

8/10/93

**Quarterly Monitoring Well
Sampling and Analysis
U.S. Coast Guard Support Center
Exchange Center Location
Coast Guard Island
Alameda, California
PSI Project # 582-34006**



Professional Service Industries, Inc.

August 10, 1993

U.S. Coast Guard Support Center
Civil Engineering Unit
2000 Embarcadero, Suite 200
Oakland, CA. 94606-5337

Attention: Mr. Louis Rivero

Subject: QUARTERLY MONITORING WELL SAMPLING & ANALYSIS

Project: Exchange Center Location
Coast Guard Island
Alameda, CA 94606
Project No. 582-34006

Dear Mr. Rivero:

Professional Service Industries, Inc. (PSI), San Francisco Field Services Division is pleased to present the results of groundwater sampling for the second quarter of 1993. A description of the sampling and laboratory analysis for the five monitoring wells located at the Exchange Center Location (see Figure 1, Vicinity Map, Figure 2, Site Plan and Figure 3, Monitoring Well Location Map) are contained herein.

Field activities were conducted on July 8, 1993. The purpose of this program is to monitor hydrocarbon concentrations in the groundwater below the site.

In accordance with Mr. Christopher Lutton, LJG of the United States Coast Guard, PSI was retained to oversee the installation of four monitoring wells at the Exchange Center Location on Coast Guard Island, Alameda, California.

SAMPLING METHOD

Groundwater elevations were measured prior to and after development. The five monitoring wells were redeveloped in order to establish a flow of groundwater into the wells and to remove any longstanding water. Well redevelopment was accomplished by means of a stainless steel bailer. Approximately 8 to 10 gallons of water (3 to 4 casing volumes) were removed from each well prior to sampling. The purged groundwater from the wells was contained in labelled 55-gallon drums and left on-site for future storage during additional sampling. After allowing the wells to recharge, groundwater samples were collected.

Prior to redevelopment and sampling from the wells, the bailer was cleaned using trisodium phosphate solution and triple-rinsed with potable water. Water samples were drained from the bailer into certified clean, 40 ml vials, with care being taken to eliminate headspace. The vials were labelled and placed into cold storage until delivery to a state certified laboratory for analysis. Additionally, hydrochloric acid was used to preserve samples. Proper chain-of-custody procedures were observed. Chain-of-custody is included with the attached analytical results.

OBSERVATIONS

No odor was evident and color was clear in each of the wells.

LABORATORY ANALYSES

The groundwater samples were analyzed for Aromatic Volatile Organics by EPA Method 8020 and Total Petroleum Hydrocarbons for Gasoline (TPHG), using gas chromatography with photoionization detection. The analytical results are summarized below. The complete laboratory report, including analytical results, QA/QC data, and chain-of-custody is attached.

SUMMARY OF ANALYTICAL RESULTS SECOND QUARTER GROUNDWATER MONITORING (1993) *

<u>Well Number</u>	<u>Date of Sample</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Ethylbenzene</u>	<u>Xylenes</u>	<u>Purgeable Hydrocarbons</u>
MW-1EX	4/8/93	N.D.	N.D.	N.D.	N.D.	N.D.
	7/8/93	N.D.	N.D.	N.D.	N.D.	N.D.
MW-2EX	4/8/93	N.D.	N.D.	N.D.	N.D.	N.D.
	7/8/93	N.D.	N.D.	N.D.	N.D.	N.D.
MW-3EX	4/8/93	30	N.D.	N.D.	N.D.	6,000
	7/8/93	N.D.	N.D.	N.D.	N.D.	N.D.
MW-4EX	4/8/93	N.D.	N.D.	N.D.	N.D.	N.D.
	7/8/93	8.8	N.D.	N.D.	N.D.	N.D.
MW-5EX	4/8/93	14	0.63	N.D.	1.5	170
	7/8/93	3.7	4.6	N.D.	170	4,300

* All concentrations are in parts per billion (micrograms per liter, ug/L).
N.D. Analytes reported as not detected above the stated reporting limit.

DISCUSSION OF RESULTS

Based on the analytical results, it appears that purgeable hydrocarbons, and benzene, toluene, ethylbenzene, and xylenes (BTEX) in the groundwater beneath the site are not above the stated reporting limits in MW-1 thru MW-3. Benzene however, is reported in both MW-4EX and MW-5EX at 8.8 ug/L and 3.7 ug/L respectively.

This increase in Benzene found in MW-4EX, from being not detected above the stated reporting limit in the April 8, 1993 sample to 8.8 ug/L in the July 26, 1993 sample, will be closely monitored for the remaining two quarters in 1993.

A decrease in Benzene levels was also detected in both MW-3EX and MW-5EX. MW-3EX reported a decrease in benzene from 30 ug/L to not detected and MW-5EX reported a decrease from 14 to 3.7 ug/L.

The only change found in the toluene concentrations was recorded in MW-5 where an increase from 0.63 to 4.6 ug/L was reported.

The only change found in the Xylene was also recorded in MW-5 where an increase from 1.5 to 170 ug/L was reported.

A significant decrease in purgeable hydrocarbons in MW-3EX from 6,000 ug/L to not detected was observed.

A significant increase in purgeable hydrocarbons was found in MW-5EX where the initial reading of 170 ug/L was detected in the April 8, 1993 sampling event to 4,300 ug/L in the recent July 8, 1993 sample.

Groundwater appears to be influenced by tidal action, hence groundwater flow direction can not be determined. Groundwater monitoring will continue for the remaining two quarters of 1993.

LIMITATIONS OF INVESTIGATION

Our investigation was performed using the degree of care and skill ordinarily exercised under similar circumstances by reputable environmental consultants practicing in this or similar localities. The samples collected and used for testing and observations made are believed representative of site conditions. No other warranty, expressed or implied, is made to conclusions and professional advice included in this report.

This report is issued with the understanding that it is the responsibility of the owner, or of his representative, to ensure that the information and recommendations contained herein are brought to the attention of the proper authorities and/or regulating agencies.

The findings of this report are valid as of the present date. However, changes in the conditions of a property can occur with the passage of time, whether they be due to natural processes or the works of man on this or adjacent properties.


In addition, changes in applicable or appropriate standards may occur from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and should be updated as changes may occur.


The opportunity to be of service is appreciated. Should you have any questions regarding the content of this report, or we can be of further assistance, please do not hesitate to contact us.

Sincerely,

Professional Service Industries, Inc.
San Francisco Field Services


Mark A. Casterson, REA 04993
Professional Senior

 FOR
Steven N. Bradley, CEG 1625
Manager - Environmental Services


Thomas J. Kent, P.E.
Senior Project Manager

APPENDICES

APPENDIX A
FIGURES

Professional Service Industries

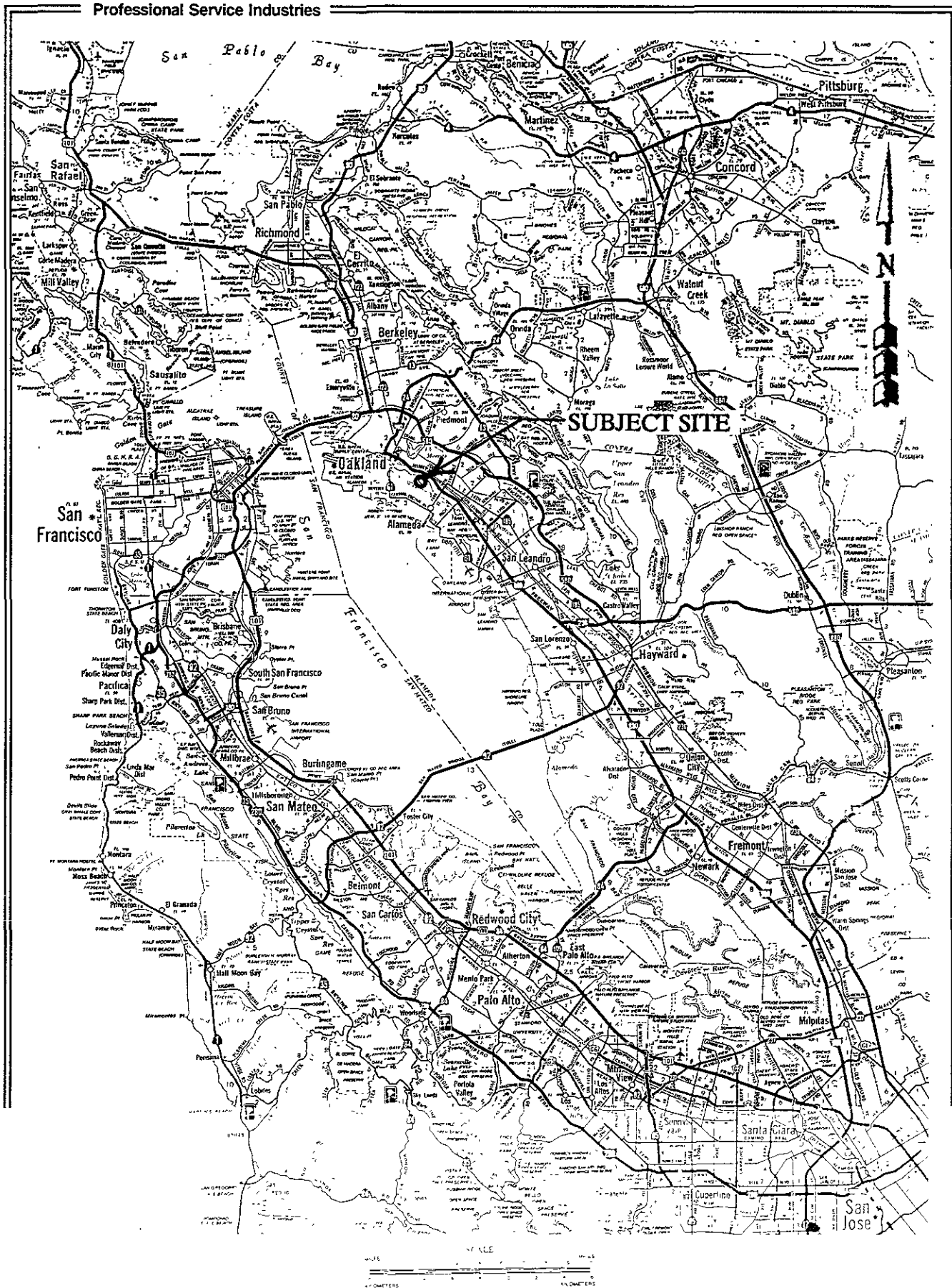


Figure 1, Vicinity Map

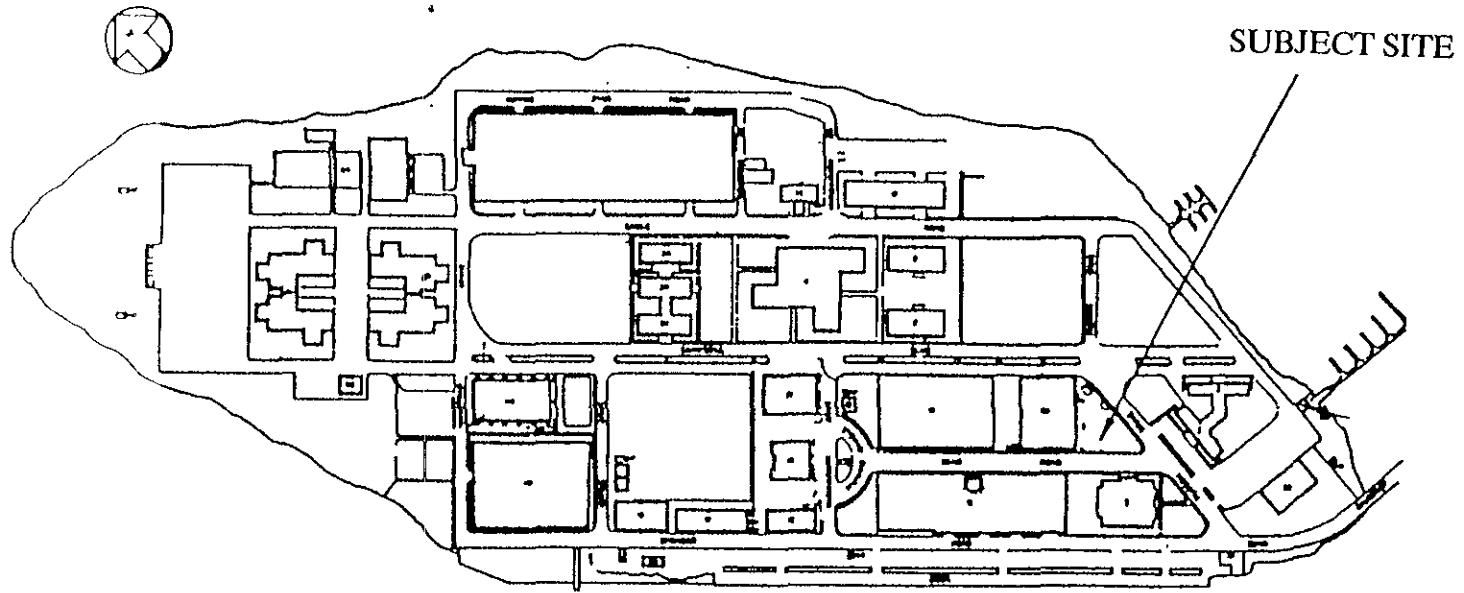
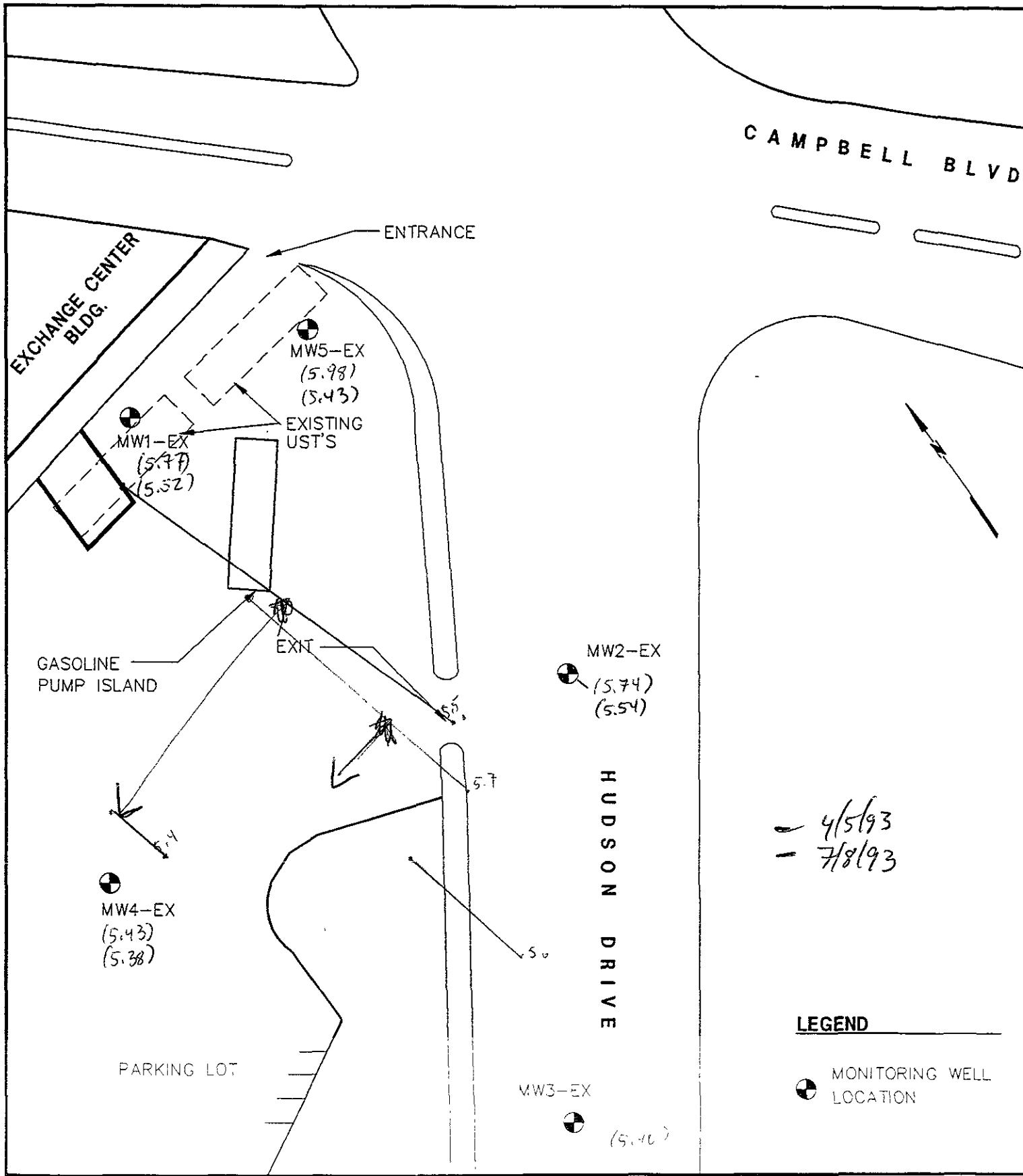


Figure 2, Site Plan



- 4/5/93
 - 7/8/93

LEGEND

● MONITORING WELL LOCATION

PSI PROFESSIONAL SERVICE INDUSTRIES, INC.
 3730 MT DIABLO BLVD, SUITE 345 LAFAYETTE, CA 94549
 (510) 284-3070

PROJECT NAME:	U.S. COAST GUARD ALAMEDA, CA	DATE:	08/10/93
TITLE:	MONITORING WELL LOCATION MAP	DWG NO.:	34008-3B
FIGURE NO. 3		PROJ NO.:	582-34008
		DRAWN BY:	NIMAN
		APP'D BY:	K. OLIVER
		SCALE:	NOT TO SCALE

APPENDIX B
GROUNDWATER ELEVATION DATA

TABLE I

GROUNDWATER ELEVATION DATA*

<u>Well Number</u>	<u>Surface Casing Elevations</u>	<u>Date/Time of Measurement</u>	<u>Depth to Water Meas. in ft.</u>	<u>Water Level Elev. (MSL)</u>
MW-1EX	13.72	4/5/93/15:05	7.95	5.77
		7/8/93/11:45	8.20	5.52
MW-2EX	13.74	4/5/93/16:40	8.00	5.74
		7/8/93/11:25	8.20	5.54
MW-3EX	13.50	4/8/93/09:00	8.00	5.50
		7/8/93/11:05	8.10	5.40
MW-4EX	13.38	4/8/93/10:50	7.95	5.43
		7/8/93/10:50	8.00	5.38
MW-5EX	13.98	4/8/93/12:36	8.00	5.98
		7/8/93/10:30	8.55	5.43

* MSL, Mean Sea Level

APPENDIX C
LABORATORY RESULTS AND
CHAIN OF CUSTODY



Professional Service Industries, Inc.

ANALYTICAL REPORT

PSI-Lafayette
Project: U.S.C.G.
Project number: 582-34006

59400582-32047
July 26, 1993
Page 1

Respectfully Submitted

A handwritten signature in dark ink, appearing to read 'G.A. Sandoz', is written over a horizontal line.

Lawrence Environmental Chemistry
Department Manager

A handwritten date '7/26/93' is written in dark ink over a horizontal line.

Date

PROFESSIONAL SERVICE INDUSTRIES, INC.
 4820 West 15th St., Lawrence, KS 66049

PSI-Lafayette
 Project: U.S.C.G.
 Project number: 582-34006

59400582-32047
 July 26, 1993
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CLIENT# (LAB#)	ANALYTE	RESULT	DETECTION LIMIT	UNITS	METHOD
MW-1EX 810705	<i>Should be</i> → Benzene	<2.0	2.0	ug/L	8020
	<i>.5 ppb</i> → Toluene	<2.0	2.0	ug/L	8020
	Ethylbenzene	<2.0	2.0	ug/L	8020
	Xylenes	<2.0	2.0	ug/L	8020
	Surrogate Recovery = 86%				
<i>Should be</i> <i>50 ppb</i> →	TPH - PURGEABLE (CAL-DHS)				
	Gasoline Range < 100		100	ug/L	5030/8015
	Surrogate Recovery = 95%				
MW-2EX 810706	Benzene	<2.0	2.0	ug/L	8020
	Toluene	<2.0	2.0	ug/L	8020
	Ethylbenzene	<2.0	2.0	ug/L	8020
	Xylenes	<2.0	2.0	ug/L	8020
	Surrogate Recovery = 86%				
	TPH - PURGEABLE (CAL-DHS)				
	Gasoline Range < 100		100	ug/L	5030/8015
	Surrogate Recovery = 78%				

PROFESSIONAL SERVICE INDUSTRIES, INC.

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PSI-Lafayette
 Project: U.S.C.G.
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CLIENT# (LAB#)	ANALYTE	RESULT	DETECTION LIMIT	UNITS	METHOD
MW-3EX 810707	Benzene	<2.0	2.0	ug/L	8020
	Toluene	<2.0	2.0	ug/L	8020
	Ethylbenzene	<2.0	2.0	ug/L	8020
	Xylenes	<2.0	2.0	ug/L	8020
	Surrogate Recovery = 84%				
	TPH - PURGEABLE (CAL-DHS)				
	Gasoline Range<100		100	ug/L	5030/8015
	Surrogate Recovery = 80%				
MW-4EX 810708	Benzene	8.8	2.0	ug/L	8020
	Toluene	<2.0	2.0	ug/L	8020
	Ethylbenzene	<2.0	2.0	ug/L	8020
	Xylenes	<2.0	2.0	ug/L	8020
	Surrogate Recovery = 88%				
	TPH - PURGEABLE (CAL-DHS)				
	Gasoline Range<100		100	ug/L	5030/8015
	Surrogate Recovery = 81%				
MW-5EX 810709	Benzene	3.7	2.0	ug/L	8020
	Toluene	4.6	2.0	ug/L	8020
	Ethylbenzene	<2.0	2.0	ug/L	8020
	Xylenes	170	10	ug/L	8020
	Surrogate Recovery = 88%				
	TPH - PURGEABLE (CAL-DHS)				
	Gasoline Range4,300		1,000	ug/L	5030/8015
	Surrogate Recovery = 91%				