

QUARTERLY MONITORING WELL
SAMPLING AND ANALYSIS

FOR THE

U.S. COAST GUARD SUPPORT CENTER
SWIMMING POOL LOCATION
COAST GUARD ISLAND
ALAMEDA, CALIFORNIA

PREPARED FOR

U.S. COAST GUARD SUPPORT CENTER
CIVIL ENGINEERING UNIT
2000 EMBARCADERO, SUITE 200
OAKLAND, CALIFORNIA 94606-5337



Professional Service Industries, Inc.

December 16, 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: Swimming Pool 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 third quarter of 1993. A description of the sampling and laboratory analysis for the one monitoring well located at the Swimming Pool 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 October 20, 1993. The purpose of this program is to monitor hydrocarbon concentrations in the groundwater below the area where two 2,000 gallon underground storage tanks (UST's) previously containing diesel and gasoline, were located.

SAMPLING METHOD

The groundwater elevation was measured prior to and after well development. The one monitoring well (MW-1SP) was redeveloped in order to establish a flow of groundwater into the well 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 the well prior to sampling. The purged groundwater from the well was contained in labelled 55-gallon drums and left on-site for future storage during additional sampling. After allowing the well to recharge, a groundwater sample was collected.

Prior to redevelopment and sampling from the well, the bailer was cleaned using trisodium phosphate solution and triple-rinsed with potable water. A water sample was 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. A Chain-of-custody is included with the attached analytical results.

OBSERVATIONS

Monitoring Well No. 1 (MW-1SP): No petroleum odor was evident when initially uncapped. Water sample was clear in color.

Note: See Appendix B Table I, Groundwater Elevation Data.

LABORATORY ANALYSES

The groundwater samples were submitted to Sequoia Analytical of Concord, California Laboratory Certificate #1271, and analyzed for Aromatic Volatile Organics by EPA Method 8020 and Total Petroleum Hydrocarbons for gasoline (TPHG), Method 8015, 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 THIRD 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-1SP	4/8/93	7.4	1.2	29	20	720
	7/8/93	N.D.	N.D.	N.D.	N.D.	610
	10/20/93	11.0	N.D.	N.D.	N.D.	660

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

DISCUSSION OF RESULTS

Based on the analytical results for this sampling event, toluene, ethylbenzene, and xylenes in groundwater beneath the site are not above their reporting limits. Total Purgeable Hydrocarbons for gasoline (TPHG) and benzene, however, are both shown to be above their stated reporting limits at 660 ug/l and 11 ug/l, respectively. This increase in purgeable hydrocarbons and benzene will be monitored throughout the remaining quarter in January of 1994.

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
Professional Senior



Richard S. Dreessen, Jr., CEG
Manager - Environmental Services

APPENDICES

APPENDIX A
FIGURES

Professional Service Industries

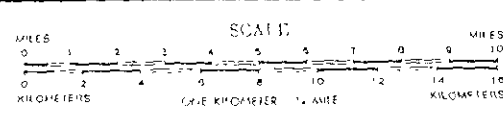
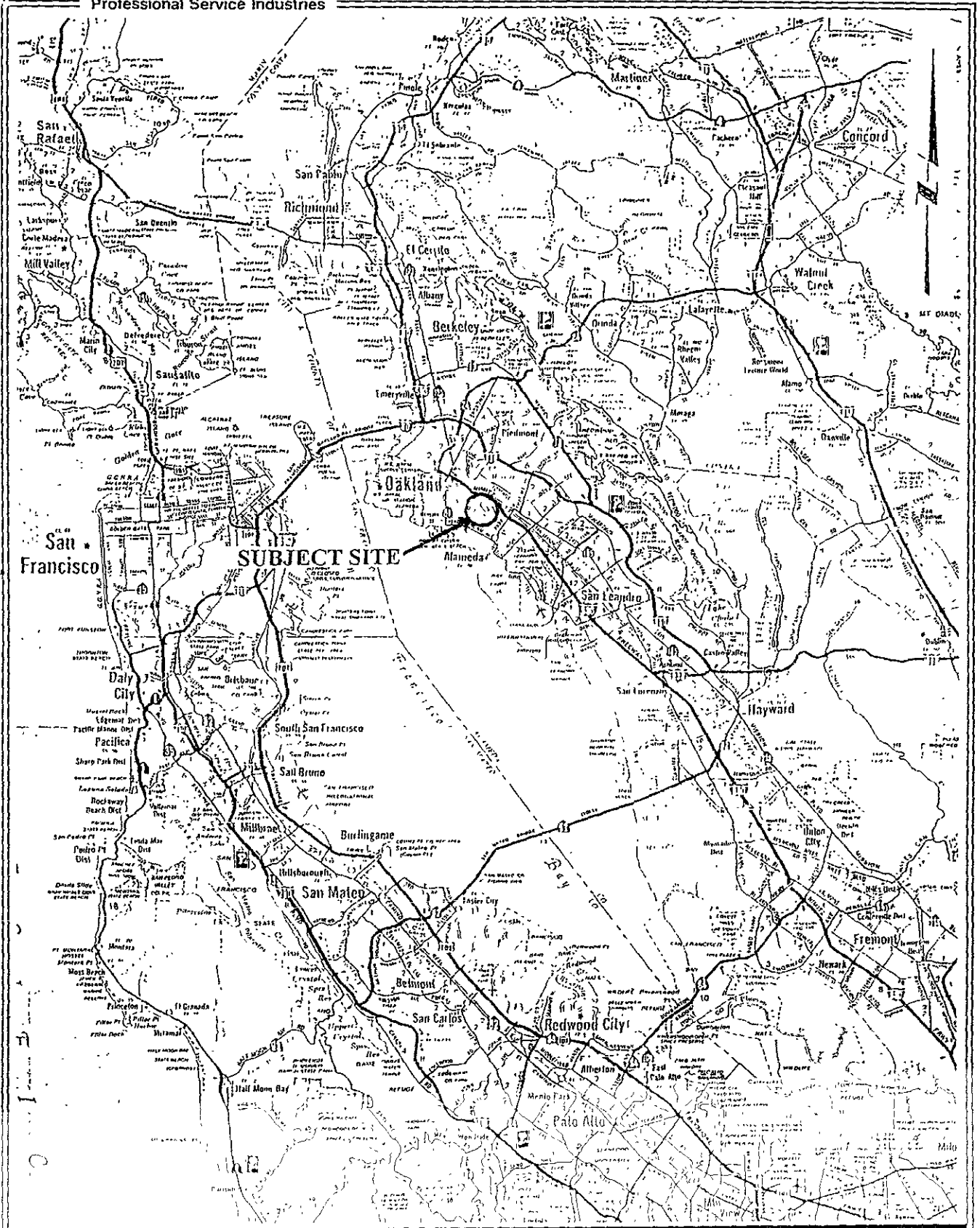
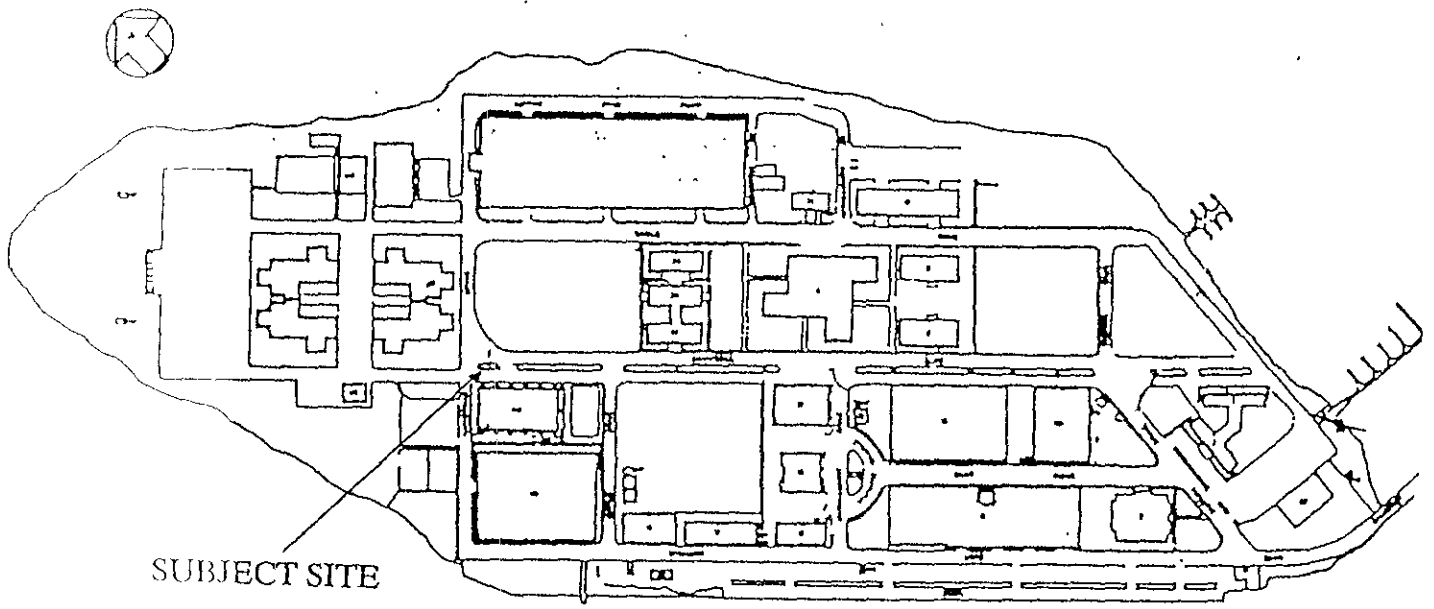
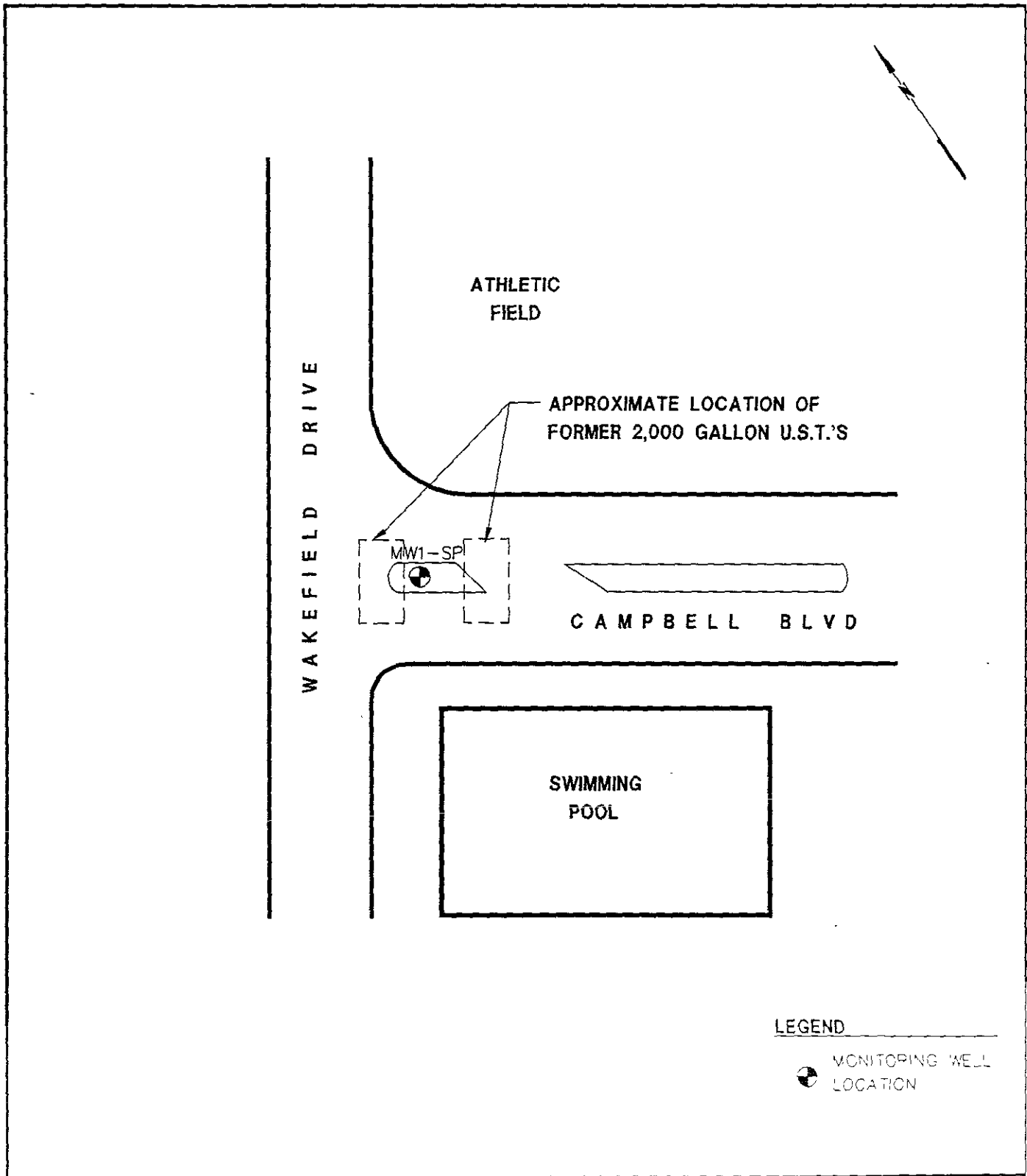


Figure 1, Site Location




SUBJECT SITE

FIGURE 2, SITE PLAN



LEGEND

 MONITORING WELL LOCATION

DWG 34006 JA



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:	12/6/93
TITLE:	MONITORING WELL LOCATION MAP	DWG NO.:	34006-3C
FIGURE NO. 3		PROJ NO.:	582-34006
		DRAWN BY:	H TOOR
		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-1SP	14.30	4/8/93/14:30	4.50	9.85
		7/8/93/15:30	4.90	9.40
		10/20/93/14:08	5.95	8.35

* MSL, Mean Sea Level

APPENDIX C
LABORATORY RESULTS AND
CHAIN OF CUSTODY



SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

Professional Service Industries
3730 Mt. Diablo Blvd., Ste 345
Lafayette, CA 94549
Attention: Kevin Oliver

Client Project ID: US Coast Guard
Sample Matrix: Water
Analysis Method: EPA 5030/8015/8020
First Sample #: 310-1136

Sampled: Oct 20, 1993
Received: Oct 21, 1993
Reported: Nov 1, 1993

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit $\mu\text{g/L}$	Sample I.D. 310-1136 MW1-SP
Purgeable Hydrocarbons	50	660
Benzene	0.5	11
Toluene	0.5	N.D.
Ethyl Benzene	0.5	N.D.
Total Xylenes	0.5	N.D.
Chromatogram Pattern:		Gasoline

Quality Control Data

Report Limit Multiplication Factor:	5.0
Date Analyzed:	10/26/93
Instrument Identification:	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	103

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard
Analytes reported as N.D. were not detected above the stated reporting limit

SEQUOIA ANALYTICAL


Karen L. Enstrom
Project Manager



SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

Professional Service Industries
3730 Mt. Diablo Blvd., Ste 345
Lafayette, CA 94549
Attention: Kevin Oliver

Client Project ID: US Coast Guard
Matrix: Water

QC Sample Group: 3101136-41

Reported: Nov 1, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	J.F.	J.F.	J.F.	J.F.
Conc. Spiked:	20	20	20	60
Units:	µg/L	µg/L	µg/L	µg/L
LCS Batch#:	1LCS102693	1LCS102693	1LCS102693	1LCS102693
Date Prepared:	10/26/93	10/26/93	10/26/93	10/26/93
Date Analyzed:	10/26/93	10/26/93	10/26/93	10/26/93
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
LCS % Recovery:	106	103	104	104
Control Limits:	70-130	70-130	70-130	70-130

MS/MSD Batch #:	3100980	3100980	3100980	3100980
Date Prepared:	10/26/93	10/26/93	10/26/93	10/26/93
Date Analyzed:	10/26/93	10/26/93	10/26/93	10/26/93
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
Matrix Spike % Recovery:	110	110	110	110
Matrix Spike Duplicate % Recovery:	110	110	110	110
Relative % Difference:	0.0	0.0	0.0	0.0

SEQUOIA ANALYTICAL

Please Note.

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery data is used for validation of sample batch results. Due to matrix effects, the QC limits for MS/MSD's are advisory only and are not used to accept or reject batch results.


Karen L. Enstrom
Project Manager



SEQUOIA ANALYTICAL CHAIN OF CUSTODY

680 Chesapeake Drive • Redwood City, CA 94063 • (415) 362-9600 TOLL FREE (800) 451-0000
 819 West Striker Ave. • Sacramento, CA 95834 • (916) 921-9600 FAX (916) 921-0100
 1900 Bates Ave., Suite LM • Concord, CA 94520 • (510) 686-9600 FAX (510) 686-9689

Company Name: <u>PROFESSIONAL SAMPLER INDUSTRIES</u>			Project Name: <u>US COAST GUARD</u>		
Address: <u>3730 MT. DIABLO BLVD., STE 345</u>			Billing Address (if different):		
City: <u>LAFAYETTE</u>	State: <u>CA</u>	Zip Code: <u>94539</u>			
Telephone: <u>(510) 284-3070</u>		FAX #: <u>284-3151</u>	P.O. #:		
Report To: <u>KEVIN OLIVER</u>		Sampler: <u>MARK CASTROSON</u>	QC Data: <input checked="" type="checkbox"/> Level A (Standard) <input type="checkbox"/> Level B <input type="checkbox"/> Level C <input type="checkbox"/> Level D		

Turnaround 10 Working Days 3 Working Days 2 - 8 Hours
 Time: 7 Working Days 2 Working Days
 5 Working Days 24 Hours

Drinking Water
 Waste Water
 Other

Analyses Requested
 (Grid area with handwritten notes: TRX 6, RET LEM, BTEX, etc.)

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Sequoia's Sample #	Analyses Requested										Comments					
1. MW 1 - SP	10-20-93	L	2	VOA		X	X														3101136 AB
2. MW 1 - Ex	↓	↓	↓	↓		X	X														1137
3. MW 2 - Ex	↓	↓	↓	↓		X	X														1138
4. MW 3 - Ex	10-20-93	↓	↓	↓		X	X														1139
5. MW 4 - Ex	↓	↓	↓	↓		X	X														1140
6. MW 5 - Ex	↓	↓	↓	↓		X	X														1141 ↓
7. Blank Equipment	10/20/93	L	2	VOA		X	X														Hold as per mark Castroson 10/22/93 1445
8.																					
9.																					
10.																					

Relinquished By: <u>[Signature]</u>	Date: <u>10/21/93</u>	Time: <u>3:40</u>	Received By: <u>Melissa Chumley</u>	Date: <u>10/21/93</u>	Time: <u>3:40 pm</u>
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab:	Date:	Time:

Pink - Client
 Yellow - Sequoia
 White - Sequoia