AllWest

ENVIRONMENTAL PROTECTION

99 OCT 15 PM 4:01

ALLWEST ENVIRONMENTAL
1 Sutter Street, Suite 600
San Francisco, CA 94104
415-391-2510
415-391-2008 (Fax)

TRANSMITTAL

TO: **Mr. David Thompson**
c/o Vikki Barron, Esq.
Ryan, Andrada & Lifter
300 Lakeside Drive, Suite 1045
Oakland, CA 94612

DATE: October 14, 1999

WE ARE TRANSMITTING:

Project No. 98115.23

_X_ Per Your Request
___Herewith
___Under Separate Cover

THE FOLLOWING: **One original and 1 copy of the Quarterly Groundwater Monitoring Report, Third Quarter 1999, on 900 Central Avenue in Alameda, California**

REMARKS **One copy was also prepared and mailed to Mr. Larry Seto with Alameda County Environment Health at 1131 Harbor Bay Parkway, Suite 250 in Alameda, California 94502-6577**

TRANSMITTED AS CHECKED BELOW:

___For Approval
_X_ For Your Use
___As Requested
___For Review & Comment

SIGNED: _____ E✓ M__ F✓ P__ T✓ A✓
Long Ching

Prepared by: _____
Jane Kathleen Tingin

AllWest Environmental, Inc.

Specialists in Physical Due Diligence and Remedial Services

One Sutter Street, Suite 600
San Francisco, CA 94104
Tel 415.391 2510
Fax 415.391 2008

QUARTERLY GROUNDWATER MONITORING REPORT
Third Quarter, 1999

900 Central Avenue
Alameda, California

Marc Cunningham will send new / correct contact for site.

PREPARED FOR:

Mr. David Thompson
c/o Vikki Barron, Esq.
Ryan, Andrada & Lifter
300 Lakeside Drive, Suite 1045
Oakland, CA 94612

AllWest Project No. 98115.23
October 14, 1999

PREPARED BY:

Rafael Ravelo
Site Manager

REVIEWED BY:

Long Chin, PE
Project Manager

TABLE OF CONTENTS

AllWest

QUARTERLY GROUNDWATER MONITORING
Third Quarter, 1999

900 Central Avenue
Alameda, California

I. EXECUTIVE SUMMARY

AllWest conducted a quarterly groundwater monitoring event at 900 Central Avenue, Alameda, California on September 3, 1999. The quarterly monitoring activities included the sampling of three onsite monitoring wells, the chemical analyses of the collected groundwater samples, and the preparation of this summary report. The purpose of this quarterly groundwater monitoring program was to comply with the requirements of Alameda County Environmental Health Services (ACEHS) for monitoring the shallow groundwater quality at the former underground storage tank (UST) site.

Three onsite groundwater monitoring wells (MW-1, MW-2 and MW-3) were sampled on September 3, 1999, according to the standard well sampling procedures. One groundwater sample was collected from each well and forwarded to a state certified laboratory for chemical analyses to detect the presence of total petroleum hydrocarbons in the gasoline, diesel, and motor oil range (TPH-g, TPH-d, TPH-m), four fuel related volatile compounds: benzene, toluene, ethylbenzene, and xylene (BTEX), and a fuel oxygenate methyl-ter-butyl-ether (MTBE).

The results of groundwater monitoring for the third quarter of 1999 indicate some of the target contaminants were detected in site groundwater above the method reporting limits for monitoring wells MW-1 and MW-2. Detectable concentrations of xylene was recorded for the first time in the sample from well MW-2 at 1.8 µg/l (equivalent to parts per billion [ppb]). Detectable levels of TPH-g, TPH-d, benzene, toluene, ethylbenzene, and xylene were reported in MW-1 sample. The detected concentrations are 14,000 ppb for TPH-g, 2,100 ppb for TPH-d, 300 ppb for benzene, 1,900 ppb for toluene, 890 ppb for ethylbenzene, and 5,600 ppb for xylene. The contaminants detected in well MW-1 are similar to those previously detected but their concentrations are the highest since well installation in November 1998. Similar to previous sampling events, TPH-m and MTBE were not detected in any of the wells during this quarterly monitoring event. No target analytes were detected in the sample collected from MW-3.

Groundwater gradient and flow direction for this monitoring event was calculated at 0.003 ft/ft and to the southwest. Groundwater surface elevation measurements were generally 3 feet lower during this quarter than last measured in June 1999.

The monitoring data to date does not provide a clear chronological trend on target analytes' concentration variation.

As required by the Regional Water Quality Control Board and the Alameda County Environmental Health Services (ACEHS), this monitoring event completes the one-year quarterly groundwater monitoring program at the subject site. Based on the work plan submitted to ACEHS on June 29,1998 and approved on August 1998, AllWest recommends that a Risk Based Corrective Action (RBCA) process be performed to evaluate the risk of residual contaminants to site occupants and to determine if corrective actions are needed. AllWest also recommends that a copy of this report should be submitted to the Alameda County Environmental Health Services (ACEHS) to fulfill the agency reporting requirements.

II. INTRODUCTION

This report presents the results of a quarterly groundwater monitoring event conducted at the former gasoline UST site located at 900 Central Avenue, Alameda, California. The monitoring event was for the third quarter of 1999. Included in this report is an abbreviated site investigation history, a description of field activities, a summary of analytical results, our interpretation of the data, and a recommended course of action. Supporting information such as site figures, sampling logs, and laboratory reports are also included. This is the fourth quarterly monitoring report for the subject site.

A. Site Background

The subject property is located in the central-southern portion of the city of Alameda amidst a predominantly residential area. Specifically, the property is at the southeast corner of Central Avenue and Ninth Street. The site improvements consist of a two-story wood-frame duplex apartment with surrounding landscaped areas. A site location map and a generalized site plan are presented on Figures 1 and 2 in the FIGURES section of this report.

According to a 1994 Lowney Associates report, the subject property was used as a gas station with underground fuel storage tanks between 1931 and 1975. Lowney Associates also conducted a soil and groundwater sampling program at the site in 1994 to evaluate the potential of subsurface impact due to historical site use. The sampling program included the advancement of three borings, the collection of soil and grab groundwater samples, and the chemical analyses of selected samples. Lowney Associates reported that soil and groundwater samples from boring EB-1, located near the northwest corner of the subject property, contained elevated levels of gasoline (TPH-g) and fuel volatile compounds (BTEX).

In 1997, AllWest was retained to review and verify Lowney's 1994 findings. AllWest's 1997 investigation included the review of historical documents related to past site usage, the advancement of eight soil borings via the Geoprobe method to collect soil and groundwater samples, the chemical

analyses of selected samples for TPH-g and BTEX, and a preliminary risk assessment using the American Society for Testing and Materials (ASTM) Risk Based Corrective Action (RBCA) process. The 1997 investigation results indicated that no current source areas are located at the subject site, the majority of contaminated groundwater beneath the site is limited to the northwest corner, the extent of the groundwater contamination extends beyond the site boundary, and the former tank site is likely located in the public right-of-way, along the sidewalk of Central Avenue. The preliminary risk assessment indicated that the portion of groundwater contamination plume beneath the subject property is unlikely to cause increased cancer risk to site occupants.

The results of the 1997 AllWest investigation were submitted to Alameda County Environmental Health Services (ACEHS), the lead regulatory agency for leaking underground storage tank sites in the City of Alameda. In March 1998, the County issued a letter requesting quarterly groundwater monitoring for a minimum of one year at the subject site. Groundwater samples are required to be analyzed for the presence of TPH-g, BTEX, and MTBE. In June 1998, AllWest prepared a workplan for the well installation and groundwater monitoring program. The workplan was submitted to and approved by ACEHS in August 1998. In addition to TPH-g, BTEX, and MTBE, ACEHS required the analyses of total petroleum hydrocarbons in the diesel and motor oil ranges (TPH-d and TPH-m) for the groundwater samples.

In November 1998, AllWest installed, developed, and sampled three groundwater monitoring well at the subject site. Elevated levels of TPH-g and BTEX were detected in well MW-1, located at the northwest corner of the subject property and near the suspected former UST site. In March 1999, AllWest sampled the three wells in accordance with the established quarterly monitoring program. Analytical results indicated no detectable levels of target contaminants in any of the groundwater samples collected during the March quarterly sampling event. In June 1999, AllWest collected groundwater samples from all the wells for the second quarter of 1999. The analysis of the samples collected indicated high levels of the target contaminants in the groundwater sample of MW-1. No concentrations of the contaminants were recorded in the samples taken from wells MW-2 or MW-3.

B. Purpose and Scope of Work

1.8 ppb

The purpose of this quarterly groundwater monitoring was to comply with the requirements of ACEHS for monitoring the shallow groundwater quality at the former UST site.

The scope of work, as defined by the June 29, 1998 workplan prepared by AllWest and approved/amended by the ACEHS in August 1998, included the following tasks:

1. Measure the depth of groundwater table in each onsite groundwater monitoring well. Calculate the groundwater surface elevation, and determine the groundwater flow direction and gradient;

2. Collect a representative groundwater sample from each onsite monitoring well after proper purging process. Contain the purge water in appropriate storage devices onsite;

3. Submit the collected groundwater samples to a state certified laboratory for chemical analyses to detect the presence of total petroleum hydrocarbons in the gasoline, diesel, and motor oil range (TPH-g, TPH-d, TPH-m) by modified EPA method 8015, fuel related volatile organic compounds benzene, toluene, ethylbenzene, and xylene (BTEX) by EPA method 8020, and fuel oxygenate methyl tert-butyl ether (MTBE) by EPA method 8020; and

4. Prepare a written report to describe the field activities, summarize the analytical results and field measurements, and provide recommendations as appropriate.

III. FIELD ACTIVITIES

A representative groundwater sample was collected by AllWest from each groundwater monitoring well on September 3, 1999, after proper well purging. Prior to well purging, an electric water level sounder was lowered into each well casing to measure the depth to the water to the nearest 0.01 feet. A new clear poly disposable bailer was then lowered into each well casing and partially submerged. Upon retrieval of the clear bailer, the surface of the water column retained in the bailer was examined for any floating product or product sheen. No floating product was observed on the surface of water retained in the bailers from any of the three wells sampled. However, a slight petroleum odor and some visible product related sheen was noted in groundwater from well MW-1.

After initial measurements were completed and recorded, each of the wells were purged by the same disposal bailer. Approximately 3 well volumes of groundwater were purged from each well. During the purging process, the groundwater physical property indicators (temperature, pH, and conductivity) were monitored periodically with a combination meter. Purging was considered complete when indicators were stabilized (consecutive readings within 10% of each other) and the purged water was relatively free of visible sediments.

Groundwater sampling was conducted after the water level recovered to at least 80% of the initial measurement, recorded prior to purging. The groundwater sample was collected by using a disposable bailer that was discarded after each well sampling event to avoid cross-contamination. Upon retrieval of the disposable bailer, the retained water was carefully transferred to appropriate pre-cleaned glassware furnished by the analytical laboratory. A special adapter fitted to the bottom end of the bailer was used to minimize the loss of volatile organics during transfer. All sample containers were fitted with a Teflon lined septum/cap and filled such that no headspace was present. After the water samples were properly transferred to the appropriate container, the containers were labeled and immediately placed on ice to preserve its chemical characteristics. A well sampling log was maintained during the sampling event and copies of the logs are included in Appendix B.

Samples were field stored and transported in an insulated cooler filled with crushed ice and transported to the analytical laboratory. All samples were transported to the laboratory under proper chain of custody documentation from the time of collection to the time of arrival at the laboratory.

To avoid cross-contamination, all groundwater sampling equipment that came in contact with the groundwater was thoroughly cleansed by washing it in Alconox (a non-phosphor detergent) solution and rinsed with distilled water prior to each well sampling event. Sample collection was by disposable bailers which were discarded after each well sampling event. All purged water was temporarily stored on-site in a labeled DOT-approved 55-gallon steel drum awaiting test results to determine the proper disposal method.

IV. MONITORING RESULTS

A. Groundwater Conditions

Depth to groundwater in each well measured during this monitoring event was approximately 12 feet below ground surface (BGS). This is 3 feet lower than last measured in June 1999 and at about the same elevation measured at the time of the initial well installation in November 1998. Groundwater flow gradient and direction was calculated at 0.003 ft/ft and towards the southwest during this quarterly monitoring event. A cumulative summary of groundwater surface elevation measurements is presented on Table 1 in the TABLES section of this report.

B. Laboratory Analyses

The collected groundwater samples were forwarded to Chromalab of Pleasanton, California, a state certified analytical laboratory, for chemical analyses. Analyses performed on the groundwater samples included total petroleum hydrocarbons in the gasoline, diesel, and motor oil ranges (TPH-g, TPH-d, TPH-m) by gas chromatography (modified EPA method 8015), fuel related volatile organic compounds: benzene, toluene, ethylbenzene, and xylenes (BTEX) by gas chromatography (EPA method 8020), and the fuel oxygenate methyl tert-butyl ether (MTBE) also by EPA method 8020.

Analytical results indicate none of the target analytes were detected above the method reporting limits in groundwater samples from well MW-3. No TPH-g, TPH-d, TPH-m, benzene, toluene, ethylbenzene or MTBE was detected in the well sample from MW-2; however, detectable level of xylenes was reported. The detected concentration level was 1.8 µg/l (equivalent to parts per billion [ppb]). No TPH-m or MTBE was detected in well sample MW-1. However, detectable levels of TPH-g, TPH-d, benzene, toluene, ethylbenzene, and xylene were reported in MW-1 sample. The detected concentrations are 14,000 ppb for TPH-g, 2,100 ppb for TPH-d, 300 ppb for benzene, 1,900 ppb for toluene, 890 ppb for ethylbenzene, and 5,600 ppb for xylene.

A review of laboratory internal quality assurance/quality control (QA/QC) report indicates the method blank and sample spike data are within the laboratory recovery limits. The laboratory QA/QC report indicated that the groundwater samples were analyzed within the acceptable EPA holding time. Based on the laboratory QA/QC report, the analysis data from Chromalab are considered to be of good quality. A copy of the laboratory analytical reports and chain-of-custody

records are presented in the LABORATORY RESULTS section of this report. A cumulative summary of the analytical results is presented on Table 2.

V. CONCLUSIONS AND RECOMMENDATIONS

The results of groundwater monitoring for the third quarter of 1999 indicate some of the target contaminants were detected in site groundwater above the method reporting limits for monitoring wells MW-1 and MW-2. Detectable concentrations of xylene (1.8 ppb) was recorded in the sample from well MW-2. This is the first time that of any of the target contaminants was detected in MW-2. The contaminants detected in well MW-1 are similar to those previously detected, namely TPH-g, TPH-d, benzene, toluene, ethylbenzene, and xylene. The contaminant concentrations reported in well MW-1 during this monitoring event are the highest since well installation in November 1998. Similar to previous sampling events, TPH-m or MTBE were not detected in any of the wells during this quarterly monitoring event. No target analytes were detected in the sample collected from MW-3.

The groundwater level measurement of the wells remained within the range of historical high and low. There is no clear trend between the contaminant concentrations and groundwater levels that can be derived from the monitoring data gathered to date.

As required by the Regional Water Quality Control Board and the Alameda County Environmental Health Services (ACEHS), this monitoring event completes the one-year quarterly groundwater monitoring program at the subject site. Based on the work plan submitted to ACEHS on June 29,1998 and approved on August 1998, AllWest recommends that a Risk Based Correctve Action (RBCA) process be performed to evaluate the risk of residual contaminants to the site occupants and to determine if corrective actions are needed. AllWest also recommends that a copy of this report should be submitted to the Alameda County Environmental Health Services (ACEHS) to fulfill the agency reporting requirements.

VI. REPORT LIMITATIONS

The work described in this report is performed in accordance with the Environmental Consulting Agreement between Mr. David Thompson and AllWest Environmental, dated March 25, 1998. AllWest has prepared this report for the exclusive use of Mr. David Thompson for this particular project and in accordance with generally accepted practices at the time of the work. No other warranties, certifications or representation, either expressed or implied are made as to the professional advice offered. The services provided for Mr. David Thompson were limited to their specific requirements; the limited scope allows for AllWest to form no more than an opinion of the actual site conditions. No matter how much research and sampling may be performed the only way to know about the actual composition and condition of the subsurface of a site is through excavation.

The conclusions and recommendations contained in this report are made based on observed conditions existing at the site, laboratory test results of the submitted samples, and interpretation of a limited data set. It must be recognized that changes can occur in subsurface conditions due to site use or other reasons. Furthermore, the distribution of chemical concentrations in the subsurface can vary spatially and over time. The results of chemical analysis are valid as of the date and at the sampling location only. AllWest cannot be held accountable for the accuracy of the test data from an independent laboratories nor for any analyte quantities falling below the recognized standard detection limits for the method utilized by the independent laboratories.

//PC8/C/RAF/R98115Q3

TABLES

Table 1

SUMMARY OF GROUNDWATER ELEVATION MEASUREMENTS

900 Central Avenue, Alameda, California

Well Number	Well Casing Elevation[2]	Date of Measurement	Depth to Groundwater[3]	Groundwater Surface Elevation[2]
MW-1	+ 25.17'	11/27/1998	11.77'	+ 13.40'
		03/12/1999	6.59'	+ 18.58'
		06/01/1999	8.71'	+ 16.46'
		09/03/1999	11.79'	+ 13.38'
MW-2	+ 25.12'	11/27/1998	11.76'	+ 13.45'
		03/12/1999	6.53'	+ 18.59'
		06/01/1999	8.56'	+ 16.56'
		09/03/1999	11.60'	+ 13.52'
MW-3	+ 24.58'	11/27/1998	11.41'	+ 13.17'
		03/12/1999	6.01'	+ 18.57'
		06/01/1999	8.16'	+ 16.42'
		09/03/1999	11.27'	+ 13.31'

Notes:

1. Wells MW-1, MW-2 and MW-3 were installed on November 16, 1998
2. Feet above mean sea level (MSL)
3. Below the top of well casing

Table 2

SUMMARY OF ANALYTICAL RESULTS

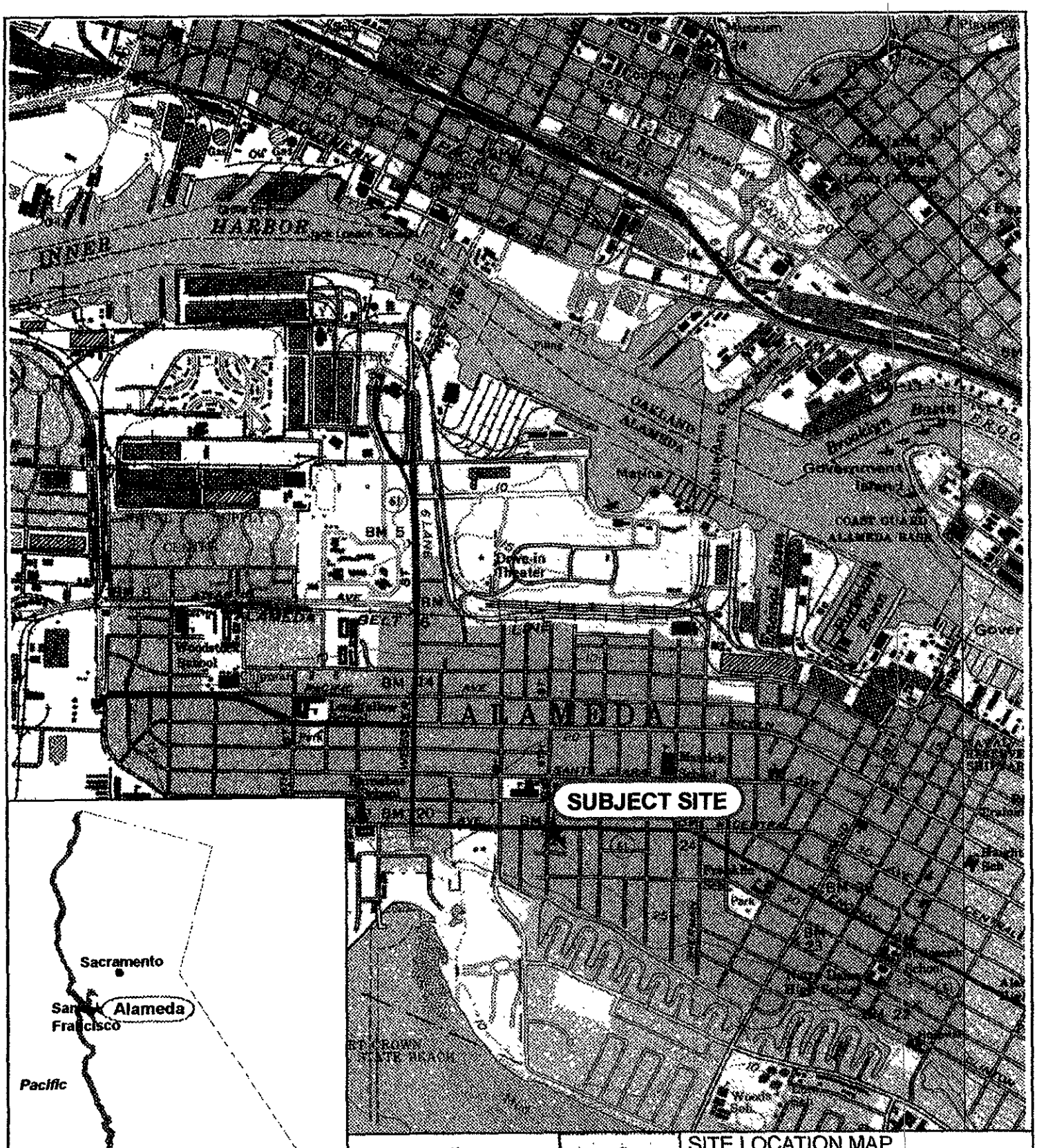
900 Central Avenue, Alameda, California

Well Number	Sampling Date	TPH-g	Benzene	Toluene	Ethyl-benzene	Xylene	MTBE	TPH-d	TPH-m
MW-1	11/27/1998	360	5.8	5.5	9.2	40	< 5	<.50	< 500
	03/12/1999	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5	< 50	< 500
	06/01/1999	930	< 0.5	19	52	230	< 5	540	< 500
	09/03/1999	14,000	300	1,900	890	5,600	< 5	2,100	< 500
MW-2	11/27/1998	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5	< 50	< 500
	03/12/1999	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5	< 50	< 500
	06/01/1999	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5	< 50	< 500
	09/03/1999	< 50	< 0.5	< 0.5	< 0.5	1.8	< 5	< 50	< 500
MW-3	11/27/1998	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5	< 50	< 500
	03/12/1999	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5	< 50	< 500
	06/01/1999	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5	< 50	< 500
	09/03/1999	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5	< 50	< 500
MCLs		n/a	**1(5)**	**150 (1000)**	**700 (700)**	**1750 (10000)**	n/a	n/a	n/a

Notes:

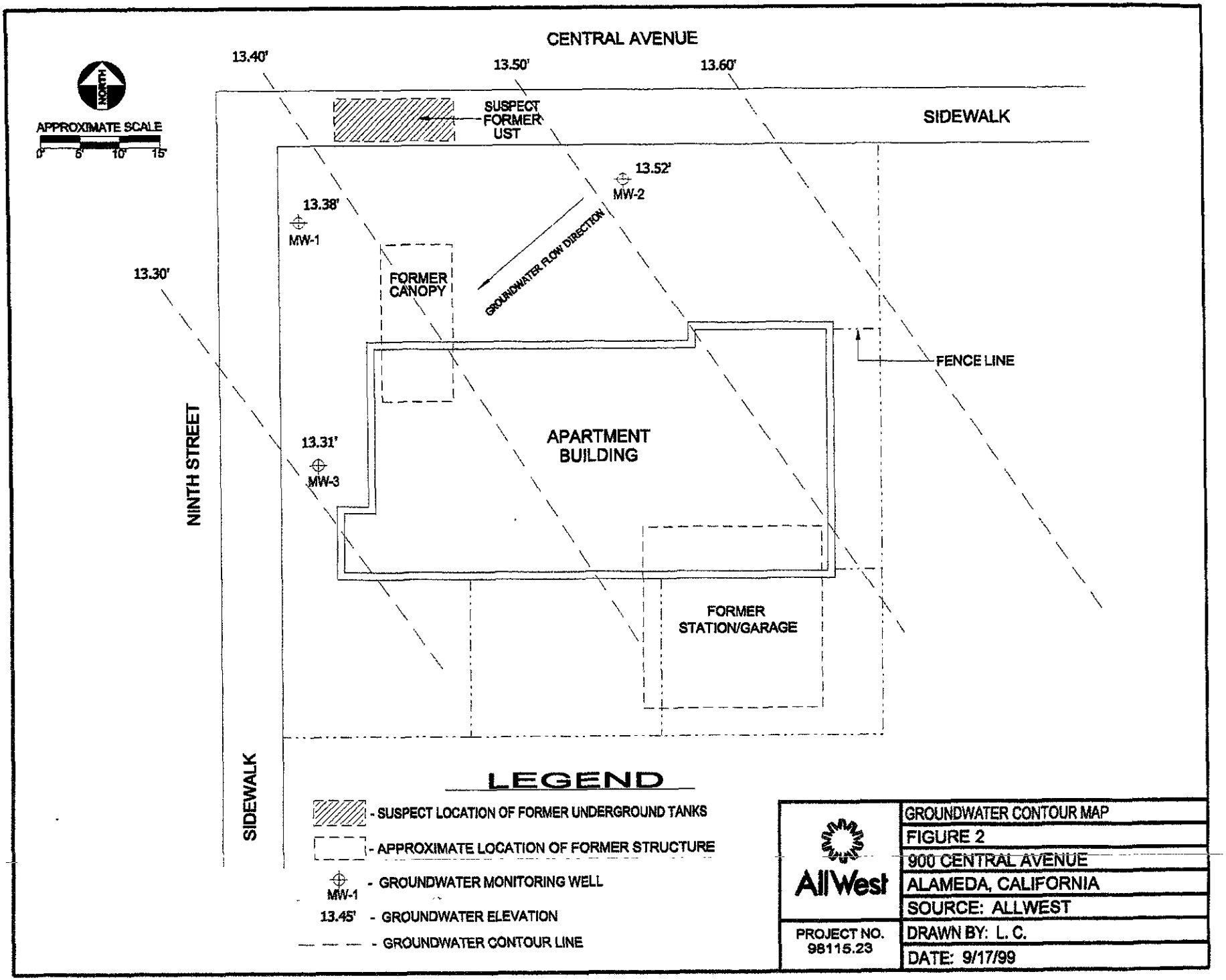
1. TPH-g, TPH-d, and TPH-m stands for total petroleum hydrocarbons in the gasoline, diesel, and motor oil range, respectively.
2. All concentrations are in units of µg/L, equivalent to parts per billion (ppb)
3. <x stands for non-detected at or above the method reporting limit of x
4. Analytical results were reported by Chromalab. Analytical methods are U.S. EPA mehtods 8015-mod and 8020
5. MCLs stands for maximum contaminant levels in ppb. First MCL listed is California Department of Health Services primary MCL and the MCL listed in parenthesis is U.S. EPA primary MCL. MCL values are in ppb. n/a stands for no MCL available.

FIGURES



AllWest

	SITE LOCATION MAP
	FIGURE 1
	900 CENTRAL AVENUE
	ALAMEDA, CALIFORNIA
	SOURCE: USGS TOPO MAP
PROJECT NO. 98115.23	PREPARED BY: S. POON
	DATE: 12/14/98


CENTRAL AVENUE
13.40'
13.50'
13.60'
SUSPECT FORMER UST
SIDEWALK
13.52'
MW-2
13.38'
MW-1
GROUNDWATER FLOW DIRECTION
13.30'
FORMER CANOPY
FENCE LINE
NINTH STREET
13.31'
MW-3
APARTMENT BUILDING
FORMER STATION/GARAGE
SIDEWALK
NORTH
APPROXIMATE SCALE
0' 5' 10' 15'
LEGEND
- SUSPECT LOCATION OF FORMER UNDERGROUND TANKS
- APPROXIMATE LOCATION OF FORMER STRUCTURE
MW-1 - GROUNDWATER MONITORING WELL
13.45' - GROUNDWATER ELEVATION
- GROUNDWATER CONTOUR LINE
AllWest
GROUNDWATER CONTOUR MAP
FIGURE 2
900 CENTRAL AVENUE
ALAMEDA, CALIFORNIA
SOURCE: ALLWEST
PROJECT NO. 98115.23
DRAWN BY: L. C.
DATE: 9/17/99

LABORATORY RESULTS

Allwest Environmental
One Sutter Street, Suite 600
San Francisco, CA 94104-4923

Attn.: Mr Long Ching

Project: 98115-23
Ryan Wells

Dear Mr. Ching,

Attached is our report for your samples received on Friday September 3, 1999. This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after October 3, 1999 unless you have requested otherwise. We appreciate the opportunity to be of service to you. If you have any questions, please call me at (925) 484-1919.

Sincerely,

Pierre Monette

Total Extractable Petroleum Hydrocarbons (TEPH)

Allwest Environmental

✉ One Sutter Street, Suite 600
San Francisco, CA 94104-4923

Attn: Long Ching

Phone: (415) 391-2510 Fax: (415) 391-2008

Project #: 98115-23

Project: Ryan Wells

Samples Reported

Sample ID	Matrix	Date Sampled	Lab #
MW-1	Water	09/03/1999 10:30	1
MW-2	Water	09/03/1999 08:15	2
MW-3	Water	09/03/1999 08:50	3

To: **Allwest Environmental**
Attn.: Long Ching

Test Method: 8015m
Prep Method: 3510/8015M

Total Extractable Petroleum Hydrocarbons (TEPH)

Sample ID:	**MW-1**	Lab Sample ID:	**1999-09-0047-001**
Project:	98115-23 Ryan Wells	Received:	09/03/1999 12:21
		Extracted:	09/09/1999 08:00
Sampled:	09/03/1999 10:30	QC-Batch:	1999/09/09-01.10
Matrix:	Water		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	2100	50	ug/L	1.00	09/09/1999 15:07	ed
Motor Oil	ND	500	ug/L	1.00	09/09/1999 15:07	
Surrogate(s)						
o-Terphenyl	80.2	60-130	%	1.00	09/09/1999 15:07	

To: **Allwest Environmental**
Attn.: Long Ching

Test Method: 8015m
Prep Method: 3510/8015M

Total Extractable Petroleum Hydrocarbons (TEPH)

Sample ID:	**MW-2**	Lab Sample ID:	**1999-09-0047-002**
Project:	98115-23 Ryan Wells	Received:	09/03/1999 12:21
		Extracted:	09/09/1999 08:00
Sampled:	09/03/1999 08:15	QC-Batch:	1999/09/09-01.10
Matrix:	Water		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	ND	50	ug/L	1.00	09/09/1999 15:51	
Motor Oil	ND	500	ug/L	1.00	09/09/1999 15:51	
Surrogate(s)						
o-Terphenyl	75.8	60-130	%	1.00	09/09/1999 15:51	

To: **Allwest Environmental**
Attn.: Long Ching

Test Method: 8015m
Prep Method: 3510/8015M

Total Extractable Petroleum Hydrocarbons (TEPH)

Sample ID:	**MW-3**	Lab Sample ID:	**1999-09-0047-003**
Project:	98115-23 Ryan Wells	Received:	09/03/1999 12:21
		Extracted:	09/09/1999 08:00
Sampled:	09/03/1999 08:50	QC-Batch:	1999/09/09-01.10
Matrix:	Water		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	ND	50	ug/L	1.00	09/09/1999 16:35	
Motor Oil	ND	500	ug/L	1.00	09/09/1999 16:35	
Surrogate(s)						
o-Terphenyl	79.3	60-130	%	1.00	09/09/1999 16:35	

To: **Allwest Environmental**
Attn.: Long Ching

Test Method: 8015m
Prep Method: 3510/8015M

Batch QC Report
Total Extractable Petroleum Hydrocarbons (TEPH)

Method Blank **Water** **QC Batch # 1999/09/09-01.10**

MB: 1999/09/09-01.10-001 Date Extracted: 09/09/1999 09:00

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Diesel	ND	50	ug/L	09/09/1999 12:56	
Motor Oil	ND	500	ug/L	09/09/1999 12:56	
Surrogate(s)					
o-Terphenyl	83.0	60-130	%	09/09/1999 12:56	

To: **Allwest Environmental** Test Method: 8015m

Attn: Long Ching Prep Method: 3510/8015M

Batch QC Report

Total Extractable Petroleum Hydrocarbons (TEPH)

Laboratory Control Spike (LCS/LCSD) **Water** **QC Batch # 1999/09/09-01.10**

LCS: 1999/09/09-01.10-002 Extracted: 09/09/1999 09:00 Analyzed: 09/10/1999 10:02

LCSD: 1999/09/09-01.10-003 Extracted: 09/09/1999 09:00 Analyzed: 09/10/1999 10:34

Compound	Conc. [ug/L]		Exp.Conc. [ug/L]		Recovery [%]		RPD	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD	[%]	Recovery	RPD	LCS	LCSD
Diesel	1000	927	1250	1250	80.0	74.2	7.5	60-130	25		
Surrogate(s)											
o-Terphenyl	23.1	24.3	20.0	20.0	115.5	121.5		60-130			

To: **Allwest Environmental**
Attn:Long Ching

Test Method: 8015m
Prep Method: 3510/8015M

Legend & Notes

Total Extractable Petroleum Hydrocarbons (TEPH)

Sample Notes

MW-1 (Lab# 1999-09-0047-001)
monit 6-005

Analyte Flags

ed
Hydrocarbon reported is in the early Diesel range, and does not match our Diesel standard

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-09-0047

Gas/BTEX and MTBE

Allwest Environmental	✉ One Sutter Street, Suite 600 San Francisco, CA 94104-4923
Attn: Long Ching	Phone: (415) 391-2510 Fax: (415) 391-2008
Project #: 98115-23	Project: Ryan Wells

Samples Reported

Sample ID	Matrix	Date Sampled	Lab #
MW-1	Water	09/03/1999 10:30	1
MW-2	Water	09/03/1999 08:15	2
MW-3	Water	09/03/1999 08:50	3

To: **Allwest Environmental**

Attn.: Long Ching

Test Method: 8020
8015M

Prep Method: 5030

Gas/BTEX and MTBE

Sample ID:	**MW-1**	Lab Sample ID:	**1999-09-0047-001**
Project:	98115-23 Ryan Wells	Received:	09/03/1999 12:21
		Extracted:	09/13/1999 16:48
Sampled:	09/03/1999 10:30	QC-Batch:	1999/09/13-01.02
Matrix:	Water		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	14000	2500	ug/L	50.00	09/13/1999 16:48	
Benzene	300	25	ug/L	50.00	09/13/1999 16:48	
Toluene	1900	25	ug/L	50.00	09/13/1999 16:48	
Ethyl benzene	890	25	ug/L	50.00	09/13/1999 16:48	
Xylene(s)	5600	25	ug/L	50.00	09/13/1999 16:48	
MTBE	ND	250	ug/L	50.00	09/13/1999 16:48	
Surrogate(s)						
Trifluorotoluene	115.1	58-124	%	1.00	09/13/1999 16:48	
4-Bromofluorobenzene-FID	89.9	50-150	%	1.00	09/13/1999 16:48	

To: **Allwest Environmental**

Attn.: Long Ching

Test Method: 8020
8015M

Prep Method: 5030

Gas/BTEX and MTBE

Sample ID:	**MW-2**	Lab Sample ID:	**1999-09-0047-002**
Project:	98115-23 Ryan Wells	Received:	09/03/1999 12:21
		Extracted:	09/13/1999 11:24
Sampled:	09/03/1999 08:15	QC-Batch:	1999/09/13-01.02
Matrix:	Water		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	09/13/1999 11:24	
Benzene	ND	0.50	ug/L	1.00	09/13/1999 11:24	
Toluene	ND	0.50	ug/L	1.00	09/13/1999 11:24	
Ethyl benzene	ND	0.50	ug/L	1.00	09/13/1999 11:24	
Xylene(s)	1.8	0.50	ug/L	1.00	09/13/1999 11:24	
MTBE	ND	5.0	ug/L	1.00	09/13/1999 11:24	
Surrogate(s)						
4-Bromofluorobenzene	128.6	50-150	%	1.00	09/13/1999 11:24	
4-Bromofluorobenzene-FID	101.1	50-150	%	1.00	09/13/1999 11:24	

To: **Allwest Environmental**

Attn.: Long Ching

Test Method: 8020
8015M

Prep Method: 5030

Gas/BTEX and MTBE

Sample ID:	**MW-3**	Lab Sample ID:	**1999-09-0047-003**
Project:	98115-23 Ryan Wells	Received:	09/03/1999 12:21
		Extracted:	09/10/1999 14:06
Sampled:	09/03/1999 08:50	QC-Batch:	1999/09/10-01.01
Matrix:	Water		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	09/13/1999 14:06	
Benzene	ND	0.50	ug/L	1.00	09/13/1999 14:06	
Toluene	ND	0.50	ug/L	1.00	09/13/1999 14:06	
Ethyl benzene	ND	0.50	ug/L	1.00	09/13/1999 14:06	
Xylene(s)	ND	0.50	ug/L	1.00	09/13/1999 14:06	
MTBE	ND	5.0	ug/L	1.00	09/13/1999 14:06	
Surrogate(s)						
Trifluorotoluene	83.6	58-124	%	1.00	09/13/1999 14:06	
4-Bromofluorobenzene-FID	68.4	50-150	%	1.00	09/13/1999 14:06	

To: **Allwest Environmental**

Attn.: Long Ching

Test Method: 8020
8015M

Prep Method: 5030

Batch QC Report
Gas/BTEX and MTBE

Method Blank | **Water** | **QC Batch # 1999/09/10-01.01**

MB: 1999/09/10-01.01-001

Date Extracted: 09/10/1999 06:26

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Gasoline	ND	50	ug/L	09/10/1999 06:26	
Benzene	ND	0.5	ug/L	09/10/1999 06:26	
Toluene	ND	0.5	ug/L	09/10/1999 06:26	
Ethyl benzene	ND	0.5	ug/L	09/10/1999 06:26	
Xylene(s)	ND	0.5	ug/L	09/10/1999 06:26	
MTBE	ND	5.0	ug/L	09/10/1999 06:26	
Surrogate(s)					
Trifluorotoluene	97.4	58-124	%	09/10/1999 06:26	

To: **Allwest Environmental**

Attn.: Long Ching

Test Method: 8020
8015M

Prep Method: 5030

Batch QC Report
Gas/BTEX and MTBE

Method Blank **Water** **QC Batch # 1999/09/13-01.02**

MB: 1999/09/13-01.02-001 Date Extracted: 09/13/1999 07:51

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Gasoline	ND	50	ug/L	09/13/1999 07:51	
Benzene	ND	0.5	ug/L	09/13/1999 07:51	
Toluene	ND	0.5	ug/L	09/13/1999 07:51	
Ethyl benzene	ND	0.5	ug/L	09/13/1999 07:51	
Xylene(s)	ND	0.5	ug/L	09/13/1999 07:51	
MTBE	ND	5.0	ug/L	09/13/1999 07:51	
Surrogate(s)					
Trifluorotoluene	116.0	58-124	%	09/13/1999 07:51	

To: **Allwest Environmental**

Attn: Long Ching

Test Method: 8015M
8020

Prep Method: 5030

Batch QC Report

Gas/BTEX and MTBE

Laboratory Control Spike (LCS/LCSD) **Water** **QC Batch # 1999/09/10-01.01**

LCS: 1999/09/10-01.01-002 Extracted: 09/10/1999 06:52 Analyzed: 09/10/1999 06:52

LCSD: 1999/09/10-01.01-003 Extracted: 09/10/1999 07:19 Analyzed: 09/10/1999 07:19

Compound	Conc. [ug/L]		Exp.Conc. [ug/L]		Recovery [%]		RPD	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD	[%]	Recovery	RPD	LCS	LCSD
Gasoline	421	507	500	500	84.2	101.4	18.5	75-125	20		
Benzene	111	106	100.0	100.0	111.0	106.0	4.6	77-123	20		
Toluene	112	106	100.0	100.0	112.0	106.0	5.5	78-122	20		
Ethyl benzene	109	103	100.0	100.0	109.0	103.0	5.7	70-130	20		
Xylene(s)	321	306	300	300	107.0	102.0	4.8	75-125	20		
Surrogate(s)											
Trifluorotoluene	564	535	500	500	112.8	107.0		58-124			

To: **Allwest Environmental**

Attn: Long Ching

Test Method: 8015M
8020

Prep Method: 5030

Batch QC Report

Gas/BTEX and MTBE

Laboratory Control Spike (LCS/LCSD) **Water** **QC Batch # 1999/09/13-01.02**

LCS: 1999/09/13-01.02-002 Extracted: 09/13/1999 09:14 Analyzed: 09/13/1999 09:14

LCSD: 1999/09/13-01.02-003 Extracted: 09/13/1999 08:46 Analyzed: 09/13/1999 08:46

Compound	Conc. [ug/L]		Exp.Conc. [ug/L]		Recovery [%]		RPD	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD	[%]	Recovery	RPD	LCS	LCSD
Gasoline	435	466	500	500	87.0	93.2	6.9	75-125	20		
Benzene	111	108	100.0	100.0	111.0	108.0	2.7	77-123	20		
Toluene	109	109	100.0	100.0	109.0	109.0	0.0	78-122	20		
Ethyl benzene	107	108	100.0	100.0	107.0	108.0	0.9	70-130	20		
Xylene(s)	320	324	300	300	106.7	108.0	1.2	75-125	20		
Surrogate(s)											
Trifluorotoluene	478	478	500	500	95.6	95.6		58-124			

CHROMALAB, INC.

Environmental Services (SDB) (DOHS 1094)

9909004?

1220 Quarry Lane • Pleasanton, California 94566-4756
(925) 484-1919 • Fax (925) 484-1096

Reference #: 47792

Chain of Custody

DATE SEPT 3, 1999 PAGE 1 OF 1

PROJ MGR Long Chiu
COMPANY Aluwest
ADDRESS One Sutter St # 600
San Francisco, CA.
SAMPLERS (SIGNATURE) AM
(PHONE NO.) (415) 391-2510
(FAX NO.)

SAMPLE ID.	DATE	TIME	MATRIX	PRESERV.	TPH-(EPA 8015,8020) ☒ Gas w/ ☒ BTEX ☐ MTBE	PURGEABLE AROMATICS BTEX (EPA 8020)	TPH-Diesel (EPA 8015M)	TEPH (EPA 8015M) ☒ Diesel ☒ M.O. ☐ Other	PURGEABLE HALOCARBONS, (HVOCs) (EPA 8010)	VOLATILE ORGANICS (VOCs) (EPA 8260)	SEMIVOLATILES (EPA 8270)	TOTAL OIL AND GREASE (SM 5520 B+F, E+F)		☐ PESTICIDES(EPA 8080) ☐ PCB'S (EPA 8080)	PNA's by ☐ 8270 ☐ 8310	☐ Spec. Cond. ☐ TSS ☐ TDS	LUFT METALS: Cd, Cr, Pb, Ni, Zn	CAM 17 METALS (EPA 6010/7470/7471)	TOTAL LEAD	☐ W.E.T. (STLC) ☐ TCLP	☐ Hexavalent Chromium ☐ pH (24 hr hold time for H20)				NUMBER OF CONTAINERS
MW-1	9/3/99	10:30	W	HCl	X			X																		4
MW-2	"	9:15	"	"	X			X																		4
MW-3	"	8:50	"	"	X			X																		4
																								3.99		

PROJECT INFORMATION

PROJECT NAME: Ryan Wells
PROJECT NUMBER: 98115.23
P.O. #:
TAT: STANDARD 5-DAY | 24 | 48 | 72 | OTHER

SAMPLE RECEIPT

TOTAL NO. OF CONTAINERS
HEAD SPACE
TEMPERATURE
CONFORMS TO RECORD

SPECIAL INSTRUCTIONS/COMMENTS:
Report: ☐ Routine ☐ Level 2 ☐ Level 3 ☐ Level 4 ☐ Electronic Report

RELINQUISHED BY	1.	2.	3
(SIGNATURE)	A. Navso		
(TIME)	AM		
(PRINTED NAME)	Aluwest		
(DATE)	9/3/99		
(COMPANY)			

RECEIVED BY	1.	2.	3
(SIGNATURE)			Denise Harrington
(TIME)			
(PRINTED NAME)			D. Harrington 1210
(DATE)			Chromalab 9/3/99
(COMPANY)			

RECEIVED BY (LABORATORY)

LIMITATIONS OF LIABILITY

ChromaLab, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of ChromaLab, Inc. shall be the re-perform work at its own expense, and ChromaLab, Inc. shall have no other liability whatsoever, and in no event shall ChromaLab, Inc. be liable, whether in contract or tort, or otherwise for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use or interpretation of information or analysis provided by ChromaLab, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

Appendix A

GROUNDWATER MONITORING WELL SAMPLING FIELD LOG

Project No.: 98115.23 Project Name: 900 Central Avenue

Well No.: MW-1 Well Location: Northwest Corner

Well Depth: 18.43 (ft.) Casing Diameter: 2 (in.)

Depth to Water: 11.79 (ft.) Date: 9/03/99 Time: 9.15

Water Column in Well: 6.64 (ft.) Well Volume: 1.13 (gal)

Odor? Yes Free Product? No Thickness: N/A

Purging Method: Hand Pump ___ Submersible Pump ___ Bailer X Other___

Time	pH	Conduc. (µS)	Temp. (°F)	Water Level	Volume Removed	Remarks
9:21	7.87	331	67.1		1.25 gal.	med. turbidity
9:30	7.58	334	67.5		2.50 gal.	med. turbidity
10:00	7.52	333	68.0		3.50 gal.	med. turbidity

Purging Start Time: 9:15 Purging Stop Time: 10:00

Total Volume Purged: 3.50 (gal.) Well Dewater? No

Water Level Prior to Sampling: ____ (ft.) Time: _____

Sampling Method: Teflon Bailer ____ Disposable Bailer X Sampling Pump ___

Sample Collected: 3x40-ml and 1-liter Sample No.: MW-1

Remarks: Water with some sheen. Water appears oily.

Sampler: R. Ravelo Date/Time: 9-03-99 10:30

GROUNDWATER MONITORING WELL SAMPLING FIELD LOG

Project No.: 98115.23 Project Name: 900 Central Avenue

Well No.: MW-2 Well Location: Northeast Corner

Well Depth: 18.93 (ft.) Casing Diameter: 2 (in.)

Depth to Water: 11.60 (ft.) Date: 9/03/99 Time. 7:58

Water Column in Well: 7.33 (ft.) Well Volume: 1.25 (gal.)

Odor? No Free Product? No Thickness: N/A

Purging Method: Hand Pump ___ Submersible Pump ___ Bailer X Other___

Time	pH	Conduc. (µS)	Temp. (°F)	Water Level	Volume Removed	Remarks
8:00	7.68	203	69.0		1.5 gal.	low turbidity
8:05	7.67	196	69.3		3 gal.	low turbidity
8:08	7.64	195	69.4		4 gal.	low turbidity

Purging Start Time: 7:58 Purging Stop Time: 8:08

Total Volume Purged: 4 (gal.) Well Dewater? No

Water Level Prior to Sampling: _____ (ft.) Time: _____

Sampling Method: Teflon Bailer ____ Disposable Bailer X Sampling Pump ___

Sample Collected: 3x40-ml and 1-liter Sample No.: MW-2

Remarks: _____

_____

Sampler: R. Ravelo Date/Time: 9-03-99 8:15

GROUNDWATER MONITORING WELL SAMPLING FIELD LOG

Project No.: 98115.23 Project Name: 900 Central Avenue

Well No.: MW-3 Well Location: Southwest Corner

Well Depth: 18.31 (ft.) Casing Diameter: 2 (in.)

Depth to Water: 11.27 (ft.) Date: 9/03/99 Time: 8:23

Water Column in Well: 7.04 (ft.) Well Volume: 1.20 (gal.)

Odor? No Free Product? No Thickness: N/A

Purging Method: Hand Pump ___ Submersible Pump ___ Bailer X Other___

Time	pH	Conduc. (µS)	Temp. (°F)	Water Level	Volume Removed	Remarks
8:25	7.99	270	67.4		1.25 gal.	mod. turbidity
8:27	7.81	273	68.4		2.5 gal.	mod. turbidity
8:30	7.66	275	68.9		4 gal.	mod. turbidity

Purging Start Time: 8:23 Purging Stop Time: 8:30

Total Volume Purged: 4 (gal.) Well Dewater? No

Water Level Prior to Sampling: _____ (ft.) Time. _____

Sampling Method: Teflon Bailer ___ Disposable Bailer X Sampling Pump ___

Sample Collected: 3x40-ml and 1-liter Sample No.: MW-3

Remarks: _____

_____

Sampler: R. Ravelo Date/Time: 9-03-99 8:50