

Prepared for



The Port of Oakland
530 Water Street
Oakland, California

**Quarterly Groundwater Monitoring Report:
Third Quarter, 1997
Building C-401, 2277 Seventh Street,
Oakland, California**

October 24, 1997

U&A Project No. 207-01

Prepared by



Uribe & Associates
Engineering and Environmental Consulting Services
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Engineering and Environmental Consulting Services

October 24, 1997

PORT OF OAKLAND
ENVIRONMENTAL DIVISION

Mr. John Prall, R.G.
Associate Environmental Scientist
Environmental Health and Safety Compliance Department
Port of Oakland
530 Water Street
Oakland, California 94604-2064

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ENVIRONMENTAL DIVISION

Subject: **Quarterly Groundwater Monitoring Report: Third Quarter, 1997**
Building C-401, 2277 Seventh Street, Oakland, California
STID 3899
U&A Project No. 207-01-10

Dear Mr. Prall:

Uribe & Associates (U&A) is pleased to provide the Port of Oakland (Port) this report documenting the results of quarterly groundwater monitoring conducted on September 18, 1997, at Building C-401, located at 2277 Seventh Street in Oakland, California (Figure 1). The monitoring included collecting depth-to-groundwater measurements and groundwater samples from on-site wells MW-2, MW-4, MW-5, and MW-7 (Figure 2). The monitoring also included collecting depth-to-groundwater and depth-to-product measurements from on-site well MW-8 and removing floating liquid hydrocarbons ("product"), if present, from passive skimmer devices installed in wells MW-1 and MW-6. Well MW-8 was not sampled because of the presence of floating liquid hydrocarbons in the well. An active skimmer is installed in well MW-3. Included in this report is an estimate of the amount of product removed from wells MW-1 and MW-3 since November 15, 1996 (the date the skimmers were installed in these wells) and December 1996 (the date the passive skimmer was installed in MW-6).

This report is based, in part, on information obtained by U&A from the Port and is subject to modification as newly acquired information may warrant.

U&A Groundwater Monitoring

Groundwater Levels and Data

On September 18, 1997, U&A personnel measured the depth to groundwater in wells MW-2, MW-4, MW-5, and MW-7. Measurements of the depth-to-groundwater and depth-



to-product were also collected from MW-8. The measurements were made to the nearest 0.01 foot, referenced to the surveyed top-of-casing (TOC) elevations, and conducted according to the U&A standard operating procedures (SOPs) included as Attachment 1.

Before purging, the depth to groundwater (DTW) in wells MW-2, MW-4, MW-5, and MW-7 ranged from 6.89 to 9.65 feet below TOC. The DTW in well MW-8 was 9.6 feet below TOC. The groundwater temperature averaged approximately 76 degrees Fahrenheit and the pH averaged 6.9. The DTW, temperature, and pH measurements collected on September 18, 1997, are entered on the U&A Well Purging & Sampling Logs included as Attachment 2. The DTW measurements collected to date are summarized in Table 1.

Figure 3 is a potentiometric surface map of the shallow water-bearing zone for September 18, 1997, based on data summarized in Table 1. The groundwater beneath the site is interpreted to flow toward the northeast with a hydraulic gradient of approximately 0.012 feet per foot (ft/ft). The two previous groundwater flow directions reported to the Port by U&A for monitoring conducted on March 28 and June 13, 1997, were both to the north ("Quarterly Groundwater Monitoring Report: First Quarter, 1997," dated June 16, 1997, and "Quarterly Groundwater Monitoring Report: Second Quarter, 1997," dated July 30, 1997).

Groundwater Sampling and Analysis

Groundwater samples were collected from the four wells by U&A personnel on September 18, 1997. The samples were collected according to the U&A SOPs included in Attachment 1 and were submitted under chain-of-custody to Pace Analytical Services, Inc., of Petaluma, California, a state-certified analytical laboratory. The samples were analyzed for the following constituents:

- Total petroleum hydrocarbons (TPH) as diesel (TPH-D) by modified EPA Method 8015, with "silica gel cleanup" procedure; "Pace reporting limit" (PRL) of 50 micrograms per liter ($\mu\text{g}/\text{l}$)
- TPH as motor oil (TPH-MO) by modified EPA Method 8015, with "silica gel cleanup" procedure; PRL of 250 $\mu\text{g}/\text{l}$
- TPH as gasoline (TPH-G) by modified EPA Method 8015/8020; PRL of 50 $\mu\text{g}/\text{l}$
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX) by modified EPA Method 8015/8020; PRLs of 0.5, 0.5, 0.5, and 1.0 $\mu\text{g}/\text{l}$, respectively

The analyses indicated that the concentrations of TPH-G were below the PRL of 50 $\mu\text{g}/\text{l}$ in the samples collected from MW-5 and MW-7. The concentrations of TPH-G in the samples collected from MW-2 and MW-4 were 82 and 1,300 $\mu\text{g}/\text{l}$, respectively.

The concentrations of TPH-D were below the PRL of 50 µg/l in the samples collected from MW-2 and MW-5. The concentrations of TPH-D for the samples collected from MW-4 and MW-7 were 150 and 240 µg/l, respectively.

The concentrations of TPH-MO were below the PRL of 250 µg/l in all four samples collected.

The concentrations of each of the BTEX compounds were below the respective PRLs in the samples collected from wells MW-5 and MW-7. In the sample from MW-2, benzene was detected at 0.56 µg/l and the remaining compounds were below the respective PRLs. In the sample from MW-4, the respective concentrations of BTEX were 550, 4.9, 2.1, and 2.0 µg/l.

The analytical results to date are summarized in Table 2. The laboratory analytical reports and chain-of-custody form are included as Attachment 3. Figure 4 also summarizes the groundwater analytical results for September 18, 1997, based on the data in Table 2.

Floating Liquid Hydrocarbon Removal

Evidence of product was observed in well MW-6 during purging on December 3, 1996. As a result, MW-6 was removed from the well sampling program. In addition, the passive skimmer that had been installed in well MW-8 was removed, cleaned, and installed in MW-6 on January 10, 1997. The transfer of the passive skimmer from MW-8 to MW-6 was done because the high viscosity of the product in MW-8 prevented the skimmer from operating properly. The product in MW-6 appears diesel like, similar to that in MW-1 and MW-3.

On September 18, 1997, floating liquid hydrocarbons were removed from the passive skimmer installed in well MW-1. The skimmer installed in MW-6 contained groundwater with a thin film of floating product. The fluids in this skimmer were also removed. The volume of product removed from the skimmer in MW-1 was estimated based on the capacity of the skimmer's cylindrical reservoir of 25 milliliters per inch. In addition, an estimated 250 gallons of product had accumulated in the active system's Baker tank. Subsequent inspection of the Baker tank on October 23, 1997, indicated that approximately 400 gallons of product had accumulated. Based on the amounts of product that have been emptied from the Baker tank and properly disposed of (by the Port's licensed contractor) and the amount of accumulated product estimated on October 23, 1997, over 1,900 gallons of product have been pumped from well MW-3 since the active skimmer system became operational on November 15, 1996. Product removal data are summarized in Table 2.

Laboratory Quality Control Data

U&A reviewed the quality control (QC) data reported by Pace (Attachment 3), for the analyses performed on the groundwater samples collected on September 18, 1997. The QC data includes surrogate recoveries, laboratory control sample (LCS) spike, LCS spike duplicate (LCSD), matrix spike (MS), and MS duplicate (MSD) recovery data and relative percent differences (RPDs). A comparison of the QC data with ranges of acceptable limits for surrogate, LCS and LCSD, and MS and MSD recoveries and RPDs, also provided by Pace, indicated that for the September 18, 1997, sample analyses:

- the results of MS and MSD recoveries and respective RPDs were within the acceptable limits
- the results of LCS and LCSD recoveries and respective RPDs were within the acceptable limits
- the results of surrogate recoveries were within the acceptable limits

Conclusions

1. For September 18, 1997, groundwater beneath the site is inferred to have flowed toward the northeast with a hydraulic gradient of approximately 0.012 ft/ft. The latest inferred direction of groundwater flow indicates a more easterly trend than the northerly direction reported by U&A for the monitoring conducted on June 13, 1997 (see above). The latest hydraulic gradient is slightly steeper than the gradient of 0.008 ft/ft reported by U&A for the monitoring conducted on June 13, 1997.
2. The results of the laboratory analyses for the groundwater samples collected from the four wells on September 18, 1997, indicated that the concentrations of:
 - TPH-G have remained (since at least April 1996) below the PRL in well MW-5, but were detected at 82 and 1,300 $\mu\text{g}/1$, respectively, in MW-2 and MW-4. Compared to the previous analytical results, the concentrations of TPH-G in MW-2 appear to have increased, but remain the same in MW-4.
 - TPH-G was below the PRL in well MW-7 - similar to the previous analytical results.
 - TPH-D were below the PRL in MW-2 and MW-5, but were detected at 150 and 240 $\mu\text{g}/1$, respectively, in MW-4 and MW-7. The concentrations of TPH-D in MW-4 and MW-7 appear to have increased from the previous analytical results.
 - TPH-MO remained (since December 3, 1996) below the PRL in each of the four wells.

- The BTEX compounds remained (since at least April 1996) below the respective PRLs in the samples collected from MW-5, and MW-7.
 - Benzene was detected for the first time (since at least January 1996) in well MW-2; at a concentration of 0.56 µg/1. BTEX were detected in MW-4 ranging from 2.0 µg/1 (total xylenes) to 550 µg/1 (benzene). Except for the benzene, the concentrations of the remaining BTEX compounds in MW-4 appear to have decreased from the previous analytical results.
3. The active skimmer system installed in well MW-3 has recovered over 1,900 gallons of "product" between November 15, 1996, and October 23, 1997.
 4. The QC data reported by Pace are within acceptable limits for recoveries and RPDs.

Remarks and Signature

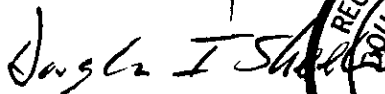
This report is based on available information and was prepared in accordance with currently accepted geologic, hydrogeologic, and engineering practices. No other warranty is implied or intended. This report has been prepared for the sole use of the Port of Oakland and applies to the subject site only. Use of this report by third parties shall be at their sole risk.

The work reported herein was conducted under the direct supervision of the California Registered Geologist whose signature appears below.

We appreciate the opportunity to provide the Port of Oakland with geologic, engineering, and environmental consulting services, and trust this report meets your needs. If you have any questions or concerns, please call us at (510) 832-2233.

Sincerely,

URIBE & ASSOCIATES



Douglas I. Sheeks, R.G.
Senior Geologist
CRG No. 5211



Attachments

List of Attachments

Figures:

- 1 Site Vicinity Map
- 2 Site Plan
- 3 Potentiometric Surface Map: September 18, 1997
- 4 Distribution Map of TPH (as Gasoline, Diesel, and Motor Oil) and BTEX in Groundwater: September 18, 1997

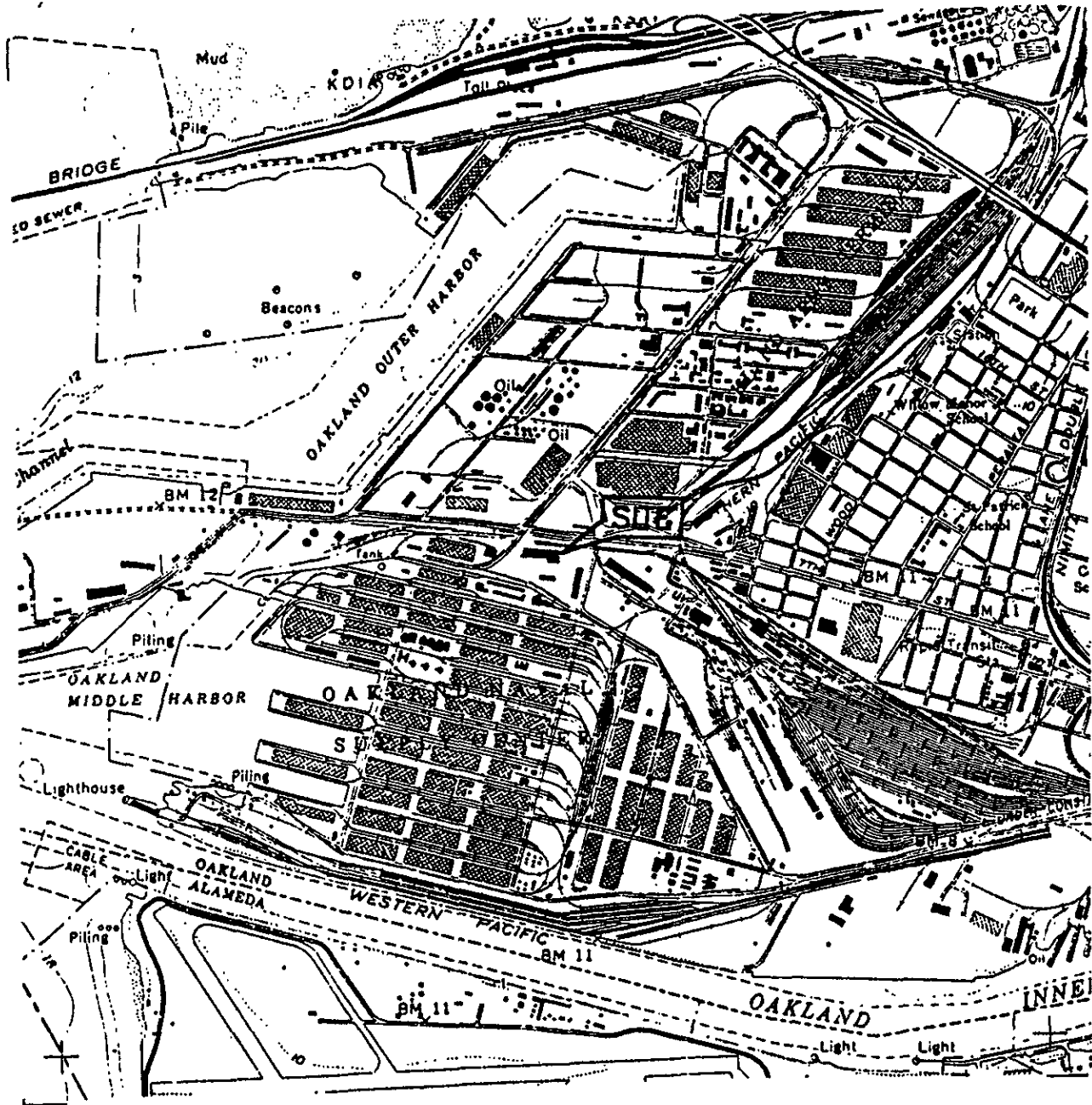
Tables:

- 1 Groundwater Elevations/Product Removal Data
- 2 Groundwater Analytical Results

Attachments:

- 1 U&A Standard Operating Procedures
- 2 U&A Well Purging & Sampling Logs
- 3 Laboratory Analytical Reports and Chain-of-Custody Form

Figures



SOURCE:
 USGS MAP, OAKLAND WEST QUADRANGLE,
 7.5 MINUTE SERIES, 1959.
 PHOTOREVISED 1980.

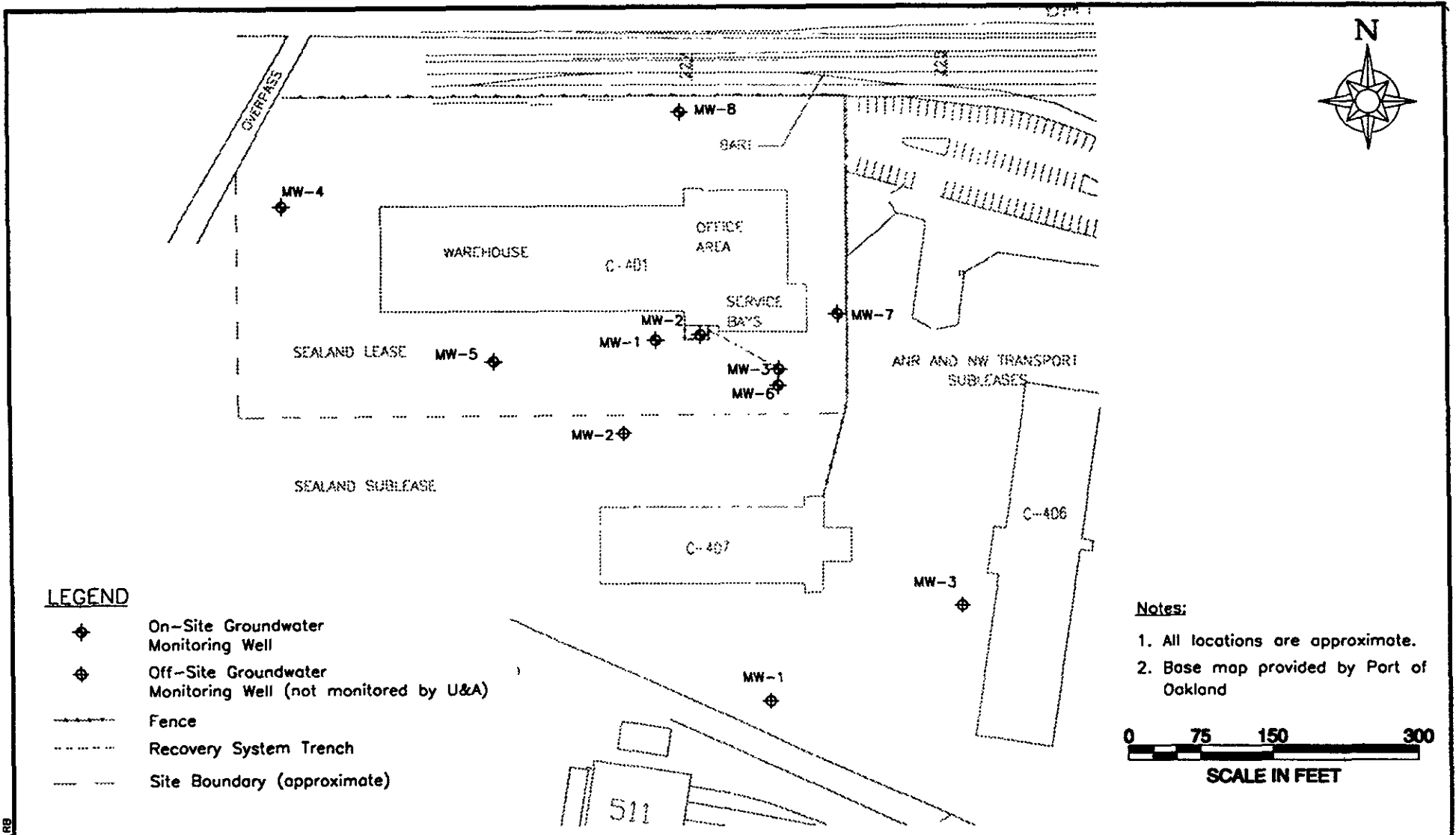


FIGURE 1
SITE VICINITY MAP
 PORT OF OAKLAND
 BUILDING C-401
 2277 SEVENTH STREET
 OAKLAND, CALIFORNIA
 PROJECT NO. 10-270



ALISTO ENGINEERING GROUP
 WALNUT CREEK, CALIFORNIA

CA 207-011 20701002.DWG 01-10-96 RB



LEGEND

- ◆ On-Site Groundwater Monitoring Well
- ◇ Off-Site Groundwater Monitoring Well (not monitored by U&A)
- Fence
- - - - Recovery System Trench
- Site Boundary (approximate)

Notes:

1. All locations are approximate.
2. Base map provided by Port of Oakland



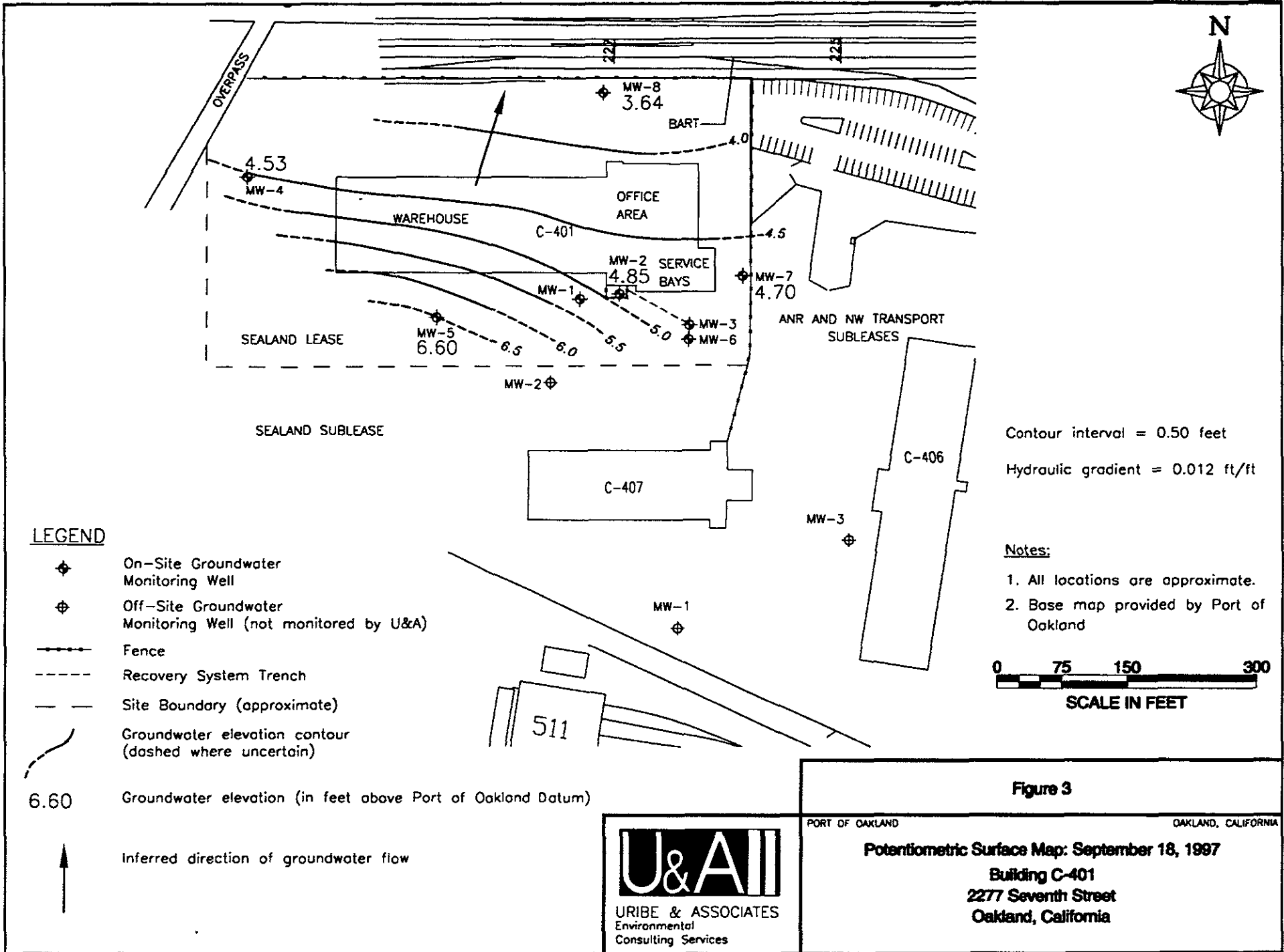
Figure 2

PORT OF OAKLAND

OAKLAND, CALIFORNIA

U&A
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Environmental
Consulting Services

Site Plan
Building C-401
2277 Seventh Street
Oakland, California



Contour interval = 0.50 feet
 Hydraulic gradient = 0.012 ft/ft



LEGEND

- On-Site Groundwater Monitoring Well
- Off-Site Groundwater Monitoring Well (not monitored by U&A)
- Fence
- Recovery System Trench
- Site Boundary (approximate)
- Groundwater elevation contour (dashed where uncertain)
- Groundwater elevation (in feet above Port of Oakland Datum)

Inferred direction of groundwater flow

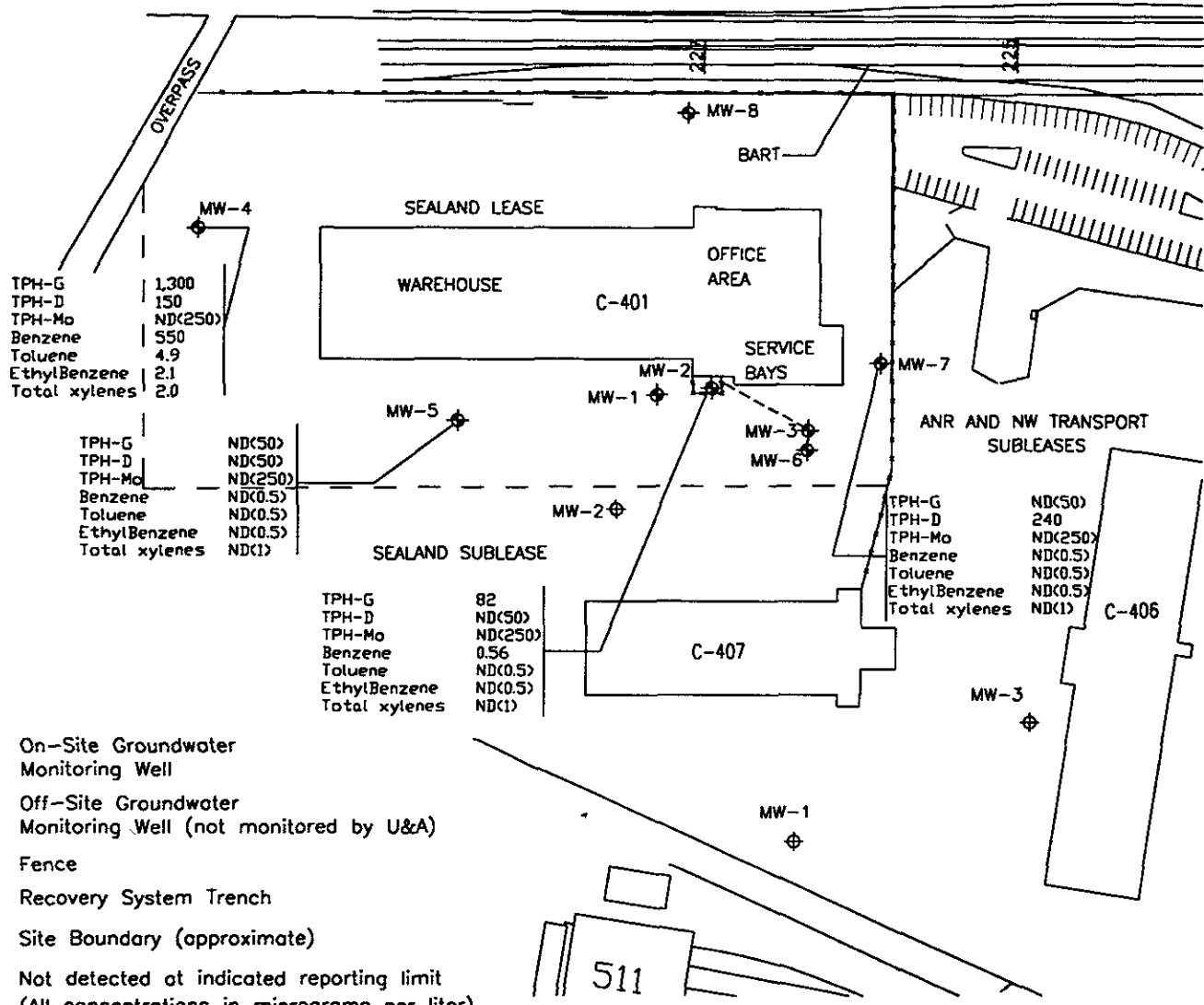
Figure 3

PORT OF OAKLAND OAKLAND, CALIFORNIA

Potentiometric Surface Map: September 18, 1997

Building C-401
2277 Seventh Street
Oakland, California

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TPH-G 1,300
 TPH-D 150
 TPH-Mo ND(250)
 Benzene 550
 Toluene 4.9
 EthylBenzene 2.1
 Total xylenes 2.0

TPH-G ND(50)
 TPH-D ND(50)
 TPH-Mo ND(250)
 Benzene ND(0.5)
 Toluene ND(0.5)
 EthylBenzene ND(0.5)
 Total xylenes ND(1)

TPH-G 82
 TPH-D ND(50)
 TPH-Mo ND(250)
 Benzene 0.56
 Toluene ND(0.5)
 EthylBenzene ND(0.5)
 Total xylenes ND(1)

TPH-G ND(50)
 TPH-D 240
 TPH-Mo ND(250)
 Benzene ND(0.5)
 Toluene ND(0.5)
 EthylBenzene ND(0.5)
 Total xylenes ND(1)

LEGEND

- ◆ On-Site Groundwater Monitoring Well
- ⊕ Off-Site Groundwater Monitoring Well (not monitored by U&A)
- Fence
- - - Recovery System Trench
- Site Boundary (approximate)
- ND() Not detected at indicated reporting limit (All concentrations in micrograms per liter)
- TPH-G Total petroleum hydrocarbons as Gasoline
- TPH-D Total petroleum hydrocarbons as Diesel
- TPH-Mo Total petroleum hydrocarbons as Motor Oil

- Notes:**
1. All locations are approximate.
 2. Base map provided by Port of Oakland.



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Analytical details are included in U&A's quarterly groundwater monitoring report dated October 24, 1997.

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Figure 4

PORT OF OAKLAND OAKLAND, CALIFORNIA

Distribution map of TPH (as Gasoline, Diesel, and Motor Oil) and BTEX in Groundwater: September 18, 1997

Building C-401
2277 Seventh Street
Oakland, California

Tables

Table 1
Groundwater Elevations/Product Removal Data
Port of Oakland
2277 Seventh Street, Oakland, California
(Page 1 of 4)

Well	Date	Top of Casing Elevation ¹ (feet)	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Groundwater Elevation ² (feet)	Estimated Product Removed (gallons)	Product Removal Method
MW-1	3/29/95	14.14	7.50	7.67	0.17	6.61		
	9/6/95		8.68	9.45	0.77	5.31		
	9/28/95		8.74	9.85	1.11	5.18		
	12/27/95		8.51	9.04	0.53	5.52		
	1/8/96		8.67	9.15	0.48	5.37		
	4/4/96		8.25	8.50	0.25	5.84		
	7/10/96		8.70	9.52	0.82	5.28		
	12/3/96		---	---	---	---	0.1	passive skimmer
	12/13/96		---	---	---	---	0.23	passive skimmer
	1/6/97		---	---	---	---	0.08	passive skimmer
	3/28/97		---	---	---	---	0.002	passive skimmer
	6/13/97		---	---	---	---	0.23	passive skimmer
	9/18/97		---	---	---	---	0.23	passive skimmer
MW-2	5/27/94	14.36		8.01		6.35		
	3/29/95			7.47		6.89		
	9/6/95			9.04		5.32		
	9/28/95			7.47		6.89		
	12/27/95			8.95		5.41		
	1/8/96			8.95		5.41		
	4/4/96			8.46		5.90		
	7/10/96			9.03		5.33		
	12/3/96			9.54		4.82		
	3/28/97			7.89		6.47		
	6/13/97			9.17		5.19		
	9/18/97			9.51		4.85		

Table 1 Continued
Groundwater Elevations/Product Removal Data
Port of Oakland
2277 Seventh Street, Oakland, California
(Page 2 of 4)

Well	Date	Top of Casing Elevation ¹ (feet)	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Groundwater Elevation ² (feet)	Estimated Product Removed (gallons)	Product Removal Method
MW-3	3/29/95	14.22	6.66	9.59	2.93	6.97		
	9/6/95		8.48	13.70	5.22	4.70		
	9/28/95		7.80	13.60	5.80	5.26		
	12/27/95		8.01	12.71	4.70	5.27		
	1/8/96		8.16	13.10	4.94	5.07		
	4/4/96		7.10	11.50	4.40	6.24		
	7/10/96		7.94	13.28	5.34	5.21		
	10/3/96		8.62	14.45	5.83	4.43	25	peristaltic pump
	10/10/96		8.77	14.46	5.69	4.31	25	peristaltic pump
	10/18/96		8.85	14.54	5.69	4.23	25	peristaltic pump
	10/25/96		8.74	14.43	5.69	4.34	20	peristaltic pump
	11/1/96		8.85	14.41	5.56	4.26	20	peristaltic pump
	11/8/96		8.82	14.50	5.68	4.26	25	peristaltic pump
	12/3/96		---	---	---	---	13	active skimmer
	12/13/96		---	---	---	---	---	active skimmer
	1/6/97		---	---	---	---	750	active skimmer
	2/19/97		---	---	---	---	425	active skimmer
	5/1/97		---	---	---	---	350	active skimmer
6/13/97	---	---	---	---	50	active skimmer		
10/23/97	---	---	---	---	350	active skimmer		
MW-4	3/29/95	13.15		9.59		3.56		
	9/6/95			8.48		4.67		
	9/11/95			9.59		3.56		
	9/28/95			9.59		3.56		
	12/27/95			8.39		4.76		
	1/8/96			8.42		4.73		
	4/4/96			8.19		4.96		
	7/10/96			8.56		4.59		
	12/3/96			8.69		4.46		
	3/28/97			7.40		5.75		
	6/13/97			8.53		4.62		
	9/18/97			8.62		4.53		

Table 1 Continued
Groundwater Elevations/Product Removal Data
Port of Oakland
2277 Seventh Street, Oakland, California
(Page 3 of 4)

Well	Date	Top of Casing Elevation ¹ (feet)	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Groundwater Elevation ² (feet)	Estimated Product Removed (gallons)	Product Removal Method
MW-5	9/6/95	13.49		6.90		6.59		
	9/11/95			9.59		3.90		
	9/28/95			9.59		3.90		
	12/27/95			7.17		6.32		
	4/4/96			6.44		7.05		
	7/10/96			6.79		6.70		
	12/3/96			7.06		6.43		
	3/28/97			6.45		7.04		
	6/13/97			6.58		6.91		
	9/18/97			6.89		6.60		
MW-6	9/6/95	14.00	4.47	7.40	2.93	8.94		
	9/28/95		6.66	9.59	2.93	6.75		
	12/27/96			8.07		5.93		
	1/8/96			7.70		6.30		
	4/4/96			7.70		6.30		
	7/10/96			7.55		6.45		
	12/3/96		---	6.41	---	7.59		
	3/28/97		---	---	---	---	0.0005	passive skimmer
	6/13/97		---	---	---	---	0	passive skimmer
	9/18/97		---	---	---	---	0	passive skimmer

Table 1 Continued
Groundwater Elevations/Product Removal Data
Port of Oakland
2277 Seventh Street, Oakland, California
(Page 4 of 4)

Well	Date	Top of Casing Elevation ¹ (feet)	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Groundwater Elevation ² (feet)	Estimated Product Removed (gallons)	Product Removal Method
MW-7	9/6/95	14.35		9.10		5.25		
	9/28/95			9.74		4.61		
	12/27/96			9.06		5.29		
	1/8/96			9.06		5.29		
	4/4/96			8.57		5.78		
	7/10/96			9.11		5.24		
	12/3/96			9.62		4.73		
	3/28/97			8.06		6.29		
	6/13/97			8.28		6.07		
	9/18/97			9.65		4.70		
MW-8	9/6/95	12.94		7.84		5.10		
	9/28/95		8.79	8.91	0.12	4.13		
	12/27/96		8.30	8.61	0.31	4.58		
	1/8/96		8.35	8.80	0.45	4.50		
	4/4/96		8.32	8.37	0.05	4.61		
	7/10/96		9.41	9.44	0.03	3.52		
	12/3/96		---	---	---	---	0.003	passive skimmer
	12/13/96		---	---	---	---	0.007	passive skimmer
	1/6/97		---	---	---	---	0.007	passive skimmer
	3/28/97		---	---	---	---	---	---
	6/13/97		9.04	9.05	0.01	3.90	---	---
	9/18/97		9.22	9.60	0.38	3.64	---	---

Notes:

¹ Top of Casing (TOC) Elevations from Groundwater Monitoring and Sampling Report by Alisto Engineering Group, dated September 12, 1996. TOC elevations surveyed to nearest 0.01 foot relative to mean lower low water (Port of Oakland Datum; 3.2 feet below mean sea level).

--- = not measured/not estimated

² Groundwater Elevation corrected for the presence of floating product according to the formula:
 $CDTW = DTW - (0.80 \times PT)$, where CDTW is the corrected depth to groundwater, DTW is the measured depth to groundwater, 0.80 is the density correction factor for diesel, and PT is the measured thickness of floating product.

Measurements on and since 12/3/96 by U&A; all other measurements listed from Alisto Engineering Group (1996).

Table 2
Groundwater Analytical Results
Port of Oakland
2277 Seventh Street, Oakland, California
Page 1 of 2

Well	Date	Analyte (µg/l)							Lab
		TPH-G	TPH-D	TPH-MO	Benzene	Toluene	Ethyl Benzene	Total Xylenes	
MW-2	5/27/94	87	470	na	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	D&M
	3/29/95	ND(50)	110	1,400	ND(0.4)	ND(0.3)	ND(0.3)	ND(0.4)	CEC
	9/6/95	ND(50)	na	na	ND(0.4)	ND(0.3)	ND(0.3)	ND(0.4)	CEC
	1/8/96	ND(50)	ND(50)	1,200	ND(0.4)	ND(0.3)	ND(0.3)	ND(0.4)	CEC
	4/4/96	ND(50)	160	320	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	Pace
	7/10/96	ND(50)	120	1,400	ND(0.4)	ND(0.3)	ND(0.3)	ND(0.4)	CEC
	12/3/96	ND(50)	230 ^{1,2}	ND(250)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	Pace
	3/28/97	ND(50)	71 ⁴	ND(250)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	Pace
	6/13/97	51	ND(50)	ND(250)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	Pace
9/18/97	82	ND(50)	ND(250)	0.56	ND(0.5)	ND(0.5)	ND(1)	Pace	
MW-4	9/11/95	150	ND(200)	500	23	ND(0.3)	ND(0.3)	ND(0.4)	CEC
	1/8/96	790	90	400	170	1.2	0.6	0.6	CEC
	4/4/96	1,100	180	300	320	1.6	1.1	1.2	Pace
	7/10/96	1,200	120	300	470	1.5	0.8	0.8	CEC
	12/3/96	990	220 ^{1,2}	ND(250)	350	3.3	1.3	1.3	Pace
	3/28/97	440 ²	ND(50)	ND(250)	190	1.2	0.64	ND(1)	Pace
	6/13/97	1,300	92 ⁵	ND(250)	500	5.5	3.4	2.8	Pace
	9/18/97	1,300	150	ND(250)	550	4.9	2.1	2	Pace
MW-5	9/11/95	90	ND(300)	2,500	3.3	ND(0.3)	ND(0.3)	ND(0.4)	CEC
	4/4/96	ND(50)	180	520	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	Pace
	7/10/96	ND(50)	120	1,500	ND(0.4)	ND(0.3)	ND(0.3)	ND(0.4)	CEC
	12/3/96	ND(50)	200 ^{1,2}	ND(250)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	Pace
	3/28/97	ND(50)	ND(50)	ND(250)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	Pace
	6/13/97	ND(50)	ND(50)	ND(250)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	Pace
	9/18/97	ND(50)	ND(50)	ND(250)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	Pace
MW-6	1/8/96	480	11,000	6,100	15	1.9	9.7	5.2	CEC
	4/4/96	440	6,100	1,200	16	0.97	3.9	3	Pace
	7/10/96	550	8,300	5,500	16	0.9	3	2.7	CEC
	12/3/96	na	na	na	na	na	na	na	
	3/28/97	na	na	na	na	na	na	na	
	6/13/97	na	na	na	na	na	na	na	
	9/18/97	na	na	na	na	na	na	na	

Notes:

See Page 2

Table 2
Groundwater Analytical Results
Port of Oakland
2277 Seventh Street, Oakland, California
Page 2 of 2

Well	Date	Analyte (µg/l)							Lab
		TPH-G	TPH-D	TPH-MO	Benzene	Toluene	Ethyl Benzene	Total Xylenes	
MW-7	9/6/95	ND(50)	ND(300)	800	ND(0.4)	ND(0.3)	ND(0.3)	ND(0.4)	CEC
	1/8/96	ND(50)	410	110	ND(0.4)	ND(0.3)	ND(0.3)	ND(0.4)	CEC
	4/4/96	ND(50)	530	340	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	Pace
	7/10/96	80	840	1,700	ND(0.4)	ND(0.3)	ND(0.3)	ND(0.4)	CEC
	12/3/96	ND(50)	280 ^{1,2}	ND(250)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	Pace
	3/28/97	65 ³	94 ²	ND(250)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	Pace
	6/13/97	ND(50)	100	ND(250)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	Pace
	9/18/97	ND(50)	240	ND(250)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	Pace

Notes:

TPH = total petroleum hydrocarbons; as gasoline (G), diesel (D), and motor oil (MO)

µg/l = micrograms per liter

ND () = not detected at indicated reporting limit

¹ Analyte found in the associated blank as well as in the sample

² Hydrocarbons present do not match profile of laboratory standard

³ High boiling point hydrocarbons are present in sample

⁴ Chromatographic pattern matches known laboratory contaminant

⁵ Hydrocarbons are present in the requested fuel quantitation range, but do not resemble pattern of any available fuel standard. Carbon range is C8 to C14.

na = not analyzed

Samples collected on 12/3/96, 3/28/97, 6/13/97, and 9/18/97 by U&A; all other data from Groundwater Monitoring and Sampling Report by Alisto Engineering Group, dated September 12, 1996.

D&M = D&M Laboratories/CEC = Clayton Env. Consultants, Inc./Pace = Pace Analytical Services, Inc.

Attachment 1
U&A Standard Operating Procedures

CHAIN-OF-CUSTODY PROCEDURES

Sample Handling

All soil and water samples will be labeled with the sample number, date, company name, preservative used, and sampler's initials. A chain-of-custody form will then be filled out including the time and date of the sample, the sample number, the number of containers for each sample, the analysis required, and any distinguishing comments or laboratory notifications. The chain-of-custody form will remain with the samples at all times during transportation and storage.

Transfer of Custody to Laboratory

The chain-of-custody will be signed and dated by the sampler when relinquished to the laboratory. The laboratory courier or sample receiver will also sign and date the chain-of-custody.

GROUNDWATER SAMPLING FROM WELLS

Groundwater samples for chemical analysis will be collected according to the following procedure:

All purging and sampling equipment will be decontaminated prior to use.

Upon arrival at the site, the wells will be located and opened up, to allow for equilibration with the atmosphere. The monitoring well is first checked for floating product with a dual interface probe. Water or liquid-level measurements will be collected, to the nearest one hundredth of a foot (0.01 foot). If a probe is not available, a clear plastic bailer may be used to check for product. The volume of water in the well casing will be calculated and three to five casing volumes of water will be evacuated. The well will be bailed or pumped to remove the correct volume of water. Stabilization parameters, temperature, conductivity and pH, will be monitored. For wells with extremely low flow rates, i.e., less than 0.01 gallon per minute (gpm), the well will be bailed dry and allowed to recover overnight, and then sampled.

Once the well has been purged, samples will be collected with a bailer and transferred to appropriate sampling vials or bottles. Samples will be labeled and placed in a cooler, cooled to 4°C and transported to the analytical laboratory under chain-of-custody. Purge water will be stored on-site pending analytical results, and then properly disposed of.

Attachment 2

U&A Well Purging & Sampling Logs



Well Purging & Sampling Log

PAGE 3 OF 4

SITE LOCATION:

Sealand - Port of Oakland

WELL NUMBER:

MW2

DATE(S)

9/18/97

WELL TYPE (MONITORING, EXTRACTION, ETC.):

monitoring

PURGING EQUIPMENT:

disposable bailer

MEASUREMENT REFERENCE DATUM:

DATA FROM IMMEDIATELY BEFORE AND AFTER DEVELOPMENT:

Depth to water measured from TOC (ft): Before Purging: 9.51' { After Purging: _____
After sampling: 12.78'

Total purging time (min): _____

Depth to sediment in well (ft) Before purging: 15.02' After purging: _____
bottom of

	Time Since Purging Started (min)	Time	Cumulative Volume Removed	PARAMETERS			Turbidity (NTUs)	Other
				°F Temp (°C)	pH	µS/cm Conductivity (µmhos/cm)		
Initial		1132	0.9	75.3	7.31	2.20 x 1000		cloudy, brown
During		1135	1.8	72.9	7.08	2.06 x 1000		" "
During		1137	2.7	72.3	6.90	2.06 x 1000		" "
During								
During								
During								
After								

*CL = clear

CO = cloudy

TU = turbid

Well Sampling

Sample #: 9-77-MW2

Lab: Pece

Container Type: amber LS, VOAS

Filtered? - Y/N

Preservatives: none, HCl

Analysis Requested: TPH, g, d, MO, BTEX

Comments Related to Sample: well volume = 5.51' x 0.163 gal/ft = 0.9 gal

Quality Control Samples:

Duplicated Sample Info:

Blank Sample Info:

Other Sample Info:

Formulas/Conversions

r = well radius in feet
h = ht. of water col. in feet
vol. of col. = $\pi r^2 h$
7.48 gal./ft.³
V₂ casing = 0.163 gal./ft.
V₃ casing = 0.367 gal./ft.
V₄ casing = 0.653 gal./ft.
V_{4.5} casing = 0.826 gal./ft.
V₅ casing = 1.47 gal./ft.
V₆ casing = 2.61 gal./ft.



Well Purging & Sampling Log

PAGE 2 OF 4

SITE LOCATION: Sealand Part of Oakland WELL NUMBER: MW4

DATE(S): 9/18/97 WELL TYPE, (MONITORING, EXTRACTION, ETC.): monitoring

PURGING EQUIPMENT: disposable bores MEASUREMENT REFERENCE DATUM:

DATA FROM IMMEDIATELY BEFORE AND AFTER DEVELOPMENT:

Depth to water measured from TOC (ft): Before Purging: 8.62' { After Purging: _____
 After sampling: _____

Total purging time (min): _____
 Depth to sediment in well (ft) Before purging: 16.89' After purging: 8.80'
bottom of

	Time Since Purging Started (min)	Time	Cumulative Volume Removed	PARAMETERS			Other
				°F Temp (C)	pH	µS/cm Conductivity (µmhos/cm)	
Initial		1043	1.7	77.7	7.27	1.19 x 1000	brown, cloudy
During		1048	3.4	16.9	7.05	1.33 x 1000	" "
During			5.1	79.2	7.28	1.45 x 1000	" "
During							
During							
During							
During							
After							

*CL = clear CO = cloudy TU = turbid

Well Sampling

Sample #: 9-97-MW4 Lab: PACE

Container Type: amberLS, VDAS Filtered? - Y/N

Preservatives: none, HCl Analysis Requested: TPH-g, d, m, BTEX

Comments Related to Sample: well volume = 10.27 ft³ / MW x 0.163 gal./ft. = 1.7 gal./well vol.

Quality Control Samples:

Duplicated Sample Info:
 Blank Sample Info:
 Other Sample Info:

Formulas/Conversions

r = well radius in feet
 h = ht. of water col. in feet
 vol. of col. = $\pi r^2 h$
 7.48 gal./ft.³
 V₂ casing = 0.163 gal./ft.
 V₃ casing = 0.367 gal./ft.
 V₄ casing = 0.653 gal./ft.
 V_{4.5} casing = 0.826 gal./ft.
 V₆ casing = 1.47 gal./ft.
 V₈ casing = 2.61 gal./ft.



Well Purging & Sampling Log

PAGE 4 OF 4

SITE LOCATION: Sealand Port of Oakland WELL NUMBER: MWS
 DATE(S): 9/18/97 WELL TYPE: (MONITORING, EXTRACTION, ETC.): Monitoring
 PURGING EQUIPMENT: disposable bailer MEASUREMENT REFERENCE DATUM:

DATA FROM IMMEDIATELY BEFORE AND AFTER DEVELOPMENT:

Depth to water measured from TOC (ft): Before Purging: 6.89' { After Purging:
 After sampling: 6.83'

Total purging time (min):

Depth to sediment in well (ft) Before purging: 17.49' After purging:
 bottom of

	Time Since Purging Started (min)	Time	Cumulative Volume Removed	PARAMETERS				Other
				°F Temp (°F)	pH	µS/cm Conductivity (µmhos/cm)	Turbidity (NTUs)	
Initial		1211	1.7	80.2	7.11	2.50 x 1000		bottom, cloudy
During		1215	3.4	78.1	7.02	2.49 x 1000		" "
During		1224	5.1	75.8	6.68	2.50 x 1000		" "
During								
During								
During								
During								
After								

*CL = clear CO = cloudy TU = turbid

Well Sampling

Sample #: 9-97-MWS Lab: PACE
 Container Type: Amber LS, VOAS Filtered? - Y(N)
 Preservatives: none, HCl Analysis Requested: PPH-g, d, wa, BTEX
 Comments Related to Sample: well volume = $10.6 \text{ ft} \times 0.163 \text{ gal/ft} = 1.7 \text{ gal}$

Quality Control Samples:

Duplicated Sample Info:
 Blank Sample Info:
 Other Sample Info:

Formulas/Conversions

r = well radius in feet
 h = ht. of water col. in feet
 vol. of col. = $\pi r^2 h$
 7.48 gal./ft.³
 V_2 casing = 0.163 gal./ft.
 V_3 casing = 0.367 gal./ft.
 V_4 casing = 0.653 gal./ft.
 $V_{4.5}$ casing = 0.826 gal./ft.
 V_6 casing = 1.47 gal./ft.
 V_8 casing = 2.61 gal./ft.



Well Purging & Sampling Log

SITE LOCATION: Sealand Part of Oakland WELL NUMBER: MW-7
 DATE(S): 9/12/97 WELL TYPE (MONITORING, EXTRACTION, ETC.): monitoring
 PURGING EQUIPMENT: bailer (disposable) MEASUREMENT REFERENCE DATUM: _____

DATA FROM IMMEDIATELY BEFORE AND AFTER DEVELOPMENT:

Depth to water measured from TOC (ft): Before Purging: 9.65' { After Purging: _____
 After sampling: 9.74'

Total purging time (min): _____
 Depth to sediment in well (ft) Before purging: 16.10' After purging: _____
bottom of

	Time Since Purging Started (min)	Time	Cumulative Volume Removed	PARAMETERS				Other
				°F Temp	pH	µS/cm Conductivity (µmhos/cm)	Turbidity (NTUs)	
Initial		0953	1.3	78.0	6.01	2.36 x 1000		brown, cloudy
During		1000	2.6	74.9	6.49	2.19 x 1000		"
During		1011	3.9	75.5	6.77	2.21 x 1000		"
During								
During								
During								
During								
After								

*CL = clear CO = cloudy TU = turbid

Well Sampling

Sample #: 9-97-MW7 Lab: PACE
 Container Type: 2 amber Ls, 3 Vials Filtered? Y(N)
 Preservatives: none, HCl Analysis Requested: PH, g, d, m, BTEX
 Comments Related to Sample: Well volume = 4.45' x 0.163 gal/ft = 1.3 gal

Quality Control Samples:

Duplicated Sample Info: _____
 Blank Sample Info: _____
 Other Sample Info: _____

Formulas/Conversions

r = well radius in feet
 h = ht. of water col. in feet
 vol. of col. = $\pi r^2 h$
 7.48 gal./ft.³
 V₂ casing = 0.163 gal./ft.
 V₃ casing = 0.367 gal./ft.
 V₄ casing = 0.653 gal./ft.
 V_{4.5} casing = 0.826 gal./ft.
 V₆ casing = 1.47 gal./ft.
 V₈ casing = 2.61 gal./ft.

Attachment 3

**Laboratory Analytical Reports and
Chain-of-Custody Form**

Pace Analytical

Pace Analytical Services, Inc.
1455 McDowell Blvd. North, Suite D
Petaluma, CA 94954

Tel: 707-792-1865
Fax: 707-792-0342

October 01, 1997

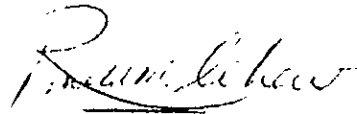
Mr. Doug Sheeks
Uribe & Associates
Suite 200
2930 Lakeshore Avenue
Oakland, CA 94610-3614

RE: Pace Project Number: 709350
Client Project ID: 2277 7th St.,Oakland/207-01-10

Dear Mr. Sheeks:

Enclosed are the results of analyses for sample(s) received by the laboratory on September 19, 1997. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Ron Chew
Project Manager

CA ELAP Certificate Number I2245

Enclosures

REPORT OF LABORATORY ANALYSIS

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Pace Analytical

Pace Analytical Services, Inc.
1455 McDowell Blvd. North, Suite D
Petaluma, CA 94954

Tel: 707-792-1865

Fax: 707-792-0342

DATE: 10/01/97

PAGE: 1

Uribe & Associates
Suite 200
2930 Lakeshore Avenue
Oakland, CA 94610-3614

Pace Project Number: 709350
Client Project ID: 2277 7th St.,Oakland/207-01-10

Attn: Mr. Doug Sheeks
Phone: (510)832-2233

Solid results are reported on a wet weight basis

Pace Sample No: 701093197 Date Collected: 09/18/97 Matrix: Water
Client Sample ID: 9-97-MW7 Date Received: 09/19/97

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
------------	---------	-------	-----	----------	---------	------	-----------

GC -- Volatiles

GAS/BTEX, Water	Method: EPA 8015M/8020M	Prep Method: EPA 8015M/8020M
Gasoline	ND ug/L 50	09/23/97 GPF
Benzene	ND ug/L 0.5	09/23/97 GPF 71-43-2
Toluene	ND ug/L 0.5	09/23/97 GPF 108-88-3
Ethylbenzene	ND ug/L 0.5	09/23/97 GPF 100-41-4
Xylene (Total)	ND ug/L 1	09/23/97 GPF 1330-20-7
a,a,a-Trifluorotoluene (S)	89 %	09/23/97 GPF 2164-17-2
4-Bromofluorobenzene (S)	100 %	09/23/97 GPF 460-00-4

GC -- Semi-VOA

TPH by 8015M w/ silica gel	Method: EPA 8015M w/ SG	Prep Method: EPA 3520
Diesel Fuel	0.24 mg/L 0.05	09/26/97 KLM 11-84-7
Motor Oil	ND mg/L 0.25	09/26/97 KLM
n-Pentacosane (S)	99 %	09/26/97 KLM 629-99-2
Date Extracted		09/24/97

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Fax: 707-792-0342

DATE: 10/01/97

PAGE: 2

Pace Project Number: 709350

Client Project ID: 2277 7th St., Oakland/207-01-10

Pace Sample No: 701093205 Date Collected: 09/18/97 Matrix: Water
Client Sample ID: 9-97-MW4 Date Received: 09/19/97

Parameters Results Units PRL Analyzed Analyst CAS# Footnotes

GC -- Volatiles

GAS/BTEX, Water	Method: EPA 8015M/8020M			Prep Method: EPA 8015M/8020M		
Gasoline	1300	ug/L	50	09/23/97	GPF	
Benzene	550	ug/L	1	09/23/97	GPF	71-43-2
Toluene	4.9	ug/L	0.5	09/23/97	GPF	108-88-3
Ethylbenzene	2.1	ug/L	0.5	09/23/97	GPF	100-41-4
Xylene (Total)	2.0	ug/L	1	09/23/97	GPF	1330-20-7
a,a,a-Trifluorotoluene (S)	110	x		09/23/97	GPF	2164-17-2
4-Bromofluorobenzene (S)	97	x		09/23/97	GPF	460-00-4

GC -- Semi-VOA

TPH by 8015M w/ silica gel	Method: EPA 8015M w/ SG			Prep Method: EPA 3520		
Diesel Fuel	0.15	mg/L	0.05	09/26/97	KLM	11-84-7
Motor Oil	ND	mg/L	0.25	09/26/97	KLM	
n-Pentacosane (S)	100	x		09/26/97	KLM	629-99-2
Date Extracted				09/24/97		

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DATE: 10/01/97

PAGE: 3

Pace Project Number: 709350

Client Project ID: 2277 7th St., Oakland/207-01-10

Pace Sample No: 701093213 Date Collected: 09/18/97 Matrix: Water
Client Sample ID: 9-97-MW2 Date Received: 09/19/97

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
------------	---------	-------	-----	----------	---------	------	-----------

GC -- Volatiles

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
GAS/BTEX, Water Method: EPA 8015M/8020M Prep Method: EPA 8015M/8020M							
Gasoline	82	ug/L	50	09/23/97	GPF		
Benzene	0.56	ug/L	0.5	09/23/97	GPF	71-43-2	
Toluene	ND	ug/L	0.5	09/23/97	GPF	108-88-3	
Ethylbenzene	ND	ug/L	0.5	09/23/97	GPF	100-41-4	
Xylene (Total)	ND	ug/L	1	09/23/97	GPF	1330-20-7	
a,a,a-Trifluorotoluene (S)	85	%		09/23/97	GPF	2164-17-2	
4-Bromofluorobenzene (S)	92	%		09/23/97	GPF	460-00-4	

GC -- Semi-VOA

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
TPH by 8015M w/ silica gel Method: EPA 8015M w/ SG Prep Method: EPA 3520							
Diesel Fuel	ND	mg/L	0.05	09/27/97	KLM	11-84-7	
Motor Oil	ND	mg/L	0.25	09/27/97	KLM		
n-Pentacosane (S)	93	%		09/27/97	KLM	629-99-2	
Date Extracted				09/24/97			

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Fax: 707-792-0342

DATE: 10/01/97

PAGE: 4

Pace Project Number: 709350

Client Project ID: 2277 7th St., Oakland/207-01-10

Pace Sample No: 701093262 Date Collected: 09/18/97 Matrix: Water
Client Sample ID: 9-97-MW5 Date Received: 09/19/97

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
------------	---------	-------	-----	----------	---------	------	-----------

GC -- Volatiles

GAS/BTEX, Water	Method: EPA 8015M/8020M	Prep Method: EPA 8015M/8020M
Gasoline	ND ug/L 50	09/23/97 GPF
Benzene	ND ug/L 0.5	09/23/97 GPF 71-43-2
Toluene	ND ug/L 0.5	09/23/97 GPF 108-88-3
Ethylbenzene	ND ug/L 0.5	09/23/97 GPF 100-41-4
Xylene (Total)	ND ug/L 1	09/23/97 GPF 1330-20-7
a,a,a-Trifluorotoluene (S)	96 %	09/23/97 GPF 2164-17-2
4-Bromofluorobenzene (S)	100 %	09/23/97 GPF 460-00-4

GC -- Semi-VOA

TPH by 8015M w/ silica gel	Method: EPA 8015M w/ SG	Prep Method: EPA 3520
Diesel Fuel	ND mg/L 0.05	09/27/97 KLM 11-84-7
Motor Oil	ND mg/L 0.25	09/27/97 KLM
n-Pentacosane (S)	99 %	09/27/97 KLM 629-99-2
Date Extracted		09/24/97

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Tel: 707-792-1865

Fax: 707-792-0342

DATE: 10/01/97

PAGE: 5

Pace Project Number: 709350

Client Project ID: 2277 7th St.,Oakland/207-01-10

PARAMETER FOOTNOTES

ND	Not Detected
NC	Not Calculable
PRL	Pace Reporting Limit
(S)	Surrogate

REPORT OF LABORATORY ANALYSIS

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Tel: 707-792-1865
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QUALITY CONTROL DATA

DATE: 10/01/97
PAGE: 6

Uribe & Associates
Suite 200
2930 Lakeshore Avenue
Oakland, CA 94610-3614

Pace Project Number: 709350
Client Project ID: 2277 7th St., Oakland/207-01-10

Attn: Mr. Doug Sheeks
Phone: (510)832-2233

QC Batch ID: 26704 QC Batch Method: EPA 8015M/8020M
Analysis Method: EPA 8015M/8020M Analysis Description: GAS/BTEX, Water
Associated Pace Samples: 701093197 701093205 701093213 701093262

METHOD BLANK: 701093965
Associated Pace Samples:

Parameter	Units	Method Blank		Footnotes
		701093197	701093205	
Gasoline	ug/L	ND	50	
Benzene	ug/L	ND	0.5	
Toluene	ug/L	ND	0.5	
Ethylbenzene	ug/L	ND	0.5	
Xylene (Total)	ug/L	ND	1	
a,a,a-Trifluorotoluene (S)	%	86		
4-Bromofluorobenzene (S)	%	95		

Parameter	Units	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 701093973 701093981		Matrix Spike Result	Matrix Spike % Rec	Matrix Sp. Dup. Result	Spike Dup % Rec	RPD	Footnotes
		701093122	Conc.						
Benzene	ug/L	0.2592	100	101.2	101	98.17	97.9	3	
Toluene	ug/L	0.3491	100	95.93	95.6	93.70	93.3	2	
Ethylbenzene	ug/L	0.2398	100	92.98	92.7	90.16	89.9	3	
Xylene (Total)	ug/L	0.5114	300	290.8	96.8	280.8	93.4	4	
a,a,a-Trifluorotoluene (S)					88		89		
4-Bromofluorobenzene (S)					98		97		

REPORT OF LABORATORY ANALYSIS

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Pace Analytical

Pace Analytical Services, Inc.
1455 McDowell Blvd. North, Suite D
Petaluma, CA 94954

Tel: 707-792-1865
Fax: 707-792-0342

QUALITY CONTROL DATA

DATE: 10/01/97
PAGE: 7

Pace Project Number: 709350
Client Project ID: 2277 7th St., Oakland/207-01-10

LABORATORY CONTROL SAMPLE: 701093999

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Benzene	ug/L	100	101.4	101	
Toluene	ug/L	100	96.05	96.0	
Ethylbenzene	ug/L	100	93.54	93.5	
Xylene (Total)	ug/L	300	289.6	96.5	
a,a,a-Trifluorotoluene (S)				90	
4-Bromofluorobenzene (S)				99	

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QUALITY CONTROL DATA

DATE: 10/01/97
 PAGE: 8

Uribe & Associates
 Suite 200
 2930 Lakeshore Avenue
 Oakland, CA 94610-3614

Pace Project Number: 709350
 Client Project ID: 2277 7th St., Oakland/207-01-10

Attn: Mr. Doug Sheeks
 Phone: (510)832-2233

QC Batch ID: 26783 QC Batch Method: EPA 3520
 Analysis Method: EPA 8015M w/ SG Analysis Description: TPH by 8015M w/ silica gel
 Associated Pace Samples: 701093197 701093205 701093213 701093262

METHOD BLANK: 701096802
 Associated Pace Samples:

Parameter	Units	701093197	701093205	701093213	701093262
		Method Blank			
		Result	PRL	Footnotes	
Diesel Fuel	mg/L	ND	0.05		
Motor Oil	mg/L	ND	0.25		
n-Pentacosane (S)	%	98			

LABORATORY CONTROL SAMPLE & LCSD: 701096810 701096828

Parameter	Units	Spike		LCSD		Spike		Footnotes
		Conc.	Result	% Rec	Result	% Rec	RPD	
Diesel Fuel	mg/L	1.0	0.4747	47.5	0.5982	59.8	23	
n-Pentacosane (S)				92		104		

REPORT OF LABORATORY ANALYSIS

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DATE: 10/01/97

PAGE: 9

Pace Project Number: 709350

Client Project ID: 2277 7th St., Oakland/207-01-10

QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines unrounded concentrations are displayed and have been used to calculate % Rec and RPD values.

ND	Not Detected
NC	Not Calculable
PRL	Pace Reporting Limit
RPD	Relative Percent Difference
(S)	Surrogate

REPORT OF LABORATORY ANALYSIS

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Data File: /chem/70gce04.i/092697.b/fidf0002.d

Page 1

Date : 26-SEP-1997 13:23

Client ID: SSTD2500

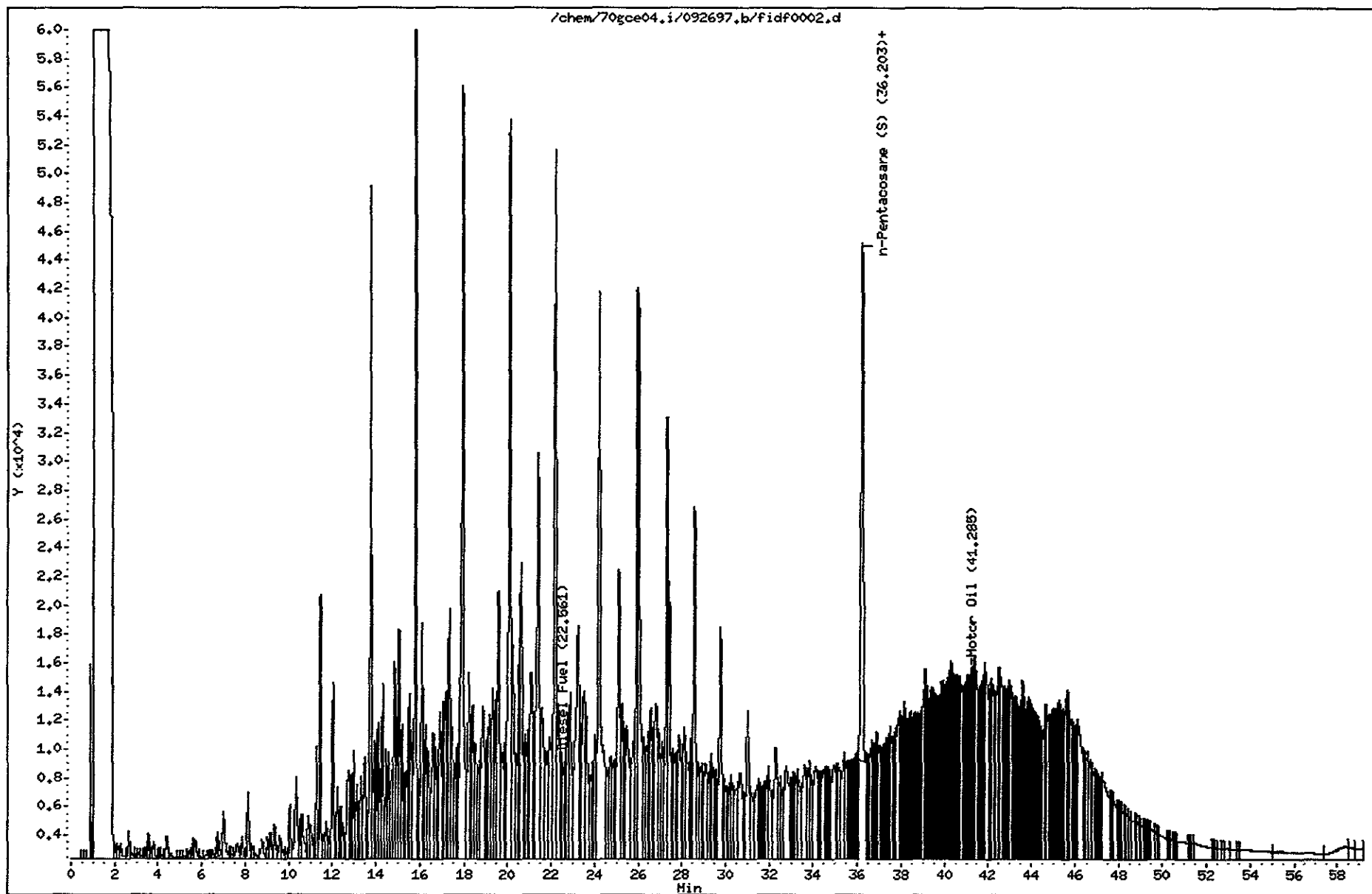
Instrument: 70gce04.i

Sample Info: Calibration standard

Operator: KLH

Column phase: RESTEK XT1-5

Column diameter: 0.53



Data File: /chem/70gce04.i/092697.b/fidf0007.d

Page 1

Date : 26-SEP-1997 18:57

Client ID: SBLKF1

Instrument: 70gce04.i

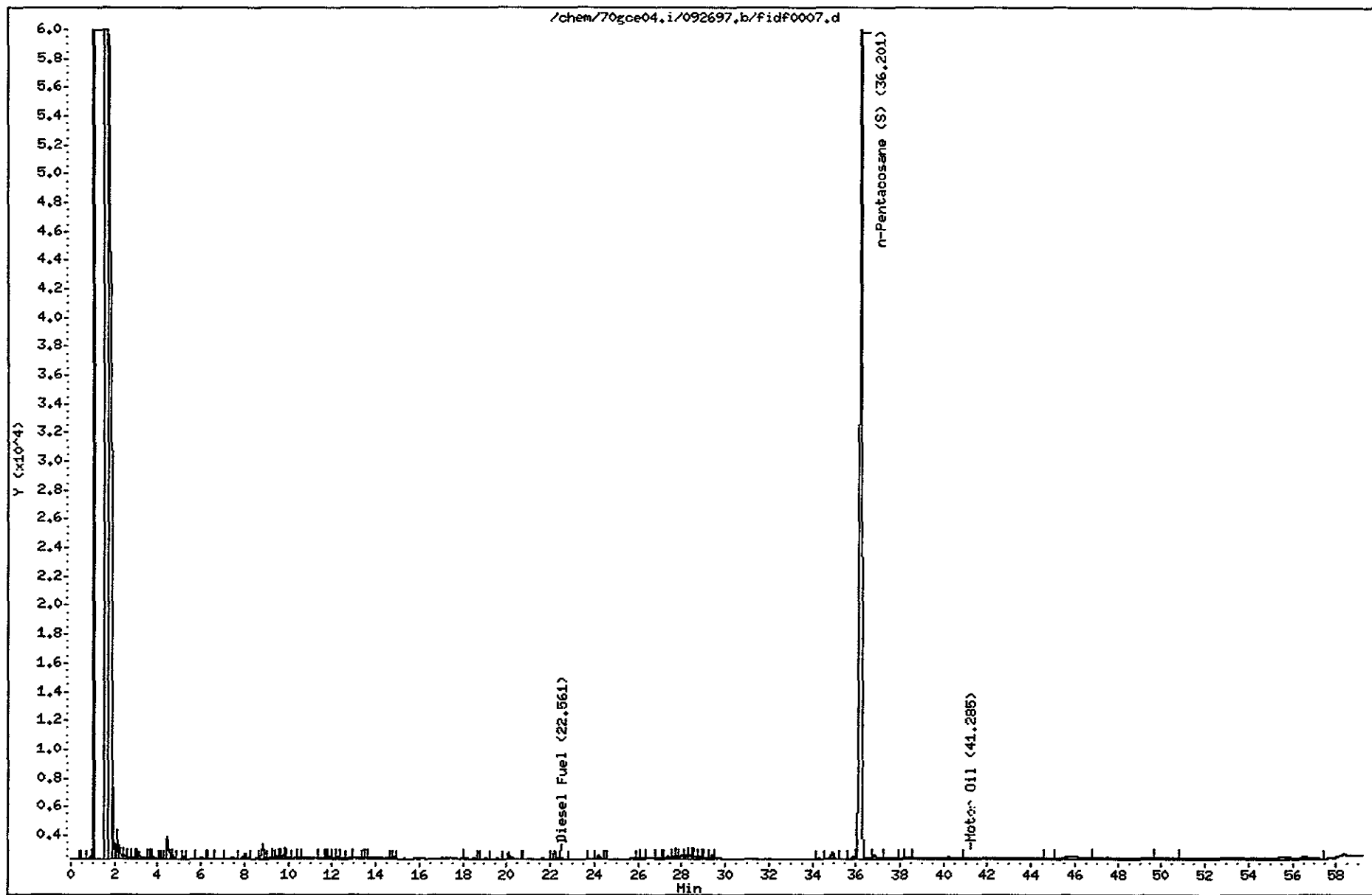
Sample Info: NA

Volume Injected (uL): 1.0

Operator: KLM

Column phase: RESTEK XT1-5

Column diameter: 0.53



Data File: /chem/70gce04.i/092697.b/fidf0010.d

Page 1

Date : 26-SEP-1997 22:17

Client ID: 9-97-HW7

Instrument: 70gce04.i

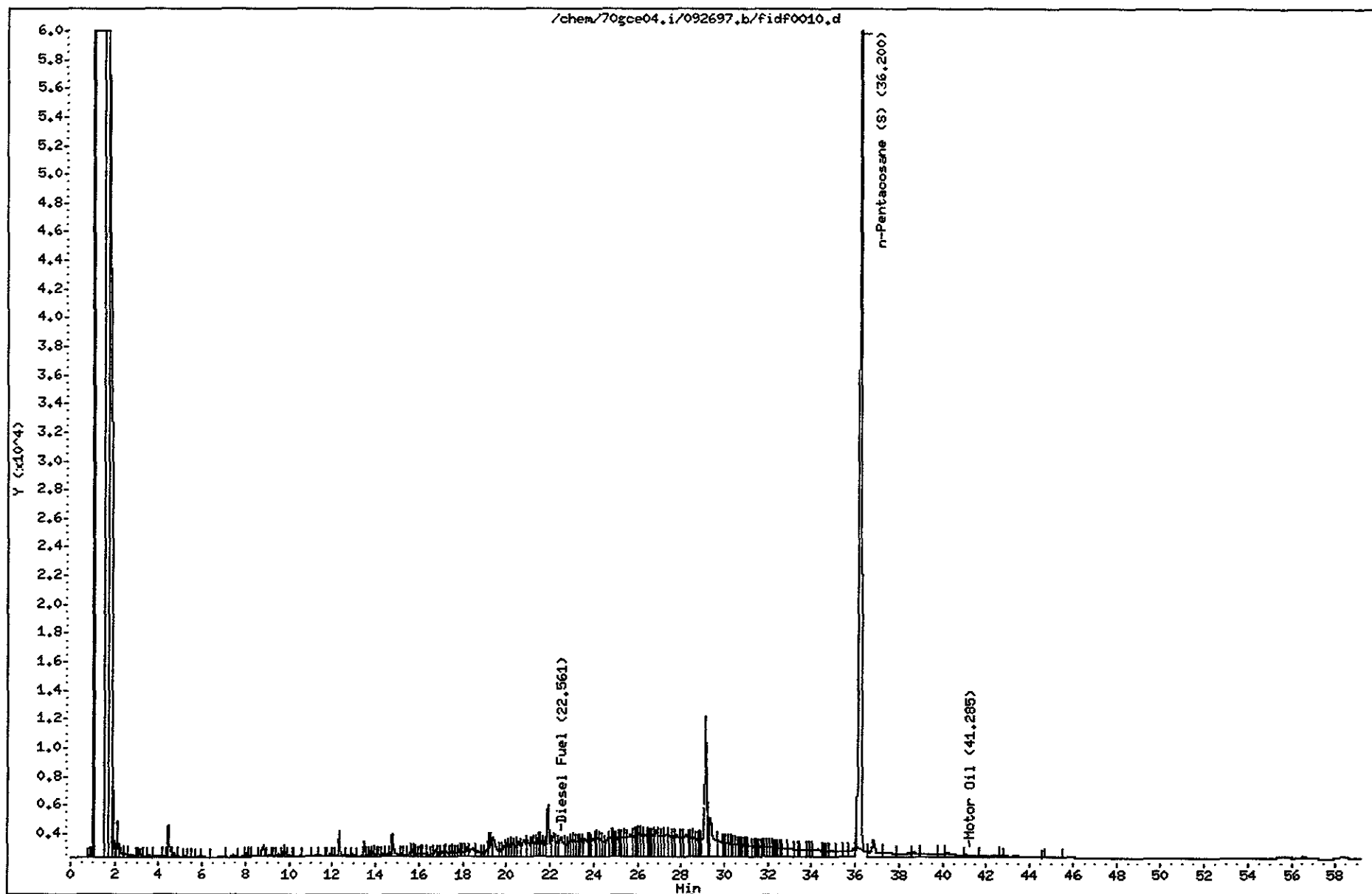
Sample Info: *Ext. TPH need chromatograms and Silica Gel Cleanup.*

Volume Injected (uL): 1.0

Operator: KLM

Column phase: RESTEK XTI-5

Column diameter: 0.53



Data File: /chem/70gce04.i/092697.b/fidf0011.d

Page 1

Date : 26-SEP-1997 23:24

Client ID: 9-97-HM4

Instrument: 70gce04.i

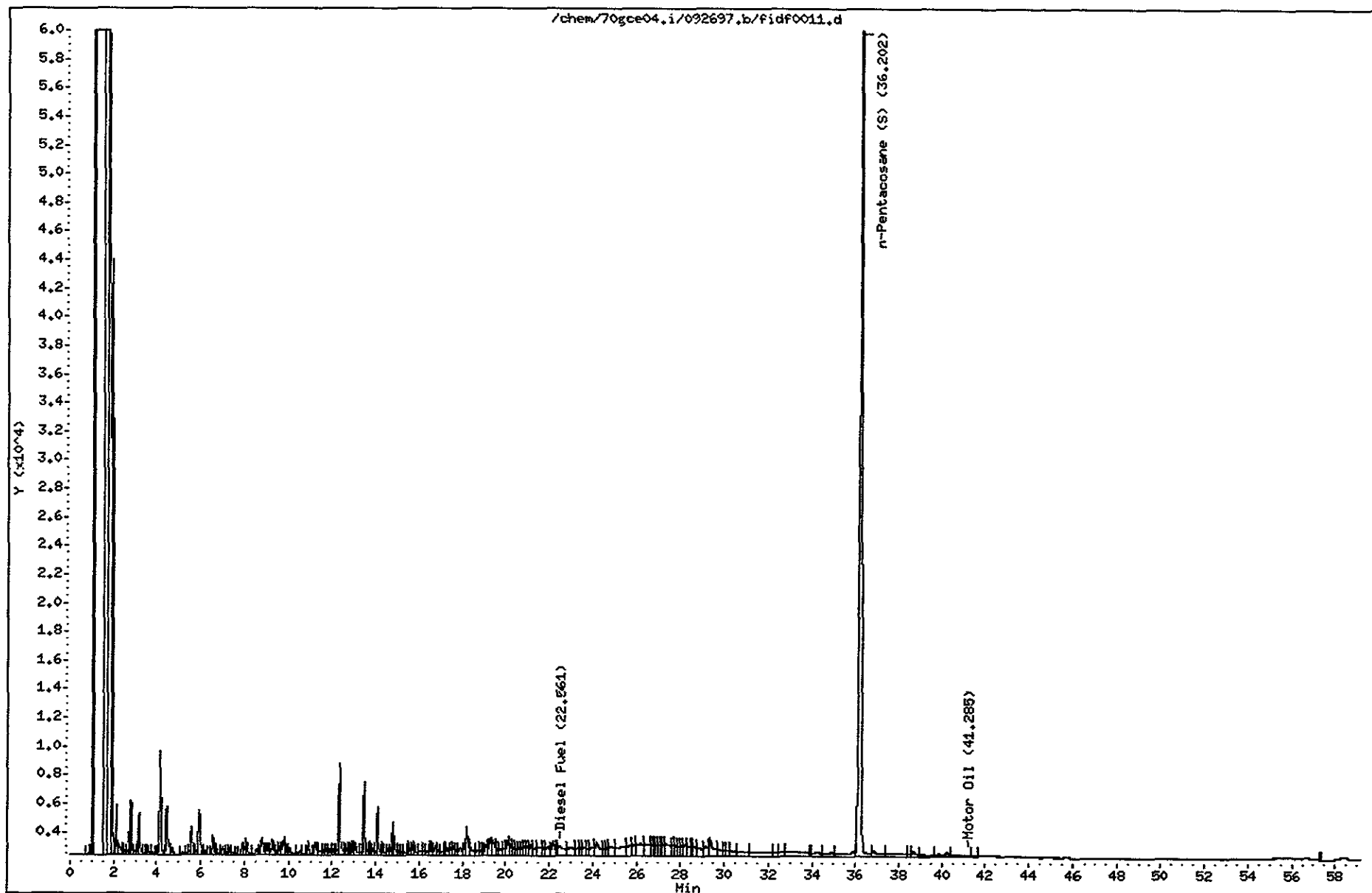
Sample Info: *Ext. TPH need chromatograms and Silica Gel Cleanup.*

Volume Injected (uL): 1.0

Operator: KLM

Column phase: RESTEK XTI-5

Column diameter: 0.53



Data File: /chem/70gce04.i/092697.b/fidf0012.d

Page 1

Date : 27-SEP-1997 00:31

Client ID: 9-97-HW2

Instrument: 70gce04.i

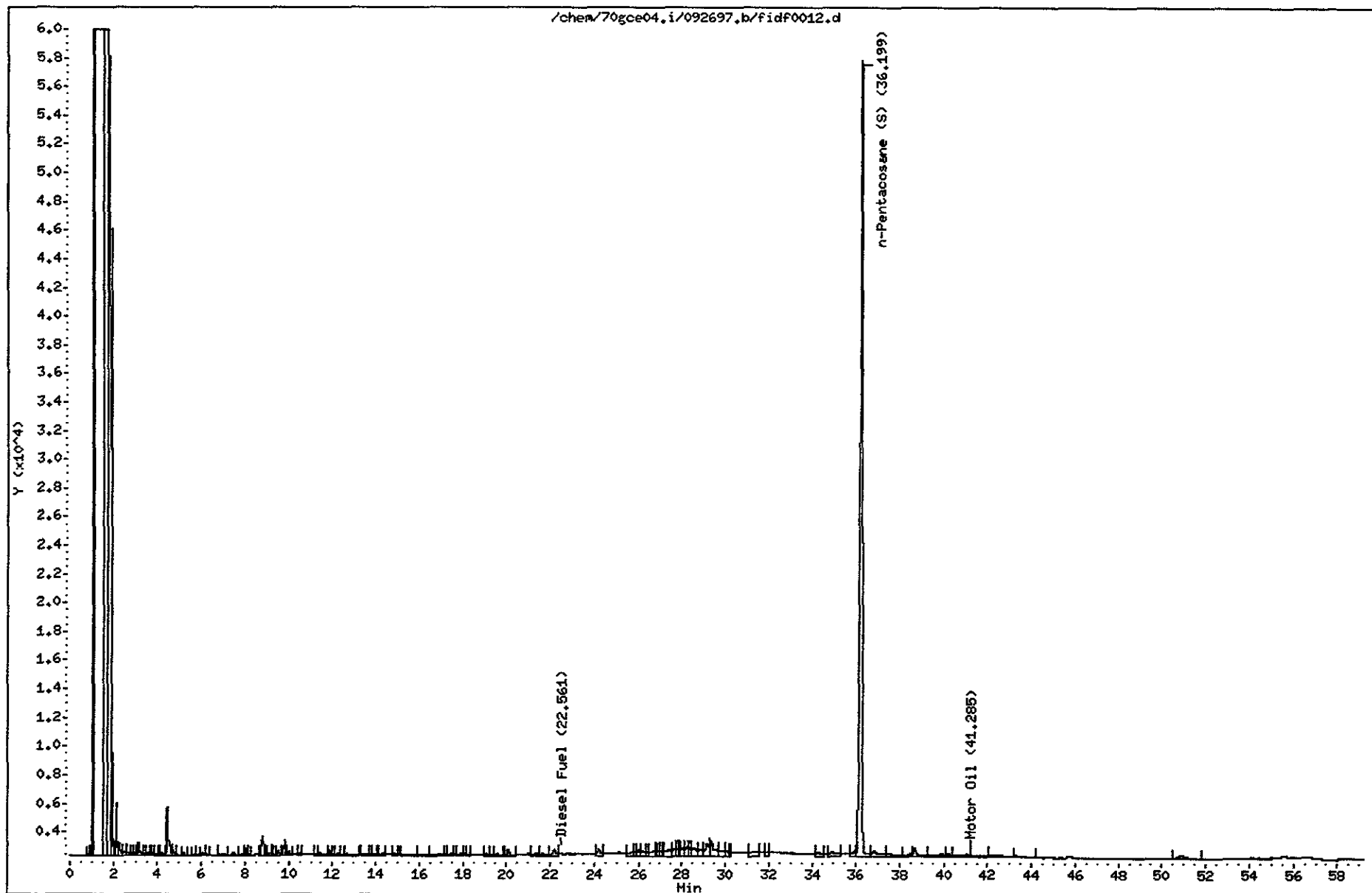
Sample Info: *Ext. TPH need chromatograms and Silica Gel Cleanup.*

Volume Injected (uL): 1.0

Operator: KLM

Column phase: RESTEK XT1-5

Column diameter: 0.53



Data File: /chem/70gce04.i/092697.b/fidf0013.d

Page 1

Date : 27-SEP-1997 01:37

Client ID: 9-97-HW5

Instrument: 70gce04.i

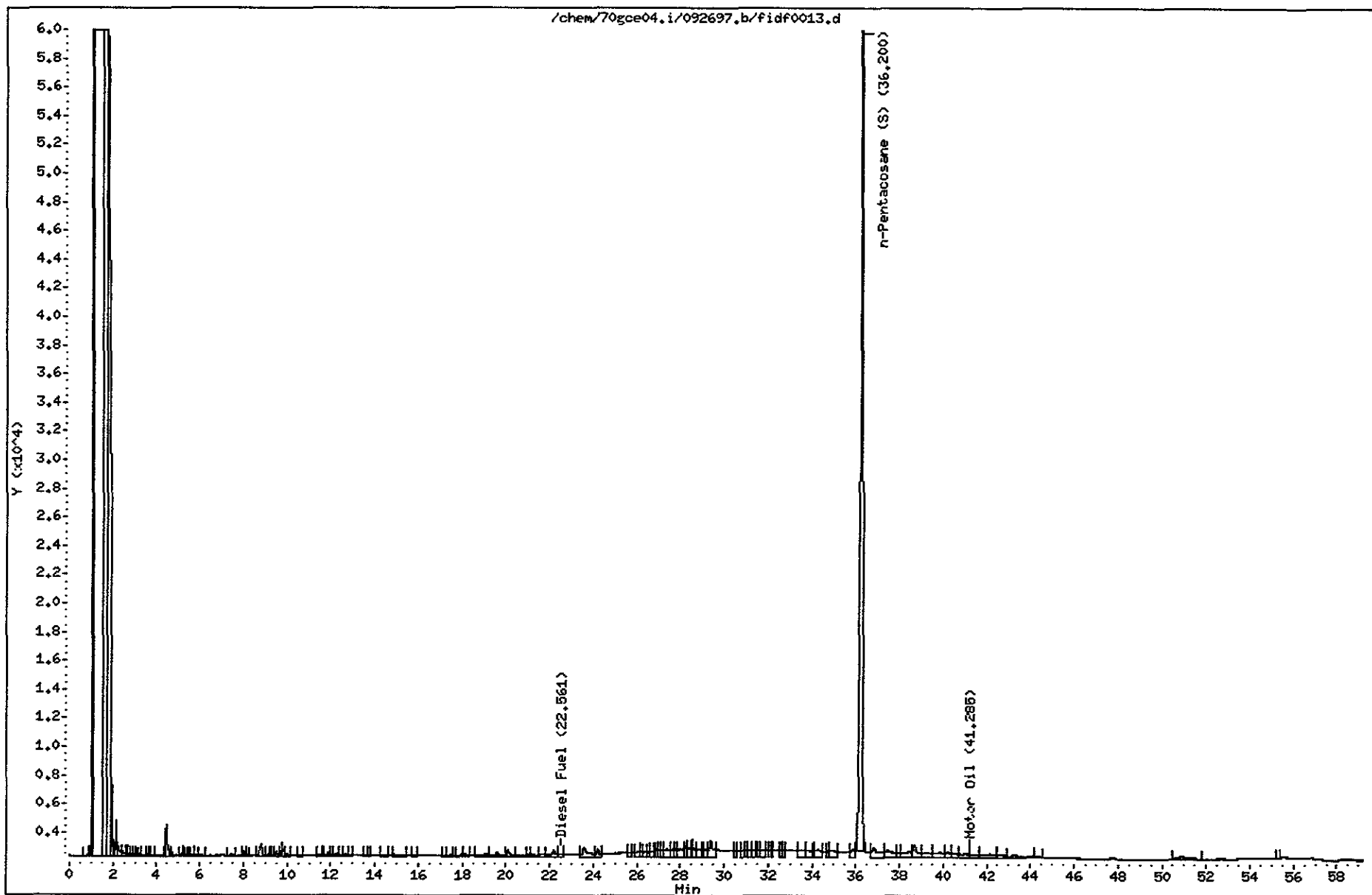
Sample Info: *Ext. TPH need chromatograms and Silica Gel Cleanup.*

Volume Injected (uL): 1.0

Operator: KLH

Column phase: RESTEK XT1-5

Column diameter: 0.53





CHAIN-OF-CUSTODY RECORD

Project No.: 207-01-10c Project Name: Port of Oakland
2277 7th St

REPORT RESULTS TO
Name: Doug Snecks
Company: URIBE & ASSOCIATES
Mailing Address: 2930 LAKESHORE AVE., SUITE 200
City, State, Zip: OAKLAND, CA 94610-3614
Telephone No.: 510-832-2233 Telefax No.: 510-832-2237

SEND INVOICE TO
Purchase Order Number: 202386
Name: _____
Company: Port of Oakland Dept: _____
Mailing Address: _____
City, State, Zip: _____

Turn-Around Time: 24 hr 48 hr 72 hr
 5 day 10 day (Standard)
Rush Charges Authorized? Yes No
Phone Results Fax Results

Special Instructions: run silica gel cleanup for TPH-d

ANALYSES REQUESTED

No.	Date	Time	Matrx/Medium	Sample Identification Number
1	9/18/97	0945	Water	9-97-MW7
2		1100		9-97-MW4
3		1150		9-97-MW2
4		1230		9-97-MW5
5		1600		9-97-TB

# OF CONTAINERS	TPH-d	STP-d	TPH-d	TPH-d	Remarks
5	X	X	X	X	701093197
5	X	X	X	X	701093205
5	X	X	X	X	701093213
5	X	X	X	X	701093262
1	X				

COOLER/CUSTODY SEALS INTACT NOT INTACT
COOLER TEMPERATURE 6 °C
Bluc
Notify Nicole that this is in a wrong container. Can't perform. Bluc 9/22/97

CHAIN OF CUSTODY
Collected by: Nicole Peirce (Print)
Relinquished by: Nicole Peirce Date: 9/19/97 Time: 16:06
Relinquished by: Jerry Murt Date: 9/19/97 Time: 18:35

Collector's Signature: Nicole Peirce
Received by: Jerry Murt Date: 9/19/97 Time: 16:05
Received by: Guth / PAst Date: 9/19/97 Time: 18:35

Method of Shipment: _____

Sample Condition Upon Receipt: Acceptable Other (explain)