

APR 16 2001

**FIRST QUARTER 2001  
GROUNDWATER MONITORING RESULTS  
B&C Gas Mini Mart  
Livermore, California**

*Apr 2001*

Prepared by

Conor Pacific  
2580 Wyandotte Street, Suite G  
Mountain View, California 94043

April 2001

Project BNC 103

# Conor Pacific

April 12, 2001  
Project No. BNC103

Mr. Balaji Angle  
Angle Enterprises  
5131 Shattuck Avenue  
Oakland, California 94609

Re: First Quarter 2001 Groundwater Monitoring Results, B&C Gas Mini Mart,  
2008 First Street, Livermore, California (Station ID 1689)

Dear Mr. Angle:

Conor Pacific has compiled first quarter 2001 groundwater monitoring results for B&C Gas Mini Mart (B&C), 2008 First Street, Livermore, California (Figure 1). This report includes first quarter 2001 groundwater elevation data, groundwater sampling methods, and results of groundwater chemical analyses. Nine out of the sixteen on- and off-site monitoring wells are scheduled to be sampled during the first quarter. During the first quarter 2001 sampling event, eight of the nine wells were sampled. Wells MW-5 and (MS) MW-1 were not sampled since free product was observed during well purging.

## SITE INFORMATION

### Canada

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### Site Name & Contact

Mr. Balaji Angle  
B&C Gas Mini Mart  
2008 First Street  
Livermore, California 94550  
(510) 654-3461

### Site Description

The B&C property is located on the northeast corner of First and South L Streets in Livermore, California, and currently serves as a gasoline station and mini market and is called Valley Gas. From at least 1988 until 1994, Desert Petroleum (DP) owned and operated the site. In January 1994, DP sold the site to the current owner, Mr. Balaji Angle. The following site description has been compiled from reports on file with Alameda County Environmental Health Services (ACEHS) and information provided by the site owner.

The site is located in the Livermore Valley groundwater basin, an area of sedimentary deposition containing braided channel systems with complex interfingering. Subsurface

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investigations conducted to the west of the B&C site have found an upper unconfined water-bearing zone consisting primarily of gravels with sand and clay. A low-permeability clayey unit is found at depths of approximately 75 to 110 feet below ground surface (bgs). Below the clayey unit, the top of a lower, semi-confined aquifer is found at depths ranging from 110 to 145 feet bgs.<sup>1</sup>

Subsurface work conducted in the B&C area has found predominantly sandy clay, silty sand, silty gravel, and sandy gravel. Over the last eleven years, static water levels have ranged from 68.7 feet bgs (January 1992) to 17.0 feet bgs (February 1997). The groundwater flow generally ranges from west of north during the summer and fall months, to north of west during the winter and spring months. Table 1 presents historical site groundwater elevations.<sup>2</sup> Table 2 summarizes all B&C monitoring well constructions.

### **Previous Work Performed at Site**

A preliminary site assessment was conducted in September 1988. Three soil borings were completed; one of which was converted to a monitoring well (MW-1). In March 1994, a 280-gallon waste oil underground storage tank (UST) and 25 cubic yards of soil were removed as part of closing the auto repair shop at the station. Three months later in June, wells MW-2, MW-3, and MW-4 were installed (Figure 2).<sup>3</sup>

In August 1994, free product was encountered in well MW-2, and product removal commenced twice a month. By the end of January 1995, no measurable thickness of product remained, only sheen could be detected.<sup>4</sup> In March 1995, a release was reported to have occurred from the union between a tank subpump and product line. The quantity of the release is unknown.

One gasoline UST at the B&C site failed an integrity test in September 1995. The tank was immediately taken out of commission and ACEHS was notified. In July 1996, further source removal was conducted. Two more gasoline USTs were removed, and new double-walled fiberglass USTs and fiberglass piping with automated leak detection were installed. Other remedial activities included the removal of two hydraulic lifts and approximately 700 cubic yards of impacted soil. Also, one 1,000-gallon UST discovered during excavation activities was closed in place with approval from ACEHS and the Livermore Fire Department by grouting with a cement sand slurry. In October 1995, two additional monitoring wells (off-site well MW-5 and well MW-6) were installed for the B&C site (Figure 2).

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<sup>1</sup> H+GCL, Inc. Deep Groundwater Conduit Study, Livermore Arcade Shopping Center, First Street and South P Street, Livermore, California. December 6, 1993.

<sup>2</sup> Groundwater elevation and flow direction data from Remediation Service Int'l quarterly reports.

<sup>3</sup> Remediation Service Int'l. Soil & Groundwater Investigation Report for 2008 First Street, Livermore, California. July 22, 1994.

<sup>4</sup> Product thickness information from Remediation Service, Int'l field records, "Free Product Removal Logs."

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Nine downgradient wells (MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13, D-1, and D-2) were installed during June and July 1999 to define the downgradient and lateral extent of the plume and provide long-term monitoring locations (Figure 2).<sup>5</sup> Two of the wells, D-1 and D-2, are installed in the semi-confined aquifer below the aquitard. The other wells are installed in the upper water-bearing zone. Table 1 summarizes the well construction details for all on-site and off-site wells installed to date.

The primary constituents of concern are total petroleum hydrocarbons as gasoline (TPH-G); the aromatic compounds benzene, toluene, ethylbenzene, and xylenes (collectively referred to as BTEX); and methyl tertiary-butyl ether (MTBE). Since 1994, concentrations of TPH-G in groundwater have generally decreased.

### **Interim Remedial Action at Well MW-5**

Floating product was first observed in well MW-5 on July 30, 1998 (Table 2). The well is screened from 15 feet to 40 feet bgs, and the depth to groundwater has historically ranged from 18 to 33 feet bgs, well within the screened interval of the well. Due to the presence of floating free product in well MW-5, interim remedial actions were taken to remove the floating product from the well. A passive bailer or absorbent sock was selected to remove product from well MW-5 based on well access, the thickness of the product, and the rate at which the product enters the well as it is removed.

Over the time period monitored, the absorbent socks have removed sufficient product to reduce the free product thickness to a sheen or less. During the four sampling events in 2000, free product was not measured in well MW-5 and sampling was conducted. However, free product was observed during the purging of well MW-5 during the March 2001 sampling event. The absorbent sock was replaced in the well and groundwater samples were not collected.

## **GROUNDWATER SAMPLING AND ANALYSIS**

First quarter activities are reviewed below. Groundwater sampling methods and results are presented and a discussion of historical analytical trends for site monitoring wells is included.

### **Free Product**

During the first quarter 2001 sampling event, Conor Pacific checked for free product in all site wells. Of the wells which previously have been reported to contain free product (Wells MW-2, MW-5, and MW-6), none contained a measurable thickness of product this quarter. However, well MW-5 and off-site well (MS) MW-1, contained free product that was observed during well purging.

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<sup>5</sup> Einarson, Fowler & Watson, November 5, 1999, Report of Downgradient Investigation, B&C Gas Mini Mart, 2008 First Street, Livermore, California.

## Groundwater Elevations

On March 21, 2001, Conor Pacific measured the depth to water in all groundwater monitoring wells. Water levels were measured to the nearest 0.01 foot using a float-activated product probe, according to Conor Pacific's standard measuring protocol,<sup>6</sup> and were recorded on a water level data sheet (Appendix A). Groundwater elevations are calculated by subtracting depth-to-water measurements from the top of well casing elevations, surveyed to Livermore City datum, mean sea level (MSL).

Table 2 summarizes available groundwater elevations from August 1990 to March 2001. A comparison of well screen elevations (Table 1) and fourth quarter measurements shows that the water levels were below the top of the well screen in wells MW-1, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, and (MS)MW-1. A groundwater contour map, based on March 2001 measurements, is shown in Figure 2. First quarter groundwater elevations are generally about one foot higher than the fourth quarter 2001. Groundwater flow was generally due west during first quarter 2001 and the hydraulic gradient is approximately 0.013 foot per foot. The flow direction and gradient are in accordance with previous results.

A slight vertically downward gradient was observed between the upper water-bearing zone (MW-11) and the semi-confined aquifer (D-1), as has been observed during previous quarters. This may be the result of the effects of slower recharge to the deeper, semi-confined aquifer compared with more rapid recharge to the upper water-bearing zone. The well pair MW-12 and D-2 had very similar water levels during this quarterly event.

## Sampling Methods

Conor Pacific sampled seven monitoring wells on March 21 and 23, 2001, following Conor Pacific's standard protocol. The first quarter is a regular quarterly sampling event, during which nine monitoring wells are sampled, when possible. Well MW-5 and off-site well (MS)MW-1 were not sampled this quarter due to the presence of free product globules observed during well purging. Wells were purged using either a submersible pump or a polyvinyl chloride (PVC) bailer. Samples were collected from each well using a disposable PVC bailer. Field measurements of temperature, pH, dissolved oxygen, turbidity, and electrical conductivity were taken and recorded on water sample field data sheets (Appendix A). All purge water was contained in 55-gallon drums and stored on-site pending proper disposal. Purge water with low hydrocarbon concentrations is pumped to the sanitary sewer under City of Livermore Groundwater Discharge Permit # 1514. All samples were properly stored on the day of sampling. Chain-of-custody documentation accompanied the samples through collection and delivery to the analytical laboratory.

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<sup>6</sup> Einarson, Fowler & Watson. Third Quarter 1998 Groundwater Monitoring Results, B&C Gas Mini Mart, Livermore, California, Appendix A. September 10, 1998.

### **Analytical Program**

All groundwater analyses were performed by Sequoia Analytical of Petaluma, California, a state-certified laboratory. All groundwater samples were analyzed for total petroleum hydrocarbons as gasoline (TPH-G) by U.S. Environmental Protection Agency (EPA) Method 8015M and benzene, toluene, ethylbenzene, and xylenes (BTEX) and methyl tertiary-butyl ether (MTBE) by EPA Method 8020M. At the request of the ACEHS, the groundwater sample collected from MW-2 was also analyzed by EPA Method 8260B for seven oxygenates including MTBE. Laboratory analyses occurred within specified holding times and within laboratory quality control standards. The certified analytical report is located in Appendix A.

### **Analytical Results**

Over the last seven years of monitoring at the site, concentrations of benzene have steadily decreased in all site wells. Analysis of site groundwater samples for MTBE began in June 1995. Since then, concentrations of MTBE have decreased significantly. During the first quarter 2001, hydrocarbon concentrations increased in wells MW-2, MW-7, and MW-13 when compared to the previous quarter. Seasonal changes in hydrocarbon concentrations have been evident during the past fourth quarters, probably a reflection of seasonal water level fluctuations. Well MW-8 had lower MTBE concentrations than previously detected. The remaining wells sampled (MW-10, MW-12, and D-2) did not detect hydrocarbon concentrations, consistent with previous results. Table 3 presents a historical summary of groundwater analytical results from the B&C site. First quarter 2001 analytical results for benzene and MTBE are also presented on Figure 3.

### **SUMMARY**

The first quarter 2001 was a regular quarterly sampling event where nine of the sixteen on- and off-site wells are sampled, when possible. Seven of the nine monitoring wells were sampled this quarter. The first quarter 2001 groundwater monitoring results are consistent with previous monitoring results. The furthest downgradient detection of a hydrocarbon is MTBE detected at 2.93 micrograms per liter ( $\mu\text{g/L}$ ) in well MW-8, approximately 1,200 feet from the site. The concentration of MTBE at well MW-8 have gradually been decreasing during the past two years.

### **FUTURE WORK**

At the request of the ACEHS, Conor Pacific submitted a workplan proposing the installation of two additional groundwater monitoring wells to better delineate the extent of the MTBE and BTEX plume.<sup>7</sup> The ACEHS approved the workplan in January 2001.<sup>8</sup>

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<sup>7</sup> Conor Pacific. Workplan Addendum for Additional Downgradient Investigation, B&C Gas Mini Mart, 2008 First Street, Livermore, California. January 2, 2001.

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Conor Pacific is having discussions with off-site property owners and is considering collecting water samples with a push-in type sampling device at off-site locations instead of installing permanent monitoring wells. The work will begin after obtaining approval of the cost estimate from the Underground Storage Tank Fund, which is expected to occur during the second quarter 2001.

Second quarter 2001 groundwater monitoring currently is scheduled for June 2001.

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<sup>8</sup> Alameda County Health Care Services. Letter re: Workplan Approval for B&C Gas Mini Mart, 2008 1<sup>st</sup> Street, Livermore, California. January 5, 2001.

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April 12, 2001  
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If you have any questions regarding this report, please call us at (650) 386-3828.

Sincerely,  
Conor Pacific



Mark Smolley, RG 4650  
Senior Geologist

Attachments:

Tables

- Table 1 - Summary of Groundwater Elevations
- Table 2 - Monitoring Well Constructions
- Table 3 - Historical Groundwater Analytical Results

Figures

- Figure 1 - Site Location
- Figure 2 - Well Locations and Groundwater Contours (December 2000)
- Figure 3 - Groundwater Chemistry (December 2000)

Appendices

- Appendix A - Water Sample Field Data Sheets and Certified Analytical Reports

cc: Eva Chu, Alameda County Environmental Health Services  
Ms. Carol Mahoney, Alameda Co. Flood Control and Water Cons. District Zone 7  
Regional Water Quality Control Board, San Francisco Bay Region LUFT  
State Water Resources Control Board, UST Fund



Table 1  
Monitoring Well Constructions  
B&C Gas Mini Mart  
Livermore, California

Well No.	Drilling Method	Date Installed	T.D. Boring (ft.-bgs)	T.D. Well (ft.-bgs)	Borehole Diameter (inches)	Casing Material (PVC)	Casing Diameter (inches)	Screen Size (inches)	Sand Pack Material	Screened Interval (ft.-bgs)	Sand Pack Interval (ft.-bgs)
MW-1	HSA	Sep-88	77	77	8	PVC	2	0.020	#3 sand	27 - 77	25 - 77
MW-2	HSA	Jun-94	60	60	10	PVC	4	0.020	#2/20 sand	30 - 60	27 - 60
MW-3	HSA	Jun-94	60	60	10	PVC	4	0.020	#2/20 sand	30 - 60	27 - 60
MW-4	HSA	Jun-94	60	60	10	PVC	4	0.020	#2/20 sand	30 - 60	27 - 60
MW-5	HSA	Oct-95	42	40	10	PVC	4	0.020	#2 sand	15 - 40	12 - 40
MW-6	HSA	Oct-95	42	40	10	PVC	4	0.020	#2 sand	15 - 40	12 - 40
MW-7	HSA	Jun-99	62	49	8	PVC	2	0.020	#3 sand	29-49	27-51
MW-8	HSA	Jun-99	62	54	8	PVC	2	0.020	#3 sand	34-54	32-54
MW-9	HSA	Jun-99	45	45	8	PVC	2	0.020	#3 sand	25-45	23-45
MW-10	HSA	Jun-99	55	53.5	8	PVC	2	0.020	#3 sand	33.5-53.5	23-55
MW-11	HSA	Jun-99	50	49	8	PVC	2	0.020	#3 sand	29-49	27-49
MW-12	HSA	Jun-99	45	43.5	8	PVC	2	0.020	#3 sand	23.5-43.5	21-45
MW-13	HSA	Jul-99	55	55	8	PVC	2	0.020	#3 sand	35-55	32-55
D-1	HSA	Jun-99	125	125	8	PVC	2	0.020	#3 sand	110-125	104-125
D-2	HSA	Jun-99	115	114	8	PVC	2	0.020	#3 sand	99-114	94-114
(MS)MW-1	HSA	Apr-89	62	60	NA	PVC	2	NA	NA	30-60	NA

HSA       Hollow-Stem Auger  
T.D.       Total Depth  
ft.-bgs    feet below ground surface  
NA         Not available

Well construction information for wells MW-2 through MW-6 collected from Remediation Service Int'l boring logs.

Table 2  
Summary of Groundwater Elevations  
B & C Gas Mini Mart  
Livermore, California

Well Number	Top-of-Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet)	Groundwater Elevation (feet, MSL)	Depth to Free product (feet)	Product Thickness (feet)
MW-1	487.00	09/22/88	60.50	426.50		
		08/02/90	43.10	443.90		
		10/10/91	66.39	420.61		
		01/08/92	68.72	418.28		
		05/11/93	34.76	452.24		
		09/21/93	38.70	448.30		
		05/22/94	33.57	453.43		
	484.07	06/19/94	37.51	446.56		
		08/25/94	43.27	440.80		
		11/22/94	40.58	443.49		
		03/13/95	28.06	456.01		
		06/01/95	21.76	462.31		
		02/29/96	18.86	465.21		
		Feb-97	NM	NM		
		07/30/98	25.90	458.17		
		11/05/98	33.23	450.84		
		03/23/99	25.49	458.58		
		06/08/99	27.78	456.29		
		09/27/99	30.65	453.42		
		12/20/99	32.99	451.08		
03/21/00	23.95	460.12				
06/21/00	26.55	457.52				
09/12/00	29.58	454.49				
12/07/00	30.70	453.37				
03/21/01	29.80	454.27				
MW-2	483.86	06/19/94	38.15	445.71		
		08/25/94	44.13	-	43.47	0.66
		11/22/94	40.96	-	40.92	0.04
		03/09/95	29.28	-	28.47	0.81
		03/13/95	28.71	-	28.29	0.42
		06/01/95	22.61	461.25		
		02/29/96	20.05	463.81		
		Feb-97	18.30	465.56		
		07/30/98	25.75	-	25.74	0.01
		11/05/98	33.31	450.55		
		03/23/99	25.51	458.35		
		06/08/99	27.54	456.32		
		09/27/99	30.73	453.13		
		12/20/99	33.02	450.84		
		03/21/00	24.13	459.73		
		06/21/00	26.26	457.60		
		09/12/00	29.40	454.46		
12/08/00	30.60	453.26				
03/21/01	29.63	454.23				

Table 2  
Summary of Groundwater Elevations  
B & C Gas Mini Mart  
Livermore, California

Well Number	Top-of-Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet)	Groundwater Elevation (feet, MSL)	Depth to Free product (feet)	Product Thickness (feet)
MW-3	484.24	06/19/94	37.15	447.09		
		08/25/94	42.31	441.93		
		11/22/94	40.07	444.17		
		03/13/95	27.94	456.30		
		06/01/95	21.31	462.93		
		02/29/96	18.78	465.46		
		Feb-97	16.97	467.27		
		07/30/98	24.88	459.36		
		11/05/98	32.09	452.15		
		03/23/99	24.49	459.75		
		06/08/99	26.77	457.47		
		09/27/99	29.52	454.72		
		12/20/99	31.85	452.39		
		03/21/00	22.95	461.29		
		06/21/00	25.60	458.64		
		09/12/00	28.40	455.84		
12/07/00	29.56	454.68				
03/21/01	28.69	455.55				
MW-4	485.04	06/19/94	37.49	447.55		
		08/25/94	42.25	442.79		
		11/22/94	40.59	444.45		
		03/13/95	28.00	457.04		
		06/01/95	21.51	463.53		
		02/29/96	18.42	466.62		
		Feb-97	17.47	467.57		
		07/30/98	25.47	459.57		
		11/05/98	32.67	452.37		
		03/23/99	25.09	459.95		
		06/08/99	27.43	457.61		
		09/27/99	30.16	454.88		
		12/20/99	32.52	452.52		
		03/21/00	23.43	461.61		
		06/21/00	26.14	458.90		
		09/12/00	29.03	456.01		
12/07/00	29.15	455.89				
03/21/01	29.35	455.69				
MW-5	481.97	02/29/96	19.35	462.62		
		Feb-97	18.19	463.78		
		07/30/98	25.25	456.72	25.24	0.01
		11/05/98	32.70	449.27	32.48	0.22
		03/23/99	25.15	456.82		
		06/08/99	27.27	454.70		
		09/27/99	30.00	451.97		
		12/20/99	32.30	449.67	32.23	0.07
		03/21/00	23.55	458.42		
		06/21/00	26.04	455.93		
		09/12/00	28.90	453.07		
		12/07/00	29.89	452.08		
		03/21/01	29.15	452.82		

Table 2  
 Summary of Groundwater Elevations  
 B & C Gas Mini Mart  
 Livermore, California

Well Number	Top-of-Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet)	Groundwater Elevation (feet, MSL)	Depth to Free product (feet)	Product Thickness (feet)
MW-6	483.93	02/29/96	20.32	463.61		
		Feb-97	18.92	465.01		
		07/30/98	25.59	458.34	25.58	0.01
		11/05/98	NM >28.4	NM		
		03/23/99	25.43	458.50		
		06/08/99	27.43	456.50		
		09/27/99	NM >28.6	NM		
		12/20/99	NM >28.7	NM		
		03/21/00	24.02 *	459.91		
		06/21/00	26.04 *	457.89		
		09/12/00	NM >28.7	NM		
		12/07/00	NM >28.6	NM		
		03/21/01	NM >28.7	NM		
MW-7	478.14	7/12/99	28.37	449.77		
		09/27/99	30.20	447.94		
		12/20/99	32.44	445.70		
		03/21/00	24.18	453.96		
		06/21/00	26.70	451.44		
		09/12/00	29.28	448.86		
		12/07/00	30.23	447.91		
		03/21/01	29.39	448.75		
MW-8	473.23	7/12/99	34.29	438.94		
		09/27/99	37.11	436.12		
		12/20/99	39.79	433.44		
		03/21/00	29.10	444.13		
		06/21/00	31.90	441.33		
		09/12/00	35.75	437.48		
		12/07/00	36.88	436.35		
		03/21/01	35.25	437.98		
MW-9	477.08	7/12/99	30.71	446.37		
		09/27/99	32.61	444.47		
		12/20/99	34.99	442.09		
		03/21/00	26.75	450.33		
		06/21/00	29.28	447.80		
		09/12/00	31.65	445.43		
		12/07/00	32.67	444.41		
		03/21/01	31.47	445.61		
MW-10	471.42	7/12/99	34.60	436.82		
		09/27/99	37.62	433.80		
		12/20/99	40.04	431.38		
		03/21/00	29.50	441.92		
		06/21/00	32.19	439.23		
		09/12/00	36.19	435.23		
		12/07/00	37.24	434.18		
		03/21/01	35.77	435.65		
MW-11	464.93	7/12/99	31.00	433.93		
		09/27/99	33.83	431.10		
		12/20/99	35.91	429.02		
		03/21/00	26.41	438.52		
		06/21/00	28.79	436.14		
		09/12/00	32.56	432.37		
		12/07/00	33.40	431.53		
		03/21/01	31.92	433.01		

Table 2  
Summary of Groundwater Elevations  
B & C Gas Mini Mart  
Livermore, California

Well Number	Top-of-Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet)	Groundwater Elevation (feet, MSL)	Depth to Free product (feet)	Product Thickness (feet)
MW-12	458.34	7/12/99	25.50	432.84		
		09/27/99	28.28	430.06		
		12/20/99	30.26	428.08		
		03/21/00	20.70	437.64		
		06/21/00	23.11	435.23		
		09/12/00	27.04	431.30		
		12/07/00	27.67	430.67		
		03/21/01	26.24	432.10		
MW-13	474.79	7/12/99	30.65	444.14		
		09/27/99	32.74	442.05		
		12/20/99	34.98	439.81		
		03/21/00	26.03	448.76		
		06/21/00	28.74	446.05		
		09/12/00	31.62	443.17		
		12/07/00	32.71	442.08		
		03/21/01	31.25	443.54		
D-1	464.70	7/12/99	30.67	434.03		
		09/27/99	35.32	429.38		
		12/20/99	36.32	428.38		
		03/21/00	27.84	436.86		
		06/21/00	30.40	434.30		
		09/12/00	34.11	430.59		
		12/07/00	33.97	430.73		
		03/21/01	32.32	432.38		
D-2	457.61	7/12/99	25.72	431.89		
		09/27/99	28.44	429.17		
		12/20/99	29.40	428.21		
		03/21/00	20.91	436.70		
		06/21/00	23.56	434.05		
		09/12/00	27.23	430.38		
		12/07/00	27.98	429.63		
		03/21/01	25.42	432.19		
(MS)MW-1	477.79	07/30/98	30.37	447.42	30.35	0.02
		11/05/98	38.01	439.78	(1)	
		03/23/99	29.44	448.35	(1)	
		06/08/99	31.70	446.09	(1)	
		09/27/99	34.38	443.41		
		12/20/99	37.36	440.43		
		03/21/00	28.22	449.57		
		06/21/00	30.95	446.84		
		09/12/00	33.54	444.25		
		12/07/00	34.56	443.23		
		03/21/01	33.24	444.55		

Notes: Data prior to 1998 from RSI quarterly reports. February 1997 date unknown  
MSL = mean sea level  
NM = not measured  
MS = Mill Springs Park  
(1) - free product visible in purge or sample water  
\* Obstruction in well MW-6 at approximately 28.6 feet below top of casing, or as indicated by ">"  
\*\* Suspect a measurement error for the water level in well MW-2 on 12/7/00

Table 3  
 Historical Groundwater Analytical Results  
 B&C Gas Mini Mart  
 Livermore, California

Well No.	Sample Date	TPH-G (ug/l)	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylenes (ug/l)	MTBE (ug/l)
MW-1	Aug-90	24,000	1,300	1,300	400	2,700	NA
	Oct-91	2,000	430	170	100	290	NA
	Jan-92	1,000	200	120	30	150	NA
	May-93	960	66	8	41	90	NA
	Sep-93	1,900	311	118	34	112	NA
	May-94	10,000	690	1,100	340	1,200	NA
	Aug-94	13,000	290	690	120	670	NA
	Nov-94	19,000	400	770	230	130	NA
	Mar-95	6,000	900	100	980	740	NA
	Jun-95	2,400	210	380	53	280	13,000
	Sep-95	7,800	69	1,300	220	1,200	2,000
	Feb-96	120	4.2	1.4	4.7	5.6	14
	Feb-97	NS*	NS*	NS*	NS*	NS*	NS*
	Jul-98	1,400	26	110	57	243	5
	Nov-98	6,000	230	330	240	1,060	<100
	Mar-99	6,600	280	420	240	990	60
Jun-99	1,630	70	52	55	138	67	
Mar-00	300	17.6	14.2	9.89	40.7	7.84	
Sep-00	1,500	105	50.7	46.5	157	45.4	
MW-2	Jun-94	290,000	18,000	36,000	4,600	26,000	NA
	Aug-94	NS**	NS**	NS**	NS**	NS**	NA
	Nov-94	NS**	NS**	NS**	NS**	NS**	NA
	Mar-95	NS**	NS**	NS**	NS**	NS**	NA
	Jun-95	25,000	2,300	3,400	720	3,100	16,000
	Sep-95	NS**	NS**	NS**	NS**	NS**	NS**
	Feb-96	57,000	2,500	650	3,700	3,100	6,500
	Feb-97	20,000	860	1,500	480	1,000	1,300
	Jul-98	NS**	NS**	NS**	NS**	NS**	NS**
	Nov-98	40,000	2,400	2,500	2,100	7,200	1,200
	Mar-99	22,000	780	880	780	1,730	300
	Jun-99	11,200	352	454	540	639	343
	Sep-99	18,000	992	331	901	2,140	225
	Dec-99	19,200	1,340	818	1,050	2,130	579
	Mar-00	6,340	281	184	233	348	90.2
	Jun-00	5,820	128	94.4	155	161	67.8
Sep-00	18,100	981	926	1,080	2,630	239	
Dec-00	8,010	548	172	453	621	142	
Mar-01	18,800	1,300	790	1,150	2,250	372	

Table 3  
 Historical Groundwater Analytical Results  
 B&C Gas Mini Mart  
 Livermore, California

Well No.	Sample Date	TPH-G (ug/l)	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylenes (ug/l)	MTBE (ug/l)
MW-3	Jun-94	11,000	640	580	270	790	NA
	Aug-94	41,000	1,600	2,300	330	1,800	NA
	Nov-94	18,000	8,000	10,000	900	5,000	NA
	Mar-95	44,000	1,600	1,300	5,000	6,600	NA
	Jun-95	15,000	600	1,900	490	2,600	4,200
	Sep-95	8,000	710	1,100	180	870	2,700
	Feb-96	13,000	260	200	200	1,100	1,500
	Feb-97	11,000	260	550	170	600	900
	Jul-98	25,000	330	1,200	490	1,860	300
	Nov-98	26,000	400	2,100	820	3,600	300
	Mar-99	6,900	100	160	110	265	220
	Jun-99	1,210	5.4	9.0	6.9	4.3	53.3
	Mar-00	465	4.56	1.87	6.20	7.45	15.5
Sep-00	488	37.3	5.64	7.25	15.9	160	
MW-4	Jun-94	810	12	25	<0.5	22	NA
	Aug-94	850	37	51	9.5	35	NA
	Nov-94	1,700	110	110	5.8	58	NA
	Mar-95	1,300	180	8	52	77	NA
	Jun-95	ND	3	1	ND	1	ND
	Sep-95	<50	0.7	<0.5	<0.5	<0.5	<2.5
	Feb-96	87	<0.5	<0.5	<0.5	<0.5	<0.5
	Feb-97	<50	<0.5	<0.5	<0.5	<0.5	2.9
	Jul-98	<50	<0.4	0.6	<0.3	0.8	<5
	Nov-98	<50	0.7	<0.3	<0.3	<0.8	27
	Mar-99	<50	<0.4	<0.3	<0.3	<0.8	<5
	Jun-99	<50	<0.5	<0.5	<0.5	<0.5	<2
	Mar-00	<50	<0.5	<0.5	<0.5	<0.5	<2.5
Sep-00	<50	<0.5	<0.5	<0.5	<0.5	<2.5	
MW-5	Oct-95	120,000	16,000	26,000	3,100	15,000	39,000
	Feb-96	47,000	3,400	4,200	860	4,100	20,000
	Feb-97	28,000	1,300	1,500	480	1,000	2,200
	Jul-98	47,000	1,400	4,000	2,000	8,500	600
	Nov-98	NS**	NS**	NS**	NS**	NS**	NS**
	Mar-99	36,000	1,500	2,400	1,500	5,500	900
	Jun-99	34,500	722	1,980	1,720	7,170	765
	Sep-99	49,100	540	2,500	1,730	8,040	255
	Dec-99	NS**	NS**	NS**	NS**	NS**	NS**
	Mar-00	10,700	217	300	332	1,480	160
	Jun-00	23,000	537	533	1,040	2,590	131***
	Sep-00	41,300	780	551	1,140	3,390	243***
	Dec-00	21,700	600	328	527	1,450	285***
Mar-01	NS**	NS**	NS**	NS**	NS**	NS**	

Table 3  
 Historical Groundwater Analytical Results  
 B&C Gas Mini Mart  
 Livermore, California

Well No.	Sample Date	TPH-G (ug/l)	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylenes (ug/l)	MTBE (ug/l)
MW-6	Oct-95	110,000	9,900	22,000	3,200	17,000	47,000
	Feb-96	23,000	2,000	460	2,900	2,600	6,300
	Feb-97	12,000	450	780	200	590	790
	Jul-98	NS**	NS**	NS**	NS**	NS**	NS**
	Nov-98	NS*	NS*	NS*	NS*	NS*	NS*
	Mar-99	5,700	240	260	120	440	150
	Jun-99	7,610	259	334	283	567	275
	Dec-99	NS*	NS*	NS*	NS*	NS*	NS*
	Mar-00	10,100	276	170	200	673	159
	Jun-00	NS*	NS*	NS*	NS*	NS*	NS*
MW-7	Jul-99	5,090	31.9	4.8	60	219	43.6
	Sep-99	2,160	2.8	8.2	5.9	27.3	14.0
	Dec-99	2,630	<2.5	<2.5	13.8	44.9	26.3
	Mar-00	624	<0.5	<0.5	<0.5	1.61	3.87
	Jun-00	435	<0.5	<0.5	0.875	1.28	4.87
	Sep-00	327	<0.5	<0.5	0.602	1.56	3.77
	Dec-00	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	Mar-01	569	<0.5	2.05	0.533	0.701	4.16
MW-8	Jun-99	<50	<0.5	<0.5	<0.5	<0.5	88.5
	Sep-99	<50	<0.5	<0.5	<0.5	<0.5	52
	Dec-99	<50	<0.5	<0.5	<0.5	<0.5	47.3
	Mar-00	<50	<0.5	<0.5	<0.5	<0.5	4.65
	Jun-00	<50	<0.5	<0.5	<0.5	<0.5	5.56
	Sep-00	<50	<0.5	<0.5	<0.5	<0.5	14.3
	Dec-00	<50	<0.5	<0.5	<0.5	<0.5	7.83
	Mar-01	<50	<0.5	<0.5	<0.5	<0.5	2.93
MW-9	Jun-99	<50	<0.5	<0.5	<0.5	<0.5	<2
	Dec-99	NS	NS	NS	NS	NS	NS
	Mar-00	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	Sep-00	<50	<0.5	<0.5	<0.5	<0.5	<2.5
MW-10	Jun-99	<50	<0.5	<0.5	<0.5	<0.5	<2
	Sep-99	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	Dec-99	<50	<0.5	<0.5	<0.5	<0.5	46.5
	Mar-00	52.7	<0.5	<0.5	<0.5	<0.5	<2.5
	Jun-00	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	Sep-00	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	Dec-00	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	Mar-01	<50	<0.5	<0.5	<0.5	<0.5	<2.5
MW-11	Jun-99	91	0.7	2.0	1.1	2.6	<2
	Sep-99	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	Dec-99	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	Mar-00	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	Sep-00	<50	<0.5	<0.5	<0.5	<0.5	<2.5

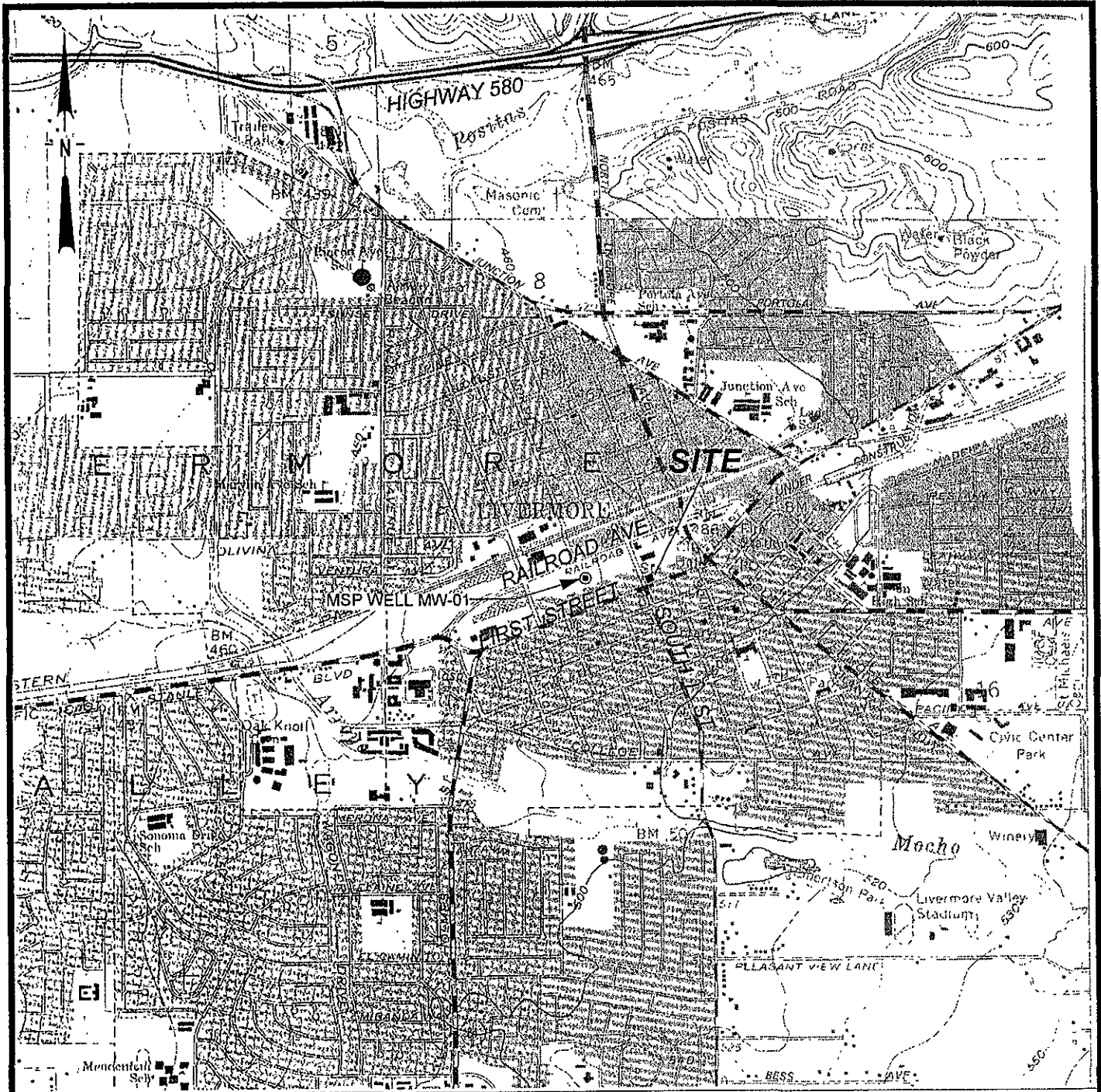


Table 3  
 Historical Groundwater Analytical Results  
 B&C Gas Mini Mart  
 Livermore, California

Well No.	Sample Date	TPH-G (ug/l)	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylenes (ug/l)	MTBE (ug/l)
MW-12	Jun-99	<50	<0.5	<0.5	<0.5	<0.5	<2
	Sep-99	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	Dec-99	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	Mar-00	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	Jun-00	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	Sep-00	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	Dec-00	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	Mar-01	<50	<0.5	<0.5	<0.5	<0.5	<2.5
MW-13	Jul-99	214	42.8	<0.5	4.5	<0.5	332
	Sep-99	<100	5.8	<1	<1	<1	160
	Dec-99	71	6.7	<0.5	1.4	<0.5	132
	Mar-00	<50	2.32	<0.5	<0.5	<0.5	53.5
	Jun-00	<50	7.83	<0.5	0.732	<0.5	38.8
	Sep-00	<50	6.01	<0.5	<0.5	<0.5	77.4
	Dec-00	<50	1.51	<0.5	<0.5	<0.5	25.0
	Mar-01	83.9	4.92	<0.5	<0.5	1.02	64.7
D-1	Jun-99	<50	<0.5	<0.5	<0.5	<0.5	<2
	Sep-99	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	Dec-99	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	Mar-00	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	Sep-00	<50	<0.5	<0.5	<0.5	<0.5	<2.5
D-2	Jun-99	<50	<0.5	<0.5	<0.5	<0.5	<2
	Sep-99	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	Dec-99	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	Mar-00	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	Jun-00	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	Sep-00	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	Dec-00	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	Mar-01	<50	<0.5	<0.5	<0.5	<0.5	<2.5
(MS)MW-1	Aug-95	11,000	190	260	110	900	210
	Jul-98	NS**	NS**	NS**	NS**	NS**	NS**
	Nov-98	10,000	260	120	500	1,100	200
	Mar-99	NS**	NS**	NS**	NS**	NS**	NS**
	Jun-99	NS**	NS**	NS**	NS**	NS**	NS**
	Dec-99	661	9.7	3.5	21.7	31.1	7.2
	Mar-00	NS**	NS**	NS**	NS**	NS**	NS**
	Jun-00	NS**	NS**	NS**	NS**	NS**	NS**
	Sep-00	NS**	NS**	NS**	NS**	NS**	NS**
	Dec-00	NS**	NS**	NS**	NS**	NS**	NS**
Mar-01	NS**	NS**	NS**	NS**	NS**	NS**	

ug/l = micrograms per liter  
 TPH-G = total petroleum hydrocarbons as gasoline  
 MTBE = methyl tertiary-butyl ether  
 MS = Mill Springs Park

NA= not analyzed    NS= not sampled  
 \* = well inaccessible    \*\* = free product hydrocarbon present  
 \*\*\* = analytical result from EPA method 8260B  
 ND = not detected above reporting limit, limit not available  
 < = less than method reporting limit



Base map: USGS 7.5' topography, Livermore, California (1961; photorevised 1980)

SCALE: 0 2,000 4,000 FEET



VBNC/103/FIGURES/SITELOC.DSF 4/22/99

**Conor Pacific**



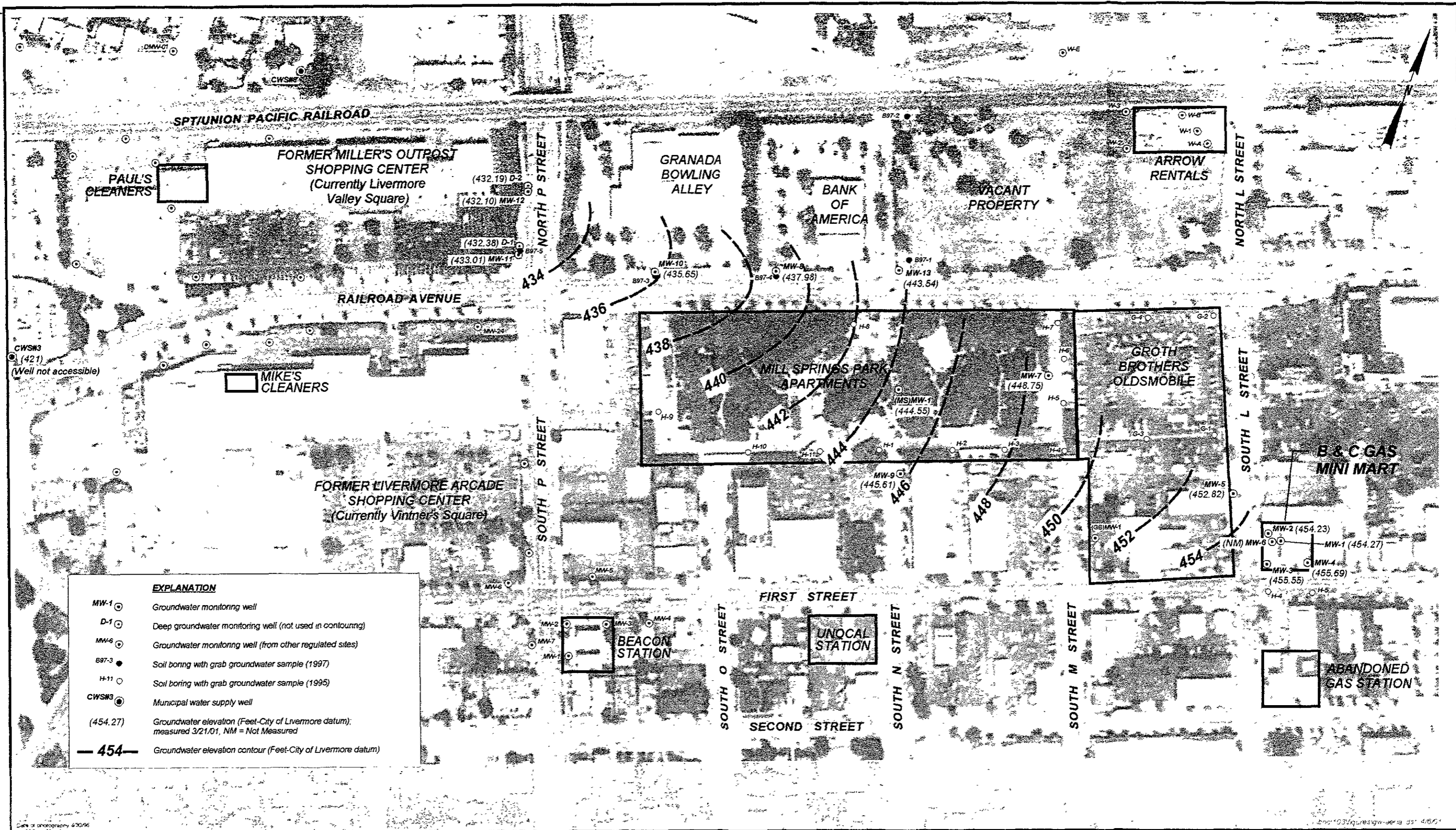
GROUNDWATER MONITORING  
B & C GAS MINI MART  
LIVERMORE, CALIFORNIA

SITE LOCATION MAP

FIGURE

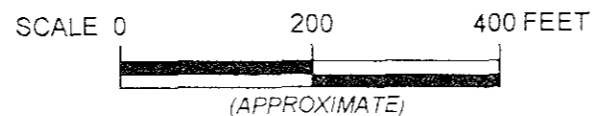
**1**

PROJECT NO.  
BNC103



EXPLANATION	
MW-1	Groundwater monitoring well
D-1	Deep groundwater monitoring well (not used in contouring)
MW-6	Groundwater monitoring well (from other regulated sites)
B97-3	Soil boring with grab groundwater sample (1997)
H-11	Soil boring with grab groundwater sample (1995)
CWSK3	Municipal water supply well
(454.27)	Groundwater elevation (Feet-City of Livermore datum); measured 3/21/01, NM = Not Measured
- 454 -	Groundwater elevation contour (Feet-City of Livermore datum)

Coner Pacific  
EFW

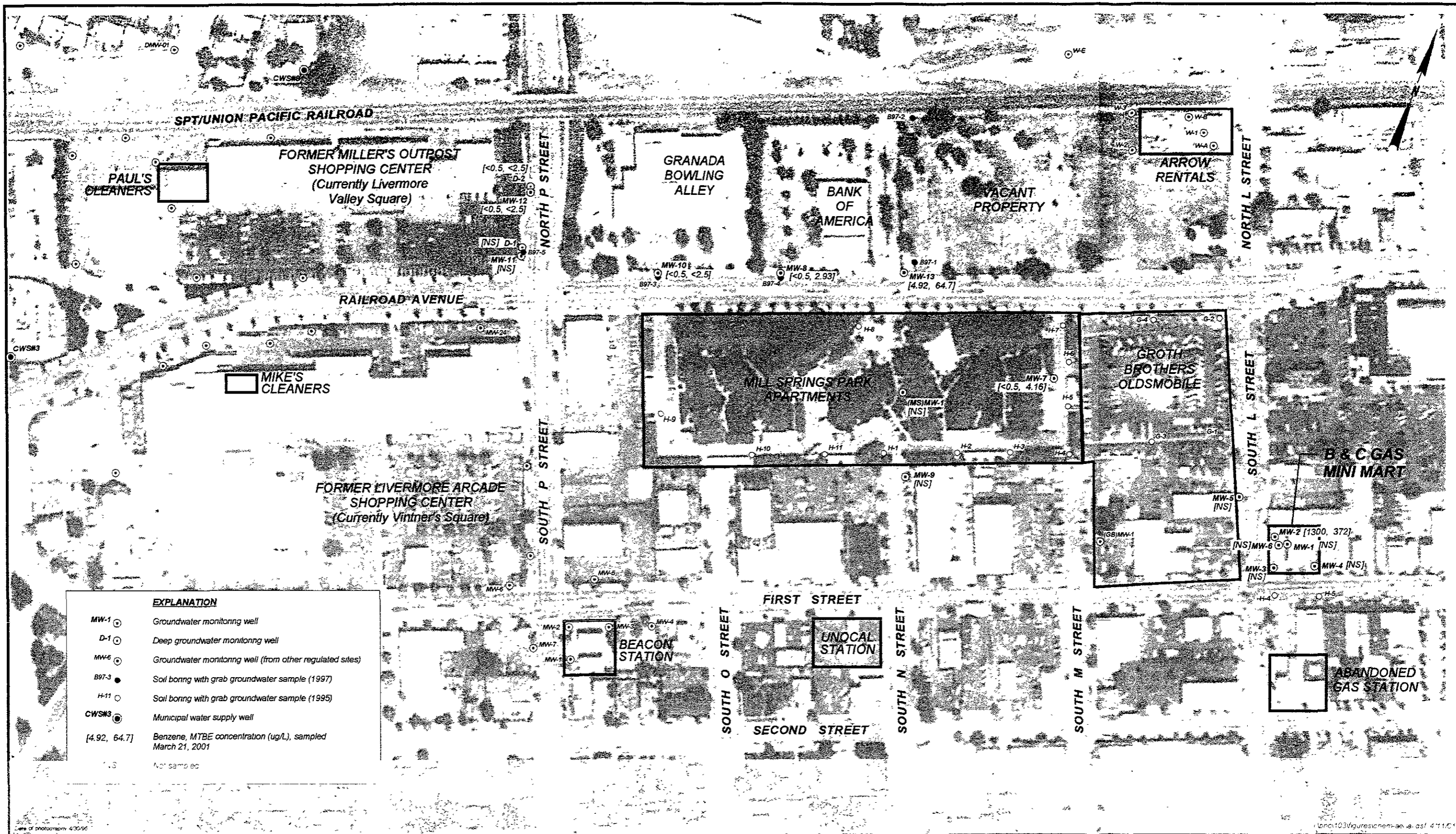


GROUNDWATER MONITORING  
B & C GAS MINI MART  
LIVERMORE CALIFORNIA

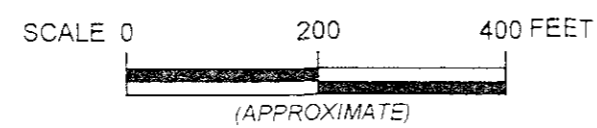
WELL LOCATIONS AND GROUNDWATER CONTOURS (MARCH 2001)

FIGURE  
2

PROJECT NO  
BNC103



EXPLANATION	
MW-1	Groundwater monitoring well
D-1	Deep groundwater monitoring well
MW-5	Groundwater monitoring well (from other regulated sites)
B97-3	Soil boring with grab groundwater sample (1997)
H-11	Soil boring with grab groundwater sample (1995)
CWSM3	Municipal water supply well
[4.92, 64.7]	Benzene, MTBE concentration (ug/L), sampled March 21, 2001
[NS]	Not sampled



GROUNDWATER MONITORING  
 B & C GAS MINI MART  
 LIVERMORE, CALIFORNIA  
 GROUNDWATER CHEMISTRY (MARCH 2001)

FIGURE  
**3**  
 PROJECT NO  
 BNC103

**WATER LEVEL DATA SHEET**

Conor Pacific

Project: B&C Gas Mini Mart  
 Project No.: BNC103  
 Date(s): 3/21/01  
 Name: R. P. M. W.  
 Weather: Hazy Sunshine, warm Sounder #: 350', KECK

Well	Date	DTPP (TOC)	DTW (TOC)	Total Depth	Meas By	Comments
MW-1	3/21/01	ND	29.80	75.3	W	
MW-2			29.63	56.1		
MW-3			28.69	57.7		9 1/2"
MW-4			29.35	60.0		
MW-5		29.15	29.16	NM		15 1/2"
MW-6		ND	NM			Obstructed at 28.7'
MW-7			29.39	49.1		9 1/2"
MW-8			35.25	53.2		
MW-9			31.47	44.0		9 1/2"
MW-10			35.77	53.8		
MW-11			31.92	48.9		9 1/2"
MW-12			26.24	43.4		
MW-13			31.25	54.3		
D-1			32.32	124.0		
D-2			25.42	111.2		
MS MW01			33.24	NM		
						All locks: 0909, unless noted







LOCATION: B7C Gas Mini Mart

SAMPLE ID: MW-7

PROJECT NO: BNC103

SAMPLED BY: FRANK

CLIENT: B7C Gas Mini Mart

REGULATORY AGENCY: \_\_\_\_\_

SAMPLE TYPE: Groundwater ✓ Surface Water \_\_\_\_\_ Leachate \_\_\_\_\_ Treatment System \_\_\_\_\_ Other \_\_\_\_\_

CASING DIAMETER (OD-inches): 3/4 \_\_\_\_\_ 1 \_\_\_\_\_ 2 ✓ 4 \_\_\_\_\_ 4.5 \_\_\_\_\_ 6 \_\_\_\_\_ 8 \_\_\_\_\_ Other \_\_\_\_\_

GALLONS PER LINEAR FOOT: (0.02) (0.04) (0.17) (0.66) (0.83) (1.5) (2.6)

Well Total Depth (ft): <u>49.1</u>	Volume in Casing (gal): <u>3.4</u>
Depth to Water (ft): <u>29.53</u>	Calculated Purge (volumes / gal.): <u>10.0</u>
Height of Water Column (ft): <u>19.57</u>	Actual Pre-Sampling Purge (gal): <u>10.0</u>

**PURGE:**

Device (Depth of Intake from TOC): S.S. Bailer \_\_\_\_\_ Teflon Bailer \_\_\_\_\_ PVC Bailer ✓ Disp. Bailer \_\_\_\_\_

PVC Hand Pump \_\_\_\_\_ Peristaltic Pump \_\_\_\_\_ Centrifugal Pump \_\_\_\_\_ Bladder Pump \_\_\_\_\_

Pneumatic Displacement Pump \_\_\_\_\_ Electric Submersible Pump \_\_\_\_\_ Dedicated \_\_\_\_\_ Other \_\_\_\_\_

Purge Water Containment: drummed

Field QC Samples Collected at this Well (Equipment or Field Blank): EB- \_\_\_\_\_ FB- \_\_\_\_\_ Other \_\_\_\_\_

Time (2400 Hr)	Volume (gallons)	Temp. (°C)	Elec. Conductivity (µmhos/cm)	pH (std. units)	Color (visual)	Turbidity (visual)	Other	Observation
<u>1059</u>	<u>3.5</u>	<u>18.6</u>	<u>870</u>	<u>7.23</u>	<u>lt. brown</u>	<u>high</u>		
<u>1103</u>	<u>7.0</u>	<u>18.9</u>	<u>884</u>	<u>7.23</u>	<u>↓</u>	<u>↓</u>		
<u>1107</u>	<u>10.0</u>	<u>19.0</u>	<u>920</u>	<u>7.24</u>	<u>↓</u>	<u>↓</u>		
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____

Purge Date: 3/23/01

**SAMPLE:**

Device (Depth of Intake from TOC): S.S. Bailer \_\_\_\_\_ Teflon Bailer \_\_\_\_\_ PVC Bailer \_\_\_\_\_ Disp. Bailer 44'

PVC Hand Pump \_\_\_\_\_ Peristaltic Pump \_\_\_\_\_ Centrifugal Pump \_\_\_\_\_ Bladder Pump \_\_\_\_\_

Pneumatic Displacement Pump \_\_\_\_\_ Electric Submersible Pump \_\_\_\_\_ Dedicated \_\_\_\_\_ Other \_\_\_\_\_

Time (2400 Hr)	Temp. (°C)	Electical Conductivity (µmhos/cm)	pH (std. units)	Dissolved Oxygen (mg/l)	Color (visual)	Turbidity (NTU)	Other
<u>1113</u>	<u>19.0</u>	<u>990</u>	<u>7.27</u>	<u>3.26</u>	<u>lt. brown</u>	<u>&gt;999</u>	
Sheen: <u>none</u>		Odor: <u>slight</u>				Sample Date: <u>3/23/01</u>	

Field Measurement Devices: Horiba ✓ Omega \_\_\_\_\_ QuickCheck \_\_\_\_\_ D.O. Test Kit \_\_\_\_\_

REMARKS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Calibrated Horiba 1045, 3/23/01: pH: 7.04, 10.11; EC: 0, 2060; turb: 0; DO: auto; T: 15.1°C

SIGNATURE: [Signature] DATE: 3/23/01





WATER SAMPLE FIELD DATA

LOCATION: B3C Gas Mini Mat
PROJECT NO: BNC 103
CLIENT: B3C Gas Mini Mat
SAMPLE TYPE: Groundwater
CASING DIAMETER (OD-inches): 3/4
GALLONS PER LINEAR FOOT: (0.02)

SAMPLE ID: MW-8
SAMPLED BY: Frank
REGULATORY AGENCY:
Leachate
Treatment System
Other
(0.17) (0.66) (0.83) (1.5) (2.6)

Well Total Depth (ft): 53.2
Depth to Water (ft): 35.25
Height of Water Column (ft): 17.95
Volume in Casing (gal): 3.1
Calculated Purge (volumes / gal.): 9.2
Actual Pre-Sampling Purge (gal): 9.5

PURGE:

Device (Depth of Intake from TOC): S.S. Bailer
PVC Hand Pump
Pneumatic Displacement Pump
Purge Water Containment: Drummed
Field QC Samples Collected at this Well (Equipment or Field Blank):

Table with 9 columns: Time (2400 Hr), Volume (gallons), Temp. (°C), Elec. Conductivity (umhos/cm), pH (std. units), Color (visual), Turbidity (visual), Other, Observation. Includes handwritten data for three samples and a Purge Date of 3/21/01.

SAMPLE:

Device (Depth of Intake from TOC): S.S. Bailer
PVC Hand Pump
Pneumatic Displacement Pump

Table with 8 columns: Time (2400 Hr), Temp. (°C), Electrical Conductivity (umhos/cm), pH (std. units), Dissolved Oxygen (mg/l), Color (visual), Turbidity (NTU), Other. Includes handwritten data for one sample and a Sample Date of 3/21/01.

Field Measurement Devices: Horiba, Omega, QuickCheck, D.O. Test Kit

REMARKS:

SIGNATURE: [Handwritten Signature] DATE: 3/21/01



LOCATION: B3C Gas Mini Mat

SAMPLE ID: MMW-10

PROJECT NO: BNC103

SAMPLED BY: RPANK

CLIENT: B3C Gas Mini Mat

REGULATORY AGENCY: \_\_\_\_\_

SAMPLE TYPE: Groundwater l Surface Water \_\_\_\_\_ Leachate \_\_\_\_\_ Treatment System \_\_\_\_\_ Other \_\_\_\_\_

CASING DIAMETER (OD-inches): 3/4 \_\_\_\_\_ 1 \_\_\_\_\_ 2 l 4 \_\_\_\_\_ 4.5 \_\_\_\_\_ 6 \_\_\_\_\_ 8 \_\_\_\_\_ Other \_\_\_\_\_

GALLONS PER LINEAR FOOT: (0.02) (0.04) (0.17) (0.66) (0.83) (1.5) (2.6)

Well Total Depth (ft): <u>53.0</u>	Volume in Casing (gal): <u>3.1</u>
Depth to Water (ft): <u>35.77</u>	Calculated Purge (volumes / gal.): <u>9.2</u>
Height of Water Column (ft): <u>10.03</u>	Actual Pre-Sampling Purge (gal): <u>9.5</u>

**PURGE:**

Device (Depth of Intake from TOC): S.S. Bailer \_\_\_\_\_ Teflon Bailer \_\_\_\_\_ PVC Bailer l Disp. Bailer \_\_\_\_\_

PVC Hand Pump \_\_\_\_\_ Peristaltic Pump \_\_\_\_\_ Centrifugal Pump \_\_\_\_\_ Bladder Pump \_\_\_\_\_

Pneumatic Displacement Pump \_\_\_\_\_ Electric Submersible Pump \_\_\_\_\_ Dedicated \_\_\_\_\_ Other \_\_\_\_\_

Purge Water Containment: drummed

Field QC Samples Collected at this Well (Equipment or Field Blank): EB-\_\_\_\_ FB-\_\_\_\_ Other \_\_\_\_\_

Time (2400 Hr)	Volume (gallons)	Temp. (°C)	Elec. Conductivity (umhos/cm)	pH (std. units)	Color (visual)	Turbidity (visual)	Other	Observation
<u>1541</u>	<u>3.5</u>	<u>19.7</u>	<u>040</u>	<u>7.01</u>	<u>lt brown</u>	<u>high</u>		
<u>1545</u>	<u>0.5</u>	<u>19.5</u>	<u>059</u>	<u>7.00</u>	<u>↓</u>	<u>↓</u>		
<u>1540</u>	<u>0.5</u>	<u>19.3</u>	<u>064</u>	<u>6.99</u>	<u>↓</u>	<u>↓</u>		

Purge Date: 3/21/01

**SAMPLE:**

Device (Depth of Intake from TOC): S.S. Bailer \_\_\_\_\_ Teflon Bailer \_\_\_\_\_ PVC Bailer \_\_\_\_\_ Disp. Bailer 49'

PVC Hand Pump \_\_\_\_\_ Peristaltic Pump \_\_\_\_\_ Centrifugal Pump \_\_\_\_\_ Bladder Pump \_\_\_\_\_

Pneumatic Displacement Pump \_\_\_\_\_ Electric Submersible Pump \_\_\_\_\_ Dedicated \_\_\_\_\_ Other \_\_\_\_\_

Time (2400 Hr)	Temp. (°C)	Electical Conductivity (umhos/cm)	pH (std. units)	Dissolved Oxygen (mg/l)	Color (visual)	Turbidity (NTU)	Other
<u>1555</u>	<u>19.0</u>	<u>000</u>	<u>7.02</u>	<u>1.06</u>	<u>lt brown</u>	<u>999</u>	
Sheen: <u>none</u>							
Odor: <u>none</u>							

Sample Date: 3/21/01

Field Measurement Devices: Horiba l Omega \_\_\_\_\_ QuickCheck \_\_\_\_\_ D.O. Test Kit \_\_\_\_\_

REMARKS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

SIGNATURE: [Signature] DATE: 3/21/01



LOCATION: B3C Gas Mini Mat  
 PROJECT NO: BNC103  
 CLIENT: B3C Gas Mini Mat  
 SAMPLE TYPE: Groundwater ✓ Surface Water \_\_\_\_\_ Leachate \_\_\_\_\_ Treatment System \_\_\_\_\_ Other \_\_\_\_\_  
 CASING DIAMETER (OD-inches): 3/4 \_\_\_\_\_ 1 \_\_\_\_\_ 2 ✓ 4 \_\_\_\_\_ 4.5 \_\_\_\_\_ 6 \_\_\_\_\_ 8 \_\_\_\_\_ Other \_\_\_\_\_  
 GALLONS PER LINEAR FOOT: (0.02) (0.04) (0.17) (0.66) (0.83) (1.5) (2.6)

SAMPLE ID: MW-12  
 SAMPLED BY: RPANK  
 REGULATORY AGENCY: \_\_\_\_\_

Well Total Depth (ft): 43.4 Volume in Casing (gal): 3.0  
 Depth to Water (ft): 26.24 Calculated Purge (volumes / gal.): 0.0  
 Height of Water Column (ft): 17.16 Actual Pre-Sampling Purge (gal): 9.0

**PURGE:**

Device (Depth of Intake from TOC): S.S. Bailer \_\_\_\_\_ Teflon Bailer \_\_\_\_\_ PVC Bailer ✓ Disp. Bailer \_\_\_\_\_  
 PVC Hand Pump \_\_\_\_\_ Peristaltic Pump \_\_\_\_\_ Centrifugal Pump \_\_\_\_\_ Bladder Pump \_\_\_\_\_  
 Pneumatic Displacement Pump \_\_\_\_\_ Electric Submersible Pump \_\_\_\_\_ Dedicated \_\_\_\_\_ Other \_\_\_\_\_  
 Purge Water Containment: drummed  
 Field QC Samples Collected at this Well (Equipment or Field Blank): EB- \_\_\_\_\_ FB- \_\_\_\_\_ Other \_\_\_\_\_

Time (2400 Hr)	Volume (gallons)	Temp. (°C)	Elec. Conductivity (µmhos/cm)	pH (std. units)	Color (visual)	Turbidity (visual)	Other	Observation
<u>1647</u>	<u>3.0</u>	<u>20.2</u>	<u>054</u>	<u>7.02</u>	<u>lt. brown</u>	<u>high</u>		
<u>1650</u>	<u>6.0</u>	<u>20.0</u>	<u>063</u>	<u>7.03</u>	<u>↓</u>	<u>↓</u>		
<u>1653</u>	<u>9.0</u>	<u>19.0</u>	<u>063</u>	<u>7.04</u>	<u>↓</u>	<u>↓</u>		

Purge Date: 3/21/01

**SAMPLE:**

Device (Depth of Intake from TOC): S.S. Bailer \_\_\_\_\_ Teflon Bailer \_\_\_\_\_ PVC Bailer \_\_\_\_\_ Disp. Bailer 30'  
 PVC Hand Pump \_\_\_\_\_ Peristaltic Pump \_\_\_\_\_ Centrifugal Pump \_\_\_\_\_ Bladder Pump \_\_\_\_\_  
 Pneumatic Displacement Pump \_\_\_\_\_ Electric Submersible Pump \_\_\_\_\_ Dedicated \_\_\_\_\_ Other \_\_\_\_\_

Time (2400 Hr)	Temp. (°C)	Electical Conductivity (µmhos/cm)	pH (std. units)	Dissolved Oxygen (mg/l)	Color (visual)	Turbidity (NTU)	Other
<u>1700</u>	<u>19.0</u>	<u>065</u>	<u>7.04</u>	<u>3.01</u>	<u>lt. brown</u>	<u>&gt;999</u>	
Sheen: <u>none</u>		Odor: <u>none</u>					

Sample Date: 3/21/01

Field Measurement Devices: Horiba ✓ Omega \_\_\_\_\_ QuickCheck \_\_\_\_\_ D.O. Test Kit \_\_\_\_\_

**REMARKS:**

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

SIGNATURE: [Signature]

DATE: 3/21/01





LOCATION: BNC Gas Mini Mart  
 PROJECT NO: BNC 103  
 CLIENT: BNC Gas Mini Mart  
 SAMPLE TYPE: Groundwater l Surface Water \_\_\_\_\_ Leachate \_\_\_\_\_ Treatment System \_\_\_\_\_ Other \_\_\_\_\_  
 CASING DIAMETER (OD-inches): 3/4 \_\_\_\_\_ 1 \_\_\_\_\_ 2 l 4 \_\_\_\_\_ 4.5 \_\_\_\_\_ 6 \_\_\_\_\_ 8 \_\_\_\_\_ Other \_\_\_\_\_  
 GALLONS PER LINEAR FOOT: (0.02) (0.04) (0.17) (0.66) (0.83) (1.5) (2.6)

SAMPLE ID: D-2  
 SAMPLED BY: R. P. [Signature]  
 REGULATORY AGENCY: \_\_\_\_\_

Well Total Depth (ft): 111.2 Volume in Casing (gal): 14.0  
 Depth to Water (ft): 25.42 Calculated Purge (volumes / gal.): 43.8  
 Height of Water Column (ft): 85.78 Actual Pre-Sampling Purge (gal): 44.0

**PURGE:**

Device (Depth of Intake from TOC): S.S. Bailer \_\_\_\_\_ Teflon Bailer \_\_\_\_\_ PVC Bailer \_\_\_\_\_ Disp. Bailer \_\_\_\_\_  
 PVC Hand Pump \_\_\_\_\_ Peristaltic Pump \_\_\_\_\_ Centrifugal Pump \_\_\_\_\_ Bladder Pump \_\_\_\_\_  
 Pneumatic Displacement Pump \_\_\_\_\_ Electric Submersible Pump 100' Dedicated \_\_\_\_\_ Other \_\_\_\_\_  
 Purge Water Containment: Ground  
 Field QC Samples Collected at this Well (Equipment or Field Blank): EB-\_\_\_\_ FB-\_\_\_\_ Other \_\_\_\_\_

Time (2400 Hr)	Volume (gallons)	Temp. (°C)	Elec. Conductivity (µmhos/cm)	pH (std. units)	Color (visual)	Turbidity (visual)	Other	Observation
1719	15.0	19.5	990	7.40	lt. brown	moderate		
1726	30.0	19.4	990	7.43	lt. brown	low		
1732	44.0	19.3	990	7.42	↓	↓		

Purge Date: 3/21/01

**SAMPLE:**

Device (Depth of Intake from TOC): S.S. Bailer \_\_\_\_\_ Teflon Bailer \_\_\_\_\_ PVC Bailer \_\_\_\_\_ Disp. Bailer 100'  
 PVC Hand Pump \_\_\_\_\_ Peristaltic Pump \_\_\_\_\_ Centrifugal Pump \_\_\_\_\_ Bladder Pump \_\_\_\_\_  
 Pneumatic Displacement Pump \_\_\_\_\_ Electric Submersible Pump \_\_\_\_\_ Dedicated \_\_\_\_\_ Other \_\_\_\_\_

Time (2400 Hr)	Temp. (°C)	Electical Conductivity (µmhos/cm)	pH (std. units)	Dissolved Oxygen (mg/l)	Color (visual)	Turbidity (NTU)	Other
1741	18.8	990	7.45	6.45	lt. brown	>999	

Sheen: none Odor: none Sample Date: 3/21/01

Field Measurement Devices: Horiba l Omega \_\_\_\_\_ QuickCheck \_\_\_\_\_ D.O. Test Kit \_\_\_\_\_

REMARKS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

SIGNATURE: [Signature] DATE: 3/21/01



## WATER SAMPLE FIELD DATA

LOCATION: BIC Gas Mini Mart

SAMPLE ID: MB0001

PROJECT NO: BNC 103

SAMPLED BY: EPWMC

CLIENT: BIC Gas Mini Mart

REGULATORY AGENCY: \_\_\_\_\_

SAMPLE TYPE: Groundwater  Surface Water \_\_\_\_\_ Leachate \_\_\_\_\_ Treatment System \_\_\_\_\_ Other \_\_\_\_\_

CASING DIAMETER (OD-inches): 3/4 \_\_\_\_\_ 1 \_\_\_\_\_ 2 1 4 \_\_\_\_\_ 4.5 \_\_\_\_\_ 6 \_\_\_\_\_ 8 \_\_\_\_\_ Other \_\_\_\_\_

GALLONS PER LINEAR FOOT: (0.02) (0.04) (0.17) (0.66) (0.83) (1.5) (2.6)

Well Total Depth (ft): 59.5 Volume in Casing (gal): 4.5

Depth to Water (ft): 33.24 Calculated Purge (volumes / gal.): 13.4

Height of Water Column (ft): 26.26 Actual Pre-Sampling Purge (gal): 0.75

**PURGE:**

Device (Depth of Intake from TOC): S.S. Bailer \_\_\_\_\_ Teflon Bailer \_\_\_\_\_ PVC Bailer \_\_\_\_\_ Disp. Bailer

PVC Hand Pump \_\_\_\_\_ Peristaltic Pump \_\_\_\_\_ Centrifugal Pump \_\_\_\_\_ Bladder Pump \_\_\_\_\_

Pneumatic Displacement Pump \_\_\_\_\_ Electric Submersible Pump \_\_\_\_\_ Dedicated \_\_\_\_\_ Other \_\_\_\_\_

Purge Water Containment: drummed

Field QC Samples Collected at this Well (Equipment or Field Blank): EB- \_\_\_\_\_ FB- \_\_\_\_\_ Other \_\_\_\_\_

Time (2400 Hr)	Volume (gallons)	Temp. (°C)	Elec. Conductivity (µmhos/cm)	pH (std. units)	Color (visual)	Turbidity (visual)	Other	Observation
<u>1119</u>	<u>0.75</u>							<u>brown product globules present</u>
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____

Purge Date: 3/21/01

**SAMPLE:**

Device (Depth of Intake from TOC): S.S. Bailer \_\_\_\_\_ Teflon Bailer ~~\_\_\_\_\_~~ PVC Bailer \_\_\_\_\_ Disp. Bailer \_\_\_\_\_

PVC Hand Pump \_\_\_\_\_ Peristaltic Pump \_\_\_\_\_ Centrifugal Pump \_\_\_\_\_ Bladder Pump \_\_\_\_\_

Pneumatic Displacement Pump \_\_\_\_\_ Electric Submersible Pump \_\_\_\_\_ Dedicated \_\_\_\_\_ Other \_\_\_\_\_

Time (2400 Hr)	Temp. (°C)	Electical Conductivity (µmhos/cm)	pH (std. units)	Dissolved Oxygen (mg/l)	Color (visual)	Turbidity (NTU)	Other
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

Sheen: \_\_\_\_\_ Odor: \_\_\_\_\_ Sample Date: \_\_\_\_\_

Field Measurement Devices: Horiba \_\_\_\_\_ Omega \_\_\_\_\_ QuickCheck \_\_\_\_\_ D.O. Test Kit \_\_\_\_\_

REMARKS: Brown product globules present in 2nd and 3rd bailers at start of purge. End purge, no samples collected.

SIGNATURE: [Signature]

DATE: 3/21/01



# Sequoia Analytical

1455 McDowell Blvd. North, Ste. D  
Petaluma, CA 94954  
(707) 792-1865  
FAX (707) 792-0342  
[www.sequoialabs.com](http://www.sequoialabs.com)

March 30 , 2001

Katrin Schliewen  
Conor Pacific / EFW  
2580 Wyandotte St., Suite G  
Mountain View, CA 94043  
RE: B&C Gas Mini Mart / P103519

Enclosed are the results of analyses for samples received by the laboratory on 03/22/01. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Michelle M. Portis  
Project Manager

CA ELAP Certificate Number 2374





Conor Pacific / EFW  
2580 Wyandotte St., Suite G  
Mountain View CA, 94043

Project: B&C Gas Mini Mart  
Project Number: BNC103  
Project Manager: Katrin Schliewen

Reported:  
03/30/01 14:26

## ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-8	P103519-01	Water	03/21/01 15:17	03/22/01 14:30
MW-10	P103519-02	Water	03/21/01 15:55	03/22/01 14:30
MW-12	P103519-03	Water	03/21/01 17:00	03/22/01 14:30
MW-13	P103519-04	Water	03/21/01 14:43	03/22/01 14:30
D-2	P103519-05	Water	03/21/01 17:41	03/22/01 14:30







Conor Pacific / EFW  
2580 Wyandotte St., Suite G  
Mountain View CA, 94043

Project: B&C Gas Mini Mart  
Project Number: BNC103  
Project Manager: Katrin Schliewen

Reported:  
03/30/01 14:26

**Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015M/8020M  
Sequoia Analytical - Petaluma**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

**MW-8 (P103519-01) Water** Sampled: 03/21/01 15:17 Received: 03/22/01 14:30

Gasoline	ND	50.0	ug/l	1	1030576	03/24/01	03/24/01	EPA 8015M/8020M	
Benzene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	0.500	"	"	"	"	"	"	
Methyl tert-butyl ether	2.93	2.50	"	"	"	"	"	"	
Surrogate: <i>a,a,a</i> -Trifluorotoluene		109 %		65-135	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.3 %		65-135	"	"	"	"	

**MW-10 (P103519-02) Water** Sampled: 03/21/01 15:55 Received: 03/22/01 14:30

Gasoline	ND	50.0	ug/l	1	1030576	03/26/01	03/26/01	EPA 8015M/8020M	
Benzene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	0.500	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.50	"	"	"	"	"	"	
Surrogate: <i>a,a,a</i> -Trifluorotoluene		111 %		65-135	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.3 %		65-135	"	"	"	"	

**MW-12 (P103519-03) Water** Sampled: 03/21/01 17:00 Received: 03/22/01 14:30

Gasoline	ND	50.0	ug/l	1	1030576	03/26/01	03/26/01	EPA 8015M/8020M	
Benzene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	0.500	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.50	"	"	"	"	"	"	
Surrogate: <i>a,a,a</i> -Trifluorotoluene		110 %		65-135	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.0 %		65-135	"	"	"	"	





Conor Pacific / EFW  
2580 Wyandotte St., Suite G  
Mountain View CA, 94043

Project: B&C Gas Mini Mart  
Project Number: BNC103  
Project Manager: Katrin Schliewen

Reported:  
03/30/01 14:26

**Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015M/8020M**  
**Sequoia Analytical - Petaluma**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-13 (P103519-04) Water</b> Sampled: 03/21/01 14:43 Received: 03/22/01 14:30									
Gasoline	83.9	50.0	ug/l	1	1030576	03/26/01	03/26/01	EPA 8015M/8020M	
Benzene	4.92	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	1.02	0.500	"	"	"	"	"	"	
Methyl tert-butyl ether	64.7	2.50	"	"	"	"	"	"	
Surrogate: <i>a,a,a</i> -Trifluorotoluene		108 %		65-135	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %		65-135	"	"	"	"	
<b>D-2 (P103519-05) Water</b> Sampled: 03/21/01 17:41 Received: 03/22/01 14:30									
Gasoline	ND	50.0	ug/l	1	1030576	03/26/01	03/26/01	EPA 8015M/8020M	
Benzene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	0.500	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.50	"	"	"	"	"	"	
Surrogate: <i>a,a,a</i> -Trifluorotoluene		110 %		65-135	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.3 %		65-135	"	"	"	"	





Conor Pacific / BFW  
2580 Wyandotte St., Suite G  
Mountain View CA, 94043

Project: B&C Gas Mini Mart  
Project Number: BNC103  
Project Manager: Katrin Schliewen

Reported:  
03/30/01 14:26

**Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015M/8020M - Quality Control**  
**Sequoia Analytical - Petaluma**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 1030576 - EPA 5030, waters**

**Blank (1030576-BLK1)**

Prepared & Analyzed: 03/24/01

Gasoline	ND	50.0	ug/l							
Benzene	ND	0.500	"							
Toluene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Xylenes (total)	ND	0.500	"							
Methyl tert-butyl ether	ND	2.50	"							
Surrogate: <i>a,a,a</i> -Trifluorotoluene	323		"	300		108	65-135			
Surrogate: 4-Bromofluorobenzene	295		"	300		98.3	65-135			

**Blank (1030576-BLK2)**

Prepared & Analyzed: 03/26/01

Gasoline	ND	50.0	ug/l							
Benzene	ND	0.500	"							
Toluene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Xylenes (total)	ND	0.500	"							
Methyl tert-butyl ether	ND	2.50	"							
Surrogate: <i>a,a,a</i> -Trifluorotoluene	326		"	300		109	65-135			
Surrogate: 4-Bromofluorobenzene	300		"	300		100	65-135			

**LCS (1030576-BS1)**

Prepared & Analyzed: 03/24/01

Gasoline	2570	50.0	ug/l	2750		93.5	65-135			
Benzene	41.0	0.500	"	32.0		128	65-135			
Toluene	207	0.500	"	193		107	65-135			
Ethylbenzene	50.3	0.500	"	46.0		109	65-135			
Xylenes (total)	254	0.500	"	231		110	65-135			
Methyl tert-butyl ether	65.2	2.50	"	52.0		125	65-135			
Surrogate: <i>a,a,a</i> -Trifluorotoluene	371		"	300		124	65-135			
Surrogate: 4-Bromofluorobenzene	313		"	300		104	65-135			





Conor Pacific / EFW  
2580 Wyandotte St., Suite G  
Mountain View CA, 94043

Project: B&C Gas Mini Mart  
Project Number: BNC103  
Project Manager: Katrin Schliewen

Reported:  
03/30/01 14:26

**Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015M/8020M - Quality Control  
Sequoia Analytical - Petaluma**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 1030576 - EPA 5030, waters**

**LCS (1030576-BS2)**

Prepared & Analyzed: 03/26/01

Gasoline	2740	50.0	ug/l	2750		99.6	65-135			
Benzene	41.9	0.500	"	32.0		131	65-135			
Toluene	201	0.500	"	193		104	65-135			
Ethylbenzene	51.7	0.500	"	46.0		112	65-135			
Xylenes (total)	259	0.500	"	231		112	65-135			
Methyl tert-butyl ether	62.7	2.50	"	52.0		121	65-135			
Surrogate: a,a,a-Trifluorotoluene	360		"	300		120	65-135			
Surrogate: 4-Bromofluorobenzene	314		"	300		105	65-135			

**Matrix Spike (1030576-MS1)**

Source: P103519-01

Prepared & Analyzed: 03/24/01

Gasoline	2560	50.0	ug/l	2750	ND	93.1	65-135			
Benzene	39.9	0.500	"	32.0	ND	125	65-135			
Toluene	206	0.500	"	193	ND	107	65-135			
Ethylbenzene	50.9	0.500	"	46.0	ND	111	65-135			
Xylenes (total)	255	0.500	"	231	ND	110	65-135			
Methyl tert-butyl ether	61.8	2.50	"	52.0	2.93	113	65-135			
Surrogate: a,a,a-Trifluorotoluene	368		"	300		123	65-135			
Surrogate: 4-Bromofluorobenzene	308		"	300		103	65-135			

**Matrix Spike Dup (1030576-MSD1)**

Source: P103519-01

Prepared & Analyzed: 03/24/01

Gasoline	2390	50.0	ug/l	2750	ND	86.9	65-135	6.87	20	
Benzene	37.9	0.500	"	32.0	ND	118	65-135	5.14	20	
Toluene	199	0.500	"	193	ND	103	65-135	3.46	20	
Ethylbenzene	48.1	0.500	"	46.0	ND	105	65-135	5.66	20	
Xylenes (total)	242	0.500	"	231	ND	105	65-135	5.23	20	
Methyl tert-butyl ether	60.5	2.50	"	52.0	2.93	111	65-135	2.13	20	
Surrogate: a,a,a-Trifluorotoluene	365		"	300		122	65-135			
Surrogate: 4-Bromofluorobenzene	304		"	300		101	65-135			





Conor Pacific / EFW  
2580 Wyandotte St., Suite G  
Mountain View CA, 94043

Project: B&C Gas Mini Mart  
Project Number: BNC103  
Project Manager: Katrin Schliewen

Reported:  
03/30/01 14:26

### Notes and Definitions

DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference



Date : 24-MAR-2001 08:42

Client ID: VSTD1000GC

Lab Sample ID: VSTD1000GC

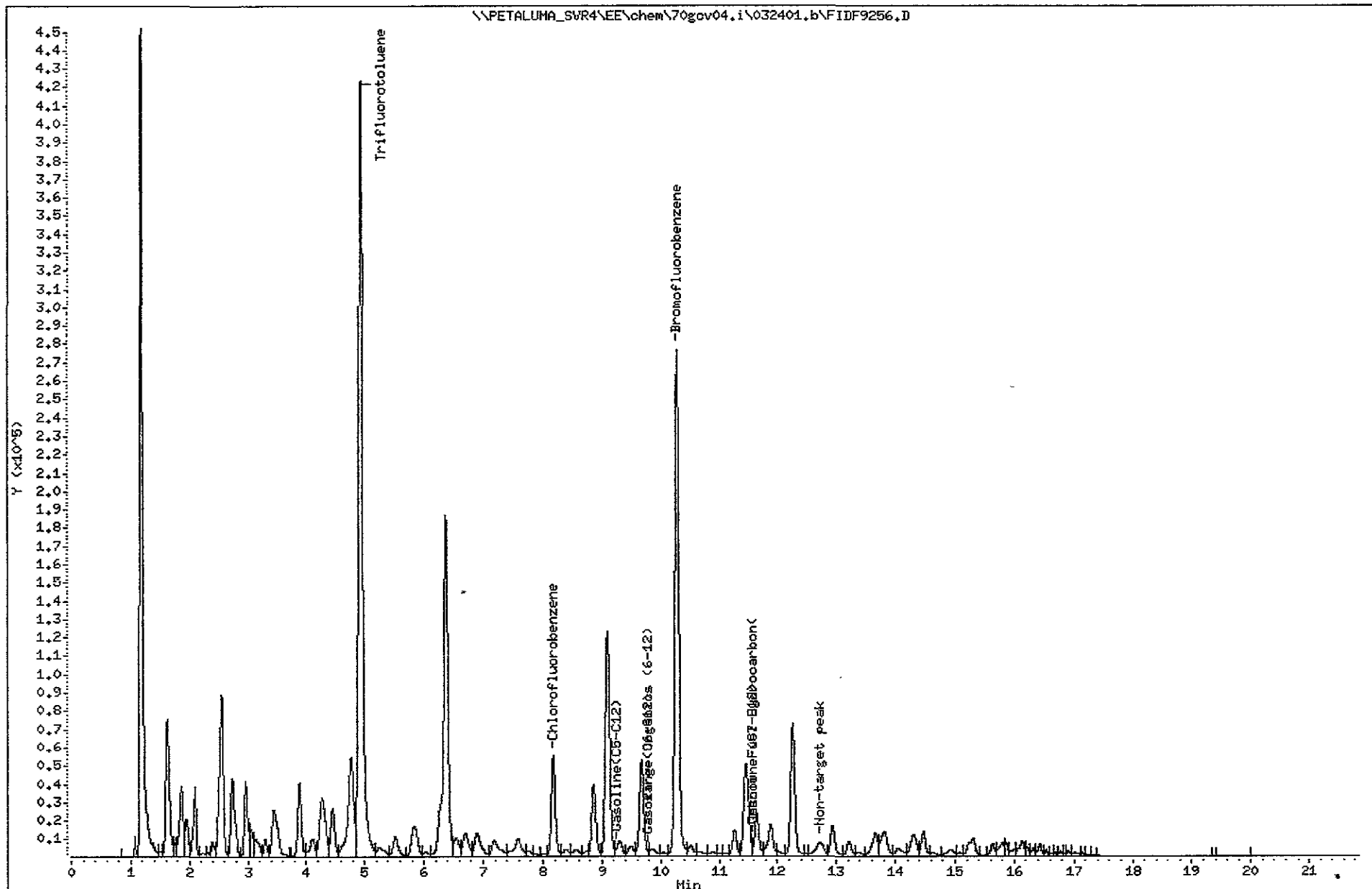
Purge Volume: 5.0

Column phase: HP-1

Instrument: 70gcv04.i

Operator: ADS

Column diameter: 0.53



Date : 24-MAR-2001 09:10

Client ID: VSTD100BC

Lab Sample ID: VSTD100BC

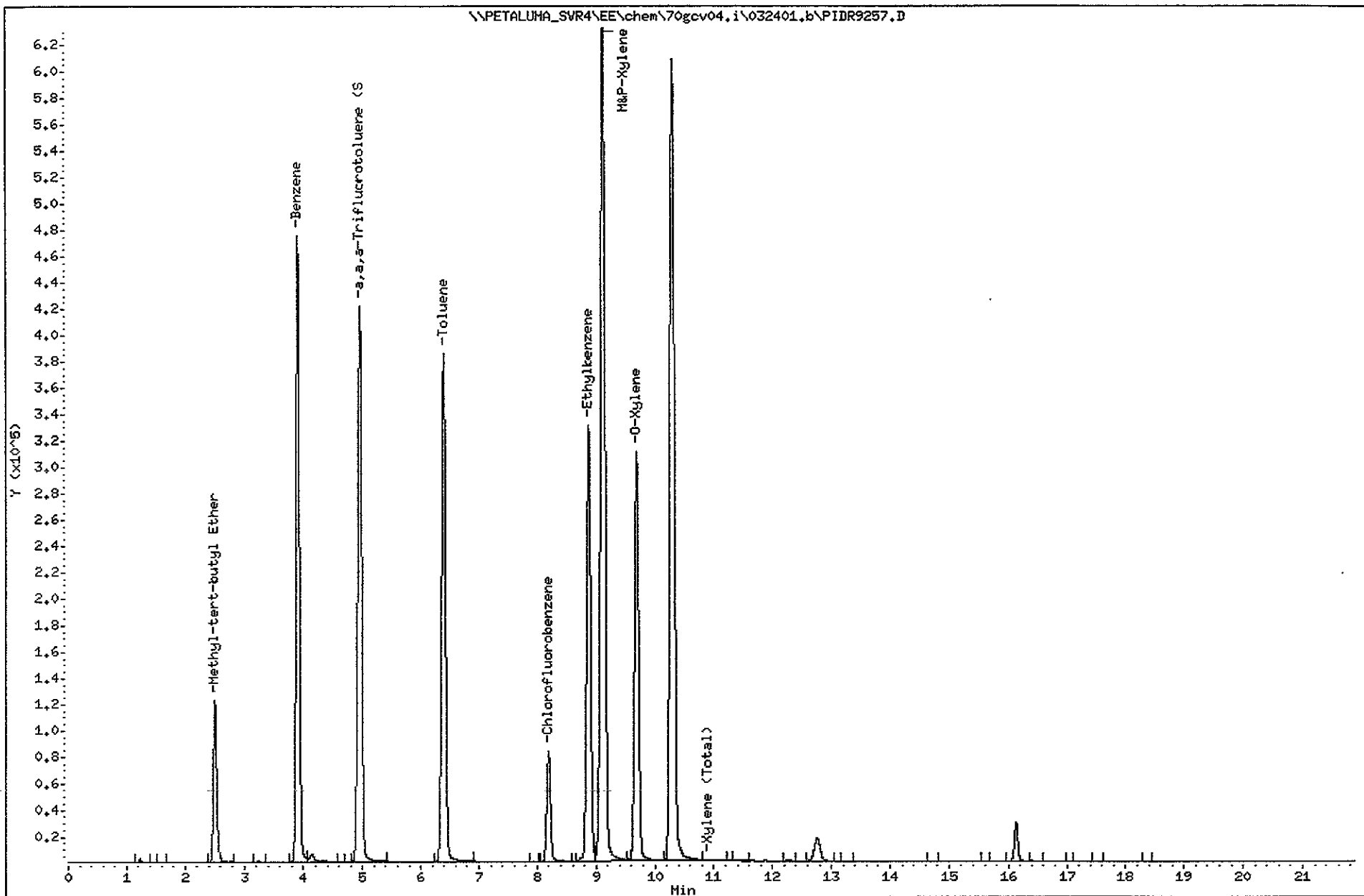
Purge Volume: 5.0

Column phase: DB-624

Instrument: 70gcv04.i

Operator: ADS

Column diameter: 0.53



Date : 24-MAR-2001 09:50

Client ID: BLK

Lab Sample ID: 1030576-BLK1

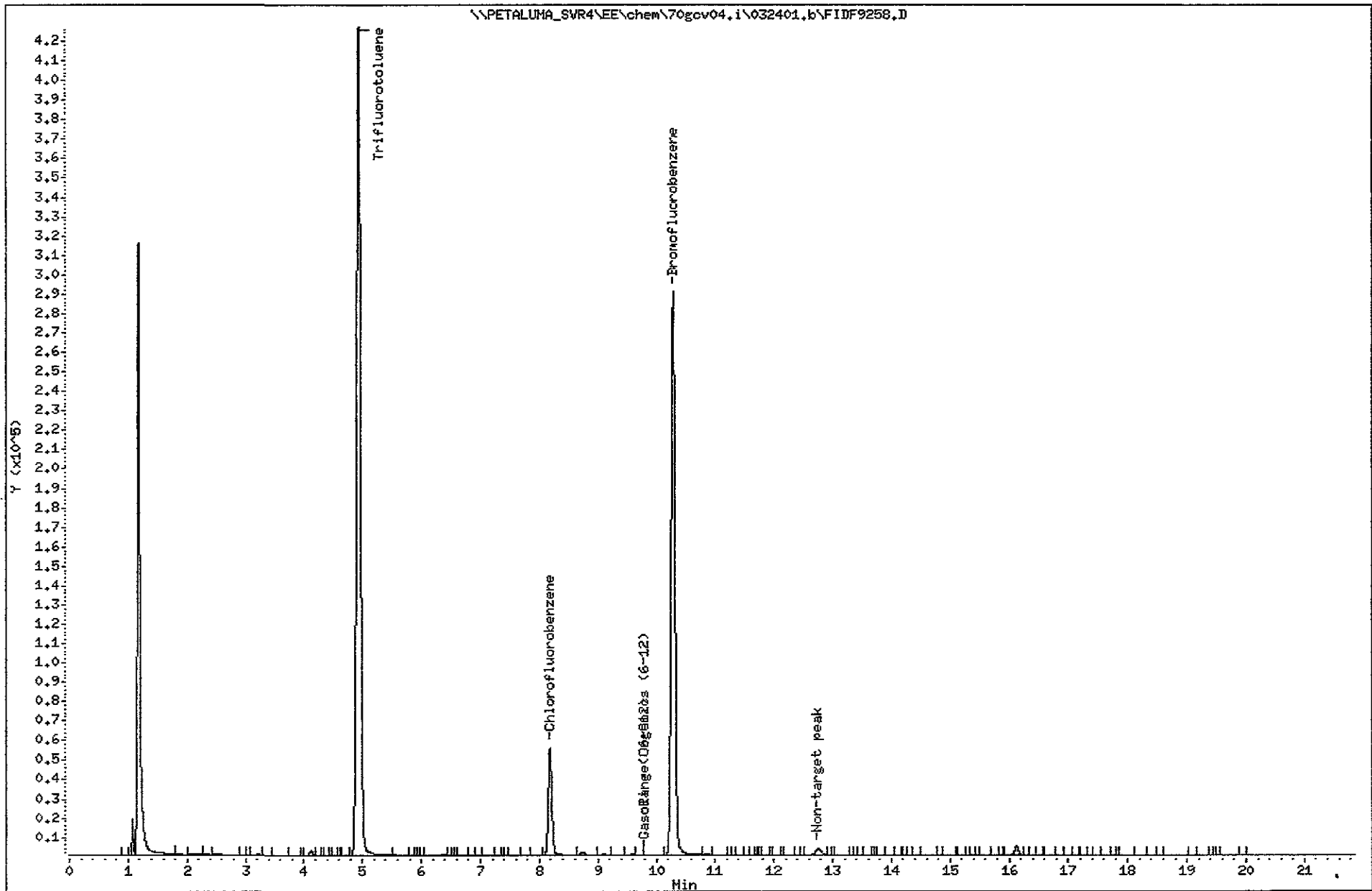
Purge Volume: 5.0

Column phase: HP-1

Instrument: 70gcv04.i

Operator: ADS

Column diameter: 0.53





Date : 24-MAR-2001 09:50

Client ID: BLK

Lab Sample ID: 1030576-BLK1

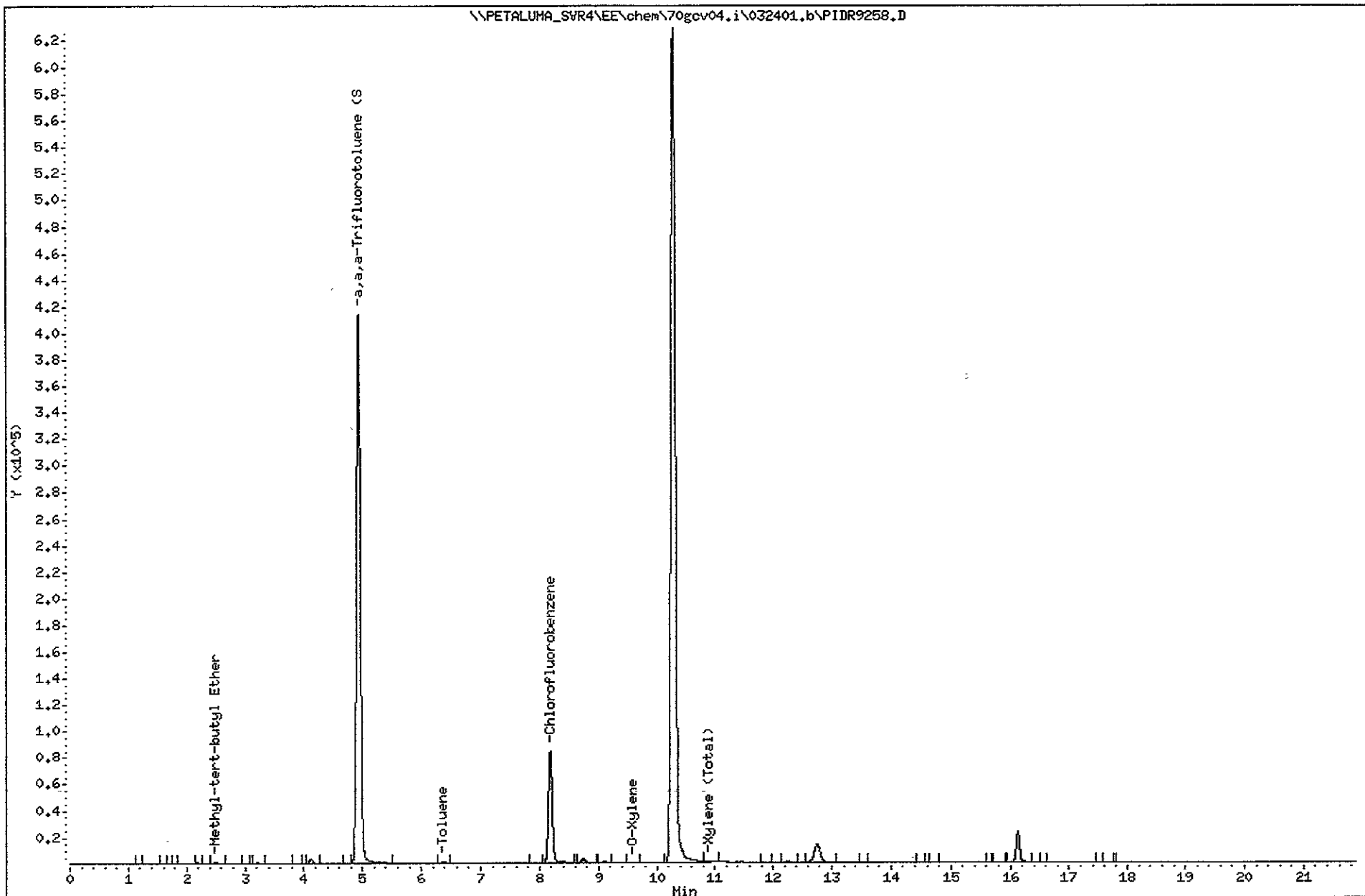
Purge Volume: 5.0

Column phase: DB-624

Instrument: 70gcv04.i

Operator: ADS

Column diameter: 0.53



Date : 24-MAR-2001 12:35

Client ID: MW-8

Lab Sample ID: P103519-01

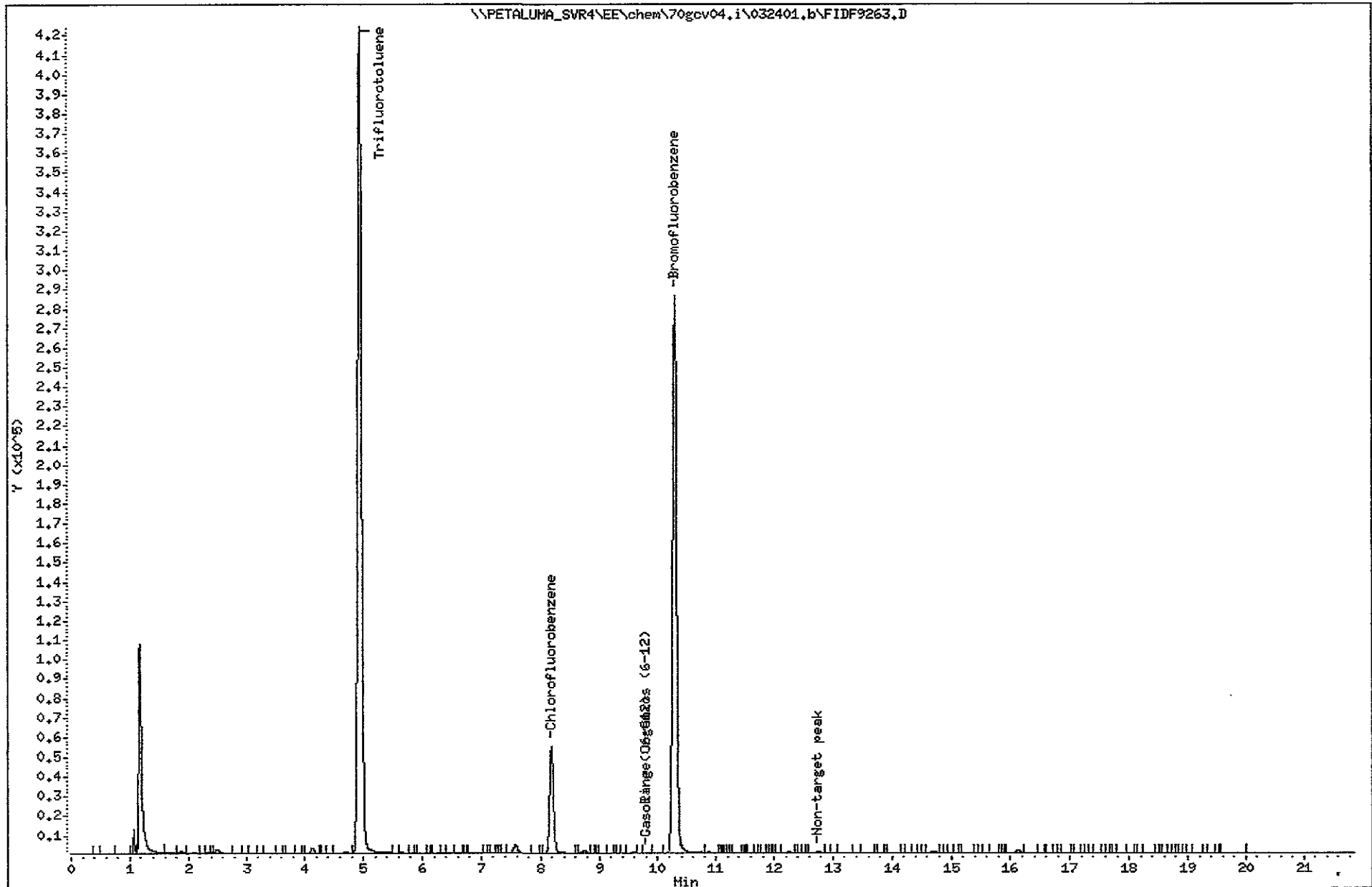
Purge Volume: 5.0

Column phase: HP-1

Instrument: 70gcv04.i

Operator: ADS

Column diameter: 0.53



Date : 24-MAR-2001 12:35

Client ID: MW-8

Lab Sample ID: P103519-01

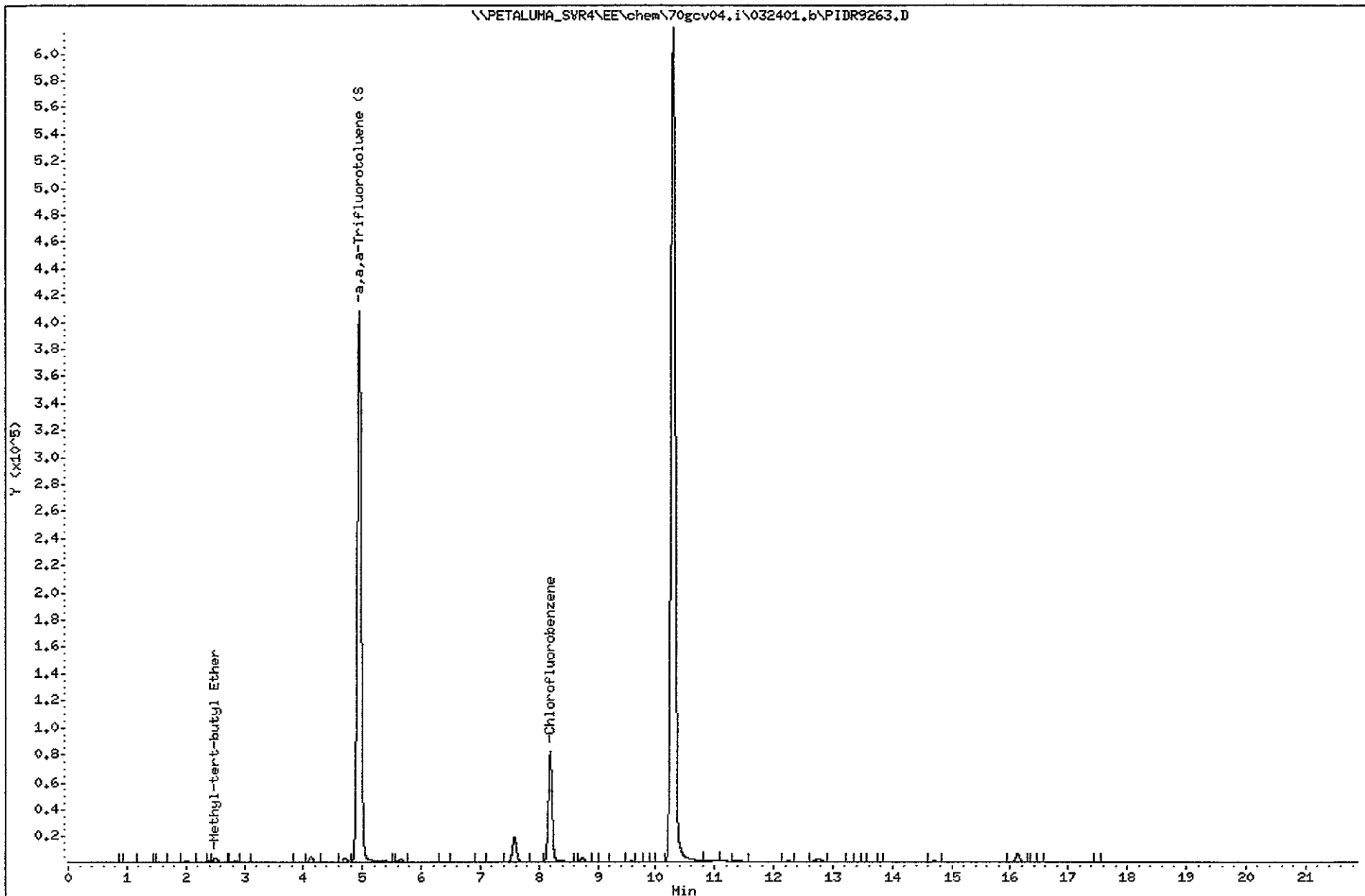
Purge Volume: 5.0

Column phase: DB-624

Instrument: 70gcv04.1

Operator: ADS

Column diameter: 0.53



Date : 26-MAR-2001 08:02

Client ID: VSTD1000GC

Lab Sample ID: VSTD1000GC

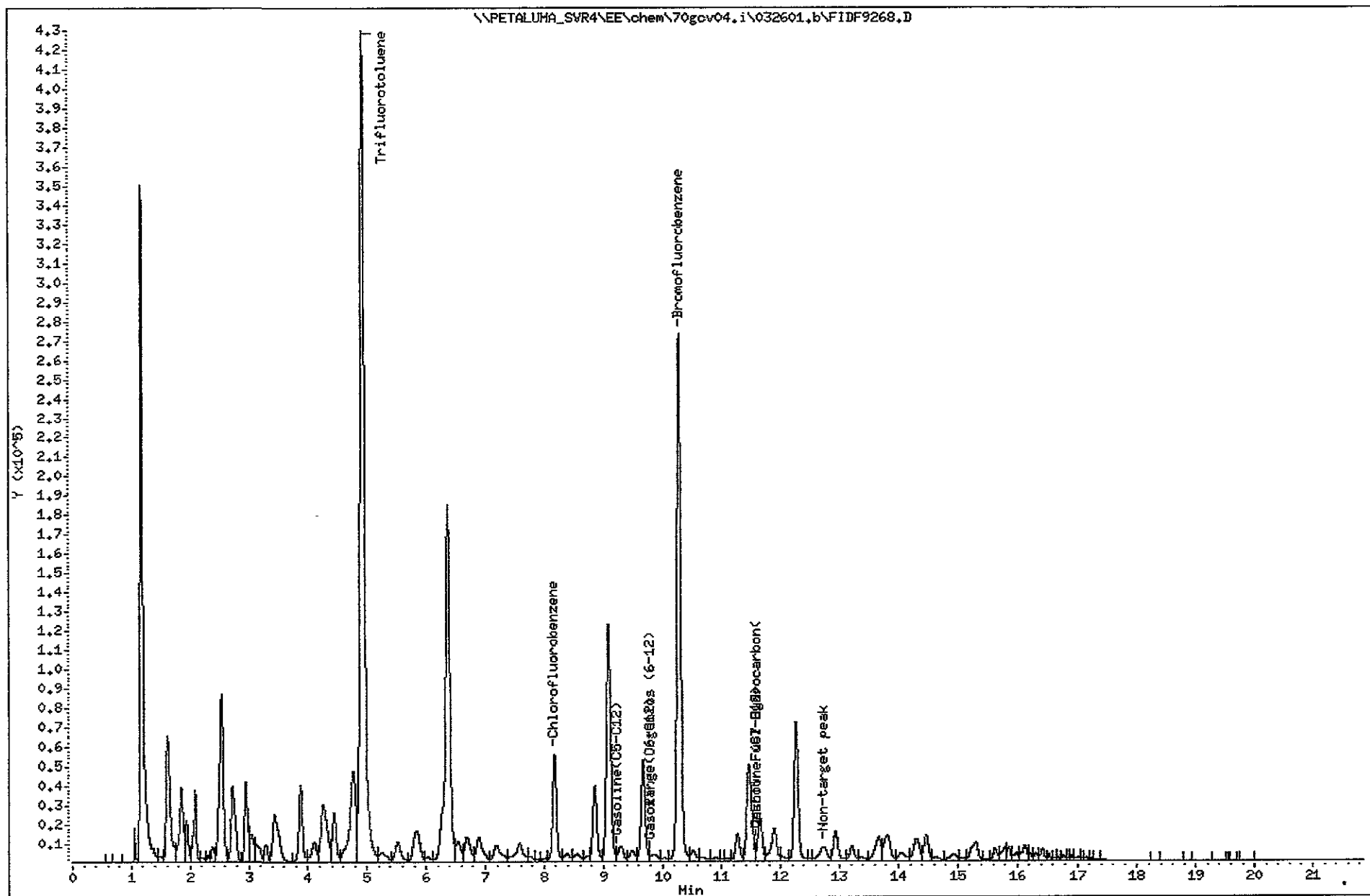
Purge Volume: 5.0

Column phase: HP-1

Instrument: 70gcv04.i

Operator: CMC

Column diameter: 0.53



Date : 26-MAR-2001 08:29

Client ID: VSTD100BC

Lab Sample ID: VSTD100BC

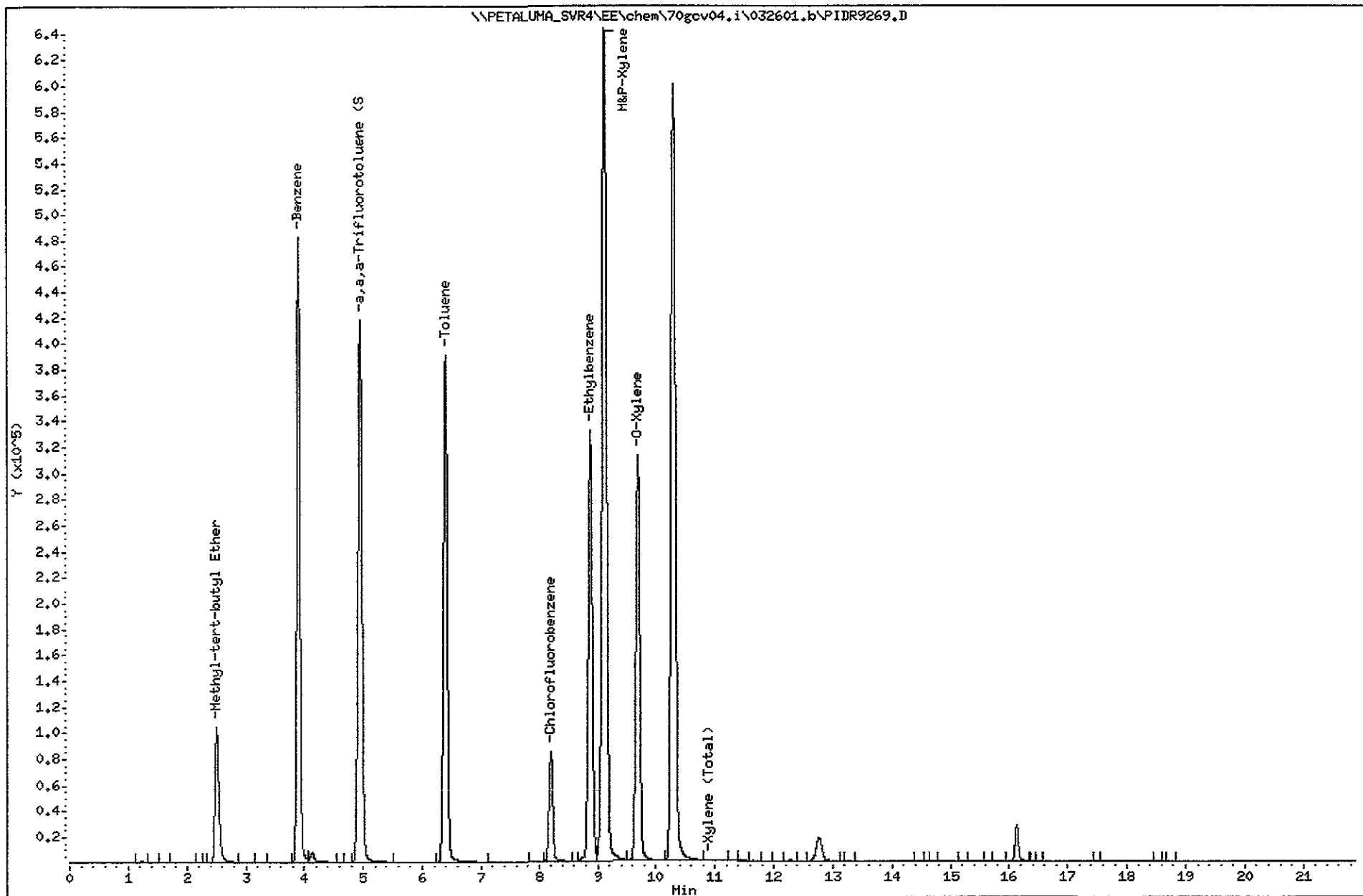
Purge Volume: 5.0

Column phase: DB-624

Instrument: 70gcv04.i

Operator: CMC

Column diameter: 0.53



Date : 26-MAR-2001 09:11

Client ID: BLK

Lab Sample ID: 1030576-BLK2

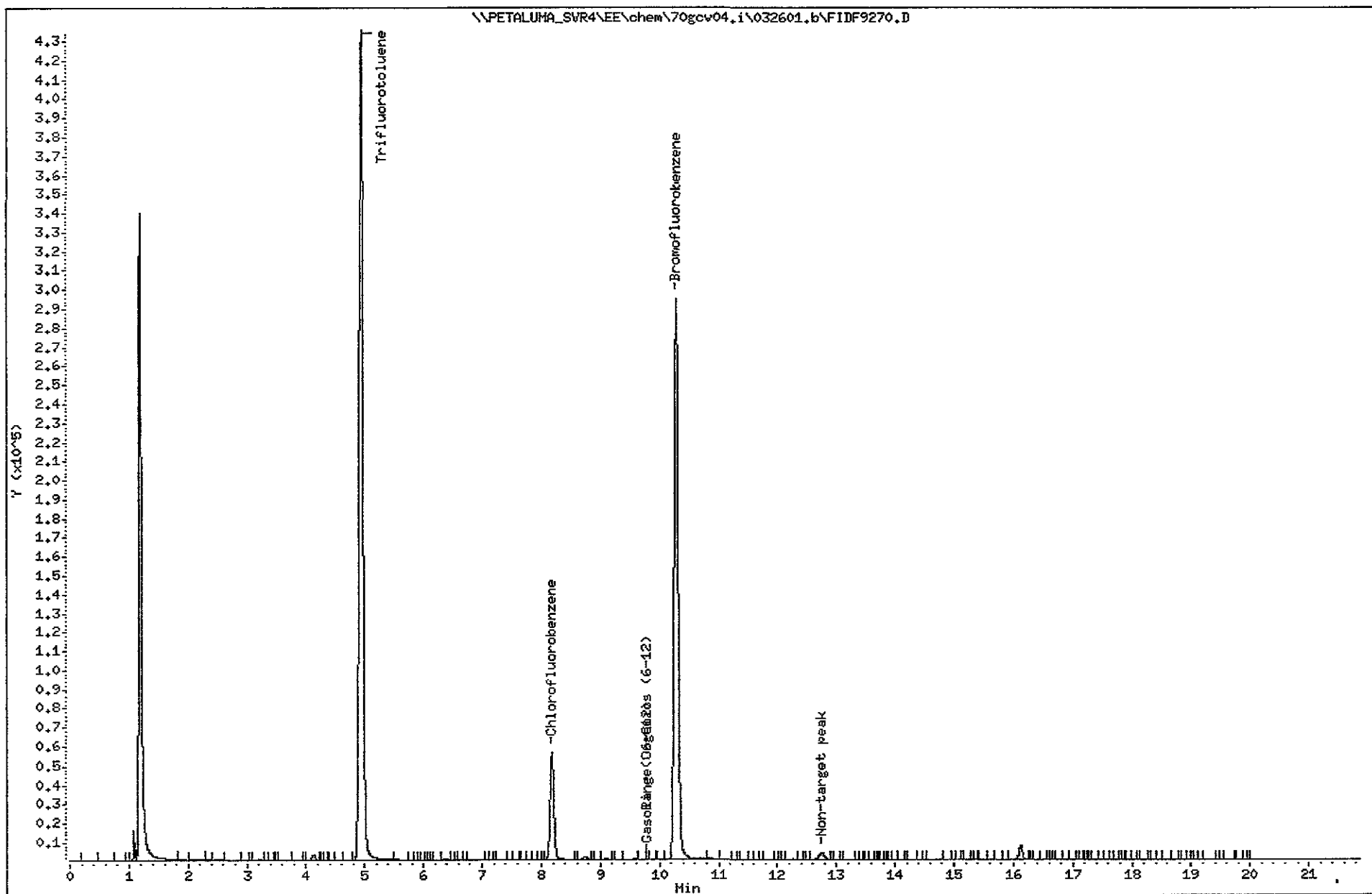
Purge Volume: 5.0

Column phase: HP-1

Instrument: 70gcv04.i

Operator: CHC

Column diameter: 0.53



Date : 26-MAR-2001 09:11

Client ID: BLK

Lab Sample ID: 1030576-BLK2

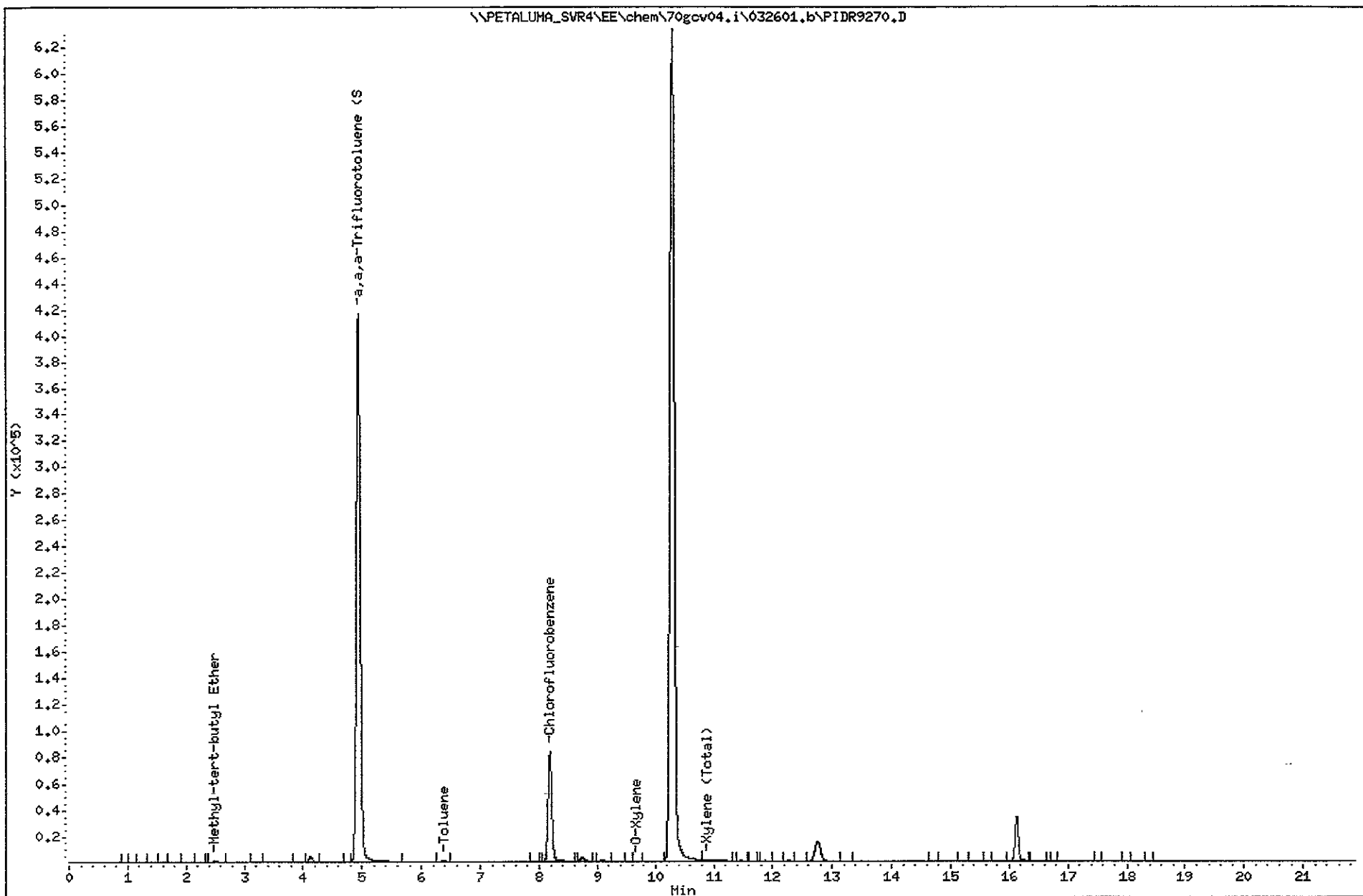
Purge Volume: 5.0

Column phase: DB-624

Instrument: 70gcv04.i

Operator: CMC

Column diameter: 0.53



Date : 26-MAR-2001 10:33

Client ID: MW-10

Lab Sample ID: P103519-02

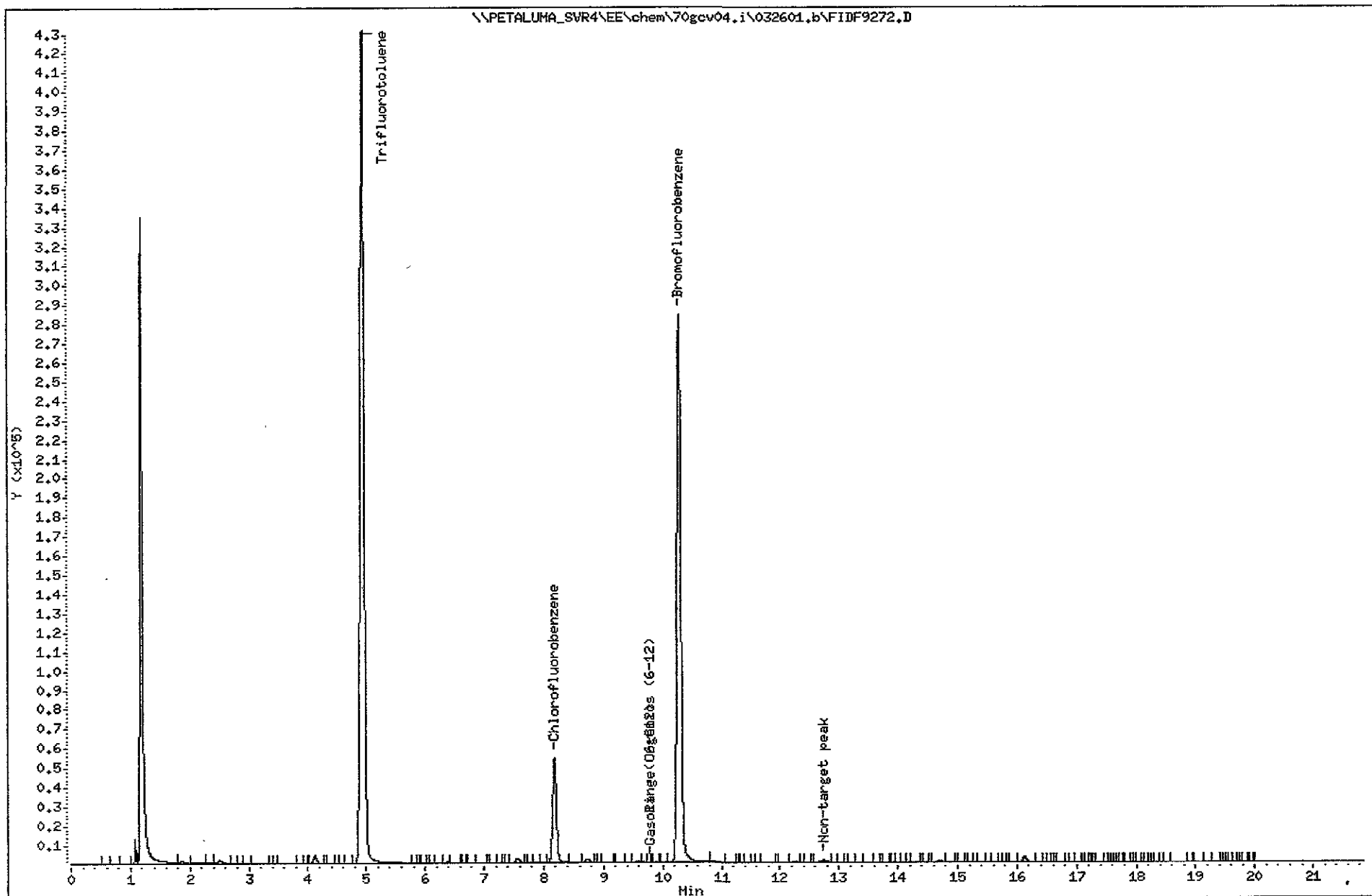
Purge Volume: 5.0

Column phase: HP-1

Instrument: 70gcv04.i

Operator: CMC

Column diameter: 0.53





Date : 26-MAR-2001 10:33

Client ID: HW-10

Lab Sample ID: P103519-02

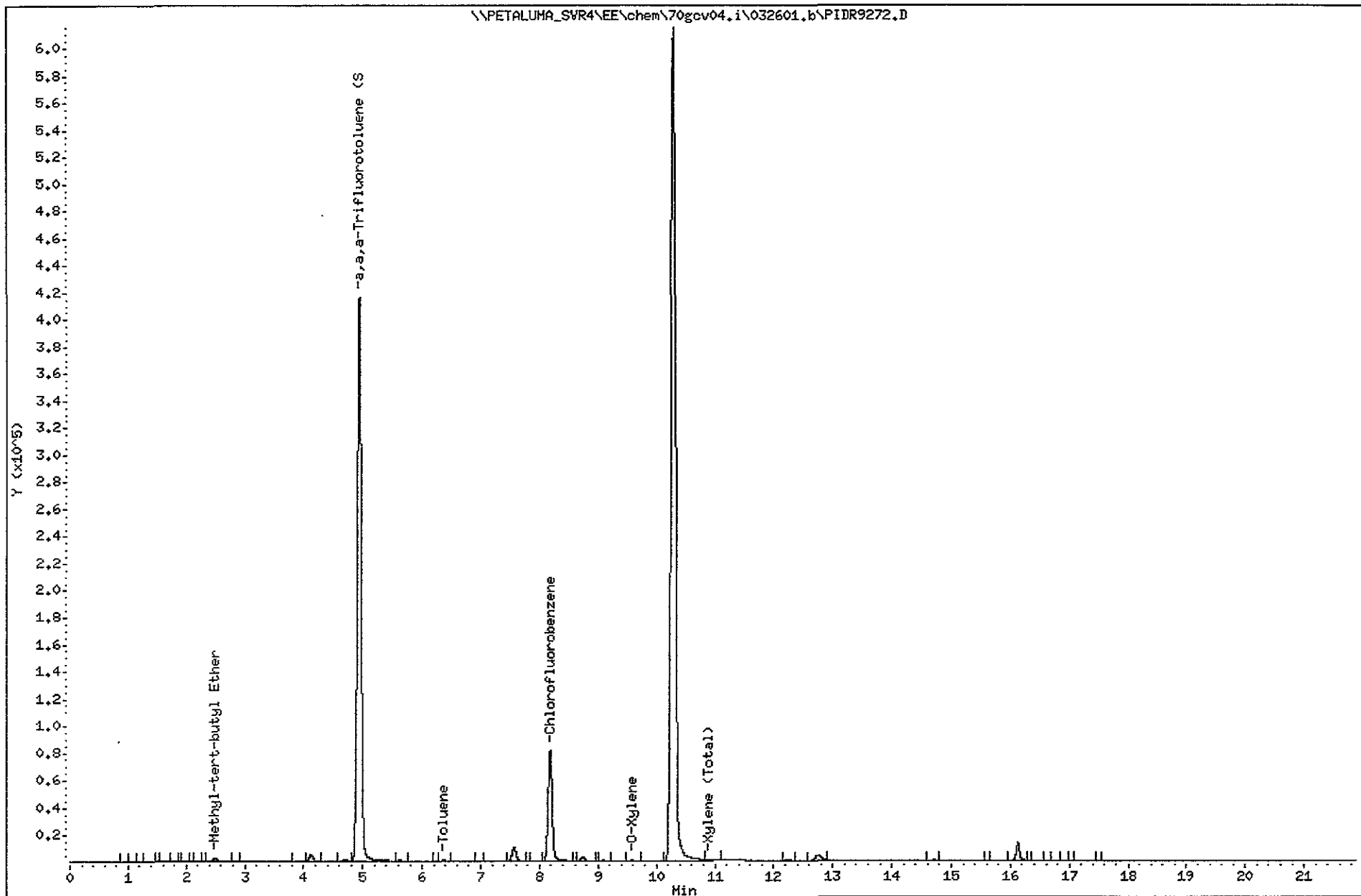
Purge Volume: 5.0

Column phase: DB-624

Instrument: 70gcv04.i

Operator: CMC

Column diameter: 0.53



Date : 26-MAR-2001 11:01

Client ID: MW-12

Lab Sample ID: P103519-03

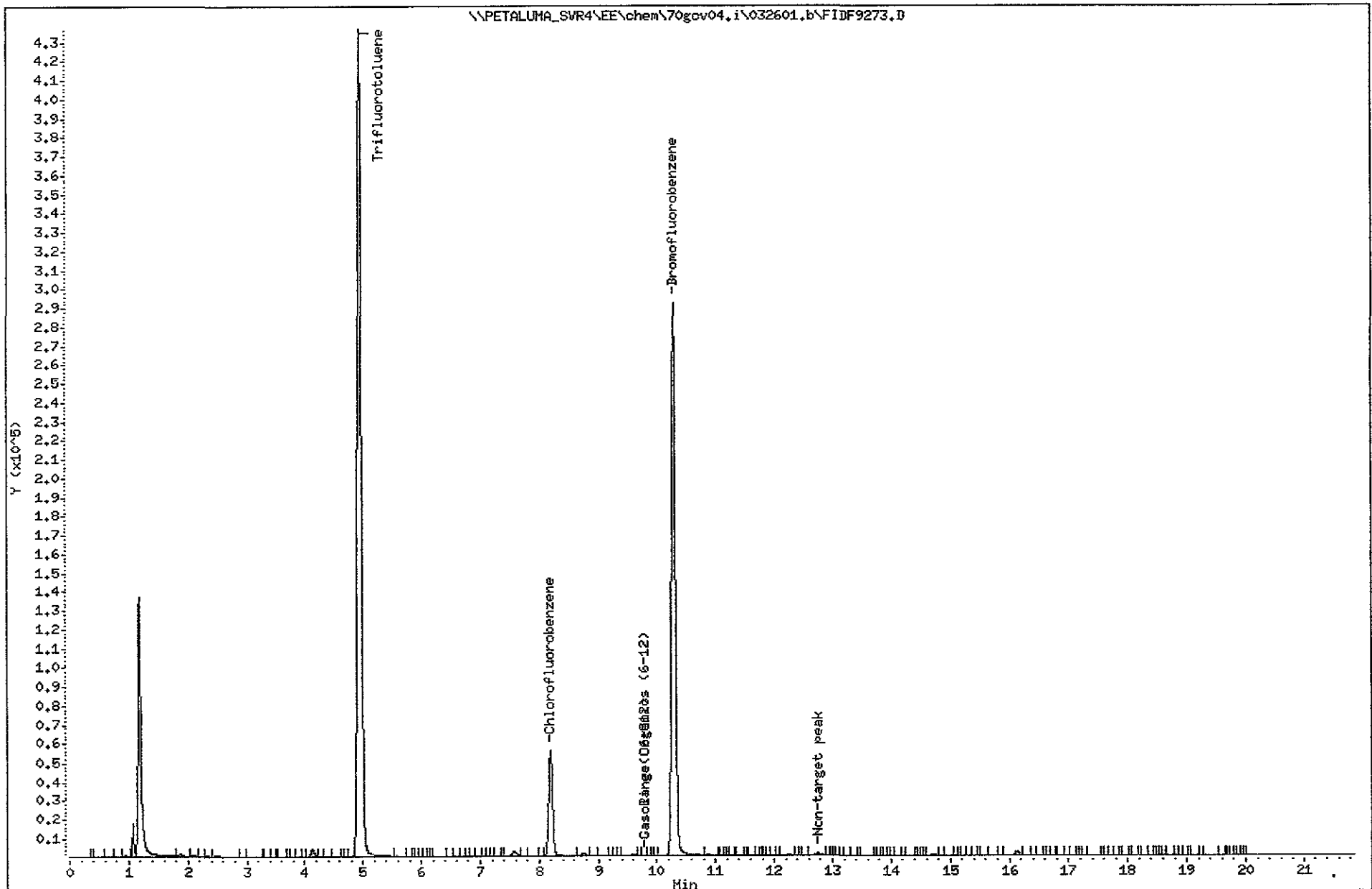
Purge Volume: 5.0

Column phase: HP-1

Instrument: 70gcv04.i

Operator: CNC

Column diameter: 0.53



Date : 26-MAR-2001 11:01

Client ID: MW-12

Instrument: 70gcv04.i

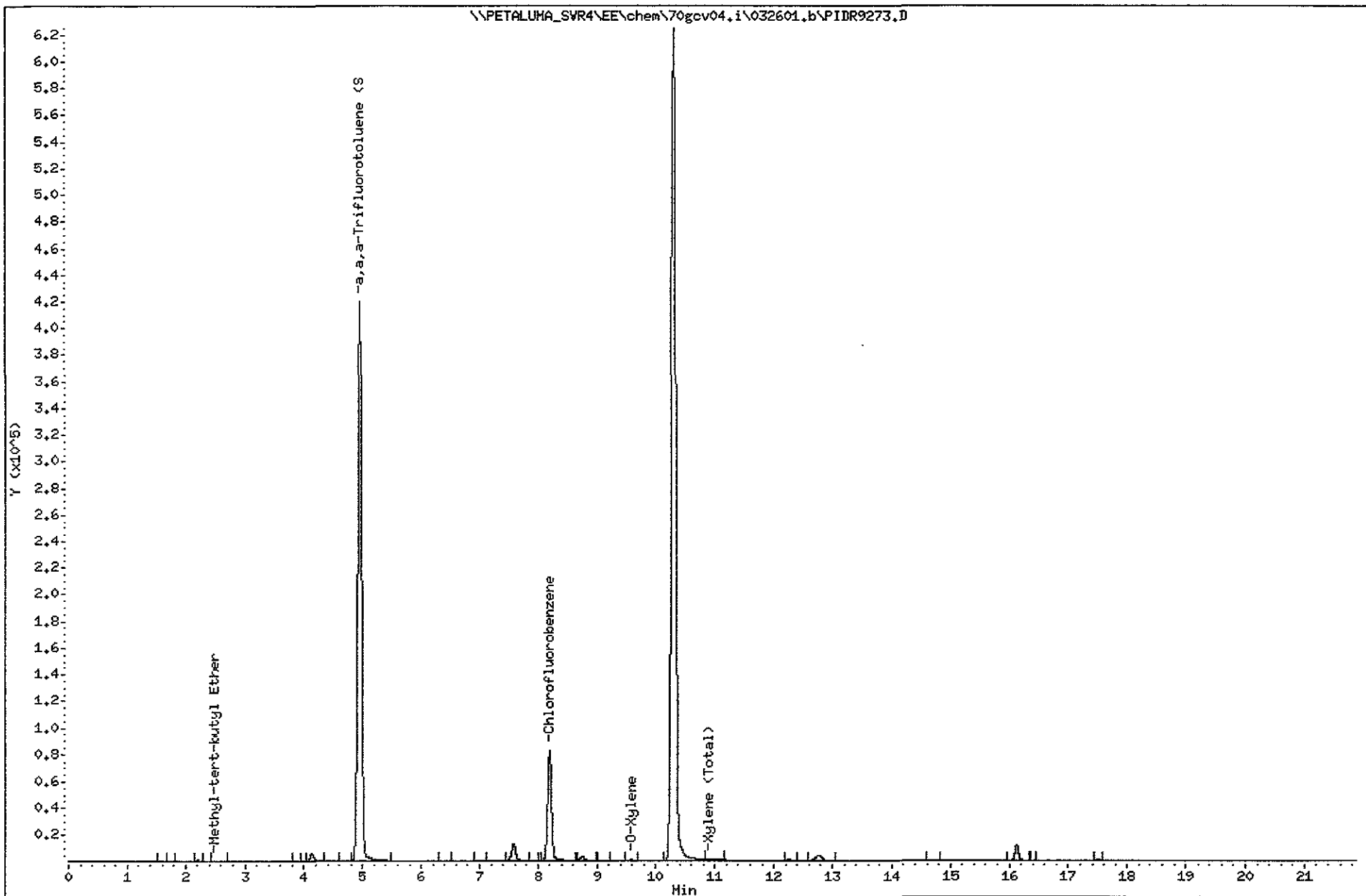
Lab Sample ID: P103519-03

Operator: CMC

Purge Volume: 5.0

Column diameter: 0.53

Column phase: DB-624



Date : 26-MAR-2001 11:29

Client ID: MW-13

Lab Sample ID: P103519-04

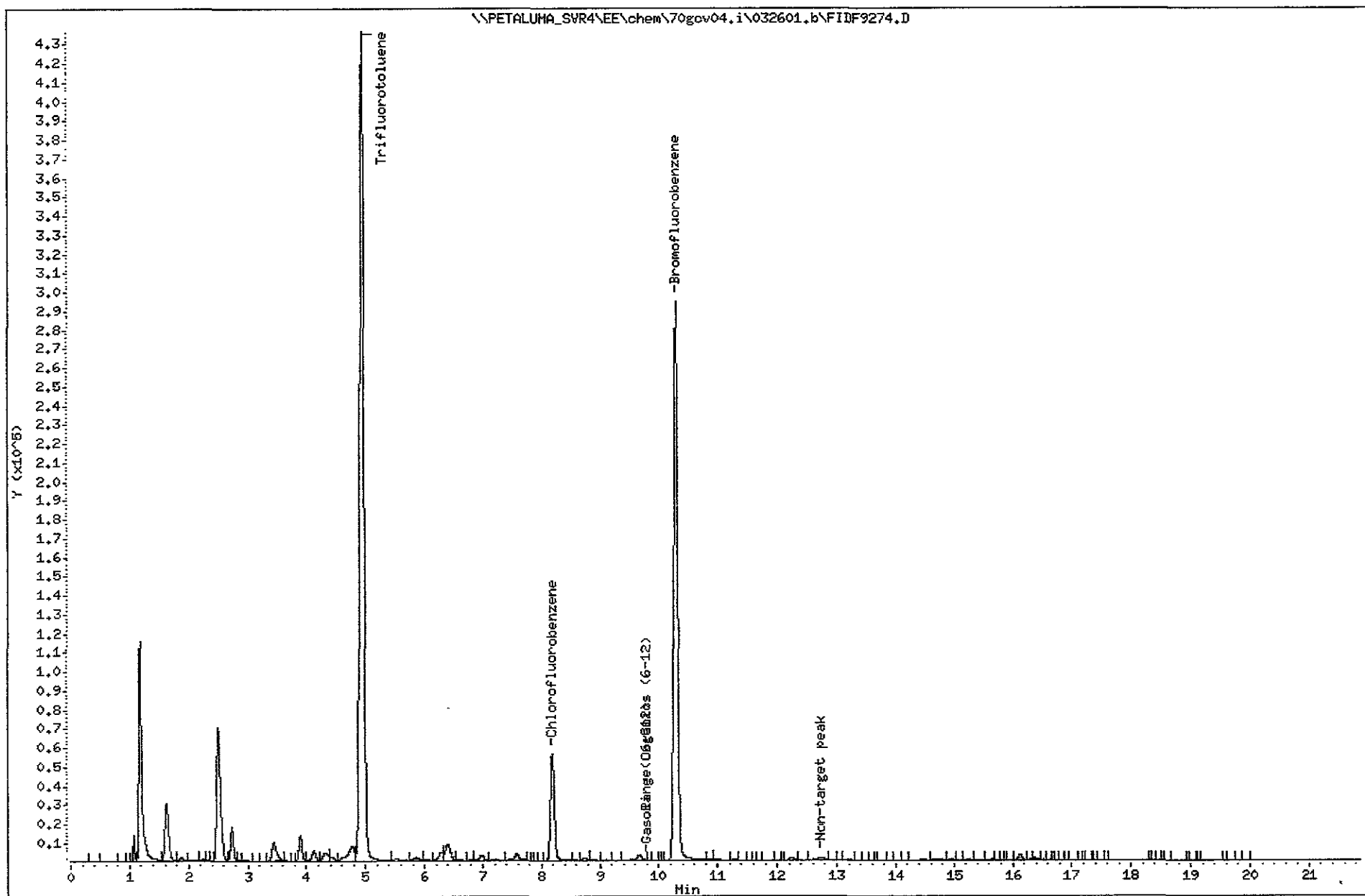
Purge Volume: 5.0

Column phase: HP-1

Instrument: 70gcv04.i

Operator: CNC

Column diameter: 0.53



Date : 26-MAR-2001 11:29

Client ID: MM-13

Lab Sample ID: P103519-04

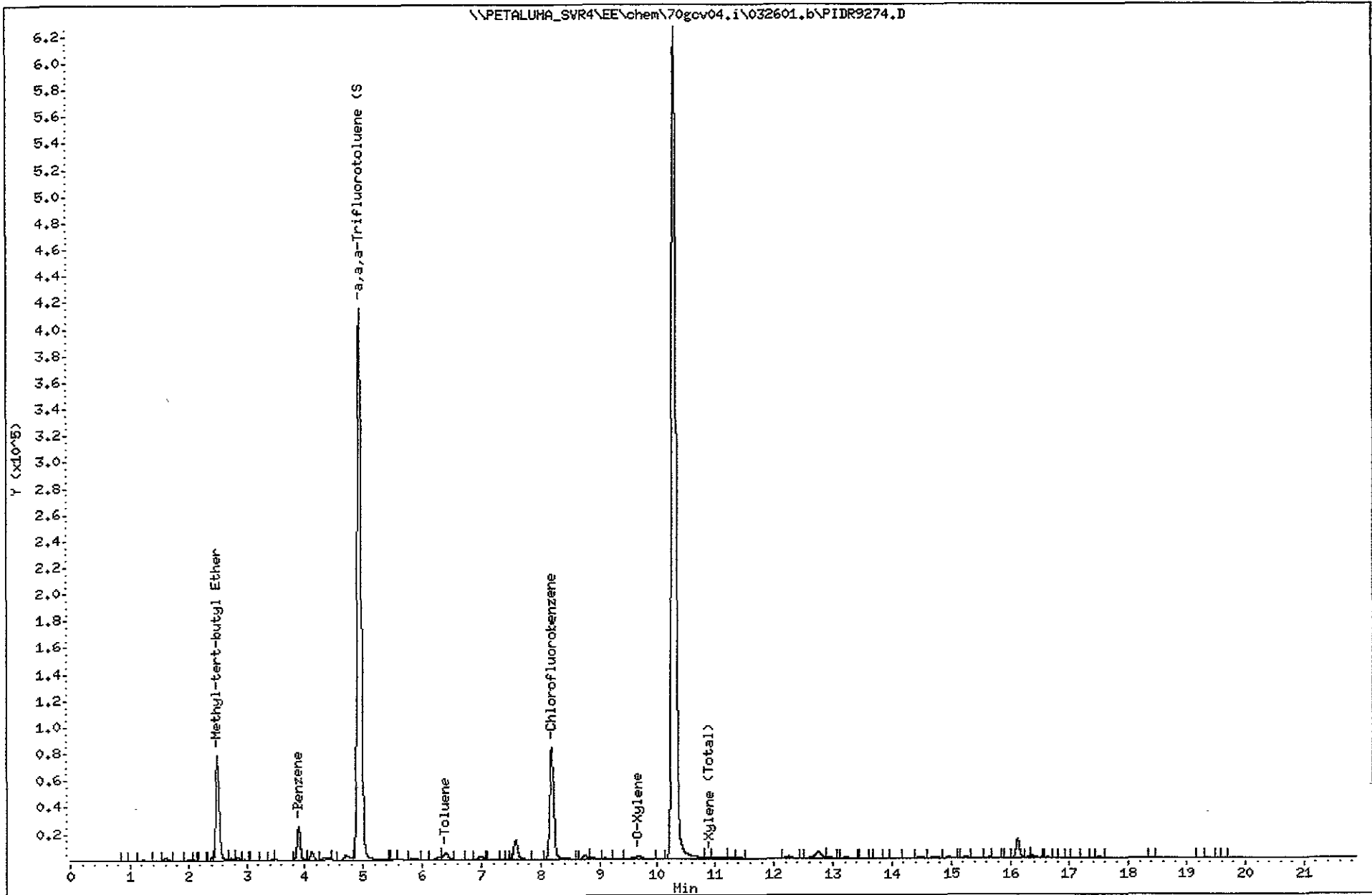
Purge Volume: 5.0

Column phase: DB-624

Instrument: 70gcv04.i

Operator: CMC

Column diameter: 0.53



Date : 26-MAR-2001 11:56

Client ID: D-2

Lab Sample ID: P103519-05

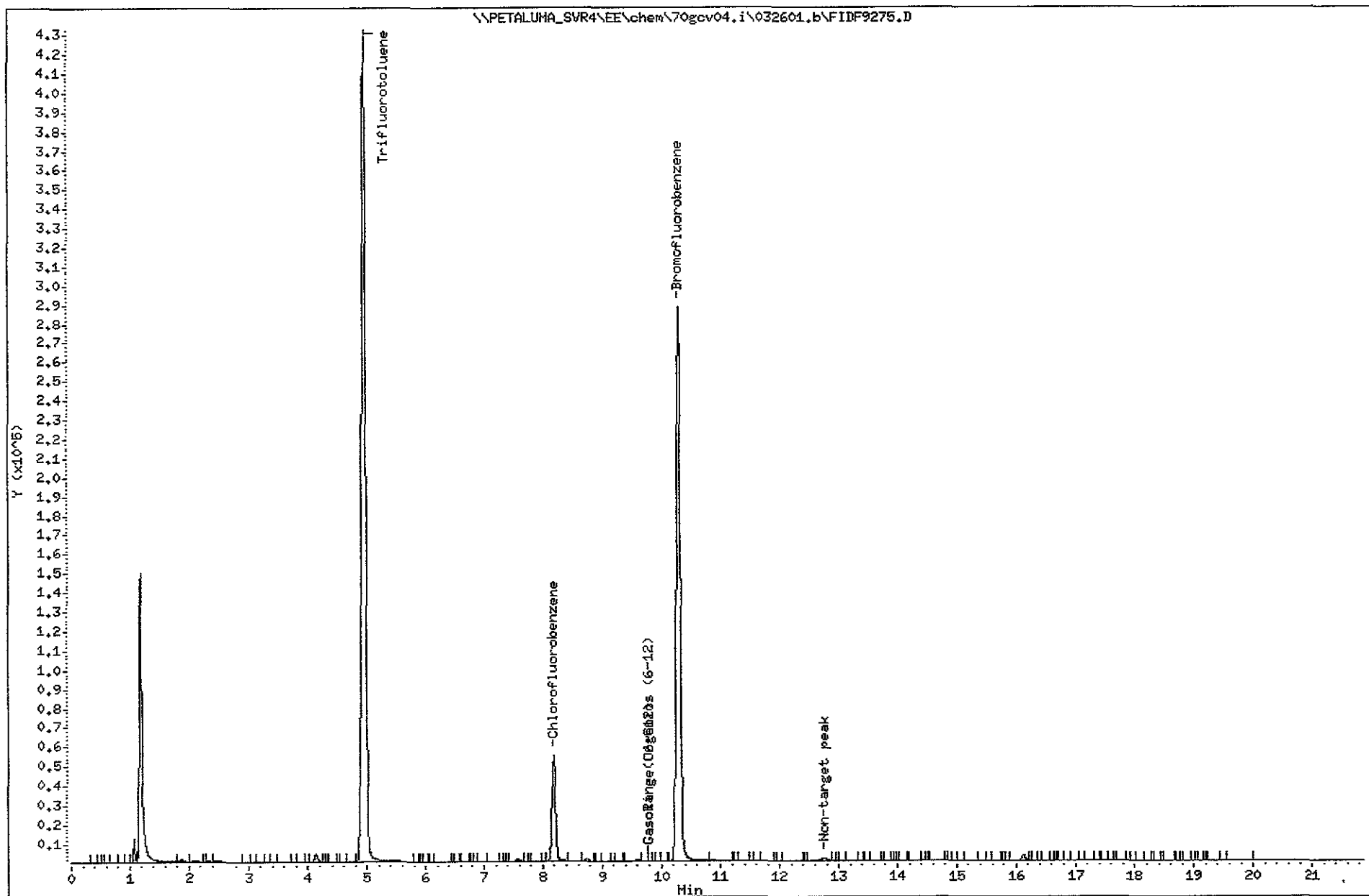
Purge Volume: 5.0

Column phase: HP-1

Instrument: 70gcv04.i

Operator: CMC

Column diameter: 0.53



Date : 26-MAR-2001 11:56

Client ID: D-2

Lab Sample ID: P103519-05

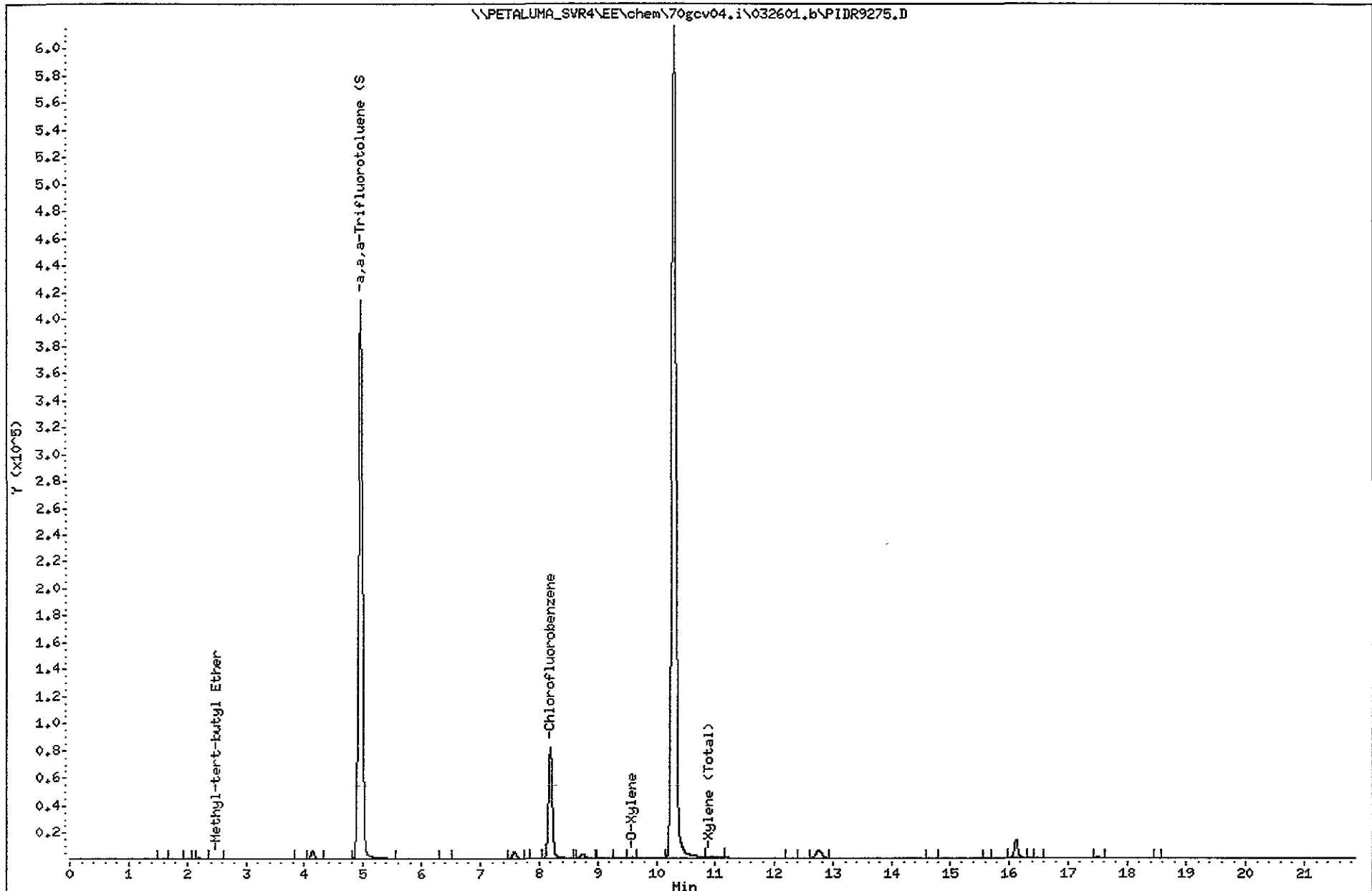
Purge Volume: 5.0

Column phase: DB-624

Instrument: 70gcv04.i

Operator: CMC

Column diameter: 0.53





# CHAIN OF CUSTODY

Quotation No. \_\_\_\_\_

PROJECT NO.: <b>BNC103</b>		SITE NAME: <b>B+C Gas Mini Mart</b>		ANALYSES				EDD required? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
SAMPLER(S): <b>RPAVE</b>		<b>MMAMW</b>								
<small>(printed)</small>		<small>(signature)</small>		TPH, GAS, BTEX, WTR, BE						
CONTRACT LABORATORY: <b>Saguia-Petaluma</b>		TURN-AROUND TIME: <b>Standard</b>						Container Info		
Sample I.D.	Lab I.D.	Collection		Matrix	Depth	Type/Vol.	Filter	Preserv.	Cont. Qty.	Remarks
		Date	Time							
MW-8		3/21/01	1517	water	✓	3	N	HEI	3	Please provide additional samples with results.
MW-10			1555			3			3	
MW-12			1700			3			3	
MW-13			1443			3			3	
D-2			1741			3			3	

COOLER CUSTODY SEALS INTACT

NOT INTACT

COOLER TEMPERATURE 3.0 °C

Relinquished by: (signature) <b>MMAMW</b>	Received by: (signature) <b>[Signature]</b>	Date/Time: <b>3/22/01 1145</b>	SEND RESULTS TO: Attn: <b>Katrin Schiewen</b> Conor Pacific/EFW 2580 Wyandotte St., Suite G Mountain View, CA 94043 Phone (650) 386-3828 Fax (650) 386-3815
Relinquished by: (signature) <b>[Signature]</b>	Received by: (signature) <b>John Yuell</b>	Date/Time: <b>3/22/01 1205</b>	
Relinquished by: (signature) <b>John Yuell</b>	Received by: (signature) <b>[Signature]</b>	Date/Time: <b>3-22-01 1430</b>	





# Sequoia Analytical

1455 McDowell Blvd. North, Ste. D  
Petaluma, CA 94954  
(707) 792-1865  
FAX (707) 792-0342  
[www.sequoialabs.com](http://www.sequoialabs.com)

April 04 , 2001

Katrin Schlieven  
Conor Pacific / EFW  
2580 Wyandotte St., Suite G  
Mountain View, CA 94043  
RE: B&C Gas Mini Mart / P103571

Enclosed are the results of analyses for samples received by the laboratory on 03/26/01. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Michelle M. Portis  
Project Manager

CA ELAP Certificate Number 2374





Conor Pacific / EFW  
2580 Wyandotte St., Suite G  
Mountain View CA, 94043

Project: B&C Gas Mini Mart  
Project Number: BNC103  
Project Manager: Katrin Schliewen

Reported:  
04/04/01 13:42

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-2	P103571-01	Water	03/23/01 00:00	03/26/01 14:30
MW-7	P103571-02	Water	03/23/01 11:13	03/26/01 14:30





Conor Pacific / EFW  
2580 Wyandotte St., Suite G  
Mountain View CA, 94043

Project: B&C Gas Mini Mart  
Project Number: BNC103  
Project Manager: Katrin Schliewen

Reported:  
04/04/01 13:42

**Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015M/8020M  
Sequoia Analytical - Petaluma**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-2 (P103571-01) Water</b> Sampled: 03/23/01 00:00 Received: 03/26/01 14:30									
Gasoline	18800	2500	ug/l	50	1030618	03/27/01	03/27/01	EPA 8015M/8020M	
Benzene	1300	25.0	"	"	"	"	"	"	
Toluene	790	25.0	"	"	"	"	"	"	
Ethylbenzene	1150	25.0	"	"	"	"	"	"	
Xylenes (total)	2250	25.0	"	"	"	"	"	"	
Methyl tert-butyl ether	372	125	"	"	"	"	"	"	QR-04
Surrogate: <i>a,a,a</i> -Trifluorotoluene		105 %		65-135	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.0 %		65-135	"	"	"	"	
<b>MW-7 (P103571-02) Water</b> Sampled: 03/23/01 11:13 Received: 03/26/01 14:30									
Gasoline	569	50.0	ug/l	1	1030618	03/27/01	03/27/01	EPA 8015M/8020M	
Benzene	ND	0.500	"	"	"	"	"	"	
Toluene	2.05	0.500	"	"	"	"	"	"	QR-04
Ethylbenzene	0.533	0.500	"	"	"	"	"	"	
Xylenes (total)	0.701	0.500	"	"	"	"	"	"	QR-04
Methyl tert-butyl ether	4.16	2.50	"	"	"	"	"	"	
Surrogate: <i>a,a,a</i> -Trifluorotoluene		107 %		65-135	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %		65-135	"	"	"	"	





Conor Pacific / EFW 2580 Wyandotte St., Suite G Mountain View CA, 94043	Project: B&C Gas Mini Mart Project Number: BNC103 Project Manager: Katrin Schliewen	Reported: 04/04/01 13:42
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## Volatile Organic Compounds by EPA Method 8260B Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-2 (P103571-01) Water    Sampled: 03/23/01 00:00    Received: 03/26/01 14:30</b>									
Tert-amyl methyl ether	ND	100	ug/l	100	1030628	03/27/01	03/27/01	EPA 8260B	
Tert-butyl alcohol	ND	2000	"	"	"	"	"	"	
Di-isopropyl ether	ND	100	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	50.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	50.0	"	"	"	"	"	"	
Ethanol	ND	10000	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	100	"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>368</b>	50.0	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		<i>113 %</i>		<i>88-118</i>	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>105 %</i>		<i>81-130</i>	"	"	"	"	
<i>Surrogate: Toluene-d8</i>		<i>107 %</i>		<i>84-115</i>	"	"	"	"	





Conor Pacific / EFW  
2580 Wyandotte St., Suite G  
Mountain View CA, 94043

Project: B&C Gas Mini Mart  
Project Number: BNC103  
Project Manager: Katrin Schliewen

Reported:  
04/04/01 13:42

**Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015M/8020M - Quality Control  
Sequoia Analytical - Petaluma**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 1030618 - EPA 5030, waters**

**Blank (1030618-BLK1)**

Prepared & Analyzed: 03/27/01

Gasoline	ND	50.0	ug/l							
Benzene	ND	0.500	"							
Toluene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Xylenes (total)	ND	0.500	"							
Methyl tert-butyl ether	ND	2.50	"							
Surrogate: a,a,a-Trifluorotoluene	319		"	300		106	65-135			
Surrogate: 4-Bromofluorobenzene	291		"	300		97.0	65-135			

**LCS (1030618-BS1)**

Prepared & Analyzed: 03/27/01

Gasoline	2650	50.0	ug/l	2750		96.4	65-135			
Benzene	41.2	0.500	"	32.0		129	65-135			
Toluene	209	0.500	"	193		108	65-135			
Ethylbenzene	50.4	0.500	"	46.0		110	65-135			
Xylenes (total)	251	0.500	"	231		109	65-135			
Methyl tert-butyl ether	64.7	2.50	"	52.0		124	65-135			
Surrogate: a,a,a-Trifluorotoluene	368		"	300		123	65-135			
Surrogate: 4-Bromofluorobenzene	315		"	300		105	65-135			

**Matrix Spike (1030618-MS1)**

Source: P103534-06

Prepared & Analyzed: 03/27/01

Gasoline	2630	50.0	ug/l	2750	ND	95.6	65-135			
Benzene	40.6	0.500	"	32.0	ND	127	65-135			
Toluene	203	0.500	"	193	ND	105	65-135			
Ethylbenzene	50.7	0.500	"	46.0	ND	110	65-135			
Xylenes (total)	252	0.500	"	231	ND	109	65-135			
Methyl tert-butyl ether	64.8	2.50	"	52.0	4.76	115	65-135			
Surrogate: a,a,a-Trifluorotoluene	359		"	300		120	65-135			
Surrogate: 4-Bromofluorobenzene	311		"	300		104	65-135			





Conor Pacific / EFW  
2580 Wyandotte St., Suite G  
Mountain View CA, 94043

Project: B&C Gas Mini Mart  
Project Number: BNC103  
Project Manager: Katrin Schliewen

Reported:  
04/04/01 13:42

**Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015M/8020M - Quality Control  
Sequoia Analytical - Petaluma**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 1030618 - EPA 5030, waters**

**Matrix Spike Dup (1030618-MSD1)**

**Source: P103534-06**

**Prepared & Analyzed: 03/27/01**

Gasoline	2580	50.0	ug/l	2750	ND	93.8	65-135	1.92	20	
Benzene	38.6	0.500	"	32.0	ND	121	65-135	5.05	20	
Toluene	199	0.500	"	193	ND	103	65-135	1.99	20	
Ethylbenzene	49.0	0.500	"	46.0	ND	107	65-135	3.41	20	
Xylenes (total)	246	0.500	"	231	ND	106	65-135	2.41	20	
Methyl tert-butyl ether	71.2	2.50	"	52.0	4.76	128	65-135	9.41	20	
Surrogate: a,a,a-Trifluorotoluene	346		"	300		115	65-135			
Surrogate: 4-Bromofluorobenzene	308		"	300		103	65-135			





Conor Pacific / EFW  
2580 Wyandotte St., Suite G  
Mountain View CA, 94043

Project: B&C Gas Mini Mart  
Project Number: BNC103  
Project Manager: Katrin Schliewen

Reported:  
04/04/01 13:42

**Volatile Organic Compounds by EPA Method 8260B - Quality Control  
Sequoia Analytical - Petaluma**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 1030628 - EPA 5030 waters**

**Blank (1030628-BLK1)**

Prepared & Analyzed: 03/27/01

Tert-amyl methyl ether	ND	1.00	ug/l							
Tert-butyl alcohol	ND	20.0	"							
Di-isopropyl ether	ND	1.00	"							
1,2-Dibromoethane (EDB)	ND	0.500	"							
1,2-Dichloroethane	ND	0.500	"							
Ethanol	ND	100	"							
Ethyl tert-butyl ether	ND	1.00	"							
Methyl tert-butyl ether	ND	0.500	"							
Surrogate: Dibromofluoromethane	5.50		"	5.00		110	88-118			
Surrogate: 1,2-Dichloroethane-d4	5.09		"	5.00		102	81-130			
Surrogate: Toluene-d8	5.37		"	5.00		107	84-115			

**LCS (1030628-BS1)**

Prepared & Analyzed: 03/27/01

Methyl tert-butyl ether	5.72	0.500	ug/l	5.00		114	79-118			
Surrogate: Dibromofluoromethane	5.54		"	5.00		111	88-118			
Surrogate: 1,2-Dichloroethane-d4	5.14		"	5.00		103	81-130			
Surrogate: Toluene-d8	5.23		"	5.00		105	84-115			

**Matrix Spike (1030628-MS1)**

Source: P103571-01

Prepared & Analyzed: 03/27/01

Methyl tert-butyl ether	924	50.0	ug/l	500	368	111	79-118			
Surrogate: Dibromofluoromethane	5.59		"	5.00		112	88-118			
Surrogate: 1,2-Dichloroethane-d4	5.27		"	5.00		105	81-130			
Surrogate: Toluene-d8	5.21		"	5.00		104	84-115			

**Matrix Spike Dup (1030628-MSD1)**

Source: P103571-01

Prepared & Analyzed: 03/27/01

Methyl tert-butyl ether	929	50.0	ug/l	500	368	112	79-118	0.540	20	
Surrogate: Dibromofluoromethane	5.64		"	5.00		113	88-118			
Surrogate: 1,2-Dichloroethane-d4	5.33		"	5.00		107	81-130			
Surrogate: Toluene-d8	5.37		"	5.00		107	84-115			





Conor Pacific / EFW  
2580 Wyandotte St., Suite G  
Mountain View CA, 94043

Project: B&C Gas Mini Mart  
Project Number: BNC103  
Project Manager: Katrin Schliewen

Reported:  
04/04/01 13:42

### Notes and Definitions

QR-04 Results between the primary and confirmation columns varied by greater than 40% RPD.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference





