PORT OF OAKLAND

March 10, 1997

Ms. Jennifer Eberle
Hazardous Materials Specialist
Alameda County Environmental Protection Division
1131 Harbor Bay Parkway, Room 250
Alameda, CA 94502-6577

SUBJECT: FOURTH QUARTER 1996
GROUNDWATER MONITORING AND SAMPLING REPORT
2277 7TH STREET, OAKLAND
STID # 3899

Dear Jennifer:

Please find enclosed a copy of the *First Quarterly Groundwater Monitoring Report: Fourth Quarter 1996, Building C-401, 2277 Seventh Street, Oakland, California, STID #3899*, prepared on the behalf of the Port of Oakland by Uribe and Associates (Uribe). The report, dated February 24, 1997, addresses groundwater monitoring and sampling and product recovery activities that were performed by Uribe at Building C-401, 2277 7th Street, Oakland, California.

If you have any questions, please feel free to contact me at 272-1373.

Sincerely,

John Prall, R.G.
Associate Environmental Scientist

Enclosure

cc (w/enclosure): Don Ringsby, Dongary Investments
(w/o enclosure): Neil Werner

530 Water Street ■ Jack London Square ■ P.O. Box 2064 ■ Oakland, California 94604-2064
Telephone (510) 272-1100 ■ Fax (510) 272-1172 ■ TDD (510) 763-5703 ■ Cable address, PORTOFOAK, Oakland

URIBE & ASSOCIATES
2930 LAKESHORE AVENUE
SUITE TWO HUNDRED
OAKLAND, CALIFORNIA 94610-3614
510-832-2233 FAX 510-832-2237

ENGINEERING AND ENVIRONMENTAL CONSULTING SERVICES

February 24, 1997

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

Subject: **Quarterly Groundwater Monitoring Report: Fourth Quarter, 1996**
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 December 3, 1996, 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 removing floating liquid hydrocarbons ("product") from passive skimmer devices installed in wells MW-1 and MW-8. Well MW-6 was not sampled because floating liquid hydrocarbons were found in the well. An active skimmer is installed in well MW-3. An estimate of the amount of product removed from wells MW-1, MW-3, and MW-8 since November 15, 1996, the date the skimmers were installed, is included in this report.

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 December 3, 1996, U&A personnel measured the depth to groundwater in wells MW-2, MW-4, MW-5, MW-6, and MW-7. 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, MW-6, and MW-7 ranged from 6.41 to 9.62 feet below TOC. The groundwater temperature averaged approximately 62 degrees Fahrenheit and the pH averaged 6.7. The DTW measurements collected on December 3, 1996 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 December 3, 1996, based on data summarized in Table 1. The groundwater beneath the site is interpreted to flow toward the north-northwest with a hydraulic gradient of approximately 0.03 feet per foot.

During purging of MW-6, evidence of product within the well was observed after approximately 3 gallons of water had been removed. As a result, further purging was halted and MW-6 was removed from the well sampling program. No evidence of product was found in the other four wells.

Groundwater Sampling and Analysis

Groundwater samples were collected from the four wells by U&A personnel on December 3, 1996. 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) and motor oil (TPH-MO) by modified EPA Method 8015.
- Total petroleum hydrocarbons as gasoline (TPH-G) and benzene, toluene, ethylbenzene, and total xylenes (BTEX) by California LUFT Method.

The analyses indicated that the concentrations of TPH-G were below the method detection limit of 50.0 micrograms per liter (µg/l) in the samples from MW-2, MW-5, and MW-7. The concentration of TPH-G in the sample from MW-4 was 990 µg/l. Concentrations of TPH-D for the samples collected from MW-2, MW-4, MW-5, and MW-7 were 230, 220, 200, and 280 µg/l, respectively.

The concentrations of TPH-MO were below the method detection limit in all four samples collected. The concentrations of each of the BTEX compounds were below the method detection limits in the samples collected from MW-2, MW-5, and MW-7. In the sample from MW-4, the concentrations of BTEX were 350, 3.3, 1.3, and 1.3 µg/l, respectively. 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 is a distribution map of

TPH-G, TPH-D, and benzene in groundwater for December 3, 1996, based on the data summarized in Table 2.

Floating Liquid Hydrocarbon Removal

On December 3 and 13, 1996, and on January 6, 1997, floating liquid hydrocarbons were removed from the passive skimmers that were installed in wells MW-1 and MW-8 on November 15, 1996. The volume of product removed from each skimmer was estimated based on the capacity of the skimmer's cylindrical reservoir of 25 milliliters per inch. In addition, an estimate was made of the volume of product that had been removed by the active skimmer installed in well MW-3. From the time the active skimmer system became operational on November 15, 1996, until the installation of a Baker tank on December 3, 1996, the system had been pumping product into a 55-gallon drum. The volume of product in the drum was estimated to be approximately 13 gallons. Product removal data are summarized in Table 2.

Remarks and Signature

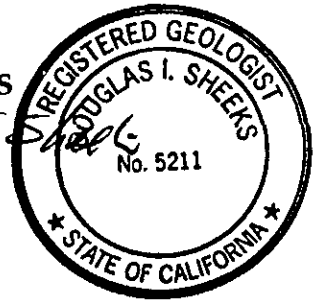
This report is based on available information and was prepared in accordance with currently accepted geologic, hydrogeologic, and engineering practices. No other warranty is implied or intended. This report has been prepared for the sole use of the Port of Oakland and applies to the subject site only.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

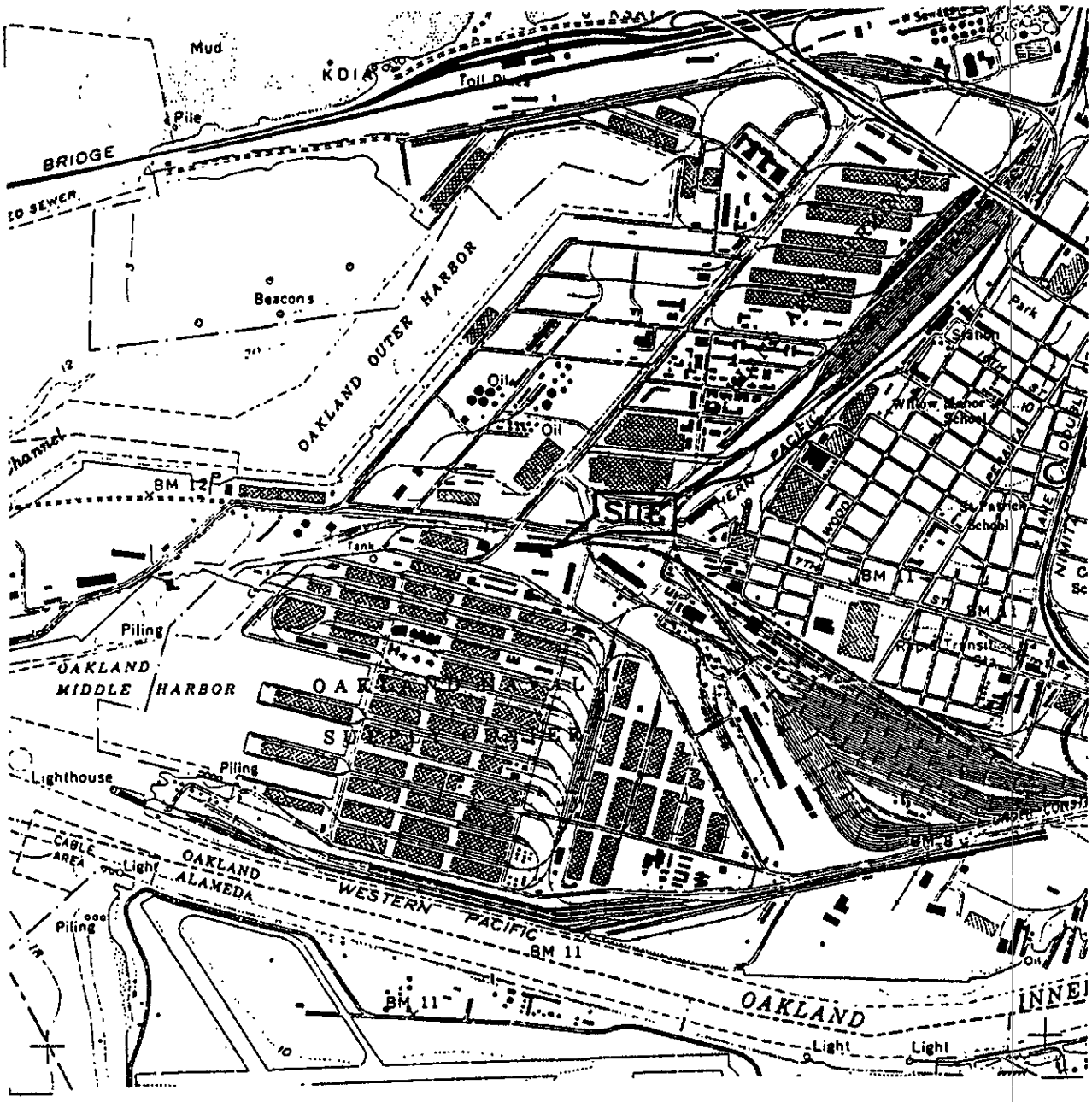
List of Attachments

Figures:

Tables:

Attachments:

Figures



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

N

0 1000' 2000'

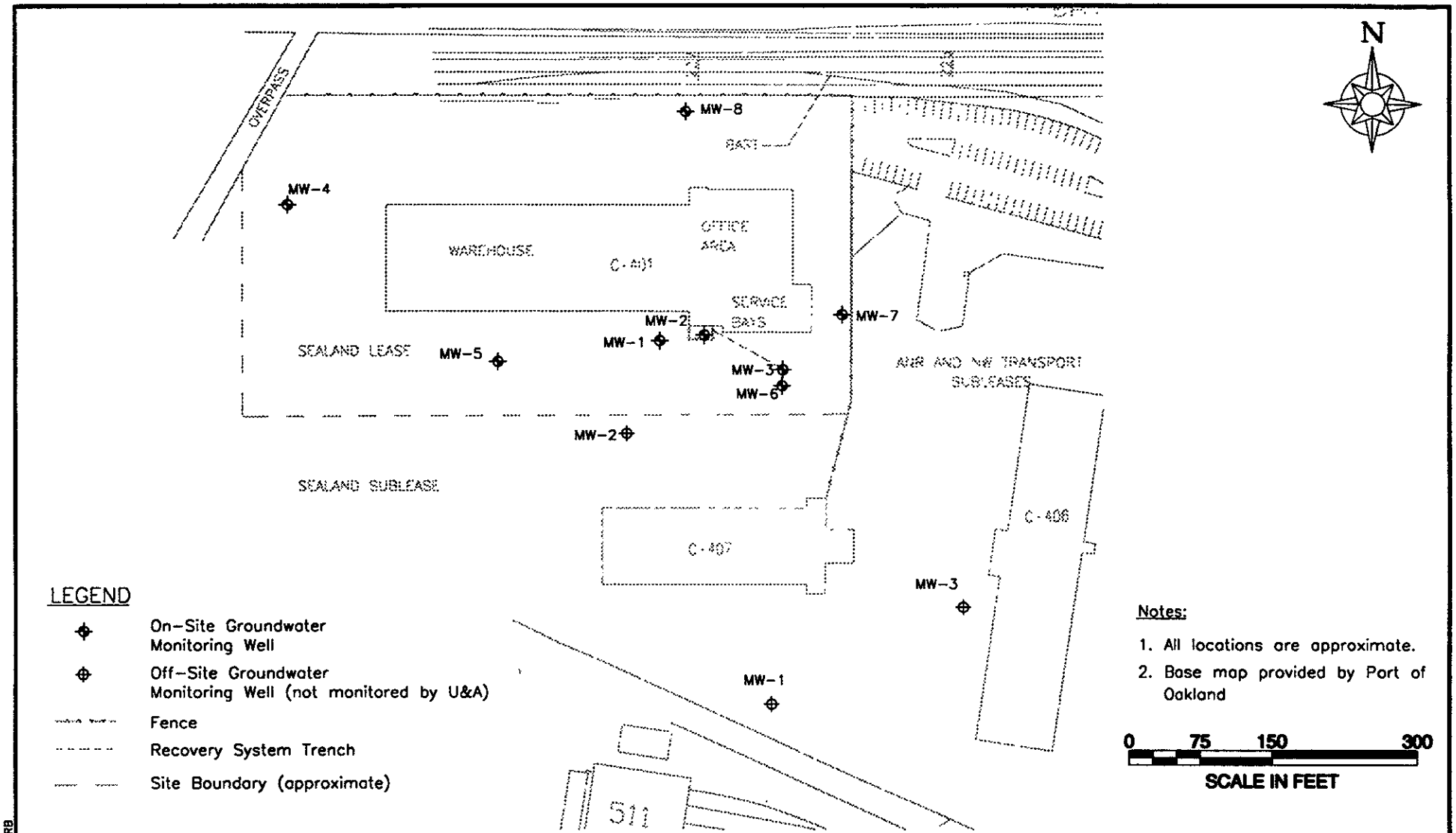
FIGURE 1

SITE VICINITY MAP

PORT OF OAKLAND
BUILDING C-401
2277 SEVENTH STREET
OAKLAND, CALIFORNIA

PROJECT NO. 10-270

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA



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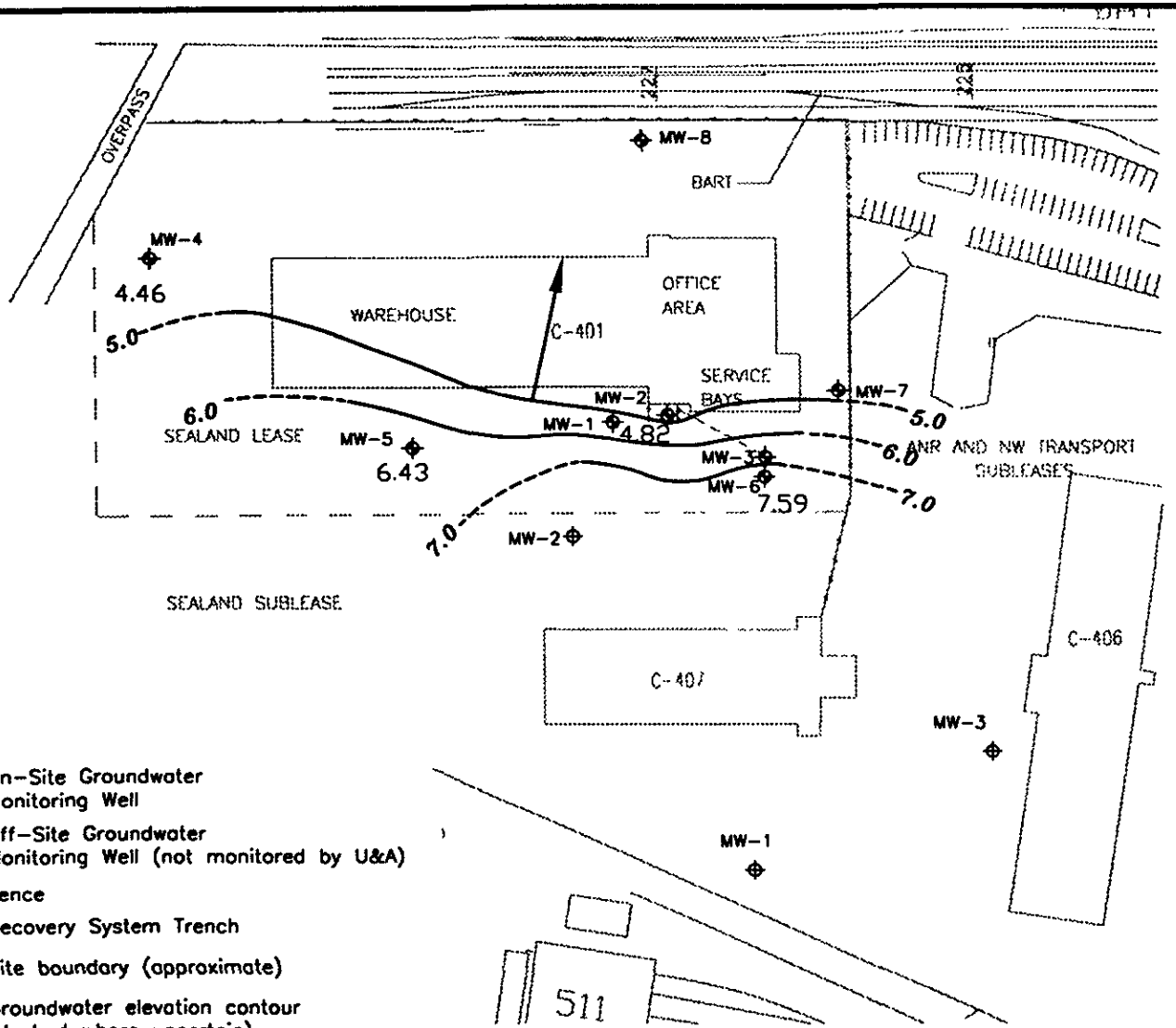
Environmental
Consulting Services

Figure 2

PORT OF OAKLAND — OAKLAND, CALIFORNIA

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



N

Contour interval = 1.0 feet

Hydraulic gradient = 0.03 ft/ft

Notes:

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

0 75 150 300

SCALE IN FEET

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)
- 4.46 Groundwater elevation (in feet above Port of Oakland datum)
- Inferred direction of groundwater flow

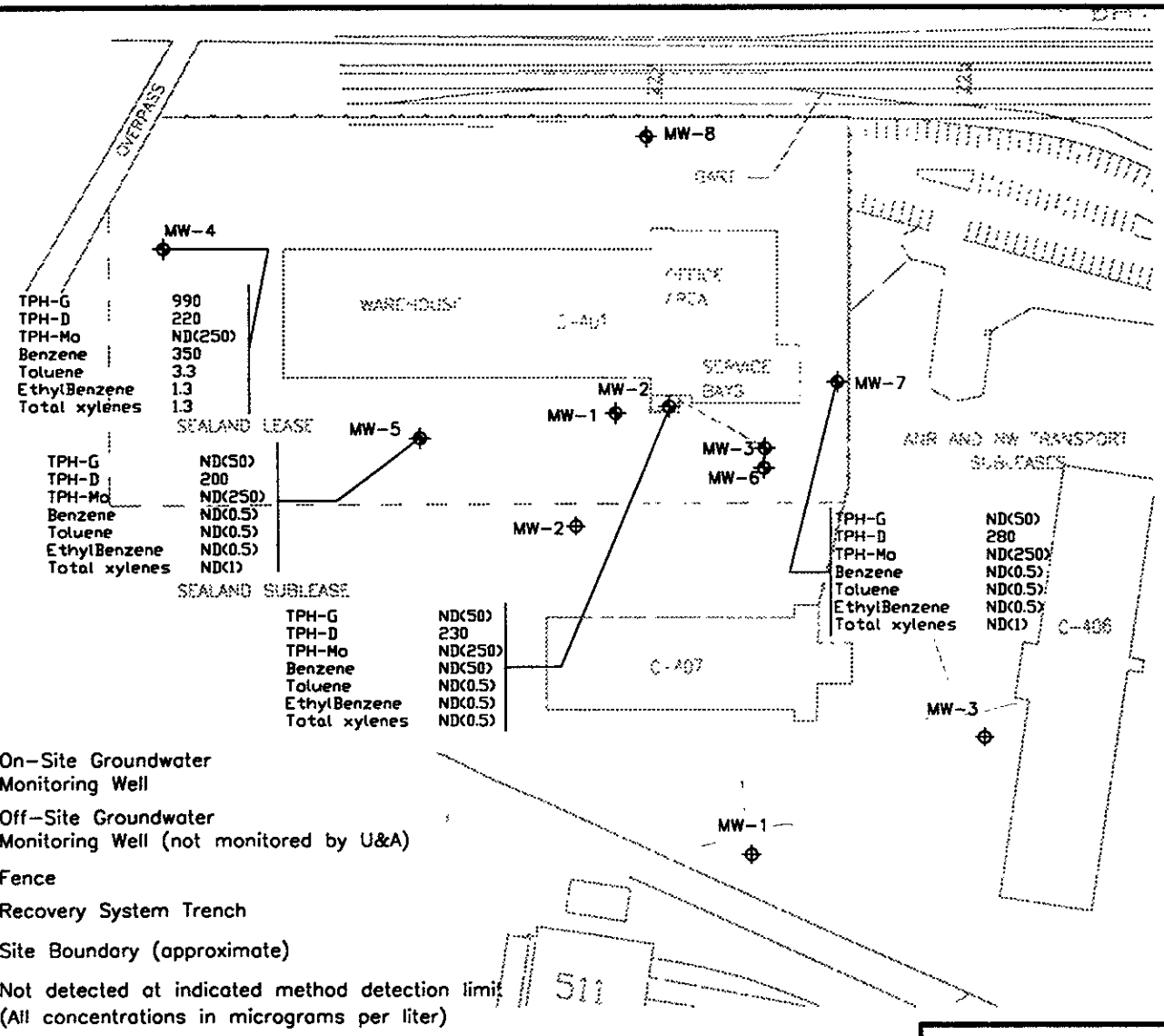
URIBE & ASSOCIATES
Environmental Consulting Services

Figure 3

PORT OF OAKLAND — OAKLAND, CALIFORNIA

Potentiometric Surface Map: December 3, 1996
Building C-401
2277 Seventh Street
Oakland, California

G:\207-01\20701003.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)
- ND( ) Not detected at indicated method detection 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

Analitical details are included in U&A's quaterly groundwater monitoring report dated February 24, 1997.

Notes:

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

0 75 150 300

SCALE IN FEET

URIBE & ASSOCIATES
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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: December 3, 1996
Building C-401
2277 Seventh Street
Oakland, California

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Tables

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

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
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		
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

Table 1 Continued
Groundwater Elevations/Product Removal Data
Port of Oakland
2277 Seventh Street, Oakland, California
(Page 2 of 3)

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-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		
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		
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		
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		

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

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-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

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 x 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 12/3/96, 12/13/96, and 1/6/97 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

Well	Date	Analyte (µg/l) TPH-G	TPH-D	TPH-MO	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Lab
MW-2	5/27/94	87	470	na	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	D&M
	3/29/95	ND(50)	110	1400	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)	1200	ND(0.4)	ND(0.3)	ND(0.3)	ND(0.4)	CEC
	4/4/96	ND(50)	160	320	ND(0.50)	ND(0.50)	ND(0.50)	ND(1)	PACE
	7/10/96	ND(50)	120	1400	ND(0.4)	ND(0.3)	ND(0.3)	ND(0.4)	CEC
	12/3/96	ND(50)	230[1,2]	ND(250)	ND(50)	ND(0.50)	ND(0.50)	ND(0.50)	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	1100	180	300	320	1.6	1.1	1.2	PACE
	7/10/96	1200	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
MW-5	9/11/95	90	ND(300)	2500	3.3	ND(0.3)	ND(0.3)	ND(0.4)	CEC
	4/4/96	ND(50)	180	520	ND(0.50)	ND(0.50)	ND(0.50)	ND(1)	PACE
	7/10/96	ND(50)	120	1500	ND(0.4)	ND(0.3)	ND(0.3)	ND(0.4)	CEC
	12/3/96	ND(50)	200[1,2]	ND(250)	ND(0.50)	ND(0.50)	ND(0.50)	ND(1)	PACE
MW-6	1/8/96	480	11000	6100	15	1.9	9.7	5.2	CEC
	4/4/96	440	6100	1200	16	0.97	3.9	3	PACE
	7/10/96	550	8300	5500	16	0.9	3	2.7	CEC
	12/3/96	na	na	na	na	na	na	na	PACE
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(0.50)	ND(0.50)	ND(0.50)	ND(1)	PACE
	7/10/96	80	840	1700	ND(0.4)	ND(0.3)	ND(0.3)	ND(0.4)	CEC
	12/3/96	ND(50)	280[1,2]	ND(250)	ND(0.50)	ND(0.50)	ND(0.50)	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 method detection limit
[1] Analyte found in the associated blank as well as in the sample
[2] Hydrocarbons present do not match profile of laboratory standard
na = not analyzed
Samples collected on 12/3/96 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 property disposed of.

Attachment 2

U&A Well Purging & Sampling Logs

URS | URIBE & ASSOCIATES ENVIRONMENTAL AND ENGINEERING CONSULTING SERVICES

PROJECT NO.: 257-01 16b

Well Purging & Sampling Log

SITE LOCATION: 2277 7th St, Oakland	WELL NUMBER: MW-2
DATE(S): 12/3/96	WELL TYPE, (MONITORING, EXTRACTION, ETC.): monitoring
PURGING EQUIPMENT: disp. bailer	MEASUREMENT REFERENCE DATUM:

DATA FROM IMMEDIATELY BEFORE AND AFTER DEVELOPMENT:

Depth to water measured from TOC (ft): Before Purging: 9.54 bottom of well: 15.17 { ~~After Purging:~~ ____ After sampling: 12.79

Total purging time (min): ____

Depth to sediment in well (ft) Before purging: ____ After purging: ____

	Time Since Purging Started (min)	Time	Cumulative Volume Removed	PARAMETERS: °F Temp (~~°C~~)	pH	µS/cm Conductivity (µmhos/cm)	Turbidity (NTUs)	Other
Initial		10:15	2.7 gal	58.4	6.30	2.29 x 1000		
During								
During								
During								
During								
During								
During								
After								

*CL = clear CO = cloudy TU = turbid

Well Sampling

Sample #: MW2-12-96	Lab: Pace
Container Type: 3VOAs, 2ambers	Filtered?–Y/N: N
Preservatives: none; HCl	Analysis Requested: TPH-D/MO; TPH-G/BTEX

Comments ~~Related to Sample~~: well volume = 0.9 gallons
cloudy sample w/ a small amount of sediment; no sheen or odor

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.

V = c 0.652 gal/ft

Frank WP: Well P&S 10/3/96 OX KH

U&A | Uribe & Associates Environmental and Engineering Consulting Services

Project No.: 267-06 100

Well Purging & Sampling Log

Site Location: 2277 7th St, Oakland	Well Number: MW-4
Date(s): 12/3/96	Well Type, (Monitoring, Extraction, etc.): monitoring
Purging Equipment: disp. bailer	Measurement Reference Datum:

DATA FROM IMMEDIATELY BEFORE AND AFTER DEVELOPMENT:

Depth to water measured from TOC (ft): Before Purging: 8.69 bottom of well: 18.78 { After Purging: 0 / After sampling: 9.83

Total purging time (min): _____

Depth to sediment in well (ft) Before purging: _____ After purging: _____

	Time Since Purging Started (min)	Time	Cumulative Volume Removed	Parameters: °F Temp (°C)	pH	µS/cm Conductivity (µmhos/cm)	Turbidity (NTUs)	Other
Initial		3:43	4.9 gal	63.5	6.93	1.36x1000		
During								
During								
During								
During								
During								
During								
After								

*CL = clear CO = cloudy TU = turbid

Well Sampling

Sample #: MW4-12-96	Lab: Daae
Container Type: 3 VOAs, 2 ambers	Filtered?–Y/N: N
Preservatives: HCl, none	Analysis Requested: TPH-G/BTEX, TPH-D/MO

Comments Related to Sample: well volume = 1.6 gal

cloudy, brown, no sheen or odor

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.

Frank WP: Well PBS 10/3/96 QX KH

U&A || URIBE & ASSOCIATES ENVIRONMENTAL AND ENGINEERING CONSULTING SERVICES

PROJECT NO.: 201-01 10 9

Well Purging & Sampling Log

SITE LOCATION: 2277 7th St, Oakland	WELL NUMBER: MW-5
DATE(S): 12/3/96	WELL TYPE, (MONITORING, EXTRACTION, ETC.): monitoring
PURGING EQUIPMENT: disp. bailer	MEASUREMENT REFERENCE DATUM:

DATA FROM IMMEDIATELY BEFORE AND AFTER DEVELOPMENT:

Depth to water measured from TOC (ft): Before Purging: 7.06 ~~After Purging~~: After sampling: 7.98

bottom of well: 18.10

Total purging time (min):

Depth to sediment in well (ft) Before purging: After purging:

	Time Since Purging Started (min)	Time	Cumulative Volume Removed	PARAMETERS Temp (°F)	pH	Conductivity (MS/cm) ~~(µmhos/cm)~~	Turbidity (NTUs)	Other
Initial		2:45	5.4 gal	63.7	6.80	2.57×1000		
During								
During								
During								
During								
During								
During								
After								

*CL = clear CO = cloudy TU = turbid

Well Sampling

Sample #: MW5-12-96	Lab: Pace
Container Type: 3 VOAs, 2 ambers	Filtered?–Y/N: N
Preservatives: HCl, none	Analysis Requested: TPH-G/BTEX, TPH-D/MO

Comments Related to Sample: well volume = 1.8 gal

cloudy, brown-grey, no sheen or odor

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.

V_{1}" = 0.0408 gal/ft

URIBE & ASSOCIATES ENVIRONMENTAL AND ENGINEERING CONSULTING SERVICES

PROJECT NO.: 207-01 106

Well Purging & Sampling Log

SITE LOCATION: 2277 7th St, Oakland	WELL NUMBER: MW-6
DATE(S): 12/3/96	WELL TYPE, (MONITORING, EXTRACTION, ETC.): monitoring
PURGING EQUIPMENT: disp. bailer	MEASUREMENT REFERENCE DATUM:

DATA FROM IMMEDIATELY BEFORE AND AFTER DEVELOPMENT:

Depth to water measured from TOC (ft): Before Purging: 6.41 { After Purging: ~~2~~

bottom of well: 18.09 { After sampling:

Total purging time (min): _____

Depth to sediment in well (ft) Before purging: _____ After purging: _____

	Time Since Purging Started (min)	Time	Cumulative Volume Removed	PARAMETERS °F Temp (~~°F~~)	pH	Conductivity (µmhos/cm)	Turbidity (NTUs)	Other
Initial		11:15	5.7 ~~gal~~ NP					
During								
During								
During								
During								
During								
During								
After								

*CL = clear CO = cloudy TU = turbid

Well Sampling

Sample #: no sample taken	Lab:
Container Type:	Filtered?–Y/N:
Preservatives:	Analysis Requested:

Comments ~~Related to Sample~~: well volume = 1.9 gal

free product well; sheen observed after purging approx. 3 gallons

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.

$V_{1''}$ = 0.045 gal/ft

Form: WP: Well P&S 10/3/96 QX KH

URS | URIBE & ASSOCIATES ENVIRONMENTAL AND ENGINEERING CONSULTING SERVICES

PROJECT NO.: 207-01 106

Well Purging & Sampling Log

SITE LOCATION: 2277 7th St, Oakland	WELL NUMBER: MW-7
DATE(S): 12/3/96	WELL TYPE, (MONITORING, EXTRACTION, ETC.): monitoring
PURGING EQUIPMENT: monitoring disp bailer	MEASUREMENT REFERENCE DATUM

DATA FROM IMMEDIATELY BEFORE AND AFTER DEVELOPMENT:

Depth to water measured from TOC (ft): Before Purging: 9.62 bottom of well: 18.28 { After Purging: ~~After Purging:~~ / After sampling: 9.78

Total purging time (min): _____

Depth to sediment in well (ft) Before purging: _____ After purging: _____

	Time Since Purging Started (min)	Time	Cumulative Volume Removed	PARAMETERS (°F) Temp (°C)	pH	µS/cm Conductivity (µmhos/cm)	Turbidity (NTUs)	Other
Initial		1:50	4.2 gal	62.3	6.90	2.3x1000		
During								
During								
During								
During								
During								
During								
After								

*CL = clear CO = cloudy TU = turbid

Well Sampling

Sample #: MW7-12-96	Lab: Pace
Container Type: 3 VOAs, 2 ambers	Filtered?-Y/N: N
Preservatives: HCl, none	Analysis Requested: TPH-G/BTEX, TPH-D/MO

Comments Related to Sample: well volume = 1.4 gal

cloudy, grey-colored, no sheen or odor

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. = $\pi r^2 h$ ~~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.

$V_{well} = 0.653 \times 14.1 = 1.4$ gal

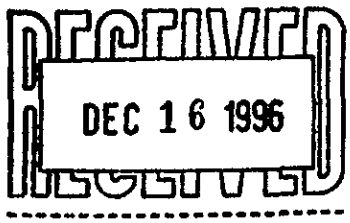
Frank WP: Well PES 10/2/96 OX KH

Attachment 3

Laboratory Analytical Reports and Chain-of-Custody Form

Pace Analytical Services, Inc.
1455 McDowell Blvd. North, Suite D
Petaluma, CA 94954
Tel: 707-792-1865
Fax: 707-792-0342

Pace Analytical



December 12, 1996

Mr. Nicole Peirce
Uribe & Associates
2930 Lakeshore Ave, Suite 200
Oakland, CA 94610-3614

RE: PACE Project Number: 707168
Client Project ID: Port of Oakland/207-01 15

Dear Mr. Peirce:

Enclosed are the results of analyses for sample(s) received on December 4, 1996. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Ron Chew
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1455 McDowell Blvd. North, Suite D
Petaluma, CA 94954
Tel: 707-792-1865
Fax: 707-792-0342

Pace Analytical

DATE: 12/12/96
PAGE: 1

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

PACE Project Number: 707168
Client Project ID: Port of Oakland/207-01 15

Attn: Mr. Nicole Peirce
Phone: (510)832-2233

PACE Sample No: 70812649
Client Sample ID: MW2-12-96

Date Collected: 12/03/96
Date Received: 12/04/96

Parameters	Results	Units	PRL	Analyzed	Method	Analyst	CAS#	Footnotes
GC -- Volatiles								
GAS/BTEX by CA LUFT, Water								
Gasoline	ND	ug/L	50	12/06/96	CA LUFT	ADS		
Benzene	ND	ug/L	0.5	12/06/96	CA LUFT	ADS	71-43-2	
Toluene	ND	ug/L	0.5	12/06/96	CA LUFT	ADS	108-88-3	
Ethylbenzene	ND	ug/L	0.5	12/06/96	CA LUFT	ADS	100-41-4	
Xylene (Total)	ND	ug/L	1	12/06/96	CA LUFT	ADS	1330-20-7	
a,a,a-Trifluorotoluene (S)	96	%		12/06/96	CA LUFT	ADS	2164-17-2	
4-Bromofluorobenzene (S)	84	%		12/06/96	CA LUFT	ADS	460-00-4	
GC								
TPH in Water by 8015 Modified								
Diesel Fuel	0.23	mg/L	0.05	12/11/96	TPH by EPA 8015M	WSN	11-84-7...	1,2
Motor Oil	ND	mg/L	0.25	12/11/96	TPH by EPA 8015M	WSN		
n-Pentacosane (S)	106	%		12/11/96	TPH by EPA 8015M	WSN	629-99-2	
Date Extracted				12/06/96				

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1455 McDowell Blvd. North, Suite D
Petaluma, CA 94954
Tel: 707-792-1865
Fax: 707-792-0342

Pace Analytical

PACE Project Number: 707168
Client Project ID: Port of Oakland/207-01 15

PACE Sample No: 70812656
Client Sample ID: MW7-12-96

Date Collected: 12/03/96
Date Received: 12/04/96

Parameters	Results	Units	PRL	Analyzed	Method	Analyst	CAS#	Footnotes
GC -- Volatiles								
GAS/BTEX by CA LUFT, Water								
Gasoline	ND	ug/L	50	12/06/96	CA LUFT	ADS		
Benzene	ND	ug/L	0.5	12/06/96	CA LUFT	ADS	71-43-2	
Toluene	ND	ug/L	0.5	12/06/96	CA LUFT	ADS	108-88-3	
Ethylbenzene	ND	ug/L	0.5	12/06/96	CA LUFT	ADS	100-41-4	
Xylene (Total)	ND	ug/L	1	12/06/96	CA LUFT	ADS	1330-20-7	
a,a,a-Trifluorotoluene (S)	95	%		12/06/96	CA LUFT	ADS	2164-17-2	
4-Bromofluorobenzene (S)	94	%		12/06/96	CA LUFT	ADS	460-00-4	
GC								
TPH in Water by 8015 Modified								
Diesel Fuel	0.28	mg/L	0.05	12/11/96	TPH by EPA 8015M	WSN	11-84-7...	1,2
Motor Oil	ND	mg/L	0.25	12/11/96	TPH by EPA 8015M	WSN		
n-Pentacosane (S)	99	%		12/11/96	TPH by EPA 8015M	WSN	629-99-2	
Date Extracted				12/06/96				

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1455 McDowell Blvd. North, Suite D
Petaluma, CA 94954
Tel: 707-792-1865
Fax: 707-792-0342

Pace Analytical

PACE Project Number: 707168
Client Project ID: Port of Oakland/207-01 15

PACE Sample No: 70812664
Client Sample ID: MW5-12-96

Date Collected: 12/03/96
Date Received: 12/04/96

Parameters	Results	Units	PRL	Analyzed	Method	Analyst	CAS#	Footnotes
GC -- Volatiles								
GAS/BTEX by CA LUFT, Water								
Gasoline	ND	ug/L	50	12/06/96	CA LUFT	ADS		
Benzene	ND	ug/L	0.5	12/06/96	CA LUFT	ADS	71-43-2	
Toluene	ND	ug/L	0.5	12/06/96	CA LUFT	ADS	108-88-3	
Ethylbenzene	ND	ug/L	0.5	12/06/96	CA LUFT	ADS	100-41-4	
Xylene (Total)	ND	ug/L	1	12/06/96	CA LUFT	ADS	1330-20-7	
a,a,a-Trifluorotoluene (S)	105	%		12/06/96	CA LUFT	ADS	2164-17-2	
4-Bromofluorobenzene (S)	88	%		12/06/96	CA LUFT	ADS	460-00-4	
GC								
TPH in Water by 8015 Modified								
Diesel Fuel	0.20	mg/L	0.05	12/11/96	TPH by EPA 8015M	WSN	11-84-7...	1,2
Motor Oil	ND	mg/L	0.25	12/11/96	TPH by EPA 8015M	WSN		
n-Pentacosane (S)	95	%		12/11/96	TPH by EPA 8015M	WSN	629-99-2	
Date Extracted				12/06/96				

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1455 McDowell Blvd. North, Suite D
Petaluma, CA 94954
Tel: 707-792-1865
Fax: 707-792-0342

Pace Analytical

PACE Project Number: 707168
Client Project ID: Port of Oakland/207-01 15

PACE Sample No: 70812672
Client Sample ID: MW4-12-96

Date Collected: 12/03/96
Date Received: 12/04/96

Parameters	Results	Units	PRL	Analyzed	Method	Analyst	CAS#	Footnotes
GC -- Volatiles								
GAS/BTEX by CA LUFT, Water								
Gasoline	990	ug/L	50	12/06/96	CA LUFT	ADS		
Benzene	350	ug/L	0.5	12/06/96	CA LUFT	ADS	71-43-2	
Toluene	3.3	ug/L	0.5	12/06/96	CA LUFT	ADS	108-88-3	
Ethylbenzene	1.3	ug/L	0.5	12/06/96	CA LUFT	ADS	100-41-4	
Xylene (Total)	1.3	ug/L	1	12/06/96	CA LUFT	ADS	1330-20-7	
a,a,a-Trifluorotoluene (S)	128	%		12/06/96	CA LUFT	ADS	2164-17-2	
4-Bromofluorobenzene (S)	88	%		12/06/96	CA LUFT	ADS	460-00-4	
GC								
TPH in Water by 8015 Modified								
Diesel Fuel	0.22	mg/L	0.05	12/11/96	TPH by EPA 8015M	WSN	11-84-7...	1,2
Motor Oil	ND	mg/L	0.25	12/11/96	TPH by EPA 8015M	WSN		
n-Pentacosane (S)	96	%		12/11/96	TPH by EPA 8015M	WSN	629-99-2	
Date Extracted				12/06/96				

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1455 McDowell Blvd. North, Suite D
Petaluma, CA 94954
Tel: 707-792-1865
Fax: 707-792-0342

Pace Analytical

PACE Project Number: 707168
Client Project ID: Port of Oakland/207-01 15

PACE Sample No: 70812680 Date Collected: 12/03/96
Client Sample ID: TRIP BLANK Date Received: 12/04/96

Parameters	Results	Units	PRL	Analyzed	Method	Analyst	CAS#	Footnotes
GC -- Volatiles								
GAS/BTEX by CA LUFT, Water								
Gasoline	ND	ug/L	50	12/06/96	CA LUFT	ADS		
Benzene	ND	ug/L	0.5	12/06/96	CA LUFT	ADS	71-43-2	
Toluene	ND	ug/L	0.5	12/06/96	CA LUFT	ADS	108-88-3	
Ethylbenzene	ND	ug/L	0.5	12/06/96	CA LUFT	ADS	100-41-4	
Xylene (Total)	ND	ug/L	1	12/06/96	CA LUFT	ADS	1330-20-7	
a,a,a-Trifluorotoluene (S)	105	%		12/06/96	CA LUFT	ADS	2164-17-2	
4-Bromofluorobenzene (S)	91	%		12/06/96	CA LUFT	ADS	460-00-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1455 McDowell Blvd. North, Suite D
Petaluma, CA 94954
Tel: 707-792-1865
Fax: 707-792-0342

Pace Analytical

PACE Project Number: 707168
Client Project ID: Port of Oakland/207-01 15

PARAMETER FOOTNOTES

ND	Not Detected
NC	Not Calculable
PRL	PACE Reporting Limit
(S)	Surrogate
[1]	Analyte is found in the associated blank as well as in the sample.
[2]	Hydrocarbons present do not match profile of laboratory standard.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1455 McDowell Blvd. North, Suite D
Petaluma, CA 94954
Tel: 707-792-1865
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Pace Analytical

QUALITY CONTROL DATA

DATE: 12/12/96
PAGE: 7

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

PACE Project Number: 707168
Client Project ID: Port of Oakland/207-01 15

Attn: Mr. Nicole Peirce
Phone: (510)832-2233

QC Batch ID: 19644
QC Batch Method: EPA 3520
Date of Batch: 12/05/96
Analysis Method: TPH by EPA 8015M
Analysis Description: TPH in Water by 8015 Modified
Associated PACE Samples: 70812649 70812656 70812664 70812672

METHOD BLANK: 70814983
Associated PACE Samples: 70812649 70812656 70812664 70812672

Parameter	Units	Method Blank Result	PRL	Footnotes
Diesel Fuel	mg/L	0.16	0.05	1
Motor Oil	mg/L	ND	0.25	
n-Pentacosane (S)	%	96		

LABORATORY CONTROL SAMPLE & LCSD: 70813183 70813191

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	LCSD Result	Spike Dup % Rec	RPD	Footnotes
Diesel Fuel	mg/L	1.0	0.7364	73.6	0.6227	62.3	17	
n-Pentacosane (S)				120		116		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1455 McDowell Blvd. North, Suite D
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Tel: 707-792-1865
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Pace Analytical

QUALITY CONTROL DATA

DATE: 12/12/96

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

PACE Project Number: 707168
Client Project ID: Port of Oakland/207-01 15

Attn: Mr. Nicole Peirce
Phone: (510)832-2233

QC Batch ID: 19673
QC Batch Method: CA LUFT
Date of Batch: 12/06/96
Analysis Method: CA LUFT
Analysis Description: GAS/BTEX by CA LUFT, Water
Associated PACE Samples: 70812649 70812656 70812664 70812672 70812680

METHOD BLANK: 70814710
Associated PACE Samples: 70812649 70812656 70812664 70812672 70812680

Parameter	Units	Method Blank Result	PRL	Footnotes
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)	%	96		
4-Bromofluorobenzene (S)	%	88		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 70814728 70814736

Parameter	Units	70811799	Spike Conc.	Matrix Spike Result	Spike % Rec	Matrix Sp. Dup. Result	Spike Dup % Rec	RPD	Footnotes
Benzene	ug/L	0.1419	100	96.20	96.1	103.6	104	7	
Toluene	ug/L	0	100	97.64	97.6	104.7	105	7	
Ethylbenzene	ug/L	0	100	101.2	101	108.6	109	7	
Xylene (Total)	ug/L	0	300	317.4	106	340.7	114	7	
a,a,a-Trifluorotoluene (S)					101		98.1		
4-Bromofluorobenzene (S)					100		99.5		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1455 McDowell Blvd. North, Suite D
Petaluma, CA 94954
Tel: 707-792-1865
Fax: 707-792-0342

Pace Analytical

QUALITY CONTROL DATA

DATE: 12/12/96

PACE Project Number: 707168
Client Project ID: Port of Oakland/207-01 15

LABORATORY CONTROL SAMPLE & LCSD: 70814744 70814751

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	LCSD Result	Spike Dup % Rec	RPD	Footnotes
Benzene	ug/L	100	94.30	94.3	94.30	94.3	0	
Toluene	ug/L	100	95.53	95.5	95.17	95.2	0	
Ethylbenzene	ug/L	100	98.99	99.0	98.28	98.3	1	
Xylene (Total)	ug/L	300	310.0	103	308.1	103	0	
a,a,a-Trifluorotoluene (S)				95.0		94.8		
4-Bromofluorobenzene (S)				97.4		96.8		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1455 McDowell Blvd. North, Suite D
Petaluma, CA 94954
Tel: 707-792-1865
Fax: 707-792-0342

Pace Analytical

PACE Project Number: 707168
Client Project ID: Port of Oakland/207-01 15

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
[1]	Hydrocarbons present do not match profile of laboratory standard.

REPORT OF LABORATORY ANALYSIS

707168

Page 1 of 1

URIBE & ASSOCIATES
ENVIRONMENTAL CONSULTING SERVICES

CHAIN-OF-CUSTODY RECORD

Project No.:	Project Name:
207-01 10b	2277 7th St Oakland

REPORT RESULTS TO

Name:	Nicole Peirce
Company:	URIBE & ASSOCIATES
Mailing Address:	2930 LAKESHORE AVENUE, 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:	
Name:	
Company:	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:
use silica gel clean-up procedure For all samples. Contact John Prall at the Port (510)272-1373 with questions.

ANALYSES REQUESTED

No.	Date	Time	Matrix/Medium	Sample Identification Number	# OF CONTAINERS	TPH-D	TPH-MO	TPH-G	BTEX					Remarks
1	12/3/96	10:15	Water	MW2-12-96	5	X	X	X	X	70812649				silica gel clean-up
2	"	1:50	"	MW7-12-96	5	X	X	X	X	70812656				↓
3	"	2:45	"	MW5-12-96	5	X	X	X	X	70812664				
4	"	3:43	"	MW4-12-96	5	X	X	X	X	70812672				
5	"		"	trip blank	1			X	X	70812630				

COOLER CUSTODY SEALS INTACT ☐ NOT INTACT ☐

COOLER TEMPERATURE 6 °C

blue

CHAIN OF CUSTODY

Collected by: Nicole Peirce (Print)

Collector's Signature: Nicole Peirce

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Nicole Peirce	12/4/96	12:30	Nick Manaras	12/4/96	12:30
Nick Manaras	12/4/96	2:30	Paul Hellmann	12/4/96	14:30

Method of Shipment: lab courier

Sample Condition Upon Receipt: ☐ Acceptable ☐ Other (explain)

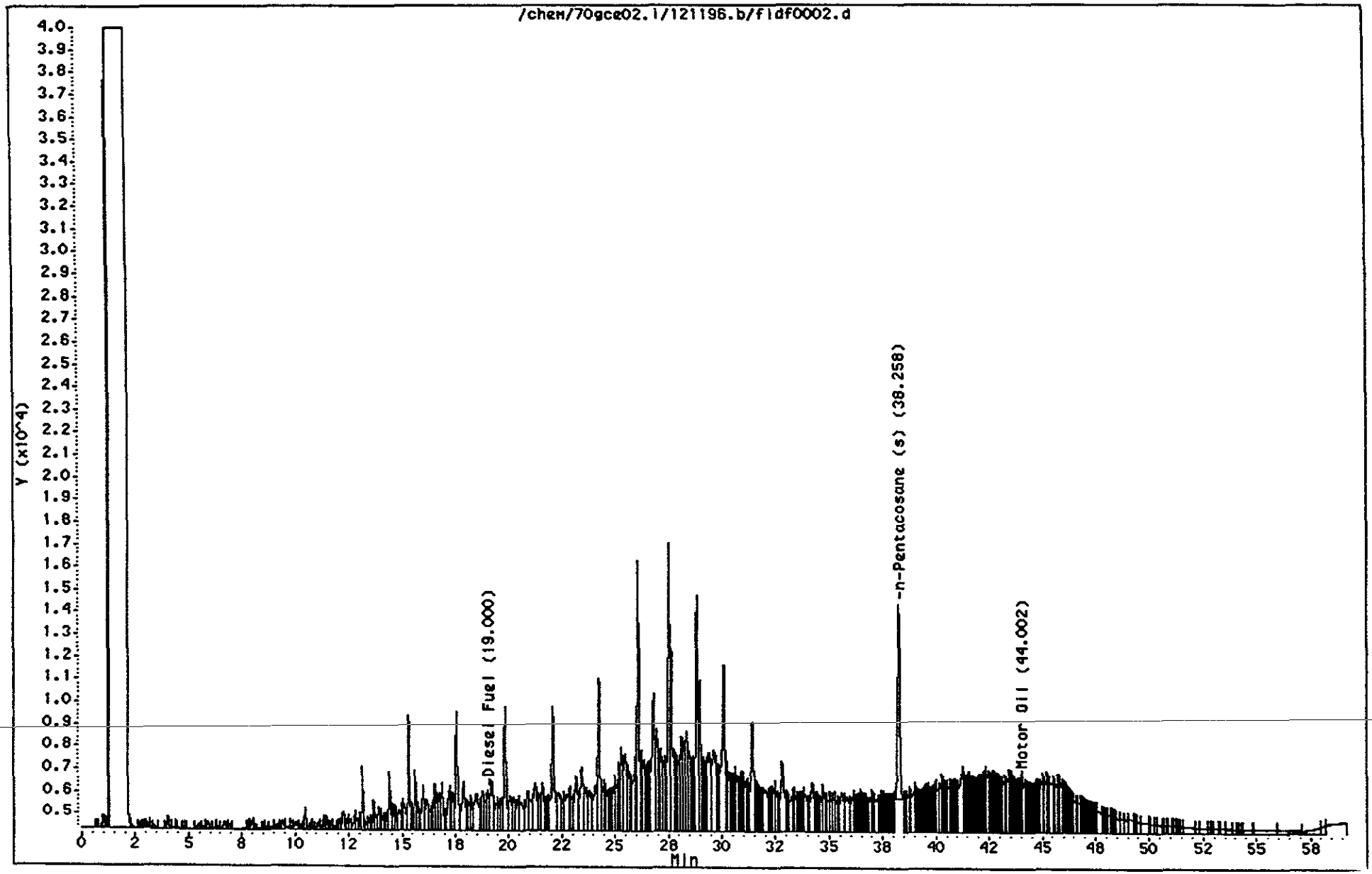
Chain of Custody form 6/2/95 OX FC

Original (White) Laboratory Copy (Yellow) Field Copy (Pink)

Data File: /chem/70gce02.i/121196.b/fidf0002.d
Date : 11-DEC-1998 10:52
Client ID:
Sample Info: CCAL-DIESEL/MO 1000 ppm

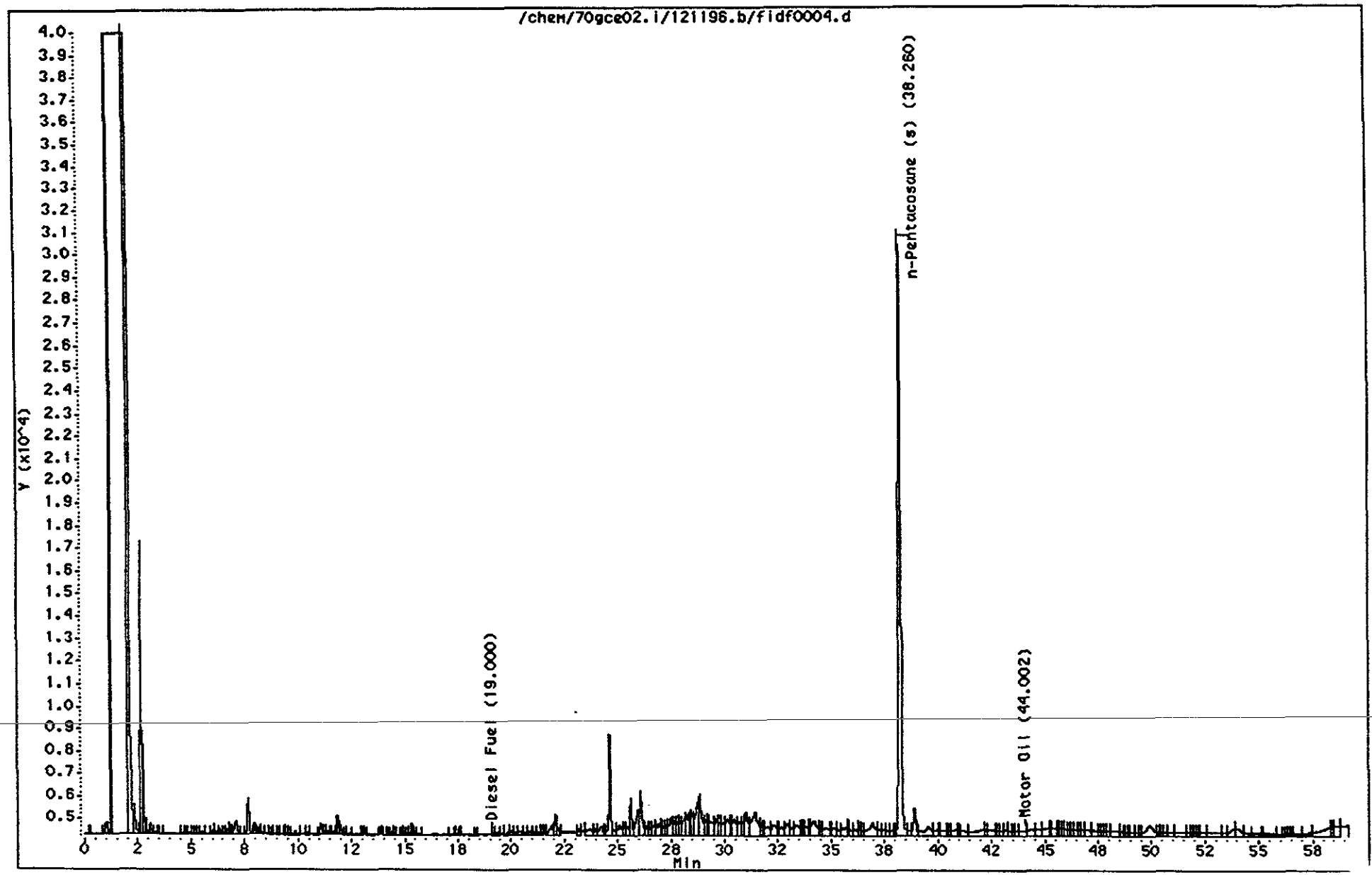
Column phase: RESTEK XTI-5

Instrument: 70gce02.i
Misc Info: 90D,,,,,2,5,,,,dmof.sub,dmor.sub
Operator: WSN
Column diameter: 0.53



Data File: /chem/70gce02.i/121196.b/fidf0004.d
Date : 11-DEC-1996 18:08
Client ID:
Sample Info: BLANK-water 708A983
Volume Injected (ul): 1.0
Column phase: RESTEK XTI-5

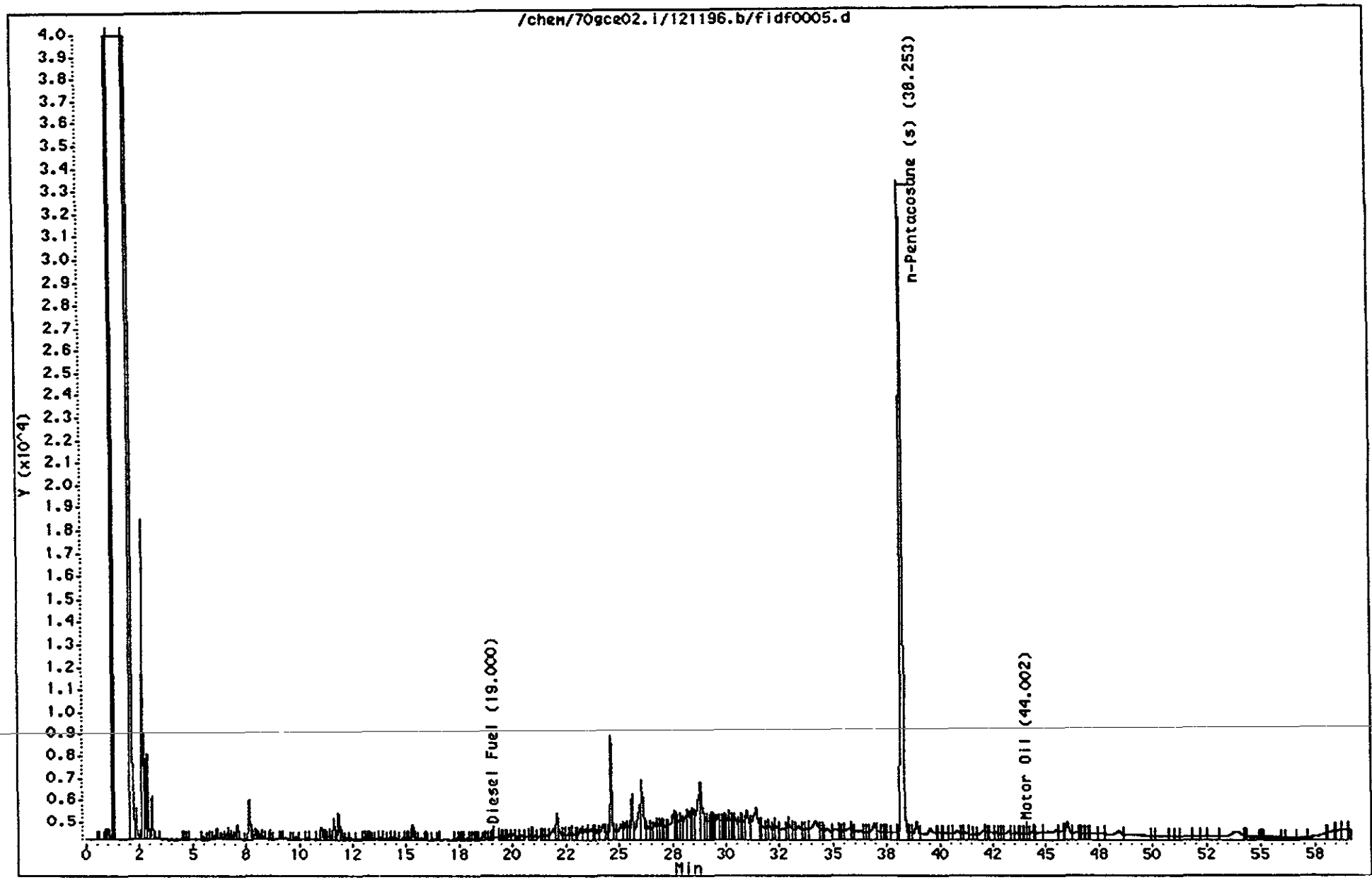
Instrument: 70gce02.i
Misc Info: 814983,,1,19644,1,3,,BLANK,,,dmof.sub,dmor.sub
Operator: WSN
Column diameter: 0.53



Data File: /chem/70gce02.i/121196.b/fidf0005.d
Date : 11-DEC-1996 19:14
Client ID:
Sample Info: SAMPLE-water
Volume Injected (uL): 1.0
Column phase: RESTEK XTI-5

7081249

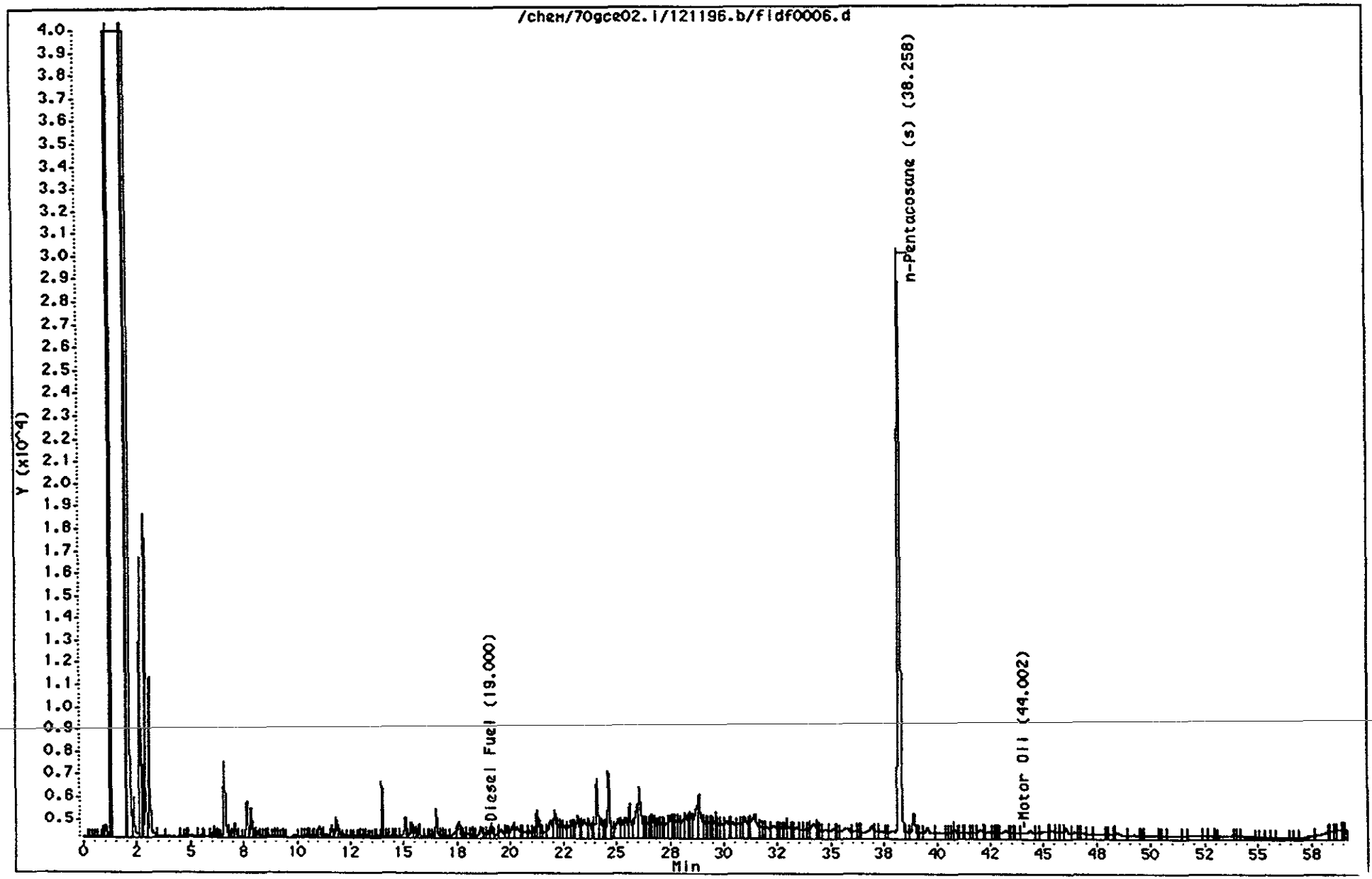
Instrument: 70gce02.i
Misc Info: 812649,,1,19644,1,0,,,,,dmof.sub,dmor.sub
Operator: MSN
Column diameter: 0.53



Data File: /chem/70gce02.i/121196.b/fidf0006.d
Date : 11-DEC-1996 20:21
Client ID:
Sample Info: SAMPLE-water
Volume Injected (uL): 1.0
Column phase: RESTEK XTI-5

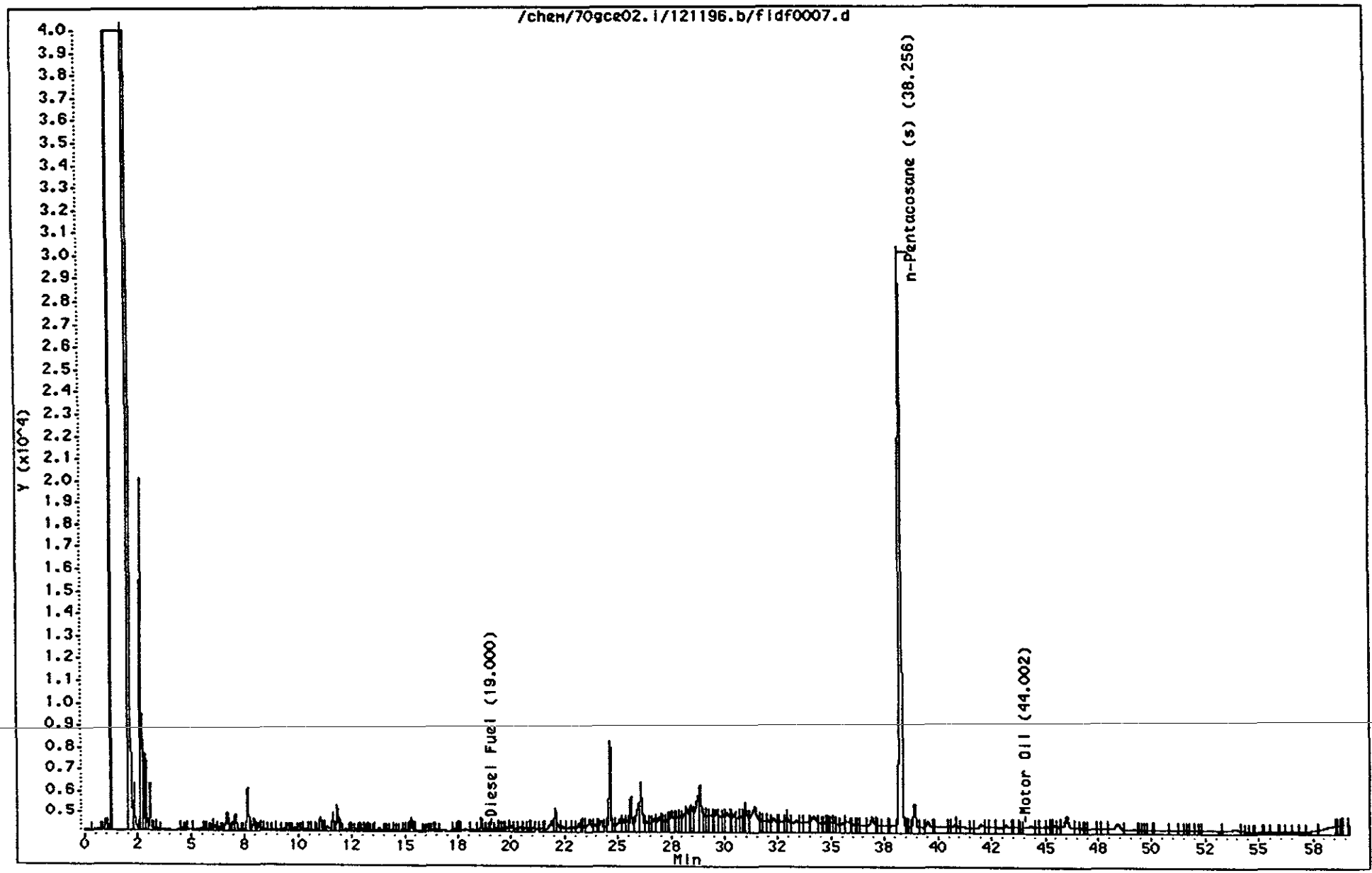
70812656

Instrument: 70gce02.i
Misc Info: 812656,,1,19644,1,0,,,,,dmof.sub,dmor.sub
Operator: WSN
Column diameter: 0.53



Data File: /chem/70gce02.i/121196.b/fidf0007.d
Date : 11-DEC-1996 21:28
Client ID:
Sample Info: SAMPLE-water 70812664
Volume Injected (uL): 1.0
Column phase: RESTEK XTI-5

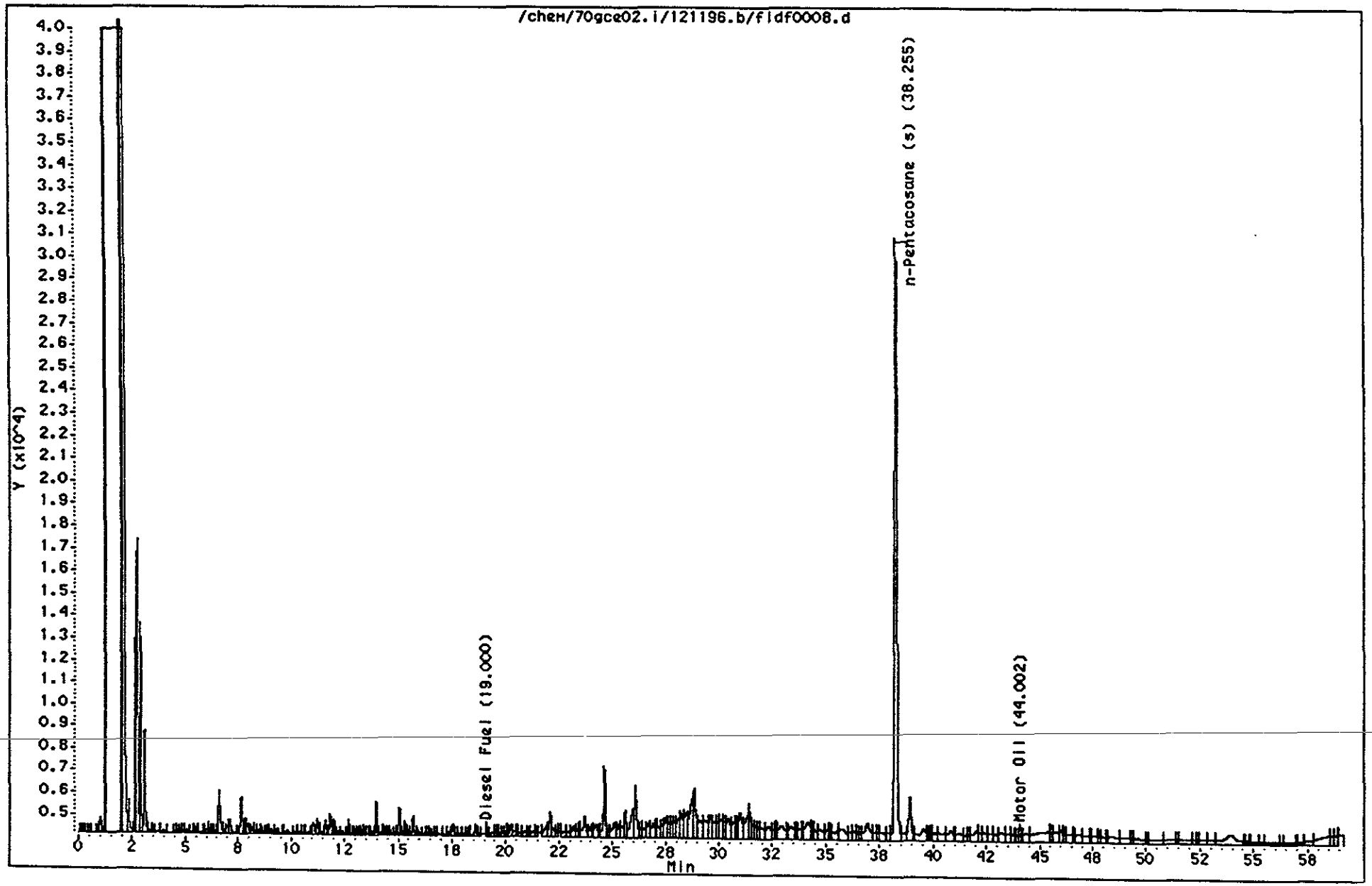
Instrument: 70gce02.i
Misc Info: 812664,1,19644,1,0,,,,,dmof.sub,dmor.sub
Operator: HSN
Column diameter: 0.53



Data File: /chem/70gce02.i/121196.b/fldf0008.d
Date : 11-DEC-1998 22:35
Client ID:
Sample Info: SAMPLE-water
Volume injected (uL): 1.0
Column phase: RESTEK XTI-5

70812672

Instrument: 70gce02.i
Misc Info: 812672,1,19644,1,0,,,,,dmof.sub,dmor.sub
Operator: WSN
Column diameter: 0.53



4/97

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 property disposed of.

Attachment 2

U&A Well Purging & Sampling Logs

U&A | URIBE & ASSOCIATES ENVIRONMENTAL AND ENGINEERING CONSULTING SERVICES

PROJECT NO.:

Well Purging & Sampling Log

SITE LOCATION: Port of Oakland	WELL NUMBER: MW02
DATE(S): 3/28/97	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: 7.89 (Total depth: 15.0) { After Purging: 13.50 / After sampling: ____

Total purging time (min): ____

Depth to sediment in well (ft) Before purging: ____ After purging: ____

	Time Since Purging Started (min)	Time	Cumulative Volume Removed	PARAMETERS				Other
				Temp (°F)	pH	Conductivity (µmhos/cm)	Turbidity (NTUs)	
Initial		1235	0	69.6	7.85	2,450		Water is cloudy,
During		1240	1.25	68.3	7.41	2,360		gray, with no
During		1247	2.50	68.4	7.40	2,400		odor or sheen
During		1246	3.75	68.4	7.40	2,390		
During								
During								
During								
After								

*CL = clear CO = cloudy TU = turbid

Well Sampling

Sample #: MW2397	Lab:
Container Type:	Filtered?–Y/N:
Preservatives:	Analysis Requested:

Comments Related to Sample:

well bailed down considerably by end of third purge volume. Had to wait 10 minutes for recharge prior to sampling. NO measurable recharge after 15 minutes.

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.

Frank WP: Well P&S 10/396 OX KH

U&A | Uribe & Associates Environmental and Engineering Consulting Services

Project No.:

Well Purging & Sampling Log

Page 1 of 1

Site Location: Port of Oakland	Well Number: MW04
Date(s): 3/28/97	Well Type, (Monitoring, Extraction, etc.): Monitoring
Purging Equipment: disposable bailer	Measurement Reference Datum:

DATA FROM IMMEDIATELY BEFORE AND AFTER DEVELOPMENT:

Total depth = 18.7 ft

Depth to water measured from TOC (ft): Before Purging: 7.40 { After Purging: 8.50 ; After sampling: ______

Total purging time (min): 17

Depth to sediment in well (ft) Before purging: ______ After purging: ______

	Time Since Purging Started (min)	Time	Cumulative Volume Removed (gallons)	Temp (°F)	pH	Conductivity (μmhos/cm)	Turbidity (NTUs)	Other
Initial		1145	0	70.4	7.87	1,790		Water is
During		1155	2	67.4	7.54	1530		cloudy, gray
During		1159	4	67.4	7.22	1530		with no odor
During		1202	6	67.4	7.19	1610		or sheen
During								
During								
During								
After								

*CL = clear CO = cloudy TU = turbid

Well Sampling

Sample #: MW4397	Lab: Pace
Container Type:	Filtered?–Y/N (N circled)
Preservatives:	Analysis Requested:

Comments Related to Sample: Purged 3 well volumes prior to sampling

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.

[illegible handwritten margin note]

V [illegible] = 0.0408 gal/[illegible]

U&A | Uribe & Associates Environmental and Engineering Consulting Services

Project No.: [redacted]

Well Purging & Sampling Log

Page 1 of 1

Site Location: Port of Oakland	Well Number: MW05
Date(s): 3/20/97	Well Type, (Monitoring, Extraction, etc.): monitoring
Purging Equipment: Disposable bailer	Measurement Reference Datum:

DATA FROM IMMEDIATELY BEFORE AND AFTER DEVELOPMENT:

Total depth = 18.1 ft

Depth to water measured from TOC (ft): Before Purging: 6.95 { After Purging: 7.00 / After sampling: ____

Total purging time (min): 12

Depth to sediment in well (ft) Before purging: ____ After purging: ____

	Time Since Purging Started (min)	Time	Cumulative Volume Removed (gallons)	Parameters: Temp (°F)	pH	Conductivity (µmhos/cm)	Turbidity (NTUs)	Other
Initial		1105	0	67.6	8.33	3000		water was
During		1110	2	66.8	7.25	3170		cloudy, gray
During		1113	4	65.2	6.93	3110		with no odor
During		1117	6	65.2	6.91	3110		or sheen.
During								
During								
During								
After								

*CL = clear CO = cloudy TU = turbid

Well Sampling

Sample #: MW5397	Lab: Pace
Container Type:	Filtered?–Y/(N)
Preservatives:	Analysis Requested:

Comments Related to Sample: Purged 3 casing volumes prior to sampling.

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.

$V_{1"} = 0.043$ gal./ft.

Frank WP: Well P&S 10/2/96 QX KH

U&A | URIBE & ASSOCIATES ENVIRONMENTAL AND ENGINEERING CONSULTING SERVICES

PROJECT NO.:

Well Purging & Sampling Log

PAGE 1 OF 1

SITE LOCATION: Port of Oakland	WELL NUMBER: MW-7
DATE(S): 3/28/97	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: 8.06 { After Purging: 9.50 / After sampling: _____

Total purging time (min): 16

Depth to sediment in well (ft) Before purging: _____ After purging: _____

	Time Since Purging Started (min)	Time	Cumulative Volume Removed (gal/c.y.)	PARAMETERS: Temp (°F)	pH	Conductivity (µmhos/cm)	Turbidity (NTUs)	Other
Initial	~~0715~~	0915		73.1	7.83	2090		Water is cloudy,
During		0922	1.75	68.4	6.89	2580		gray with no
During		0926	3.50	68.9	6.92	2610		odor or
During		0931	5.25	68.9	6.89	2600		sheen
During								
During								
During								
After								

*CL = clear CO = cloudy TU = turbid

Well Sampling

Sample #: MW 7397	Lab: Pace
Container Type:	Filtered?–Y/(N)
Preservatives:	Analysis Requested: TPH-d

Comments Related to Sample: 3 well volumes removed prior to sampling.

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.

V_{well} = 0.163 gal/ft

Frank WP: Well P&S 10/3/96 QX KH

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

April 08, 1997

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

RE: Pace Project Number: 708044
Client Project ID: 2277 7th St.Oakland/207-01-10b

Dear Mr. Sheeks:

Enclosed are the results of analyses for sample(s) received on March 31, 1997. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Ron Chew
Project Manager

CA ELAP Certificate Number 2059

Enclosures

REPORT OF LABORATORY ANALYSIS

Pace Analytical

Pace Analytical Services, Inc.
1455 McDowell Blvd. North, Suite D
Petaluma, CA 94954
Tel. 707-792-1865
Fax: 707-792-0342

DATE: 04/08/97
PAGE: 1

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

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

Pace Project Number: 708044
Client Project ID: 2277 7th St.Oakland/207-01-10b

Pace Sample No: 70933239
Client Sample ID: MW7397

Date Collected: 03/28/97
Date Received: 03/31/97

Parameters	Results	Units	PRL	Analyzed	Method	Analyst	CAS#	Footnotes
GC -- Volatiles								
GAS/BTEX, Water								
Gasoline	65	ug/L	50	04/02/97	EPA 8015M/8020M	ADS		1
Benzene	ND	ug/L	0.5	04/02/97	EPA 8015M/8020M	ADS	71-43-2	
Toluene	ND	ug/L	0.5	04/02/97	EPA 8015M/8020M	ADS	108-88-3	
Ethylbenzene	ND	ug/L	0.5	04/02/97	EPA 8015M/8020M	ADS	100-41-4	
Xylene (Total)	ND	ug/L	1	04/02/97	EPA 8015M/8020M	ADS	1330-20-7	
a,a,a-Trifluorotoluene (S)	106	%		04/02/97	EPA 8015M/8020M	ADS	2164-17-2	
4-Bromofluorobenzene (S)	105	%		04/02/97	EPA 8015M/8020M	ADS	460-00-4	
GC -- Semi-VOA								
TPH by 8015M w/ silica gel								
Diesel Fuel	0.094	mg/L	0.05	04/03/97	EPA 8015M w/ SG	AMH	11-84-7	2
Motor Oil	ND	mg/L	0.25	04/03/97	EPA 8015M w/ SG	AMH		
n-Pentacosane (S)	99	%		04/03/97	EPA 8015M w/ SG	AMH	629-99-2	
Date Extracted				04/01/97				

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1455 McDowell Blvd. North, Suite D
Petaluma, CA 94954
Tel: 707-792-1865
Fax: 707-792-0342

Pace Analytical

Pace Project Number: 708044
Client Project ID: 2277 7th St.Oakland/207-01-10b

Pace Sample No: 70933247 Date Collected: 03/28/97
Client Sample ID: MW5397 Date Received: 03/31/97

Parameters	Results	Units	PRL	Analyzed	Method	Analyst	CAS#	Footnotes
GC -- Volatiles								
GAS/BTEX, Water								
Gasoline	ND	ug/L	50	04/02/97	EPA 8015M/8020M	ADS		
Benzene	ND	ug/L	0.5	04/02/97	EPA 8015M/8020M	ADS	71-43-2	
Toluene	ND	ug/L	0.5	04/02/97	EPA 8015M/8020M	ADS	108-88-3	
Ethylbenzene	ND	ug/L	0.5	04/02/97	EPA 8015M/8020M	ADS	100-41-4	
Xylene (Total)	ND	ug/L	1	04/02/97	EPA 8015M/8020M	ADS	1330-20-7	
a,a,a-Trifluorotoluene (S)	117	%		04/02/97	EPA 8015M/8020M	ADS	2164-17-2	
4-Bromofluorobenzene (S)	108	%		04/02/97	EPA 8015M/8020M	ADS	460-00-4	
GC -- Semi-VOA								
TPH by 8015M w/ silica gel								
Diesel Fuel	ND	mg/L	0.05	04/03/97	EPA 8015M w/ SG	AMH	11-84-7	
Motor Oil	ND	mg/L	0.25	04/03/97	EPA 8015M w/ SG	AMH		
n-Pentacosane (S)	77	%		04/03/97	EPA 8015M w/ SG	AMH	629-99-2	
Date Extracted				04/01/97				

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1455 McDowell Blvd. North, Suite D
Petaluma, CA 94954
Tel: 707-792-1865
Fax: 707-792-0342

Pace Analytical

Pace Project Number: 708044
Client Project ID: 2277 7th St.Oakland/207-01-10b

Pace Sample No: 70933254 Date Collected: 03/28/97
Client Sample ID: MW4397 Date Received: 03/31/97

Parameters	Results	Units	PRL	Analyzed	Method	Analyst	CAS#	Footnotes
GC -- Volatiles								
GAS/BTEX, Water								
Gasoline	440	ug/L	50	04/02/97	EPA 8015M/8020M	ADS		2
Benzene	190	ug/L	0.5	04/02/97	EPA 8015M/8020M	ADS	71-43-2	
Toluene	1.2	ug/L	0.5	04/02/97	EPA 8015M/8020M	ADS	108-88-3	
Ethylbenzene	0.64	ug/L	0.5	04/02/97	EPA 8015M/8020M	ADS	100-41-4	
Xylene (Total)	ND	ug/L	1	04/02/97	EPA 8015M/8020M	ADS	1330-20-7	
a,a,a-Trifluorotoluene (S)	114	%		04/02/97	EPA 8015M/8020M	ADS	2164-17-2	
4-Bromofluorobenzene (S)	97	%		04/02/97	EPA 8015M/8020M	ADS	460-00-4	
GC -- Semi-VOA								
TPH by 8015M w/ silica gel								
Diesel Fuel	ND	mg/L	0.05	04/03/97	EPA 8015M w/ SG	AMH	11-84-7	
Motor Oil	ND	mg/L	0.25	04/03/97	EPA 8015M w/ SG	AMH		
n-Pentacosane (S)	68	%		04/03/97	EPA 8015M w/ SG	AMH	629-99-2	
Date Extracted				04/01/97				

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1455 McDowell Blvd. North, Suite D
Petaluma, CA 94954
Tel: 707-792-1865
Fax: 707-792-0342

Pace Analytical

Pace Project Number: 708044
Client Project ID: 2277 7th St.Oakland/207-01-10b

Pace Sample No: 70933262 Date Collected: 03/28/97
Client Sample ID: MW2397 Date Received: 03/31/97

Parameters	Results	Units	PRL	Analyzed	Method	Analyst	CAS#	Footnotes
GC -- Volatiles								
GAS/BTEX, Water								
Gasoline	ND	ug/L	50	04/02/97	EPA 8015M/8020M	ADS		
Benzene	ND	ug/L	0.5	04/02/97	EPA 8015M/8020M	ADS	71-43-2	
Toluene	ND	ug/L	0.5	04/02/97	EPA 8015M/8020M	ADS	108-88-3	
Ethylbenzene	ND	ug/L	0.5	04/02/97	EPA 8015M/8020M	ADS	100-41-4	
Xylene (Total)	ND	ug/L	1	04/02/97	EPA 8015M/8020M	ADS	1330-20-7	
a,a,a-Trifluorotoluene (S)	111	%		04/02/97	EPA 8015M/8020M	ADS	2164-17-2	
4-Bromofluorobenzene (S)	110	%		04/02/97	EPA 8015M/8020M	ADS	460-00-4	
GC -- Semi-VOA								
TPH by 8015M w/ silica gel								
Diesel Fuel	0.071	mg/L	0.05	04/03/97	EPA 8015M w/ SG	AMH	11-84-7	3
Motor Oil	ND	mg/L	0.25	04/03/97	EPA 8015M w/ SG	AMH		
n-Pentacosane (S)	58	%		04/03/97	EPA 8015M w/ SG	AMH	629-99-2	
Date Extracted				04/01/97				

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1455 McDowell Blvd. North, Suite D
Petaluma, CA 94954
Tel: 707-792-1865
Fax: 707-792-0342

Pace Analytical

Pace Project Number: 708044
Client Project ID: 2277 7th St.Oakland/207-01-10b

PARAMETER FOOTNOTES

ND	Not Detected
NC	Not Calculable
PRL	Pace Reporting Limit
(S)	Surrogate
[1]	High boiling point hydrocarbons are present in sample.
[2]	Hydrocarbons present do not match profile of laboratory standard.
[3]	Chromatographic pattern matches known laboratory contaminant.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1455 McDowell Blvd. North, Suite D
Petaluma, CA 94954
Tel: 707-792-1865
Fax: 707-792-0342

Pace Analytical

QUALITY CONTROL DATA

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

Pace Project Number: 708044
Client Project ID: 2277 7th St.Oakland/207-01-10b

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

QC Batch ID: 22663
QC Batch Method: EPA 3520
Analysis Method: EPA 8015M w/ SG
Analysis Description: TPH by 8015M w/ silica gel
Associated Pace Samples: 70933239 70933247 70933254 70933262

METHOD BLANK: 70933593
Associated Pace Samples:
70933239 70933247 70933254 70933262

Parameter	Units	Method Blank Result	PRL	Footnotes
Diesel Fuel	mg/L	ND	0.05	
Motor Oil	mg/L	0.57	0.25	1
n-Pentacosane (S)	%	110		

LABORATORY CONTROL SAMPLE & LCSD: 70930631 70930649

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	LCSD Result	Spike Dup % Rec	RPD	Footnotes
Diesel Fuel	mg/L	1.0	0.3521	35.2	0.3063	30.6	14	
n-Pentacosane (S)				57		51		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1455 McDowell Blvd. North, Suite D
Petaluma, CA 94954
Tel: 707-792-1865
Fax: 707-792-0342

Pace Analytical

QUALITY CONTROL DATA

DATE: 04/08/97

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

Pace Project Number: 708044
Client Project ID: 2277 7th St.Oakland/207-01-10b

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

QC Batch ID: 22769
QC Batch Method: EPA 8015M/8020M
Analysis Method: EPA 8015M/8020M
Analysis Description: GAS/BTEX, Water
Associated Pace Samples: 70933239 70933247 70933254 70933262

METHOD BLANK: 70934468
Associated Pace Samples:
70933239 70933247 70933254 70933262

Parameter	Units	Method Blank Result	PRL	Footnotes
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)	%	103		
4-Bromofluorobenzene (S)	%	102		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 70934476 70934484

Parameter	Units	70933239	Spike Conc.	Matrix Spike Result	Spike % Rec	Matrix Sp. Dup. Result	Spike Dup % Rec	RPD	Footnotes
Gasoline	ug/L	65.08	1000	925.4	86.0	898.6	83.4	3	

LABORATORY CONTROL SAMPLE & LCSD: 70934492 70934500

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	LCSD Result	Spike Dup % Rec	RPD	Footnotes
Gasoline	ug/L	1000	958.9	95.9	915.7	91.6	5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1455 McDowell Blvd. North, Suite D
Petaluma, CA 94954
Tel: 707-792-1865
Fax: 707-792-0342

DATE: 04/08/97
PAGE: 8

Pace Project Number: 708044
Client Project ID: 2277 7th St.Oakland/207-01-10b

QUALITY CONTROL DATA PARAMETER FOOTNOTES

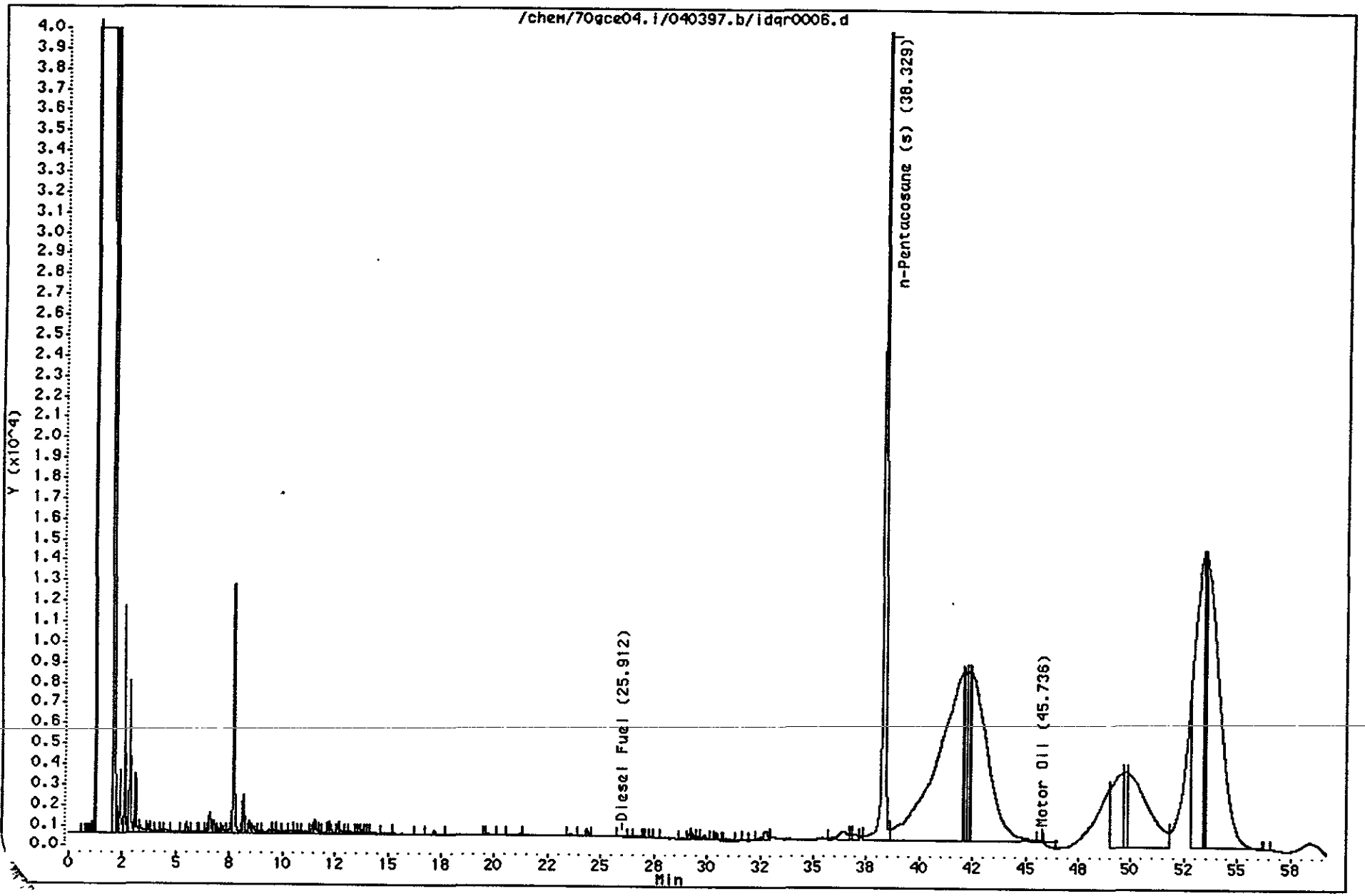
Consistent with EPA guidelines unrounded concentrations are displayed and have been used to calculate % Rec and RPD values.

ND	Not Detected
NC	Not Calculable
PRL	Pace Reporting Limit
RPD	Relative Percent Difference
(S)	Surrogate
[1]	Chromatographic pattern matches known laboratory contaminant.

REPORT OF LABORATORY ANALYSIS

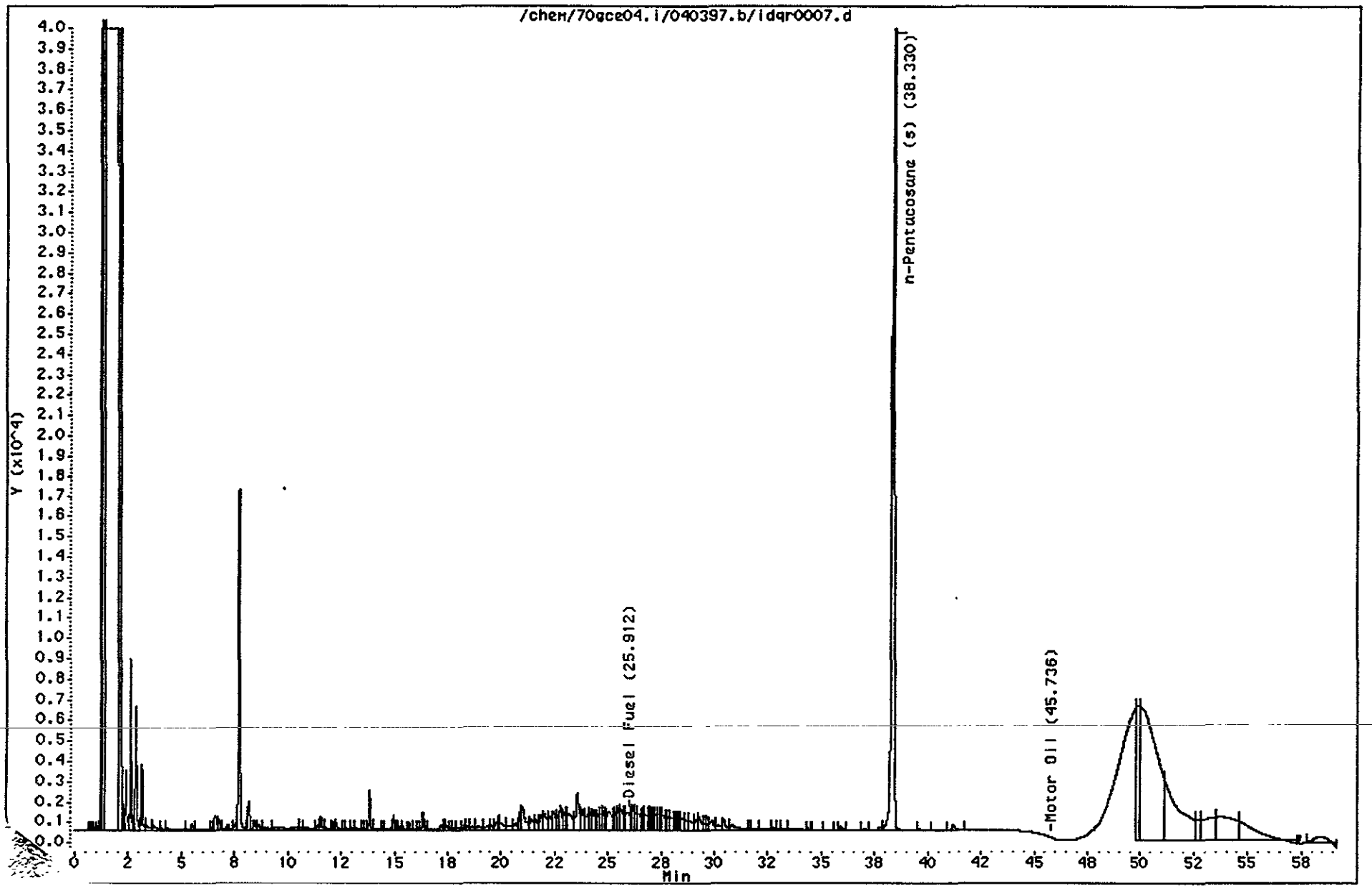
Data File: /chem/70gce04.i/040397.b/idqr0006.d
Date : 03-APR-1997 14:40
Client ID: BLK01
Lab Sample ID: 70933593
Volume Injected (uL): 1.0
Column phase: J&W DB-1

Instrument: 70gce04.i
Misc Info: 70933593,,1,22663,1,3,,BLANK,,,dmof.sub,dmor.sub,
Operator: AMH
Column diameter: 0.53



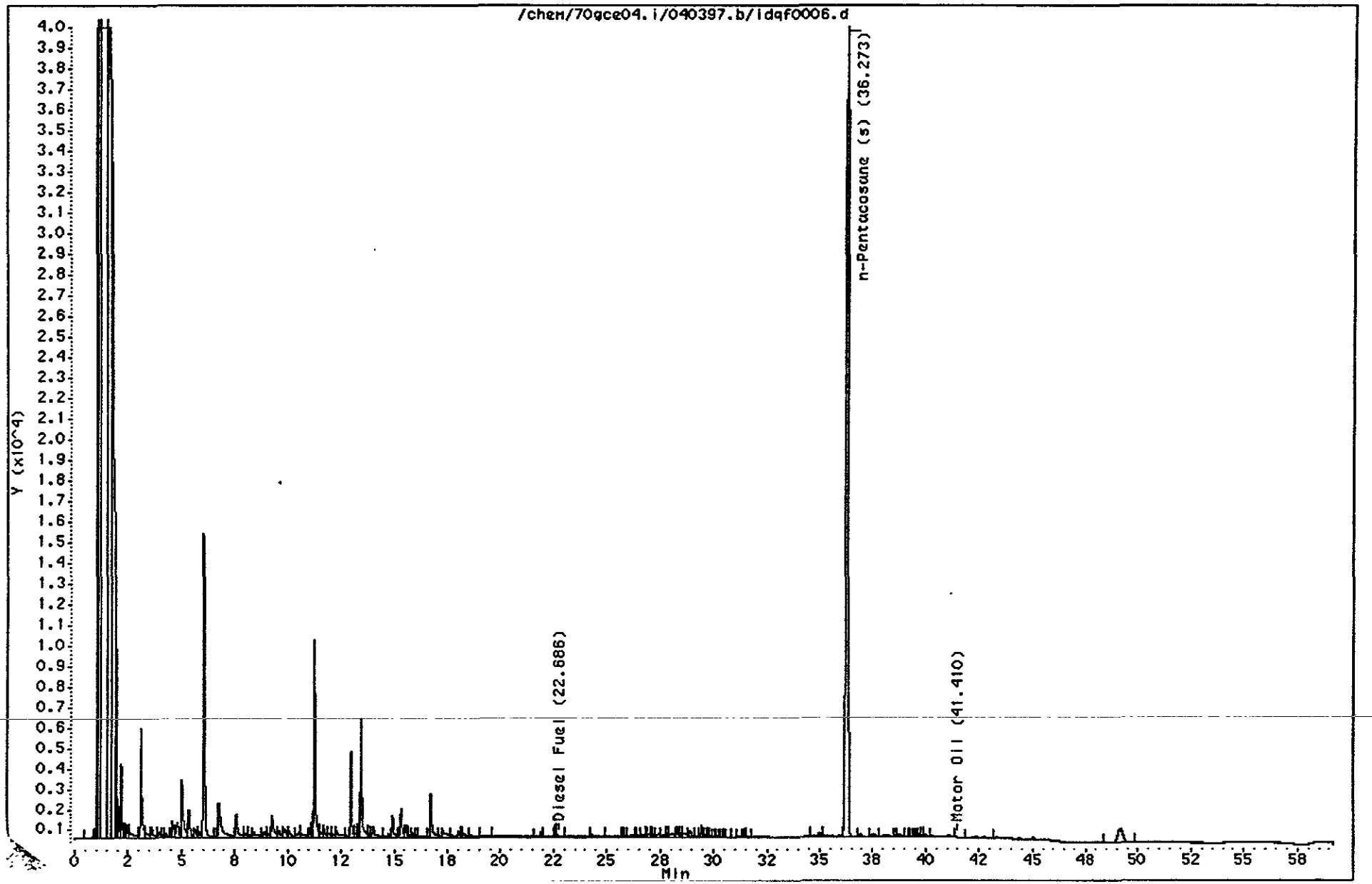
Data File: /chem/70gce04.i/040397.b/idqr0007.d
Date : 03-APR-1997 15:47
Client ID: MH7397
Lab Sample ID: 70933239
Volume Injected (uL): 1.0
Column phase: J&W DB-1

Instrument: 70gce04.i
Misc Info: 70933239,,1,22663,1,0,,SMPL,,,dmof.sub,dmor.sub,
Operator: AMH
Column diameter: 0.53



Data File: /chem/70gce04.i/040397.b/idqf0006.d
Date : 03-APR-1997 14:40
Client ID: MW5397
Lab Sample ID: 70933247
Volume Injected (uL): 1.0
Column phase: RESTEK XTI-5

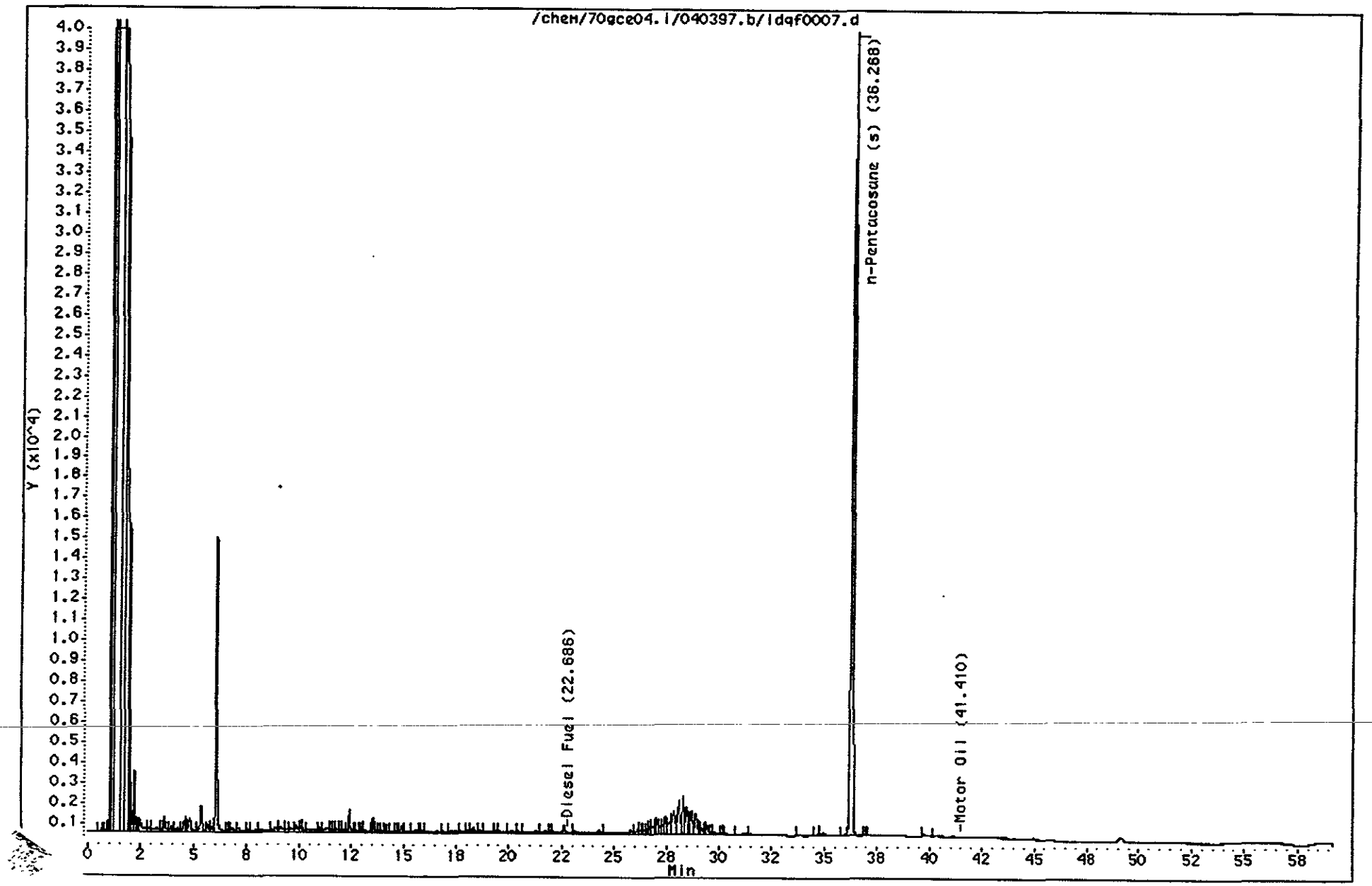
Instrument: 70gce04.i
Misc Info: 70933247,,1,22663,1,0,,SMPL,,,dmof.sub,dmor.sub,
Operator: AMH
Column diameter: 0.53



OK

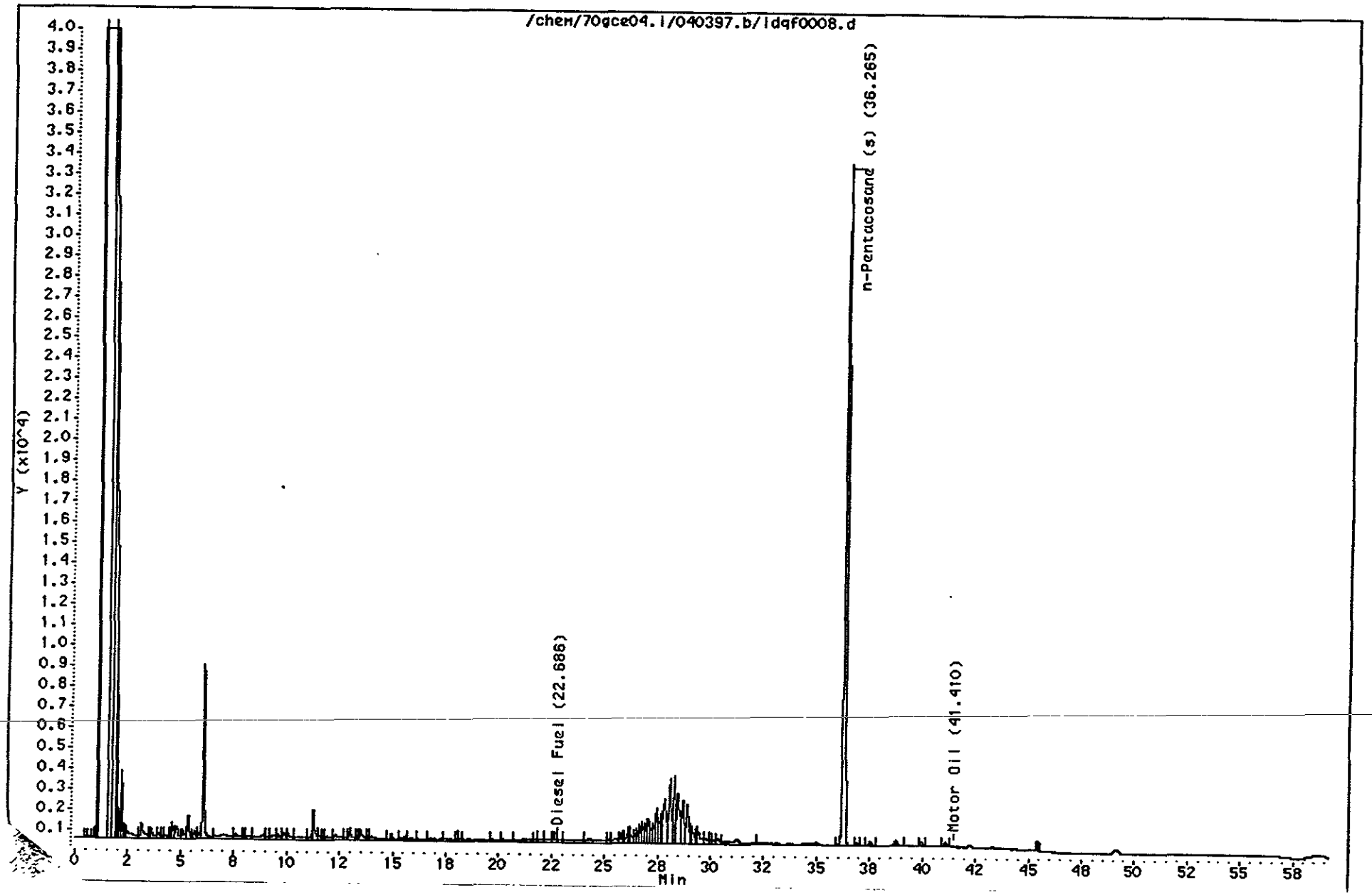
Data File: /chem/70gce04.i/040397.b/idqf0007.d
Date : 03-APR-1997 15:47
Client ID: MW4397
Lab Sample ID: 70933254
Volume Injected (uL): 1.0
Column phase: RESTEK XTI-5

Instrument: 70gce04.i
Misc Info: 70933254,,1,22663,1,0,,SMPL,,,dmof.sub,dmor.sub,
Operator: AMH
Column diameter: 0.53



Data File: /chem/70gce04.i/040397.b/idqf0008.d
Date : 03-APR-1997 16:54
Client ID: MW2397
Lab Sample ID: 70933262
Volume Injected (uL): 1.0
Column phase: RESTEK XTI-5

Instrument: 70gce04.i
Misc Info: 70933262,,1,22663,1,0,,SMPL,,,dMof.sub,dMor.sub,
Operator: AMH
Column diameter: 0.53



URIBE & ASSOCIATES
ENVIRONMENTAL CONSULTING SERVICES

CHAIN-OF-CUSTODY RECORD

7080044

Project No.:	207-01 10 Bb
Project Name:	Port of Oakland 7th Street

REPORT RESULTS TO

Name:	Jerry Manuell
Company:	URIBE & ASSOCIATES
Mailing Address:	2930 LAKESHORE AVENUE, 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:	202396
Name:	Doug Sheeks
Company:	URIBE & Associates Dept:
Mailing Address:	SAME
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:
- Do silica gel cleanup procedure for TPH-diesel analyses
- Standard 10 day TAT

ANALYSES REQUESTED

No.	Date	Time	Matrix/Medium	Sample Identification Number	# OF CONTAINERS	BTEX	TPH-gas	TPH-diesel	TPH-motor oil								Remarks
	032897	0940	groundwater	MW1397	6	X	X	X	X						709	33 239	1 Broken Amber
	032897	1130	groundwater	MW5397	6	X	X	X	X						709	33 247	2 Frozen Ambers
	032897	1210	groundwater	MW4397	6	X	X	X	X						709	33 254	All Ambers Frozen
	032897	1300	groundwater	MW2397	6	X	X	X	X						709	33 262	Broken 2 Ambers

CHAIN OF CUSTODY

Collected by: Jerry Manuell (Print)

Collector's Signature: Jerry Mull

Relinquished by:	Jerry Mull	Date: 3/31/97	Time: 1245
Received by:		Date: 3-31-97	Time: 1245
Relinquished by:		Date: 3/31/97	Time: 1605
Received by:		Date: 3/31/97	Time: 16:20

Method of Shipment:

Sample Condition Upon Receipt: ☐ Acceptable ☐ Other (explain)

COOLER CUSTODY SEALS INTACT ☐ NOT INTACT ☐

COOLER TEMPERATURE 6 °C

Chain of Custody form 6/2/95 QX FC

Original (White) Laboratory Copy (Yellow) Field Copy (Pink)

Appendix 1

Groundwater Monitoring Wells Recently Installed On Site By Others

Groundwater Monitoring Wells Recently Installed On Site By Others

The following information regarding groundwater monitoring wells recently installed by others on the 2277 Seventh Street site was provided separately by the Port and was not taken from a formal report.

In early 1997, two groundwater monitoring wells were installed on the 2277 Seventh Street site under the supervision of PRC Environmental Management, Inc. (PRC), of Helena, Montana. Well BW-MW30 was installed on January 15 and BW-MW29 was installed on February 24, 1997. These wells are located about 100 feet to the south of MW-4, are about 10 feet apart, and were installed as part of an investigation of the U.S. Navy's Fleet Industrial Supply Center Oakland that lies adjacent to the west side of the 2277 Seventh Street site.

Measurements of the depth to groundwater below top of casing collected by PRC were 8.6 feet for BW-MW30 on February 20 and 5.22 feet for BW-MW29 on February 25. Similar measurements collected by PRC from both wells on April 9, 1997, were 5.58 feet for BW-MW29 and 8.5 feet for BW-MW30.

Analysis of groundwater samples collected by PRC on February 24, 1997, indicated that concentrations of "diesel range organics," "motor oil range organics," and "TPH-purgeables (gasoline)" and "other components" were below reporting limits for the sample collected from BW-MW29 and that "diesel range organics" and "TPH-purgeables (gasoline)" and "other components" were below reporting limits for the sample collected from BW-MW30. Analysis of the sample from BW-MW30 also indicated a concentration of "motor oil range organics" at 590 µg/1. However, this result was noted by the laboratory to be an estimated value and that "other problems" (unspecified) were associated with the result. Concentrations of BTEX compounds were below reporting limits for the samples collected from both BW-MW29 and BW-MW30.

Appendix 2

Off-Site Groundwater Monitoring Wells

Off-Site Groundwater Monitoring Wells

Three groundwater monitoring wells, MW-1, MW-2, and MW-3, are located off the 2277 Seventh Street site, to the south and southeast (Figure 2), on the adjacent Ringsby Terminals, Inc., site. On March 19, 1997, Flour Daniel GTI (GTI), of West Sacramento, California, collected measurements of the depth to groundwater and groundwater samples from the three wells.

Measurements of the depth to groundwater below top of casing collected by GTI on March 19, 1997, were 5.48 feet for MW-1, 5.9 feet for MW-2, and 6.99 feet for MW-3. In a "First Quarter 1997 Groundwater Monitoring and Sampling Report," dated May 6, 1997, GTI inferred the direction of groundwater flow beneath the Ringsby Terminals site to be to the north northwest with a gradient of approximately 0.001 ft/ft.

Analysis of groundwater samples collected by GTI on March 19, 1997, indicated that concentrations of TPH-D, BTEX, and methyl-tert-butyl ether were below reporting limits for each of the three wells. In addition, concentrations of TPH-G were below reporting limits for wells MW-1 and MW-3, but were detected at 150 µg/1 in the sample collected from MW-2. Of the three wells, MW-2 is located closest to the 2277 Seventh Street site.