitrophenol	AVRG	0.22629702	14.1*
2,4-Dimethylphenol	AVRG	0.34607459	14.9*
2,4-Dichlorophenol	AVRG	0.31093637	15.6*
4-Chloro-3-methylphenol	AVRG	0.48289228	12.6*
2,4,6-Trichlorophenol	AVRG	0.45767810	11.6*
2,4,5-Trichlorophenol	AVRG	0.46923033	12.4*
2,4-Dinitrophenol	AVRG	0.26136181	5.9**
4-Nitrophenol	AVRG	0.52398677	4.3**
4,6-Dinitro-2-methylphenol	AVRG	0.17702811	11.0*
Pentachlorophenol	AVRG	0.16266567	4.9*
Benzoic Acid	AVRG	0.22273226	5.5*
N-Nitrosodimethylamine	AVRG	1.50756221	4.8*
bis(2-Chloroethyl)ether	AVRG	1.94649974	13.7*
1,3-Dichlorobenzene	AVRG	1.54556458	16.9*
1,4-Dichlorobenzene	AVRG	1.47238629	19.2*
1,2-Dichlorobenzene	AVRG	1.40182912	22.6*
bis(2-chloroisopropyl)ether	AVRG	2.28882707	19.6*
N-Nitroso-di-n-propylamine	AVRG	1.47996166	16.8**
Hexachloroethane	AVRG	0.86715308	10.9*
Nitrobenzene	AVRG	0.77997819	14.2*
Isophorone	AVRG	1.19266037	5.2*
bis(2-Chloroethoxy)methane	AVRG	0.55177969	17.5*
1,2,4-Trichlorobenzene	AVRG	0.34826036	15.1*
Naphthalene	AVRG	0.92877075	20.4*
4-Chloroaniline	AVRG	0.43200175	14.6*
Hexachlorobutadiene	AVRG	0.23891977	7.8*
2-Methylnaphthalene	AVRG	0.62582710	20.3*
Hexachlorocyclopentadiene	AVRG	0.31743149	15.8**
2-Chloronaphthalene	AVRG	1.12178954	19.7*
2-Nitroaniline	AVRG	0.65100096	10.1*
Dimethylphthalate	AVRG	1.63540226	15.0*
Acenaphthylene	AVRG	1.67920310	20.6*
2,6-Dinitrotoluene	AVRG	0.39191633	12.6*
3-Nitroaniline	AVRG	0.40579968	9.0*
Acenaphthene	AVRG	1.08538279	17.6*

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

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

Instrument ID: BNAMS3

Calibration Date(s): 07/27/99 07/27/99

Calibration Time(s): 1237 1541

COMPOUND	CURVE	COEFFICENT A1	%RSD OR R^2
Dibenzofuran	AVRG	1.51591982	20.6*
2,4-Dinitrotoluene	AVRG	0.54092386	14.6*
Diethylphthalate	AVRG	1.64340922	15.1*
4-Chlorophenyl-phenylether	AVRG	0.72105844	14.2*
Fluorene	AVRG	1.20043758	19.6*
4-Nitroaniline	AVRG	0.40450591	13.2*
N-Nitrosodiphenylamine	AVRG	0.44038515	22.1*
4-Bromophenyl-phenylether	AVRG	0.22237516	11.1*
Hexachlorobenzene	AVRG	0.24031972	10.5*
Phenanthrene	AVRG	0.95503815	17.5*
Anthracene	AVRG	0.96325727	18.2*
Carbazole	AVRG	0.86383723	20.3*
Di-n-butylphthalate	AVRG	1.40058370	20.2*
Fluoranthene	AVRG	1.27457292	14.7*
Pyrene	AVRG	1.40802444	9.2*
Benzidine	AVRG	0.26659485	30.2*
Butylbenzylphthalate	AVRG	0.74910099	10.2*
3,3'-Dichlorobenzidine	AVRG	0.42646408	18.5*
Benzo(a)anthracene	AVRG	1.22408250	7.0*
Chrysene	AVRG	1.15971352	5.6*
bis(2-Ethylhexyl)phthalate	AVRG	1.01547367	9.6*
Di-n-octylphthalate	AVRG	2.02728793	14.2*
Benzo(b)fluoranthene	AVRG	1.49645173	3.0*
Benzo(k)fluoranthene	AVRG	1.31912685	14.3*
Benzo(a)pyrene	AVRG	1.34813359	5.8*
Indeno(1,2,3-cd)pyrene	AVRG	1.41982705	4.3*
Dibenz(a,h)anthracene	AVRG	1.29410768	3.9*
Benzo(g,h,i)perylene	AVRG	1.43987302	3.0*
Pyridine	AVRG	2.26340766	3.8*
Aniline	AVRG	2.29575109	25.6*
Benzyl Alcohol	AVRG	1.21877500	13.4*
1,2-Diphenylhydrazine	AVRG	1.12076228	20.4*
Diphenyl	AVRG	1.38464243	19.7**
Diphenyl Ether	AVRG	0.73792895	19.3**
Acetophenone	AVRG	2.29855929	19.5**
N,N-Dimethylaniline	AVRG	1.90754384	26.3**
1,4-Dioxane	AVRG	0.75360327	5.8**
2,3,7,8-TCDD (screen)	AVRG	0.18908367	0.0*
Benzaldehyde	AVRG		

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

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

Instrument ID: BNAMS3

Calibration Date(s): 07/27/99 07/27/99

Calibration Time(s): 1237 1541

COMPOUND	CURVE	COEFFICENT A1	%RSD OR R^2
Caprolactum	AVRG	0.19844725	8.7*
Atrazine	AVRG	0.11962289	20.0*
2-Fluorophenol (SUR)	AVRG	1.79958533	3.7*
Phenol-d5 (SUR)	AVRG	2.42152095	14.8*
2,4,6-Tribromophenol (SUR)	AVRG	0.29871018	4.0*
Nitrobenzene-d5 (SUR)	AVRG	0.61392998	8.4*
2-Fluorobiphenyl (SUR)	AVRG	1.19687733	18.9*
Terphenyl-d14 (SUR)	AVRG	0.99708247	6.9*

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

SEMIVOLATILE ORGANICS CONTINUING CALIBRATION CHECK
METHOD 625

Instrument ID: BNAMS3 Calibration Date: 08/02/99 Time: 0931

Lab File ID: T5779 Init. Calib. Date(s): 07/27/99 07/27/99

Init. Calib. Times: 1237 1541

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Phenol	2.185	2.059		5.8	20.0
2-Chlorophenol	1.589	1.587		0.1	20.0
2-Methylphenol	1.616	1.607		0.6	
4-Methylphenol	1.322	1.004		24.0	
2-Nitrophenol	0.226	0.242		-6.9	20.0
2,4-Dimethylphenol	0.346	0.364		-5.2	20.0
2,4-Dichlorophenol	0.311	0.308		1.0	20.0
4-Chloro-3-methylphenol	0.483	0.482		0.2	20.0
2,4,6-Trichlorophenol	0.457	0.446		2.4	20.0
2,4,5-Trichlorophenol	0.469	0.480		-2.3	
2,4-Dinitrophenol	0.261	0.269	0.05	-2.9	20.0
4-Nitrophenol	0.524	0.534	0.05	-1.9	20.0
4,6-Dinitro-2-methylphenol	0.177	0.167		5.6	20.0
Pentachlorophenol	0.163	0.155		4.9	20.0
Benzoic Acid	0.223	0.260		-16.4	
N-Nitrosodimethylamine	1.507	1.609		-6.6	20.0
bis(2-Chloroethyl)ether	1.946	1.984		-1.8	20.0
1,3-Dichlorobenzene	1.545	1.534		0.7	20.0
1,4-Dichlorobenzene	1.473	1.417		3.8	20.0
1,2-Dichlorobenzene	1.402	1.412		0.1	20.0
bis(2-chloroisopropyl)ether	2.289	2.320		-1.2	20.0
N-Nitroso-di-n-propylamine	1.480	1.287	0.5	13.0	20.0
Hexachloroethane	0.867	0.838		3.3	20.0
Nitrobenzene	0.780	0.728		6.7	20.0
Isophorone	1.193	1.224		-2.4	20.0
bis(2-Chloroethoxy)methane	0.552	0.564		-2.0	20.0
1,2,4-Trichlorobenzene	0.348	0.341		2.0	20.0
Naphthalene	0.928	0.905		2.5	20.0
4-Chloroaniline	0.432	0.452		-4.6	
Hexachlorobutadiene	0.239	0.224		6.3	20.0
2-Methylnaphthalene	0.626	0.582		7.0	
Hexachlorocyclopentadiene	0.317	0.329	0.05	-3.6	20.0
2-Chloronaphthalene	1.122	1.066		5.0	20.0
2-Nitroaniline	0.651	0.663		-1.8	
Dimethylphthalate	1.635	1.627		0.5	20.0
Acenaphthylene	1.679	1.658		1.2	20.0
2,6-Dinitrotoluene	0.392	0.408		-3.9	20.0

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

Instrument ID: BNAMS3 Calibration Date: 08/02/99 Time: 0931

Lab File ID: T5779 Init. Calib. Date(s): 07/27/99 07/27/99

Init. Calib. Times: 1237 1541

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
3-Nitroaniline	0.406	0.451		-10.9	
Acenaphthene	1.085	0.990		8.8	20.0
Dibenzofuran	1.516	1.447		4.6	
2,4-Dinitrotoluene	0.541	0.555		-2.4	20.0
Diethylphthalate	1.643	1.574		4.2	20.0
4-Chlorophenyl-phenylether	0.721	0.601		16.6	20.0
Fluorene	1.200	1.042		13.2	20.0
4-Nitroaniline	0.405	0.447		-10.2	
N-Nitrosodiphenylamine	0.440	0.419		4.8	20.0
4-Bromophenyl-phenylether	0.222	0.202		9.0	20.0
Hexachlorobenzene	0.240	0.218		9.2	20.0
Phenanthrene	0.955	0.837		12.4	20.0
Anthracene	0.963	0.843		12.5	20.0
Carbazole	0.864	0.855		1.0	
Di-n-butylphthalate	1.400	1.308		6.6	20.0
Fluoranthene	1.274	1.160		8.9	20.0
Pyrene	1.408	1.457		-3.3	20.0
Benzidine	0.266	0.312		-17.1	
Butylbenzylphthalate	0.749	0.824		-10.0	20.0
3,3'-Dichlorobenzidine	0.426	0.492		-15.3	20.0
Benzo(a)anthracene	1.224	1.234		0.1	20.0
Chrysene	1.160	1.147		1.1	20.0
bis(2-Ethylhexyl)phthalate	1.015	0.967		4.7	20.0
Di-n-octylphthalate	2.027	2.046		0.1	20.0
Benzo(b)fluoranthene	1.497	1.477		1.3	20.0
Benzo(k)fluoranthene	1.319	1.335		-1.2	20.0
Benzo(a)pyrene	1.348	1.358		0.1	20.0
Indeno(1,2,3-cd)pyrene	1.420	1.562		-10.0	20.0
Dibenz(a,h)anthracene	1.294	1.303		0.1	20.0
Benzo(g,h,i)perylene	1.440	1.555		-7.8	20.0
Pyridine	2.263	2.390		-5.6	
Aniline	2.296	2.181		5.0	
Benzyl Alcohol	1.219	1.282		-5.0	
1,2-Diphenylhydrazine	1.121	1.108		1.2	
Diphenyl	1.385	1.249	0.001	9.8	20.0
Diphenyl Ether	0.738	0.722	0.001	2.2	20.0
Acetophenone	2.299	1.875	0.001	18.4	20.0

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

Instrument ID: BNAMS3 Calibration Date: 08/02/99 Time: 0931

Lab File ID: T5779 Init. Calib. Date(s): 07/27/99 07/27/99

Init. Calib. Times: 1237 1541

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
N,N-Dimethylaniline	1.907	1.671	0.001	12.4	20.0
1,4-Dioxane	0.754	0.781	0.001	-3.4	20.0
2,3,7,8-TCDD (screen)	0.189	0.210		-11.1	20.0
Benzaldehyde					20.0
Caprolactum	0.198	0.221		-11.6	20.0
Atrazine	0.119	0.104		12.6	20.0
2-Fluorophenol (SUR)	1.800	1.884		-4.5	
Phenol-d5 (SUR)	2.422	2.480		-2.2	
2,4,6-Tribromophenol (SUR)	0.299	0.278		7.0	20.0
Nitrobenzene-d5 (SUR)	0.614	0.639		-3.9	
2-Fluorobiphenyl (SUR)	1.197	1.172		2.1	
Terphenyl-d14 (SUR)	0.997	0.983		1.4	

SEMIVOLATILE ORGANICS CONTINUING CALIBRATION CHECK
METHOD 625

Instrument ID: BNAMS3 Calibration Date: 08/03/99 Time: 1014

Lab File ID: T5808 Init. Calib. Date(s): 07/27/99 07/27/99

Init. Calib. Times: 1237 1541

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Phenol	2.185	2.256		-3.2	20.0
2-Chlorophenol	1.589	1.590		-0.0	20.0
2-Methylphenol	1.616	1.668		-3.2	
4-Methylphenol	1.322	1.158		12.4	
2-Nitrophenol	0.226	0.234		-3.5	20.0
2,4-Dimethylphenol	0.346	0.356		-2.7	20.0
2,4-Dichlorophenol	0.311	0.320		-2.7	20.0
4-Chloro-3-methylphenol	0.483	0.507		-4.8	20.0
2,4,6-Trichlorophenol	0.457	0.448		2.0	20.0
2,4,5-Trichlorophenol	0.469	0.471		-0.0	
2,4-Dinitrophenol	0.261	0.222	0.05	14.9	20.0
4-Nitrophenol	0.524	0.541	0.05	-3.2	20.0
4,6-Dinitro-2-methylphenol	0.177	0.152		14.1	20.0
Pentachlorophenol	0.163	0.154		5.5	20.0
Benzoic Acid	0.223	0.181		18.8	
N-Nitrosodimethylamine	1.507	1.534		-1.6	20.0
bis(2-Chloroethyl)ether	1.946	2.010		-3.1	20.0
1,3-Dichlorobenzene	1.545	1.579		-2.2	20.0
1,4-Dichlorobenzene	1.473	1.459		1.0	20.0
1,2-Dichlorobenzene	1.402	1.464		-4.4	20.0
bis(2-chloroisopropyl)ether	2.289	2.367		-3.4	20.0
N-Nitroso-di-n-propylamine	1.480	1.351	0.5	8.7	20.0
Hexachloroethane	0.867	0.865		0.2	20.0
Nitrobenzene	0.780	0.734		5.9	20.0
Isophorone	1.193	1.214		-1.6	20.0
bis(2-Chloroethoxy)methane	0.552	0.560		-1.4	20.0
1,2,4-Trichlorobenzene	0.348	0.348		0.0	20.0
Naphthalene	0.928	0.934		0.1	20.0
4-Chloroaniline	0.432	0.436		0.1	
Hexachlorobutadiene	0.239	0.227		5.0	20.0
2-Methylnaphthalene	0.626	0.617		1.4	
Hexachlorocyclopentadiene	0.317	0.300	0.05	5.4	20.0
2-Chloronaphthalene	1.122	1.067		4.9	20.0
2-Nitroaniline	0.651	0.669		-2.6	
Dimethylphthalate	1.635	1.643		-0.0	20.0
Acenaphthylene	1.679	1.627		3.1	20.0
2,6-Dinitrotoluene	0.392	0.406		-3.4	20.0

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

Instrument ID: BNAMS3 Calibration Date: 08/03/99 Time: 1014

Lab File ID: T5808 Init. Calib. Date(s): 07/27/99 07/27/99

Init. Calib. Times: 1237 1541

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
3-Nitroaniline	0.406	0.439		-8.1	
Acenaphthene	1.085	1.007		7.2	20.0
Dibenzofuran	1.516	1.493		1.5	
2,4-Dinitrotoluene	0.541	0.573		-5.9	20.0
Diethylphthalate	1.643	1.644		-0.0	20.0
4-Chlorophenyl-phenylether	0.721	0.616		14.6	20.0
Fluorene	1.200	1.073		10.6	20.0
4-Nitroaniline	0.405	0.428		-5.5	
N-Nitrosodiphenylamine	0.440	0.424		3.6	20.0
4-Bromophenyl-phenylether	0.222	0.203		8.6	20.0
Hexachlorobenzene	0.240	0.219		8.8	20.0
Phenanthrene	0.955	0.860		9.9	20.0
Anthracene	0.963	0.868		9.9	20.0
Carbazole	0.864	0.830		3.9	
Di-n-butylphthalate	1.400	1.344		4.0	20.0
Fluoranthene	1.274	1.215		4.6	20.0
Pyrene	1.408	1.405		0.2	20.0
Benzidine	0.266	0.248		6.8	
Butylbenzylphthalate	0.749	0.812		-8.4	20.0
3,3'-Dichlorobenzidine	0.426	0.466		-9.2	20.0
Benzo(a)anthracene	1.224	1.204		1.6	20.0
Chrysene	1.160	1.136		2.1	20.0
bis(2-Ethylhexyl)phthalate	1.015	0.900		11.3	20.0
Di-n-octylphthalate	2.027	1.991		1.8	20.0
Benzo(b)fluoranthene	1.497	1.424		4.9	20.0
Benzo(k)fluoranthene	1.319	1.317		0.2	20.0
Benzo(a)pyrene	1.348	1.335		1.0	20.0
Indeno(1,2,3-cd)pyrene	1.420	1.539		-8.2	20.0
Dibenz(a,h)anthracene	1.294	1.314		-1.5	20.0
Benzo(g,h,i)perylene	1.440	1.565		-8.5	20.0
Pyridine	2.263	2.276		-0.0	
Aniline	2.296	2.229		2.9	
Benzyl Alcohol	1.219	1.292		-5.8	
1,2-Diphenylhydrazine	1.121	1.137		-1.4	
Diphenyl	1.385	1.288	0.001	7.0	20.0
Diphenyl Ether	0.738	0.736	0.001	0.3	20.0
Acetophenone	2.299	1.986	0.001	13.6	20.0

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

Instrument ID: BNAMS3 Calibration Date: 08/03/99 Time: 1014

Lab File ID: T5808 Init. Calib. Date(s): 07/27/99 07/27/99

Init. Calib. Times: 1237 1541

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
N,N-Dimethylaniline	1.907	1.793	0.001	6.0	20.0
1,4-Dioxane	0.754	0.790	0.001	-4.6	20.0
2,3,7,8-TCDD (screen)	0.189	0.200		-5.8	20.0
Benzaldehyde					20.0
Caprolactum	0.198	0.229		-15.6	20.0
Atrazine	0.119	0.100		16.0	20.0
2-Fluorophenol (SUR)	1.800	1.909		-6.0	
Phenol-d5 (SUR)	2.422	2.545		-4.9	
2,4,6-Tribromophenol (SUR)	0.299	0.276		7.7	20.0
Nitrobenzene-d5 (SUR)	0.614	0.629		-2.4	
2-Fluorobiphenyl (SUR)	1.197	1.166		2.6	
Terphenyl-d14 (SUR)	0.997	0.943		5.4	

SEMI-VOLATILE SURROGATE RECOVERY
METHOD 625

Matrix: WATER Level: LOW Lab Job No: R704

	LAB SAMPLE NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
01	WB205A	36	28	84	66	63	80	0
02	145555				88	84	86	0
03	145560				82	81	79	0
04	145562				85	87	83	0
05	145563				91	89	80	0
06	145564				89	86	74	0
07	145561				69	74	75	0
08								
09								
10								
11								
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		QC LIMITS
S1	= 2-Fluorophenol	(20- 71)
S2	= Phenol-d5	(11- 50)
S3	= 2,4,6-Tribromophenol	(61-133)
S4	= Nitrobenzene-d5	(55-115)
S5	= 2-Fluorobiphenyl	(59-109)
S6	= 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.: 146146

MS Sample from Lab Job No: R792

QA Batch: 4811

Compound	MS % REC.	BS % REC.	LIMITS
Phenol	47	41	5-112
2-Chlorophenol	81	79	23-134
2-Nitrophenol	96	94	29-182
2,4-Dimethylphenol	70	77	32-119
2,4-Dichlorophenol	95	93	39-135
4-Chloro-3-methylphenol	95	90	22-147
2,4,6-Trichlorophenol	90	90	37-144
2,4-Dinitrophenol	110	96	0-191
4-Nitrophenol	42	36	0-132
4,6-Dinitro-2-methylphenol	110	100	0-181
Pentachlorophenol	89	88	14-176
bis(2-Chloroethyl)ether	90	89	12-158
1,3-Dichlorobenzene	62	49	0-172
1,4-Dichlorobenzene	67	53	20-124
1,2-Dichlorobenzene	72	57	32-129
bis(2-chloroisopropyl)ether	100	98	36-166
N-Nitroso-di-n-propylamine	76	71	0-230
Hexachloroethane	47	32 *	40-113
Nitrobenzene	75	72	35-180
Isophorone	100	98	21-196
bis(2-Chloroethoxy)methane	100	94	33-184
1,2,4-Trichlorobenzene	76	62	44-142
Naphthalene	86	79	21-133
Hexachlorobutadiene	48	31	24-116
2-Chloronaphthalene	87	83	60-118
Dimethylphthalate	92	93	0-112
Acenaphthylene	87	86	33-145
2,6-Dinitrotoluene	95	96	50-158
Acenaphthene	85	83	47-145
2,4-Dinitrotoluene	100	100	39-139

* Values outside of QC limits

SEMI-VOLATILE SPIKE RECOVERY SUMMARY
METHOD 625

Matrix: WATER

Level: LOW

Matrix Spike - Lab Sample No.: 146146

MS Sample from Lab Job No: R792

QA Batch: 4811

Compound	MS % REC.		BS % REC.		LIMITS
Diethylphthalate	93		93		0-114
4-Chlorophenyl-phenylether	80		79		25-158
Fluorene	83		83		59-121
4-Bromophenyl-phenylether	87		84		53-127
Hexachlorobenzene	86		83		0-152
Phenanthrene	87		84		54-120
Anthracene	83		84		27-133
Di-n-butylphthalate	90		87		1-118
Fluoranthene	88		86		26-137
Pyrene	100		98		52-115
Butylbenzylphthalate	110		100		0-152
3,3'-Dichlorobenzidine	96		96		0-262
Benzo(a)anthracene	100		97		33-143
Chrysene	100		98		17-168
bis(2-Ethylhexyl)phthalate	91		88		8-158
Di-n-octylphthalate	88		82		4-146
Benzo(b)fluoranthene	84		82		24-159
Benzo(k)fluoranthene	90		85		11-162
Benzo(a)pyrene	87		85		17-163
Indeno(1,2,3-cd)pyrene	94		92		0-171
Dibenz(a,h)anthracene	85		81		0-227
Benzo(g,h,i)perylene	92		88		0-219
Diphenyl	84		81		70-130
Acetophenone	84		81		70-130
Benzaldehyde	0	*	0	*	70-130
Caprolactum	33	*	28	*	70-130
Atrazine	80		100		70-130

* Values outside of QC limits

Spike Recovery: 5 out of 114 outside limits

COMMENTS:

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): T5620 Date Analyzed: 07/26/99

Instrument ID: BNAMS3 Time Analyzed: 0903

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(CRY) AREA #	RT #
	12 HOUR STD	372264	13.02	1364519	15.20	1454562	25.04
	UPPER LIMIT	744528	13.52	2729038	15.70	2909124	25.54
	LOWER LIMIT	186132	12.52	682260	14.70	727281	24.54
	LABORATORY SAMPLE NO.						
01	WB205A	351662	13.00	1316221	15.19	1655288	25.00
02							
03							
04							
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21							
22							

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

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

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

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): T5620 Date Analyzed: 07/26/99

Instrument ID: BNAMS3 Time Analyzed: 0903

		IS4(ANT) AREA #	RT #	IS5(PHN) AREA #	RT #	IS6(PRY) AREA #	RT #
	12 HOUR STD	779957	18.13	1412504	20.61	1661650	28.55
	UPPER LIMIT	1559914	18.63	2825008	21.11	3323300	29.05
	LOWER LIMIT	389978	17.63	706252	20.11	830925	28.05
	LABORATORY SAMPLE NO.						
01	WB205A	782027	18.12	1509470	20.59	1774992	28.52
02							
03							
04							
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22							

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

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

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

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): T5779 Date Analyzed: 08/02/99

Instrument ID: BNAMS3 Time Analyzed: 0931

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(CRY) AREA #	RT #
	12 HOUR STD	337199	12.95	1321262	15.15	1128258	24.97
	UPPER LIMIT	674398	13.45	2642524	15.65	2256516	25.47
	LOWER LIMIT	168600	12.45	660631	14.65	564129	24.47
	LABORATORY SAMPLE NO.						
01	145555	312499	12.94	1255414	15.13	1205723	24.94
02	145560	317169	12.94	1293999	15.13	1292117	24.94
03	145562	307591	12.94	1262537	15.13	1282369	24.94
04	145563	308972	12.94	1240160	15.13	1317832	24.94
05	145564	327123	12.94	1282221	15.13	1382373	24.94
06							
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20							
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22							

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

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

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

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): T5779 Date Analyzed: 08/02/99

Instrument ID: BNAMS3 Time Analyzed: 0931

		IS4(ANT) AREA #	RT #	IS5(PHN) AREA #	RT #	IS6(PRY) AREA #	RT #
	12 HOUR STD	734907	18.08	1447555	20.54	1117809	28.44
	UPPER LIMIT	1469814	18.58	2895110	21.04	2235618	28.94
	LOWER LIMIT	367454	17.58	723778	20.04	558904	27.94
	LABORATORY SAMPLE NO.						
01	145555	718976	18.06	1419377	20.53	1267152	28.40
02	145560	728916	18.06	1382957	20.53	1303938	28.40
03	145562	712936	18.06	1398208	20.53	1264624	28.40
04	145563	710247	18.06	1370564	20.53	1269958	28.40
05	145564	743802	18.06	1444387	20.53	1325788	28.40
06							
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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.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): T5808 Date Analyzed: 08/03/99

Instrument ID: BNAMS3 Time Analyzed: 1014

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(CRY) AREA #	RT #
	12 HOUR STD	254961	12.93	1029294	15.12	1001459	24.94
	UPPER LIMIT	509922	13.43	2058588	15.62	2002918	25.44
	LOWER LIMIT	127480	12.43	514647	14.62	500730	24.44
	LABORATORY SAMPLE NO.						
01	145561	251180	12.92	1032837	15.12	1184384	24.92
02							
03							
04							
05							
06							
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18							
19							
20							
21							
22							

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

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

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

page 1 of 1

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): T5808 Date Analyzed: 08/03/99

Instrument ID: BNAMS3 Time Analyzed: 1014

		IS4(ANT) AREA #	RT #	IS5(PHN) AREA #	RT #	IS6(PRY) AREA #	RT #
	12 HOUR STD	594724	18.06	1195020	20.53	1002518	28.38
	UPPER LIMIT	1189448	18.56	2390040	21.03	2005036	28.88
	LOWER LIMIT	297362	17.56	597510	20.03	501259	27.88
	LABORATORY SAMPLE NO.						
01	145561	602709	18.05	1192077	20.52	1023072	28.36
02							
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22							

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

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

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

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

Lab Sample No: **145553**
Lab Job No: R704

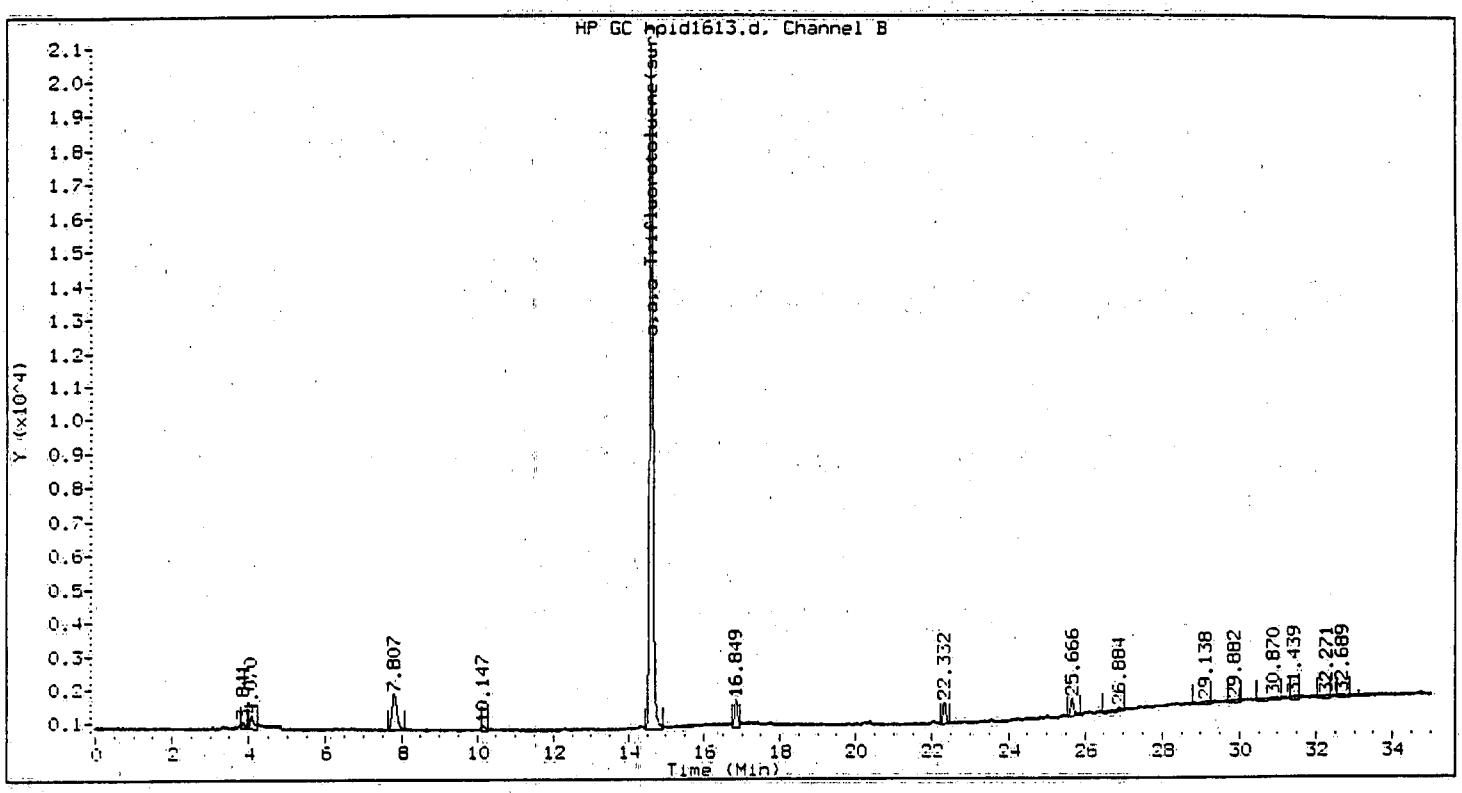
Date Sampled: 07/22/99
Date Received: 07/22/99
Date Analyzed: 07/30/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid1613.d

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/VOAGC2.i/602/06-24-99/30JULY99.b/hpid1613.d Page 1
Report Date 08/02/1999 09:04



Method : /chem/VOAGC2.i/602/06-24-99/30JULY99.b/602_99.m
Sample Info : 145553
Lab ID : 145553
Inj Date : 30-JUL-1999 14:46
Operator : CK
Cpnd Sublist: btex

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

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
a,a,a-Trifluorotoluene(sur)	14.614	14.615	0.001	608854	26.220	26.220

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

Lab Sample No: **145554**
Lab Job No: R704

Date Sampled: 07/22/99
Date Received: 07/22/99
Date Analyzed: 07/30/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid1614.d

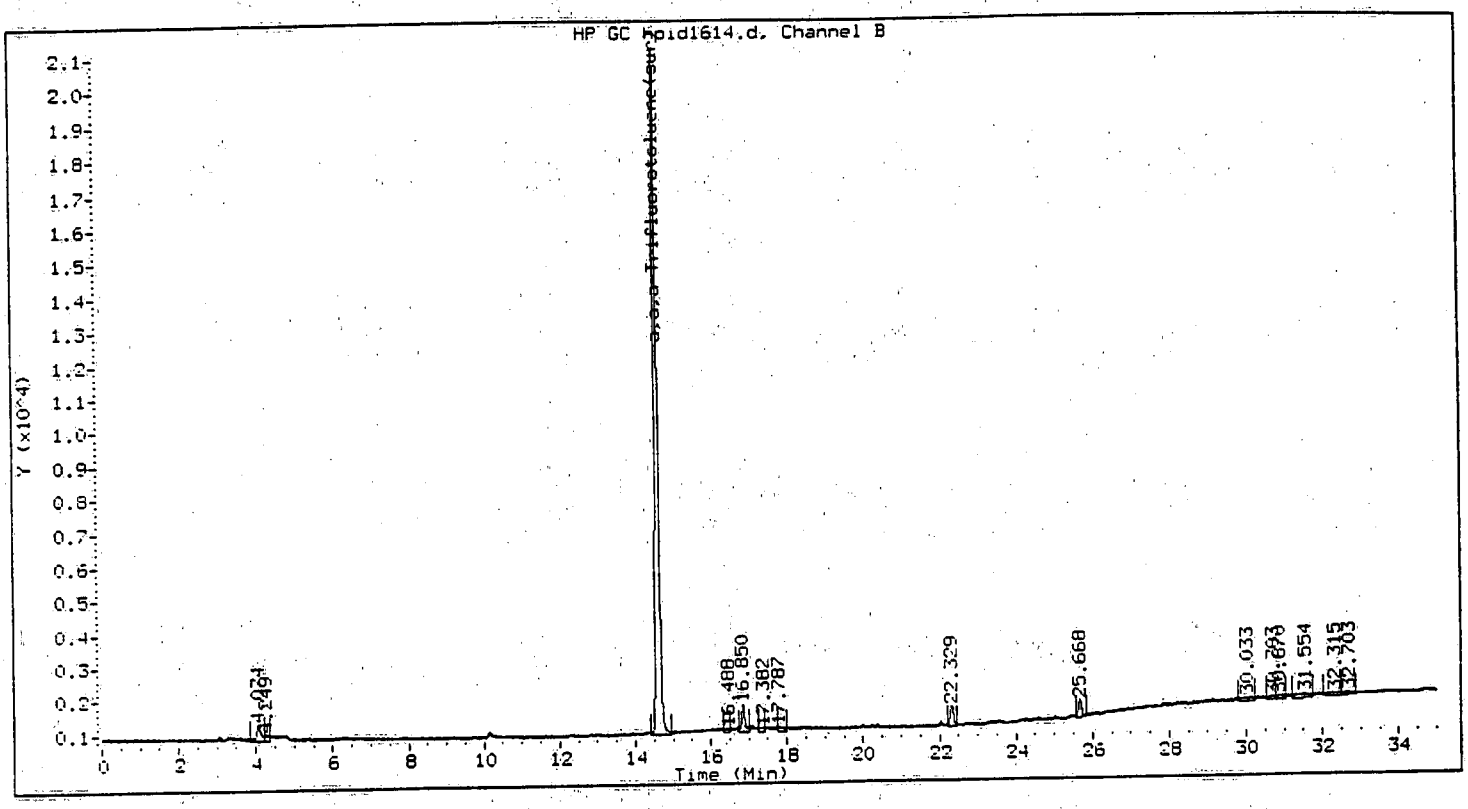
Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

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/VOAGC2.i/602/06-24-99/30JULY99.b/hpid1614.d

Report Date 08/02/1999 09:04



Method : /chem/VOAGC2.i/602/06-24-99/30JULY99.b/602_99.m
Sample Info : 145554
Lab ID : 145554
Inj Date : 30-JUL-1999 15:29
Operator : CK
Cpnd Sublist: btex

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

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
a,a,a-Trifluorotoluene(sur)	14.618	14.615	0.003	614327	26.455	26.455

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

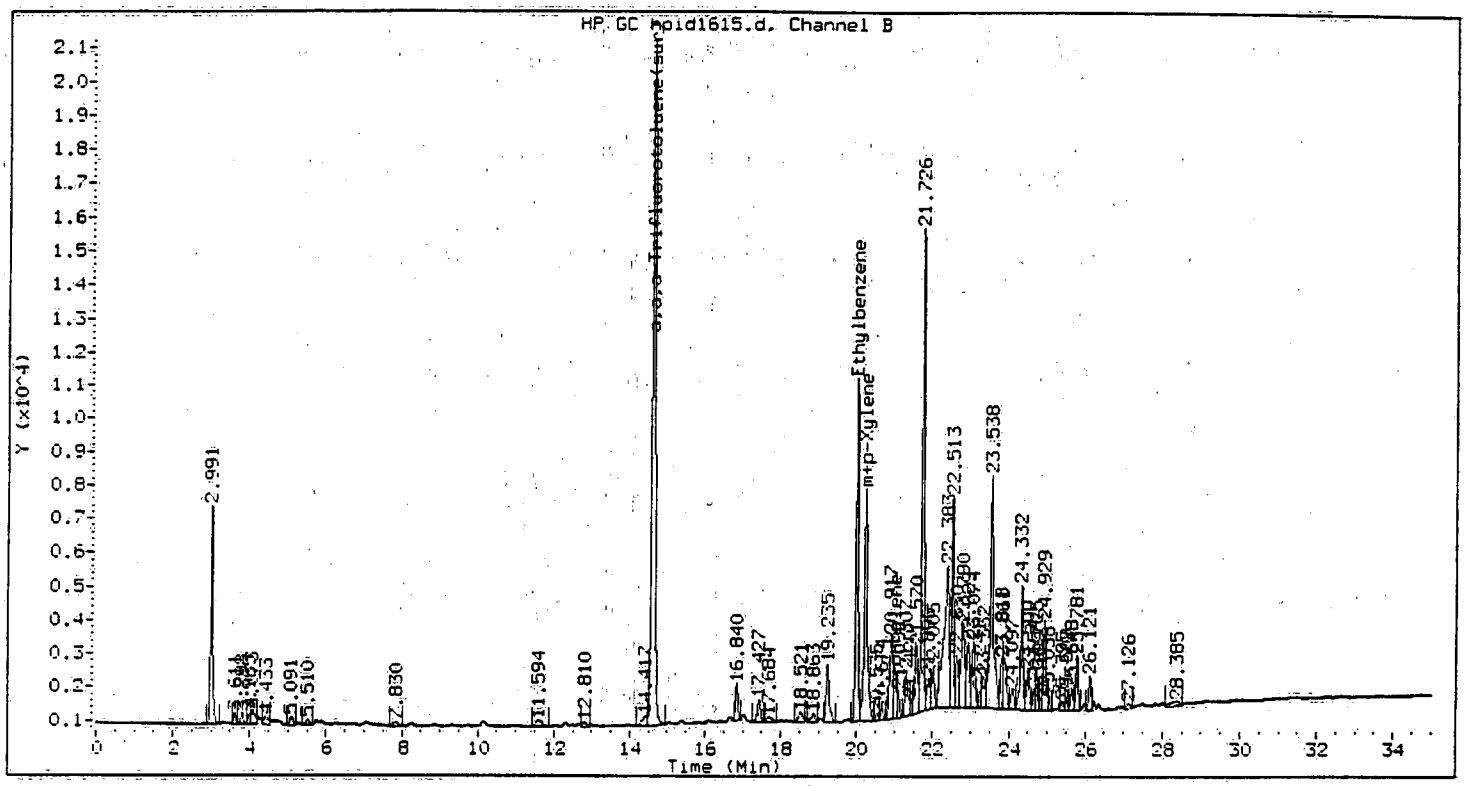
Lab Sample No: **145557**
Lab Job No: R704

Date Sampled: 07/22/99
Date Received: 07/22/99
Date Analyzed: 07/30/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid1615.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	3.1	0.38
Xylene (Total)	2.9	0.40



Method : /chem/VOAGC2.i/602/06-24-99/30JULY99.b/602_99.m
Sample Info : 145557
Lab ID : 145557
Inj Date : 30-JUL-1999 16:12
Operator : CK
Cpnd Sublist: btex

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

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
m+p-Xylene	20.225	20.239	0.013	193748	2.379	2.379
o-Xylene	21.007	21.026	0.019	31550	0.432	0.432
Ethylbenzene	19.997	20.006	0.009	221837	3.118	3.118
Xylene (Total)	25.019	25.019	0.000	225298	2.866	2.866
a,a,a-Trifluorotoluene(sur)	14.608	14.615	0.007	605867	26.091	26.091

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

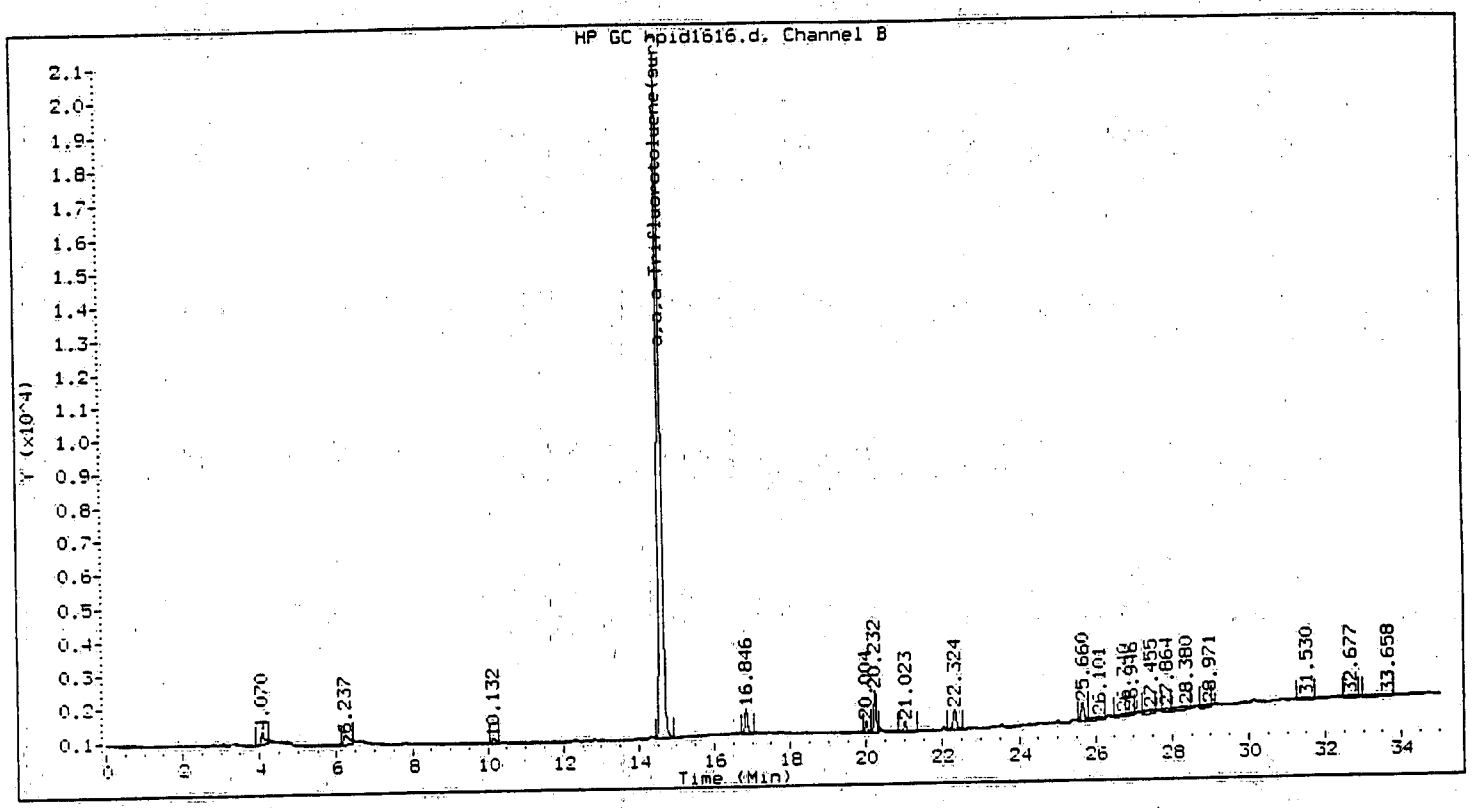
Lab Sample No: **145558**
Lab Job No: R704

Date Sampled: 07/22/99
Date Received: 07/22/99
Date Analyzed: 07/30/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid1616.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/VOAGC2.i/602/06-24-99/30JULY99.b/602_99.m
Sample Info : 145558
Lab ID : 145558
Inj Date : 30-JUL-1999 16:54
Operator : CK
Cpnd Sublist: btex

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

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
a,a,a-Trifluorotoluene(sur)	14.612	14.615	0.003	609228	26.236	26.236

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

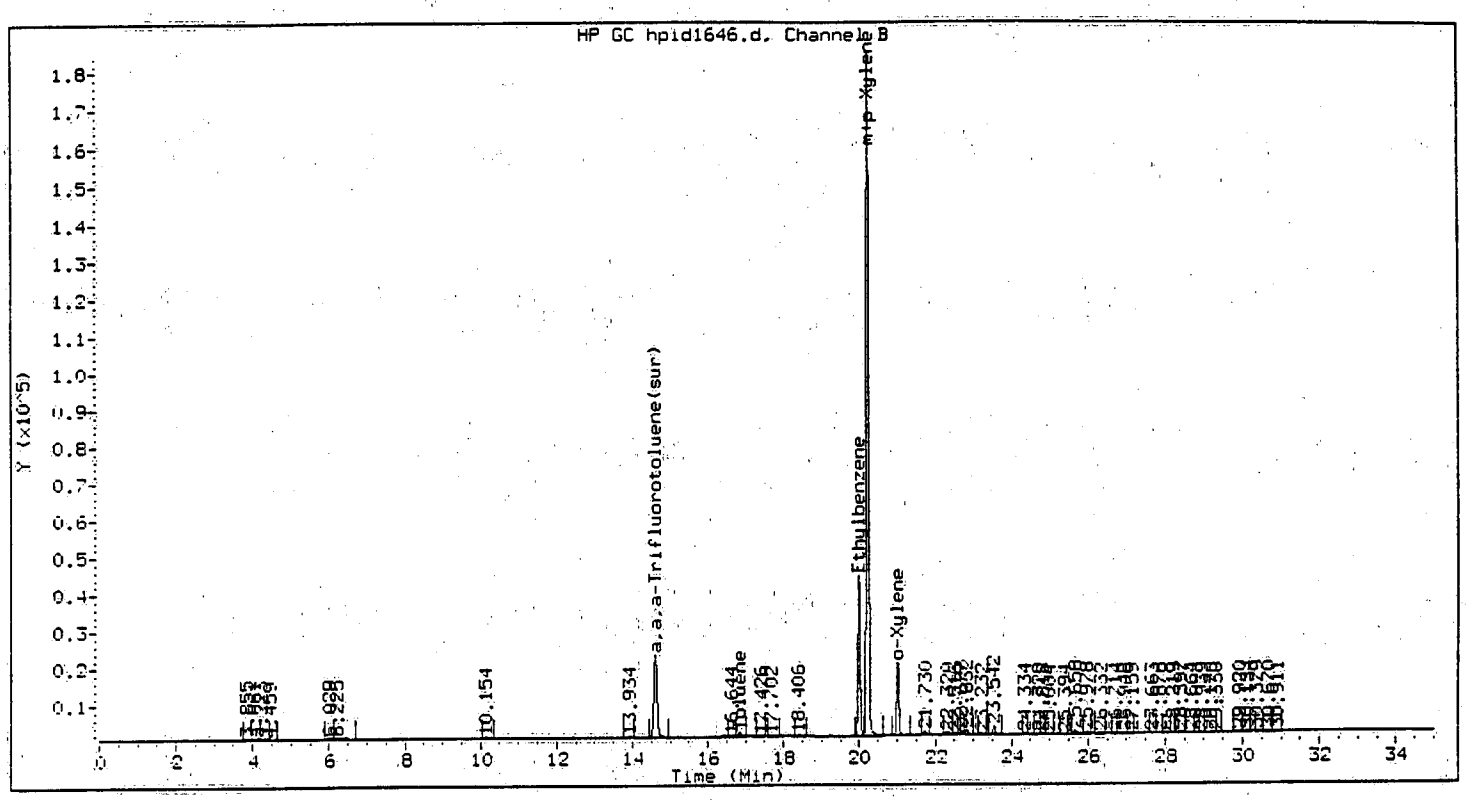
Lab Sample No: **145559**
Lab Job No: R704

Date Sampled: 07/22/99
Date Received: 07/22/99
Date Analyzed: 08/02/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid1646.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	42	34
Ethylbenzene	1200	38
Xylene (Total)	5200	40



Method : /chem/VOAGC2.i/602/06-24-99/02AUG99.b/602_99.m
Sample Info : 145559;;100
Lab ID : 145559
Inj Date : 02-AUG-1999 21:02
Operator : CKSP
Cpnd Sublist: btex

Inst ID : VOAGC2.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	20.225	20.268	0.043	3737910	45.906	4590.555
o-Xylene	21.016	21.055	0.039	393376	5.391	539.084
Toluene	16.841	16.873	0.032	32805	0.424	42.437
Ethylbenzene	19.997	20.035	0.039	867709	12.195	1219.512
Xylene (Total)	25.019	25.019	0.000	4131286	52.556	5255.567
a,a,a-Trifluorotoluene(sur)	14.609	14.643	0.034	678396	29.214	29.214

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

Lab Sample No: **145560**
Lab Job No: R704

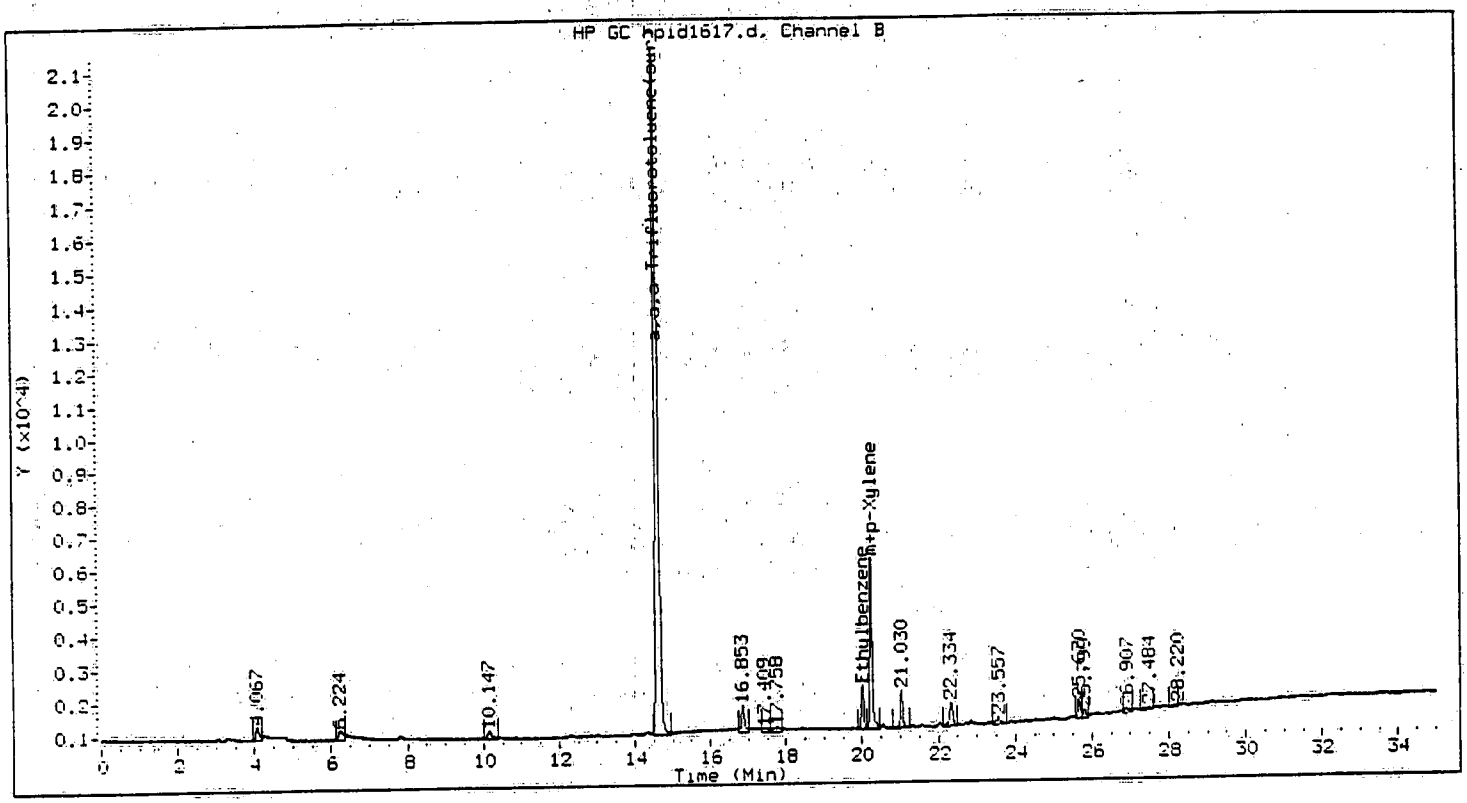
Date Sampled: 07/22/99
Date Received: 07/22/99
Date Analyzed: 07/30/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid1617.d

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	0.39	0.38
Xylene (Total)	1.4	0.40

Data File: /chem/VOAGC2.i/602/06-24-99/30JULY99.b/hpid1617.d Page 1
Report Date 08/02/1999 09:04



Method : /chem/VOAGC2.i/602/06-24-99/30JULY99.b/602_99.m
Sample Info : 145560
Lab ID : 145560
Inj Date : 30-JUL-1999 17:37
Operator : CK
Cpnd Sublist: btex

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

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
m+p-Xylene	20.240	20.239	0.001	112958	1.387	1.387
Ethylbenzene	20.012	20.006	0.005	27763	0.390	0.390
Xylene (Total)	25.019	25.019	0.000	112958	1.437	1.437
a,a,a-Trifluorotoluene(sur)	14.619	14.615	0.005	621888	26.781	26.781

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

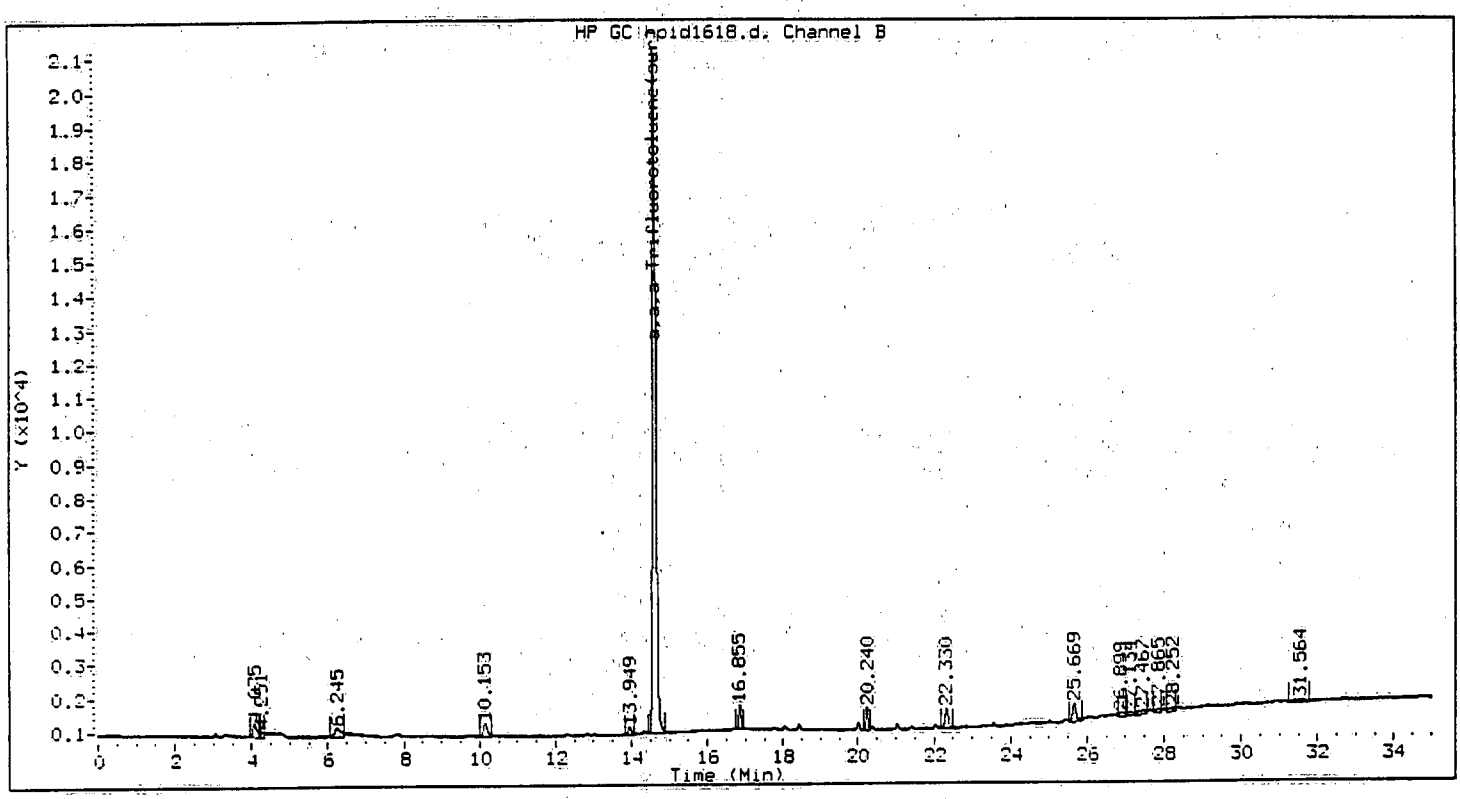
Lab Sample No: **145561**
Lab Job No: R704

Date Sampled: 07/22/99
Date Received: 07/22/99
Date Analyzed: 07/30/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid1618.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/VOAGC2.i/602/06-24-99/30JULY99.b/602_99.m
Sample Info : 145561
Lab ID : 145561
Inj Date : 30-JUL-1999 18:19
Operator : CK
Cpnd Sublist: btex

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

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
a,a,a-Trifluorotoluene(sur)	14.622	14.615	0.007	608922	26.223	26.223

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

Lab Sample No: **145563**
Lab Job No: R704

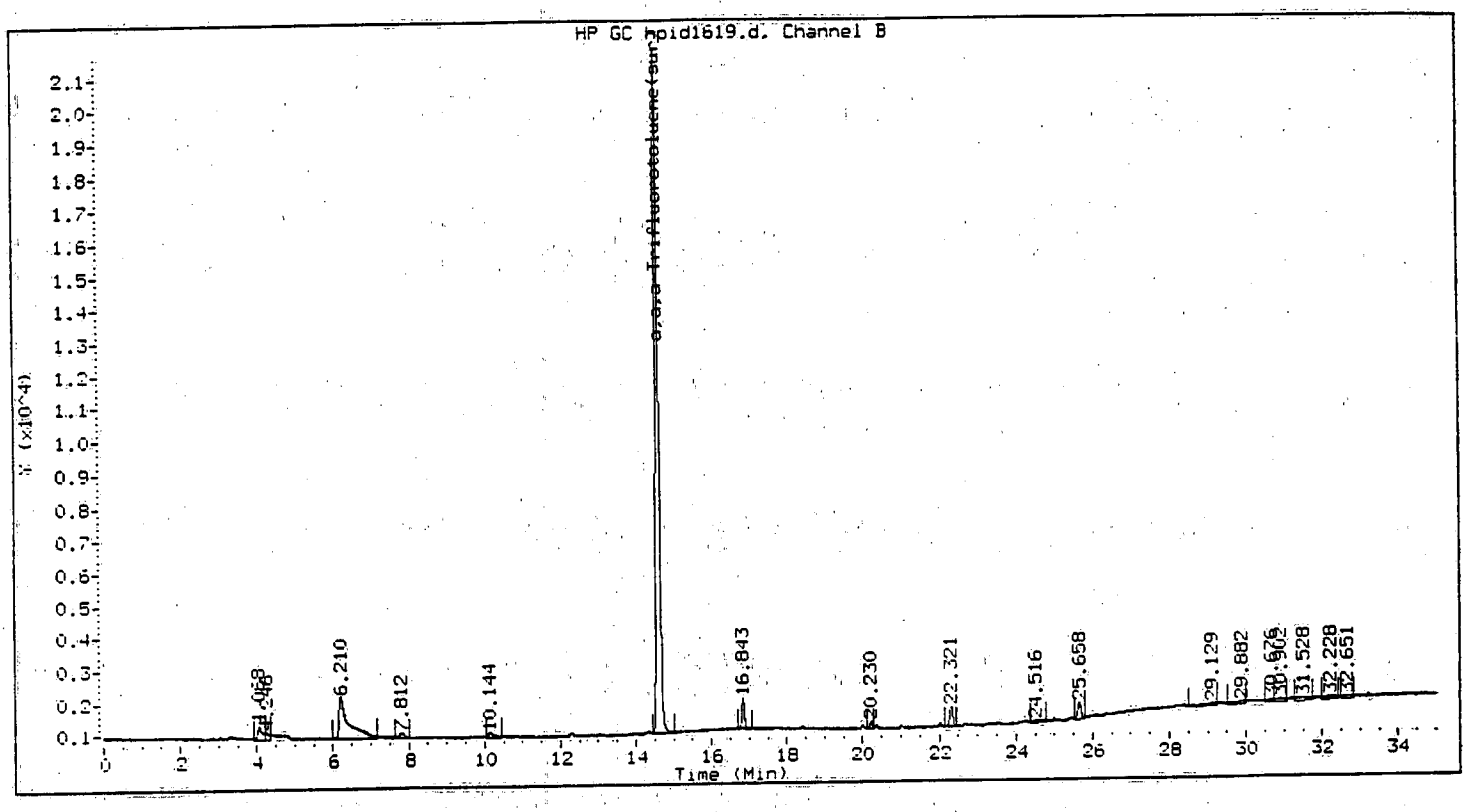
Date Sampled: 07/22/99
Date Received: 07/22/99
Date Analyzed: 07/30/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid1619.d

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/VOAGC2.i/602/06-24-99/30JULY99.b/hpid1619.d Page 1
Report Date 08/02/1999 09:04



Method : /chem/VOAGC2.i/602/06-24-99/30JULY99.b/602_99.m
Sample Info : 145563
Lab ID : 145563
Inj Date : 30-JUL-1999 19:01
Operator : CK
Cpnd Sublist: btex

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

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
a,a,a-Trifluorotoluene(sur)	14.611	14.615	0.004	619707	26.687	26.687

LAB SAMPLE NO.

HG211

VOLATILE METHOD BLANK SUMMARY

Date Analyzed: 07/30/99

Instrument ID: VOAGC2

Time Analyzed: 1012

Lab File ID: HPID1607

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

	CLIENT ID.	LAB SAMPLE NO	LAB FILE ID	TIME ANALYZED
01	MW15I	145553	HPID1613	1446
02	MW15S	145554	HPID1614	1529
03	MW4	145557	HPID1615	1612
04	MW14I	145558	HPID1616	1654
05	MW25R	145560	HPID1617	1737
06	MW21	145561	HPID1618	1819
07	FIELD_BLANK	145563	HPID1619	1901
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

Client ID: **HG211**
Site:

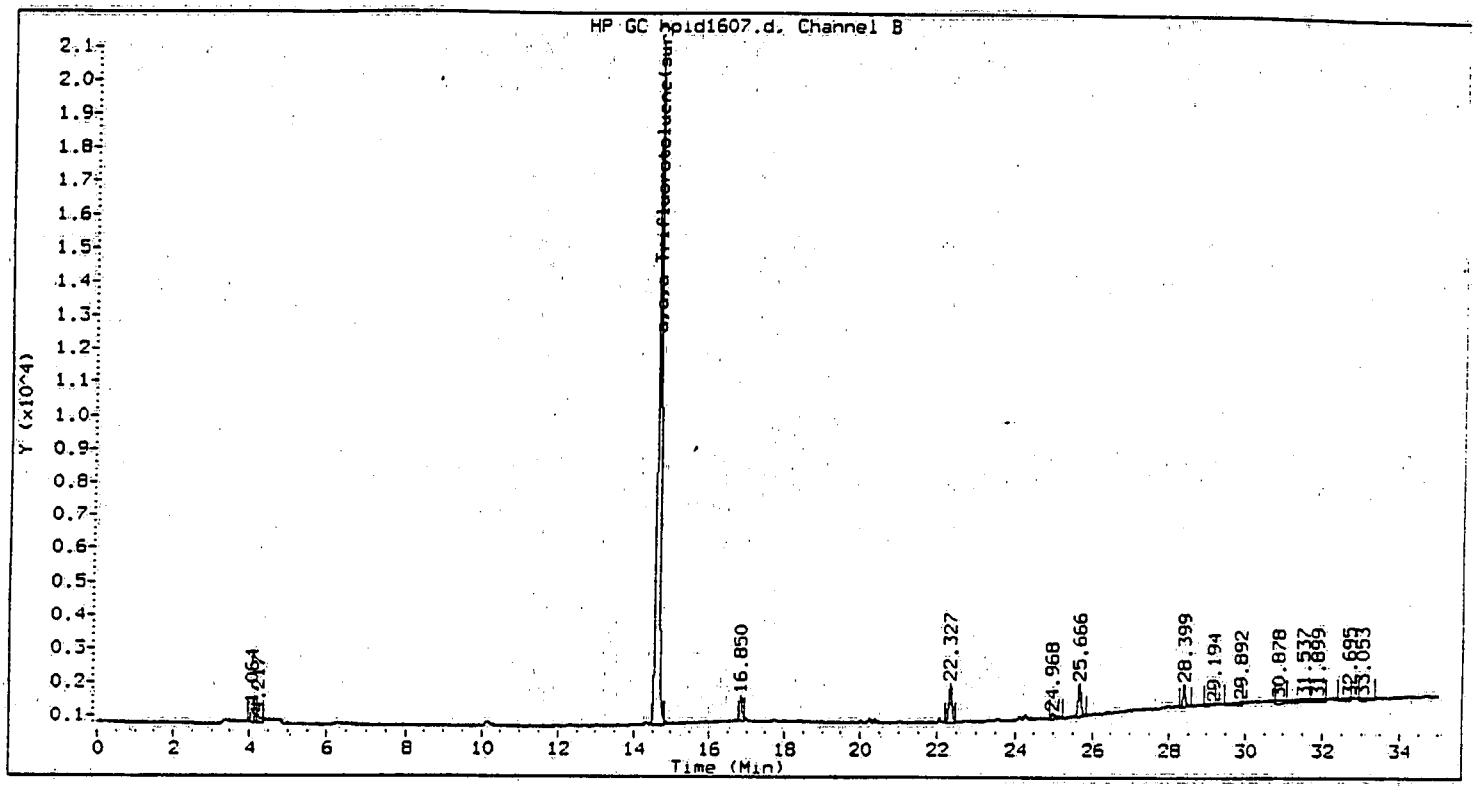
Lab Sample No: **HG211**
Lab Job No: R704

Date Sampled: _____
Date Received: _____
Date Analyzed: 07/30/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid1607.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



Method : /chem/VOAGC2.i/602/06-24-99/30JULY99.b/602_99.m
Sample Info : HG211
Lab ID : HG211
Inj Date : 30-JUL-1999 10:12
Operator : Ck
Cpnd Sublist: all

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

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
a,a,a-Trifluorotoluene(sur)	14.614	14.615	0.000	610445	26.288	26.288

VOLATILE METHOD BLANK SUMMARY

LAB SAMPLE NO.

HG214

Date Analyzed: 08/02/99

Instrument ID: VOAGC2

Time Analyzed: 1017

Lab File ID: HPID1631

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

	CLIENT ID.	LAB SAMPLE NO	LAB FILE ID	TIME ANALYZED
01	MW22R	145559	HPID1646	2102
02	MW22RMS	145559MS	HPID1654	0232
03	MW22RMSD	145559MSD	HPID1655	0313
04				
05				
06				
07				
08				
09				
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11				
12				
13				
14				
15				
16				
17				
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19				
20				
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23				
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25				
26				
27				
28				
29				
30				

COMMENTS:

Client ID: **HG214**
Site:

Lab Sample No: **HG214**
Lab Job No: R704

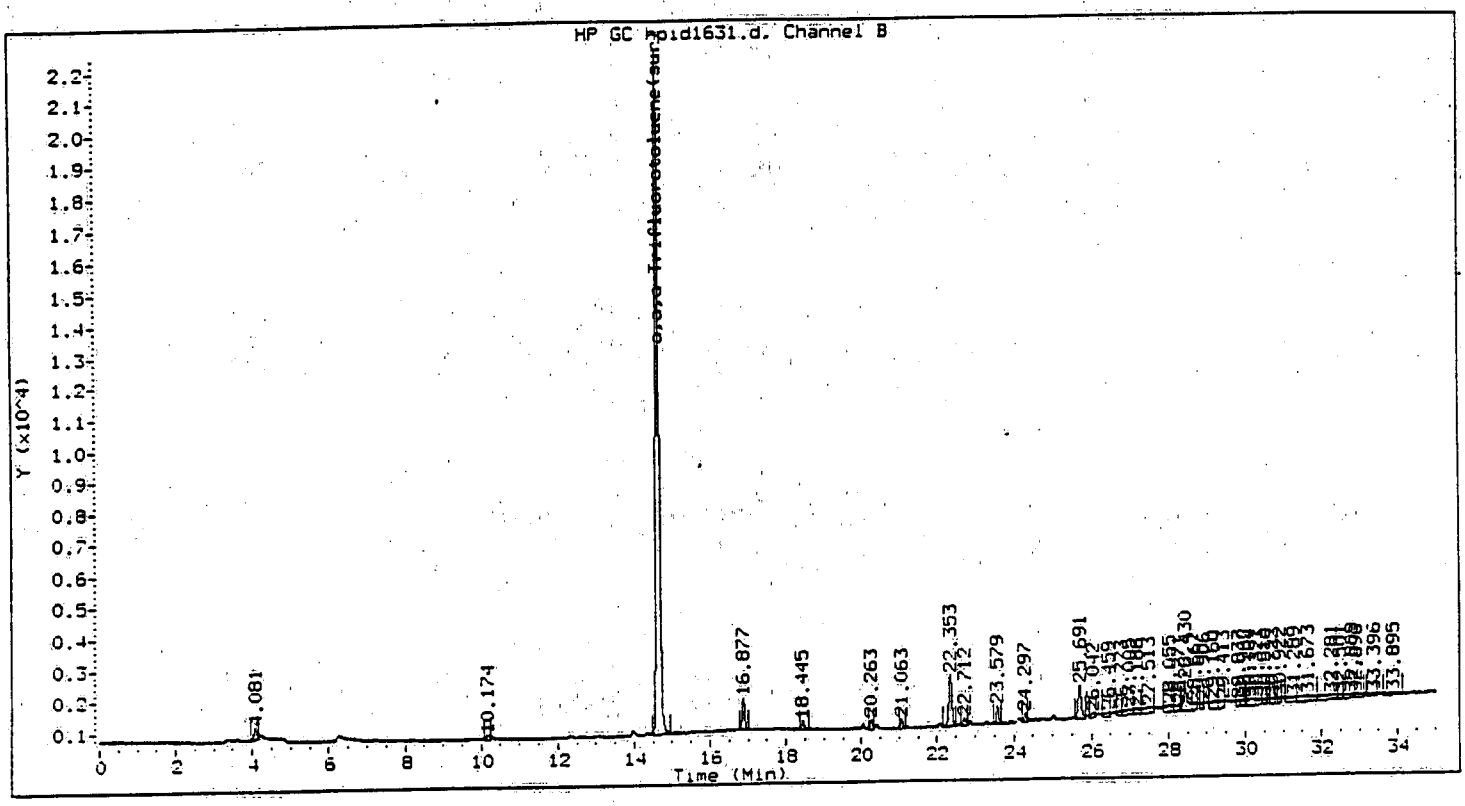
Date Sampled: _____
Date Received: _____
Date Analyzed: 08/02/99
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid1631.d

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/VOAGC2.i/602/06-24-99/02AUG99.b/hpid1631.d Page 1
Report Date 08/03/1999 07:02



Method : /chem/VOAGC2.i/602/06-24-99/02AUG99.b/602_99.m
Sample Info : HG214
Lab ID : HG214
Inj Date : 02-AUG-1999 10:17
Operator : CK
Cpnd Sublist: all

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

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
a,a,a-Trifluorotoluene(sur)	14.645	14.643	0.001	648525	27.928	27.928

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Instrument ID: VOAGC2

Calibration Date(s): 06/24/99 06/24/99

Calibration Time(s): 0625 1612

LAB FILE ID: RRF2: HPID1156 RRF5: HPID1157 RRF10: HPID1158
RRF20: HPID1160 RRF40: HPID1159

COMPOUND	RRF2	RRF5	RRF10	RRF20	RRF40
TBA **	276	244	221	216	
MTBE	38438	37073	37503	34065	30604
DIPE	43714	43006	41339	36452	35302
Benzene	82903	83864	82293	73347	69382
Toluene	82292	82564	81563	72484	67614
Chlorobenzene	89326	91231	89788	80082	75548
Ethylbenzene	73254	76338	75325	67728	63115
Xylene (Total)	81708	84703	83091	74354	69183
1,3-Dichlorobenzene	74698	77530	76630	69248	65180
1,4-Dichlorobenzene	76786	78074	76817	68912	65200
1,2-Dichlorobenzene	62646	64285	63577	57339	54578
Naphthalene	54193	55182	56765	58158	56175
a,a,a-Trifluorotoluene(sur)	24216	24687	24754	21670	20780

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

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Instrument ID: VOAGC2

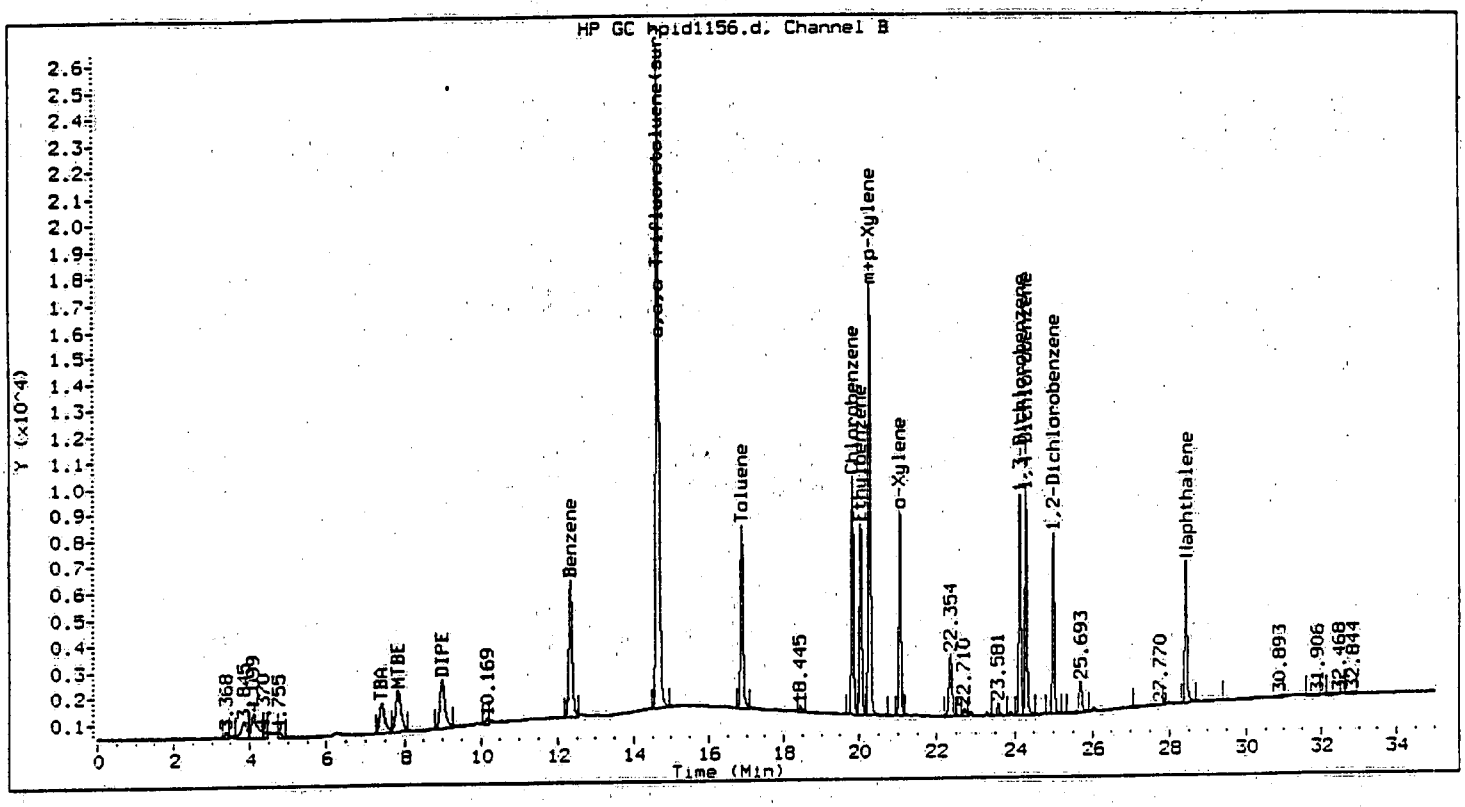
Calibration Date(s): 06/24/99 06/24/99

Calibration Time(s): 0625 1612

COMPOUND	CURVE	COEFFICENT A1	%RSD OR R^2
TBA **	AVRG	239	12*
MTBE	AVRG	35537	9.0*
DIPE	AVRG	39963	9.6*
Benzene	AVRG	78358	8.4*
Toluene	AVRG	77303	8.9*
Chlorobenzene	AVRG	85195	8.2*
Ethylbenzene	AVRG	71152	7.8*
Xylene (Total)	AVRG	78608	8.4*
1,3-Dichlorobenzene	AVRG	72657	7.2*
1,4-Dichlorobenzene	AVRG	73158	7.8*
1,2-Dichlorobenzene	AVRG	60485	7.1*
Naphthalene	AVRG	56094	2.7*
a,a,a-Trifluorotoluene(sur)	AVRG	23221	8.0*

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

Data File: /chem/VOAGC2.i/602/06-24-99/24jun99.b/hpid1156.d Page 1
Report Date 07/09/1999 09:29



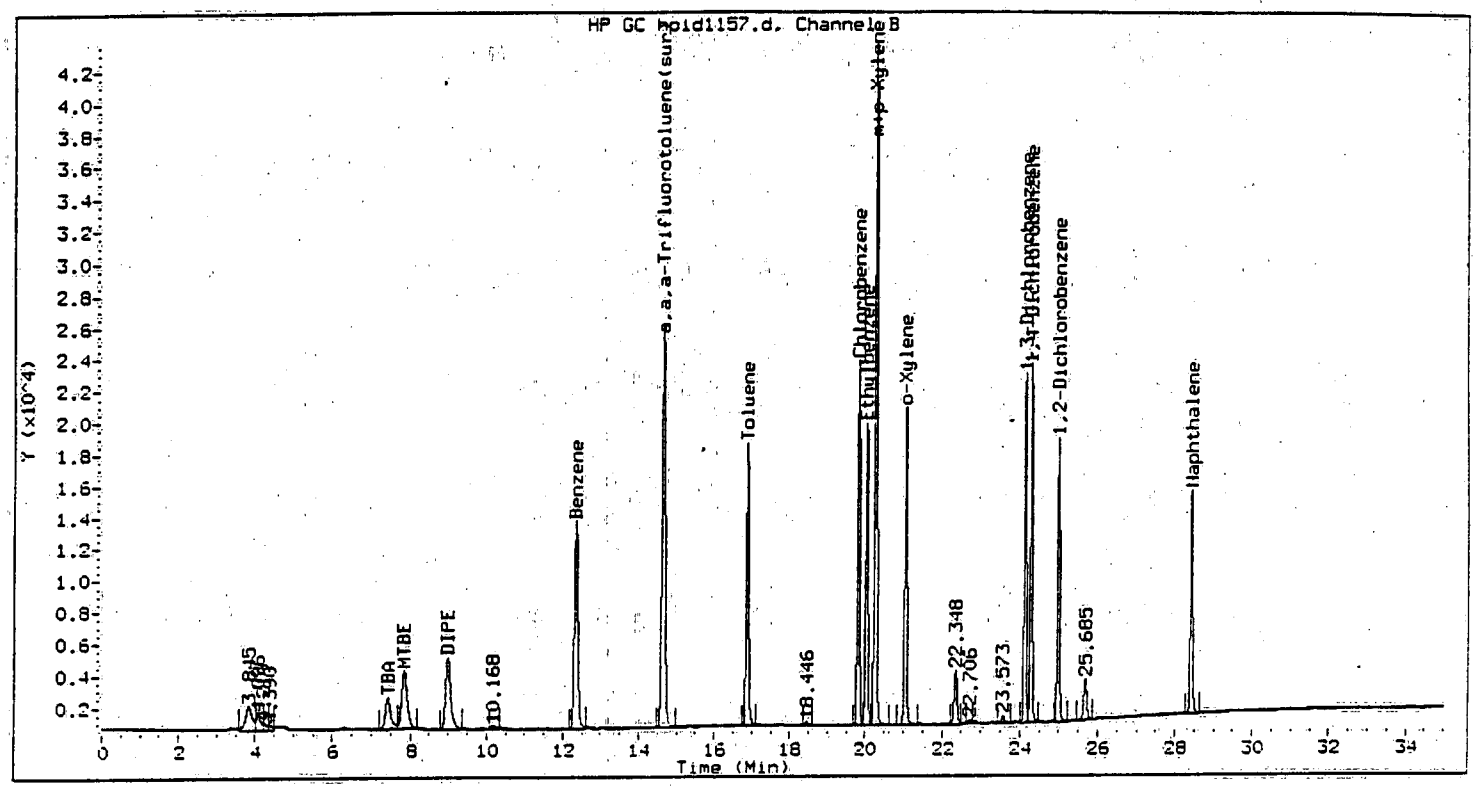
Method : /chem/VOAGC2.i/602/06-24-99/24jun99.b/602_99.m
Sample Info : HSTD002
Lab ID : HSTD002
Inj Date : 24-JUN-1999 06:25
Operator : SP
Cpnd Sublist: all

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

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
o-Xylene	21.054	21.034	0.021	152945	2.096	2.096
m+p-Xylene	20.268	20.248	0.021	337304	4.139	4.139
TBA	7.415	7.408	0.006	55304	228.864	228.864
MTBE	7.839	7.823	0.016	76876	2.148	2.148
DIPE	8.990	8.969	0.020	87428	2.188	2.188
Benzene	12.342	12.317	0.025	165806	2.116	2.116
Toluene	16.881	16.859	0.022	164583	2.117	2.117
Chlorobenzene	19.819	19.797	0.022	178653	2.095	2.095
Ethylbenzene	20.036	20.015	0.021	146509	2.057	2.057

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
Xylene (Total)	25.019	25.019	0.000	490249	6.233	6.233
1,3-Dichlorobenzene	24.136	24.116	0.020	149396	2.056	2.056
1,4-Dichlorobenzene	24.296	24.275	0.021	153573	2.099	2.099
1,2-Dichlorobenzene	24.992	24.971	0.021	125293	2.071	2.071
Naphthalene	28.433	28.406	0.027	108386	1.934	1.934
a,a,a-Trifluorotoluene(sur)	14.649	14.626	0.023	726477	31.210	31.210

Data File: /chem/VOAGC2.i/602/06-24-99/24jun99.b/hpid1157.d Page 1
Report Date 07/09/1999 09:29



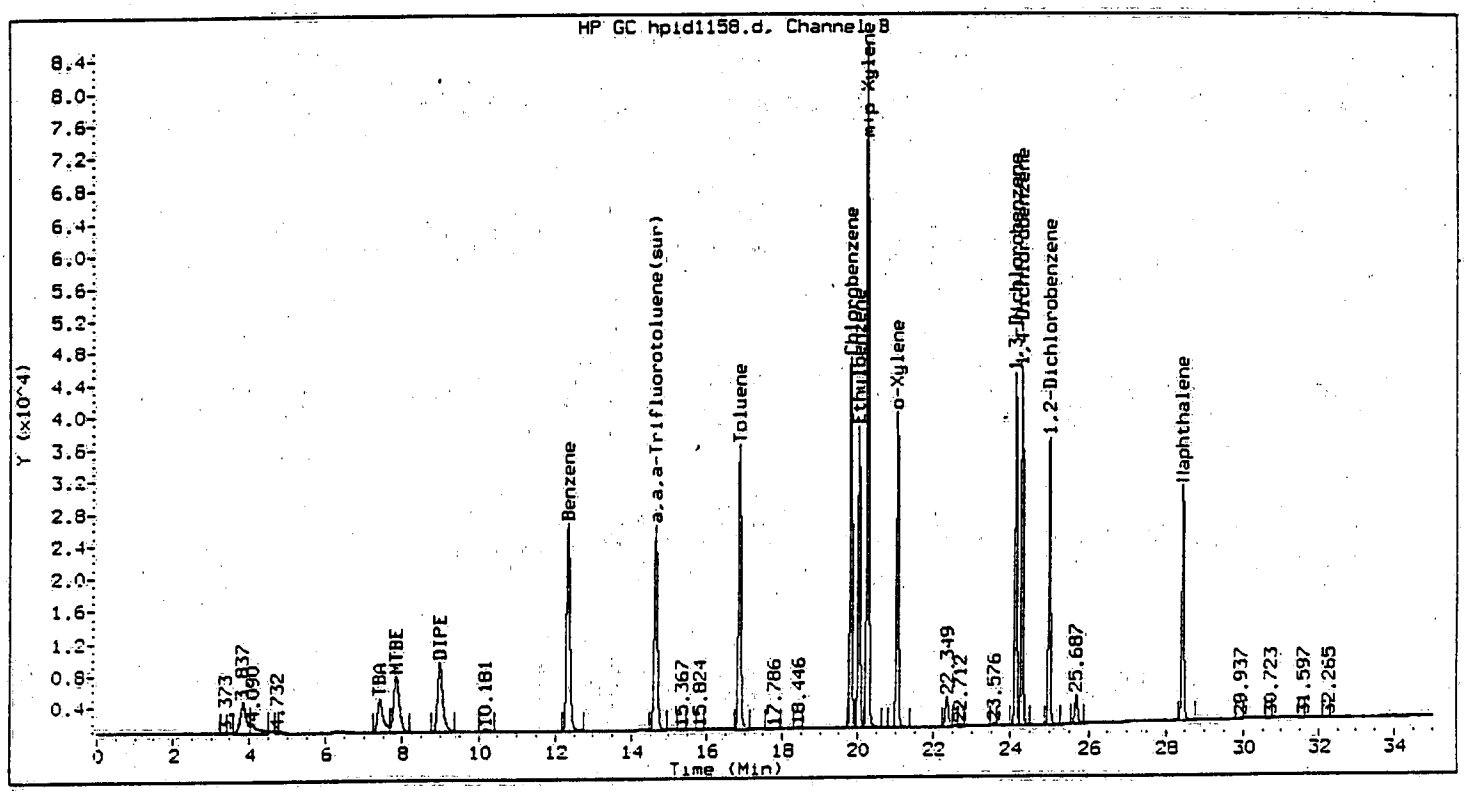
Method : /chem/VOAGC2.i/602/06-24-99/24jun99.b/602_99.m
Sample Info : HSTD005
Lab ID : HSTD005
Inj Date : 24-JUN-1999 07:06
Operator : SP
Cpnd Sublist: all

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

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
o-Xylene	21.048	21.034	0.014	396544	5.434	5.434
m+p-Xylene	20.262	20.248	0.015	874004	10.734	10.734
TBA	7.423	7.408	0.015	97663	407.832	407.832
MTBE	7.846	7.823	0.023	185366	5.216	5.216
DIPE	8.992	8.969	0.022	215031	5.381	5.381
Benzene	12.343	12.317	0.026	419322	5.351	5.351
Toluene	16.877	16.859	0.018	412822	5.340	5.340
Chlorobenzene	19.813	19.797	0.016	456157	5.354	5.354
Ethylbenzene	20.030	20.015	0.016	381691	5.364	5.364

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
Xylene (Total)	25.019	25.019	0.000	1270548	16.163	16.163
1,3-Dichlorobenzene	24.129	24.116	0.013	387651	5.335	5.335
1,4-Dichlorobenzene	24.288	24.275	0.013	390372	5.336	5.336
1,2-Dichlorobenzene	24.984	24.971	0.013	321424	5.314	5.314
Naphthalene	28.422	28.406	0.015	275911	4.919	4.919
a,a,a-Trifluorotoluene(sur)	14.648	14.626	0.021	740604	31.893	31.893

Data File: /chem/VOAGC2.i/602/06-24-99/24jun99.b/hpid1158.d Page 1
Report Date 07/09/1999 09:29



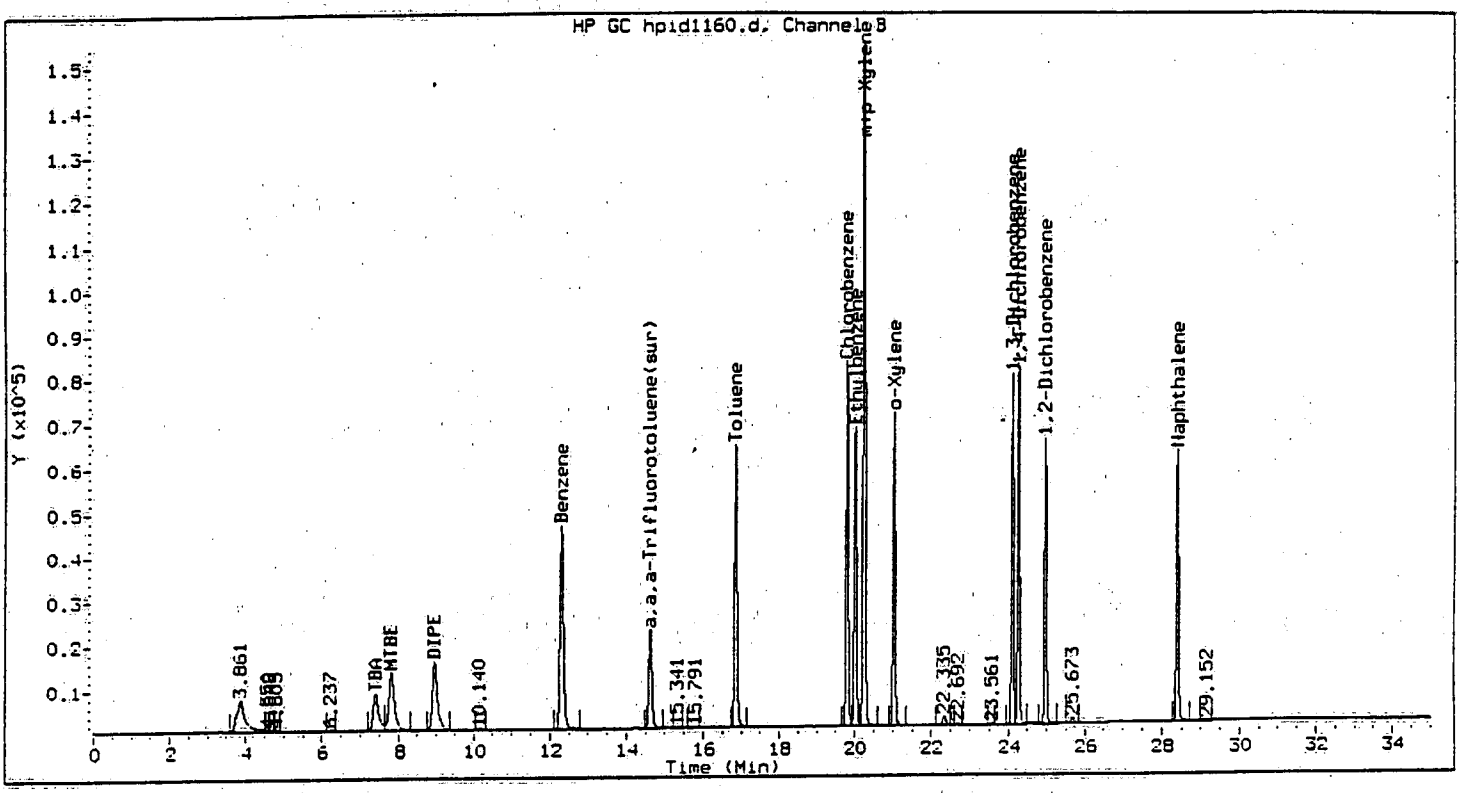
Method : /chem/VOAGC2.i/602/06-24-99/24jun99.b/602_99.m
Sample Info : HSTD010
Lab ID : HSTD010
Inj Date : 24-JUN-1999 07:47
Operator : SP
Cpnd Sublist: all

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

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
o-Xylene	21.048	21.034	0.014	768099	10.526	10.526
m+p-Xylene	20.263	20.248	0.015	1724622	20.894	20.894
TBA	7.415	7.408	0.007	220982	899.775	899.775
MTBE	7.845	7.823	0.022	375032	10.335	10.335
DIPE	8.988	8.969	0.019	413394	10.430	10.430
Benzene	12.340	12.317	0.023	822934	10.487	10.487
Toluene	16.875	16.859	0.016	815630	10.453	10.453
Chlorobenzene	19.813	19.797	0.016	897876	10.515	10.515
Ethylbenzene	20.031	20.015	0.016	753249	10.564	10.564

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
Xylene (Total)	25.019	25.019	0.000	2492721	31.413	31.413
1,3-Dichlorobenzene	24.130	24.116	0.014	766304	10.546	10.546
1,4-Dichlorobenzene	24.289	24.275	0.014	768173	10.510	10.510
1,2-Dichlorobenzene	24.986	24.971	0.015	635770	10.475	10.475
Naphthalene	28.425	28.406	0.019	567649	9.937	9.937
a,a,a-Trifluorotoluene(sur)	14.646	14.626	0.019	742607	31.611	31.611

Data File: /chem/VOAGC2.i/602/06-24-99/24jun99.b/hpid1160.d Page 1
Report Date 07/09/1999 09:29

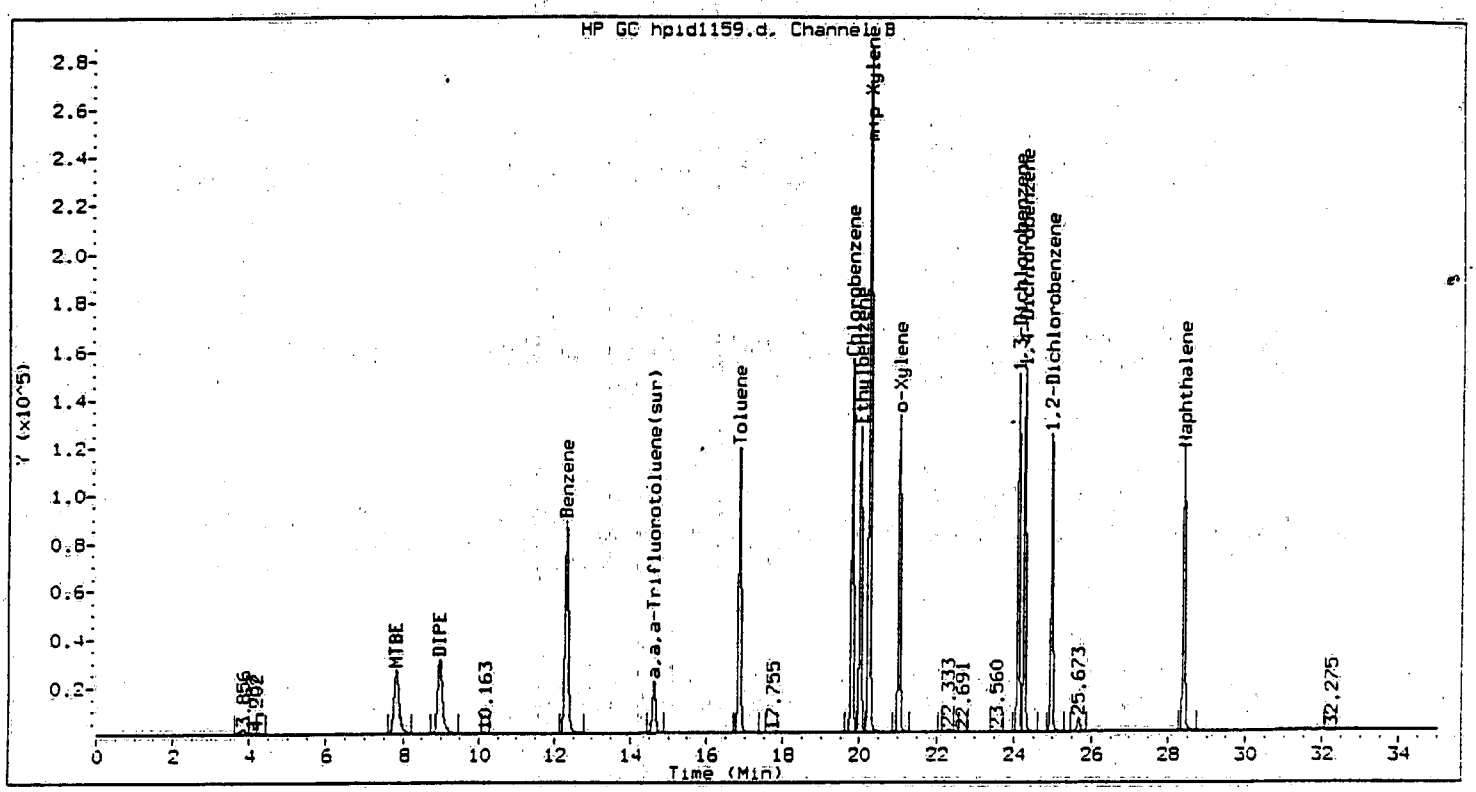


Method : /chem/VOAGC2.i/602/06-24-99/24jun99.b/602_99.m
Sample Info : HSTD020
Lab ID : HSTD020
Inj Date : 24-JUN-1999 16:12
Operator : SP
Cpnd Sublist: all

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

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
o-Xylene	21.034	21.034	0.000	1364564	18.700	18.700
m+p-Xylene	20.248	20.248	0.000	3096698	37.998	37.998
TBA	7.408	7.408	0.000	432431	1760.735	1760.735
MTBE	7.823	7.823	0.000	681295	18.774	18.774
DIPE	8.969	8.969	0.000	729036	18.394	18.394
Benzene	12.317	12.317	0.000	1466935	18.710	18.710
Toluene	16.859	16.859	0.000	1449688	18.648	18.648
Chlorobenzene	19.797	19.797	0.000	1601648	18.778	18.778
Ethylbenzene	20.015	20.015	0.000	1354561	19.014	19.014

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
Xylene (Total)	25.019	25.019	0.000	4461262	56.719	56.719
1,3-Dichlorobenzene	24.116	24.116	0.000	1384956	19.057	19.057
1,4-Dichlorobenzene	24.275	24.275	0.000	1378234	18.838	18.838
1,2-Dichlorobenzene	24.971	24.971	0.000	1146775	18.990	18.990
Naphthalene	28.406	28.406	0.000	1163154	20.767	20.767
a,a,a-Trifluorotoluene(sur)	14.626	14.626	0.000	650106	27.867	27.867



Method : /chem/VOAGC2.i/602/06-24-99/24jun99.b/602_99.m
Sample Info : HSTD040
Lab ID : HSTD040
Inj Date : 24-JUN-1999 15:29
Operator : SP
Cpnd Sublist: all

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

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
o-Xylene	21.032	21.034	0.002	2561471	35.102	35.102
m+p-Xylene	20.247	20.248	0.001	5740442	70.437	70.437
MTBE	7.821	7.823	0.002	1224170	33.734	33.734
DIPE	8.966	8.969	0.003	1412073	35.627	35.627
Benzene	12.315	12.317	0.002	2775274	35.397	35.397
Toluene	16.857	16.859	0.002	2704562	34.789	34.789
Chlorobenzene	19.796	19.797	0.001	3021936	35.429	35.429
Ethylbenzene	20.014	20.015	0.001	2524602	35.437	35.437
Xylene (Total)	25.019	25.019	0.000	8301913	105.548	105.548

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1,3-Dichlorobenzene	24.114	24.116	0.001	2607200	35.876	35.876
1,4-Dichlorobenzene	24.274	24.275	0.001	2608014	35.647	35.647
1,2-Dichlorobenzene	24.970	24.971	0.001	2183111	36.152	36.152
Naphthalene	28.405	28.406	0.001	2246991	39.792	39.792
a,a,a-Trifluorotoluene(sur)	14.624	14.626	0.002	623394	26.722	26.722

VOLATILE ORGANICS CONTINUING CALIBRATION CHECK

Instrument ID: VOAGC2 Calibration Date: 07/30/99 Time: 0836

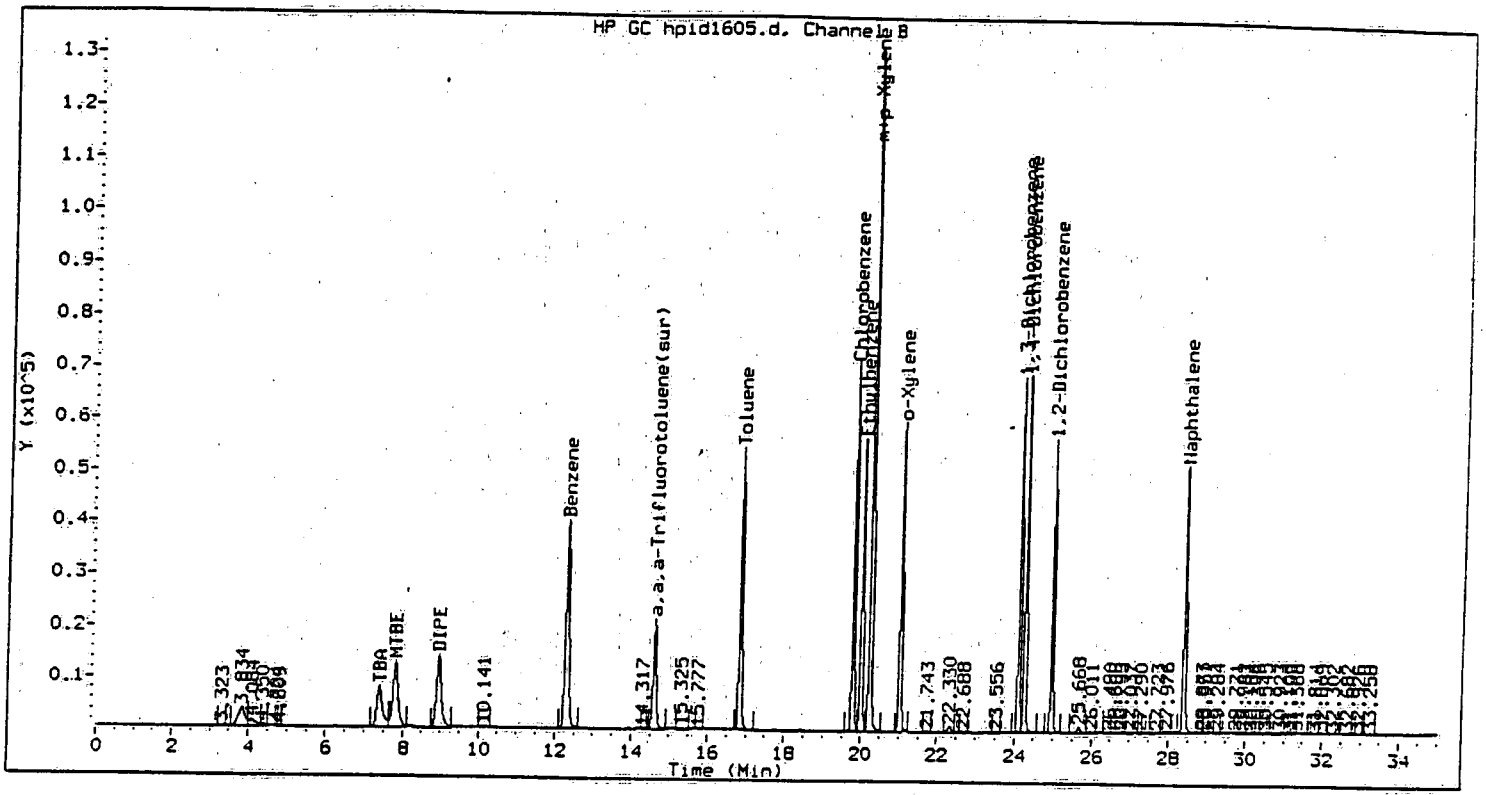
Lab File ID: HPID1605 Init. Calib. Date(s): 06/24/99 06/24/99

Heated Purge: (Y/N) N Init. Calib. Times: 0625 1612

COMPOUND	RRF	RRF20	MIN RRF	%D	MAX %D
TBA **	239.47	199.76		16.6	50.0
MTBE	35536.68	31576.35		11.1	50.0
DIPE	39962.64	31885.80		20.2	50.0
Benzene	78357.88	65389.55		16.6	23.0
Toluene	77303.47	61854.70		20.0	22.5
Chlorobenzene	85195.26	69427.60		18.5	19.5
Ethylbenzene	71152.14	56477.15		20.6	37.0
Xylene (Total)	78607.81	62942.22		19.9	50.0
1,3-Dichlorobenzene	72657.28	59696.60		17.8	27.5
1,4-Dichlorobenzene	73158.05	60062.65		17.9	30.5
1,2-Dichlorobenzene	60484.97	50376.80		16.7	32.0
Naphthalene	56094.52	50499.15		10.0	50.0
a,a,a-Trifluorotoluene(sur)	23221.25	21567.50		7.1	22.0

** TBA Continuing Calibration Level is RF2000.

Data File: /chem/VOAGC2.i/602/06-24-99/30JULY99.b/hpid1605.d
Report Date 08/02/1999 09:03



Method : /chem/VOAGC2.i/602/06-24-99/30JULY99.b/602_99.m
Sample Info : HSTD020
Lab ID : HSTD020
Inj Date : 30-JUL-1999 08:36
Operator : CK
Cpnd Sublist: all

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

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
o-Xylene	21.026	21.026	0.000	1144025	15.678	15.678
m+p-Xylene	20.239	20.239	0.000	2632508	32.330	32.330
TBA	7.396	7.396	0.000	399527	1668.389	1668.389
MTBE	7.809	7.809	0.000	631527	17.771	17.771
DIPE	8.956	8.956	0.000	637716	15.958	15.958
Benzene	12.306	12.306	0.000	1307791	16.690	16.690
Toluene	16.847	16.847	0.000	1237094	16.003	16.003
Chlorobenzene	19.788	19.788	0.000	1388552	16.298	16.298
Ethylbenzene	20.006	20.006	0.000	1129543	15.875	15.875

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
Xylene (Total)	25.019	25.019	0.000	3776533	48.043	48.043
1,3-Dichlorobenzene	24.109	24.109	0.000	1193932	16.432	16.432
1,4-Dichlorobenzene	24.268	24.268	0.000	1201253	16.420	16.420
1,2-Dichlorobenzene	24.964	24.964	0.000	1007536	16.658	16.658
Naphthalene	28.399	28.399	0.000	1009983	18.005	18.005
a,a,a-Trifluorotoluene(sur)	14.615	14.615	0.000	647025	27.863	27.863

VOLATILE ORGANICS CONTINUING CALIBRATION CHECK

Instrument ID: VOAGC2 Calibration Date: 08/02/99 Time: 0837

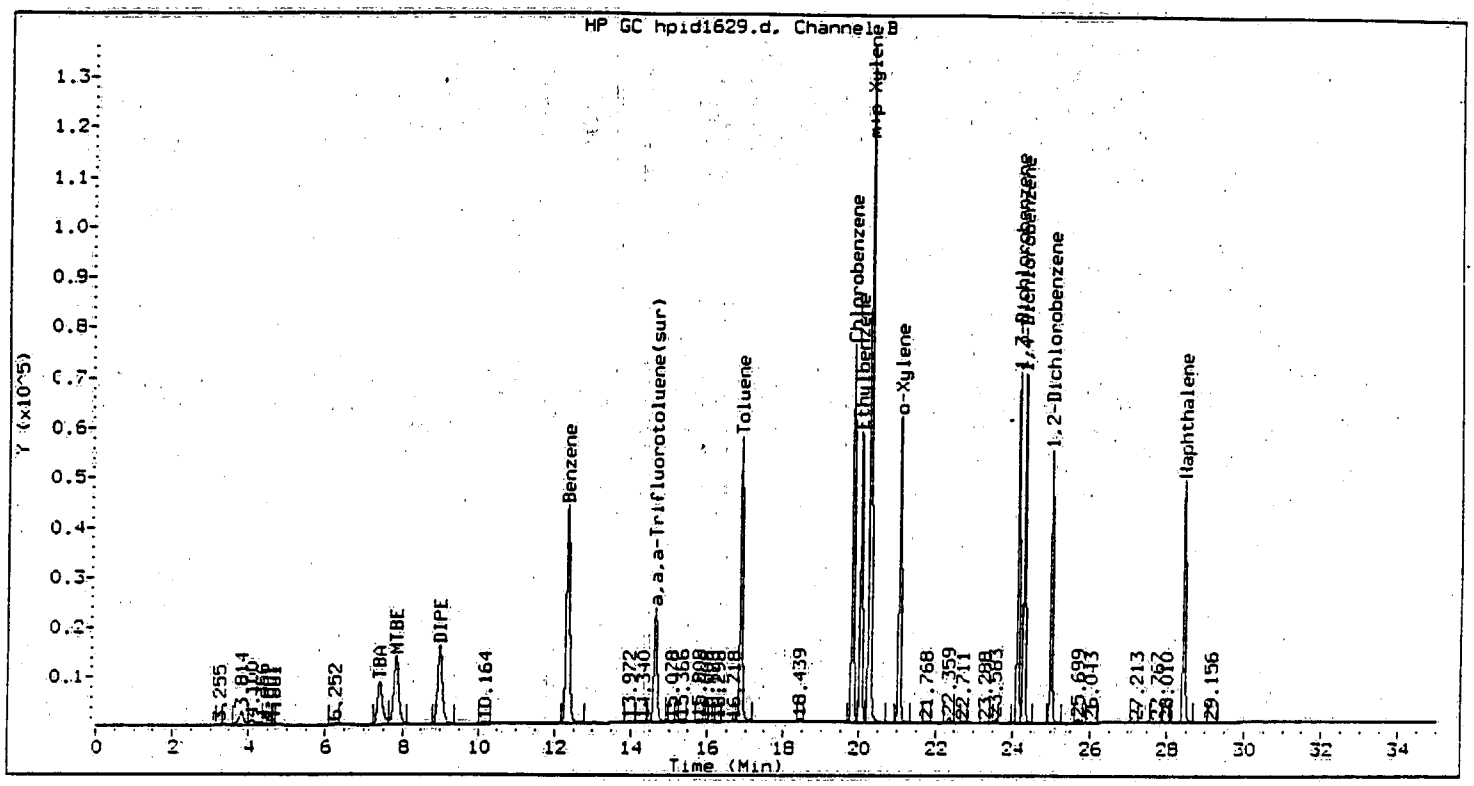
Lab File ID: HPID1629 Init. Calib. Date(s): 06/24/99 06/24/99

Heated Purge: (Y/N) N Init. Calib. Times: 0625 1612

COMPOUND	$\overline{RRF}$	RRF20	MIN RRF	%D	MAX %D
TBA **	239.47	204.35		14.7	50.0
MTBE	35536.68	32050.10		9.8	50.0
DIPE	39962.64	34641.80		13.3	50.0
Benzene	78357.88	70664.90		9.8	23.0
Toluene	77303.47	65819.60		14.8	22.5
Chlorobenzene	85195.26	73215.50		14.1	19.5
Ethylbenzene	71152.14	58553.15		17.7	37.0
Xylene (Total)	78607.81	65706.63		16.4	50.0
1,3-Dichlorobenzene	72657.28	61546.60		15.3	27.5
1,4-Dichlorobenzene	73158.05	60613.15		17.1	30.5
1,2-Dichlorobenzene	60484.97	48410.20		20.0	32.0
Naphthalene	56094.52	47247.25		15.8	50.0
a,a,a-Trifluorotoluene(sur)	23221.25	23099.83		0.5	22.0

** TBA Continuing Calibration Level is RF2000.

Data File: /chem/VOAGC2.i/602/06-24-99/02AUG99.b/hpid1629.d Page 1
Report Date 08/03/1999 07:02



Method : /chem/VOAGC2.i/602/06-24-99/02AUG99.b/602_99.m
Sample Info : HSTD020
Lab ID : HSTD020
Inj Date : 02-AUG-1999 08:37
Operator : CK
Cpnd Sublist: all

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

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
o-Xylene	21.055	21.055	0.000	1197212	16.407	16.407
m+p-Xylene	20.268	20.268	0.000	2745186	33.714	33.714
TBA	7.406	7.406	0.000	408700	1706.695	1706.695
MTBE	7.837	7.837	0.000	641002	18.038	18.038
DIPE	8.983	8.983	0.000	692836	17.337	17.337
Benzene	12.338	12.338	0.000	1413298	18.036	18.036
Toluene	16.873	16.873	0.000	1316392	17.029	17.029
Chlorobenzene	19.817	19.817	0.000	1464310	17.188	17.188
Ethylbenzene	20.035	20.035	0.000	1171063	16.459	16.459

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
Xylene (Total)	25.019	25.019	0.000	3942398	50.153	50.153
1,3-Dichlorobenzene	24.138	24.138	0.000	1230932	16.942	16.942
1,4-Dichlorobenzene	24.298	24.298	0.000	1212263	16.570	16.570
1,2-Dichlorobenzene	24.994	24.994	0.000	968204	16.007	16.007
Naphthalene	28.435	28.435	0.000	944945	16.846	16.846
a,a,a-Trifluorotoluene(sur)	14.643	14.643	0.000	692995	29.843	29.843

VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Matrix: WATER Level: LOW Lab Job No: R704

	LAB SAMPLE NO.	SMC1 #	SMC2 #	OTHER	TOT OUT
01	HG211	88			0
02	145553	87			0
03	145554	87			0
04	145557	87			0
05	145558	87			0
06	145560	90			0
07	145561	87			0
08	145563	90			0
09	HG214	93			0
10	145559	97			0
11	145559MS	102			0
12	145559MSD	103			0
13					
14					
15					
16					
17					
18					
19					
20					
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.: 145559

MS Sample from Lab Job No: R704

QA Batch: 6839

Compound	MS % REC.	BS % REC.	LIMITS
Benzene	95	90	39-150
Toluene	88	90	46-148
Chlorobenzene	95	85	55-135
Ethylbenzene	110	85	32-160
1,3-Dichlorobenzene	90	85	50-141
1,4-Dichlorobenzene	90	85	42-143
1,2-Dichlorobenzene	85	80	37-154

* Values outside of QC limits

Spike Recovery: 0 out of 14 outside limits

COMMENTS: