



December 29, 1995

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

RE: Results of Quarterly Groundwater Sampling at
2425 Encinal Avenue, Alameda, California

Dear Mr. Chrissanthos:

The enclosed report describes the materials and procedures used during the quarterly groundwater investigation performed at 2425 Encinal Avenue, Alameda, California. This work was performed to evaluate the areal extent of groundwater impact.

Analysis of the groundwater samples from monitoring wells MW-1, MW-2a, MW-3, and MW-4 indicated elevated concentrations of hydrocarbons. Analytical results of groundwater samples from monitoring well MW-5 indicated below detectable levels of constituents indicating a lateral extent of groundwater impact.

A letter dated September 22, 1995, (attached) from Mr. Christopher Smith of the Underground Storage Tank Cleanup Fund (UST Fund) states that aggressive remedial action such as vapor extraction will not be reimbursable through the UST Fund. The letter further states that "no further action alternative" may be the appropriate action for this site. This option was previously presented to Alameda County Health Care Services Agency - Local Oversight Program, (ACHCSA-LOP), however it was rejected. ACC proposes to continue monitoring on a semi-annual basis to document degrading trends of groundwater constituents and possibly represent the "no further action alternative" to ACHCSA-LOP for consideration to obtain site closure.

If you have any comments regarding this report, please call me at (510) 638-8400.

Sincerely,

A handwritten signature in black ink, appearing to read 'Misty C. Kaltreider', is written over the typed name.

Misty C. Kaltreider
Project Geologist

cc: Ms. Juliet Shin - Alameda County Health Care Services
Division of Hazardous Materials

September 22, 1995

Mr. Steve Chrissanthos
Alameda Cellars
1709 Otis Avenue
Alameda, CA 94501

Re: 2425 Encinal Avenue, Alameda, CA
USTCF Claim no. 54

USTCF Cost Pre-Approval & Bid Review Request, no date

Dear Mr. Chrissanthos:

Upon review of the cost estimates and the Remedial Action Plan provided to the Fund, cost preapproval is not appropriate at this time. This is based on that the Remedial Action Plan is not complete in its evaluation of other corrective action alternatives and it is not apparent if the local regulator has reviewed the Remedial Action Plan. Typically, the evaluation of corrective action technologies is presented in the Remedial Action Plan and the Remedial Action Plan prepared by ACC is lacking in this area. For example, other soil remediation technologies which could have been considered for this project are: excavation, soil vapor extraction, and no action. Similarly, groundwater remediation technologies could include no action and pump and treat. The no action alternative would appear to be an appropriate alternative for this site, in part, due the site's proximity to San Francisco Bay (approximately 1/2 mile), resulting in groundwater which is unusable (high Total Dissolved Solids concentrations, high conductivity values).

Due aforementioned concerns, evaluating the cost estimates is premature. It is recommended that other alternatives (fate and transport study) be considered.

For future cost preapproval requests and bid reviews, please use the enclosed form.

If you have any questions, please call (916) 227-0742.

Sincerely,



Christopher Smith, Water Resources Control Engineer
USTCF, Technical Review Unit

encl.: Cost Pre-Approval / Three-bid Review Request form.

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Quarterly Monitoring Report
2425 Encinal Avenue
Alameda, California

QUARTERLY GROUNDWATER INVESTIGATION


2425 ENCINAL AVENUE
ALAMEDA, CALIFORNIA

Job Number 6039-5


December 1995

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

Prepared by:


Misty Kaltreider
Project Geologist

Reviewed by:


David R. DeMent, RG
Senior Geologist

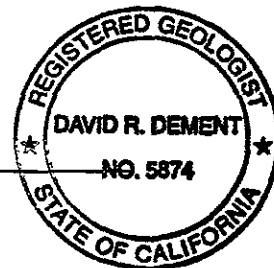


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- 1 - Location Map
- 2 - Groundwater Gradient Map

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- 1 - Notes of Well Sampling
- 2 - Analytical Results/Chain of Custody

**QUARTERLY GROUNDWATER INVESTIGATION
2425 ENCINAL AVENUE, ALAMEDA, CALIFORNIA**

1.0 INTRODUCTION

This report presents the procedures and findings of the quarterly groundwater investigation conducted by ACC Environmental Consultants, Inc., (ACC) on behalf of Mr. Steve Chrissanthos and Alameda Cellars, site owner at 2425 Encinal Avenue, Alameda, California. The project objective, as described in the Work Plan dated November 5, 1993, was to evaluate the extent of groundwater impact from the previous underground storage of gasoline.

2.0 BACKGROUND

The site is presently occupied by Alameda Cellars, a commercial liquor store. In March, 1990, two 10,000-gallon gasoline tanks were removed from the subject 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 as gasoline (TPHg).

In December 1992, five borings were drilled onsite. 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 TPHg 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 TPHg concentration of 5,680 ppb (MW-2a) and a maximum benzene concentration of 1,560 ppb (MW-1).

Additional soil investigation was conducted in May, 1993 to evaluate the extent of impact in the soil and groundwater. Findings of the additional investigation indicated the lateral extent of hydrocarbon impacted soil did not appear to extend beyond the property boundaries along the northern, western, and eastern sides. However, along the southern side, the impacted soil appears to extend into Park and Encinal Avenues. Field observations made during the additional investigation and soil sample analysis indicated impacted soil exists primarily around the former tank excavation and the former dispenser island. The vertical limit of hydrocarbons in the soil is estimated to occur at the present groundwater table.

Analysis of "grab" groundwater samples collected from borings drilled during the additional investigation indicate the residual hydrocarbons from the former tank excavation and dispenser island are migrating off site via the groundwater. This preliminary Site Assessment was conducted to further evaluate the groundwater impact from gasoline release from the former UST's at the request of Alameda County Health Care Services Agency.

In December 1993, three additional monitoring wells (MW-4, MW-5, and MW-6) were installed to further evaluate the extent of hydrocarbon groundwater impact. Laboratory analysis of the soil collected from each boring indicated below detectable levels of constituents which verifies the lateral extent of soil impact.

Laboratory analysis of the groundwater samples collected from monitoring wells MW-5 and MW-6 have consistently indicated below detectable concentrations of constituents evaluated, indicating a lateral extent of groundwater impact.

Laboratory analysis of groundwater collected from monitoring well MW-4 indicated detectable levels of constituents. The location of the southern edge of the groundwater impact is just offsite to the south. This "cross" gradient movement is attributed to the relatively flat gradient and possible recharge into the excavated area.

3.0 GROUNDWATER MONITORING AND SAMPLING

ACC conducted quarterly monitoring on December 12, 1995. Work at the site included measuring depth to water, subjectively evaluating groundwater in the wells, and purging and sampling the wells for laboratory analysis.

3.1 Groundwater Monitoring

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. The water-level measurements were recorded to the nearest 0.01 foot with respect to mean sea level. Monitoring well MW-6 was inaccessible, therefore, no groundwater measurements were measured from this well. Groundwater monitoring data obtained at the site is attached as Appendix 1. Information regarding well elevations and groundwater levels are summarized in Table 1.

TABLE 1 - Groundwater Depth Information

Groundwater Depth - MW-1 Elevation of Top of Casing: 27.61 MSL		
Date Sampled	Depth to Groundwater (in feet)	Groundwater Elevation (in feet)
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

Groundwater Depth - MW-1 Elevation of Top of Casing: 27.61 MSL		
Date Sampled	Depth to Groundwater (in feet)	Groundwater Elevation (in feet)
05/17/93	7.38	20.23
06/28/93	8.42	19.19
07/13/93	8.68	18.93
08/10/93	8.25	19.36
09/10/93	8.73	18.88
10/12/93	9.04	18.57
12/20/93	7.87	19.74
03/18/94	6.96	20.65
04/08/94	7.69	19.92
06/22/94	8.55	19.06
12/07/94	6.92	20.69
03/16/95	5.54	22.07
06/23/95	7.17	20.44
09/14/95	8.17	19.44
12/18/95	6.77	20.84

Groundwater Depth - MW-2a Elevation of Top of Casing: 27.98		
Date Sampled	Depth to Groundwater (in feet)	Groundwater Elevation (in feet)
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
05/17/93	7.61	20.37
06/28/93	8.68	19.30

Groundwater Depth - MW-2a Elevation of Top of Casing: 27.98		
Date Sampled	Depth to Groundwater (in feet)	Groundwater Elevation (in feet)
07/13/93	8.94	19.04
08/10/93	8.66	19.32
09/10/93	8.95	19.03
10/12/93	9.36	18.62
12/20/93	8.24	19.74
03/18/94	7.80	20.18
04/08/94	7.67	20.31
06/22/94	7.82	20.16
12/07/94	7.23	20.75
03/16/95	5.62	22.36
06/23/95	7.35	20.63
09/14/95	8.41	19.57
12/18/95	7.05	20.93

Groundwater Depth - MW-3 Elevation of Top of Casing: 27.89		
Date Sampled	Depth to Groundwater (in feet)	Groundwater Elevation (in feet)
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
05/17/93	7.37	20.52
06/28/93	8.47	19.42
07/13/93	8.74	19.15

Groundwater Depth - MW-3 Elevation of Top of Casing: 27.89		
Date Sampled	Depth to Groundwater (in feet)	Groundwater Elevation (in feet)
08/10/93	8.45	19.44
09/10/93	8.52	19.37
10/12/93	9.20	18.69
12/20/93	7.95	19.94
03/18/94	6.60	21.29
04/08/94	7.70	20.19
06/22/94	8.62	19.27
12/07/94	6.92	20.97
03/16/95	5.25	22.64
06/23/95	6.99	20.90
09/14/95	8.11	19.78
12/18/95	6.58	21.31

Groundwater Depth - MW-4 Elevation of Top of Casing: 26.97 MSL		
Date Sampled	Depth to Groundwater (in feet)	Groundwater Elevation (in feet)
12/20/93	7.25	19.72
03/18/94	6.64	20.33
04/08/94	7.12	19.85
06/22/94	7.96	19.01
12/07/94	6.32	20.65
03/16/95	5.08	21.89
06/23/95	6.65	20.32
09/14/95	7.61	19.36
12/18/95	6.20	20.77

Groundwater Depth - MW-5 Elevation of Top of Casing: 27.34 MSL		
Date Sampled	Depth to Groundwater (in feet)	Groundwater Elevation (in feet)
12/20/93	8.01	19.33
03/18/94	7.80	19.54
04/08/94	7.82	19.52
06/22/94	8.51	18.83
12/07/94	7.08	20.26
03/16/95	5.72	21.62
06/23/95	7.38	19.96
09/14/95	8.27	19.07
12/18/95	7.17	20.17

Groundwater Depth - MW-6 Elevation of Top of Casing: 28.03		
Date Sampled	Depth to Groundwater (in feet)	Groundwater Elevation (in feet)
12/20/93	8.00	20.03
03/18/94	---	---
04/08/94	7.72	20.31
06/22/94	8.68	19.35
12/07/94	---	---
12/13/94	6.73	21.30
03/16/95	5.04	22.99
06/23/95	6.90	21.13
09/14/95	8.07	19.96
12/18/95	---	---

Notes: All measurements in feet
MSL = Mean Sea Level

3.2 Groundwater Gradient

The groundwater flow direction, as determined from monitoring well data obtained on December 5, 1995, is illustrated on Figure 2, Gradient Map. Based on groundwater elevation measurements, groundwater flow is toward the west at an average gradient of 0.011 foot/foot. The groundwater flow direction, as determined from monitoring well data, is similar to previous sampling events. Table 2 summarizes previous gradients and approximate flow directions determined from water elevations.

TABLE 2 - Groundwater Flow

Date Monitored	Gradient (foot/foot)	Direction
01/09/93	0.01	west
02/09/93	0.01	southwest
03/10/93	0.01	west/southwest
04/12/93	0.01	west/southwest
05/17/93	0.01	south/southwest
06/28/93	0.01	southwest
07/13/93	0.01	southwest
08/10/93	0.004	west
09/10/93	0.02	southwest
10/12/93	0.004	southwest
12/20/93	0.01	west
03/18/94	0.02	west
04/08/94	0.01	west
06/22/94	0.03	south/southwest
12/07/94	0.01(average)	west/southwest
03/16/95	0.01	southwest
06/23/95	0.01-0.013(varies)	southwest
09/14/95	0.008	southwest
12/18/95	0.011	southwest

3.3 Groundwater Sampling

Prior to groundwater sampling, each well was purged using a dedicated bailer. Groundwater samples were collected when temperature, pH, and conductivity of the water stabilized and a minimum of four well-casing volumes of water had been removed. Following purging, each well was allowed to recharge prior to sampling. When recovery to 80 percent of the static water level was observed, a sample was collected for analysis. Groundwater conditions were monitored during purging and sampling. A copy of the well monitoring worksheets is attached as Appendix 1.

Wells were sampled using a new, clean, disposable teflon bailer attached to new, clean string. From each monitoring well, sample vials and bottles were filled to overflowing and sealed so that no air was trapped in the vial or bottle. Once filled, samples were inverted and tapped to test for air bubbles. Samples were collected in approved, laboratory-supplied vials and bottles. Sample containers were labeled with self-adhesive, pre-printed tags. All samples were stored in a pre-chilled insulated container prior to delivery to a state-certified laboratory for analysis.

Water purged during the development and sampling of the monitoring wells was temporarily stored onsite in Department of Transportation (DOT) approved 55-gallon drums pending laboratory analysis and proper disposal.

4.0 RESULTS OF GROUNDWATER SAMPLING

Groundwater samples collected from each well were submitted to Chromalab, Inc., under chain of custody protocol. Groundwater samples collected from wells MW-1 through MW-5 were analyzed for TPHg and BTEX by Environmental Protection Agency (EPA) modified Methods 8015 and 8020, respectively. Copies of the chain of custody record and laboratory analysis reports are attached as Appendix 2. Dissolved gasoline constituents were detected in groundwater samples from wells MW-1, MW-2a, MW-3, and MW-4. Laboratory analysis of water samples collected from well MW-5 indicated below detectable concentrations of constituents. Monitoring well MW-6 was not sampled based on approval from Alameda County Health Care Services Agency. An historic summary of groundwater sample results is presented in Table 3.

earlier report said well MW-6 was inaccessible

TABLE 3 - Analytical Results - Groundwater from Wells

MW-1 - Analytical Results					
Date Collected	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	E.Benzene (µg/L)	Xylenes (µg/L)
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
07/13/93	720	119.6	32.7	70.8	262.0
10/12/93	8,400	420.0	39.0	280.0	880.0
12/20/93	5,200	270.0	58.0	170.0	590.0
03/18/94	18,000	570.0	180.0	270.0	1,500.0
04/08/94	NT	NT	NT	NT	NT
06/22/94	4,800	160.0	56.0	130.0	310.0
12/07/94	9,100	530.0	200.0	350.0	1,300.0
03/16/95	230	15.0	4.5	9.4	38.0
06/23/95	2,700	170.0	19.0	40.0	180.0
09/14/95	1,700	160.0	12.0	69.0	100.0
12/18/95	2,900	190.0	57.0	130.0	380.0

MW-2a - Analytical Results					
Date Collected	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	E.Benzene (µg/L)	Xylenes (µg/L)
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
07/13/93	550	145.2	47.5	126.8	127.4
10/12/93	2,000	280.0	17.0	100.0	120.0
12/20/93	3,300	450.0	40.0	200.0	350.0
03/18/94	7,900	370.0	53.0	190.0	530.0

MW-2a - Analytical Results					
Date Collected	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	E. Benzene (µg/L)	Xylenes (µg/L)
04/08/94	NT	NT	NT	NT	NT
06/22/94	3,800	420.0	37.0	140.0	290.0
12/07/94	6,800	640.0	100.0	370.0	950.0
03/16/95	6,500	590.0	96.0	360.0	1,000.0
06/23/95	4,300	170.0	58.0	33.0	810.0
09/14/95	1,700	270.0	17.0	76.0	160.0
12/18/95	3,900	410.0	52.0	290.0	610.0

MW-3 - Analytical Results					
Date Collected	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	E. Benzene (µg/L)	Xylenes (µg/L)
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
07/13/93	540	18.3	106.2	75.7	128.0
10/12/93	3,500	290.0	230.0	210.0	460.0
12/20/93	690	31.0	10.0	31.0	25.0
03/18/94	450	9.6	11.0	5.5	23.0
04/08/94	NT	NT	NT	NT	NT
06/22/94	2,500	150.0	130.0	81.0	280.0
12/07/94	420	16.0	8.3	26.0	37.0
03/16/95	490	19.0	2.7	24.0	46.0
06/23/95	860	41.0	5.4	32.0	110.0
09/14/95	720	43.0	3.7	50.0	86.0
12/18/95	860	27.0	10.0	38.0	53.0

MW-4 - Analytical Results					
Date Collected	TPHg ($\mu\text{g/L}$)	Benzene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	E. Benzene ($\mu\text{g/L}$)	Xylenes ($\mu\text{g/L}$)
12/20/93	580	2.3	<0.5	1.4	1.1
03/18/94	2,100	11.0	1.5	2.3	6.0
04/08/94	NT	NT	NT	NT	NT
06/22/94	1,600	39.0	7.5	13.0	16.0
12/07/94	2,100	82.0	9.6	4.7	14.0
03/16/95	3,400	140.0	12.0	45.0	29.0
06/23/95	1,800	140.0	13.0	13.0	28.0
09/14/95	3,900	250.0	6.1	3.8	11.0
12/18/95	2,400	94.0	14.0	11.0	29.0

MW-5 - Analytical Results					
Date Collected	TPHg ($\mu\text{g/L}$)	Benzene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	E. Benzene ($\mu\text{g/L}$)	Xylenes ($\mu\text{g/L}$)
12/20/93	<50	<0.5	<0.5	<0.5	<0.5
03/18/94	<50	<0.5	<0.5	<0.5	<0.5
04/08/94	NT	NT	NT	NT	NT
06/22/94	<50	<0.5	<0.5	<0.5	<0.5
12/07/94	<50	<0.5	<0.5	<0.5	<0.5
03/16/95	<50	<0.5	<0.5	<0.5	<0.5
06/12/95	<50	<0.5	<0.5	<0.5	<0.5
09/14/95	<50	<0.5	<0.5	<0.5	<0.5
12/18/95	<50	<0.5	<0.5	<0.5	<0.5

MW-6 - Analytical Results					
Date Collected	TPHg ($\mu\text{g/L}$)	Benzene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	E.Benzene ($\mu\text{g/L}$)	Xylenes ($\mu\text{g/L}$)
12/20/93	<50	<0.5	<0.5	<0.5	<0.5
03/13/94	NT	NT	NT	NT	NT
04/08/94	<50	<0.5	<0.5	<0.5	<0.5
06/22/94	<50	<0.5	<0.5	<0.5	<0.5
12/13/94	<50	<0.5	<0.5	<0.5	<0.5
03/16/95	<50	<0.5	<0.5	<0.5	<0.5
06/23/95	<50	<0.5	<0.5	<0.5	<0.5
09/14/95	<50	<0.5	<0.5	<0.5	<0.5
12/18/95	NT	NT	NT	NT	NT

Note: TPHg = Total Petroleum Hydrocarbons as gasoline
 E.Benzene = Ethylbenzene
 NT - Not Tested
 $\mu\text{g/L}$: micrograms per liter (approximately equivalent to parts per billion)

5.0 DISCUSSION

This report documents the quarterly monitoring conducted on the six groundwater wells at Alameda Cellars facility, 2425 Encinal Avenue, Alameda. Groundwater sample results indicate detectable concentrations of gasoline constituents within the groundwater collected from wells MW-1, MW-2a, MW-3, and MW-4. Below detectable concentrations of TPHg and BTEX were reported in well MW-5, consistent with the previous sampling event. Results reported in the sample collected from wells MW-1, MW-2a and MW-3 have indicated an increase of gasoline constituents in the water in comparison with the previous sampling event conducted in September, 1995. Concentrations of petroleum hydrocarbons reported in well MW-4 have decreased since previous sampling event. Groundwater flow direction and gradient is consistent with the previous sampling events.

6.0 CONCLUSIONS

Based on a letter dated September 22, 1995, (attached) from Mr. Christopher Smith, Water Resources Control Engineer for the Underground Storage Tank Cleanup Fund (UST Fund), aggressive remedial action such as vapor extraction will not be reimbursed by the UST Fund. He further states that "no further action" alternative would be the appropriate action for this site based on non potable water usage from the shallow aquifer in the area. Based on conversations with Mr. Smith and ACC's review of the Lawrence Livermore National Laboratory (LLNL) report, further investigation or active remedial action is not justified for this site. The extent of the groundwater has been identified and groundwater monitoring conducted since January 1993 has documented a decreasing trend in groundwater impact. Based on the work completed to date and comments from Mr. Smith of the UST Fund, the following conclusions can be made:

- The most recent groundwater sampling indicates detectable concentrations of petroleum hydrocarbons in monitoring wells MW-1 through MW-4. TPHg concentrations have increased in wells MW1, MW-2a, and MW-3. TPHg concentrations have decreased in monitoring well MW-4.
- Since January 1993, varying concentrations of hydrocarbons in wells MW-1 through MW-4 appear to be a result of residual hydrocarbons from the former excavation that continue to be impacting the groundwater through fluctuating groundwater levels.
- The bulk source was removed with the tank removal, therefore, ACC feels that the detectable concentrations observed in the groundwater is the result of remnant impacted soil effecting the groundwater.
- The area of impact is limited based on laboratory results from well MW-5 which has continually indicated below detectable concentration of constituents for 12 consecutive quarters.
- Due to the relative flat gradient, the potential for plume migration is limited.
- The groundwater concentrations will likely continue to degrade and attenuate over time.
- Based on groundwater monitoring and trends documented since January 1993, the TPHg impact to groundwater will likely continue to decrease approximately 250 ppb TPHg per quarter.
- As the trend continues, as documented from the past three years, in approximately five years, the concentrations of TPHg in the groundwater onsite should be less than 100 ppb.

7.0 RECOMMENDATIONS

The State Water Resources Control Board's (SWRCB) Executive Director has recommended that the LLNL report "Recommendations to Improve the Cleanup Process for California's Leaking Underground Fuel Tanks" be implemented aggressively. ACC recommends that the SWRCB direction be followed and no further investigation performed.

From the work completed to date and the laboratory results from the groundwater samples collected, ACC anticipates that the concentrations observed within the monitoring wells will fluctuate with seasonal precipitation then will decline with time. ACC recommends that the water at the site be tested for Total Dissolved Solids (TDS) and Coliform to evaluate the quality of the shall aquifer. In addition, ACC recommends that groundwater monitoring of all six wells should be reduced to semi-annually in order to document decreasing trends.

8.0 LIMITATIONS

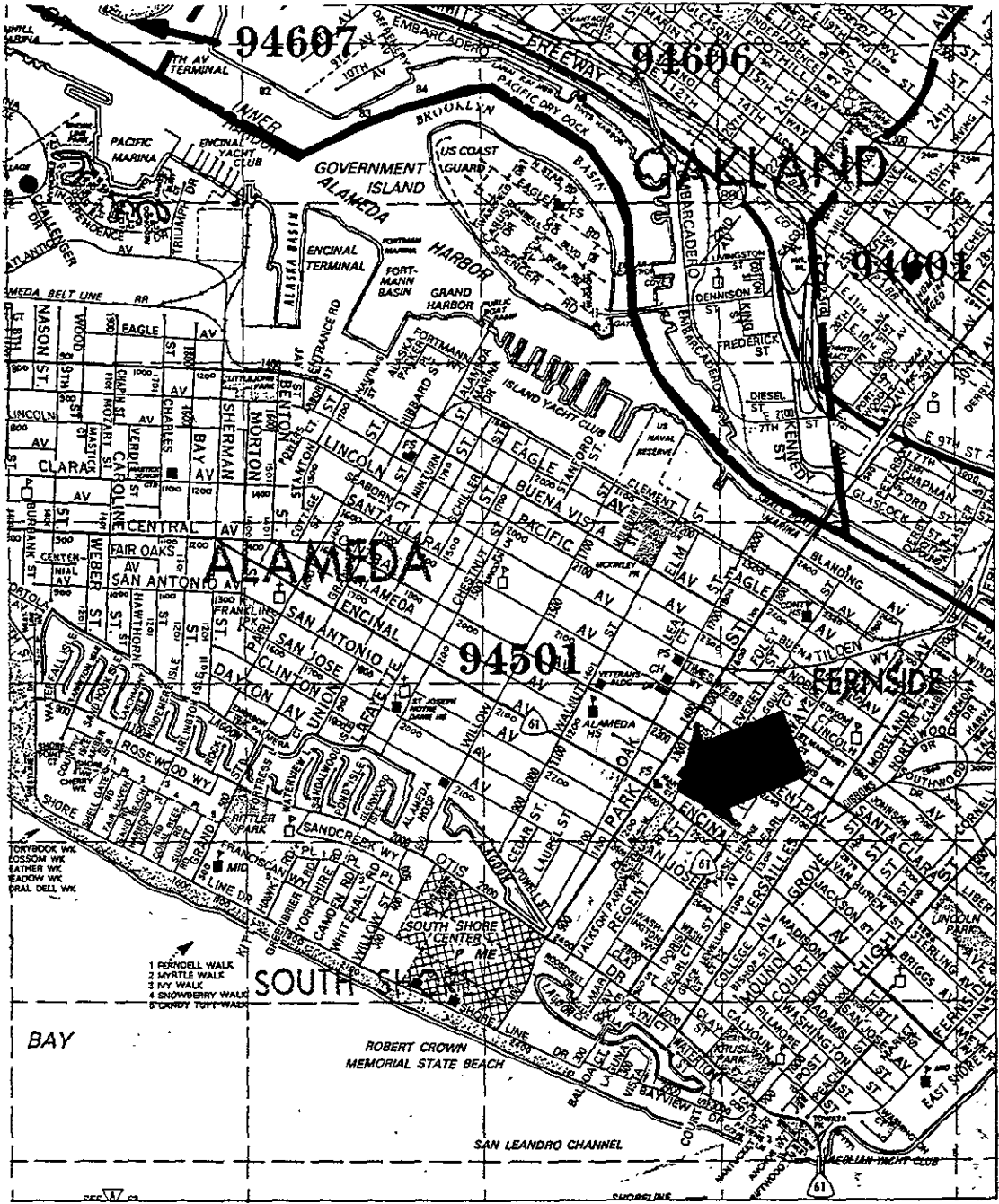
The discussion and recommendations presented in that report are based on the following:

- The exploratory test borings drilled at the site.
- The observations by field personnel.
- The results of laboratory analyses performed by a state-certified analytical laboratory.
- Documents referenced in this report.
- Our understanding of State of California and local regulations.

It is possible that variations in the soil or groundwater conditions could exist beyond the points explored in this investigation. In addition, changes in the groundwater conditions could occur at some future time due to variations in rainfall, temperature, regional water usage, or other unknown factors.

The service performed by ACC Environmental Consultants, Inc., has been conducted in a manner consistent with the levels of care a skill ordinarily exercised by members of our profession currently practicing under similar conditions in the area. Please note that contamination of soil and groundwater must be reported to the appropriate agencies in a timely manner. No other warranty, expressed or implied, is made.

ACC Environmental Consultants, Inc., includes in this report chemical analytical data from state-certified laboratories. The analytical results are performed according to procedures suggested by the United States Environmental Protection Agency and the State of California. ACC is not responsible for laboratory errors in procedure or result reporting.



Scale: 1" = 0.25 miles

Source: Thomas Brothers

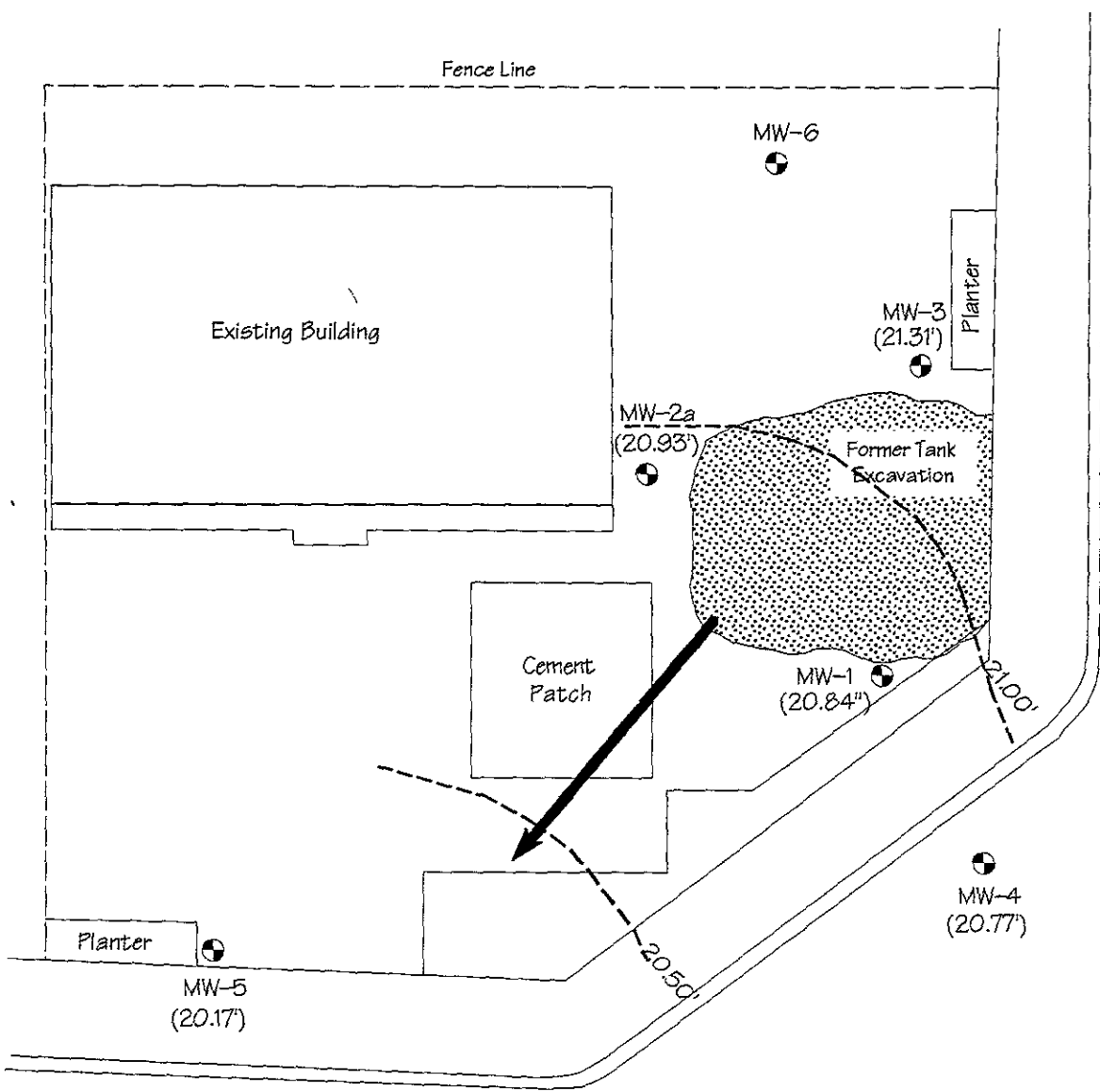
Project No. 6093-3

Date: 03/20/1995

Location Map
 Alameda Cellars
 2425 Encinal Avenue
 Alameda, California

Figure:




1



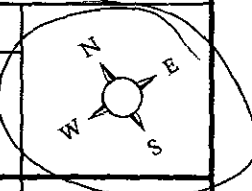
*8" line - 12' deep - sanitary line - center line
 10-12' - gravel pack*

ENCINAL AVENUE

Legend

-  Monitoring Well
-  Groundwater Elevation Contour
(Contour interval = 0.5 feet)
-  Approximate Groundwater Flow
Direction 12/18/95

Title: Groundwater Gradient Map 2425 Encinal Ave Alameda, California	
Figure Number: 2	Scale: 1" = 20"
Drawn By: TRF	Date: 12/18/95
Project Number: 6039-5	
ACC Environmental Consultants 7977 Capwell Drive, Suite 100 Oakland, CA 94621 (510) 638-8400 Fax: (510) 638-8404	



**GROUNDWATER MONITORING
AND
SAMPLING DATA**

JOB NAME: <u>ALAMEDA CELLARS</u>	PURGE METHOD: <u>MANUAL BAILING</u>
SITE ADDRESS: <u>2425 ENCINAL AVE.</u>	SAMPLED BY: <u>J. CONKLIN</u>
JOB #: <u>6039-5</u>	LABORATORY: <u>CHROMALAB</u>
DATE: <u>12-18-95</u>	ANALYSIS: <u>TPH - GAS, BTEX</u>
Onsite Drum Inventory SOIL: <input checked="" type="checkbox"/>	MONITORING <input checked="" type="checkbox"/> DEVELOPING <input type="checkbox"/>
EMPTY: <input checked="" type="checkbox"/> WATER: <u>2-100% 1-75%</u>	SAMPLING <input checked="" type="checkbox"/>

	PURGE VOLUME	HYDAG READINGS				OBSERVATIONS
	(Gal)	pH	Temp. (F)	X1000 Cond. un/cm		
WELL: <u>MW-1</u>					<input type="checkbox"/> Froth	
DEPTH OF BORING: <u>17.30'</u>	<u>1.8</u>	<u>8.96</u>	<u>64.1</u>	<u>0.31</u>	<input type="checkbox"/> Sheen	
DEPTH TO WATER: <u>6.77'</u>	<u>3.6</u>	<u>8.45</u>	<u>64.2</u>	<u>0.32</u>	<input checked="" type="checkbox"/> Odor Type <u>gas</u>	
WATER COLUMN: <u>10.53'</u>	<u>5.4</u>	<u>8.31</u>	<u>64.5</u>	<u>0.35</u>	<input type="checkbox"/> Free Product	
WELL DIAMETER: <u>2"</u>		<u>8.05</u>	<u>63.9</u>	<u>0.36</u>	Amount _____ Type _____	
WELL VOLUME: <u>≈ 1.8 gal</u>		<u>7.92</u>	<u>63.5</u>	<u>0.37</u>	<input type="checkbox"/> Other	
COMMENTS: <u>∇ Elevation</u>		<u>7.91</u>	<u>62.8</u>	<u>0.35</u>		
<u>20.84 MSL</u>	<u>7.2</u>	<u>7.90</u>	<u>63.0</u>	<u>0.35</u>		
WELL: <u>MW-2A</u>					<input type="checkbox"/> Froth	
DEPTH OF BORING: <u>14.17'</u>	<u>1.1</u>	<u>8.55</u>	<u>61.0</u>	<u>0.34</u>	<input type="checkbox"/> Sheen	
DEPTH TO WATER: <u>7.05'</u>	<u>2.2</u>	<u>8.32</u>	<u>61.9</u>	<u>0.34</u>	<input checked="" type="checkbox"/> Odor Type <u>gas</u>	
WATER COLUMN: <u>7.12'</u>	<u>3.3</u>	<u>8.01</u>	<u>62.3</u>	<u>0.35</u>	<input type="checkbox"/> Free Product	
WELL DIAMETER: <u>2"</u>		<u>7.98</u>	<u>63.5</u>	<u>0.35</u>	Amount _____ Type _____	
WELL VOLUME: <u>≈ 1.1 gal</u>		<u>7.91</u>	<u>63.4</u>	<u>0.34</u>	<input type="checkbox"/> Other	
COMMENTS:		<u>7.89</u>	<u>63.3</u>	<u>0.34</u>		
<u>20.93 MSL</u>	<u>4.4</u>	<u>7.88</u>	<u>63.5</u>	<u>0.34</u>		
WELL: <u>MW-3</u>					<input type="checkbox"/> Froth	
DEPTH OF BORING: <u>14.48</u>	<u>1.3</u>	<u>8.11</u>	<u>60.7</u>	<u>0.29</u>	<input type="checkbox"/> Sheen	
DEPTH TO WATER: <u>6.58</u>	<u>2.6</u>	<u>7.72</u>	<u>63.2</u>	<u>0.31</u>	<input checked="" type="checkbox"/> Odor Type <u>gas</u>	
WATER COLUMN: <u>7.90</u>	<u>3.9</u>	<u>7.76</u>	<u>63.9</u>	<u>0.31</u>	<input type="checkbox"/> Free Product	
WELL DIAMETER: <u>2"</u>		<u>7.60</u>	<u>63.6</u>	<u>0.33</u>	Amount _____ Type _____	
WELL VOLUME: <u>≈ 1.3 gal</u>		<u>7.56</u>	<u>64.8</u>	<u>0.31</u>	<input type="checkbox"/> Other	
COMMENTS:		<u>7.50</u>	<u>64.4</u>	<u>0.32</u>		
<u>21.31 MSL</u>	<u>5.2</u>	<u>7.48</u>	<u>65.2</u>	<u>0.31</u>		



ACC MONITORING WELL WORKSHEET

JOB NAME: <u>ALAMEDA CELLARS</u>	PURGE METHOD: <u>MANUAL BAILING</u>
SITE ADDRESS: <u>2425 ENCINAL AVE.</u>	SAMPLED BY: <u>J. CONKLIN</u>
JOB #: <u>6039-5</u>	LABORATORY: <u>CHROMALAB</u>
DATE: <u>12-18-95</u>	ANALYSIS: <u>TPH-GAS, BTEX</u>
Onsite Drum Inventory SOIL: <input checked="" type="checkbox"/>	MONITORING <input checked="" type="checkbox"/> DEVELOPING <input type="checkbox"/>
EMPTY: <input checked="" type="checkbox"/> WATER: <u>2-100%, 1-75%</u>	SAMPLING <input checked="" type="checkbox"/>

	PURGE VOLUME	HYDAG READINGS				OBSERVATIONS
	(Gal)	pH	Temp. (F)	Cond. un/cm <small>x1000</small>		
WELL: <u>MW-4</u>					<input type="checkbox"/>	Froth
DEPTH OF BORING: <u>17.52"</u>	<u>1.8</u>	<u>7.93</u>	<u>60.0</u>	<u>0.32</u>	<input type="checkbox"/>	Sheen
DEPTH TO WATER: <u>6.20"</u>	<u>3.6</u>	<u>7.29</u>	<u>63.5</u>	<u>0.31</u>	<input checked="" type="checkbox"/>	Odor Type <u>gas</u>
WATER COLUMN: <u>11.32"</u>	<u>5.4</u>	<u>7.17</u>	<u>64.0</u>	<u>0.33</u>	<input type="checkbox"/>	Free Product
WELL DIAMETER: <u>2"</u>		<u>7.04</u>	<u>65.3</u>	<u>0.33</u>		Amount _____ Type _____
WELL VOLUME: <u>≈ 1.8 gal</u>		<u>7.02</u>	<u>65.7</u>	<u>0.33</u>	<input type="checkbox"/>	Other
COMMENTS:		<u>7.00</u>	<u>66.3</u>	<u>0.32</u>		
<u>20.77' MSL</u>		<u>6.95</u>	<u>66.5</u>	<u>0.31</u>		
	<u>7.2</u>	<u>6.95</u>	<u>66.4</u>	<u>0.31</u>		
WELL: <u>MW-5</u>					<input type="checkbox"/>	Froth
DEPTH OF BORING: <u>17.52'</u>	<u>1.8</u>	<u>9.50</u>	<u>64.8</u>	<u>0.34</u>	<input type="checkbox"/>	Sheen
DEPTH TO WATER: <u>7.17'</u>	<u>3.6</u>	<u>9.77</u>	<u>65.1</u>	<u>0.35</u>	<input type="checkbox"/>	Odor Type _____
WATER COLUMN: <u>10.35'</u>	<u>5.4</u>	<u>9.27</u>	<u>65.0</u>	<u>0.36</u>	<input type="checkbox"/>	Free Product
WELL DIAMETER: <u>2"</u>		<u>9.28</u>	<u>66.5</u>	<u>0.35</u>		Amount _____ Type _____
WELL VOLUME: <u>≈ 1.8 gal</u>		<u>9.18</u>	<u>66.6</u>	<u>0.36</u>	<input type="checkbox"/>	Other
COMMENTS:		<u>9.14</u>	<u>67.8</u>	<u>0.35</u>		
<u>20.17' MSL</u>		<u>9.08</u>	<u>67.5</u>	<u>0.35</u>		
	<u>7.2</u>	<u>9.07</u>	<u>67.5</u>	<u>0.35</u>		
WELL: <u>MW-6</u>					<input type="checkbox"/>	Froth
DEPTH OF BORING:					<input type="checkbox"/>	Sheen
DEPTH TO WATER:					<input type="checkbox"/>	Odor Type _____
WATER COLUMN:					<input type="checkbox"/>	Free Product
WELL DIAMETER:						Amount _____ Type _____
WELL VOLUME:					<input type="checkbox"/>	Other
COMMENTS:						
<u>NO ACCESS *</u>						
<u>NOT MONITORED</u>						
<u>NOT SAMPLED</u>						

**LABORATORY ANALYSIS REPORTS
AND
CHAIN OF CUSTODY RECORD**

CHROMALAB, INC.

Environmental Services (SDB)

December 23, 1995

Submission #: 9512228

ACC ENVIRONMENTAL CONSULTANTS

Atten: M. Kaltreider

Project: ALAMEDA CELLARS
Received: December 18, 1995

Project#: 6039-5

re: 5 samples for Gasoline and BTEX analysis.
Method: EPA 5030/8015M/602/8020Sampled: December 18, 1995 Matrix: WATER
Run: 9823-1 Analyzed: December 20, 1995

Spl #	Sample ID	Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
114056	MW-1	2900	190	57	130	380
114057	MW-2A	3900	410	52	290	610
114058	MW-3	860	27	10	38	53
114059	MW-4	2400	94	14	11	29
114060	MW-5	N.D.	N.D.	N.D.	N.D.	N.D.

Reporting Limits	50	0.5	0.5	0.5	0.5
Blank Result	N.D.	N.D.	N.D.	N.D.	N.D.
Blank Spike Result (%)	89	110	110	114	114

*June Zhao*June Zhao
Chemist*Marianne Alexander*
Marianne Alexander
Gas/BTEX Supervisor

CHROMALAB, INC.

1220 Quarry Lane • Pleasanton, California 94566-4756
510/484-1919 • Facsimile 510/484-1096

Chain of Custody

Environmental Services (SDB) (DOHS 1094)

DATE 12/18/95 PAGE 1 OF 1

PROJ. MGR M. KALTREIDER
 COMPANY ACC Environmental Consultants
 ADDRESS 7977 Capwell Drive, Suite 100
Oakland, California 94621

SAMPLERS (SIGNATURE) [Signature] (PHONE NO.) (510) 638-8400
 (FAX NO.) (510) 638-8404

ANALYSIS REPORT

SAMPLE ID.	DATE	TIME	MATRIX	PRESERV.	TPH - Gasoline (EPA 5030, 8015)	TPH - Gasoline (5030, 8015) w/BTEX (EPA 602, 8020)	TPH - Diesel, TEPH (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, 8+F, E+F)	PCB (EPA 608, 8080)	PESTICIDES (EPA 608, 8080)	TOTAL RECOVERABLE HYDROCARBONS (EPA 418.1)	LUFT METALS: Cd, Cr, Pb, Zn, Ni	CAM METALS (17)	PRIORITY POLLUTANT METALS (13)	TOTAL LEAD	EXTRACTION (ICLP, STLC)
MW-1	12/14/95		H ₂ O	COLD		X														
MW-2A	"		"	"		X														
MW-3	"		"	"		X														
MW-4	"		"	"		X														
MW-5	"		"	"		X														

PROJECT INFORMATION		SAMPLE RECEIPT			
PROJECT NAME <u>KAMEDA CELLARS</u>	TOTAL NO. OF CONTAINERS <u>15</u>	HEAD SPACE	REC'D GOOD CONDITION/COLD	CONFORMS TO RECORD	
PROJECT NUMBER <u>6039-5</u>					
P.O.# <u>6039-5</u>					
TAT <input checked="" type="checkbox"/> STANDARD 5-DAY	<input type="checkbox"/> 24	<input type="checkbox"/> 48	<input type="checkbox"/> 72	<input type="checkbox"/> OTHER	

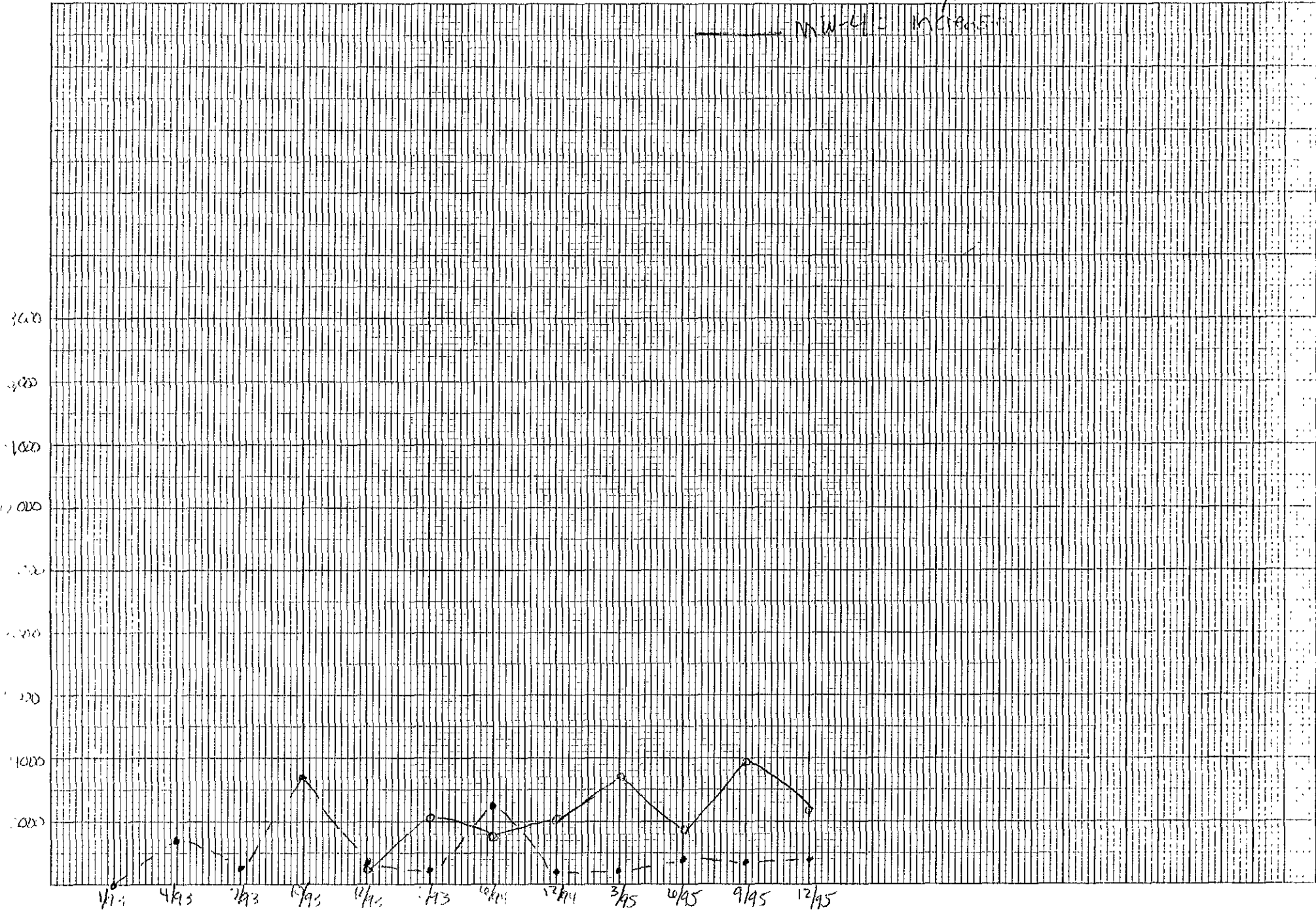
RELINQUISHED BY 1	RELINQUISHED BY 2	RELINQUISHED BY
<u>[Signature]</u> (SIGNATURE) (TIME)	<u>[Signature]</u> (SIGNATURE) (TIME)	<u>[Signature]</u> (SIGNATURE) (TIME)
<u>JOHN CONKLIN</u> (PRINTED NAME) (DATE)	<u>[Signature]</u> (PRINTED NAME) (DATE)	<u>[Signature]</u> (PRINTED NAME) (DATE)
<u>ACC ENVIRONMENTAL</u> (COMPANY)	<u>[Signature]</u> (COMPANY)	<u>[Signature]</u> (COMPANY)

SPECIAL INSTRUCTIONS/COMMENTS:

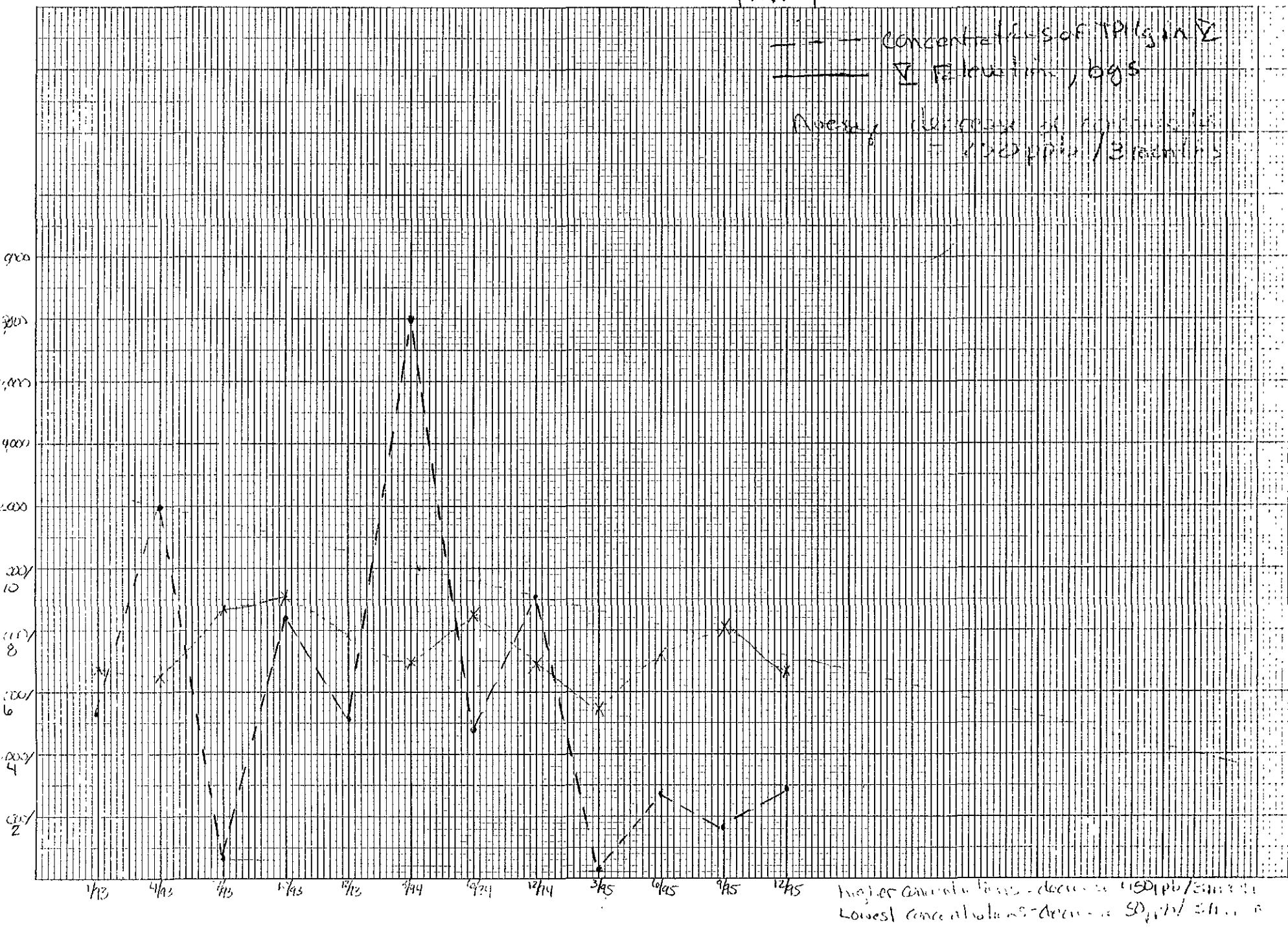
RECEIVED BY 1	RECEIVED BY 2	RECEIVED BY (LABORATORY)
<u>[Signature]</u> 12/18/95 (SIGNATURE) (TIME)	<u>[Signature]</u> (SIGNATURE) (TIME)	<u>[Signature]</u> (SIGNATURE) (TIME)
<u>DUNSON</u> 12-18-95 (PRINTED NAME) (DATE)	<u>[Signature]</u> (PRINTED NAME) (DATE)	<u>[Signature]</u> (PRINTED NAME) (DATE)
<u>[Signature]</u> (COMPANY)	<u>[Signature]</u> (COMPANY)	<u>[Signature]</u> (COMPANY)

--- MW-3 = deg. in

— MW-4 = in. dia.



--- Concentration of TP (g in Δ)
 --- Δ Fluorine, g/g
 Average decrease of concentration
 = 1000 ppb / 3 months



Higher concentrations - decrease 1000 ppb / 3 months
 Lowest concentrations - decrease 1000 ppb / 3 months