

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

ENVIRONMENTAL
PROTECTION

OCT -4 PM 4:11



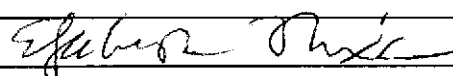
Transmittal

Date	3 October 1996	Transmitted Via	
To	Ms. Madhulla Logan	<input type="checkbox"/> Messenger	
	Alameda Health Care Services Agency	<input checked="" type="checkbox"/> U.S. Mail	
	Department of Environmental Health	<input type="checkbox"/> Overnight Mail	
	1131 Harbor Bay Parkway	Tel. #	510-567-6764
	Alameda, California 94502	<input type="checkbox"/> Fax	
Project Number	1736.14	Fax #	510-337-9335
Project Name	Marina Village, Alameda, California	Total Pages	

Item	Description
1	December 1993, Quarterly Monitoring Report, Calendar Quarter: October - December 1993, Parcel H, Marina Village Development, Alameda, California
1	February 4, 1993 letter from ACHCSA re: Marina Village Development, Parcel H, Building 4 and 5.

Remarks:

As discussed on the telephone, we are providing you a copy of the subject report to complete your files. Since 1993, the property has been developed, and the address of the property is now 1101 Marina Village Parkway. At your convenience, we would like to discuss the regulatory status of the project; a site management plan was developed and implemented in 1993, including a groundwater monitoring program used to verify that site conditions were not adversely affecting groundwater. Based on the results of the monitoring, we are recommending that no further groundwater monitoring be performed at the property. Once you have had a chance to refamiliarize yourself with the site, please call me to arrange a date that we can meet and discuss this recommendation.

Sincerely, 
From: Elizabeth Nixon
cc: Rahn Verhaeghe, AREI

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY
DAVID J. KEARS, Agency Director



RAFAT A. SHAHID, Assistant Agency Director

85 OCT -4 PM 4: 11

DEPARTMENT OF ENVIRONMENTAL HEALTH
Hazardous Materials Division
80 Swan Way, Rm. 200
Oakland, CA 94621
(510) 271-4320

February 4, 1993

Elizabeth Nixon
Project Manager
Geomatrix Consultants, Inc.
100 Pine Street, 10th Floor
San Francisco, CA 94111

RE: MARINA VILLAGE DEVELOPMENT, PARCEL H, BUILDINGS 4 AND 5

Dear Ms. Nixon:

I am in receipt of your letter dated 12/27/93. I also have reviewed your 6/92 risk assessment report on the asphaltic fill material found at the above site. I am also satisfied with the extent of soil characterization that were performed to determine the lead contamination at this site. Based on the current available data, this site does not pose a threat to public health.

I have also reviewed your 1/18/93 report on long-term groundwater management plan for this site. I also understand that you are conducting further leachability studies, to evaluate the potential threat of the residual lead to the groundwater. Once these results are available, a revised groundwater management plan should be submitted for review and approval. In the mean time, I have no objection to the development of this site for its intended commercial use.

Please be aware that this does not free present or future landowners or operators from cleanup responsibilities in the event that new information indicates a pollutant problem on the site or originating from the site.

Should you have any questions, please call me at 510/271-4320.

Sincerely,

Ravi Arulanantham
Senior Hazardous Materials Specialist

c: Richard Hiett, RWQCB
Kevin Tinsley, ACDEH
Files
GEOMALA93

ENVIRONMENTAL
PROTECTION

96 OCT -4 PM 4:18



**QUARTERLY MONITORING REPORT
CALENDAR QUARTER: OCTOBER - DECEMBER
1993**

**Parcel H
Marina Village Development
Alameda, California**

Prepared for

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

**December 1993
Project No. 1736.10**

Geomatrix Consultants

4721 Tidewater Avenue, Suite C
Oakland, CA 94614
(510) 535-2445 • FAX (510) 535-2408



12 January 1994
Project 1736.10

Ms. Madhulla Logan
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 October - December 1993
Proposed Buildings 4 and 5, Parcel H
Marina Village
Alameda, California

Dear Ms. Logan:

On behalf of Alameda Real Estate Investments, Inc. (AREI), Geomatrix Consultants, Inc. (Geomatrix), is submitting the subject report. This is the final report for the four quarterly monitoring events conducted in 1993. Based on results of the four quarterly monitoring events performed in accordance with the continued site management plan outlined to in our January 1993 report "Phase I and Phase II Evaluation of Fill Material, Proposed Buildings 4 and 5 - Parcel H" submitted to the Alameda County Health Care Services Agency, we recommend the monitoring frequency be reduced to a biennial schedule. If you have any questions regarding this report, please call either of the undersigned.

Sincerely,

GEOMATRIX CONSULTANTS, INC.

Jeff Nelson, P.E.
Project Manager

Elizabeth Nixon
Senior Project Engineer

JCN/efr
1736PRCHQRT3.LTR

Enclosure

cc: Mr. Rahn Verhaeghe, AREI
Mr. Richard Hiatt, Regional Water Quality Control Board

Geomatrix Consultants, Inc.
Engineers, Geologists, and Environmental Scientists

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**QUARTERLY MONITORING REPORT
CALENDAR QUARTER OCTOBER - DECEMBER 1993**

Parcel H
Marina Village
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), near the site of proposed Buildings 4 and 5, Parcel H, Marina Village Development, Alameda, California (Figure 1). These activities are part of a quarterly groundwater monitoring program initiated in January 1993 and conducted during October 1993. The purpose of this program is to comply with an Alameda County Department of Environmental Health (ACDEH) request to assess petroleum hydrocarbons in shallow groundwater downgradient of the property. Work at the site was completed in accordance with the proposed site management plan included in the January 1993 report entitled "Phase I and Phase II, Evaluation of Fill Material, Proposed Buildings 4 and 5 - Parcel H" submitted to ACDEH by Geomatrix.

2.0 QUARTERLY PROGRESS SUMMARY

The work performed during this quarter is summarized below:

- Water levels were measured in four monitoring wells in the vicinity of the site on 15 October 1993. Water-level measurements and procedures are described in Section 3.0.
- Geomatrix performed the fourth of four quarterly groundwater sampling events on 15 October 1993. Section 4.0 describes the groundwater sampling activities and 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 15 October 1993. Well construction data for these wells are summarized in Table 1. Monitoring well locations, water-level elevations and horizontal hydraulic gradient direction are shown on Figure 2. Water levels were measured to the nearest 0.01 foot using a Sinco electric well sounder following the Geomatrix protocol 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; field notes are included in Appendix A.

Water-level elevations across the site ranged from -2.49 feet at well GMW-3 to -0.21 feet at well GMW-4 (City of Alameda Datum). Historical water-level elevation data suggest that localized hydraulic gradient direction varies in the site vicinity; this variability may be caused by tidal influences, recharge from surface irrigation, and/or the presence of relatively impermeable subsurface structures, particularly in the vicinity of the shipway structures (see Figure 2). Therefore, interpretation of the hydraulic gradient direction is somewhat uncertain in the immediate vicinity of the site. However, based on previous experience in this area, the horizontal hydraulic gradient generally trends to the northwest. Based on this quarter's data, the horizontal hydraulic gradient in the site and vicinity ranges from about 0.003 to 0.01 feet per foot.

4.0 QUARTERLY GROUNDWATER SAMPLING AND ANALYSIS

Groundwater samples were collected from monitoring wells GMW-3 and GMW-5 on 15 October 1993. Samples were collected in accordance with the Geomatrix protocol previously submitted for this project. Sampling field notes are included in Appendix A. Immediately after collection, groundwater samples were 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.

Samples were analyzed by AEN for total petroleum hydrocarbons (TPH) as motor oil, according to Environmental Protection Agency (EPA) Method 3510 GCFID. Copies of chain-of-custody records are included in Appendix A. TPH as motor oil was detected at a concentration of 0.4 milligrams per liter (mg/l) in the sample from well GMW-5; TPH as motor oil was detected at a concentration of 0.6 mg/l in the sample collected from well GMW-3. Laboratory results are presented in Table 3; laboratory reports are included in Appendix A.

5.0 RECOMMENDATIONS

Based on the four quarterly groundwater monitoring events conducted in 1993, the following observations have been made:

- Groundwater elevations have fluctuated by about two feet in three of the four wells and by 5.75 feet in the other well. The groundwater horizontal hydraulic gradient has ranged from 0.002 to 0.04 foot/foot during four sampling events. The hydraulic gradient direction has generally been to northwest.
- Results of chemical analysis for TPH as motor oil have ranged from non-detectable to 0.6 mg/l in downgradient well GMW-3, and were 0.4 mg/l during the four sampling events in downgradient well GMW-5.

These observations indicate that hydraulic parameters and groundwater quality beneath the site have remained stable over the past year. Additionally, results of groundwater monitoring programs in other parts of Marina Village Development suggest that low concentrations of extractable petroleum hydrocarbons detected at the site may be representative of general groundwater quality in the site vicinity rather than specifically related to petroleum hydrocarbons present in near-surface fill soil at the site.

Based on these results, we recommend that the groundwater monitoring frequency be reduced to a biennial schedule.

TABLE 1
WELL CONSTRUCTION DATA
 Parcel H
 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 ^{1,2} (feet)
GP-1	4/15/92	17	7-17	6-17	6.66	6.07
GMW-3	4/16/92	13.5	3.5-13.5	2.5-14	4.39	4.55
GMW-4	4/16/92	13.5	3.5-13.5	2.5-14	7.36	6.80
GMW-5	2/1/93	20	5-20	4-20	5.37	5.6 ²

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 Ground surface elevation is approximate.

TABLE 2
 WATER-LEVEL MEASUREMENTS
 Parcel H
 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)
GP-1	5/6/92	6.66	8.29	-1.63
GMW-3	5/6/92	4.39	6.42	-2.03
GMW-4	5/6/92	7.36	7.20	0.16
GP-1	2/8/93	6.66	7.77	-1.11
GMW-3	2/8/93	4.39	5.50	-1.01
GMW-4	2/8/93	7.36	6.31	1.05
GMW-5	2/8/93	5.37	5.49	-0.12
GP-1	4/5/93	6.66	7.84	-1.18
GMW-3	4/5/93	4.39	6.22	-1.83
GMW-4	4/5/93	7.36	7.02	0.34
GMW-5	4/5/93	5.37	6.15	-0.78
GP-1	7/7/93	6.66	8.46	-1.80
GMW-3	7/7/93	4.39	11.15	-6.76
GMW-4	7/7/93	7.36	7.73	-0.37
GMW-5	7/7/93	5.37	7.64	-2.27
GP-1	10/15/93	6.66	9.00	-2.34
GMW-3	10/15/93	4.39	6.88	-2.49
GMW-4	10/15/93	7.36	7.57	-0.21
GMW-5	10/15/93	5.37	7.75	-2.38

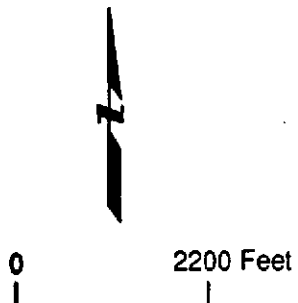
¹ Top of PVC casing elevations were surveyed by Luk, Milani & Associates (formerly Stedman & Associates, Inc.) of Walnut Creek, California. Elevations are relative to City of Alameda Datum (6.4 feet above Mean Sea Level).

TABLE 3
ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES
 Parcel H
 Marina Village
 Alameda, California

Results in milligrams per liter (mg/l)

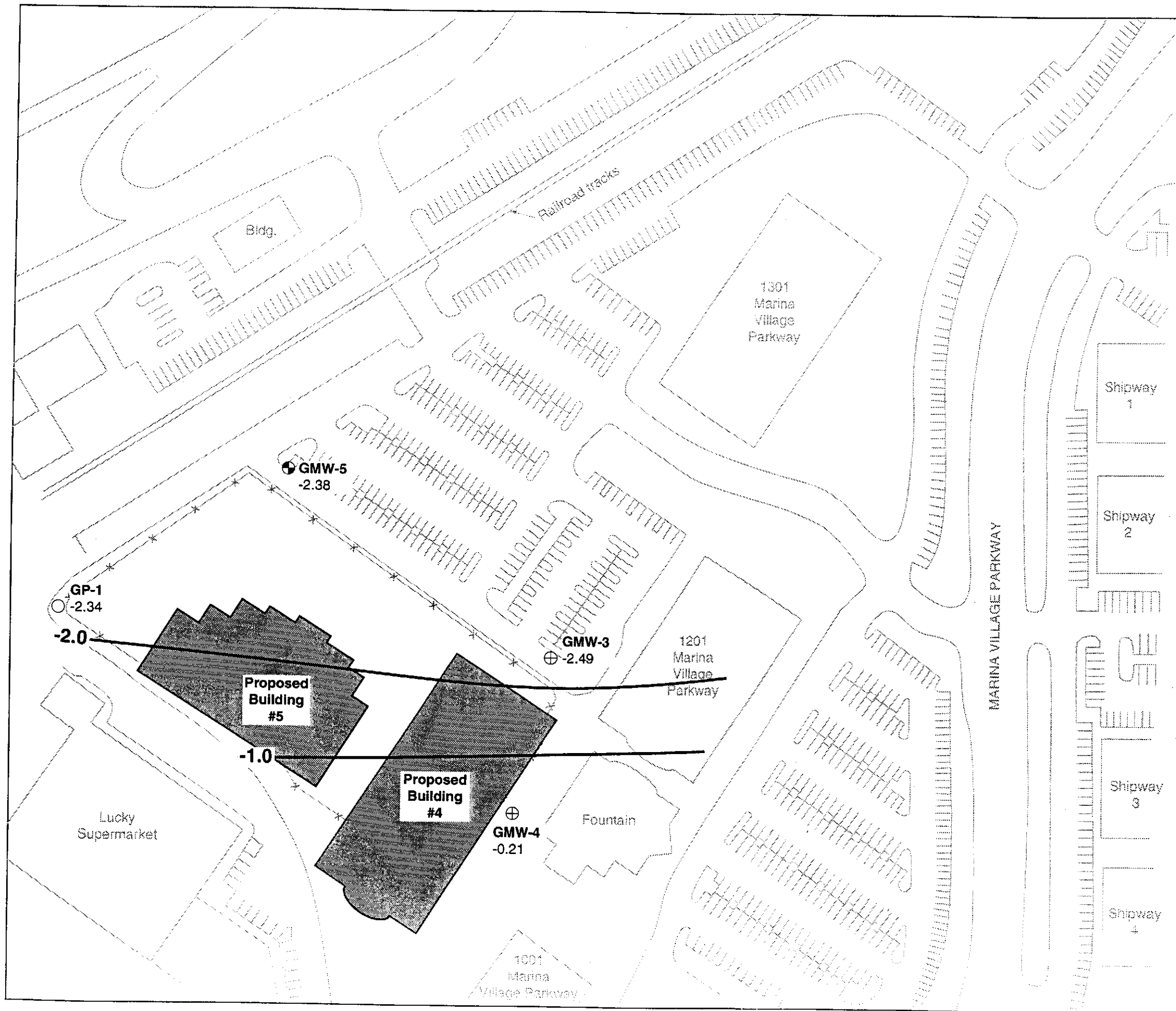
Well Number	Sample Date	Extractable Petroleum Hydrocarbons as Motor Oil ¹
GMW-3	2/11/93	0.2
GMW-5	2/11/93	0.4
GMW-3	4/5/93	0.4
GMW-5	4/5/93	0.4
GMW-3	7/7/93	<0.2
GMW-5	7/7/93	0.4
GMW-3	10/15/93	0.6
GMW-5	10/15/93	0.4

¹ Samples analyzed by American Environmental Network of Pleasant Hill, California according to EPA Methods 3510/3520 GCFID.



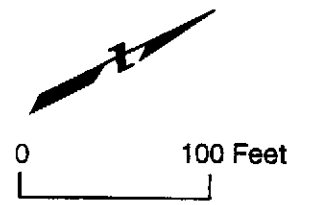
SITE LOCATION MAP
 Marina Village Buildings 4 and 5 Project
 Alameda, California

Figure
 1
 Project No.
 1736.10




EXPLANATION

- GMW-5 ● Groundwater monitoring well, Geomatrix, February 1993
- GMW-4 ⊕ Groundwater monitoring well, Geomatrix, April 1992
- GP-1 ○ Groundwater piezometer, Geomatrix, April 1992
- 0.21 Groundwater elevation, feet, relative to City of Alameda datum
- Lines of equal water-level elevation; based on interpretation of available data and are not intended to imply certainty



SITE PLAN SHOWING MONITORING WELLS AND WATER-LEVEL ELEVATIONS (OCTOBER 1993)
 Marina Village Development, Parcel H
 Alameda, California

	Project No.	Figure
	1736.10	2

APPENDIX A

**Laboratory Analytical Results
and Chain-of-Custody Records
for Groundwater Sampling Analyses;
Field Notes**

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172

AIHA Accreditation: 94523-001

PAGE 1

GEOMATRIX CONSULTANTS
100 PINE ST., 10TH FLOOR
SAN FRANCISCO, CA 94111

ATTN: JEFF NELSON

CLIENT PROJ. ID: 1736.10
C.O.C. NO: 3907

REPORT DATE: 11/05/93

DATE SAMPLED: 10/15/93

DATE RECEIVED: 10/15/93

AEN JOB NO: 9310161

PROJECT SUMMARY:

On October 15, 1993, this laboratory received two (2) water samples.

Client requested samples be analyzed for Extractable Hydrocarbons as Oil by EPA Method 3510 GCFID. Sample identification, results and dates analyzed are summarized on the following pages.

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 10/27/93

GEOMATRIX CONSULTANTS

SAMPLE ID: GMW-3
AEN LAB NO: 9310161-01
AEN WORK ORDER: 9310161
CLIENT PROJ. ID: 1736.10

DATE SAMPLED: 10/15/93
DATE RECEIVED: 10/15/93
REPORT DATE: 11/05/93

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for Diesel/Oil	EPA 3510				Extrn Date 10/22/09
TPH as Oil	GC-FID	0.6 *	0.2	mg/L	10/24/93

ND = Not detected
* = Indicates value above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: GMW-5
AEN LAB NO: 9310161-02
AEN WORK ORDER: 9310161
CLIENT PROJ. ID: 1736.10

DATE SAMPLED: 10/15/93
DATE RECEIVED: 10/15/93
REPORT DATE: 11/05/93

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for Diesel/Oil	EPA 3510				Extrn Date 10/22/09
TPH as Oil	GC-FID	0.4 *	0.2	mg/L	10/24/93

ND = Not detected
* = Indicates value above reporting limit

QUALITY CONTROL DATA

DATE EXTRACTED: 10/22/93
DATE ANALYZED: 10/24/93
CLIENT PROJ. ID: 1736.10

AEN JOB NO: 9310161
SAMPLE SPIKED: D.I. WATER
INSTRUMENT: C

MATRIX SPIKE RECOVERY SUMMARY
TPH EXTRACTABLE WATER
METHOD: EPA 3510 GCFID

ANALYTE	Spike Conc. (mg/L)	Sample Result (mg/L)	MS Result (mg/L)	MSD Result (mg/L)	Average Percent Recovery	RPD
Diesel	2.04	ND	2.01	1.88	95.3	6.7

CURRENT QC LIMITS (Revised 10/18/93)

<u>Analyte</u>	<u>Percent Recovery</u>	<u>RPD</u>
Diesel	(55-119)	8

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

*** END OF REPORT ***

R-3, S-1
R-1, S-D

9310161

Chain-of-Custody Record			No 3907		Date: 10/15/93		Page 1 of 1								
Project No.: 1736.10			ANALYSES						REMARKS						
Samplers (Signatures): James M Carolan			EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH OIL	Cooled	Soil (S) or water (W)	Acidified	Number of containers	Additional comments
Date	Time	Sample Number													
10/15	1330	GMW-3								X	W				
10/15	1300	GMW-5								X	W				
[Large diagonal watermark/signature across the grid]															
			Turnaround time: Standard			Results to: Jeff Nelson			Total No. of containers: 4						
Relinquished by:		Date:	Relinquished by:		Date:	Relinquished by:		Date:	Method of shipment:		Laboratory comments and Log No.:				
Signature: James M Carolan		10/15/93	Signature: Thomas R Jones		10/15/93	Signature: Ron Stallings		10-15-93	Lab Pickup						
Printed name: Jim Carolan			Printed name: THOMAS R JONES			Printed name: RON STALLINGS									
Company: Geomatrix			Company: GEOMATRIX			Company: AEN									
Received by:		Time:	Received by:		Time:	Received by:		Time:							
Signature: Thomas R Jones		15:30	Signature: Ron Stallings		16:15	Signature: Kevin Molander		1710							
Printed name: THOMAS R JONES			Printed name: Ron Stallings			Printed name: Kevin Molander									
Company: GEOMATRIX			Company: AEN			Company: AEN									

01A, 01B
02A, B



Geomatrix Consultants

100 Fina Street, 10th Floor
San Francisco, California 94111
(415) 434-9400

MONITORING WELL SAMPLING RECORD AND WELL DEVELOPMENT DATA

Well ID: GMW-5
 Sample ID: GMW-5 Duplicate ID: _____
 Sample Depth: 12ⁱⁿ 16
 Project No: 1736.10
 Project Name: Marina Village
 Date: 10/15/93
 Sampled By: JMC

Initial Depth to Water: 7.75
 Depth to Water after Purging: _____
 Total Depth of Well: 20'
 Well Diameter: 2"
 1 Casing Volume = 2
 4 Casing Volumes = 8 gallons
 Method of Purging: Diaphragm Pump
 Method of Sampling: Teflon Bailor

TIME	INTAKE DEPTH	RATE (gpm)	CUM. VOL (gal)	TEMP. (°C)	pH (units)	CONDUCTIVITY (µmhos/cm)	REMARKS (color, turbidity & sediment)
1235	19'	—	2	22.1	6.9	719,000	Clear, pumped dry
1239	19'		4	22.0	7.0	>19,000	Clear pumped dry
1244	19'		6	21.8	7.0	>19,000	Clear, pumped dry
1249	19'		8	21.8	7.0	>19,000	Clear, pumped dry
1300	16'	SAMPLE		21.7	7.0	>19,000	Clear

pH CALIBRATION (CHOOSE TWO)

Model or Unit No.:

Buffer Solution | pH 4.0 | pH 7.0 | pH 10.0 |

Temp. °C

Instrument Reading

SPECIFIC CONDUCTANCE - CALIBRATION:

Model or Unit No.:

KCL Solution (µmhos/cm at 20°C) | 1409 | 12855 |

Temp. °C

Instrument Reading

Notes



Geometrix Consultants

100 Pine Street, 10th Floor
 San Francisco, California 94111
 (415) 434-9400

**MONITORING WELL SAMPLING RECORD
 AND WELL DEVELOPMENT DATA**

Well ID: GMW - 3
 Sample ID: GMW-3 Duplicate ID.: _____
 Sample Depth: 10'
 Project No: 1736.10
 Project Name: Marina Village
 Date: 10/15/93
 Sampled By: JMC

Initial Depth to Water: 6.88' T.O.C.
 Depth to Water after Purging: _____
 Total Depth of Well: 14' T.O.C.
 Well Diameter: 2"
 1 Casing Volume = 1.16 gallons
 4 Casing Volumes = 5 gallons
 Method of Purging: Diaphragm Pump
 Method of Sampling: Teflon Bailor

TIME	INTAKE DEPTH	RATE (gpm)	CUM. VOL (gal)	TEMP. (°C)	pH (units)	CONDUCTIVITY (µmhos/cm)	REMARKS (color, turbidity & sediment)
1315	13'	-	2	21.2	7.3	>19,000	Clear, pumped dry
1317	13'	-	4	21.3	7.3	>19,000	Clear, pumped dry
1320	13'	-	6	21.6	7.3	>19,000	Clear, pumped dry
1323	13'	-	8	21.7	7.2	>19,000	Clear, pumped dry
1330	10'	SAMPLE		21.8	7.2	>19,000	Clear

pH CALIBRATION (CHOOSE TWO)

Buffer Solution	pH 4.0	pH 7.0	pH 10.0
Temp. °C			
Instrument Reading			

Model or Unit No.:

SPECIFIC CONDUCTANCE - CALIBRATION:

KCL Solution (µmhos/cm at 20°C)	1409	12855
Temp. °C		
Instrument Reading		

Model or Unit No.:

Notes _____

