February 22, 1991

Mr. Ken Friedman
Albany Bowl Properties
540 San Pablo Avenue
Albany, CA 94706

Subject: **First Quarter, 1991**
Laboratory Analytical Results - Groundwater Samples
Monitoring Well MW1, 450 - 500 San Pablo Avenue
Albany, California
(ATT Project No. 9064)

Dear Mr. Friedman:

Aqua Terra Technologies, Inc. (ATT) is pleased to provide you with the subject laboratory analytical results contained in this summary letter report. ATT has conducted quarterly sampling and analysis of groundwater samples, from monitoring well MW1, in accordance with the recommendations in ATT's October 17, 1990 report (Tank Closure Report and Monitoring Well Installation) and the Alameda County Health Care Services Agency (ACHCSA) letter dated October 26, 1990.

The analytical results are summarized on Table 1 (Attachment A). Samples were collected in accordance with the protocol in Attachment B. The signed laboratory analytical report, chain of custody document, and sample collection records are in Attachment C. There was no detectable concentrations of analyzed parameters in the MW1 groundwater samples.

Please contact us if you have any questions or comments regarding the contents of this letter.

Sincerely,

AQUA TERRA TECHNOLOGIES, INC.

Bruce Berman
Project Scientist

William E. Motzer, Ph.D
Senior Hydrogeologist/Project Manager
California Registered Geologist No. 4202
(Expires 6-30-92)

BB/WEM:pd

Attachments

cc: Larry Seto, Alameda County Health Care Services Agency
Jon L. Benjamin, Heller, Erhman, White & McAuliffe

9064/DK#1/1STQRT91.SLR

Aqua Terra Technologies
Consulting Engineers
& Scientists

2950 Buskirk Avenue
Suite 120
Walnut Creek, CA
94596
415 934-4884

ATTACHMENT A

Table

Table 1. Summary of Analytical Results
Groundwater Samples
450-500 San Pablo Avenue
Albany, California

Sample/ Well I.D.	Sampling Interval	Sampling Date	Concentration in µg/L					
			TPH-G[a]	B[b]	T[b]	E[b]	X[b]	Pb[c]
MW1	First Sampling Event	9-6-90[d]	<50	<0.5	<0.5	<0.5	<0.5	<40
MW2	First Sampling Event	9-6-90[d]	<50	<0.5	<0.5	<0.5	<0.5	<40
MW3	First Sampling Event	9-6-90[d]	140	26	15	2	14	<40
MW1	First Quarter 1991	1-18-91	<50	<0.5	<0.5	<0.5	<0.5	<40

a. TPH-G: total petroleum hydrocarbons as gasoline. Detection limit equals 50 µg/L.
b. BTEX: benzene, toluene, ethylbenzene, and total xylenes. Detection limit equals 0.5 µg/L.
c. Pb: organic lead. Detection limit equals 40 µg/L.
d. Analytical results from this sampling date were originally presented in the following report: AQUA TERRA TECHNOLOGIES, INC. (ATT), 1990; Tank Closure Report and Monitoring Well Installation: ATT unpublished report (October 17, 1990) 10p., with attachments.

ATTACHMENT B

Soil & Groundwater Sample Collection & Handling Protocol

ATTACHMENT B

SOIL & GROUNDWATER SAMPLE COLLECTION & HANDLING PROTOCOL

INTRODUCTION & PURPOSE

Because reliable and representative test results must be generated from soil and groundwater samples, it is essential to establish a sampling procedure which assures that all samples are:

- Collected by approved and repeatable methods
- Representative of the materials(s) at the desired location and depth
- Uncontaminated by container and sampling equipment

The following sampling protocol was designed to be a guide to the sampling and handling procedures for soil and groundwater samples. Based on conditions which may be encountered in the field, some modifications to this protocol may be required to fit the needs of an individual site.

SAMPLING PROCEDURES

Groundwater Sampling

Prior to collecting groundwater samples, monitoring wells were purged by bailing until pH, conductivity, and temperature levels stabilize. Wells were purged and groundwater samples were obtained using a Teflon bailer and nylon rope. New nylon rope is used for each well.

The appropriate number of sample containers and type were used for each sample collected, in accordance with the analytical laboratory requirements and EPA protocol. The bottles were filled using the bailer. All sample bottles were pre-cleaned by the supplier according to EPA protocols.

To prevent cross contamination of groundwater samples by the sampling equipment, all equipment used in sampling was washed with a trisodium phosphate solution, triple rinsed with distilled water, and allowed to air dry prior to each use. A sample of the distilled water used in the final rinse was retained for analysis as part of sample quality assurance.

Soil Sampling

After the soil sampler is driven to the desired depth and the samples are retrieved, each end of the ring containing the soil sample is retained for laboratory analysis was sealed with Teflon sheeting, covered with plastic end caps, and sealed with PVC tape. All sample containers (tubes and end caps) were steamed cleaned and air dried prior to use. The soil sample recovered in the ring just above the sample retained for chemical analysis was examined in the field for visual and olfactory indications of chemical contamination and used for lithologic description.

The Unified Soil Classification System (USCS) was used to log and describe the soil by the onsite geologist. These logs also include details of the sampling process such as depth, apparent odors, discoloration, and any other factors which may be required to evaluate the presence of contamination at the site.

POST SAMPLING PROCEDURES

One field/travel blank consisting of one sample bottle filled with distilled water accompanied soil and groundwater sample containers at all times, including during transport to and from the site. Distilled water field/travel blanks were analyzed according to the appropriate EPA Methods corresponding to the soil/groundwater sample analyses.

Sample containers were labeled with sample number, project number, date, and the initials of the person collecting the sample. A separate sample collection record was maintained for each groundwater sample collected.

Soil and groundwater samples collected were analyzed by an analytical laboratory certified by the California Department of Health Services (DHS) for complete chemical analysis of hazardous waste as well as drinking water samples. Quality assurance documentation accompanied all analytical reports generated by the laboratory.

The samples were placed in an ice cooler immediately following collection, and remained in the ice cooler until refrigerated at the analytical laboratory. The samples were delivered to the laboratory direct by courier or overnight freight within 48 hours of time of collection. Appropriate chain of custody forms were used for all samples.

ATTACHMENT C

Laboratory Analytical Report
Chain of Custody
Sample Collection Records

ANAMETRIX INC
Environmental & Analytical Chemistry
1961 Concourse Drive, Suite E, San Jose, CA 95131
(408) 432-8192 • Fax (408) 432-8198

REPORT

MR. BRUCE BERMAN
AQUA TERRA TECHNOLOGIES
2950 BUSKIRK AVENUE, SUITE 120
WALNUT CREEK, CA 94596

Workorder # : 9101198
Date Received : 01/22/91
Project ID : 9064
Purchase Order: N/A

The following samples were received at Anametrix, Inc. for analysis :

ANAMETRIX ID	CLIENT SAMPLE ID
9101198- 1	MW1
9101198- 2	TB
9101198- 3	FB

This report consists of 7 pages not including the cover letter, and is organized in sections according to the specific Anametrix laboratory group or section which performed the analysis(es) and generated the data. The Report Summary that precedes each section will help you determine which Anametrix group is responsible for those test results, and will bear the signatures of the department supervisor and the chemist who have reviewed the analytical data. Please refer all questions to the department supervisor who signed the form.

Anametrix is certified by the California Department of Health Services (DHS) to perform environmental testing under Certificate Number 1234. A detailed list of the approved fields of testing can be obtained by calling our office, or the DHS Environmental Laboratory Accreditation Program at (415)540-2800.

If you have any further questions or comments on this report, please give us a call as soon as possible. Thank you for using Anametrix.

Burt Sutherland
Laboratory Director

2-4-91
Date

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. BRUCE BERMAN
AQUA TERRA TECHNOLOGIES
2950 BUSKIRK AVENUE, SUITE 120
WALNUT CREEK, CA 94596

Workorder # : 9101198
Date Received : 01/22/91
Project ID : 9064
Purchase Order: N/A
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9101198- 1	MW1	WATER	01/18/91	TPHg/BTEX
9101198- 2	TB	WATER	01/18/91	TPHg/BTEX
9101198- 3	FB	WATER	01/18/91	TPHg/BTEX

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. BRUCE BERMAN
AQUA TERRA TECHNOLOGIES
2950 BUSKIRK AVENUE, SUITE 120
WALNUT CREEK, CA 94596

Workorder # : 9101198
Date Received : 01/22/91
Project ID : 9064
Purchase Order: N/A
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- No QA/QC problems encountered for this workorder.

Cheryl Balman 1/31/91
Department Supervisor Date

Inna Shur 1/31/91
Chemist Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS
(GASOLINE WITH BTEX)
ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9101198
Matrix : WATER
Date Sampled : 01/18/91

Project Number : 9064
Date Released : 01/31/91

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# MW1 -01	Sample I.D.# TB -02	Sample I.D.# FB -03	Sample I.D.# 12B0130A BLANK
Benzene	0.5	ND	ND	ND	ND
Toluene	0.5	ND	ND	ND	ND
Ethylbenzene	0.5	ND	ND	ND	ND
Total Xylenes	0.5	ND	ND	ND	ND
TPH as Gasoline	50	ND	ND	ND	ND
% Surrogate Recovery		107%	113%	106%	102%
Instrument I.D.		HP12	HP12	HP12	HP12
Date Analyzed		01/30/91	01/30/91	01/30/91	01/30/91
RLMF		1	1	1	1

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.
RLMF - Reporting Limit Multiplication Factor.
Anametrix control limits for surrogate recovery are 53-147%.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Irene Gurbisan 02-04-91
Analyst Date

Cheryl Balman 2/4/91
Supervisor Date

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. BRUCE BERMAN
AQUA TERRA TECHNOLOGIES
2950 BUSKIRK AVENUE, SUITE 120
WALNUT CREEK, CA 94596

Workorder # : 9101198
Date Received : 01/22/91
Project ID : 9064
Purchase Order: N/A
Department : METALS
Sub-Department: METALS

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9101198- 1	MW1	WATER	01/18/91	ORG Pb

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. BRUCE BERMAN
AQUA TERRA TECHNOLOGIES
2950 BUSKIRK AVENUE, SUITE 120
WALNUT CREEK, CA 94596

Workorder # : 9101198
Date Received : 01/22/91
Project ID : 9064
Purchase Order: N/A
Department : METALS
Sub-Department: METALS

QA/QC SUMMARY :

- No QA/QC problems encountered for this workorder.

Manny Iguyon 2/04/91
Department Supervisor Date

Mona Kamel 2/04/91
Chemist Date

ANALYSIS DATA SHEET - ORGANIC LEAD
ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9101198
Matrix : WATER
Date Sampled : 01/18/91
Project Number: 9064

Date Prepared : 01/28/91
Date Analyzed : 01/28/91
Date Released : 01/31/91
Instrument I.D.: AA1

		Organic Lead
	ELEMENTS	
	EPA METHOD	LUFT
	REPORTING LIMIT	40.0
ANAMETRIX ID	CLIENT ID	(ug/L)
9101198-01	MW1	ND
OMB0128W	METHOD BLANK	ND

ND : Not detected at or above the practical quantitation limit for the method.

Organic Lead by Leaking Underground Fuel Tank (LUFT) Manual, 1987 California State Water Resources Control Board.

Manny Aguya 2/04/91
Chemist Date

Mona Kamel 2/04/91
Chemist Date

ANAMETRIX, INC.
1961 CONCOURSE DRIVE, SUITE E
SAN JOSE, CA 95131, (408) 432-8192

ORGANIC LEAD MATRIX SPIKE REPORT

Spike I.D. : 9101198-01MS,MD
Assoc. WO # : 9101198
Date Prepared: 01/28/91
Date Analyzed: 01/28/91

Inst. ID: AA1
Matrix : WATER
Units : ug/L

ELEMENTS	METHOD	SPIKE AMOUNT	SAMPLE CONC.	M S CONC.	% REC	M S D CONC.	% REC	R P D
Pb	LUFT	450	0.0	414	92.0	456	101	9.7

COMMENT: Quality control limits for percent recovery are 75-125% and 25% for RPD.

Chemist 2/04/91 Date

Chemist 2/04/91 Date

9101198

Aqua Terra Technologies, Inc.
2950 Buskirk Avenue, Ste. 120
Walnut Creek, CA 94596
Tel. (415) 934-4884
Fax. (415) 934-0418

ATT

CHAIN OF SAMPLE CUSTODY RECORD

(original document, please return)

Sampled By: Layne Williams

Signature: Layne Williams

Results To Be Sent To: Bruce Berman

Results Needed By: 2/5/91

Fax Results ASAP ☒

Date Sampled: 1/18/91

ATT Job #: 9064

Lab Name: Anametrix

Contact: Diane

Phone #:

Lab Job #:

Sample Collection				Sample Preservation				Sample Containers				Analysis/EPA Method No.						
Sample I.D.	Time (24 hr)	Matrix (e.g. Water, Soil)	Number of Containers	Ice	HCL	Dry Ice		40 ml VOA	1L glass bottle			TPH Gas	BTEX	Organic Lead				Remarks
① MW1	1550	Water	4	X	X			3	1			X	X	X				Cold, proper containers, preserved & no bubbles ①
② TB	1330	"	3	X	X			3				X	X					↓
③ FB	1530	"	3	X	X			3				X	X					

Notes: Normal Turnaround.

Relinquished by/ Company Affiliation	Date	Time	Received by: Company Affiliation	Date	Time
Layne Williams	1/22/91	0940	Benny S. Carrizosa	1-22-91	0940
Benny S. Carrizosa	1/22/91	1155	[signature]	01/22/91	1155

SAMPLE COLLECTION RECORD - MONITOR WELL

ATT

Date: 1-18-91 Sample I.D.: MW1 Job No.: 9064

Site Location: Albany Bowl

No. of Containers: 4 /(check one): X Well Samples;

___Duplicates from well_____; ___Travel Blanks;

___Field Blanks; ___Other (explain)/_____

W.L.(1/100'): 5.26' Time: 1570 B.O.W.(1/2'): 19.5'

Method: X Electric Well Sounder; ___Other/_____

Con./pH meter calibrated: (Y)/ N Well Loc. Map: (Y)/ N

Calculated Purge Volume (4 casing volumes): 9 gallons

Purging Method: X Disposable Bailer; ___Teflon Bailer;

___Other/_____

Time Start Purging (24 hr): 1536, Product: Y / (N)
Sheen: Y / (N) Odor: Y / (N), Vapor:____ ppm / %LEL

Turbidity: N, Color: N

Time Stop Purging (24 hr): 1547, Product: Y / (N)
Sheen: Y / (N), Odor: (Y) / ~~N~~, Vapor:____ ppm / %LEL

Turbidity: very light, Color: brown

	Temp.	pH	Cond.	Purge Vol.	Time
First :	17.5°C	6.00	0570 µ	3	1539
Second:	18.5°	6.34	0570	6	1543
Final :	18.5°	6.52	0570	9	1547

Sample Collection Time (24 hr): 1550

Notes: Slight odor at end

Collected By (signature): Wayne Williams

SAMPLE COLLECTION RECORD - MONITOR WELL

ATT

Date: 1-18-91 Sample I.D.: TB Job No.: 9064

Site Location: Albany Bowl

No. of Containers : 3 /(check one): ___Well Samples;

___Duplicates from well_____; X Travel Blanks;

___Field Blanks; ___Other (explain)/_____

W.L.(1/100'):_____ Time :_____ B.O.W.(1/2'):_____

Method:___Electric Well Sounder; ___Other/_____

Con./pH meter calibrated: Y / N Well Loc. Map: Y / N

Calculated Purge Volume (4 casing volumes):_____ gallons

Purging Method: ___Disposable Bailer; ___Teflon Bailer;

___Other/_____

Time Start Purging (24 hr):_____, Product: Y / N
Sheen: Y / N , Odor: Y / N , Vapor:____ ppm / %LEL

Turbidity:_____, Color:_____

Time Stop Purging (24 hr):_____, Product: Y / N
Sheen: Y / N , Odor: Y / N , Vapor:____ ppm / %LEL

Turbidity:_____, Color:_____

	Temp.	pH	Cond.	Purge Vol.	Time
First :					
Second:					
Final :					

Sample Collection Time (24 hr): 1330

Notes:_____

_____

_____

Collected By (signature): Wayne Williams

SAMPLE COLLECTION RECORD - MONITOR WELL

ATT

Date: 1-18-91 Sample I.D.: FB Job No.: 9064

Site Location: Albany Bowl

No. of Containers : 3 /(check one): ___Well Samples;

___Duplicates from well_____; ___Travel Blanks;

X Field Blanks; ___Other (explain)/_____

W.L.(1/100'):_____ Time :_____ B.O.W.(1/2'):_____

Method:___Electric Well Sounder; ___Other/_____

Con./pH meter calibrated: Y / N Well Loc. Map: Y / N

Calculated Purge Volume (4 casing volumes):_____ gallons

Purging Method: ___Disposable Bailer; ___Teflon Bailer;

___Other/_____

Time Start Purging (24 hr):_____, Product: Y / N
Sheen: Y / N , Odor: Y / N , Vapor:____ ppm / %LEL

Turbidity:_____, Color:_____

Time Stop Purging (24 hr):_____, Product: Y / N
Sheen: Y / N , Odor: Y / N , Vapor:____ ppm / %LEL

Turbidity:_____, Color:_____

	Temp.	pH	Cond.	Purge Vol.	Time
First :					
Second:					
Final :					

Sample Collection Time (24 hr): 1530

Notes:_____

_____

_____

Collected By (signature): Wayne Williams