AllWest

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TRANSMITTAL

TO: **Larry Seto**
Alameda County Environment Health
1131 Harbor Bay Parkway, #250
Alameda, CA 94502-6577

DATE: 3/31/99

Project No. 98115.23

WE ARE TRANSMITTING:

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THE FOLLOWING: **One bound copy of Quarterly Groundwater Monitoring Report First Quarter, 1999 for 900 Central Avenue, Alameda, California**

REMARKS

TRANSMITTED AS CHECKED BELOW:

___ For Approval
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___ For Review & Comment

SIGNED: _____ **E ✓ M __ F ✓ P __ T ✓ A ✓**
Long Ching

Prepared by: _____
Jane Kathleen Tingin

AllWest

AllWest Environmental, Inc.

Specialists in Physical Due Diligence and Remedial Services

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QUARTERLY GROUNDWATER MONITORING REPORT
First Quarter, 1999

900 Central Avenue
Alameda, California

PREPARED FOR:

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300 Lakeside Drive, Suite 1045
Oakland, CA 94612

AllWest Project No. 98115.23
March 31, 1999

PREPARED BY: 12/21/2001

Long Ching, PE
Project Manager

REVIEWED BY:

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Senior Geologist

TABLE OF CONTENTS

AllWest

QUARTERLY GROUNDWATER MONITORING
First Quarter, 1999

900 Central Avenue
Alameda, California

I. EXECUTIVE SUMMARY

AllWest conducted a quarterly groundwater monitoring event at 900 Central Avenue, Alameda, California on March 12, 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 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 UST site.

Three onsite groundwater monitoring wells (MW-1, MW-2 and MW-3) were sampled on March 12, 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 analytical results indicate no target analytes were detected in any of the collected groundwater samples. Groundwater gradient and flow direction for this monitoring event was calculated at 0.0004 ft/ft and to the southwest. Groundwater surface elevation measurements were generally 5 feet higher during this quarter than last measured in November 1998.

The "non-detect" result of this quarterly groundwater monitoring event is significant for well MW-1 because contaminants have always been detected at this area. It is possible that the rising groundwater table had a dilution effect on the residual contaminants in the subsurface. AllWest recommends continuing the regulatory agency mandated quarterly groundwater monitoring at the subject site. A copy of this report should be submitted to the 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 first 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.

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 volatiles (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.

B. Purpose and Scope of Work

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;

4. Arrange the removal of waste drums generated during the previous subsurface investigation and well installation program; and

5. 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. Groundwater Sampling

A representative groundwater sample was collected by AllWest from each groundwater monitoring well on March 12, 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 or visible product sheen was observed on the surface of water retained in the bailers from any of the three wells sampled.

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 free of sediments.

Groundwater sampling was conducted after the water level recovered to at least 80% of the initial level, 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. After the samples arrived at AllWest's office, they were rechecked and then placed in a refrigerator awaiting transportation to the analytical laboratory. The samples were delivered to the analytical laboratory by a courier of the 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.

B. Waste Drum Removal

During the previously subsurface investigation and groundwater monitoring well installation program and the quarterly groundwater monitoring event, waste soil cuttings, rinsate water, and purge groundwater were stored in four 55-gallon steel drums along the southwestern property boundary. To dispose of the waste drums, AllWest retained Integrated Waste Management (IWM) of Milpitas, California, a licensed hazardous waste transporter, to remove the drums from the subject property and dispose of them at appropriate facilities. In January 1999, AllWest collected profile samples from the waste soil drums and analyzed the composite samples as required by the

disposal facility. The results of last quarterly groundwater monitoring data were used as the profile data for waste water stored at the site. In February 1999, the disposal facilities reviewed the profile sampling results and accepted the waste drums. IWM removed one waste water and three waste soil drums from the site in March 1999.

IV. MONITORING RESULTS

A. Groundwater Conditions

Depth to groundwater in each well measured during this monitoring event was generally between 6 and 6.5 feet below ground surface (BGS). This is approximately 5 feet higher than last measured in November 1998. Groundwater flow gradient and direction was calculated at 0.0004 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 any of the groundwater samples. 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 first quarter of 1999 indicate no target contaminants were detected in site groundwater above the method reporting limits. This result is consistent for wells MW-2 and MW-3 since no target contaminants were ever detected at those locations. The

non-detect result for well MW-1 is considered significant because elevated concentrations of target contaminants have always been detected at this location, the northwest corner of the subject property. The results of groundwater surface elevation measurements indicate the groundwater table at the site has risen more than 5 feet since last measured in November 1998. This rising groundwater table may have caused a short-term localized attenuation effect at the site, thus reducing the contaminant concentrations to levels below the analytical method reporting limits. This analytical result also demonstrates the importance of collecting groundwater data for a full hydrological year to account for seasonal groundwater fluctuations.

As required by the Regional Water Quality Control Board and the Alameda County Environmental Health Services, a minimum of one-year quarterly groundwater monitoring at the site is needed. AllWest recommends that the next quarterly monitoring event be scheduled for June 1999. AllWest also recommends that a copy of this report should be submitted to the Alameda County Environmental Health Services 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.

//PC11/C/LONG/REPORTS/R98115 23A

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'	11/27/98 03/12/99	11.77' 6.59'	+ 13.4' + 18.58'
MW-2	+ 25.12'	11/27/98 03/12/99	11.76' 6.53'	+ 13.45' + 18.59'
MW-3	+ 24.58'	11/27/98 03/12/99	11.41' 6.01'	+ 13.17' + 18.57'

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

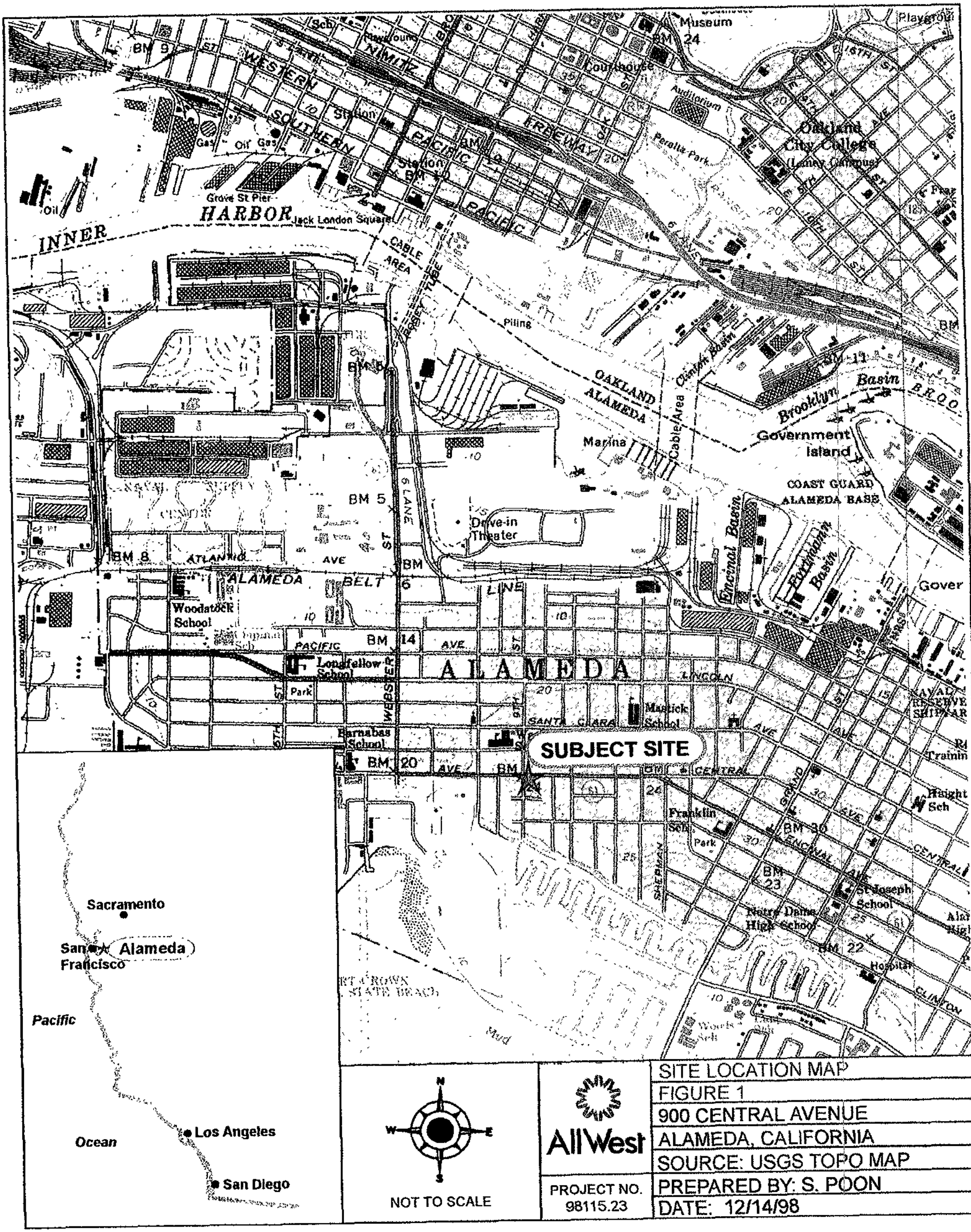
900 Central Avenue, Alameda, California

Well Number	Sampling Date	TPH-g	Benzene	Toluene	Ethyl-benzene	Xylene	MTBE	TPH-d	TPH-m
MW-1	11/27/98 03/12/99	360 < 50	5.8 < 0.5	5.5 < 0.5	9.2 < 0.5	40 < 0.5	< 5 < 5	<.50 < 50	< 500 < 500
MW-2	11/27/98 03/12/99	< 50 < 50	< 0.5 < 0.5	< 0.5 < 0.5	< 0.5 < 0.5	< 0.5 < 0.5	< 5 < 5	< 50 < 50	< 500 < 500
MW-3	11/27/98 03/12/99	< 50 < 50	< 0.5 < 0.5	< 0.5 < 0.5	< 0.5 < 0.5	< 0.5 < 0.5	< 5 < 5	<.50 <.50	< 500 < 500

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

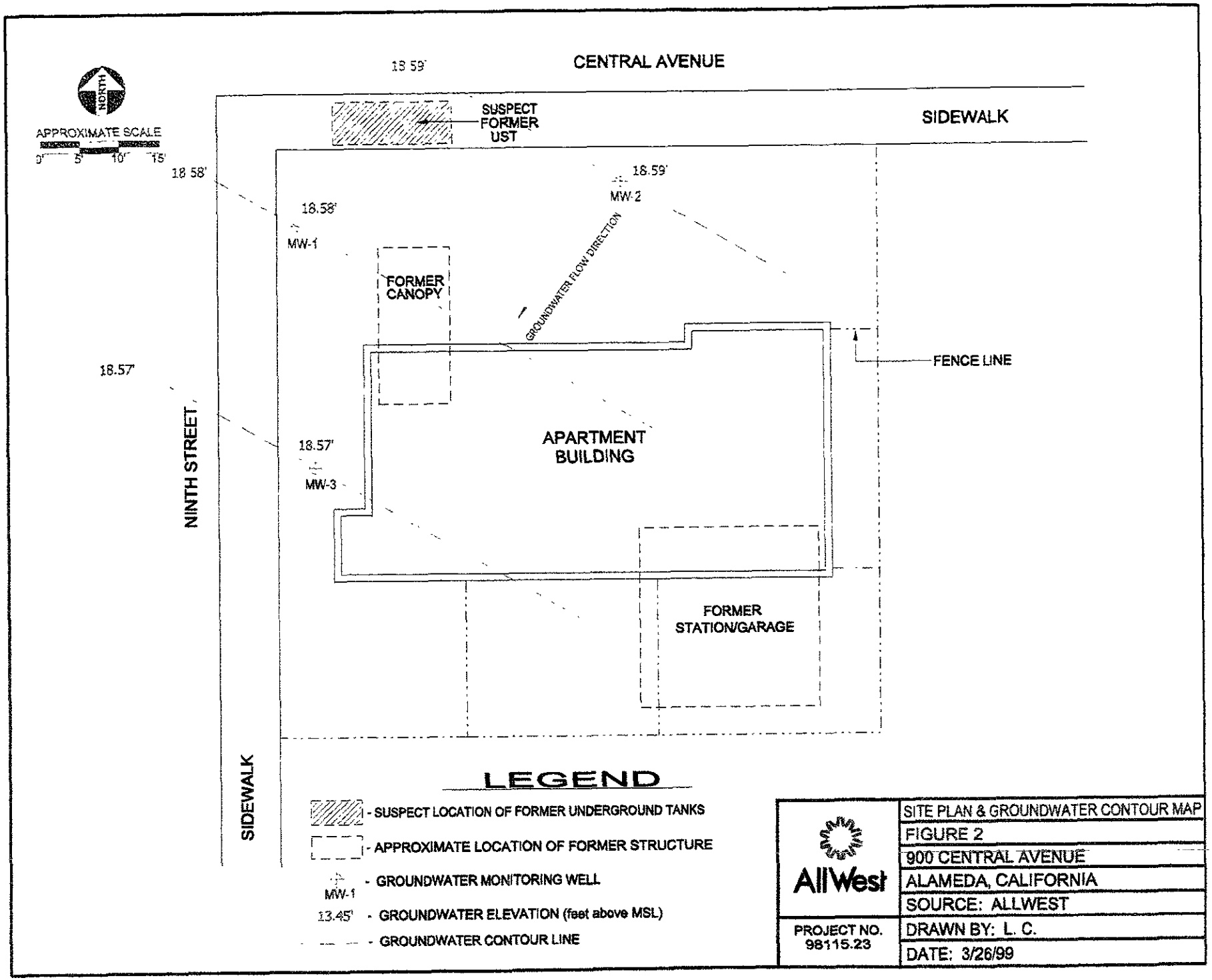
FIGURES



AllWest

PROJECT NO. 98115.23

SITE LOCATION MAP
FIGURE 1
900 CENTRAL AVENUE
ALAMEDA, CALIFORNIA
SOURCE: USGS TOPO MAP
PREPARED BY: S. POON
DATE: 12/14/98


NORTH
APPROXIMATE SCALE
0' 5' 10' 15'
18.59'
CENTRAL AVENUE
SUSPECT FORMER UST
SIDEWALK
18.58'
18.59'
MW-2
18.58'
MW-1
GROUNDWATER FLOW DIRECTION
FORMER CANOPY
FENCE LINE
18.57'
NINTH STREET
APARTMENT BUILDING
18.57'
MW-3
FORMER STATION/GARAGE
SIDEWALK
LEGEND
- SUSPECT LOCATION OF FORMER UNDERGROUND TANKS
- APPROXIMATE LOCATION OF FORMER STRUCTURE
MW-1 - GROUNDWATER MONITORING WELL
13.45' - GROUNDWATER ELEVATION (feet above MSL)
- GROUNDWATER CONTOUR LINE
AllWest
PROJECT NO. 98115.23
SITE PLAN & GROUNDWATER CONTOUR MAP
FIGURE 2
900 CENTRAL AVENUE
ALAMEDA, CALIFORNIA
SOURCE: ALLWEST
DRAWN BY: L. C.
DATE: 3/26/99

LABORATORY RESULTS

CHROMALAB, INC.

Environmental Services (SDB)

March 18, 1999 *Submission #:* 9903200

ALLWEST ENVIRONMENTAL

Atten: Long Ching

Project: RYAN WELLS *Project#:* 98115.23
Received: March 12, 1999

re: 3 samples for TEPH analysis.
Method: *EPA 8015M*

Matrix: WATER *Extracted:* March 16, 1999
Sampled: March 12, 1999 *Run#:* 17862 *Analyzed:* March 16, 1999

Spl#	CLIENT SPL ID	Diesel (ug/L)	Motor Oil (ug/L)
232474	MW-1	N.D.	N.D.
232475	MW-2	N.D.	N.D.

Matrix: WATER *Extracted:* March 16, 1999
Sampled: March 12, 1999 *Run#:* 17862 *Analyzed:* March 17, 1999

Spl#	CLIENT SPL ID	Diesel (ug/L)	Motor Oil (ug/L)
232476	MW-3	N.D.	N.D.
	Reporting Limits	50	500
	Blank Result	N.D.	N.D.
	Blank Spike Result (%)	94.4	--

Carolyn House
Analyst

Bruce Havlik
Analyst

415-391-2008 PM 03/19

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Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

March 19, 1999 *Submission #:* 9903200

ALLWEST ENVIRONMENTAL

Atten: Long Ching

Project: RYAN WELLS *Project#:* 98115.23
Received: March 12, 1999

re: One sample for Gasoline BTEX MTBE analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: **MW-1**
Spl#: 232474 *Matrix:* WATER
Sampled: March 12, 1999 *Run#:*17889 *Analyzed:* March 17, 1999

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	50	N.D.	98	1
MTBE	N.D.	5.0	N.D.	108	1
BENZENE	N.D.	0.50	N.D.	102	1
TOLUENE	N.D.	0.50	N.D.	101	1
ETHYL BENZENE	N.D.	0.50	N.D.	101	1
XYLENES	N.D.	0.50	N.D.	101	1

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Michael Verona
Operations Manager

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CHROMALAB, INC.

Environmental Services (SDB)

March 19, 1999

Submission #: 9903200

ALLWEST ENVIRONMENTAL

Atten: Long Ching

Project: RYAN WELLS
Project#: 98115.23
Received: March 12, 1999

re: One sample for Gasoline BTEX MTBE analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: **MW-2**
Spl#: 232475
Matrix: WATER
Sampled: March 12, 1999
*Run#:*17889
Analyzed: March 17, 1999

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	50	N.D.	98	1
MTBE	N.D.	5.0	N.D.	108	1
BENZENE	N.D.	0.50	N.D.	102	1
TOLUENE	N.D.	0.50	N.D.	101	1
ETHYL BENZENE	N.D.	0.50	N.D.	101	1
XYLENES	N.D.	0.50	N.D.	101	1

Vincent Vancil
Analyst

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CHROMALAB, INC.

Environmental Services (SDB)

March 19, 1999 *Submission #:* 9903200

ALLWEST ENVIRONMENTAL

Atten: Long Ching

Project: RYAN WELLS *Project#:* 98115.23
Received: March 12, 1999

re: One sample for Gasoline BTEX MTBE analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: **MW-3**
Spl#: 232476 *Matrix:* WATER
Sampled: March 12, 1999 *Run#:*17889 *Analyzed:* March 17, 1999

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	50	N.D.	98	1
MTBE	N.D.	5.0	N.D.	108	1
BENZENE	N.D.	0.50	N.D.	102	1
TOLUENE	N.D.	0.50	N.D.	101	1
ETHYL BENZENE	N.D.	0.50	N.D.	101	1
XYLENES	N.D.	0.50	N.D.	101	1

Vincent Vancil
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415-391-2008

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Federal ID #68-0140157

PM V132 O:BTEXQC022C
VINCE 16:40

P9903062494 45008

CHROMALAB, INC.

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

Environmental Services (SDB) (DOHS 1094)

Chain of Custody

DATE ________ PAGE ________ OF ________

PROJ MGR: Long Chin
COMPANY: Allwest Environmental inc
ADDRESS: One Sutton St, Ste 600
San Francisco, CA.

SAMPLERS (SIGNATURE): AM
(PHONE NO.) (415) 391-2510
(FAX NO.)

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, B+F, E+F)	PCB (EPA 608, 8080)	PESTICIDES (EPA 608, 8080)	TOTAL RECOVERABLE HYDROCARBONS (EPA 418.1)	TPH motor oil	LUFT METALS: Cd, Cr, Pb, Zn, Ni	CAM METALS (17)	PRIORITY POLLUTANT METALS (13)	TOTAL LEAD	EXTRACTION (TCLP, STLC)	MTBE			NUMBER OF CONTAINERS
MW-1	3/12/99	9:30	Water	ICE/HCL		X	X									X						X			5
MW-2	"	9:00	"	"		X	X									X						X			5
MW-3	"	10:00	"	"		X	X									X						X			5

SUBM #: 9903208 REP: PM
CLIENT: ALLWEST
DUE: 03/19/99
REF #:45008

PROJECT INFORMATION

PROJECT NAME: Ryan Wells
PROJECT NUMBER: 98115.23
P.O. #

SAMPLE RECEIPT

TOTAL NO. OF CONTAINERS
HEAD SPACE
REC'D GOOD CONDITION/COLD
CONFORMS TO RECORD

TAT	STANDARD 5-DAY (circled)		24	48	72	OTHER

SPECIAL INSTRUCTIONS/COMMENTS:

3.3°C AP
9 VOAS
6 Ambers

RELINQUISHED BY 1.	RELINQUISHED BY 2.	RELINQUISHED BY 3.
(SIGNATURE) AM (TIME) 1150	(SIGNATURE) (TIME)	(SIGNATURE) [signature] (TIME) 1600
(PRINTED NAME) R. Marino (DATE) 3/12/99	(PRINTED NAME) (DATE)	(PRINTED NAME) [illegible] (DATE) 3-12-99
(COMPANY) Allwest	(COMPANY)	(COMPANY) [illegible]

RECEIVED BY 1.	RECEIVED BY 2.	RECEIVED BY (LABORATORY) 3.
(SIGNATURE) [signature] (TIME) 1150	(SIGNATURE) (TIME)	(SIGNATURE) A Paredes (TIME) 1600
(PRINTED NAME) B. Moore (DATE) 3-12-99	(PRINTED NAME) (DATE)	(PRINTED NAME) A Paredes (DATE) 3/12/99
(COMPANY) Arnold	(COMPANY)	(LAB) Chro[illegible]

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: 6.59 (ft.) Date: 3/12/99 Time: 9:10

Water Column in Well: 11.84 (ft.) Well Volume: 2.01 (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
9:15	6.17	220	59.9		2 gal.	med. turbidity
9:20	7.49	227	60.9		4 gal.	med. turbidity
9:25	6.98	225	61.2		6.25 gal.	med. turbidity

Purging Start Time: 9:15 Purging Stop Time: 9:25

Total Volume Purged: 6.25 (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 2x1-liter Sample No.: MW-1

Remarks: _____

_____

Sampler: R. Ravelo Date/Time: 3-12-99 9:30

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: 6.53 (ft.) Date: 3/12/99 Time: 8:41

Water Column in Well: 12.4 (ft.) Well Volume: 2.1 (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
8:45	6.16	155	59.4		2 gal.	low turbidity
8:50	6.17	147	60.4		4 gal.	low turbidity
8:55	6.16	148	60.8		6.5 gal.	low turbidity

Purging Start Time: 8:45 Purging Stop Time: 8:55

Total Volume Purged: 6.5 (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 2x1-liter Sample No.: MW-2

Remarks: _____

_____

Sampler: R. Ravelo Date/Time: 3-12-99 9:00

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: 6.01 (ft.) Date: 3/12/99 Time: 9:40

Water Column in Well: 12.3 (ft.) Well Volume: 2.09 (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
9:45	6.86	193	60.9		2.25 gal.	mod. turbidity
9:50	6.89	202	63.5		4.5 gal.	mod. turbidity
9:55	6.90	204	64.2		6.5 gal.	mod. turbidity

Purging Start Time: 9:45 Purging Stop Time: 9:55

Total Volume Purged: 6.5 (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 2x1-liter Sample No.: MW-3

Remarks: _____

_____

Sampler: R. Ravelo Date/Time: 3-12-99 10:00