

*3/28/96*  
*af*

October 2, 1995

QUARTERLY GROUNDWATER MONITORING REPORT  
SEPTEMBER 13, 1995 GROUNDWATER SAMPLING  
ASE JOB NO. 2807

at

Eden Medical Center  
20103 Lake Chabot Road  
Castro Valley, California

ENGINEERING  
PROFESSIONAL  
95 OCT -5 PM 1:46

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



*David M. Schulz*

## 1.0 INTRODUCTION

This report outlines the methods and findings of Aqua Science Engineers, Inc. (ASE)'s quarterly groundwater sampling at the Eden Medical Center located at 20103 Lake Chabot Road in Castro Valley, California (*Figures 1 and 2*).

## 2.0 SITE HISTORY

In October 1994, ASE removed three underground diesel storage tanks from the site. One area of the property contained two 10,000-gallon diesel storage tanks and another area contained one 3,000-gallon diesel storage tank. In addition, at least one other diesel storage tank was located adjacent to the two 10,000-gallon tanks and was previously removed by others. Upon removal of the 10,000-gallon tanks, visual staining and hydrocarbon odors were present in the excavation. Soil samples collected from this excavation contained up to 15 parts per million (ppm) total petroleum hydrocarbons as diesel (TPH-D), although only one sample could be collected from this excavation due to severe sloughing of the sidewalls. Up to 32 ppm TPH-D was detected in the soil samples collected beneath the 3,000-gallon diesel tank although no odors or staining was present during this tank removal. The residual contamination related to the 3,000-gallon tank was determined by the Alameda County Health Care Services Agency (ACHCSA) to not be a significant threat to the environment and was not addressed during the subsequent assessment.

In March 1995, ASE installed two groundwater monitoring wells at the site. 150 ppm TPH-D was detected in the soil sample collected from 16.0-foot below ground surface (bgs) in boring BH-A. No other significant hydrocarbons were detected in any other soil sample. 2,500 and 300 parts per billion (ppb) TPH-D were detected in groundwater samples collected from monitoring wells MW-1 and MW-2, respectively. No benzene, toluene, ethylbenzene and total xylenes (BTEX) were detected in groundwater samples collected from either monitoring well.

## 3.0 GROUNDWATER SAMPLING

On September 13, 1995, ASE project geologist Robert Kitay measured the depth to groundwater in the site wells using an electric water level sounder. The wells were then purged of four well casing volumes of groundwater using a pre-cleaned PVC pump. The pH, temperature and conductivity of the purge water were monitored during evacuation, and groundwater samples were not collected until these parameters stabilized.

Groundwater monitoring well MW-1 was purged dry, and samples were not collected until its water level recovered to 80% of the well's static water level. Groundwater samples were then collected from both wells with dedicated polyethylene bailers. The samples were decanted from the bailers into 40-ml volatile organic analysis (VOA) vials and 1-liter amber glass bottles, 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 A for a copy of the well sampling field logs.

#### 4.0 ANALYTICAL RESULTS FOR GROUNDWATER

The groundwater samples were analyzed by AEN for TPH-D by modified EPA Method 3510/8015 and 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 B. TPH-D was detected in groundwater samples collected from monitoring wells MW-1 and MW-2 at 980 ppb and 100 ppb, respectively. No BTEX was detected in groundwater samples collected from either monitoring well.

**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	03-08-95	2,500	<0.5	<0.5	<0.5	↯
	06-05-95	1,400	<0.5	<0.5	<0.5	↯
	09-13-95	980	<0.5	<0.5	<0.5	↯
MW-2	03-08-95	300	<0.5	<0.5	<0.5	↯
	06-05-95	50	<0.5	<0.5	<0.5	↯
	09-13-95	100	<0.5	<0.5	<0.5	↯
EPA METHOD		3510/ 8015	8020	8020	8020	8020

## 5.0 CONCLUSIONS AND RECOMMENDATIONS

980 ppb and 100 ppb TPH-D were detected in groundwater samples collected from monitoring wells MW-1 and MW-2, respectively. No BTEX was detected in groundwater samples collected from either monitoring well. ASE recommends continuing the quarterly groundwater monitoring program for one additional quarter. If no BTEX concentrations exceed the California Department of Toxic Substances Control (DTSC) maximum contaminant level (MCL) for drinking water during the next quarterly sampling period, then ASE will recommend that the site be considered for site closure.

## 6.0 REPORT LIMITATIONS

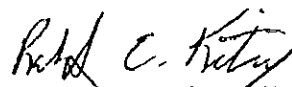
The results of this assessment represent conditions at the time of the groundwater sampling, at the specific locations at which the samples were collected, and for the specific parameters analyzed for by the laboratory.

It does not fully characterize the site for contamination resulting from unknown sources, or for parameters not analyzed 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.

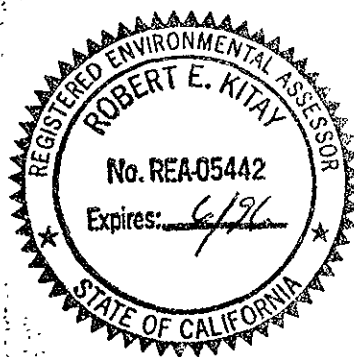
Aqua Science Engineers appreciates the opportunity to assist the Eden Medical Center with its environmental needs. Should you have any questions or comments, please feel free to call us at (510) 820-9391.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.

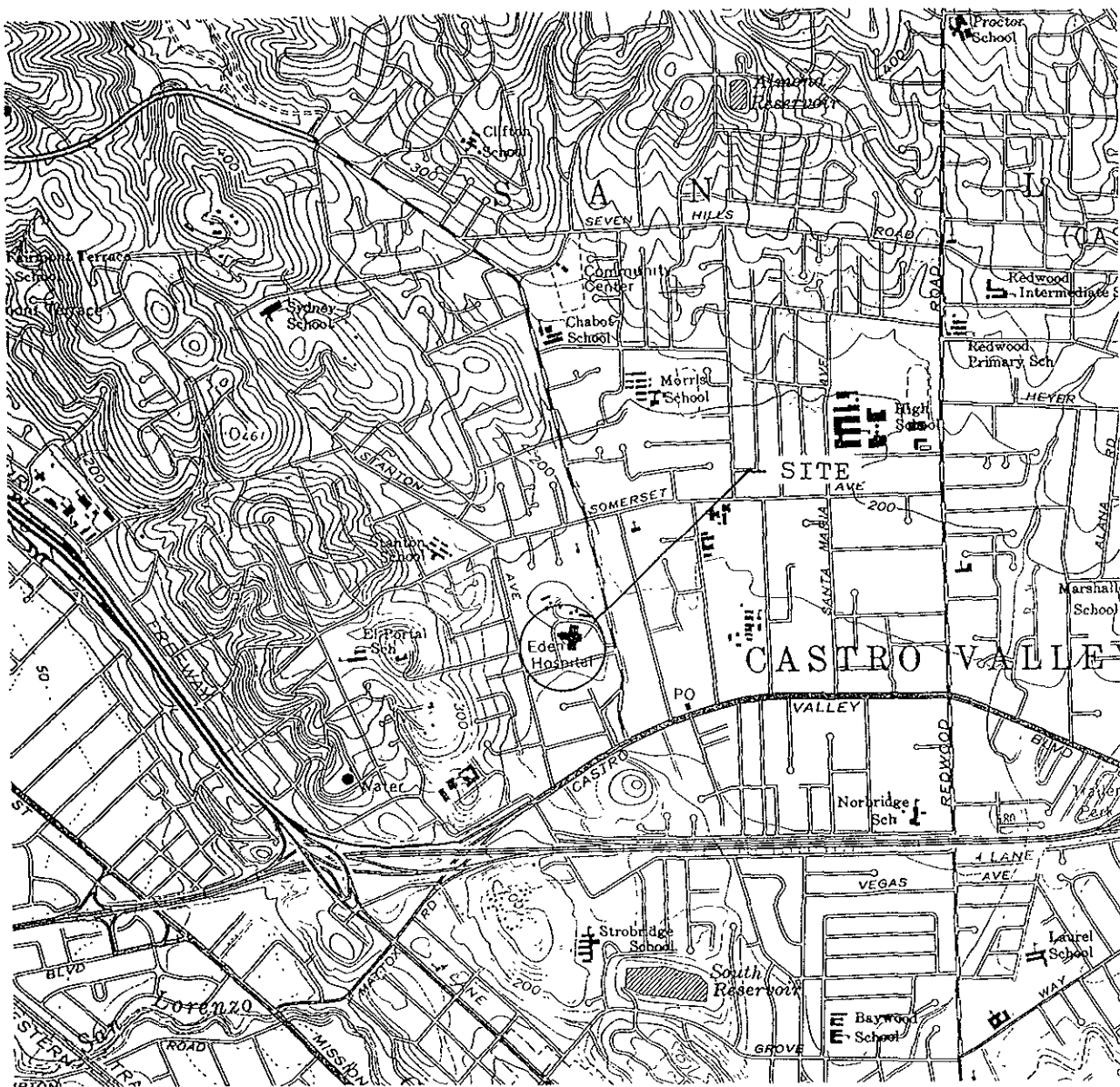


Robert E. Kitay, R.E.A.  
Project Geologist



Attachments: Figures 1 and 2  
Appendices A and B

cc: Mr. Robert Bosold, Eden Medical Center  
Mr. Scott Seery, ACHCSA  
Mr. Kevin Graves, RWQCB, San Francisco Bay Region



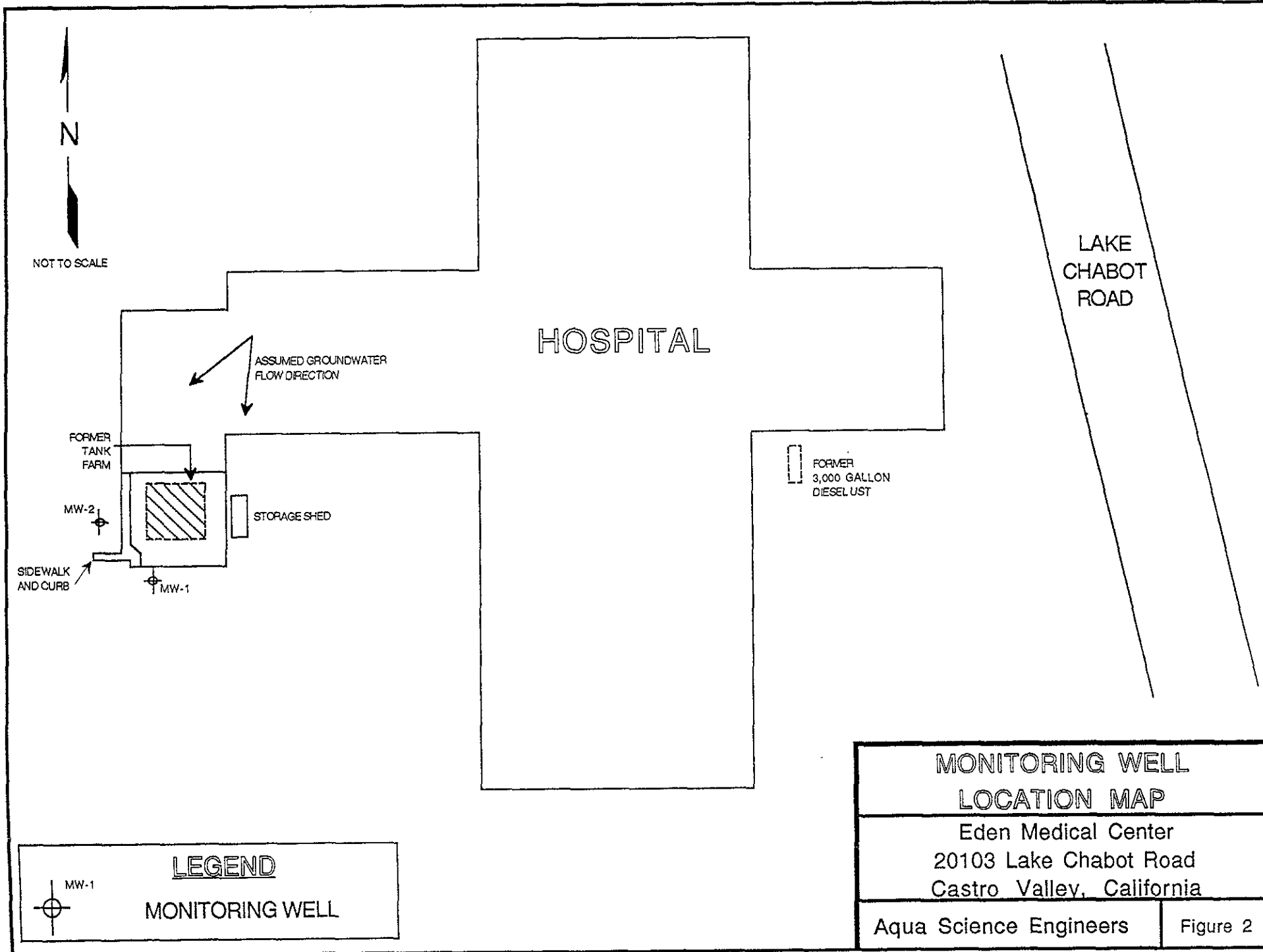
## SITE LOCATION MAP

Eden Medical Center  
20103 Lake Chabot Road  
Castro Valley, California

Aqua Science Engineers

Figure 1

BASE: Hayward, CA 7.5 minute quadrangle topographic map,  
dated 1980, scale 1:24,000.



# **APPENDIX A**

## **Well Sampling Field Logs**



# WELL SAMPLING FIELD LOG

Project Name and Address: Eden Medical Center, Castro Valley, CA  
 Job #: 2807 RK Date of sampling: 9-13-95  
 Well Name: ~~780~~ MW-1 Sampled by: RK  
 Total depth of well (feet): 25.12 Well diameter (inches): 2  
 Depth to water before sampling (feet): 10.33  
 Thickness of floating product if any: None  
 Depth of well casing in water (feet): 14.79  
 Number of gallons per well casing volume (gallons): 2.5  
 Number of well casing volumes to be removed: 4  
 Req'd volume of groundwater to be purged before sampling (gallons): 10  
 Equipment used to purge the well: 12 volt PVC pump  
 Time Evacuation Began: 15:40 Time Evacuation Finished: 15:50  
 Approximate volume of groundwater purged: 4.5 gals  
 Did the well go dry?: Yes After how many gallons: 4.5  
 Time samples were collected: 17:30  
 Depth to water at time of sampling: 11.11  
 Percent recovery at time of sampling: 95%  
 Samples collected with: Dedicated polyethylene bottles  
 Sample color: None (clear) Odor: None  
 Description of sediment in sample: Small amount of fine brown silt

## CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
<u>Initial</u>	<u>78.7</u>	<u>7.13</u>	<u>1336</u>
<u>2.5 gals</u>	<u>77.4</u>	<u>7.36</u>	<u>1022</u>
_____	_____	_____	_____
_____	_____	_____	_____

## SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	iced?	Analysis
_____	<u>2</u>	<u>40-ml WA vials</u>	<u>HCl</u>	<u>Yes</u>	<u>BTEX</u>
<u>↓</u>	<u>2</u>	<u>1-liter amber glass</u>	<u>↓</u>	<u>↓</u>	<u>TPH-D</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____





# WELL SAMPLING FIELD LOG

Project Name and Address: Edson Midland Center, Castro Valley, CA  
 Job #: 2807 Date of sampling: 9-13-95  
 Well Name: MW-2 Sampled by: PK  
 Total depth of well (feet): 19.75 Well diameter (inches): 2  
 Depth to water before sampling (feet): 9.62  
 Thickness of floating product if any: None  
 Depth of well casing in water (feet): 10.13  
 Number of gallons per well casing volume (gallons): 1.7  
 Number of well casing volumes to be removed: 4  
 Req'd volume of groundwater to be purged before sampling (gallons): 6.8  
 Equipment used to purge the well: 12 volt PVC pump  
 Time Evacuation Began: 16:10 Time Evacuation Finished: 16:20  
 Approximate volume of groundwater purged: 7.5 gals  
 Did the well go dry?: No After how many gallons: -  
 Time samples were collected: 17:10  
 Depth to water at time of sampling: 9.82  
 Percent recovery at time of sampling: ~~98%~~ <sup>PK</sup> 98%  
 Samples collected with: Dedicated polyethylene bottles  
 Sample color: None (clear) Odor: None  
 Description of sediment in sample: None

## CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
<u>Initial</u>	<u>72.4</u>	<u>7.69</u>	<u>1048</u>
<u>1.7 gals</u>	<u>72.3</u>	<u>7.66</u>	<u>1020</u>
<u>3.4 gals</u>	<u>72.2</u>	<u>7.62</u>	<u>1015</u>
<u>5.3 gals</u>	<u>71.9</u>	<u>7.65</u>	<u>978</u>
<u>6.8 gals</u>	<u>72.1</u>	<u>7.64</u>	<u>1012</u>

## SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
<u>MW-2</u>	<u>2</u>	<u>40-ml VOA vial</u>	<u>HCl</u>	<u>Yes</u>	<u>BTEX</u>
<u>↓</u>	<u>2</u>	<u>1-l. tear amber glass</u>	<u>↓</u>	<u>↓</u>	<u>TPH-D</u>

## **APPENDIX B**

Analytical Report and Chain of Custody Form

*American Environmental Network*  
*Certificate of Analysis*

DOHS Certification: 1172

AIHA Accreditation: 11134

PAGE 1

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

ATTN: ROBERT KITAY  
CLIENT PROJ. ID: 2807  
CLIENT PROJ. NAME: EDEN MED. CTR.

REPORT DATE: 10/01/95

DATE(S) SAMPLED: 09/13/95

DATE RECEIVED: 09/14/95

AEN WORK ORDER: 9509196

PROJECT SUMMARY:

On September 14, 1995, this laboratory received 2 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.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

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

  
Larry Klein  
Laboratory Director

## AQUA SCIENCE ENGINEERS, INC.

AEN JOB NO: 9509196  
 DATE SAMPLED: 09/13/95  
 DATE RECEIVED: 09/14/95  
 CLIENT PROJ. ID: 2807

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	980	ND	ND	ND	ND
MW-2	02	100	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:		09/20/95 09/25/95	NA	NA	NA	NA
Date Analyzed:		09/21/95 09/28/95	09/20/95	09/20/95	09/20/95	09/20/95

NA = Not Applicable  
 ND = Not Detected

AEN (CALIFORNIA)  
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9509196

CLIENT PROJECT ID: 2807

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: 9509196  
 DATE EXTRACTED: 09/20/95;09/25/95  
 INSTRUMENT: C  
 MATRIX: WATER

## Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery	
			n-Pentacosane	
09/21/95	MW-1	01	102	
09/28/95	MW-2	02	79	
QC Limits:			59-118	

DATE EXTRACTED: 09/20/95  
 DATE ANALYZED: 09/20/95  
 SAMPLE SPIKED: DI WATER  
 INSTRUMENT: C

## Method Spike Recovery Summary

Analyte	Spike Added (mg/L)	Average Percent Recovery	RPD	QC Limits	
				Percent Recovery	RPD
Diesel	2.07	83	<1	58-107	15

Daily method blanks for all associated analytical runs showed no contamination at or above the reporting limit.

## QUALITY CONTROL DATA

METHOD: EPA 8020

AEN JOB NO: 9509196  
 INSTRUMENT: F  
 MATRIX: WATER

## Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery	
			Fluorobenzene	
09/20/95	MW-1	01	97	
09/20/95	MW-2	02	96	
QC Limits:			92-109	

DATE ANALYZED: 09/20/95  
 SAMPLE SPIKED: 9509213-08  
 INSTRUMENT: F

## Matrix Spike Recovery Summary

Analyte	Spike Added (ug/L)	Average Percent Recovery	RPD	QC Limits	
				Percent Recovery	RPD
Benzene	20.3	95	2	85-109	17
Toluene	60.2	102	2	87-111	16

Daily method blanks for all associated analytical runs showed no contamination at or above the reporting limit.

\*\*\* END OF REPORT \*\*\*

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 9-13-95 PAGE 1 OF 1

R-3, S-1

SAMPLERS (SIGNATURE)

(PHONE NO.)

PROJECT NAME

Eden Medical Center

NO. 2807

Robert E. Kitey

(510) 820-9391

ADDRESS 20103 Lake Chabot Road, Castro Valley, CA

## ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:

TPH-GASOLINE (EPA 5030/8015)	TPH-GASOLINE/BTEX (EPA 5030/8015-8020)	TPH-DIESEL (EPA 3510/8015)	PURGABLE AROMATICS (EPA 602/6320) <u>BTEX only</u>	PURGABLE HALOCARBONS (EPA 601/8010)	VOLATILE ORGANICS (EPA 624/8240)	BASE/NEUTRALS, ACIDS (EPA 625/6270)	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 MET (EPA 1311/1310)	REACTIVITY CORROSIVITY IGNITABILITY
---------------------------------	---	-------------------------------	---	--	-------------------------------------	--	---------------------------------------	------------------------------------	--------------------------------------	-------------------------	---------------------------------	---

SAMPLE ID.	DATE	TIME	MATRIX	NO. OF SAMPLES
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MW-1 9/13 17:30 Water 4

MW-2 9/13 17:10 Water 4

RELINQUISHED BY:

Robert E. Kitey 14:15  
 (signature) (time)

Robert E. Kitey 9-14-95  
 (printed name) (date)

Company- ASE

RECEIVED BY:

Michael MacKelle 14:15  
 (signature) (time)

Michael MacKelle 9/14/95  
 (printed name) (date)

Company- AEW

RELINQUISHED BY:

Michael MacKelle 14:45  
 (signature) (time)

Michael MacKelle 9/14  
 (printed name) (date)

Company-

RECEIVED BY LABORATORY:

(signature) (time)

(printed name) (date)

Company-

COMMENTS:

STANDARD  
T.A.T.