

ENVIRONMENTAL  
PROTECTION

97 JUL -8 PM 2: 12

*Submitted to*

**Port of Oakland  
530 Water Street  
Oakland, California 94604-2064**

**Quarterly Groundwater Monitoring  
Report: First Quarter, 1997  
Building C-401, 2277 Seventh Street,  
Oakland, California STID 3899**

June 16, 1997

Prepared by



**Uribe & Associates**

Engineering and Environmental Consulting Services  
2930 Lakeshore Avenue, Suite 200  
Oakland, California 94610-3614

U&A Project No. 207-01-10



# PORT OF OAKLAND

July 7, 1997

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

**SUBJECT: FIRST QUARTER 1997  
GROUNDWATER MONITORING AND SAMPLING REPORT  
2277 7TH STREET, OAKLAND  
STID # 3899**

Dear Jennifer:

Please find enclosed a copy of the *Quarterly Groundwater Monitoring Report: First Quarter 1997, 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 June 16, 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



**Uribe & Associates**

2930 Lakeshore Avenue  
Suite Two Hundred  
Oakland, California 94610-3614  
☎ 510-832-2233 Fax 510-832-2237

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Engineering and Environmental Consulting Services

June 16, 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

Handwritten notes and stamps, including a date stamp that appears to read "JUN 16 1997".

**Subject: Quarterly Groundwater Monitoring Report: First 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 March 28, 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 removing floating liquid hydrocarbons ("product") 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.

At the request of the Port, brief discussions of recent groundwater monitoring by others of wells on and off the 2277 Seventh Street site are included as appendices to this report. Appendix 1 includes information regarding monitoring of two wells installed on site, near the west edge of the 2277 Seventh Street site. Appendix 2 includes information regarding three wells located on property adjacent to the 2277 Seventh Street site to the south and southwest.



## U&A Groundwater Monitoring

### *Groundwater Levels and Data*

On March 28, 1997, U&A personnel measured the depth to groundwater in wells MW-2, MW-4, MW-5, 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, and MW-7 ranged from 6.45 to 8.06 feet below TOC. The groundwater temperature averaged approximately 68 degrees Fahrenheit and the pH averaged 7.4. The DTW measurements collected on March 28, 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 March 28, 1997, based on data summarized in Table 1. The groundwater beneath the site is interpreted to flow toward the north with a hydraulic gradient of approximately 0.005 feet per foot (ft/ft).

### *Groundwater Sampling and Analysis*

Groundwater samples were collected from the four wells by U&A personnel on March 28, 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-2 and MW-5. The concentrations of TPH-G in the samples

J. Prall

**Revised Draft Quarterly Groundwater Monitoring Report:**

**First Quarter, 1997**

June 16, 1997

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collected from MW-4 and MW-7 were 440 and 65  $\mu\text{g}/\text{l}$ , respectively. However, the laboratory indicated that the TPH-G detected in the sample from MW-4 did not match the profile of the laboratory standard and that high boiling point hydrocarbons were present in the sample from MW-7.

The concentrations of TPH-D were below the PRL of 50  $\mu\text{g}/\text{l}$  in the samples collected from MW-4 and MW-5. The concentrations of TPH-D for the samples collected from MW-2 and MW-7 were 71 and 94  $\mu\text{g}/\text{l}$ , respectively. However, the laboratory indicated that the TPH-D detected in the sample from MW-2 displayed a chromatograph pattern that matched known laboratory contamination and that the TPH-D in the sample from MW-7 did not match the profile of the laboratory standard.

The concentrations of TPH-MO were below the PRL of 250  $\mu\text{g}/\text{l}$  in all four samples collected.

The concentrations of each of the BTEX compounds were below the respective PRLs in the samples collected from MW-2, MW-5, and MW-7. In the sample from MW-4, the respective concentrations of BTE were 190, 1.3, and 0.64  $\mu\text{g}/\text{l}$  and the concentration of X was below the PRL of 1.0  $\mu\text{g}/\text{l}$ .

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 summarized the groundwater analytical results for March 28, 1997, based on the data summarized 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 March 28, 1997, floating liquid hydrocarbons were removed from the passive skimmers installed in wells MW-1 and MW-6. 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 estimated 100 to 150 gallons of product had been removed by the active skimmer installed in well MW-3 and pumped into the system's Baker tank. Based on

the amounts of product that have been emptied from the Baker tank and disposed of, including emptying on May 1, 1997, an estimated 1,538 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 March 28, 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 March 28, 1997, 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 March 28, 1997, groundwater beneath the site is inferred to have flowed toward the north with a hydraulic gradient of approximately 0.005 ft/ft. The latest inferred direction of groundwater flow is consistent with the north-northwesterly direction reported by U&A for the monitoring conducted on December 3, 1996. The latest hydraulic gradient is less steep than the gradient of 0.03 ft/ft reported by U&A for the monitoring conducted on December 3, 1996.
2. The results of the laboratory analyses for the groundwater samples collected from the four wells on March 28, 1997, indicated that the concentrations of:
  - TPH-G have remained (since at least April 1996) below the PRL in wells MW-2 and MW-5, but were detected at 440 and 65  $\mu\text{g}/\text{l}$ , respectively, in MW-4 and MW-7 - the concentrations of TPH-G in MW-4 and MW-7 appear reduced from previous monitoring results
  - TPH-D were below the PRL in MW-4 and MW-5, but were detected at 71 and 94  $\mu\text{g}/\text{l}$ , respectively, in MW-2 and MW-7 - the concentrations of TPH-D in MW-2 and MW-7 appear reduced from previous monitoring results

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- 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-2, MW-5, and MW-7
  - BTEX were detected in MW-4 ranging from below the PRL of 1.0 µg/l (total xylenes) to 190 µg/l (benzene) - the concentrations of BTEX in MW-4 and MW-7 appear reduced from previous monitoring results
3. The active skimmer system installed in well MW-3 has recovered an estimated 1,538 gallons of "product" between November 15, 1996, and May 1, 1997.
4. The QC data reported by Pace are within acceptable limits for recoveries and RPDs.

**Remarks and Signature**

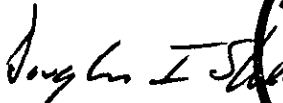
This report is based on available information and was prepared in accordance with currently accepted geologic, hydrogeologic, and engineering practices. No other warranty is implied or intended. This report has been prepared for the sole use of the Port of Oakland and applies to the subject site only. 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: March 28, 1997
- 4 Distribution Map of TPH (as Gasoline, Diesel, and Motor Oil) and BTEX in Groundwater: March 28, 1997

### **Tables:**

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

### **Attachments:**

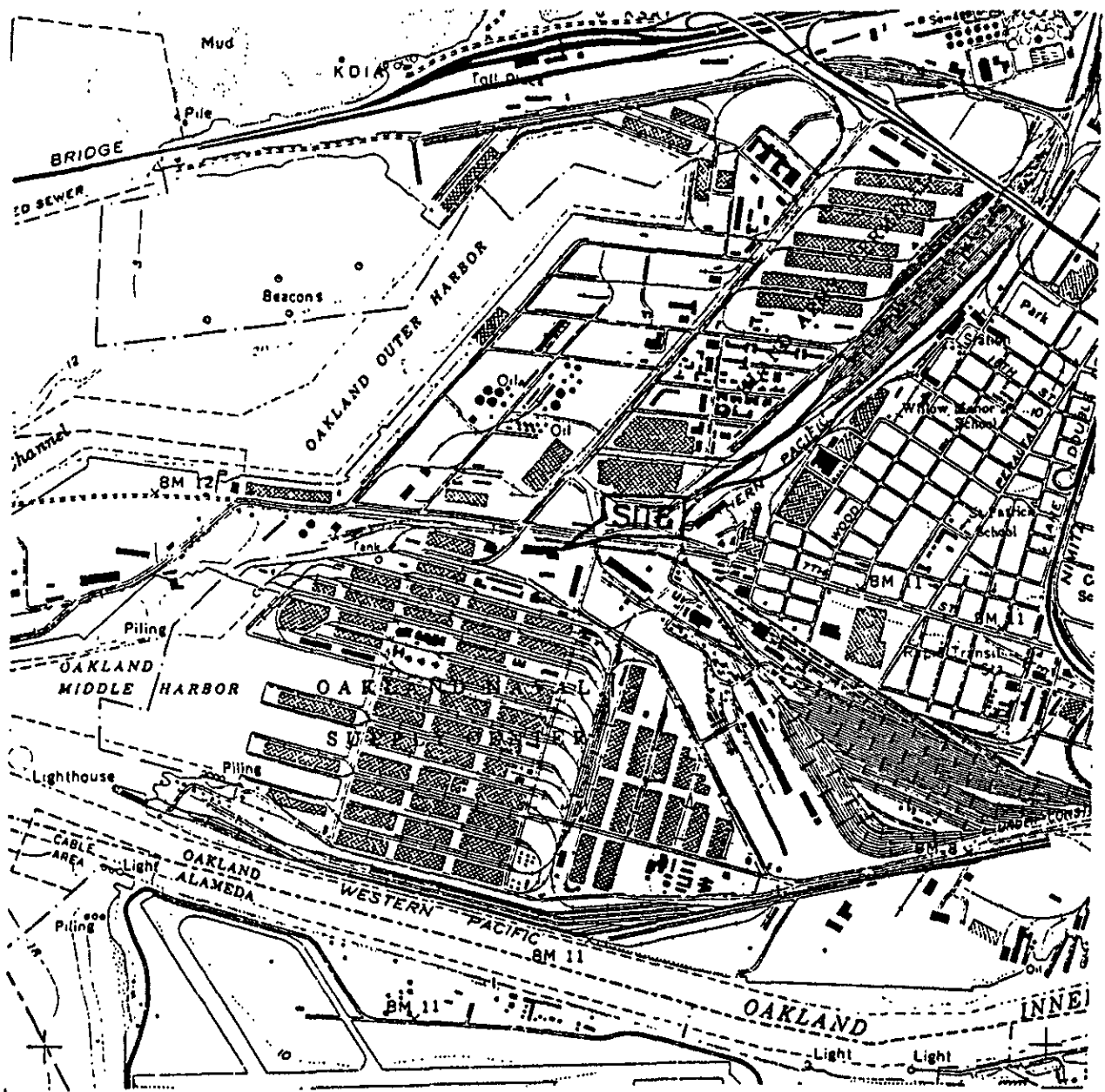
- 1 U&A Standard Operating Procedures
- 2 U&A Well Purging & Sampling Logs
- 3 Laboratory Analytical Reports and Chain-of-Custody Form

### **Appendices:**

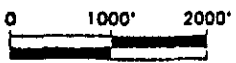
- 1 Groundwater Monitoring Wells Recently Installed On Site By Others
- 2 Off-Site Groundwater Monitoring Wells



Figures



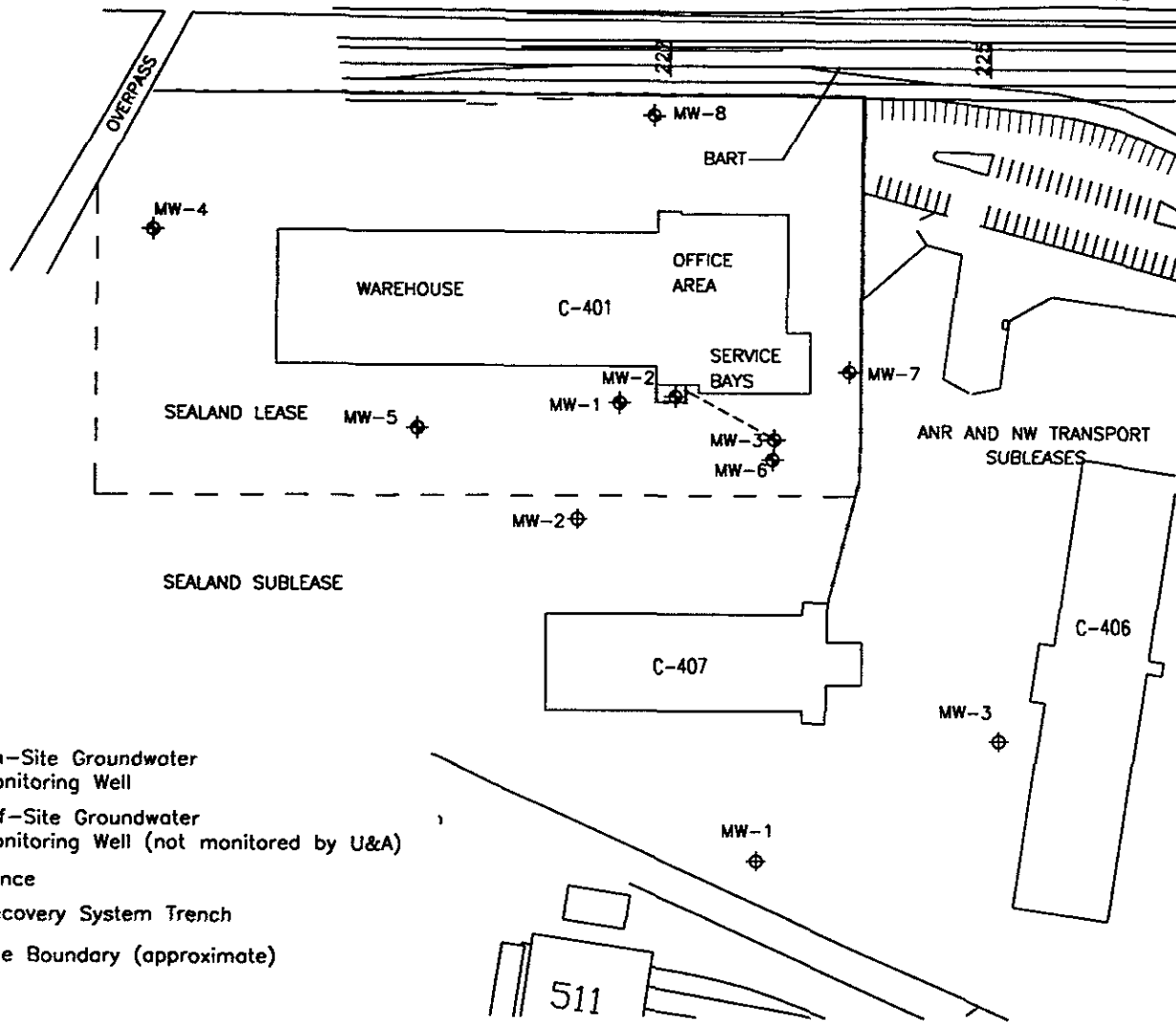
SOURCE:  
USGS MAP, OAKLAND WEST QUADRANGLE,  
7.5 MINUTE SERIES, 1959.  
PHOTOREVISED 1980.



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



10270-1-10-85 DATE 1-11



**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**

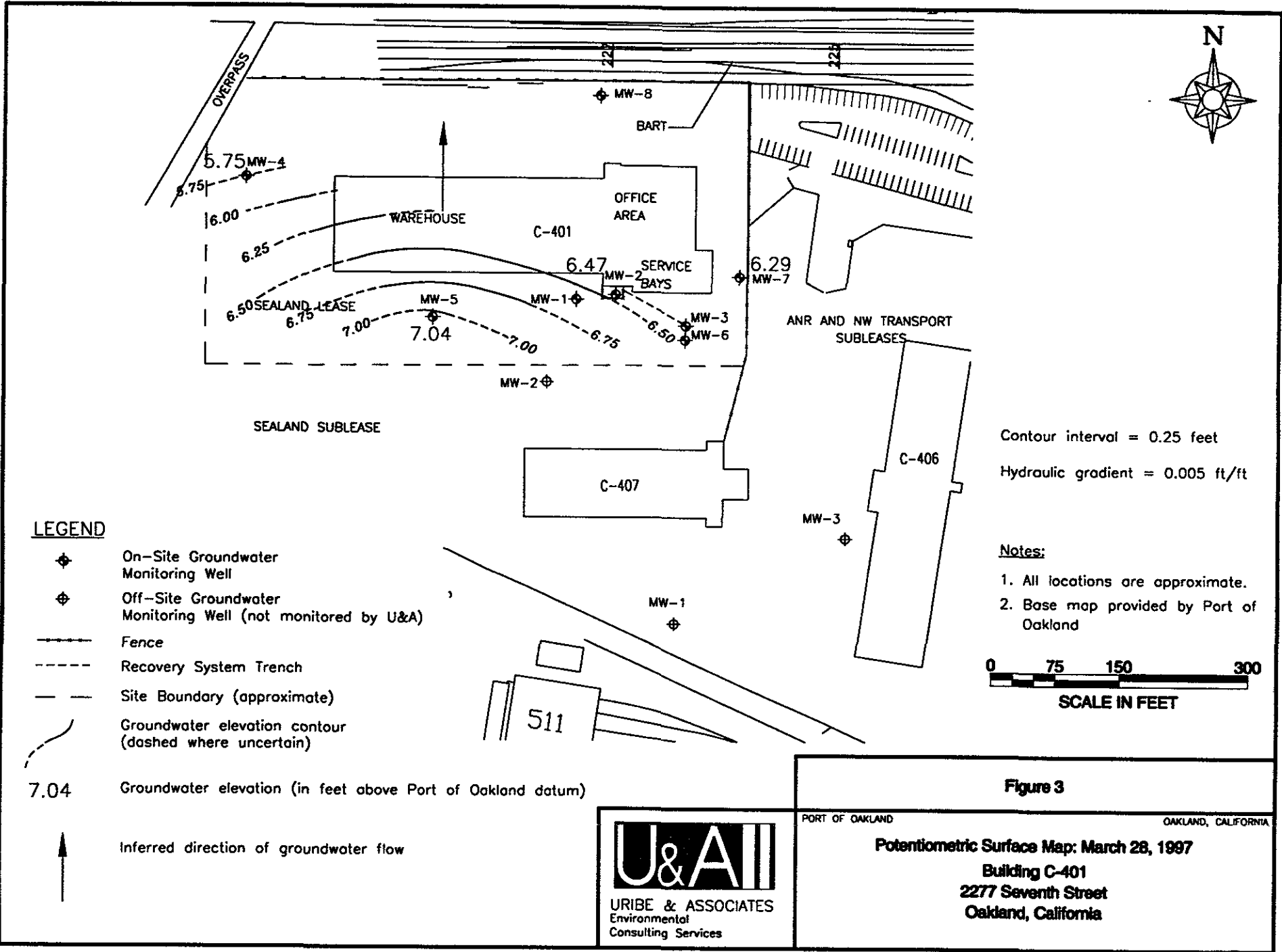
PORT OF OAKLAND OAKLAND, CALIFORNIA



**URIBE & ASSOCIATES**  
Environmental  
Consulting Services

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

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

Contour interval = 0.25 feet  
 Hydraulic gradient = 0.005 ft/ft

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



**Figure 3**

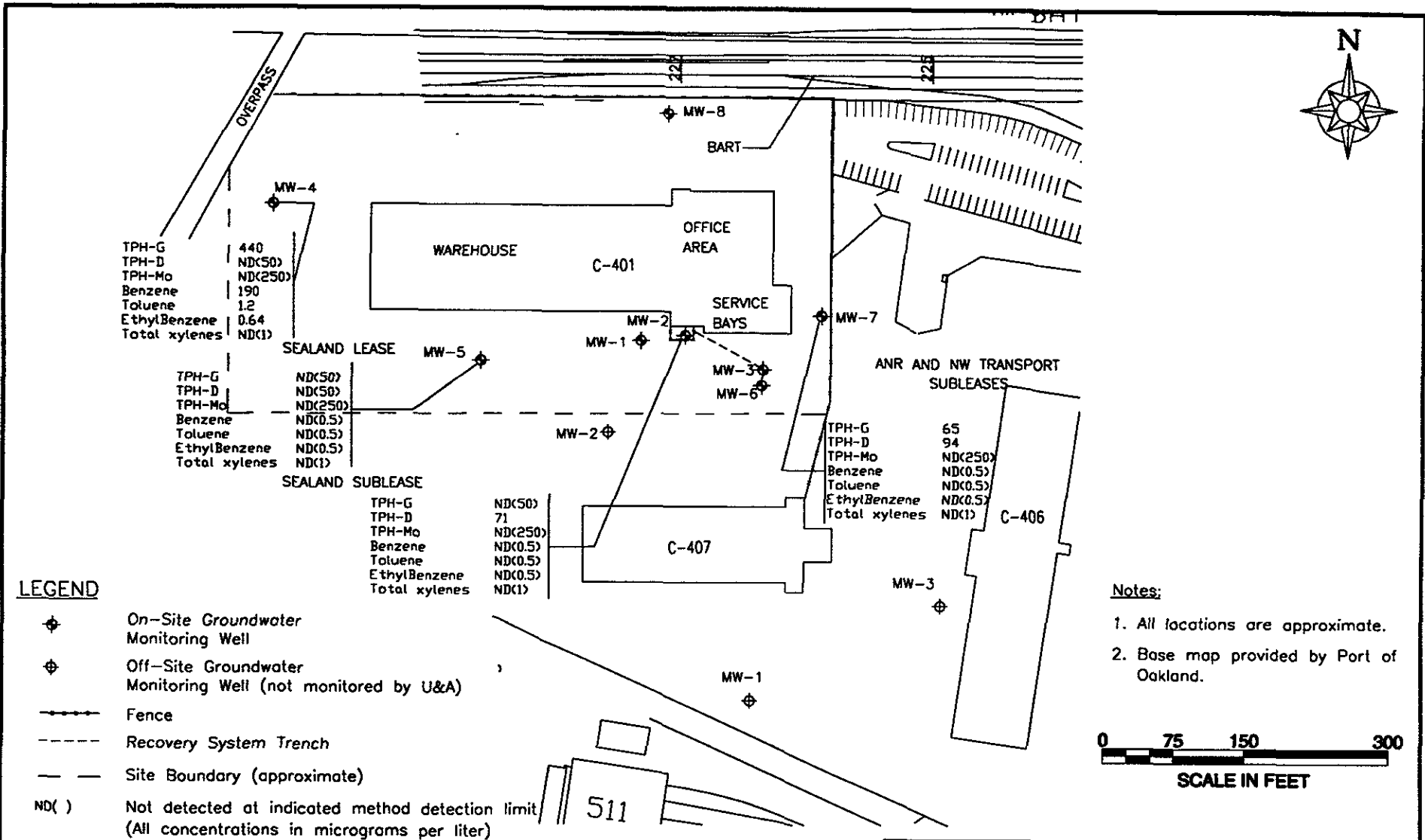
PORT OF OAKLAND OAKLAND, CALIFORNIA

**Potentiometric Surface Map: March 28, 1997**

**Building C-401  
 2277 Seventh Street  
 Oakland, California**

**U&A**  
 URIBE & ASSOCIATES  
 Environmental  
 Consulting Services

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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: March 28, 1997**  
 Building C-401  
 2277 Seventh Street  
 Oakland, California

**U&A**  
 URIBE & ASSOCIATES  
 Environmental Consulting Services

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

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 <sup>1</sup> (feet)	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Groundwater Elevation <sup>2</sup> (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
	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		
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		

**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 <sup>1</sup> (feet)	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Groundwater Elevation <sup>2</sup> (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		
3/28/97		7.40		5.75				
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		
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
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				



**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 <sup>1</sup> (feet)	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Groundwater Elevation <sup>2</sup> (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	
	3/28/97	---	---	---	---	---	---	

Notes:

<sup>1</sup> 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

<sup>2</sup> 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 <sup>1,2</sup>	ND(250)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	Pace
	3/28/97	ND(50)	71 <sup>4</sup>	ND(250)	ND(0.5)	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 <sup>1,2</sup>	ND(250)	350	3.3	1.3	1.3	Pace
	3/28/97	440 <sup>2</sup>	ND(50)	ND(250)	190	1.2	0.64	ND(1)	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 <sup>1,2</sup>	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
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	

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

<sup>1</sup> Analyte found in the associated blank as well as in the sample

<sup>2</sup> Hydrocarbons present do not match profile of laboratory standard

<sup>3</sup> High boiling point hydrocarbons are present in sample

<sup>4</sup> Chromatographic pattern matches known laboratory contaminant

na = not analyzed

Samples collected on 12/3/96 and 3/28/97 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.

**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 <sup>1,2</sup>	ND(250)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	Pace
	3/28/97	65 <sup>3</sup>	94 <sup>2</sup>	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 method detection limit

<sup>1</sup> Analyte found in the associated blank as well as in the sample

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