aqua science engineers inc.

December 29, 1994

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QUARTERLY GROUNDWATER MONITORING REPORT
DECEMBER 14, 1994 GROUNDWATER SAMPLING
ASE JOB NO. 2750
at
2110 Santa Clara Avenue
Alameda, California

Submitted by:
AQUA SCIENCE ENGINEERS, INC.
2411 Old Crow Canyon Road, #4
San Ramon, CA 94583
(510) 820-9391

REGISTERED PROFESSIONAL ENGINEER
DAVID M. SCHULTZ
No. 38738
Exp 4-97
CIVIL
STATE OF CALIFORNIA

1.0 INTRODUCTION

This report outlines the methods and findings of Aqua Science Engineers, Inc. (ASE)'s quarterly groundwater sampling at the property located at 2110 Santa Clara Avenue in Alameda, California *(Figures 1 and 2).*

2.0 GROUNDWATER SAMPLING

On December 14, 1994, ASE measured the depth to groundwater in the site well using an electric water level sounder. The well was then purged dry using a dedicated polyethylene bailer. Groundwater samples were collected after the well recovered to 82% of its original water level. Groundwater samples were decanted from the bailer into three (3) 40-ml volatile organic analysis (VOA) vials and two (2) 1-liter amber glass bottles. All of the samples were preserved with hydrochloric acid, labeled, placed in protective foam sleeves, and stored on wet ice for transport to American Environmental Network (AEN) of Pleasant Hill, California (CSDHS #1172) under chain of custody. No odors were present in the groundwater at the time of the sampling.

Well sampling purge water was contained in DOT 17H drums and stored on-site for handling by the client at a later date. See Appendix B for a copy of the well sampling field log.

3.0 ANALYTICAL RESULTS FOR GROUNDWATER

The groundwater samples were analyzed by AEN for total petroleum hydrocarbons as diesel (TPH-D) by EPA Method 8015, and benzene, toluene, ethylbenzene and total xylenes (BTEX) by EPA Method 8020. The analytical results are tabulated below in Table One, and the certified analytical report and chain of custody form are included in Appendix A. No hydrocarbons were detected in the groundwater samples.

TABLE ONE
Summary of Chemical Analysis of **GROUNDWATER** Samples
All Results are in **parts per billion**

Well I.D.	Date of Sampling	TPH Diesel	Benzene	Toluene	Ethyl Benzene	Total Xylenes
MW-1	05-23-94	<50	<0.5	<0.5	<0.5	<2
	09-07-94	<50	<0.5	<0.5	<0.5	<2
	12-14-94	<50	<0.5	<0.5	<0.5	<2
EPA METHOD		3510/ 8015	8020	8020	8020	8020

4.0 CONCLUSIONS AND RECOMMENDATIONS

No hydrocarbons were detected in groundwater samples collected from monitoring well MW-1 for the third consecutive quarter. ASE recommends continuing the current quarterly groundwater monitoring program at the site. If no hydrocarbons are detected in the well during the next quarterly sampling period, ASE will recommend applying for site closure.

5.0 REPORT LIMITATIONS

The results of this investigation represent conditions at the time of the groundwater sampling, at the specific locations at which the samples were collected, and for the specific parameters analyzed for by the laboratory.

It does not fully characterize the site for contamination resulting from unknown sources, or for parameters not analyzed for by the laboratory. All of the laboratory work cited in this report was prepared under the direction of an independent CSDHS certified laboratory. The independent laboratory is solely responsible for the contents and conclusions of the chemical analysis data.

Aqua Science Engineers appreciates the opportunity to assist you with your environmental needs. Should you have any questions or comments, please feel free to call us at (510) 820-9391.

Respectfully submitted,

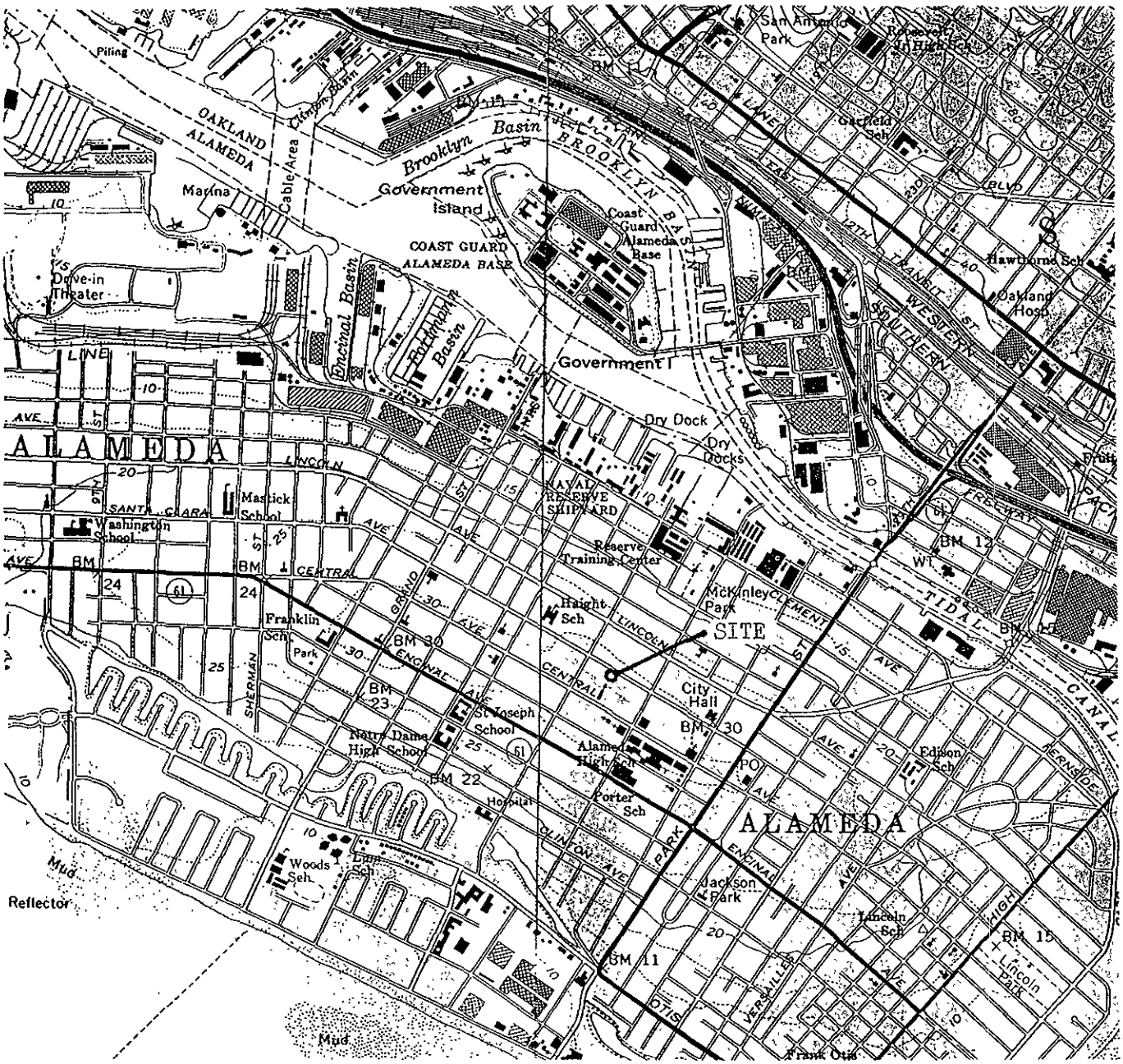
AQUA SCIENCE ENGINEERS, INC.

Robert E. Kitay, R.E.A.
Project Geologist

REGISTERED ENVIRONMENTAL ASSESSOR
ROBERT E. KITAY
No. REA-05442
Expires 6/95
STATE OF CALIFORNIA

Attachments: Figures 1 and 2
Appendices A and B

cc: Mr. Micheal Ghidella
Ms. Juliet Shin, ACHCSA
Mr. Rich Hiett, RWQCB, San Francisco Bay Region

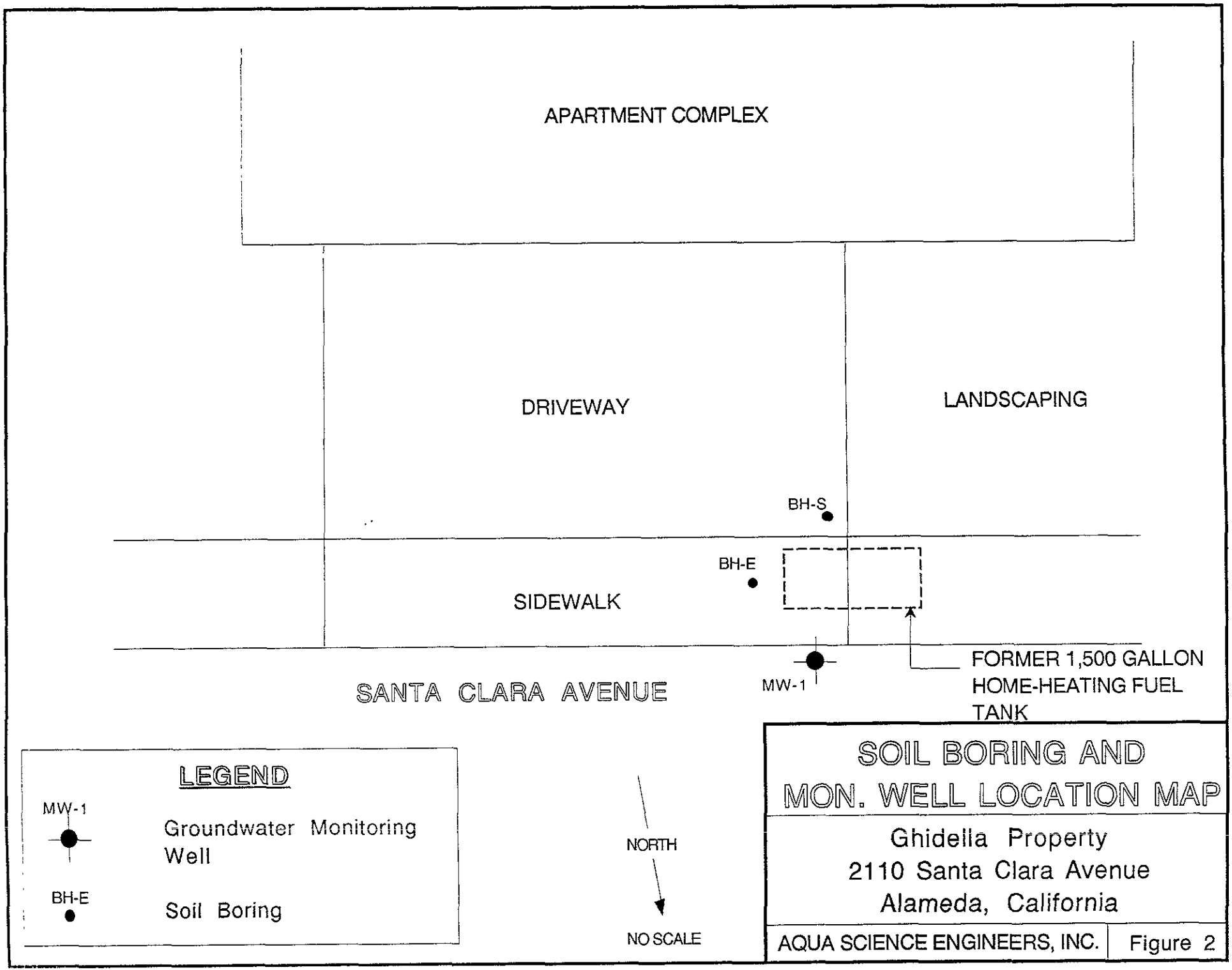


BASE: Oakland East and Oakland West 7.5 minute quadrangle topographic map, dated 1980, scale 1:24,000.

LOCATION MAP

Ghidella Property
2110 Santa Clara Avenue
Alameda, California

Aqua Science Engineers | Figure 1


APARTMENT COMPLEX
DRIVEWAY
LANDSCAPING
BH-S
BH-E
SIDEWALK
MW-1
SANTA CLARA AVENUE
FORMER 1,500 GALLON HOME-HEATING FUEL TANK
LEGEND
MW-1
Groundwater Monitoring Well
BH-E
Soil Boring
NORTH
NO SCALE
SOIL BORING AND MON. WELL LOCATION MAP
Ghidella Property
2110 Santa Clara Avenue
Alameda, California
AQUA SCIENCE ENGINEERS, INC.
Figure 2

APPENDIX A

Analytical Report and Chain of Custody Form

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 11134

AQUA SCIENCE ENGINEERS, INC
2411 OLD CROW CANYON RD. #4
SAN RAMON, CA 94583

ATTN: DAVE ALLEN
CLIENT PROJ. ID: 2750
CLIENT PROJ. NAME: GHIDELLA

REPORT DATE: 12/28/94

DATE(S) SAMPLED: 12/14/94

DATE RECEIVED: 12/15/94

AEN WORK ORDER: 9412209

PROJECT SUMMARY:

On December 15, 1994, this laboratory received 1 water sample(s).

Client requested sample(s) be analyzed for organic parameters. Results of analysis are summarized on the following page(s).

Please see quality control report for a summary of QC data pertaining to this project.

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

Larry Klein
Laboratory Director

AQUA SCIENCE ENGINEERS, INC.

AEN JOB NO: 9412209
DATE SAMPLED: 12/14/94
DATE RECEIVED: 12/15/94
CLIENT PROJ. ID: 2750

Client Sample Id.	AEN Lab Id.	Extractable Hydrocarbons as Diesel (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl-benzene (ug/L)	Total Xylenes (ug/L)
MW-1	01	ND	ND	ND	ND	ND
Reporting Limit		50	0.5	0.5	0.5	2
EPA Method:		3510 GCFID	8020	8020	8020	8020
Instrument:		C	F	F	F	F
Date Extracted:		12/19/94	NA	NA	NA	NA
Date Analyzed:		12/21/94	12/22/94	12/22/94	12/22/94	12/22/94

NA = Not Applicable
ND = Not Detected

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9412209

CLIENT PROJECT ID: 2750

Quality Control and Project Summary

All laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

METHOD: EPA 3510 GCFID

AEN JOB NO: 9412209
DATE EXTRACTED: 12/19/94
INSTRUMENT: C
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery n-Pentacosane
12/21/94	MW-1	01	63
QC Limits:			30-120

DATE EXTRACTED: 12/19/94
DATE ANALYZED: 12/21/94
SAMPLE SPIKED: DI WATER
INSTRUMENT: C

Method Spike Recovery Summary

Analyte	Spike Added (mg/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Diesel	2.08	84	5	65-103	12

Daily method blanks for all associated analytical runs showed no contamination over the reporting limit.

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9412209
INSTRUMENT: F
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Fluorobenzene
12/22/94	MW-1	01	97
QC Limits:			92-109

DATE ANALYZED: 12/21/94
SAMPLE SPIKED: 9412234-02
INSTRUMENT: F

Matrix Spike Recovery Summary

Analyte	Spike Added (ug/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Benzene	19.2	92	5	85-109	17
Toluene	52.2	97	5	87-111	16
Hydrocarbons as Gasoline	500	109	2	66-117	19

Daily method blanks for all associated analytical runs showed no contamination over the reporting limit.

*** END OF REPORT ***

94/2209

R3, SB
R5, SD

Aqua Science Engineers, Inc.
2411 Old Crow Canyon Road, #4,
San Ramon, CA 94583
(510) 820-9391 - FAX (510) 837-4853

Chain of Custody

DATE 12-15-94 PAGE 1 OF 1

SAMPLERS (SIGNATURE) D. Allen (PHONE NO.) 820-9391

PROJECT NAME GHIDELLA NO. 2750

ADDRESS ALAMEDA, CA

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:

SAMPLE ID.	DATE	TIME	MATRIX	NO. OF SAMPLES	TPH-GASOLINE (EPA 5030/8015)	TPH-GASOLINE/BTEX (EPA 5030/8015-8020)	TPH-DIESEL (EPA 3510/8015)	PURGABLE AROMATICS (EPA 602/8020)	PURGABLE HALOCARBONS (EPA 601/8010)	VOLATILE ORGANICS (EPA 624/8240)	BASE/NUETRALS, ACIDS (EPA 625/8270)	OIL & GREASE (EPA 5520 E&F OR B&F)	LUFT METALS (5) (EPA 6010+7000)	TITLE 22 (CAM 17) (EPA 6010+7000)	TCLP (EPA 1311/1310)	STLC- CAM WET (EPA 1311/1310)	REACTIVITY CORROSIVITY IGNITABILITY					
A-E MW-1	12/14	11:25	Water	5			X	X														

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY LABORATORY:	COMMENTS:
D. Allen 15:05	[illegible] 15:05	[illegible] 18:10	Denise Harrington	STANDARD T.A.T.
(signature) (time)	(signature) (time)	(signature) (time)	(signature) (time)	
D. ALLEN 12/15/94	[illegible] 12/15/94	12/15	D. HARRINGTON	
(printed name) (date)	(printed name) (date)	(printed name) (date)	(printed name) (date)	
Company- ASE	Company- AEN	Company-	AEN 12/15/94 Company- 1810	

APPENDIX B

Well Sampling Field Log

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Project Name and Address: GHIDELLA
Job #: 2750 Date of sampling: 12-14-94
Well Name: MW-1 Sampled by: DA
Total depth of well (feet): 18.62 Well diameter (inches): 2
Depth to water before sampling (feet): 4.82
Thickness of floating product if any: 0
Depth of well casing in water (feet): 13.8
Number of gallons per well casing volume (gallons): 2.3
Number of well casing volumes to be removed: 4
Req'd volume of groundwater to be purged before sampling (gallons): 9.2
Equipment used to purge the well: Pre-cleaned PVC Bailer
Time Evacuation Began: 10:50 Time Evacuation Finished: 11:00
Approximate volume of groundwater purged: 6
Did the well go dry?: Yes After how many gallons: 6
Time samples were collected: 11:25
Depth to water at time of sampling: 7.28'
Percent recovery at time of sampling: 82%
Samples collected with: Dedicated Bailer
Sample color: cloudy brown Odor: none
Description of sediment in sample: fine silt

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
MW-1	3	40 ml glass VOA	✓	✓	~~BTEX~~ BTEX
	2	1-liter Amber	✓	✓	TPH-D