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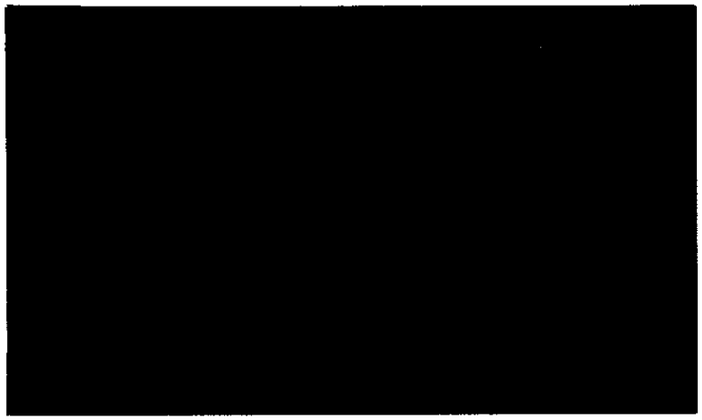

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**AllWest Environmental, Inc.**

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

# GROUNDWATER MONITORING REPORT
## Second Quarter 1997

*1055 Eastshore Highway*
*Albany, California*

ALLWEST PROJECT 96208.28
June 30, 1998

PREPARED BY:

Robert M. Horwath, RG
Project Manager

REVIEWED BY:

Long Ching, PE
Senior Project Manager

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# MONITORING WELLS SAMPLING REPORT
**Second Quarter 1997**

*1055 Eastshore Highway*
*Albany, California*

## I. INTRODUCTION

This report presents the Second Quarter 1997 results of a quarterly groundwater monitoring program performed by *AllWest Environmental* at 1055 Eastshore Highway, Albany, California. The monitoring program was initiated in response to an *Alameda County Department of Environmental Health* (*ACDEH*) request for quarterly sampling. The objective of the sampling program was to investigate the groundwater in the vicinity of the former underground storage tank (UST). At the request of *ACDEH*, the program has been extended to monitor what has become an overall decreasing trend in contaminant concentrations.

The scope of *AllWest's* services included sampling of four wells (MW-1 through MW-4), the measuring of groundwater levels in all four wells, and the submittal of the samples to a state certified laboratory, *Sequoia Analytical* (*Sequoia*), of Redwood City, California. As in previous quarters, the samples were submitted for total petroleum hydrocarbons as gasoline (TPH-g), benzene, toluene, ethylbenzene, and xylenes (BTEX) analyses. Methyl tert-butyl ether (MTBE) analysis was initiated during this quarter at the request of the *ACDEH*. After receipt of the analytical results, this written report was prepared to present the results.

## II. SITE HISTORY

The subject property lies in the western-most area of Albany, Alameda County, California in an industrial area (See Figures 1 and 2). The subject property is located on the east side of Eastshore Highway, approximately 200 feet south of the Albany off-ramp from Highway I-80. San Francisco Bay is located approximately 2,000 feet west of the subject property.

The subject property facility currently is occupied by the City of Albany Corporation Yard. One underground storage tank (UST) containing gasoline was removed by *Resna Industries* on September 2, 1992. The former UST was located south of the building. A generalized site plan with the former UST location is presented on Figure 3.

Soil near the UST excavation was removed in September 1992. A preliminary site assessment (PSA) was conducted in July 1994. The PSA consisted of the advancement of seven boreholes, the installation of three groundwater monitoring wells (MW-1 through MW-3), and the submittal

of soil and groundwater samples to an analytical laboratory for analyses. The PSA indicated that gasoline constituents were present in soil and groundwater at the site.

In June 1995, monitoring well MW-4 was installed and sampled. All four monitoring wells were sampled in June, September and December of 1995 and March of 1996. After the first quarter of 1996, *ACDEH* requested that quarterly groundwater monitoring continue for one more year to determine if groundwater contaminant concentrations attenuate down to levels which would not pose an unaceptable risk to human health or the environment. *ACDEH* stated that upon demonstration of attainment to these levels, the site may be considered for closure. Pursurant to that request, all wells were sampled in June and September of 1996 and January and April of 1997 to complete the additonal year of monitoring. This second quarter sampling event represents an additional monitoring event beyond the year requested.

## III. GROUNDWATER SAMPLING ACTIVITIES

Activities for the Second Quarter 1997 monitoring event included sampling and measuring the groundwater elevation of all four monitoring wells (MW-1 through MW-4). The work was conducted by *AllWest* personnel on August 1, 1997.

*AllWest's* groundwater sampling protocols, presented in Appendix A of this report, were followed. Groundwater color and turbidity observations were noted at 2.5 gallon intervals and recorded on the sampling logs (See Appendix B). Approximately three well casing volumes were purged prior to sampling. After purging, three 40-milliliter samples were collected from each of the four monitoring wells. No product sheen was noted.

The August 1, 1997 groundwater levels as well as the cumulative groundwater level measurements from wells MW-1 through MW-4 are presented in Table 1. Groundwater flow direction was calculated to be towards the southwest with an average gradient of 0.003 ft/ft. A groundwater surface elevation contour map is presented in Figure 4.

## IV. LABORATORY TEST RESULTS

The four collected water samples were submitted to a State of California certified analytical laboratory, *Sequoia Analytical* (*Sequoia*), of Redwood City, California. All water samples were analyzed for total petroleum hydrocarbons as gasoline (TPH-g), methyl t-butyl ether (MTBE), and benzene, toluene, ethylbenzene, and xylene (BTEX) by EPA Method 8015Mod/8020.

A cumulative summary of analytical results for wells MW-1 through MW-4 to date are presented in Table 2. A copy of the laboratory test reports and Chain-of-Custody documents of this quarterly monitoring event are included as Appendix C.

The laboratory results indicated concentrations of TPH-g at 600 µg/L (approximately equivalent to parts per billion [ppb]) in well MW-2 only. No TPH-g was detected in samples from MW-1, MW-3, and MW-4 at or above the laboratory reporting limit of 50 ppb. BTEX concentrations for

MW-2 were reported as 8.8 ppb for benzene, below the detection limit (0.5 ppb) for toluene, 18 ppb for ethylbenzene, and 16 ppb for xylene. No BTEX concentrations were detected in MW-1, MW-3, and MW-4 at or above the laboratory reporting limit of 0.5 ppb. No MTBE was detected in any of the four groundwater samples above the laboratory detection limit of 2.5 ppb.

A review of the laboratory internal quality assurance/quality control (QA/QC) information indicates the spike data were within the laboratory recovery limits. The sample was analyzed within the acceptable EPA holding time. Therefore, the laboratory results reported by *Sequoia* are considered to be representative and of good quality.

## V. CONCLUSIONS

As indicated by the laboratory test results, low levels of TPH-g and BTEX were detected in groundwater samples from monitoring well MW-2. The concentrations of TPH-g and BTEX in well MW-2 are within or lower than their respective historical ranges indicating that natural degradation of the petroleum hydrocarbons is occurring. The non-detectable concentrations of TPH-g and BTEX results from MW-1, MW-3 and MW-4 continue to indicate the extent of contaminated groundwater is stable and limited to the immediate vicinity of MW-2.

No MTBE was detected in any of the four groundwater samples above the laboratory detection limit of 2.5 ppb. Comparison of MTBE concentrations to previous results is not possible as this is the first quarter MTBE was analyzed.

The concentration of benzene in well MW-2 (8.8 ppb) is below the established $10^{-5}$ Risk-Based Screening Level (RBSL) for indoor air exposure (214 ppb) and the RBSL for outdoor air exposure (53,400 ppb)[1]. In conclusion, none of the contaminant concentrations detected in groundwater are significant enough to impact the health of the on-site occupants. Since the Tier 1 evaluation results in the most conservative estimate of risk, no additional risk assessment evaluations are necessary. The source area at the site has been removed and the groundwater contamination level should naturally decrease with time due to biodegradation. Based on the available data and risk assessment results, we believe that no further monitoring or remedial action is necessary and recommend that the county determine that this matter has been appropriately closed.

## VI. REPORT LIMITATIONS

The work described in this report has been performed accordance with generally accepted engineering principles an practices. The conclusions and recommendations contained herein are presented based on environmental conditions of the site and laboratory test results of the groundwater sample. It must be recognized that changes can occur in groundwater conditions

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[1]All presented RBCA concentrations have been adjusted by the California Toxicity (Cal-Tox) factor of 0.29 for benzene.

due to seasonal variations, or other reasons. Furthermore, the distribution of chemical concentrations in the groundwater can vary both temporally and spatially. The chemical analyses results 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 laboratory, nor for any analyte quantities falling below the recognized standard detection limits for the method utilized by the independent laboratory.

R96208.28F

# TABLE 1
# CUMULATIVE SUMMARY OF GROUNDWATER ELEVATION MEASUREMENTS

1055 Eastshore Highway
Albany, California

| Well Number and Sampling Date | Well Casing Elevation | Depth to Water (In feet) | Groundwater Elevation (Assumed Datum equals 12') | Change Since Last Measurement (In feet) | Average Hydraulic Gradient |
|---|---|---|---|---|---|
| MW-1 | | | | | |
| 6/28/94 | 6.62 feet | 6.06 | 0.56 | | 0.009 ft/ft SSE |
| 6/29/94 | | 6.04 | 0.58 | +0.02 | 0.004 ft/ft WNW |
| 7/20/94 | | 6.08 | 0.54 | -0.04 | 0.003 ft/ft S |
| 6/9/95 | | 4.85 | 1.77 | +1.53 | 0.004 ft/ft SW |
| 6/29/95 | | 4.79 | 1.90 | +0.13 | 0.005 ft/ft SW |
| 9/7/95 | | 5.90 | 0.72 | -1.18 | 0.004 ft/ft SW |
| 12/20/95 | | 3.98 | 2.64 | +1.92 | 0.005 ft/ft SW |
| 3/22/96 | | 3.55 | 3.07 | +0.43 | 0.007 ft/ft SE |
| 6/21/96 | | 5.20 | 1.42 | -1.65 | 0.005 ft/ft W |
| 9/17/96 | | 5.86 | 0.76 | -0.66 | 0.003 ft/ft NW |
| 1/17/97 | | 3.35 | 3.27 | +2.51 | 0.005 ft/ft SW |
| 4/11/97 | | 4.88 | 1.74 | -1.53 | 0.005 ft/ft NW |
| 8/1/97 | | 5.76 | 0.86 | -0.88 | 0.003 ft/ft SW |
| MW-2 | | | | | |
| 6/28/94 | 6.92 feet | 6.26 | 0.66 | | 0.009 ft/ft SSE |
| 6/29/94 | | 6.34 | 0.58 | -0.08 | 0.004 ft/ft WNW |
| 7/20/94 | | 6.33 | 0.59 | +0.01 | 0.003 ft/ft S |
| 6/9/95 | | 5.13 | 1.79 | +1.20 | 0.004 ft/ft SW |
| 6/29/95 | | 4.99 | 1.93 | +0.14 | 0.005 ft/ft SW |
| 9/7/95 | | 6.23 | 0.69 | -1.24 | 0.004 ft/ft SW |
| 12/20/95 | | 4.12 | 2.80 | +2.11 | 0.005 ft/ft SW |
| 3/22/96 | | 3.70 | 3.33 | +0.42 | 0.007 ft/ft SE |
| 6/21/96 | | 5.44 | 1.48 | -1.85 | 0.005 ft/ft W |
| 9/17/96 | | 6.11 | 0.81 | -0.67 | 0.003 ft/ft NW |
| 1/17/97 | | 3.51 | 3.41 | +2.60 | 0.005 ft/ft SW |
| 4/11/97 | | 5.15 | 1.77 | -1.64 | 0.005 ft/ft NW |
| 8/1/97 | | 6.08 | 0.84 | -0.93 | 0.003 ft/ft SW |
| MW-3 | | | | | |
| 6/28/94 | 7.02 feet | 6.30 | 0.72 | | 0.009 ft/ft SSE |
| 6/29/94 | | 6.29 | 0.73 | +0.01 | 0.004 ft/ft WNW |
| 7/20/94 | | 6.36 | 0.66 | -0.07 | 0.003 ft/ft S |
| 6/9/95 | | 5.16 | 1.86 | +1.20 | 0.004 ft/ft SW |
| 6/29/95 | | 5.03 | 1.99 | +0.13 | 0.005 ft/ft SW |
| 9/7/95 | | 6.42 | 0.60 | -1.39 | 0.004 ft/ft SW |
| 12/20/95 | | 4.02 | 3.00 | +1.61 | 0.005 ft/ft SW |
| 3/22/96 | | 3.67 | 3.35 | +0.35 | 0.007 ft/ft SE |
| 6/21/96 | | 5.45 | 1.57 | -1.78 | 0.005 ft/ft W |
| 9/17/96 | | 6.17 | 0.85 | -0.72 | 0.003 ft/ft NW |
| 1/17/97 | | 3.46 | 3.56 | +2.71 | 0.005 ft/ft SW |
| 4/11/97 | | 5.13 | 1.89 | -1.67 | 0.005 ft/ft NW |
| 8/1/97 | | 6.11 | 0.91 | -0.91 | 0.003 ft/ft SW |

| Well Number and Sampling Date | Well Casing Elevation | Depth to Water (In feet) | Groundwater Elevation (Assumed Datum equals 12') | Change Since Last Measurement (In feet) | Average Hydraulic Gradient |
|---|---|---|---|---|---|
| MW-4 | | | | | |
| 6/29/95 | 6.46 feet | 4.60 | 1.86 | | 0.005 ft/ft SW |
| 9/7/95 | | 5.79 | 0.64 | -1.22 | 0.004 ft/ft SW |
| 12/20/95 | | 3.66 | 2.80 | +2.16 | 0.005 ft/ft SW |
| 3/22/96 | | 3.29 | 3.17 | +0.37 | 0.007 ft/ft SE |
| 6/21/96 | | 4.93 | 1.53 | -1.64 | 0.005 ft/ft W |
| 9/17/96 | | 5.62 | 0.84 | -0.69 | 0.003 ft/ft NW |
| 1/17/97 | | 3.07 | 3.39 | +2.55 | 0.005 ft/ft SW |
| 4/11/97 | | 4.60 | 1.86 | -1.53 | 0.005 ft/ft NW |
| 8/1/97 | | 5.67 | 0.79 | -1.07 | 0.003 ft/ft SW |

Note: MW-1 through MW-3 were installed in June 1994, MW-4 was installed in June 1995.

# TABLE 2
# CUMULATIVE SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

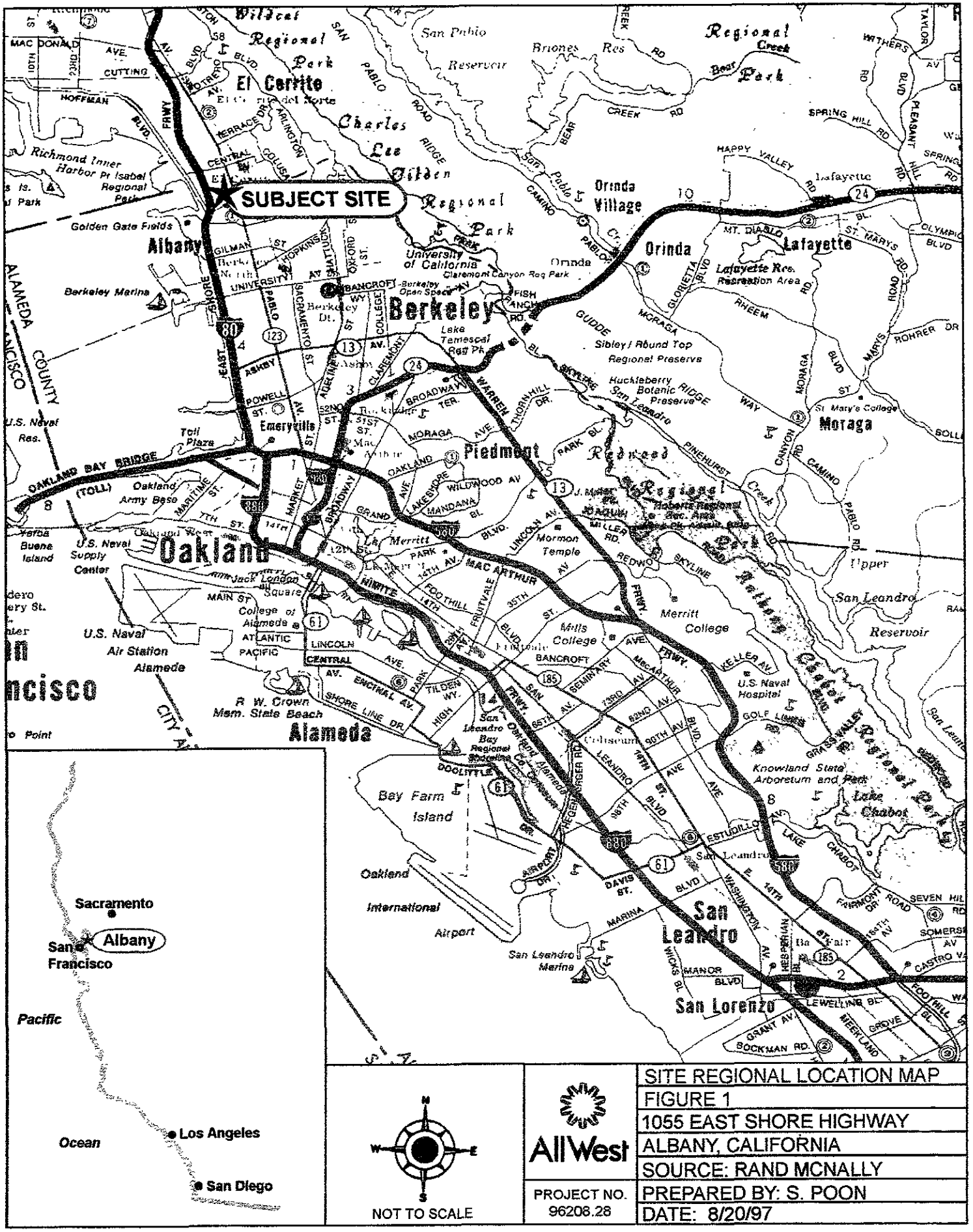
1055 Eastshore Highway
Albany, California

| Monitoring Well No. and Sampling Date | TPH-Gasoline | MTBE | Benzene | Toluene | Ethylbenzene | Xylenes |
|---|---|---|---|---|---|---|
| **MW-1** | | | | | | |
| 6/23/94 | ND (<50) | NA | ND (<0.3) | 0.60 | 2.5 | 9.0 |
| 6/29/95 | ND (<50) | NA | 0.8 | ND (<0.5) | 1.3 | 3.2 |
| 9/7/95 | ND (<50) | NA | ND (<0.5) | ND (<0.5) | ND (<0.5) | ND (<0.5) |
| 12/20/95 | ND (<50) | NA | ND (<0.5) | ND (<0.5) | ND (<0.5) | ND (<0.5) |
| 3/22/96 | ND (<50) | NA | ND (<0.5) | 2.5 | ND (<0.5) | 2.2 |
| 6/21/96 | ND (<50) | NA | ND (<0.5) | ND (<0.5) | ND (<0.5) | ND (<0.5) |
| 9/17/96 | ND (<50) | NA | ND (<0.5) | ND (<0.5) | ND (<0.5) | ND (<0.5) |
| 1/17/97 | ND (<50) | NA | ND (<0.5) | ND (<0.5) | ND (<0.5) | ND (<0.5) |
| 4/11/97 | ND (<50) | NA | ND (<0.5) | ND (<0.5) | ND (<0.5) | ND (<0.5) |
| 8/1/97 | ND (<50) | ND (2.5) | ND (<0.5) | ND (<0.5) | ND (<0.5) | ND (<0.5) |
| **MW-2** | | | | | | |
| 6/23/94 | 330 | NA | 130 | 11 | 20 | 10 |
| 6/29/95 | 3,800 | NA | 260 | 9.8 | 190 | 310 |
| 9/7/95 | 2,700 | NA | 100 | 1.9 | 92 | 210 |
| 12/20/95 | 1,500 | NA | 170 | 50 | 30 | 170 |
| 3/22/96 | 4,500 | NA | 920 | 30 | 360 | 1,300 |
| 6/21/96 | 1,100 | NA | 140 | 1.6 | 62 | 160 |
| 9/17/96 | 190 | NA | 9.0 | 8.2 | 10 | 26 |
| 1/17/97 | 9,700 | NA | 1,200 | 140 | 440 | 1,300 |
| 4/11/97 | 4,000 | NA | 520 | 4.8 | 120 | 180 |
| 8/1/97 | 600 | ND (2.5) | 8.8 | ND (<0.5) | 18 | 16 |
| **MW-3** | | | | | | |
| 6/23/94 | 52.0 | NA | ND (<0.3) | ND (<0.3) | 4.0 | 13 |
| 6/29/95 | ND (<50) | NA | ND (<0.5) | ND (<0.5) | ND (<0.5) | ND (<0.5) |
| 9/7/95 | ND (<50) | NA | ND (<0.5) | ND (<0.5) | ND (<0.5) | ND (<0.5) |
| 12/20/95 | ND (<50) | NA | ND (<0.5) | ND (<0.5) | ND (<0.5) | ND (<0.5) |
| 3/22/96 | ND (<50) | NA | ND (<0.5) | ND (<0.5) | ND (<0.5) | ND (<0.5) |
| 6/21/96 | ND (<50) | NA | ND (<0.5) | ND (<0.5) | ND (<0.5) | ND (<0.5) |
| 9/17/96 | ND (<50) | NA | ND (<0.5) | ND (<0.5) | ND (<0.5) | ND (<0.5) |
| 1/17/97 | ND (<50) | NA | ND (<0.5) | ND (<0.5) | ND (<0.5) | ND (<0.5) |
| 4/11/97 | ND (<50) | NA | ND (<0.5) | ND (<0.5) | ND (<0.5) | ND (<0.5) |
| 8/1/97 | ND (<50) | ND (2.5) | ND (<0.5) | ND (<0.5) | ND (<0.5) | ND (<0.5) |

| Monitoring Well No. and Sampling Date | TPH-Gasoline | MTBE | Benzene | Toluene | Ethylbenzene | Xylenes |
|---|---|---|---|---|---|---|
| MW-4 | | | | | | |
| 6/29/95 | ND (<50) | NA | ND (<0.5) | ND (<0.5) | ND (<0.5) | ND (<0.5) |
| 9/7/95 | ND (<50) | NA | ND (<0.5) | ND (<0.5) | ND (<0.5) | ND (<0.5) |
| 12/20/95 | ND (<50) | NA | ND (<0.5) | ND (<0.5) | ND (<0.5) | ND (<0.5) |
| 3/22/96 | 60 | NA | 0.8 | 2.8 | 1.1-ppb | 4.7 |
| 6/21/96 | ND (<50) | NA | ND (<0.5) | ND (<0.5) | ND (<0.5) | ND (<0.5) |
| 9/17/96 | ND (<50) | NA | ND (<0.5) | 2.3 | ND (<0.5) | 1.4 |
| 1/17/97 | ND (<50) | NA | ND (<0.5) | ND (<0.5) | ND (<0.5) | ND (<0.5) |
| 4/11/97 | ND (<50) | NA | ND (<0.5) | ND (<0.5) | ND (<0.5) | ND (<0.5) |
| 8/1/97 | ND (<50) | ND (2.5) | ND (<0.5) | ND (<0.5) | ND (<0.5) | ND (<0.5) |

Notes:

1. ND = Not-detected at or above the laboratory reporting limit indicated in parenthesis.
2. All numerical values are in units of $\mu g/L$, approximately equivalent to ppb.
3. MW-4 installed June 1995.
4. NA = Not Analyzed that sampling event.


SUBJECT SITE
Albany
Berkeley
Emeryville
Oakland
Alameda
Piedmont
Orinda
Lafayette
Moraga
San Leandro
Bay Farm Island
Oakland International Airport
San Lorenzo
El Cerrito
Richmond
Golden Gate Fields
Berkeley Marina
U.S. Naval Res.
Oakland Army Base
U.S. Naval Supply Center
U.S. Naval Air Station Alameda
U.S. Naval Hospital
College of Alameda
Mills College
Merritt College
Lake Chabot
Knowland State Arboretum and Park
San Leandro Marina
Sacramento
San Francisco
Los Angeles
San Diego
Pacific
Ocean
NOT TO SCALE
AllWest
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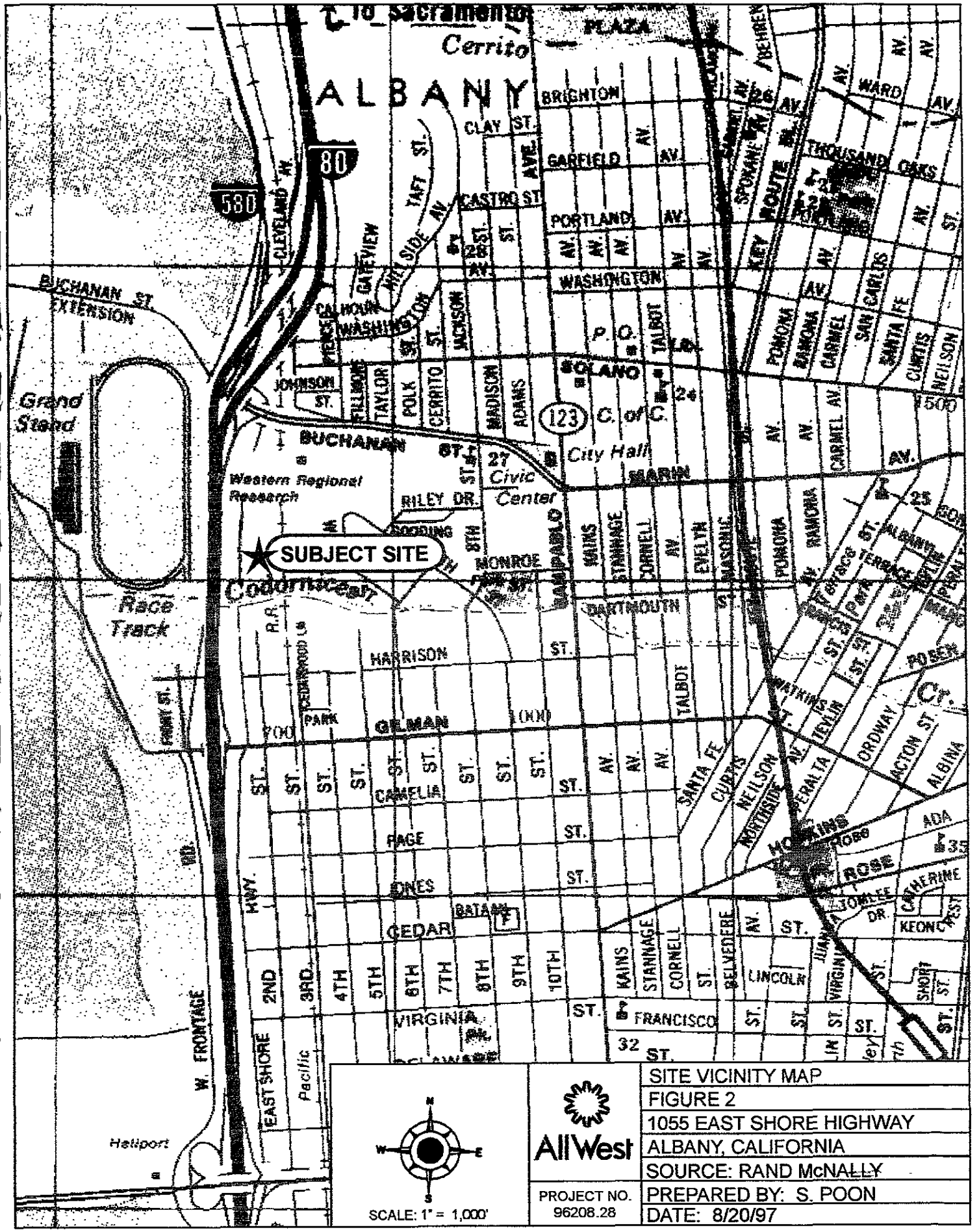
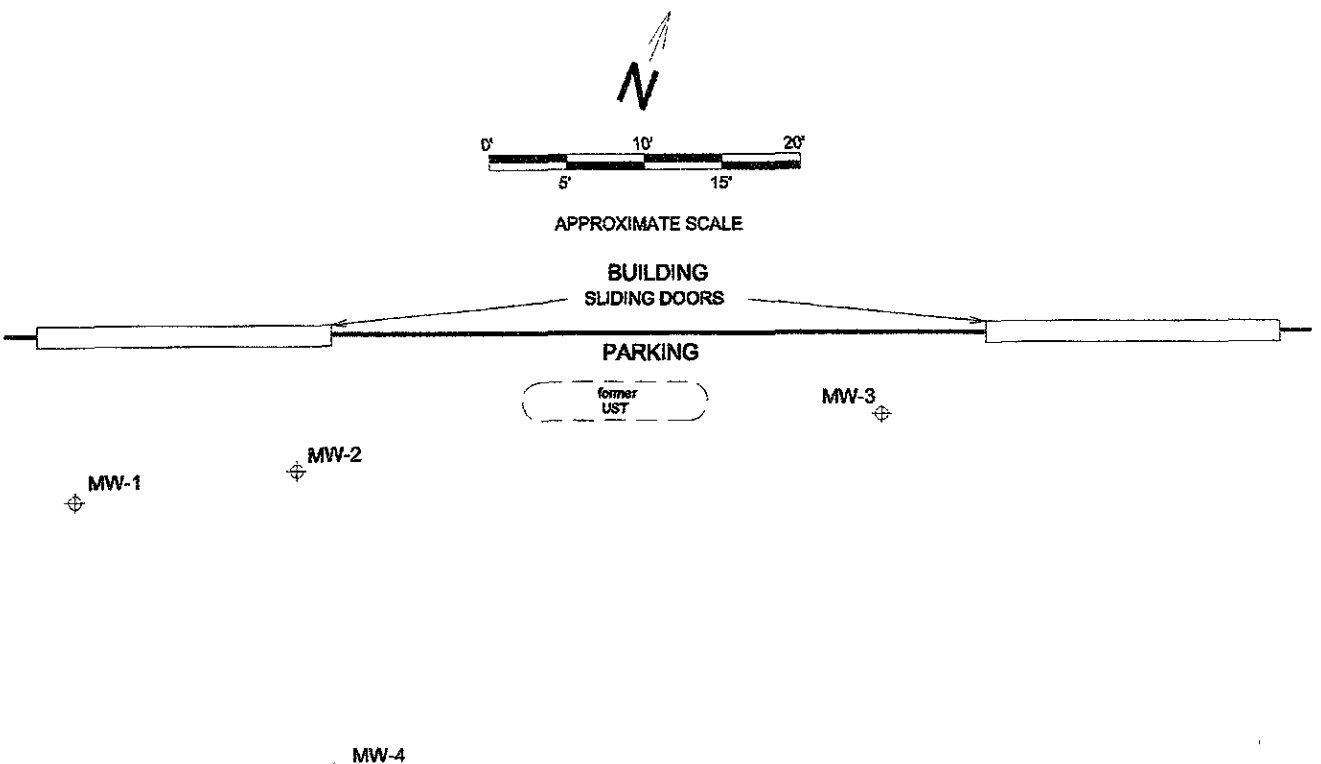
SITE REGIONAL LOCATION MAP
FIGURE 1
1055 EAST SHORE HIGHWAY
ALBANY, CALIFORNIA
SOURCE: RAND MCNALLY
PREPARED BY: S. POON
DATE: 8/20/97


ALBANY
Cerrito
SUBJECT SITE
Western Regional Research
Civic Center
City Hall
Grand Stand
Race Track
Codornices Cr.
Hellport
SCALE: 1" = 1,000'
AllWest
PROJECT NO. 96208.28
SITE VICINITY MAP
FIGURE 2
1055 EAST SHORE HIGHWAY
ALBANY, CALIFORNIA
SOURCE: RAND McNALLY
PREPARED BY: S. POON
DATE: 8/20/97




# WELL LOCATION MAP

EXPLANATION

MW-1 ⊕ = MONITORING WELL LOCATION

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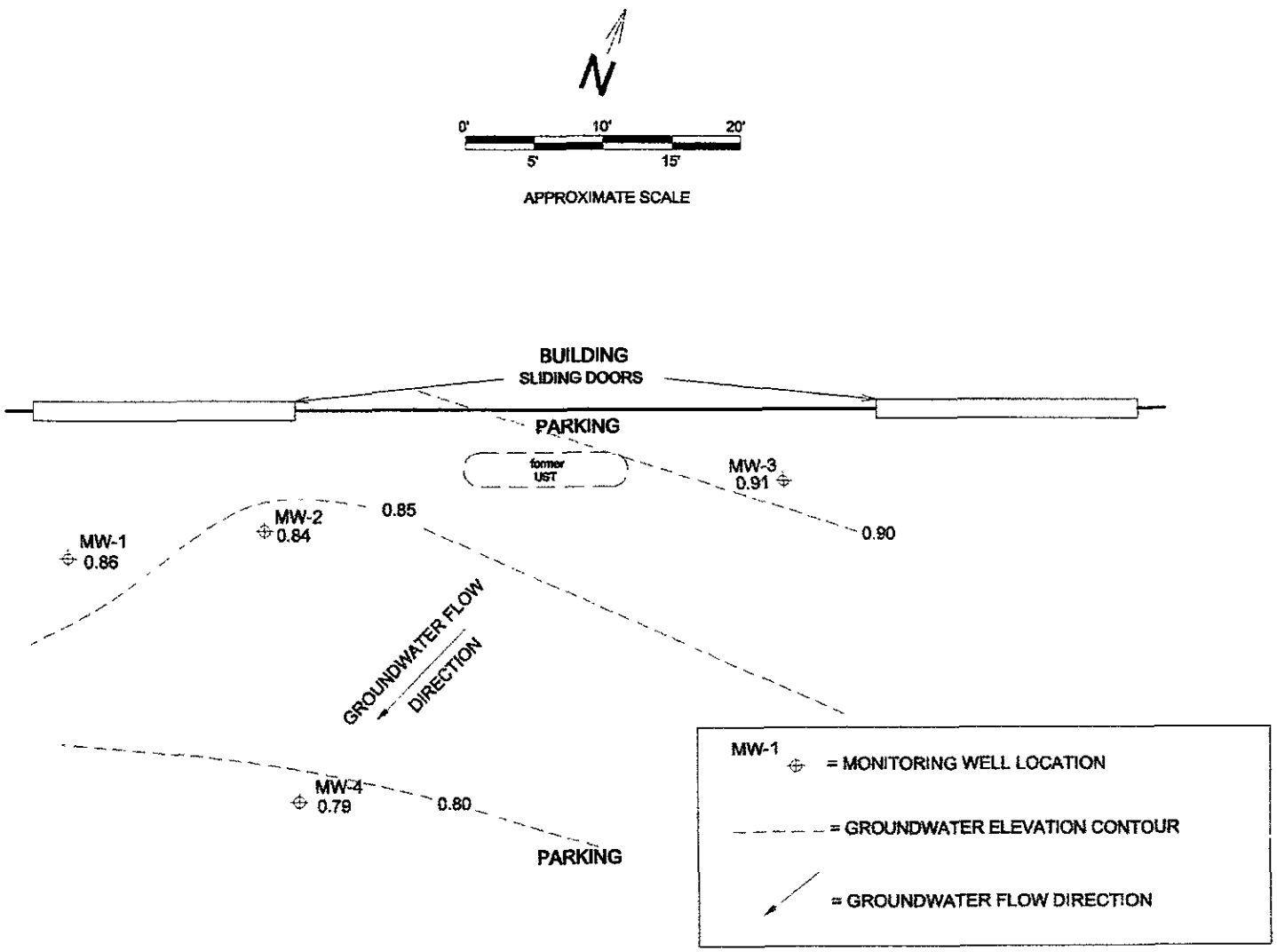
| |
|---|
| 1055 EAST SHORE HIGHWAY |
| ALBANY, CALIFORNIA |
| FIGURE 3 |
| SOURCE: ALLWEST |
| DRAWN BY: S. POON |
| DATE: 8/20/97 |




# GROUNDWATER CONTOUR MAP

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| |
|---|
| 1055 EASTSHORE HIGHWAY |
| ALBANY, CALIFORNIA |
| FIGURE 4 |
| SOURCE: ALLWEST |
| DRAWN BY: S. POON |
| DATE: 8/20/97 |

## Appendix A

## GROUNDWATER SAMPLING PROCEDURES

Upon arriving at the groundwater monitoring well site, each monitoring well vault and well casing are first examined for damage which could render the well inoperable. Any water collected during the recent rains were purged from the well vault to avoid contamination from rain water. The upper end-cap was then removed and checked for organic odors. After an appreciable time for groundwater levels to equilibrate, electric water level sounder was lowered into the well casing to measure the depth to water to the nearest 0.01 feet. A clear polyethylene bailer was then lowered into the well casing and partially submerged. Upon retrieval of the clear bailer, the surface of the water column retained in the bailer was carefully examined for floating product or product sheen.

After initial measurements were completed and recorded, each monitoring well was purged by an electrical submersible pump or decontaminated teflon bailer. Approximately 3 well volumes of groundwater was purged. Groundwater quality parameters (temperature, pH, and conductivity) were monitored[2] with a combination meter after each well volume was removed. Purging was considered complete when purging indicators were stabilized (consecutive readings within 10% of each other) or the purged water was relatively free of sediments. All purged water was temporarily stored on-site in labeled 55-gallon drums pending test results to determine the proper disposal method. If no contamination was found then the purge water was disposed of as nonhazardous.

Groundwater sampling was conducted after the water level in the well recovered approximately 80% of the initial level that was recorded before purging. The groundwater sample was collected using a disposable bailer, which was discarded after the sampling event. Upon retrieval of the disposable bailer, the retained water was carefully transferred to appropriate glass container(s) (three 40-ml VOAs) furnished by the analytical laboratory. A bottom emptying device was placed on the bailer to minimize the loss of volatile organic compounds during transfer. All sample containers were fitted with teflon lined septum/cap and filled such that no headspace was present. After the water sample was properly transferred to the appropriate containers, the containers were labeled and immediately placed on ice in an insulated cooler to preserve the chemical characteristics of the sample.

To prevent cross contamination, all groundwater sampling equipment that came into contact with the groundwater was thoroughly cleaned by washing in Alconox (a non-phosphate detergent) solution and double rinsed with distilled water prior to each well sampling event. Groundwater samples were stored and transported in an insulated cooler filled with crushed ice. The analytical laboratory collected the samples from the site or from the *AllWest* office. The samples were delivered to the analytical laboratory by a special courier of the laboratory. All samples were transported under strict Chain-of-Custody document protocol from the time of sample collection to the time of arrival at the laboratory.

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[2]The temperature, conductivity and pH meter was not working during the second quarter 1997 sampling event.

# GROUNDWATER MONITORING WELL SAMPLING FIELD LOG

Project No.: 96208.28 Project Name: Albany (X-Monitor)

Well No.: MW-1 Well Location: See Figures

Well Depth: 20 (ft.) Casing Diameter: 2 (in.)

Depth to Water: 5.76 (ft.) Date: 08/07/97 Time: 11:27

Water Column in Well: 14.24 (ft.) Well Volume: 2.5 (gal.)

Odor? No Free Product? No Thickness: NA

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

| Time | pH | Conduc. (μS) | Temp. (°F) | Water Level | Volume Removed | Remarks |
|---|---|---|---|---|---|---|
| 11:28 | NA | NA | NA | 5.76 | 0 | start bailing, clear |
| 11:34 | | | | | 2.5 | slightly cloudy, lt. brown color |
| 11:41 | | | | | 5.0 | |
| 11:48 | | | | | 7.5 | cloudy, darker brown color |
| 11:50 | | | | 6.41 | | sampled |
| | | | | | | |

Purging Start Time: 11:28 Purging Stop Time: 11:48

Total Volume Purged: 7.5 (gal.) Well Dewater? slightly, <1foot

Water Level Prior to Sampling: 6.41 (ft.) Time: 11:50

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

Sample Collected: 3 VOAS Sample No.: MW-1

Remarks: NA-not available

Sampler: RMH Date/Time: 8-07-97 11:50

# GROUNDWATER MONITORING WELL SAMPLING FIELD LOG

Project No.: 96208.28 Project Name: Albany (X-Monitor)

Well No.: MW-2 Well Location: See Figures

Well Depth: 20 (ft.) Casing Diameter: 2 (in.)

Depth to Water: 6.08 (ft.) Date: 08/07/97 Time: 11:55

Water Column in Well: 13.92 (ft.) Well Volume: 2.5 (gal.)

Odor? Yes/AC Free Product? No Thickness: No

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

| Time | pH | Conduc. ($\mu$S) | Temp. (°F) | Water Level | Volume Removed | Remarks |
|---|---|---|---|---|---|---|
| 12:00 | NA | NA | NA | 6.08 | 0 | start bailing/ clear |
| 12:05 | | | | | 2.5 | lt. gray color |
| 12:12 | | | | | 5.0 | |
| 12:20 | | | | | 7.5 | dk. gray color |
| 12:25 | | | | 9.75 | | sampled |
| | | | | | | |

Purging Start Time: 12:00 Purging Stop Time: 12:20

Total Volume Purged: 7.5 (gal.) Well Dewater? 3.0 feet

Water Level Prior to Sampling: 9.75 (ft.) Time: 12:25

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

Sample Collected: 3 VOAS Sample No.: MW-2

Remarks: NA-not available

Sampler: RMH Date/Time: 8-07-97 11:55

# GROUNDWATER MONITORING WELL SAMPLING FIELD LOG

Project No.: 96208.28 Project Name: Albany (X-Monitor)

Well No.: MW-3 Well Location: See Figures

Well Depth: 20 (ft.) Casing Diameter: 2 (in.)

Depth to Water: 6.11 (ft.) Date: 08/07/97 Time: 13:05

Water Column in Well: 13.89 (ft.) Well Volume: 2.4 (gal.)

Odor? No Free Product? No Thickness: NA

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

| Time | pH | Conduc. ($\mu$S) | Temp. (°F) | Water Level | Volume Removed | Remarks |
|---|---|---|---|---|---|---|
| 13:05 | NA | NA | NA | 6.11 | 0 | start bailing/ clear |
| 13:10 | | | | | 2.5 | slightly cloudy, lt. brown color |
| 13:15 | | | | | 5.0 | |
| 13:20 | | | | | 7.5 | med. brown color |
| 13:25 | | | | 7.47 | | sampled |
| | | | | | | |

Purging Start Time: 13:05 Purging Stop Time: 12:20

Total Volume Purged: 7.5 (gal.) Well Dewater? 1.5 feet

Water Level Prior to Sampling: 7.47 (ft.) Time: 13:25

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

Sample Collected: 3 VOAS Sample No.: MW-3

Remarks: NA-not available

Sampler: RMH Date/Time: 8-07-97 13:25

# GROUNDWATER MONITORING WELL SAMPLING FIELD LOG

Project No.: 96208.28 Project Name: Albany (X-Monitor)

Well No.: MW-4 Well Location: See Figures

Well Depth: 24 (ft.) Casing Diameter: 2 (in.)

Depth to Water: 5.67 (ft.) Date: 08/07/97 Time: 12:35

Water Column in Well: 18.33 (ft.) Well Volume: 3.1 (gal.)

Odor? No Free Product? No Thickness: No

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

| Time | pH | Conduc. ($\mu$S) | Temp. (°F) | Water Level | Volume Removed | Remarks |
|---|---|---|---|---|---|---|
| 12:35 | NA | NA | NA | 5.67 | 0 | clear |
| 12:40 | | | | | 2.5 | slightly cloudy, lt. brown color |
| 12:45 | | | | | 5.0 | |
| 12:50 | | | | | 7.5 | cloudy, med. brown color |
| 12:55 | | | | 7.26 | | sampled |
| | | | | | | |

Purging Start Time: 12:35 Purging Stop Time: 12:50

Total Volume Purged: 7.5 (gal.) Well Dewater? 1.5 feet

Water Level Prior to Sampling: 7.26 (ft.) Time: 12:55

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

Sample Collected: 3 VOAS Sample No.: MW-4

Remarks: NA-not available

Sampler: RMH Date/Time: 8-07-97 12:55

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

AllWest Environmental, Inc.
One Sutter Street, Suite 600
San Francisco, CA 94104

Attention: Bob Horwath

Client Proj. ID: Albany
Sample Descript: MW-1
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9708346-01

Sampled: 08/07/97
Received: 08/07/97

Analyzed: 08/12/97
Reported: 08/14/97

QC Batch Number: GC081297BTEX17A
Instrument ID: GCHP17

## Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

| Analyte | Detection Limit ug/L | Sample Results ug/L |
|---|---|---|
| TPPH as Gas | 50 | N.D. |
| Methyl t-Butyl Ether | 2.5 | N.D. |
| Benzene | 0.50 | N.D. |
| Toluene | 0.50 | N.D. |
| Ethyl Benzene | 0.50 | N.D. |
| Xylenes (Total) | 0.50 | N.D. |
| Chromatogram Pattern: | | |

| Surrogates | Control Limits % | | % Recovery |
|---|---|---|---|
| Trifluorotoluene | 70 | 130 | 76 |

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
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AllWest Environmental, Inc.
One Sutter Street, Suite 600
San Francisco, CA 94104

Attention: Bob Horwath

Client Proj. ID: Albany
Sample Descript: MW-2
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9708346-02

Sampled: 08/07/97
Received: 08/07/97

Analyzed: 08/12/97
Reported: 08/14/97

QC Batch Number: GC081297BTEX17A
Instrument ID: GCHP17

## Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

| Analyte | Detection Limit ug/L | Sample Results ug/L |
|---|---|---|
| **TPPH as Gas** | **50** | **600** |
| Methyl t-Butyl Ether | 2.5 | N.D. |
| **Benzene** | **0.50** | **8.8** |
| Toluene | 0.50 | N.D. |
| **Ethyl Benzene** | **0.50** | **18** |
| **Xylenes (Total)** | **0.50** | **16** |
| **Chromatogram Pattern:** | | **Gas** |

| Surrogates | Control Limits % | | % Recovery |
|---|---|---|---|
| Trifluorotoluene | 70 | 130 | 124 |

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

AllWest Environmental, Inc.
One Sutter Street, Suite 600
San Francisco, CA 94104

Attention: Bob Horwath

Client Proj. ID: Albany
Sample Descript: MW-3
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9708346-03

Sampled: 08/07/97
Received: 08/07/97

Analyzed: 08/12/97
Reported: 08/14/97

QC Batch Number: GC081297BTEX17A
Instrument ID: GCHP17

## Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

| Analyte | Detection Limit ug/L | Sample Results ug/L |
|---|---|---|
| TPPH as Gas | 50 | N.D. |
| Methyl t-Butyl Ether | 2.5 | N.D. |
| Benzene | 0.50 | N.D. |
| Toluene | 0.50 | N.D. |
| Ethyl Benzene | 0.50 | N.D. |
| Xylenes (Total) | 0.50 | N.D. |
| Chromatogram Pattern: | | |

| Surrogates | Control Limits % | | % Recovery |
|---|---|---|---|
| Trifluorotoluene | 70 | 130 | 98 |

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

AllWest Environmental, Inc.
One Sutter Street, Suite 600
San Francisco, CA 94104

Attention: Bob Horwath

Client Proj. ID: Albany
Sample Descript: MW-4
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9708346-04

Sampled: 08/07/97
Received: 08/07/97

Analyzed: 08/12/97
Reported: 08/14/97

QC Batch Number: GC081297BTEX17A
Instrument ID: GCHP17

## Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

| Analyte | Detection Limit ug/L | Sample Results ug/L |
|---|---|---|
| TPPH as Gas | 50 | N.D. |
| Methyl t-Butyl Ether | 2.5 | N.D. |
| Benzene | 0.50 | N.D. |
| Toluene | 0.50 | N.D. |
| Ethyl Benzene | 0.50 | N.D. |
| Xylenes (Total) | 0.50 | N.D. |
| Chromatogram Pattern: | | |

| Surrogates | Control Limits % | | % Recovery |
|---|---|---|---|
| Trifluorotoluene | 70 | 130 | 95 |

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

AllWest Environmental, Inc.
One Sutter Street, Suite 600
San Francisco, CA 94104
Attention: Bob Horwath

Client Project ID: Albany
Matrix: Liquid
Work Order #: 9708346-01-04

Reported: Aug 15, 1997

# QUALITY CONTROL DATA REPORT

| Analyte: | Benzene | Toluene | Ethyl Benzene | Xylenes | Gas |
|---|---|---|---|---|---|
| QC Batch#: | GC081297BTEX17A | GC081297BTEX17A | GC081297BTEX17A | GC081297BTEX17A | GC081297BTEX17A |
| Analy. Method: | EPA 8020 | EPA 8020 | EPA 8020 | EPA 8020 | EPA 8015M |
| Prep. Method: | EPA 5030 | EPA 5030 | EPA 5030 | EPA 5030 | EPA 5030 |
| Analyst: | R. Vincent | R. Vincent | R. Vincent | R. Vincent | R. Vincent |
| MS/MSD #: | 9707G3104 | 9707G3104 | 9707G3104 | 9707G3104 | 9707G3104 |
| Sample Conc.: | N.D. | N.D. | N.D. | N.D. | N.D. |
| Prepared Date: | 8/12/97 | 8/12/97 | 8/12/97 | 8/12/97 | 8/12/97 |
| Analyzed Date: | 8/12/97 | 8/12/97 | 8/12/97 | 8/12/97 | 8/12/97 |
| Instrument I.D.#: | GCHP17 | GCHP17 | GCHP17 | GCHP17 | GCHP17 |
| Conc. Spiked: | 10 µg/L | 10 µg/L | 10 µg/L | 30 µg/L | 60 µg/L |
| Result: | 8.2 | 8.1 | 8.3 | 24 | 53 |
| MS % Recovery: | 82 | 81 | 83 | 80 | 88 |
| Dup. Result: | 8.4 | 8.4 | 8.7 | 26 | 56 |
| MSD % Recov.: | 84 | 84 | 87 | 87 | 93 |
| RPD: | 2.4 | 3.6 | 4.7 | 8.0 | 5.5 |
| RPD Limit: | 0-25 | 0-25 | 0-25 | 0-25 | 0-25 |
| LCS #: | BLK081297 | BLK081297 | BLK081297 | BLK081297 | BLK081297 |
| Prepared Date: | 8/12/97 | 8/12/97 | 8/12/97 | 8/12/97 | 8/12/97 |
| Analyzed Date: | 8/12/97 | 8/12/97 | 8/12/97 | 8/12/97 | 8/12/97 |
| Instrument I.D.#: | GCHP17 | GCHP17 | GCHP17 | GCHP17 | GCHP17 |
| Conc. Spiked: | 10 µg/L | 10 µg/L | 10 µg/L | 30 µg/L | 60 µg/L |
| LCS Result: | 7.6 | 7.6 | 7.8 | 23 | 50 |
| LCS % Recov.: | 76 | 76 | 78 | 77 | 83 |
| MS/MSD Control Limits | 60-140 | 60-140 | 60-140 | 60-140 | 60-140 |
| LCS Control Limits | 70-130 | 70-130 | 70-130 | 70-130 | 70-130 |

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

# SEQUOIA ANALYTICAL
# CHAIN OF CUSTODY


☐ 680 Chesapeake Drive • Redwood City, CA 94063 • (415) 364-9600 FAX (415) 364-9233
☐ 819 Striker Ave., Suite 8 • Sacramento, CA 95834 • (916) 921-9600 FAX (916) 921-0100
☐ 404 N. Wiget Lane • Walnut Creek, CA 94598 • (510) 988-9600 FAX (510) 988-9673


| | |
|---|---|
| Company Name: AllWest | Project Name: ALBANY |
| Address: 1 Sutter Street | Billing Address ( if different): |
| City: S.F. State: CA Zip Code: | |
| Telephone: 1-415-391-2510 FAX #: 1-415-391-2008 | P.O. #: 96208.28 |
| Report To: Bob Horwath Sampler: RMH | QC Data: ☒ Level D (Standard) ☐ Level C ☐ Level B ☐ Level A |

**Turnaround Time:** ☐ 10 Working Days ☐ 3 Working Days ☐ 2 - 8 Hours ☐ 7 Working Days ☐ 2 Working Days ~~☐ 5 Working Days~~ ☐ 24 Hours

☐ Drinking Water ☐ Waste Water ☒ Other GW

Analyses Requested 9708346

| Client Sample I.D. | Date/Time Sampled | Matrix Desc. | # of Cont. | Cont. Type | Sequoia's Sample # | 8010/8021 TPHg/BTEX/MTBE | Comments |
|---|---|---|---|---|---|---|---|
| 1. MW-1 | 8/7/97 11:50 | GW | 3 | 40mlVOAs | 1 | X | H2O2, 4°C |
| 2. MW-2 | 12:25 | GW | 3 | | 2 | X | |
| 3. MW-3 | 13:25 | GW | 3 | | 3 | X | |
| 4. MW-4 | 12:55 | GW | 3 | | 4 | X | |
| 5. | | | | | | | |
| 6. | | | | | | | |
| 7. | | | | | | | |
| 8. | | | | | | | |
| 9. | | | | | | | |
| 10. | | | | | | | |

Pink - Client
Yellow - Sequoia
White - Sequoia

| | | | | | |
|---|---|---|---|---|---|
| Relinquished By: R Horwath | Date: 8/7/97 | Time: 1540 | Received By: [signature] | Date: 8/7/97 | Time: 1540 |
| Relinquished By: [signature] | Date: 8/7/97 | Time: | Received By: | Date: | Time: |
| Relinquished By: | Date: | Time: | Received By Lab: M.S. | Date: 8-7-97 | Time: 1830 |

Were Samples Received in Good Condition? ☐ Yes ☐ No Samples on Ice? ☐ Yes ☐ No Method of Shipment Page of