



Environmental
Technical
Services

A REPORT DOCUMENTING THE PURGING AND SAMPLING OF THREE GROUNDWATER MONITORING WELLS ON THREE CONSECUTIVE QUARTERS AND THE DETERMINATION OF GROUNDWATER GRADIENT FOR NINE CONSECUTIVE MONTHS:

AT:

ALAMEDA FIRE STATION #2
635 PACIFIC STREET
ALAMEDA, CALIFORNIA

prepared by:

Helen A. Mawhinney
ENVIRONMENTAL TECHNICAL SERVICES
Helen A. Mawhinney
Senior Environmental Specialist

5.17.93
Date

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1.0 INTRODUCTION

The following report documents the sampling of three groundwater monitoring wells and the determination of groundwater gradient at the Alameda Fire Station #2, 635 Pacific Street, Alameda, California.

Groundwater was sampled on three consecutive quarters and groundwater gradient determined for nine consecutive months.

The work was performed in response to the discovery of petroleum hydrocarbons beneath the site and has been requested by the Alameda County Environmental Health Department, Hazardous Materials Division.

2.0 PREVIOUS ENVIRONMENTAL INVESTIGATIONS

2.1 TANK REMOVAL

On November 15 1991, one 285-gallon gasoline underground storage tank (UST) was removed from the subject site. The tank had previously contained diesel.

One soil sample was collected from the native soil beneath the tank. The sample contained a detectable amount of toluene at 6.5 ppb and total xylenes at 4.4 ppb.

A soil sample was collected from stockpiled fill materials removed from the tank pit. This had a detectable amount of total petroleum hydrocarbons as diesel at 220 ppm and xylenes at 52 ppb.

2.2 EXCAVATION OF CONTAMINATED SOIL

Excavation of contaminated soil was performed on August 17, 1992 and four soil samples were collected. A sample was collected from each sidewall vadose/capillary zone. These samples were designated as FSX-1 and FSX-4. Soil sample FSX2-A was collected subsequent to excavation of material around sample FSX2, and confirms removal of the slight contamination present around FSX2. See Table 1A for analytical results.

2.3 ORIGINAL TANK REMOVAL, ANALYTICAL RESULTS

TABLE 1A
ORIGINAL EXCAVATION
SOIL ANALYTICAL RESULTS
Total Petroleum Hydrocarbons as Gasoline
with Benzene, Toluene, Ethylbenzene, and Xylenes
Total Petroleum Hydrocarbons as Diesel
August 17, 1992

Results reported in ppm

<u>Sample #</u>	<u>TPH-G</u>	<u>B</u>	<u>T</u>	<u>E</u>	<u>X</u>	<u>TPH-D</u>
FSX-1	ND	ND	ND	ND	ND	ND
FSX-2	ND	ND	ND	ND	ND	7.1
FSX-3	ND	ND	ND	ND	ND	ND
FSX-4	ND	ND	ND	ND	ND	ND

FSSP1-FSSP4..This stockpile sample was composited with FSSP5 and FSSP6 which was collected on August 18, 1992. See Table 1B for analytical results.

ND=Not detected at lower detection limit for this compound

To ensure that all of the contaminated soil was excavated, additional excavation was performed on August 18, 1992 due to the 7.1 ppm detection of diesel in sidewall sample FSX2. The stockpile sample collected on August 17, FSSP1-FSSP4, was composited with FSSP5 and FSSP6 collected on August 18, 1992 for one analysis. Refer to Table 1B for analytical results.

TABLE 1B
ADDITIONAL EXCAVATION
SOIL ANALYTICAL RESULTS
Total Petroleum Hydrocarbons as Gasoline
and Diesel
August 18, 1992

Results reported in ppm

<u>Sample #</u>	<u>TPH-g</u>	<u>TPH-d</u>
FSX2-A (2FSX2)*	NA	ND
FSSP1-FSSP6	ND	3.0

NA = Not analyzed for this compound

ND = Not detected at lower detection limit for this compound

*As listed on Chain of Custody

An existing 2-inch groundwater monitoring well is located adjacent to and within 1.5' of the tank pit cavity. The well was constructed by Aqua Science Engineering on June 3, 1986. The well was constructed in compliance with Assembly Bill 1362 and the Groundwater Monitoring Guidelines for Hazardous Materials Storage drafted by the Alameda County Water District in May 1984. The well was placed in the assumed local down gradient direction. Gradient direction information differed within the area.

3.0 SCOPE OF SERVICES

3.1 Groundwater Purging & Sampling

The three existing groundwater monitoring wells were purged and sampled on September 5, 1992, January 11, 1993, and May 3, 1993. The wells were purged using a clean stainless steel bailer (1.5" diameter by 3' length). Subsequent to purging each well was sampled using a clean stainless steel bailer. A separate bailer was dedicated to each well for the sampling event. At consistent intervals throughout sampling groundwater parameters (conductivity and temperature) were monitored to evaluate stabilization of the wells.

A water sample was decanted from the sampling bailer into two one-liter amber bottles and two 40-ml volatile organics analysis vials (VOAs) to a positive meniscus eliminating headspace.

The samples were transported to a certified analytical laboratory under chain of custody for analysis.

Refer to Appendix E, Groundwater Development Report.

3.2 Groundwater Analysis

Each groundwater sample was analyzed for total petroleum hydrocarbons as gasoline, benzene, toluene, ethylbenzene, and total xylenes (TPHg & BTEX, using EPA Method 5030/602), and total petroleum hydrocarbons as diesel (TPHd using EPA Method 3510)

3.3 Groundwater Analytical Results

TABLE II
GROUNDWATER ANALYTICAL RESULTS
FIRST QUARTER SAMPLING
September 5, 1992

Results reported in ug/L

<u>Sample #</u>	<u>TPH-G</u>	<u>B</u>	<u>T</u>	<u>E</u>	<u>X</u>	<u>TPH-D</u>
MW-2	ND	ND	ND	ND	ND	ND
MW-3	ND	ND	ND	ND	ND	ND
MW-4	ND	ND	ND	ND	ND	ND

ND=Not detected at lower detection limit for this compound

TABLE III
GROUNDWATER ANALYTICAL RESULTS
SECOND QUARTER
JANUARY 11, 1993

Results reported in ug/L

<u>Sample #</u>	<u>TPH-G</u>	<u>B</u>	<u>T</u>	<u>E</u>	<u>X</u>	<u>TPH-D</u>
MW-2	ND	ND	ND	ND	ND	ND
MW-3	ND	ND	ND	ND	ND	ND
MW-4	ND	ND	ND	ND	ND	ND

ND=Not detected at lower detection limit for this compound

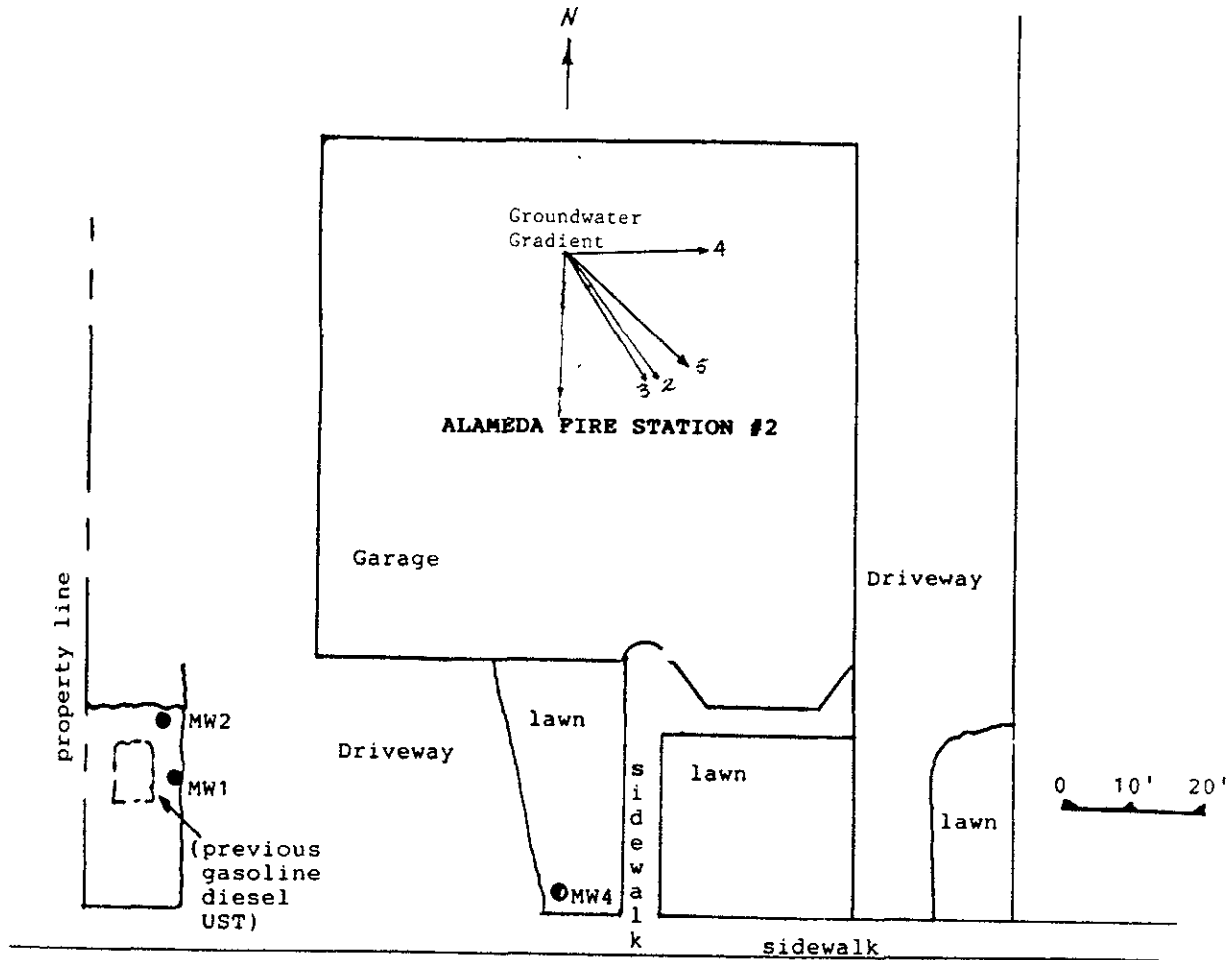
TABLE IV
GROUNDWATER ANALYTICAL RESULTS
THIRD QUARTER
MAY 3, 1993

Results reported in ug/L

<u>Sample #</u>	<u>TPH-G</u>	<u>B</u>	<u>T</u>	<u>E</u>	<u>X</u>	<u>TPH-D</u>
MW-2	ND	ND	ND	ND	ND	ND
MW-3	ND	ND	ND	ND	ND	ND
MW-4	ND	ND	ND	ND	ND	ND

ND=Not detected at lower detection limit for this compound

3.4 Groundwater Gradient



GROUNDWATER GRADIENT DATA

<u>Key#</u>	<u>Date</u>	<u>E4</u>	<u>Flow</u>	<u>Grad.</u>
1	10/14/92	3.02	183	.0020
2	11/10/92	3.06	143	.0026
3	12/11/92	3.98	146	.0027
4	01/11/93	5.36	89	.0082
5	05/03/93	6.26	133	.0007

NOTES

- (1) Water elevation in MW4
- (2) Flow Azimuth ($^{\circ}$ east of N)
- (3) Gradient (ft/ft)

4.0 REPORT

Please forward copies of this report, chain of custody documentation, and laboratory analytical reports to the San Francisco Regional Water Quality Control Board, and the Alameda County Department of Environmental Health Hazardous Materials Division.

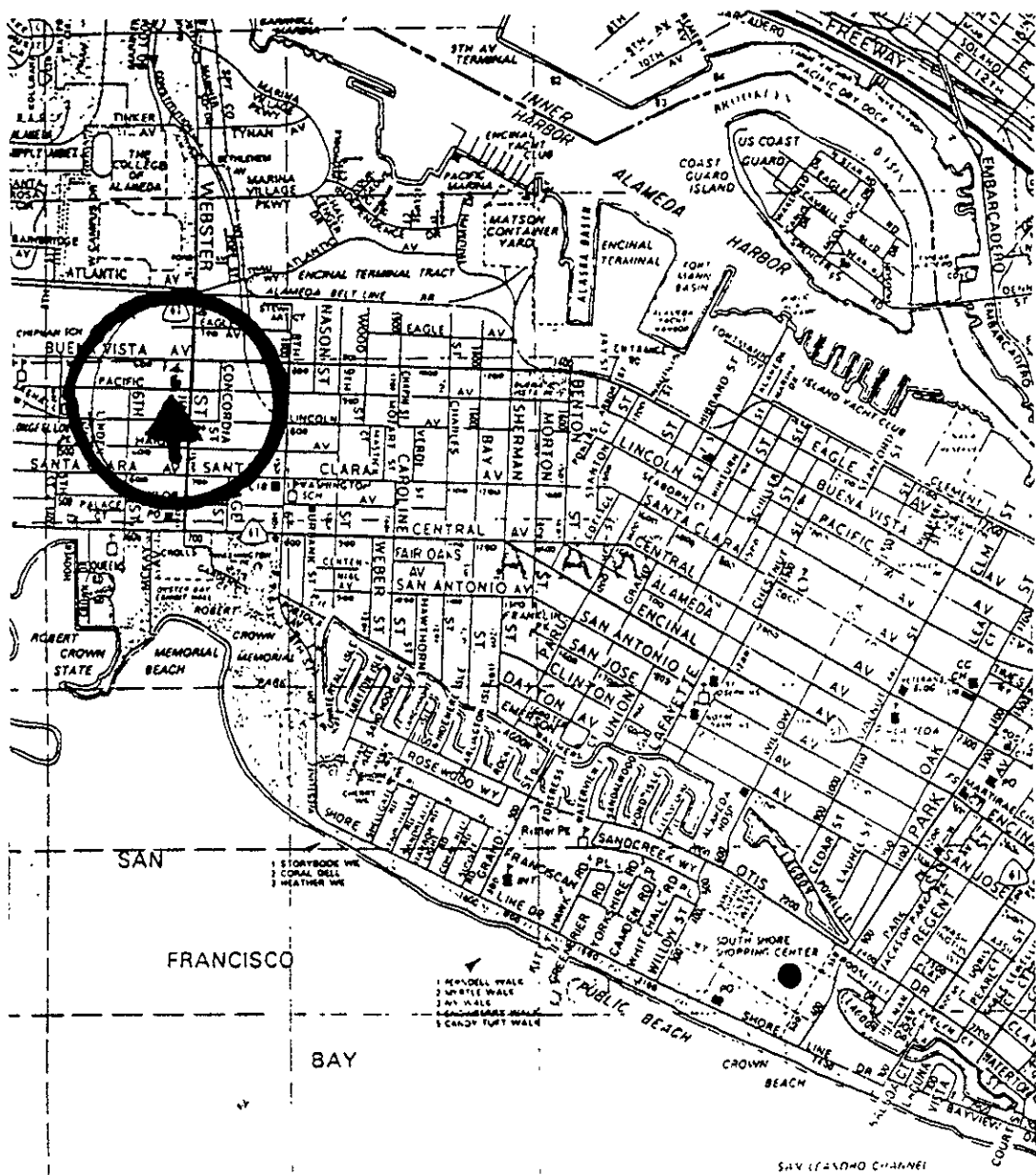
The following addresses have been included for your convenience:

Water Quality Control Board
San Francisco Bay Region
2101 Webster Street
Room 500
Oakland, CA 94621

Alameda County Department
of Environmental Health
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, CA 94612

APPENDIX A

MAPS



Environmental
 Technical
 Services

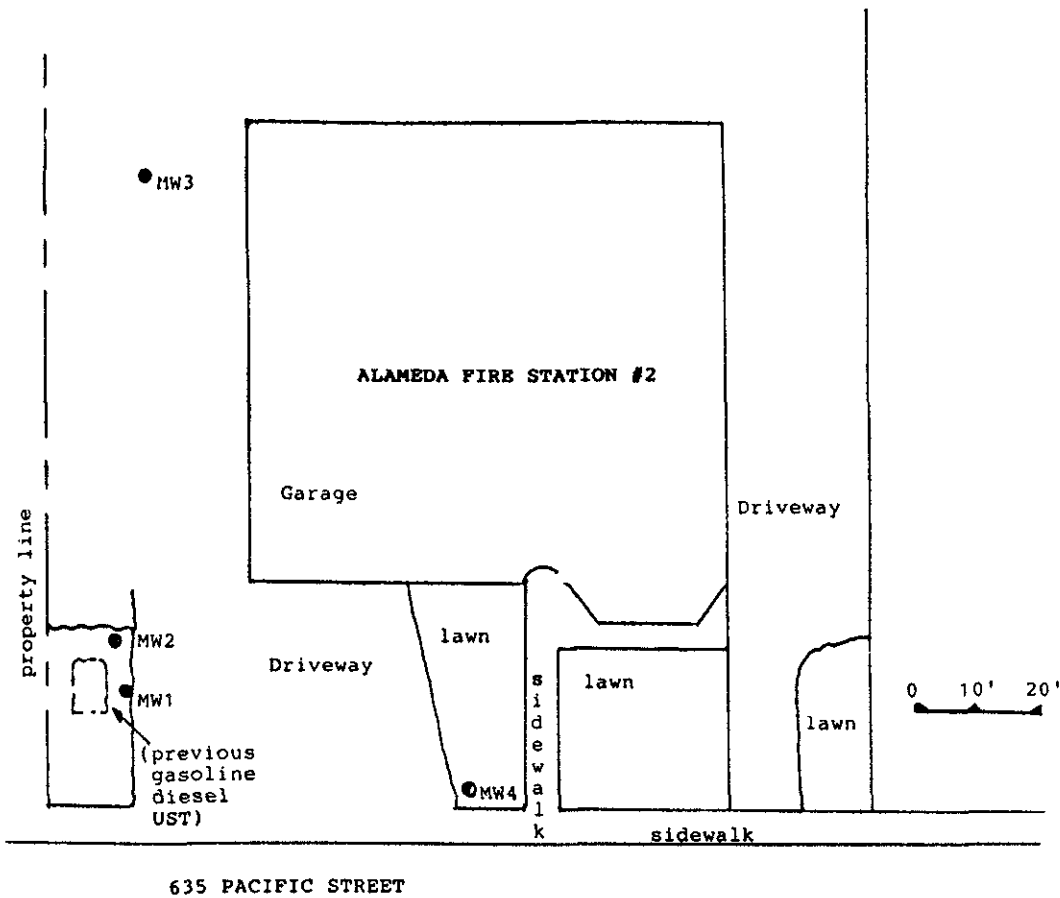
ALAMEDA FIRE STATION

Figure 1

635 PACIFIC STREET

SITE LOCATION MAP

ALAMEDA, CALIF.



635 PACIFIC STREET



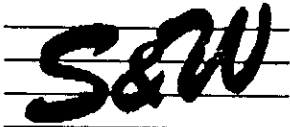
Environmental
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Services

ALAMEDA FIRE STATION
635 PACIFIC STREET
ALAMEDA, CALIF

Figure 2
MONITORING WELL AND
FORMER TANK LOCATION

APPENDIX B

GROUNDWATER ANALYTICAL RESULTS
FIRST QUARTER



Laboratory Report

Soil and Water
Environmental
Laboratory

Client
Environmental Tech. Services
1548 Jacob Ave.
San Jose CA 95118

Report Date
09/29/92

Drinking Water
Waste Water - Asbestos
Hazardous Waste - Soil
Calderon Testing - Air

Sample Site
Alam Fire Dept
635 Pacific Street
Alameda
Alam Fire #2

Date Received
09/05/92

14072 W. Park Avenue
Boulder Creek, CA 95006
(408) 338-3053

Analysis Requested
Total Hydrocarbons - Gas
Total Hydrocarbons - Diesel
BTEX

Procedure
EPA 5030
EPA 3510
EPA 602

Date Analyzed
09/05/92

S&W Ref. #	Client Ref. #	Matrix/Analysis	Concentration	Detection Limit
2492-ET1-A	MW-2	Water/TPH-G	*	50 ppb
2492-ET1-A	MW-2	Water/TPH-D	*	50 ppb
2492-ET1-A	MW-2	Water/BTEX		
		Benzene	*	0.5 ppb
		Toluene	*	0.5 ppb
		Ethylbenzene	*	0.5 ppb
		Xylenes	*	0.5 ppb

2492-ET1-B	MW-4	Water/TPH-G	*	50 ppb
2492-ET1-B	MW-4	Water/TPH-D	*	50 ppb
2492-ET1-B	MW-4	Water/BTEX		
		Benzene	*	0.5 ppb
		Toluene	*	0.5 ppb
		Ethylbenzene	*	0.5 ppb
		Xylenes	*	0.5 ppb

* No detectable amount @ detection limit

Analyst Signature



Laboratory Report

**Soil and Water
Environmental
Laboratory**

Client Report Date
Environmental Tech. Services 09/10/92
1548 Jacob Ave.
San Jose CA 95118

Drinking Water
Waste Water o Asbestos
Hazardous Waste - Soil
Calderon Testing - Air

Sample Site Date Received
Alameda Fire Det. 09/05/92
635 Pacific St.
Alameda, CA
Alam Fire #2

14072 W. Park Avenue
Boulder Creek, CA 95006
(408) 338-3053

Analysis Requested Date Analyzed
Total Hydrocarbons - Gas EPA 5030 09/06/92
Total Hydrocarbons - Diesel EPA 3510
BTEX EPA 602

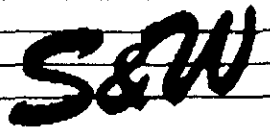
S&W Ref. #	Client Ref. #	Matrix/Analysis	Concentration	Detection Limit
2492-ET1-C	MW-3	Water/TPH-G	*	50 ppb
2492-ET1-C	MW-3	Water/TPH-D	*	50 ppb
2492-ET1-C	MW-3	Water/BTEX		
		Benzene	*	0.5 ppb
		Toluene	*	0.5 ppb
		Ethylbenzene	*	0.5 ppb
		Xylenes	*	0.5 ppb

* No detectable amount @ detection limit

Analyst Signature

APPENDIX C

GROUNDWATER ANALYTICAL RESULTS
SECOND QUARTER



Laboratory Report

Soil and Water Environmental Laboratory

Client: Environmental Tech. Services, 1548 Jacob Ave., San Jose CA 95118, Report Date: 01/15/93

Drinking Water, Waste Water o Asbestos, Hazardous Waste - Soil, Calderon Testing - Air

Sample Site: Alameda Fire Station #2, 635 Pacific Ave, Alameda, 2MWALAMPFIRE2, Date Received: 01/12/93

14072 W. Park Avenue, Boulder Creek, CA 95006, (408) 338-3053

Table with 3 columns: Analysis Requested, Procedure, Date Analyzed. Rows include Total Hydrocarbons - Gas, Diesel, Oil & Grease, and BTEX.

Main data table with 5 columns: S&W Ref. #, Client Ref. #, Matrix/Analysis, Concentration, Detection Limit. Contains multiple rows for different monitoring wells (A, B, C) and analytes (TPH, TOG, BTEX).

* No detectable amount @ detection limit

Analyst Signature

Handwritten signature of R. H. L...

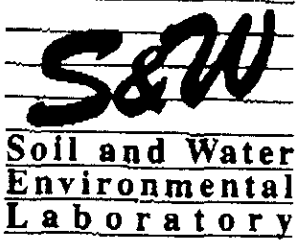
Environmental Technical Services

(408) 267-6427

CHAIN - OF - CUSTODY

Project Number		Site Name and Address				Type and Number of Containers	Analysis Required						Laboratory ID	Comments	
Witnessing Agency/Inspector Name and Date		Sample ID	Date	Time	Matrix		Sample Location	TPH-G + BTEX	TPH-D + TOC	TOC					
2MWAALAMFIRE2		ALAM Fire Stn #2 635 Pacific Ave, Alameda				2 liters 2 VOAS									
ALAM. CO. ENVY HLTH DEPT, Julie H. Shen															
mw-2	1/1/93				H2O	1st GW	✓	✓							
mw-3	↓				↓	↓	✓	✓							
mw-4	↓				↓	↓	✓	✓							
Relinquished by: (Signature) <i>Alexander M. ...</i>		Date/Time 1/1/93 4:30	Received by: (Signature) ETS FRIEDR		Date/Time	Remarks:									
Relinquished by: (Signature) <i>[Signature]</i>		Date/Time	Received by: (Signature)		Date/Time	COMPANY: ADDRESS:									
Relinquished by: (Signature) <i>[Signature]</i>		Date/Time 1/12/93	Received by Lab: (Signature) <i>[Signature]</i>		Date/Time 1/12/93 3:06	PHONE: FAX:									

APPENDIX D
GROUNDWATER ANALYTICAL RESULTS
THIRD QUARTER



Laboratory Report

Drinking Water
 Waste Water ◦ Asbestos
 Hazardous Waste - Soil
 Calderon Testing - Air

14072 W. Park Avenue
 Boulder Creek, CA 95006
 (408) 338-3053

Client: Environmental Tech. Services
 1548 Jacob Ave.
 San Jose CA 95118
 Report Date: 05/13/93

Sample Site: Alameda Fire Station #2
 Park Street, Alameda
 Date Received: 05/05/93
 AFS #2

Analysis Requested: Total Hydrocarbons - Gas, Total Hydrocarbons - Diesel, BTEX
 Procedure: EPA 5030, EPA 3510, EPA 502
 Date Analyzed: 05/06/93

S&W Ref. #	Client Ref. #	Matrix/Analysis	Concentration	Detection Limit
1253-ET2-A	MW-2	Water/TPH-G	*	50 ppb
1253-ET2-A	MW-2	Water/TPH-D	*	50 ppb
1253-ET2-A	MW-2	Water/BTEX		
		Benzene	*	0.5 ppb
		Toluene	*	0.5 ppb
		Ethylbenzene	*	0.5 ppb
		Xylenes	*	0.5 ppb

1253-ET2-B	MW-3	Water/TPH-G	*	50 ppb
1253-ET2-B	MW-3	Water/TPH-D	*	50 ppb
1253-ET2-B	MW-3	Water/BTEX		
		Benzene	*	0.5 ppb
		Toluene	*	0.5 ppb
		Ethylbenzene	*	0.5 ppb
		Xylenes	*	0.5 ppb

1253-ET2-C	MW-4	Water/TPH-G	*	50 ppb
1253-ET2-C	MW-4	Water/TPH-D	*	50 ppb
1253-ET2-C	MW-4	Water/BTEX		
		Benzene	*	0.5 ppb
		Toluene	*	0.5 ppb
		Ethylbenzene	*	0.5 ppb
		Xylenes	*	0.5 ppb

* No detectable amount @ detection limit

Analyst Signature: *OP. D. Ramon*

Soil and Water Environmental Laboratory

14072 West Park Avenue

Boulder Creek, CA 95006

(408) 338-3053/4466

CHAIN - OF - CUSTODY

Project Number		Site Name and Address			Type and Number of Containers	Analysis Required						Laboratory ID	Comments
AFS #2		Park St, Alameda #2 ALAMEDA FIRE STATION #2				TPH-G + BTEX	TPH-D + BTEX	TOC					
Witnessing Agency/Inspector Name and Date													
Sample ID	Date	Time	Matrix	Sample Location									
MW-2	5/3/93		H2O		✓	✓							
MW-3	↓		↓		✓	✓							
MW-4	↓		↓		✓	✓							
Relinquished by: (Signature) <i>Helen M... ..</i>				Date/Time 5/18/93 6:15	Received by: (Signature) TO ETS FRIDGE				Date/Time		Remarks:		
Relinquished by: (Signature)				Date/Time	Received by: (Signature)				Date/Time		COMPANY: ADDRESS:		
Relinquished by: (Signature) <i>Helen M... ..</i>				Date/Time 5/5/93 6:22	Received by Lab: (Signature) <i>Orlando...</i>				Date/Time 5/5/93 6:20		PHONE: FAX:		

APPENDIX E

GROUNDWATER DEVELOPMENT REPORTS

MONITORING WELL SAMPLING DATA
MW-2

<u>Project Name:</u>	<u>Well#</u>
ALAMEDA FIRE STATION	MW-2

DATE: May 3, 1993

<u>NAME:</u>	<u>Time Began:</u>
Mawhinney	12:29p

<u>DEPTH OF WELL</u>	<u>DEPTH TO WATER</u>	<u>WELL DIAM.</u>
17.7'	4.87'	2"

<u>Time</u>	<u>Gallons</u>	<u>Salinity</u>	<u>pH</u>	<u>Temp.</u>	<u>Cond.</u>
12:34	1	*	*	63.5 F	5.53
12:38	3	*	*	63.7 F	5.34
12:42	5	*	*	63.7 F	5.34
12:50	7	*	*	63.7 F	5.34

<u>Volume Evacuated</u>	<u>Purging Equip.</u>	<u>Sampling Equip.</u>
7 gallons	Stainless Steel Bailer	Stainless Steel Bailer

Depth of Well Upon Completion of Sampling:

17.7' Good Recharge

<u>Sheen</u>	<u>Floating Product</u>	<u>Sample Color</u>	<u>Odor</u>
no	no	gold	no

Sediment/Foreign Matter: very silty

<u>Sample ID#</u>	<u>Analysis</u>	<u>Laboratory</u>
MW-2	TPHg, BTEX, TPHd	S & W Lab

Sample Containers

2/40-ml VOAs
2 amber one liter bottles

MONITORING WELL SAMPLING DATA
MW-3

<u>Project Name:</u>	<u>Well#</u>
ALAMEDA FIRE STATION	MW-3

DATE: May 3, 1993

<u>NAME:</u>	<u>Time Began:</u>
Mawhinney	1:00p

<u>DEPTH OF WELL</u>	<u>DEPTH TO WATER</u>	<u>WELL DIAM.</u>
17.62'	5.54'	2"

<u>Time</u>	<u>Gallons</u>	<u>Salinity</u>	<u>pH</u>	<u>Temp.</u>	<u>Cond.</u>
1:05	1	*	*	64.7 F	7.62
1:08	3	*	*	64.4 F	7.84
1:12	5	*	*	64.2 F	12.1
1:16	7	*	*	59.3 F	12.94

<u>Volume Evacuated</u>	<u>Purging Equip.</u>	<u>Sampling Equip.</u>
7 gallons	Stainless Steel Bailer	Stainless Steel Bailer

Depth to Water Upon Completion of Sampling:

17.7' at completion

<u>Sheen</u>	<u>Floating Product</u>	<u>Sample Color</u>	<u>Odor</u>
no	no	gold	no

Sediment/Foreign Matter: very little silt

<u>Sample ID#</u>	<u>Analysis</u>	<u>Laboratory</u>
MW-3	TPHg, BTEX, TPHd	S & W Lab

Sample Containers

2/40-ml VOAs
2 amber one liter bottles

MONITORING WELL SAMPLING DATA
MW- 4

<u>Project Name:</u>	<u>Well#</u>
ALAMEDA FIRE STATION	MW-4

DATE: May 3, 1993

<u>NAME:</u>	<u>Time Began:</u>
Mawhinney	11:41

<u>DEPTH OF WELL</u>	<u>DEPTH TO WATER</u>	<u>WELL DIAM.</u>
14.8	4.8	2"

<u>Time</u>	<u>Gallons</u>	<u>Salinity</u>	<u>pH</u>	<u>Temp.</u>	<u>Cond.</u>
11:48	1	*	*	61.2 F	5.61
11:54	3	*	*	60.7 F	7.09
12:00	5	*	*	60.7 F	7.30
12:05	7	*	*	60.7 F	7.29
12:24	9	*	*	60.7 F	7.29

<u>Volume Evacuated</u>	<u>Purging Equip.</u>	<u>Sampling Equip.</u>
9 gallons	Stainless Steel Bailer	Stainless Steel Bailer

Depth of Well Upon Completion of Sampling:

19.00' Recharge good

<u>Sheen</u>	<u>Floating Product</u>	<u>Sample Color</u>	<u>Odor</u>
no	no	gold	no

Sediment/Foreign Matter: very little silty

<u>Sample ID#</u>	<u>Analysis</u>	<u>Laboratory</u>
MW-4	TPHg, BTEX, TPHd	S & W Lab

Sample Containers

2/40-ml VOAs
2 amber one liter bottles

MONITORING WELL SAMPLING DATA
MONITORING WELL NO.1

<u>PROJECT NAME:</u> ALAMEDA FIRE STATION #2	<u>WELL #</u> MW-1
---	-----------------------

<u>DATE:</u> JANUARY 11, 1993

<u>NAME:</u> Helen Mawhinney	<u>TIME BEGAN:</u> 12:45
---------------------------------	-----------------------------

<u>DEPTH OF WELL (FT.)</u> 19.2	<u>DEPTH OF WATER (FT.)</u> 5.7	<u>WELL DIAM.</u> 2"
------------------------------------	------------------------------------	-------------------------

<u>TIME</u>	<u>GALLONS</u>	<u>pH</u>	<u>TEMP.</u>	<u>COND.</u>
10:45	1	7.3	61.0	1.49
10:50	2	7.2	61.0	1.48
10:55	3	7.3	61.0	1.49
11:05	4	7.2	59.0	1.49
11:15	5	7.2	61.0	1.49
11:19	7	7.2	61.0	1.49

<u>VOLUME EVACUATED</u> 8 gallons	<u>PURGING EQUIP.</u> Stainless Steel Bailer	<u>SAMPLING EQUIP.</u> Stainless Steel Bailer
--------------------------------------	--	---

<u>DEPTH TO WATER UPON COMPLETION OF SAMPLING</u> Not measured. Recharge very good

<u>SHEEN</u> no	<u>FLOATING PRODUCT</u> no	<u>SAMPLE COLOR</u> gold	<u>ODOR</u> no
--------------------	-------------------------------	-----------------------------	-------------------

<u>SEDIMENT/FOREIGN MATTER:</u> Sample clear
--

<u>SAMPLE ID#</u> MW-1	<u>ANALYSIS</u> TPHg, BTEX	<u>LABORATORY</u> S & W Lab.
---------------------------	-------------------------------	---------------------------------

<u>SAMPLE CONTAINERS</u> 3/ 40-ml VOAs	<u>PRESERVATIVE</u> none (24 hr.analysis)
---	--

MONITORING WELL SAMPLING DATA
MONITORING WELL NO.2

PROJECT NAME: ALAMEDA FIRE STATION #2
WELL # MW-2

DATE: JANUARY 11, 1993

NAME: Helen Mawhinney
TIME BEGAN: 11:25

DEPTH OF WELL (FT.) 17.7
DEPTH OF WATER (FT.) 5.3
WELL DIAM. 2"

<u>TIME</u>	<u>GALLONS</u>	<u>pH</u>	<u>TEMP.</u>	<u>COND.</u>
11:25	1	7.96	60.4	3.47
11:30	2	7.94	60.5	3.47
11:35	3	7.93	60.5	3.48
11:40	4	7.90	60.5	3.51
11:45	5	7.90	60.4	3.53
11:50	7	7.90	60.4	3.53

VOLUME EVACUATED 8 gallons
PURGING EQUIP. Stainless Steel Bailer
SAMPLING EQUIP. Stainless Steel Bailer

DEPTH TO WATER UPON COMPLETION OF SAMPLING
Not measured.

SHEEN no
FLOATING PRODUCT no
SAMPLE COLOR gold
ODOR no

SEDIMENT/FOREIGN MATTER: sample clear

SAMPLE ID# MW-2
ANALYSIS TPHg, BTEX
LABORATORY S & W Lab

SAMPLE CONTAINERS 3/ 40-ml VOAs
PRESERVATIVE none (24 hr. analysis)

MONITORING WELL SAMPLING DATA
MONITORING WELL NO.3

<u>PROJECT NAME:</u>	<u>WELL #</u>
ALAMEDA FIRE STATION #2	MW-3

DATE:
JANUARY 11, 1993

<u>NAME:</u>	<u>TIME BEGAN:</u>
Helen Mawhinney	12:00p

<u>DEPTH OF WELL (FT.)</u>	<u>DEPTH OF WATER (FT.)</u>	<u>WELL DIAM.</u>
17.6	6.0	2"

<u>TIME</u>	<u>GALLONS</u>	<u>pH</u>	<u>TEMP.</u>	<u>COND.</u>
12:00	1	7.68	57.1	1.53
12:05	2	7.68	57.3	1.52
12:10	3	7.67	57.3	1.52
12:15	4	7.63	57.4	1.53
12:20	5	7.65	57.5	1.53
12:25	7	7.65	57.5	1.53

<u>VOLUME EVACUATED</u>	<u>PURGING EQUIP.</u>	<u>SAMPLING EQUIP.</u>
8 gallons	Stainless Steel Bailer	Stainless Steel Bailer

DEPTH TO WATER UPON COMPLETION OF SAMPLING
Not measured. Recharge very good

<u>SHEEN</u>	<u>FLOATING PRODUCT</u>	<u>SAMPLE COLOR</u>	<u>ODOR</u>
no	no	gold	no

SEDIMENT/FOREIGN MATTER: very little silt

<u>SAMPLE ID#</u>	<u>ANALYSIS</u>	<u>LABORATORY</u>
MW-3	TPHg, BTEX	S & W Lab.

<u>SAMPLE CONTAINERS</u>	<u>PRESERVATIVE</u>
3/ 40-ml VOAs	none (24 hr.analysis)

MONITORING WELL SAMPLING DATA/MW-2

<u>Project Name:</u>		<u>Well#</u>			
ALAMEDA FIRE STATION# 2		MW-2			
<u>Date:</u>		September 4, 1992			
<u>Name:</u>		<u>Time Began:</u>			
Mawhinney		3:12			
<u>DEPTH OF WELL(ft.)</u>	<u>DEPTH TO WATER(ft.)</u>	<u>WELL DIAM.</u>			
17.7	7.33	2"			
<u>Time</u>	<u>Gallons</u>	<u>Salinity</u>	<u>pH</u>	<u>Temp.</u>	<u>Cond.</u>
3:12	1	.05	7.5	25 C	1.46
3:30	3	.05	7.3	23 C	1.00
3:41	5	.04	7.0	23 C	1.26
3:54	8	.04	7.3	23 C	1.20
4:11	10	.04	7.3	23 C	1.24
<u>Volume Evacuated</u>	<u>Purging Equip.</u>	<u>Sampling Equip.</u>			
10 gallons	Stainless Steel Bailer	Stainless Steel Bailer			
<u>Depth to Water Upon Completion of Sampling</u>					
Not measured.		Recharge very good			
<u>Sheen</u>	<u>Floating Product</u>	<u>Sample Color</u>	<u>Odor</u>		
no	no	gold	no		
<u>Sediment/Foreign Matter: sample clear</u>					
<u>Sample ID#</u>	<u>Analysis</u>	<u>Laboratory</u>			
MW-2	TPHg, BTEX	S & W Lab.			
<u>Sample Containers</u>		<u>Preservative</u>			
3/ 40-ml VOAs		None (24 hr analysis)			

MONITORING WELL SAMPLING DATA/MW-3

Project Name: ALAMEDA FIRE STATION# 2 Well# MW-3

Date: September 4, 1992

Name: Mawhinney Time Began: 4:29

DEPTH OF WELL(ft.) 17.73 DEPTH TO WATER(ft.) 7.93 WELL DIAM. 2"

<u>Time</u>	<u>Gallons</u>	<u>Salinity</u>	<u>pH</u>	<u>Temp.</u>	<u>Cond.</u>
12:21	1	.04	7.6	26 C	1.25
12:34	3	.05	7.5	25 C	1.38
12:48	5	.04	7.3	23 C	1.26
1:01	8	.04	7.2	24 C	1.26
1:15	10	.04	7.3	23 C	1.24

Volume Evacuated 10 gallons Purging Equip. Stainless Steel Bailer Sampling Equip. Stainless Steel Bailer

Depth to Water Upon Completion of Sampling
Recharge very good

Sheen no Floating Product no Sample Color gold Odor no

Sediment/Foreign Matter: sample clear

Sample ID# MW-3 Analysis TPHg, BTEX Laboratory S & W Lab.

Sample Containers 3/ 40-ml VOAs Preservative None (24 hr analysis)

MONITORING WELL SAMPLING DATA/MW-4

<u>Project Name:</u>		<u>Well#</u>			
ALAMEDA FIRE STATION# 2		MW-4			
<u>Date:</u>		September 4, 1992			
<u>Name:</u>		<u>Time Began:</u>			
Mawhinney		4:29			
<u>DEPTH OF WELL(ft.)</u>	<u>DEPTH TO WATER(ft.)</u>	<u>WELL DIAM.</u>			
19.81	7.26	2"			
<u>Time</u>	<u>Gallons</u>	<u>Salinity</u>	<u>pH</u>	<u>Temp.</u>	<u>Cond.</u>
2:01	1	.04	7.6	26 C	1.25
2:16	3	.05	7.5	25 C	1.38
2:25	5	.04	7.3	23 C	1.26
2:45	8	.04	7.2	24 C	1.26
3:01	10	.04	7.3	23 C	1.24
<u>Volume Evacuated</u>	<u>Purging Equip.</u>	<u>Sampling Equip.</u>			
10 gallons	Stainless Steel Bailer	Stainless Steel Bailer			
<u>Depth to Water Upon Completion of Sampling</u>					
Recharge very good					
<u>Sheen</u>	<u>Floating Product</u>	<u>Sample Color</u>	<u>Odor</u>		
no	no	gold	no		
<u>Sediment/Foreign Matter: sample clear</u>					
<u>Sample ID#</u>	<u>Analysis</u>	<u>Laboratory</u>			
MW-4	TPHg, BTEX	S & W Lab.			
<u>Sample Containers</u>		<u>Preservative</u>			
3/ 40-ml VOAs		None (24 hr analysis)			