

A.C.C.

ENVIRONMENTAL
CONSULTANTS

May 14, 1993

Mr. Steve Chrissanthos
Alameda Cellars
1702 Lincoln Avenue
Alameda, CA 94501

RE: Results of Groundwater Sampling - Second Quarter at
2425 Encinal, Alameda, California

Dear Mr. Chrissanthos:

The attached report describes the materials and procedures used during groundwater sampling of the monitoring wells located at 2425 Encinal, Alameda, California.

This work was performed to evaluate the hydrocarbon concentrations in groundwater by obtaining samples from existing monitoring wells.

Groundwater samples obtained from each monitoring well were submitted to ChromaLab, Inc. for petroleum hydrocarbon analysis, in accordance with the "Tri-Regional Guidelines for Underground Storage Tank Sites".

The results of the chemical analysis indicated detectable concentrations of Total Petroleum Hydrocarbons (TPH) as gasoline with benzene, toluene, ethylbenzene, and total xylenes (BTEX).

If you have any comments regarding this report, please call me.

Sincerely,


Misty C. Kaltreider
Geologist

cc: Mr. Richard Hiatt - Regional Water Quality Control Board
Ms. Juliet Shin - Alameda County Health Care Services - Division of
Hazardous Materials

QUARTERLY GROUNDWATER SAMPLING

2425 ENCINAL
ALAMEDA, CALIFORNIA

May 1993

Prepared for:
Mr. Steve Chrissanthos
Alameda Cellars
1702 Lincoln Avenue
Alameda, CA 94501

Prepared by:

Misty Kaltreider

Misty Kaltreider,
Project Geologist

Reviewed by:

Elizabeth Herbert

Elizabeth Herbert, P.G.
Registered Geologist

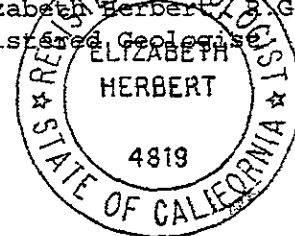


TABLE OF CONTENTS

	Page
1.0 Introduction.....	1
2.0 Background.....	1
3.0 Groundwater Sampling.....	1
4.0 Findings.....	2
4.1 Analytical Results - Groundwater.....	2
4.2 Groundwater Gradient.....	3
5.0 Conclusions.....	4
6.0 Recommendations.....	4

TABLES

Table 1 - Groundwater Depth Information.....	1
Table 2 - Analytical Results - Groundwater.....	3
Table 3 - Historical Groundwater Gradient.....	3

ATTACHMENTS

Figure 1	Site Plan
Figure 2	Groundwater Gradient - 2/9/93
Figure 3	Groundwater Gradient - 3/10/93
Figure 4	Groundwater Gradient - 4/12/93
Exhibit A	Notes of Well Sampling
Exhibit B	Chain of Custody Forms and Analytical Test Results

1.0 INTRODUCTION

This report presents the procedures and findings of the groundwater investigation conducted by ACC Environmental Consultants, Inc., ("ACC") on behalf of Mr. Steve Chrissanthos and Alameda Cellars, site owner at 2425 Encinal, Alameda, California. The project objective is to evaluate the presence or absence of petroleum hydrocarbons in the groundwater by obtaining samples from the existing monitoring wells.

2.0 BACKGROUND

The site is presently occupied by Alameda Cellars, a commercial liquor store. The property is owned by Mr. Steve Chrissanthos. On March of 1990, two 10,000-gallon gasoline tanks were removed from the above referenced site. Analysis of the soil samples collected from beneath the two gasoline tanks indicated up to 710 parts per million (ppm) of Total Petroleum Hydrocarbons (TPH) as gasoline. Soil samples collected from beneath the diesel tank indicated less than detectable levels of TPH as diesel.

In December 1992, five borings were drilled on-site. Three of the borings were converted into monitoring wells MW-1, MW-2a, and MW-3. Analytical results of the soil collected during drilling and soil sampling indicated a maximum soil concentration of Total Petroleum Hydrocarbons (TPH) as gasoline as 1,365 ppm. Benzene concentration was 18.9 ppm in the same sample.

Initial groundwater samples collected in January 1993, from the monitoring wells indicated a maximum TPH-gasoline concentration of 5,680 ppb (MW-2a) and a maximum benzene concentration of 1,560 ppb (MW-1).

3.0 GROUNDWATER SAMPLING

Groundwater measurements are collected from each on-site well monthly. Quarterly groundwater measurements were collected from each on-site well on April 12, 1993. Prior to groundwater sampling the depth to the surface of the water table was measured from the top of the PVC casing using a Solinst Water Level Meter. Information regarding well elevations and groundwater levels collected monthly are summarized in Table 1.

TABLE 1
Groundwater Depth Information

<u>Date Sampled</u>	<u>Depth to Groundwater (ft.)</u>	<u>Groundwater Elevation (ft.)</u>
<u>Well No. MW-1</u>	<u>Elevation of Top of Casing-27.61 MSL</u>	
01/09/93	6.75	20.86
02/09/93	6.41	21.20
03/10/93	6.34	21.27
04/12/93	6.52	21.09

TABLE 1, cont.
Groundwater Depth Information

<u>Date Sampled</u>	<u>Depth to Groundwater (ft.)</u>	<u>Groundwater Elevation (ft.)</u>
<u>Well No. MW-2a</u> Elevation of Top of Casing-27.98 MSL		
01/09/93	7.06	20.92
02/09/93	6.63	21.35
03/10/93	6.57	21.41
04/12/93	6.77	21.21
<u>Well No. MW-3</u> Elevation of Top of Casing-27.89 MSL		
01/09/93	6.68	21.21
02/09/93	6.25	21.64
03/10/93	6.18	21.71
04/12/93	6.41	21.48

Notes:

All measurements in feet
MSL = Mean Sea Level

After water-level measurements were taken, each on-site well was purged by hand using a designated disposable Teflon bailer for each well. Groundwater pH, temperature and electrical conductivity were monitored during well purging. Each well was considered to be purged when these parameters stabilized. Four well volumes were removed to purge each well. See Exhibit A for worksheets of groundwater conditions monitored during purging.

After the groundwater level had recovered to a minimum of approximately 80 percent of its static level, water samples were obtained using the designated disposable Teflon bailer. Two 40 ml VOA vials, without headspace, were filled from the water collected from each monitoring well.

The samples were preserved on ice and submitted to ChromaLab, Inc. under chain of custody protocol (see Exhibit B for laboratory results and chain of custody).

4.0 FINDINGS

4.1 Analytical Results - Groundwater

One groundwater sample each from Monitoring Wells MW-1, MW-2a and MW-3 was collected and submitted to ChromaLab for analysis for TPH as gasoline by EPA test method 5030 and BTEX by EPA test method 602. Copies of the analytical results are provided in Exhibit B and are summarized in Table 2.

TABLE 2
Analytical Results - Groundwater

Well Number	Date Collected	TPH-gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)
MW-1	01/09/93	5,360	1,560.0	1,026.6	641.0	2,706.2
	04/12/93	12,000	750.0	100.0	500.0	1,400.0
MW-2a	01/09/93	5,680	801.6	598.6	840.2	2,196.1
	04/12/93	12,000	460.0	110.0	240.0	1,600.0
MW-3	01/09/93	<50	<0.5	<0.5	<0.5	<0.5
	04/12/93	1,500	95.0	30.0	46.0	85.0

Notes:

ug/L = parts per billion (ppb)

4.2 Groundwater Gradient

Prior to calculating the groundwater gradient, elevations for the on-site monitoring wells were surveyed by Ron Archer Civil Engineer, Inc. to an accuracy of one-hundredth of a foot. The well elevation was surveyed at the top of the PVC well casing. The elevations of the monitoring wells were established relative to a nearby benchmark located in the curb on the northwest corner of the intersection of Park and Encinal Avenues in Alameda, California.

The groundwater gradient was calculated using the on-site monitoring wells. The location of the wells is shown on Figure 1 - Site Plan. Groundwater elevations were taken from the wells on February 9, March 10 and April 12, 1993 and are illustrated in Figures 2 through 4 respectively. The gradient was evaluated by triangulation using the elevation of the potentiometric surface measured with respect to Mean Sea Level datum.

The historical groundwater gradient and the direction of groundwater flow on-site is summarized in Table 3.

TABLE 3
Historic Groundwater Gradient

Date Monitored	Gradient (foot/foot)	Direction
01/09/93	0.009	west
02/09/93	0.013	southwest
03/10/93	0.012	west/southwest
04/12/93	0.012	west/southwest

5.0 CONCLUSION

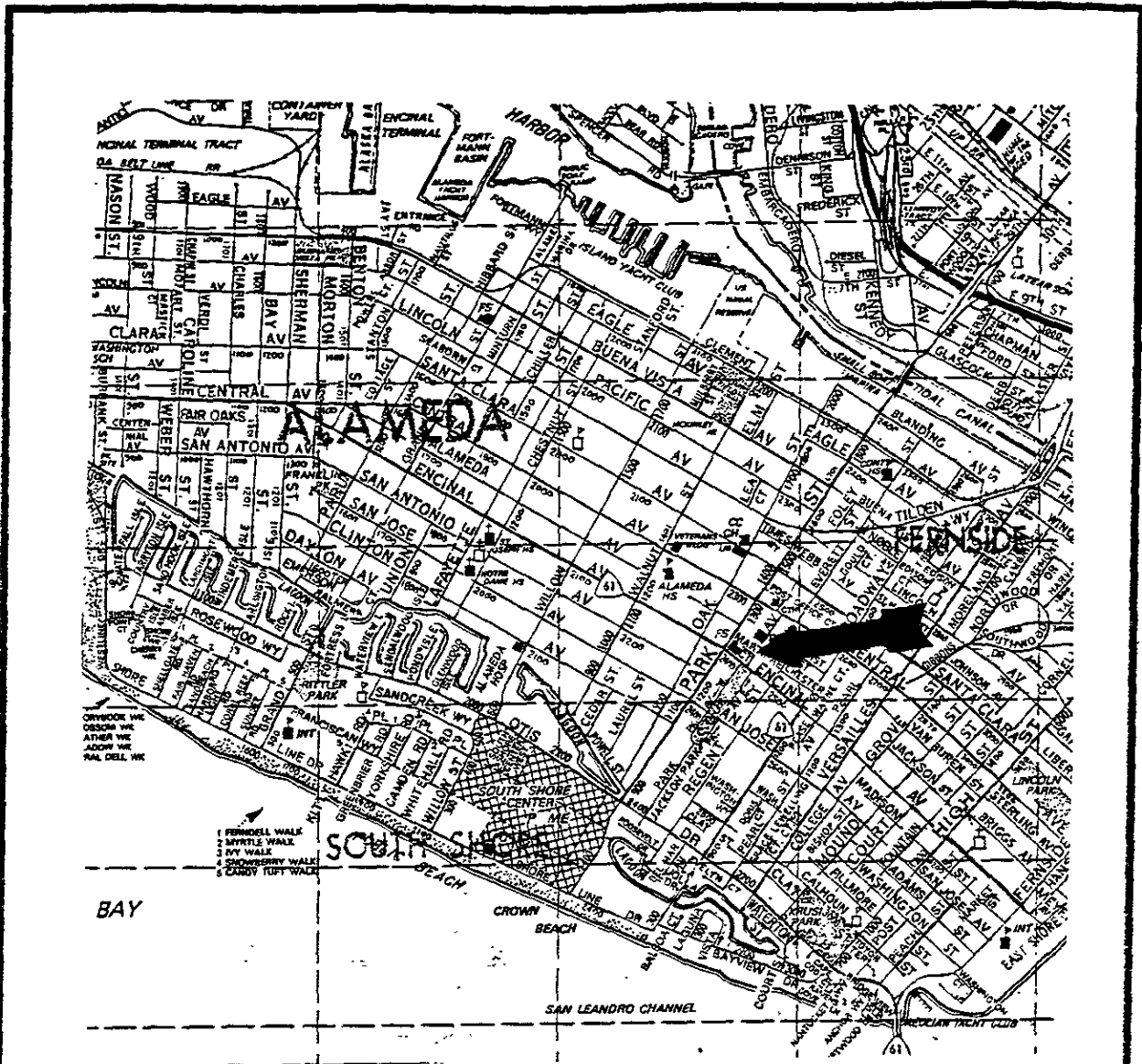
The data and observations discussed herein indicate that groundwater has been impacted due to an unauthorized hydrocarbon release. The analytical parameters used for soil and groundwater sampling performed in December 1992 and January 1993 were in accordance with the "Tri-Regional Water Quality Control Boards Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites", dated August 10, 1990, for gasoline tanks.

First quarter sampling and analysis indicated elevated levels of TPH as gasoline with BTEX in the groundwater from monitoring well MW-1 and MW-2a. Groundwater from monitoring well MW-3 has below detectable levels of constituents. Second quarterly sampling and analysis of the groundwater in April indicated an increase in levels of Total Petroleum Hydrocarbons as gasoline in all wells, however, the benzene, toluene, ethylbenzene and xylenes levels have declined in water samples from monitoring wells MW-1 and MW-2a. Constituents detected during this round of sampling appear to be fluctuating due to residual contaminants in the soil. Movement of the constituents is aided by the relatively flat groundwater gradient.

6.0 RECOMMENDATIONS

Pursuant to the Tri-Regional Board guidelines, groundwater sampling and monitoring of the on-site wells should continue on a quarterly basis. Further sampling and analysis of the groundwater will help in establishing a trend in the contaminants.

Additional investigation of subsurface soil and groundwater are pending and anticipated to be performed during May 1993. Due to the relatively high transmissivity of the underlying soil the potential exists for migration of hydrocarbons off-site.



Source: Thomas Brothers

ACC Environmental Consultants, Inc.
 1000 Atlantic Avenue, Suite 110
 Alameda, California 94501

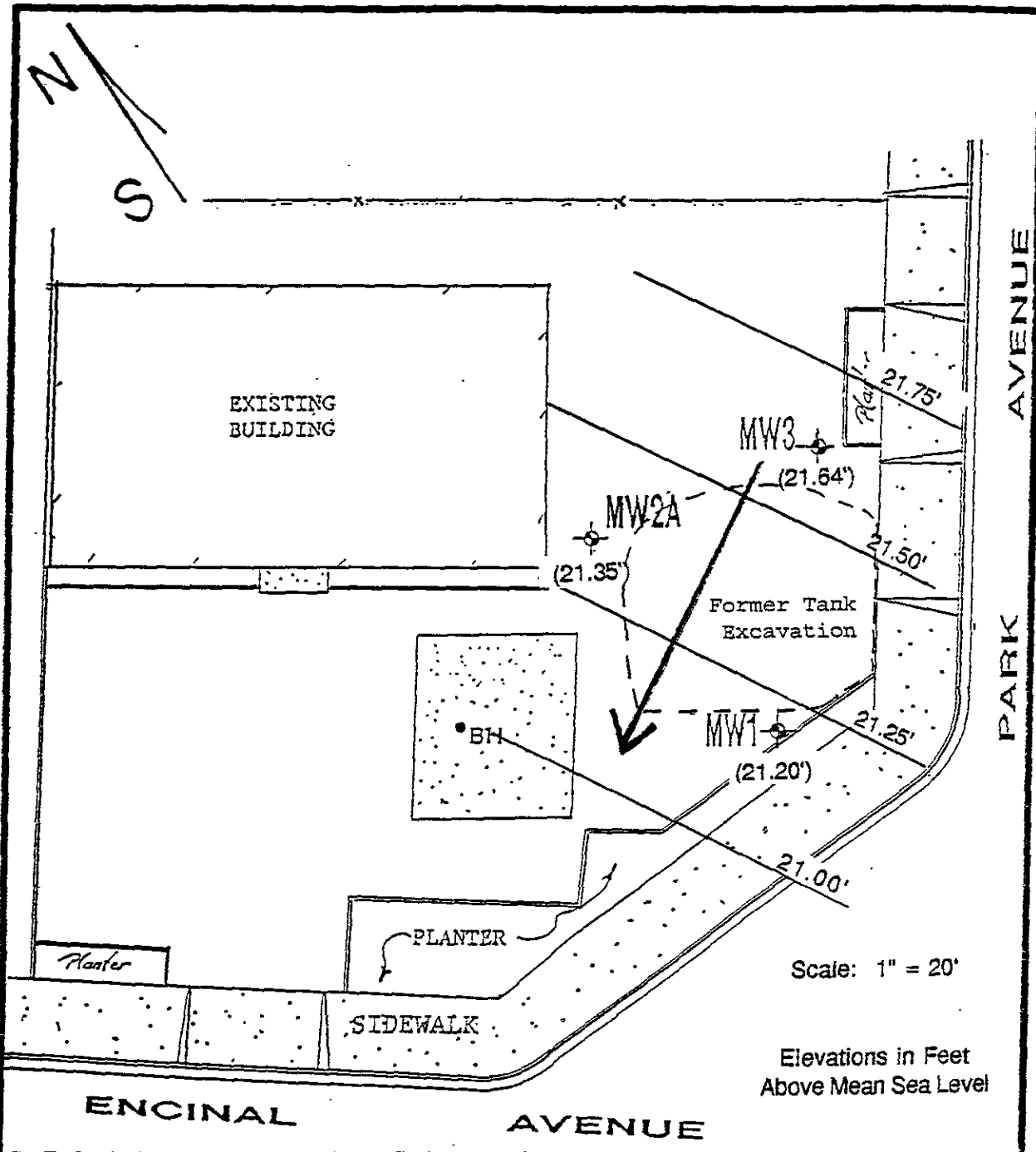
Location Map
 2425 Encinal Avenue
 Alameda, California

Project No. 6039-3

Date: 4/12/93

Dn by: MCK

Figure 1



ACC Environmental Consultants, Inc.
 1000 Atlantic Avenue, Suite 110
 Alameda, California 94501

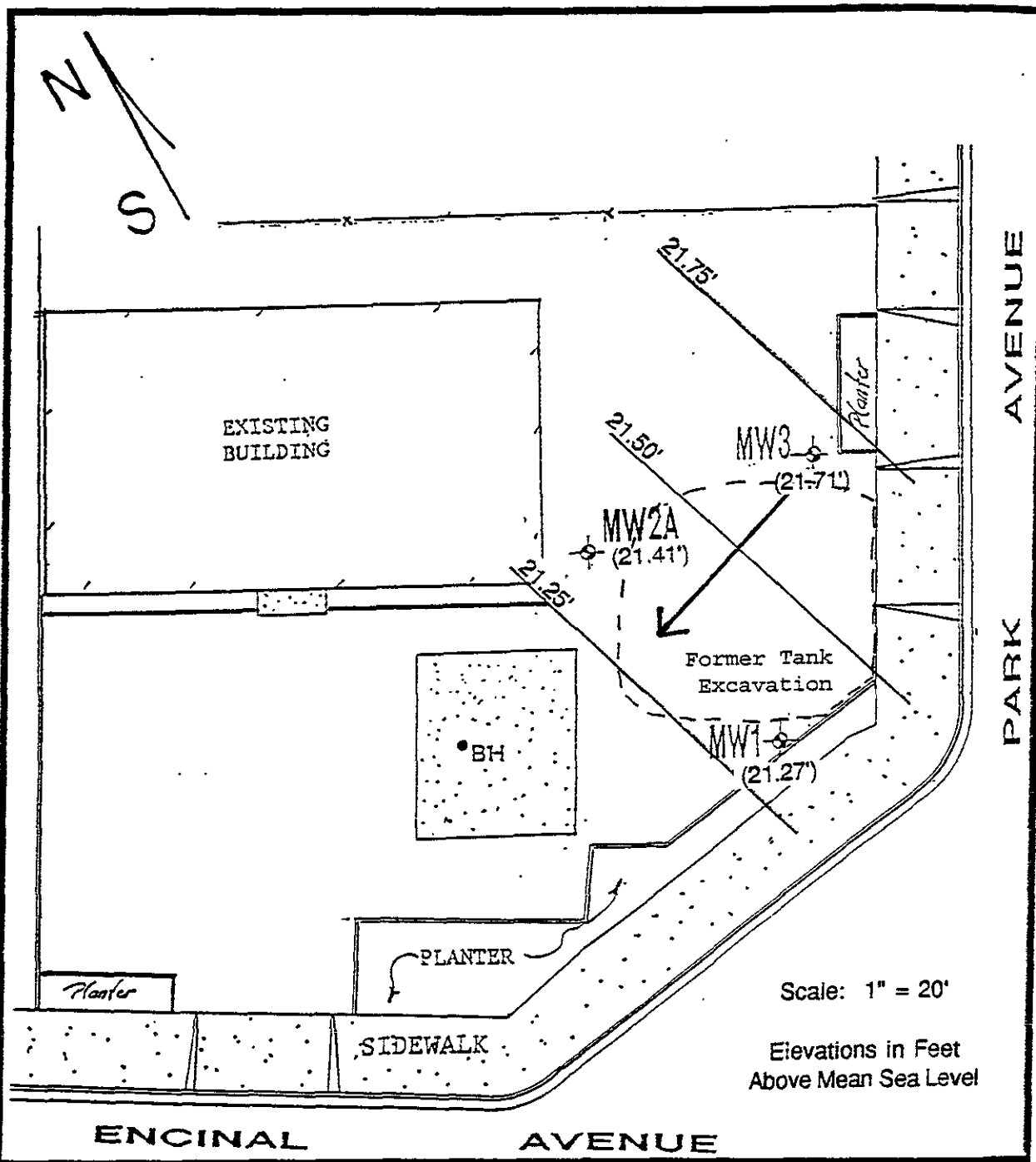
Groundwater Gradient
 2425 Encinal Avenue
 Alameda, California

Project No. 6039-3

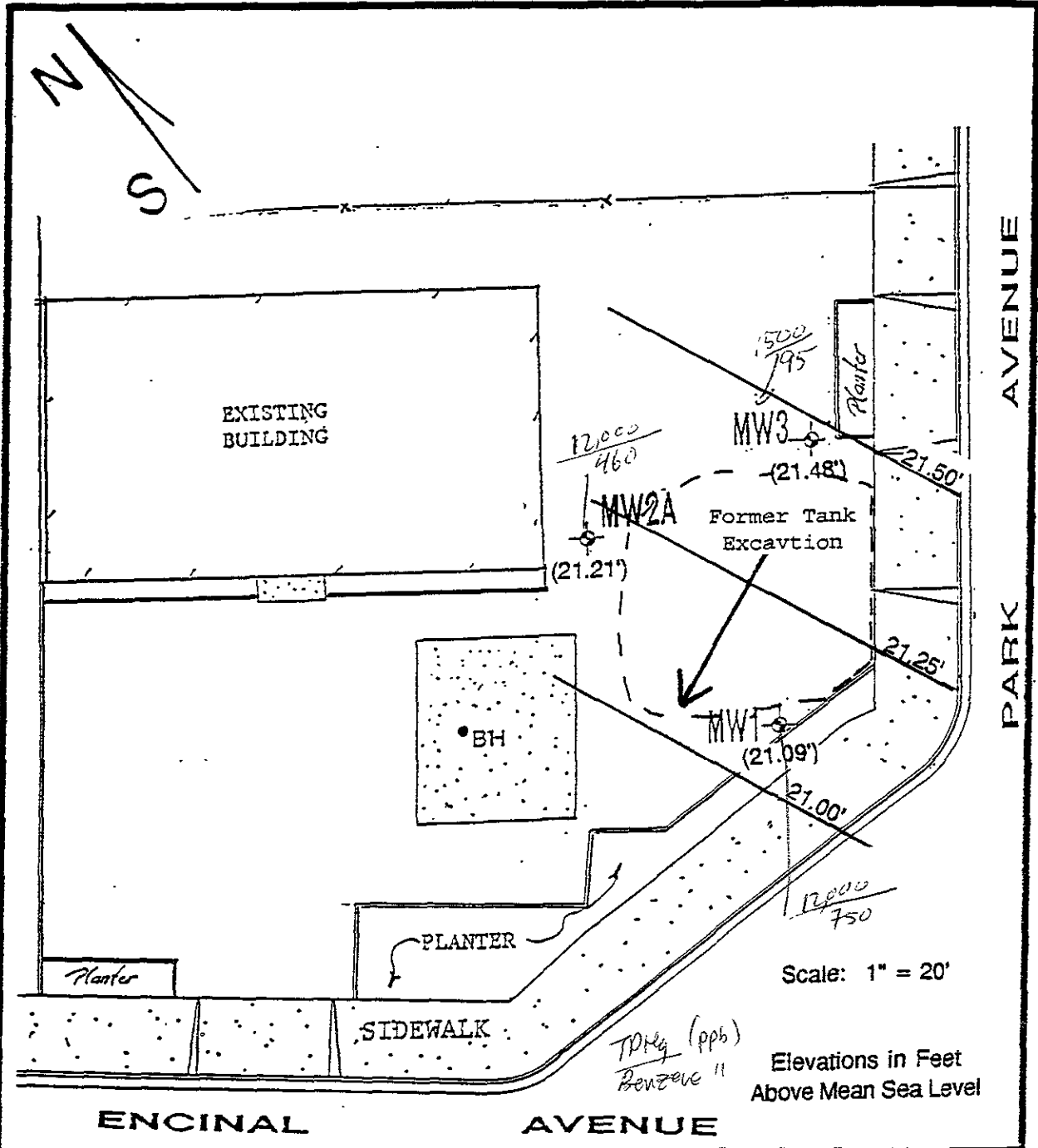
Date: 2/09/93

Dn by: MCK

Figure 2



ACC Environmental Consultants, Inc. 1000 Atlantic Avenue, Suite 110 Alameda, California 94501		Groundwater Gradient 2425 Encinal Avenue Alameda, California	
Project No. 6039-3	Date: 3/10/93	Dn by: MCK	Figure 3



<p>ACC Environmental Consultants, Inc. 1000 Atlantic Avenue, Suite 110 Alameda, California 94501</p>	<p>Groundwater Gradient 2425 Encinal Avenue Alameda, California</p>
--	---

<p>Project No. 6039-3</p>	<p>Date: 4/12/93</p>	<p>Dn by: MCK</p>	<p>Figure 4</p>
---------------------------	----------------------	-------------------	-----------------

EXHIBIT A

4/12/93

Well Sampling Well Development check one

Well Number: MW-3

Job Number: 603E-3

5:30

Job Name: 2425 Encinal

Date: 4/1/93

Sampler: Carl Soane

Depth to Water (measured from TOC): 6.41'

Inside Diameter of Casing: 2"

Depth of Boring: 16'

Method of well development/purging: Bailer

Amount of Water Bailed/Pumped from well: 10 gallons

Depth to Water after well development:

Depth to water prior to sampling: 6.55'

Bailed water stored on-site? How? Drums

Number of well volumes removed: 4

TSP wash, distilled rinse, new rope? Yes

Water Appearance:

	yes	no
froth		<input checked="" type="checkbox"/>
iridescence		<input checked="" type="checkbox"/>
oil		<input checked="" type="checkbox"/>
smell	<input checked="" type="checkbox"/>	
product		<input checked="" type="checkbox"/>
other, describe		<input checked="" type="checkbox"/>

oily smell

Samples Obtained:

- TPH (gasoline)
- TPH (diesel)
- TPH (motor oil)
- BTXE
- EPA 624
- EPA 625
- EPA 608
- PCBs only
- Metals
- Other, specify
- Field Blank

Gallons Removed	pH	EC	Temp
5	7.58	5.27	62.6
10	7.48	5.27	63.6
15	7.49	5.17	63.6
20			
25			
30			
35			
40			
45			
50			

4/12/93

Well Sampling Well Development

check one

Well Number: MW-1

Job Number: 6039-3

6:30

Job Name: 2425 Encinal

Date: 4/12/93

Sampler: Carl Soome

Depth to Water (measured from TOC): 6.52'

Inside Diameter of Casing: 2"

Depth of Boring: 18'

Method of well development/courging: Bailer

Amount of Water Bailed/Pumped from well: 10 gallons

Depth to Water after well development: _____

Depth to water prior to sampling: 6.58'

Bailed water stored on-site? How? Drums

Number of well volumes removed: 4

TSP wash, distilled rinse, new rope? Yes

Water Appearance:

	yes	no
froth		<input checked="" type="checkbox"/>
iridescence		<input checked="" type="checkbox"/>
oil		<input checked="" type="checkbox"/>
smell		<input checked="" type="checkbox"/>
product		<input checked="" type="checkbox"/>
other, describe		<input checked="" type="checkbox"/>

Samples Obtained:

- TPH (gasoline)
- TPH (diesel)
- TPH (motor oil)
- BTXE
- EPA 624
- EPA 625
- EPA 608
- PCBs only
- Metals
- Other, specify
- Field Blank

Gallons Removed	pH	EC	Temp
5	7.35	16.69	64.2
10	7.39	16.68	64.2
15	7.47	16.70	64.2
20	7.48	16.70	64.2
25			
30			
35			
40			
45			
50			

4/12/93

Well Sampling Well Development check one

Well Number: MW-2A

Job Number: 6039-3

Job Name: 2425 Encino

Date: 4/1/93

Sampler: Carl Soone

6:00

Depth to Water (measured from TOC): 6.77'

Inside Diameter of Casing: 2"

Depth of Boring: 18'

Method of well development/purging: Bailer

Amount of Water Bailed/Pumped from well: 10 gallons

Depth to Water after well development:

Depth to water prior to sampling: 6.84'

Bailed water stored on-site? How? Drums

Number of well volumes removed: 4

TSP wash, distilled rinse, new rope? Yes

Water Appearance:

	yes	no
froth		<input checked="" type="checkbox"/>
irridescence		<input checked="" type="checkbox"/>
oil		<input checked="" type="checkbox"/>
smell		<input checked="" type="checkbox"/>
product		<input checked="" type="checkbox"/>
other, describe		<input checked="" type="checkbox"/>

Samples Obtained:

- TPH (gasoline)
- TPH (diesel)
- TPH (motor oil)
- BTXE
- EPA 624
- EPA 625
- EPA 608
- PCBs only
- Metals
- Other, specify
- Field Blank

Gallons Removed	pH	EC	Temp
5	7.38	7.14	63.8
10	7.06	6.80	63.8
15	7.12	6.79	63.8
20	7.14	6.70	63.8
25			
30			
35			
40			
45			
50			

EXHIBIT B

CHROMALAB, INC.

Environmental Laboratory (1094)

5 DAYS TURNAROUND

April 19, 1993

ChromaLab File No.: 0493135

ACC ENVIRONMENTAL CONSULTANTS

Attn: Misty Kaltreider

RE: Three water samples for Gasoline and BTEX analysis

Project Name: 2425 ENCINAL

Project Number: 6039-3

Date Sampled: April 12, 1993

Date Submitted: April 13, 1993

Date Analyzed: April 14, 1993

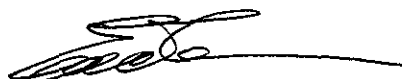
RESULTS:

Sample I.D.	Gasoline ($\mu\text{g/L}$)	Benzene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	Ethyl Benzene ($\mu\text{g/L}$)	Total Xylenes ($\mu\text{g/L}$)
MW-1	12000	750	100	500	1400
MW-2A	12000	460	110	240	1600
MW-3	1500	95	30	46	85
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKE RECOVERY	91%	99%	96%	103%	101%
DUP SPIKE RECOVERY	----	99%	99%	100%	102%
DETECTION LIMIT	50	0.5	0.5	0.5	0.5
METHOD OF ANALYSIS	5030/8015	602	602	602	602

ChromaLab, Inc.



Billy Thach
Analytical Chemist



Eric Tam
Laboratory Director

cc

CHROMALAB, INC.

DOHS 1094

223

CHROMALAB FILE # 493135
ORDER # 11219

Chain of Custody

DATE 4/13/93 PAGE 1 OF 1

PROJ. MGR. <u>Misty Kaldreider</u>					ANALYSIS REPORT														NUMBER OF CONTAINERS								
COMPANY <u>ACC Environmental Consultants</u>					TPH - Gasoline (EPA 5030, 8015)	TPH - Gasoline (5030, 8015) w/BTEX (EPA 602, 8020)	TPH - Diesel (EPA 3510/3550, 8015)	PURGEABLE AROMATICS BTEX (EPA 602, 8020)	PURGEABLE HALOCARBONS (EPA 601, 8010)	VOLATILE ORGANICS (EPA 624, 8240, 524.2)	BASE/NEUTRALS, ACIDS (EPA 625/627, 8270, 525)	TOTAL OIL & GREASE (EPA 5520, B+F, E+F)	PCB (EPA 608, 8080)	PESTICIDES (EPA 608, 8080)	TOTAL RECOVERABLE HYDROCARBONS (EPA 418.1)	METALS: Cd, Cr, Pb, Zn, Ni	CAM METALS (17)	PRIORITY POLLUTANT METALS (13)		TOTAL LEAD	EXTRACTION (TCLP, STLC)						
ADDRESS <u>1000 Alameda Ave, Suite 110 Alameda, CA 94501</u>					SAMPLERS (SIGNATURE) <u>Carl Soane</u>		(PHONE NO.) <u>(510) 522-8188</u>		SAMPLE ID.	DATE	TIME	MATRIX	PRESERV.														
						✓																	2				
						✓																	2				
						✓																	2				

PROJECT INFORMATION				SAMPLE RECEIPT			
PROJECT NAME: <u>2425 Encinal</u>		TOTAL NO. OF CONTAINERS <u>6</u>		HEAD SPACE			
PROJECT NUMBER: <u>6039-3</u>		REC'D GOOD CONDITION/COLD		CONFORMS TO RECORD			
P.O. #							
TAT	STANDARD 5-DAY	24	48	72	OTHER		
SPECIAL INSTRUCTIONS/COMMENTS:							

RELINQUISHED BY 1.		RELINQUISHED BY 2.		RELINQUISHED BY 3.	
<u>Carl Soane</u> (SIGNATURE)	(TIME)	(SIGNATURE)	(TIME)	(SIGNATURE)	(TIME)
<u>Carl Soane</u> (PRINTED NAME)	(DATE)	(PRINTED NAME)	(DATE)	(PRINTED NAME)	(DATE)
<u>ACC Environmental</u> (COMPANY)		(COMPANY)		(COMPANY)	
RECEIVED BY 1.		RECEIVED BY 2.		RECEIVED BY (LABORATORY) 3.	
(SIGNATURE)	(TIME)	(SIGNATURE)	(TIME)	<u>B. Morion</u> (SIGNATURE)	<u>12:50</u> (TIME)
(PRINTED NAME)	(DATE)	(PRINTED NAME)	(DATE)	<u>B. Morion</u> (PRINTED NAME)	<u>4-13-93</u> (DATE)
(COMPANY)		(COMPANY)		<u>Chromalab</u> (COMPANY)	