

100 Pine Street, 10th Floor
San Francisco, CA 94111
(415) 434-9400 • FAX (415) 434-1365



13 August 1993
Project 1736.11

Ms. Juliet Shin
Alameda County Health Care Services Agency
Division of Hazardous Materials
Department of Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

Subject: Quarterly Monitoring Report
Calendar Quarter July - September 1993
1150 Marina Village Parkway
Marina Village Development
Alameda, California

Dear Ms. Shin:

On behalf of Alameda Real Estate Investments, Inc. (AREI), Geomatrix Consultants, Inc. (Geomatrix), is submitting the subject report. The next quarterly groundwater sampling event is scheduled for October 1993. If you have any questions regarding this report, please call either of the undersigned.

Sincerely,

GEOMATRIX CONSULTANTS, INC.

Handwritten signature of Jeff Nelson in black ink.

Jeff Nelson
Project Manager

Handwritten signature of Elizabeth Nixon in black ink.

Elizabeth Nixon
Senior Project Engineer

JCN/slr
1736V1150QRT2.LTR

Enclosure

cc: Ms. Kathy Luck, AREI
Mr. Richard Hiett, Regional Water Quality Control Board

93 AUG 19 AM 11:24

**QUARTERLY MONITORING REPORT
CALENDAR QUARTER JULY - SEPTEMBER 1993**

**1150 Marina Village Parkway
Marina Village Development
Alameda, California**

Prepared for

**Alameda Real Estate Investments
1150 Marina Village Parkway
Alameda, California**

**August 1993
Project No. 1736.11**

Geomatrix Consultants

TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION	1
1.1 Background	1
2.0 QUARTERLY PROGRESS SUMMARY	1
3.0 QUARTERLY WATER-LEVEL MEASUREMENTS	2
4.0 QUARTERLY GROUNDWATER SAMPLING AND ANALYSIS	3

LIST OF TABLES

Table 1	Well Construction Data
Table 2	Water-Level Measurements
Table 3	Analytical Results for Groundwater Samples

LIST OF FIGURES

Figure 1	Site Vicinity Map
Figure 2	Monitoring Wells and Water-Level Elevations

LIST OF APPENDICES

Appendix A	Laboratory Analytical Results and Chain-of-Custody Records
------------	--

QUARTERLY MONITORING REPORT
CALENDAR QUARTER JULY - SEPTEMBER 1993
1150 Marina Village Parkway
Marina Village Development
Alameda, California

1.0 INTRODUCTION

This report presents a summary of groundwater monitoring activities conducted by Geomatrix Consultants, Inc. (Geomatrix), on behalf of Alameda Real Estate Investments, Inc. (AREI), at 1150 Marina Village Parkway, Alameda, California (Figure 1). These activities are part of a quarterly groundwater monitoring program initiated in January 1993 and conducted during July 1993. The purpose of this program is to comply with Alameda County Department of Environmental Health (ACDEH) requirements for closure of underground storage tank (UST) sites. Work at the site was completed in accordance with the scope of work submitted to ACDEH by Geomatrix on 29 December 1992.

1.1 BACKGROUND

One UST apparently was installed at the site in the 1940s by former property owners and was used to store diesel fuel. AREI removed the tank and associated petroleum-containing soil in 1989; the location of the former UST and soil excavation boundary are shown on Figure 2.

2.0 QUARTERLY PROGRESS SUMMARY

The work performed during this quarter is summarized below:

- Water levels were measured in four monitoring wells in the site vicinity on 7 July 1993. Water-level measurements and procedures are described in Section 3.0.
- Geomatrix performed the third of four quarterly groundwater sampling events on 7 July 1993. Section 4.0 describes the groundwater sampling activities, analytical procedures, and results.

3.0 QUARTERLY WATER-LEVEL MEASUREMENTS

Geomatrix measured water levels in four groundwater monitoring wells at or near the site on 7 July 1993. Well construction data for these wells are summarized in Table 1. Monitoring well locations and water-level elevations are shown on Figure 2. Water levels were measured to the nearest 0.01 foot using a Sinco electric well sounder following Geomatrix protocols previously submitted with the initial quarterly monitoring report for this project. Equipment used by Geomatrix personnel was washed with a detergent-water solution and rinsed with deionized water, before each measurement was taken. Water-level measurements from this quarterly monitoring event are summarized in Table 2.

Water-level elevations at or near the site ranged from -5.77 feet at well WC-3 to -1.57 feet at well GMW-1 (City of Alameda Datum). Water-level elevation data near the vicinity of the former excavation suggest that the local hydraulic gradient direction generally is to the west. Based on this gradient, well GMW-6 is down gradient of the former UST and soil excavation. The horizontal hydraulic gradient in the site and vicinity ranges from about 0.005 to 0.01 feet per foot.

4.0 QUARTERLY GROUNDWATER SAMPLING AND ANALYSIS

A groundwater sample was collected from monitoring well GMW-6 on 7 July 1993. Sample collection was in accordance with Geomatrix protocols previously submitted for this project. Immediately after collection, the groundwater sample was placed in an ice-chilled cooler and transported under Geomatrix chain-of-custody procedures to American Environmental Network (AEN), of Pleasant Hill, California, a state-certified analytical laboratory.

The sample was analyzed by AEN for total petroleum hydrocarbons as diesel (TPHd), according to Environmental Protection Agency (EPA) Method 3520 GCFID, and benzene, toluene, ethylbenzene, and xylenes (BTEX) according to EPA Method 8020. Copies of chain-of-custody records are included in Appendix A.

The results of chemical analyses performed on the groundwater sample collected during this quarter are presented in Table 3. An extractable hydrocarbon characterized as diesel was detected in the groundwater sample at a concentration of 100 micrograms per liter. No BTEX was detected in the groundwater sample. Laboratory reports are included in Appendix A.

TABLE 1

WELL CONSTRUCTION DATA
 1150 Marina Village Parkway
 Marina Village
 Alameda, California

Well Number	Date Constructed	Well Depth (ft. below grade)	Screened Interval (ft. below grade)	Filter Pack Interval (ft. below grade)	Measuring Point Elevation ¹ (feet)	Ground Surface Elevation (feet)
LF-2 ²	1988	15	5-15	3-15	4.92	4.52
WC-3 ³	1987	14	7-14	unknown	3.66	4.21
GMW-1 ⁴	4/15/92	13.5	3.5-13.5	3-13.5	3.86	4.24
GMW-6 ⁴	2/1/93	18	4-18	3.5-18	3.98	4.2 ⁵

- ¹ Top of PVC casing elevations were surveyed by Luk, Milani & Associates (formerly Stedman & Associates, Inc.) of Walnut Creek, California. Elevations are relative to City of Alameda Datum (6.4 feet above Mean Sea Level).
- ² LF-2 was installed by Levine-Fricke, Inc. in 1988.
- ³ WC-3 was installed by Woodward-Clyde Consultants, Inc. in 1987.
- ⁴ GMW-1 and GMW-2 were installed by Geomatrix Consultants, Inc.
- ⁵ Ground surface elevation is approximate.

TABLE 2

WATER-LEVEL MEASUREMENTS
 1150 Marina Village Parkway
 Marina Village
 Alameda, California

Well Number	Date Water Level Measured	Measuring Point (MP) Elevation ¹ (feet)	Depth to Water Below MP (feet)	Water-Level Elevation ¹ (feet)
LF-2	2/8/93	4.92	8.83	-3.91
WC-3	2/8/93	3.66	8.57	-4.91
GMW-1	2/8/93	3.86	3.10	.76
GMW-6	2/8/93	3.98	3.33	.65
LF-2	4/5/93	4.92	9.25	-4.33
WC-3	4/5/93	3.66	9.37	-5.71
GMW-1	4/5/93	3.86	5.57	-1.71
GMW-6	4/5/93	3.98	5.89	-1.91
LF-2	7/7/93	4.92	9.01	-4.09
WC-3	7/7/93	3.66	9.43	-5.77
GMW-1	7/7/93	3.86	5.43	-1.57
GMW-6	7/7/93	3.98	5.66	-1.68

¹ Top of PVC casing elevations were surveyed by Luk, Milani & Associates (formerly Stedman & Associates, Inc.) of Walnut Creek, California. Elevations are relative to City of Alameda Datum (6.4 feet above Mean Sea Level).

TABLE 3

ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES¹

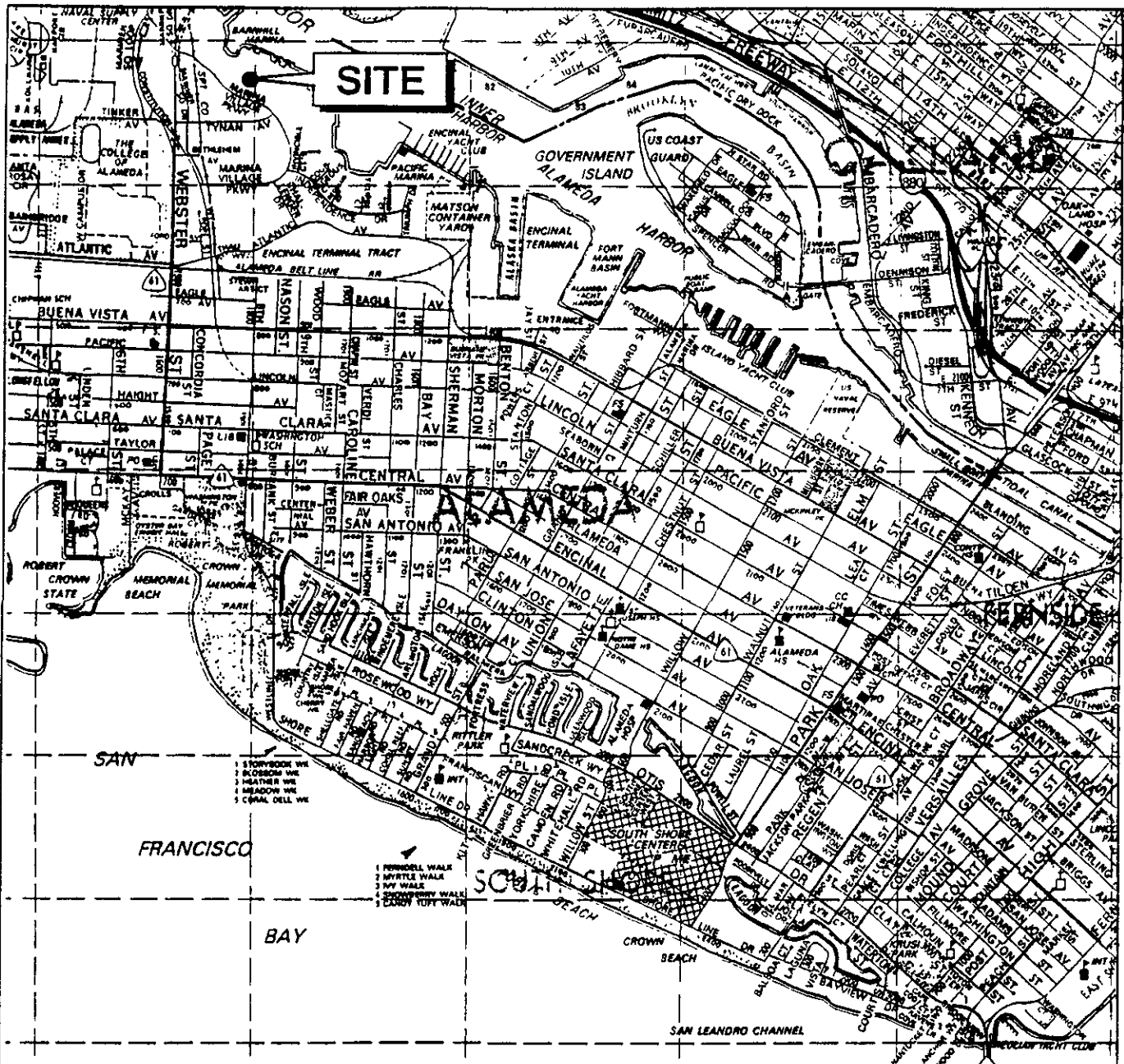
1150 Marina Village Parkway
 Marina Village
 Alameda, California

Results in micrograms per liter ($\mu\text{g/l}$)

Well Number	Sample Date	Extractable Petroleum Hydrocarbons as Diesel	Benzene	Toluene	Ethylbenzene	Xylenes (Total)
GMW-6	2/11/93	<50	<0.5	<0.5	<0.5	<2.0
GMW-6	4/5/93	300 ²	<0.5	<0.5	<0.5	<2.0
GMW-6	7/7/93	100	<0.5	<0.5	<0.5	<2.0

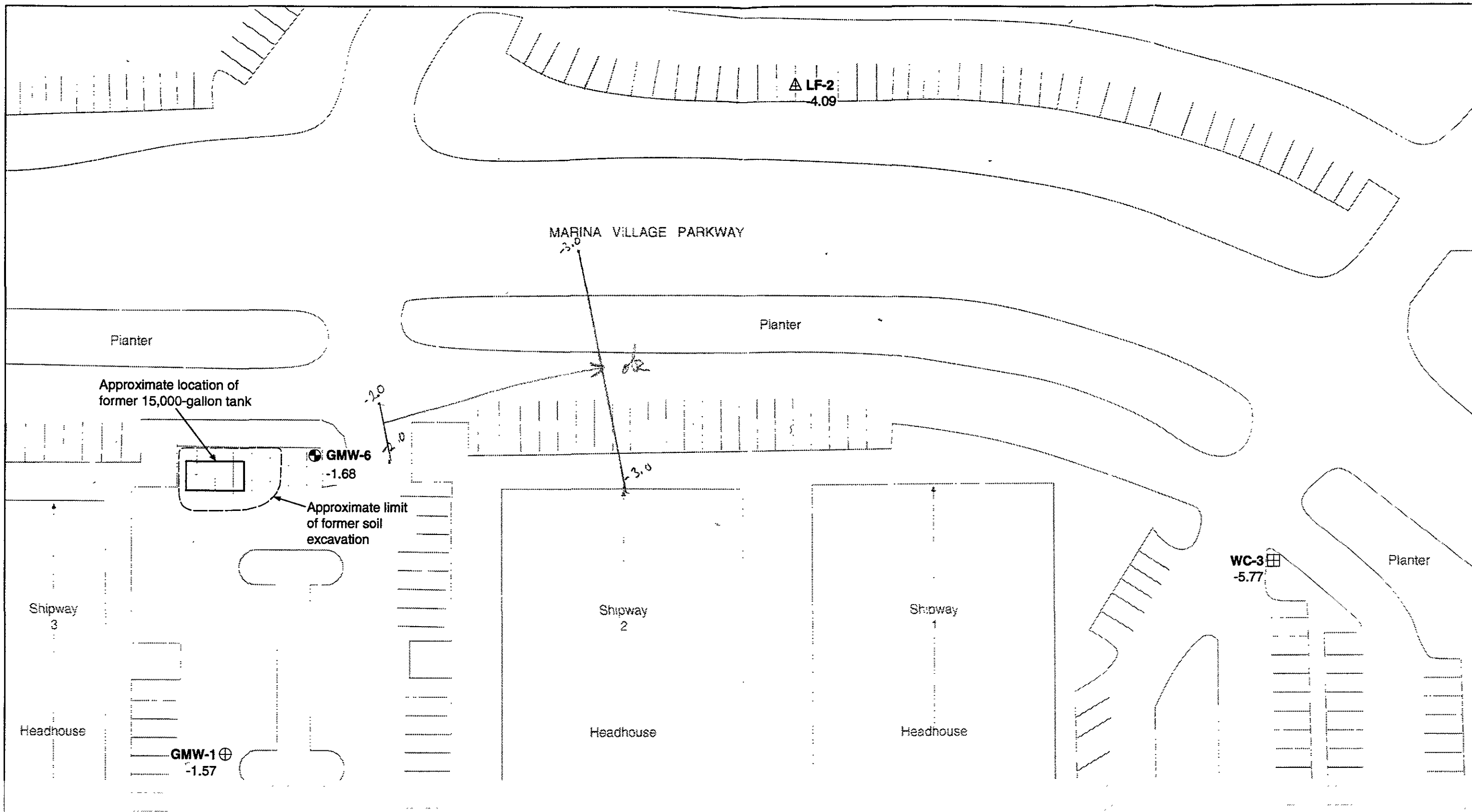
¹ Samples analyzed by American Environmental Network (formerly Quanteq Laboratories) of Pleasant Hill, California.

² Hydrocarbon pattern resembles a weathered diesel or a light oil.







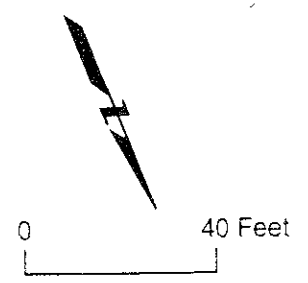
SITE VICINITY MAP
 1150 Marina Village Parkway
 Marina Village Development
 Alameda, California

Figure
 1
 Project No.
 1736.11



EXPLANATION

- GMW-6  Groundwater monitoring well. Geomatrix, February 1993
- GMW-1  Groundwater monitoring well. Geomatrix, April 1992
- LF-2  Groundwater monitoring well. Levine-Fricke, 1988
- WC-3  Groundwater monitoring well. Woodward-Clyde, 1987
- 4.33 Water-level elevation, in feet (City of Alameda Datum)



SITE PLAN SHOWING MONITORING WELLS AND WATER-LEVEL ELEVATIONS (JULY 1993)
 1150 Marina Village Parkway
 Marina Village Development
 Alameda, California



Project No
1736.11

Figure
2

American Environmental Network

Genetics of Analysis

DOHS Certification: 1172

MHA Accreditation: 94523-001

PAGE 1 OF 6

GEOMATRIX CONSULTANTS
100 PINE STREET
10TH FLOOR
SAN FRANCISCO, CA 94111
ATTN: JEFF NELSON

REPORT DATE: 07/21/93

DATE SAMPLED: 07/07/93

DATE RECEIVED: 07/07/93

CLIENT PROJ. ID: 1736.11
C.O.C. NO: 4004

AEN JOB NO: 9307067

PROJECT SUMMARY:

On July 7, 1993, this laboratory received one (1) water sample.

Client requested the sample be analyzed for organic parameters. Sample identification, methodologies, results and dates analyzed are summarized on the following pages.

Sample extract for Extractable Hydrocarbons as Diesel was treated with silica gel prior to analysis.

All laboratory quality control parameters were found to be within established limits. Batch QC data is included at the end of this report.

If you have any questions, please contact Client Services at (510) 930-9090.



Larry Klein
General Manager

Results FAXed 07/16/93

GEOMATRIX CONSULTANTS

DATE SAMPLED: 07/07/93
DATE RECEIVED: 07/07/93
CLIENT PROJ. ID: 1736.11

REPORT DATE: 07/21/93
AEN JOB NO: 9307067

Client Sample Id.	AEN Lab Id.	Extractable Hydrocarbons as Diesel (mg/L)
GMW-6	01A	0.1
Reporting Limit		0.05
Method: 3520 GCFID		
Instrument: C		
Date Extracted: 07/09/93		
Date Analyzed: 07/13/93		

GEOMATRIX CONSULTANTS

SAMPLE ID: GMW-6
CLIENT PROJ. ID: 1736.11
DATE SAMPLED: 07/07/93
DATE RECEIVED: 07/07/93
REPORT DATE: 07/21/93

AEN LAB NO: 9307067-01C
AEN JOB NO: 9307067
DATE ANALYZED: 07/08/93
INSTRUMENT: F

BTEX (WATER MATRIX)
METHOD: EPA 8020 (5030)

COMPOUND	CAS #	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Benzene	71-43-2	ND	0.5
Toluene	108-88-3	ND	0.5
Ethylbenzene	100-41-4	ND	0.5
Xylenes, Total	1330-20-7	ND	2

ND = Not Detected

QUALITY CONTROL DATA

DATE EXTRACTED: 07/09/93
 DATE ANALYZED: 07/13/93
 CLIENT PROJ. ID: 1736.11

AEN JOB NO: 9307067
 SAMPLE SPIKED: D.I. WATER
 INSTRUMENT: C

MATRIX SPIKE RECOVERY SUMMARY
 TPH EXTRACTABLE WATER
 METHOD: EPA 3520 GCFID

ANALYTE	Spike Conc. (mg/L)	Sample Result (mg/L)	MS Result (mg/L)	MSD Result (mg/L)	Average Percent Recovery	RPD
Diesel	2.02	ND	1.75	1.62	83.4	7.7

CURRENT QC LIMITS (Revised 06/22/92)

Analyte	Percent Recovery	RPD
Diesel	(45.0-103.3)	25

MS = Matrix Spike
 MSD = Matrix Spike Duplicate
 RPD = Relative Percent Difference
 ND = Not Detected

QUALITY CONTROL DATA

CLIENT PROJ. ID: 1736.11

AEN JOB NO: 9307067

INSTRUMENT: F

SURROGATE STANDARD RECOVERY SUMMARY
METHOD: EPA 8020
(WATER MATRIX)

Date Analyzed	SAMPLE IDENTIFICATION		SURROGATE RECOVERY (PERCENT)
	Client Id.	Lab Id.	Fluorobenzene
07/08/93	GMW-6	01D	93.0

CURRENT QC LIMITS

<u>ANALYTE</u>	<u>PERCENT RECOVERY</u>
Fluorobenzene	(70-115)

QUALITY CONTROL DATA

DATE ANALYZED: 07/08/93
 SAMPLE SPIKED: 9307044-01A
 CLIENT PROJ. ID: 1736.11

AEN JOB NO: 9307067
 INSTRUMENT: F

MATRIX SPIKE RECOVERY SUMMARY
 METHOD: EPA 8020, 5030 GCFID
 (WATER MATRIX)

ANALYTE	Spike Conc. (ug/L)	Sample Result (ug/L)	MS Result (ug/L)	MSD Result (ug/L)	Average Percent Recovery	RPD
Benzene	13.1	ND	12.7	12.1	94.7	4.8
Toluene	45.4	ND	45.0	42.6	96.5	5.5

CURRENT QC LIMITS (Revised 05/14/92)

Analyte	Percent Recovery	RPD
Benzene	(81.4-115.3)	10.2
Toluene	(85.3-112.4)	9.4

MS = Matrix Spike
 MSD = Matrix Spike Duplicate
 RPD = Relative Percent Difference
 ND = Not Detected

R-1, S-C/G

9307067

Chain-of-Custody Record

No. 4004

Date: 7/7/93

Page 1 of 1

Project No:
1736.11

Samplers (Signatures)
James M Carolan

ANALYSES										REMARKS				
EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX					Cooled	Soil (S) or water (W)	Acidified	Number of containers
					X	X					X	W	X	5
Empty grid area														

Additional comments

OIA-E

Silica gel Cleanup Requested for TPH

Date	Time	Sample Number
7/7/93	12:15	GmW-6
Empty grid area		

Turnaround time: Standard

Results to: Jeff Nelson

Total No. of containers: 5

Relinquished by:

Signature: James M Carolan

Printed name: Jim Carolan

Company: Geomatrix

Received by:

Signature: Neil Herack

Printed name: NEIL HERACK

Company: AEN

Date: 7/7/93

Relinquished by:

Signature: Neil Herack

Printed name: NEIL HERACK

Company: AEN

Received by:

Signature: Neil Herack

Printed name: NEIL HERACK

Company: AEN

Date: 7/7/93

Relinquished by:

Signature: Neil Herack

Printed name: NEIL HERACK

Company: AEN

Received by:

Signature: Anna Gallespie

Printed name: Anna Gallespie

Company: AEN

Date: 7/7/93

Method of shipment: Lab Pickup

Laboratory comments and Log No:

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434 9400