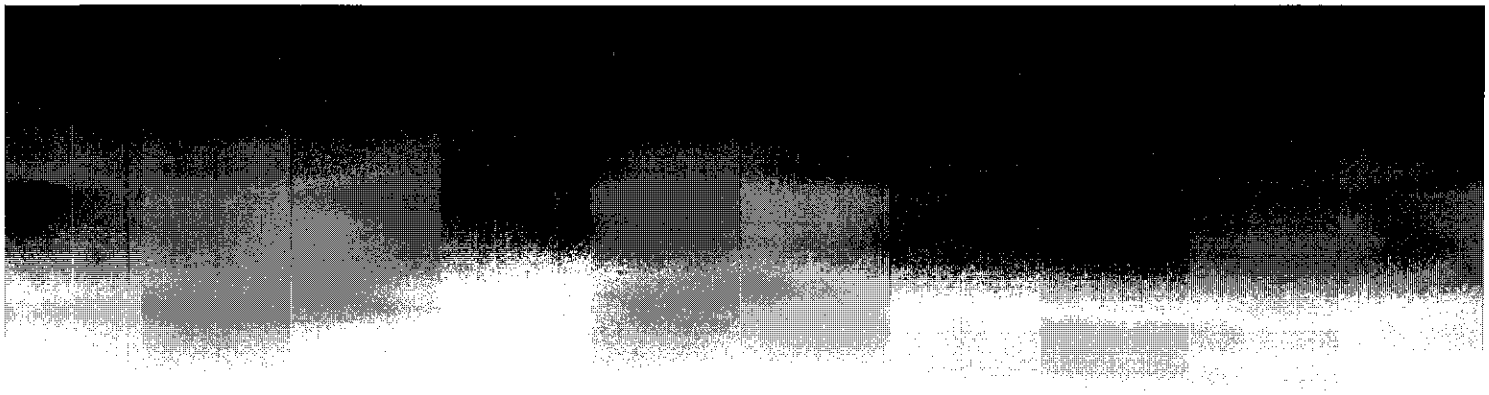
– Missing lab sheets –



QUARTERLY GROUNDWATER MONITORING AND SAMPLING REPORT

ALBANY HILL MINI MART
ALBANY, CALIFORNIA

Prepared for:

Mr. Mohinder S. & Dr. Joginder K. Sikand
800 San Pablo Avenue
Albany, California

February 25, 2000

ADVANCED ASSESSMENT AND REMEDIATION SERVICES

2380 Salvio Street, Suite 202
Concord, CA 94520
Phone: (925) 363-1999
Fax: (925) 363-1998
e-mail: aars@ccnet.com

ADVANCED ASSESSMENT AND REMEDIATION SERVICES (AARS)

2380 SALVIO STREET, SUITE 202
CONCORD, CALIFORNIA 94520-2137
TEL: (925) 363-1999 FAX: (925) 363-1998
e-mail: aars@ccnet.com

February 25, 2000

Ms. Eva Chu
Alameda County Health Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Subject: **Quarterly Groundwater Monitoring and Sampling Report for Albany Hill Mini Mart, 800 San Pablo Avenue, Albany, California**

Dear Ms. Chu:

The enclosed report presents the results and findings of the February 2000, quarterly groundwater monitoring and sampling for the above-referenced facility.

Should you have any questions regarding the report please contact Tridib Guha at (925) 363-1999.

Sincerely,

Advanced Assessment and Remediation Services

Tridib K. Guha, R.G., R.E.A.
Principal

cc: Mr. Mohinder Sikand & Dr. Joginder Sikand, Albany, CA

AHMMQ2.RPT

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QUARTERLY GROUNDWATER MONITORING AND SAMPLING REPORT

For

Albany Hill Mini Mart
800 San Pablo Avenue
Albany, California

1.0 INTRODUCTION

This report presents the results and findings of the February 2000, quarterly groundwater monitoring and sampling performed at 800 San Pablo Avenue, Albany, California. This report is intended to fulfill quarterly self-monitoring requirements and to establish a groundwater monitoring history for the site. A site vicinity map is shown in Figure 1.

2.0 GROUNDWATER MONITORING WELLS

This section presents the water level monitoring, field observations, sampling and analysis procedures, as well as the analytical results. The location of the monitoring wells is presented in Figure 2. The work and related field sampling activities were conducted in accordance with the guidelines and requirements of the Alameda County Environmental Health Department (ACEHD) and the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB).

2.1 Groundwater Level Monitoring and Surveying

Groundwater levels in each well were measured to the nearest 0.01 foot from the top of the PVC casing, using an electronic sounder. A groundwater surface elevation map, based on interpretation of groundwater level measurements taken on February 7, 2000, and survey data is presented in Figure 3. The survey data and water level measurements are presented in Table 1.

2.2 Field Observations

The purged water from monitoring, MW-1, MW-2 and MW-3 were clear initially and with continual purging the water turned turbid. However, water samples collected at the time of sampling were clear. No floating product was observed in the groundwater samples from all three monitoring wells. Sheen was observed in only in groundwater samples from monitoring well MW-1. Strong petroleum odor was noticed in the groundwater samples from all three monitoring wells.

2.3 Sampling and Analysis Procedures

Groundwater samples were collected on February 7, 2000, following water level measurements. Samples were analyzed by Priority Environmental Labs of Milpitas, California which is certified by the California Department of Health Services (DHS) to perform the specified analyses.

Before purging, water levels were measured in all wells with an electronic sounder tape. Purging preceded sampling in order to ensure collection of non-stagnant water. A minimum of three casing volumes were removed before sampling the wells MW-1, MW-2 and MW-3. The purged water was monitored for temperature, pH, and conductivity. Purging was considered complete when these parameters had stabilized. The wells were sampled after 87 percent recovery or greater. The groundwater monitoring well purge/sampling worksheets are presented Appendix A.

To prevent potential cross-contamination, all measuring, purging and sampling equipment was washed in an Alconox detergent solution, rinsed with tap water, and rinsed finally with distilled water between wells.

The sampling procedure for each monitoring well involved extracting well water with a clean PVC bailer on a clean nylon cord. Groundwater collected for analysis of Total Petroleum Hydrocarbon as gasoline (TPHg) and Benzene, Toluene, Ethylbenzene and total Xylenes (BTEX), Methyl Tertiary Butyl Ether (MTBE) was decanted into two 40-milliliter volatile organic analysis vials with Teflon-lined septa. Groundwater collected for analysis of Total Petroleum Hydrocarbon as diesel (TPHd) was decanted into one 1-liter amber glass bottles. Samples to be analyzed for TPHg/BTEX/MTBE were preserved using hydrochloric acid to a pH of 2.0. All samples were labeled and placed in an iced cooler, along with the chain-of-custody document (Appendix B). Samples transported to the laboratory were analyzed within the specified holding time.

Groundwater produced during purging and sampling was contained in 55-gallon steel drums. The drummed water was labelled with the source (i.e. well number) and date.

2.4 Analytical Methods

Samples were analyzed for TPHg by Modified EPA SW-846 Methods 5030/8015 modified, for TPHd by EPA Methods 3510/8015 modified, and for BTEX/MTBE by EPA SW-846 Methods 602.

A summary of the analytical results of groundwater samples from the monitoring wells is presented in Table 2. The certified analytical reports for this sampling events are included in Appendix B.

3.0 INTERPRETATION OF RESULTS

The results of water level measurements and groundwater sampling are discussed in the following sections.

3.1 Groundwater Elevations and Gradients

A relative groundwater elevation contours for February 7, 2000, is presented in Figure 3. The flow direction, based on groundwater level data, was toward the southeast with an average hydraulic gradient of 0.02 foot per foot for this monitoring period. The average depth to stabilized groundwater in these wells was approximately 9.5 feet below ground surface.

3.2 Analytical Results

The analytical results for groundwater samples from three monitoring wells (MW-1 through MW-3) are presented in Table 2, which also includes the groundwater sampling results from the previous site investigation. Groundwater samples from monitoring wells MW-1 and MW-3 were found to contain TPHg at 1100 and 120 parts per billion (ppb), respectively. TPHd was detected in all three groundwater samples, concentrations ranging from 71 to 890 ppb. Benzene was detected only in groundwater samples from MW-1 at a concentration of 3.3 ppb. Toluene, ethylbenzene, and xylenes concentrations ranging from 1.9, 5.6 and 21 ppb were measured in groundwater samples from MW-1. MTBE was not detected in groundwater samples from all three monitoring wells. Figure 4 shows the distribution of dissolved-phase petroleum hydrocarbons at the site.

4.0 SELF-MONITORING PROGRAM SCHEDULE AND RECOMMENDATIONS

The next monitoring event scheduled for the site is May, 2000. The report for the next monitoring event will contain tabulated data for all monitoring events for the site.

5.0 CERTIFICATION

The information provided in this report is based on the groundwater sampling activities conducted at the site. All data presented in this report is believed to be factual and accurate, unless proven otherwise. Any conclusions or recommendations provided within are based on our expertise and experience conducting work for a similar nature.

Advanced Assessment and Remediation Services

Tridib K. Guha, R.G. 5836

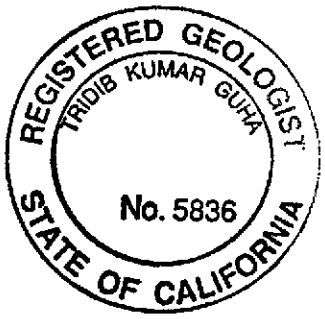


TABLE 1: SURVEY AND WATER LEVEL MONITORING DATA
Albany Hill Mini Mart
800 San Pablo Avenue
Albany, California

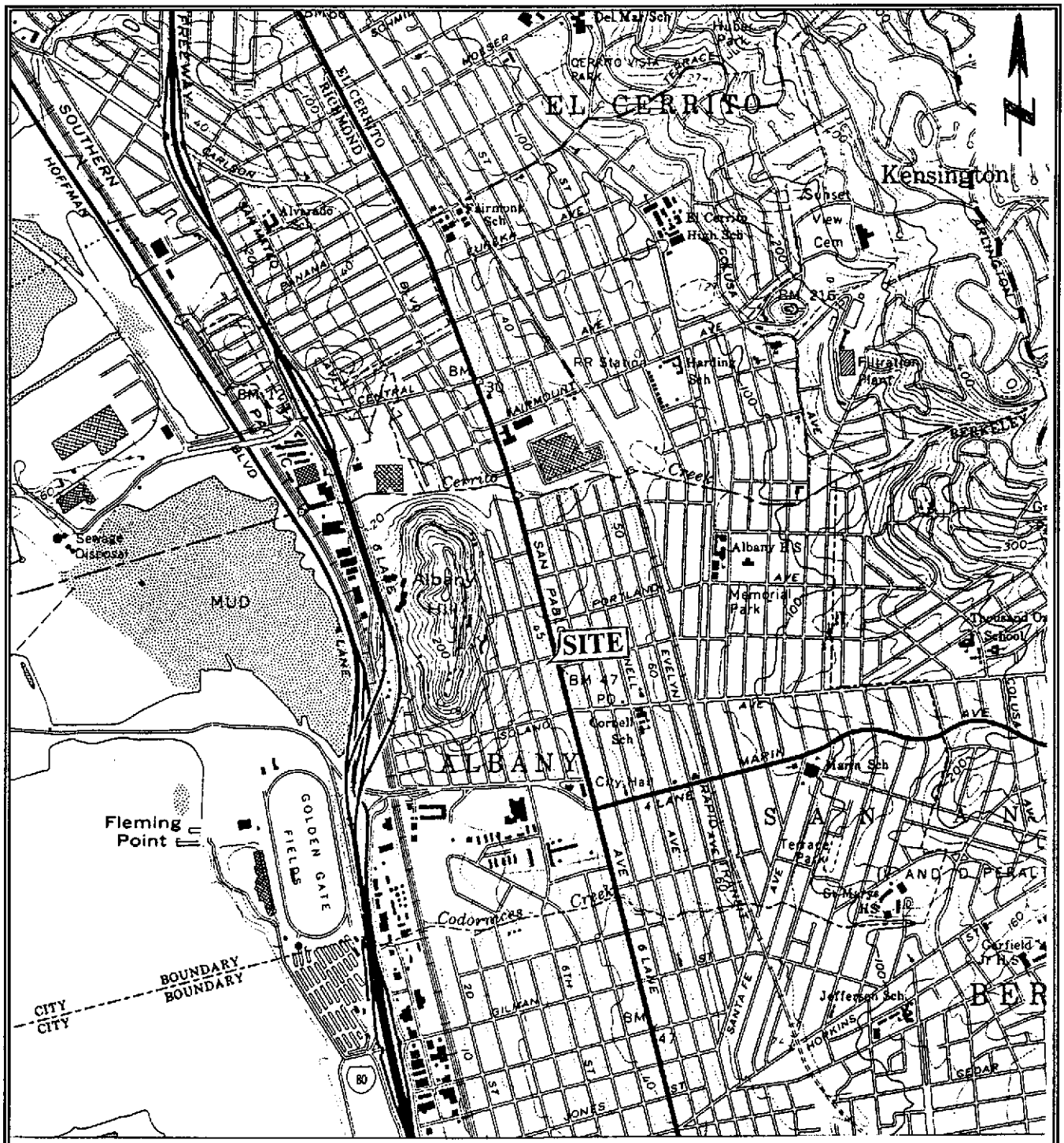
Well No.	Date of Measurement	Top of Casing Elevation (Feet - Relative)	Depth to Groundwater (Feet)	Product Thickness (Feet)	Groundwater Elevation (Feet - Relative)
MW-1	08-06-99	101.68	11.95	0.00	89.73
	11-05-99	101.68	12.72	0.00	88.96
	02-07-00	101.68	10.34	0.00	91.34
MW-2	08-06-99	101.57	10.83	0.00	90.74
	11-05-99	101.57	11.66	0.00	89.91
	02-07-00	101.57	9.23	0.00	92.34
MW-3	08-06-99	100.33	10.58	0.00	89.75
	11-05-99	100.33	11.39	0.00	88.94
	02-07-00	100.33	9.05	0.00	91.28

Note: A bench mark, with an assumed elevation of 100.00 feet (Above Mean Sea Level), is located at the corner of Washington Avenue and San Pablo Avenue. The bench mark is the top of the southeast bolt (painted white) in the street signal light base; all well elevations are relative to this. The elevations at each well were taken on the top of the well casing.

TABLE 2: SUMMARY OF ANALYTICAL RESULTS OF GROUNDWATER SAMPLING
Albany Hill Mini Mart
800 San Pablo Avenue
Albany, California

Sample ID	Date of Sampling	TPHg (µg/L)	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	TPHd µg/L
MW-1 GW	08/06/99	1500	ND	4.3	2.9	9.1	28	1200
	08/06/99	Polynuclear Aromatic Hydrocarbon Analyses by EPA method 610 were non-detect with detection limit 1.0 µg/L						
	11/05/99	1800	ND	5.1	3.2	8.9	33	1400
	11/05/99	1100	ND	3.3	1.9	5.6	21	890
MW-2 GW	08/06/99	ND	ND	ND	ND	ND	ND	340
	11/05/99	ND	ND	ND	ND	ND	0.7	420
	02/07/00	ND	ND	ND	ND	ND	0.6	310
MW-3 GW	08/06/99	ND	ND	ND	ND	ND	ND	ND
	11/05/99	92	ND	ND	ND	0.6	1.7	54
	02/07/00	120	ND	ND	0.6	0.8	2.2	71
RL	02/10-15/00	50	0.5	0.5	0.5	0.5	0.5	50

Notes:
ND- Not Detected RL- Reporting Limit NA- Not Analyzed
µg/L- Microgram per liter (parts per billion)
TPHg- Total petroleum hydrocarbon as gasoline (EPA method modified 8015)
TPHd- Total petroleum hydrocarbon as diesel (EPA method modified 8015)
MTBE- Methyl Tertiary Butyl Ether (EPA method 602)
Benzene, toluene, ethylbenzene, and total xylenes (EPA method 602)
PAH Polynuclear Aromatic Hydrocarbon (EPA method 610)



Source: U.S.G.S. Map Richmond Quadrangle
7.5 Minute Series (Topographic)
Aerial Photograph taken 1959 Map Edited 1980

FIGURE 1: SITE VICINITY MAP
ALBANY HILL MINI MART
800 San Pablo Avenue
Albany, California

ADVANCED ASSESSMENT AND REMEDIATION SERVICES
2380 Salvio Street, Suite 202
Concord, California

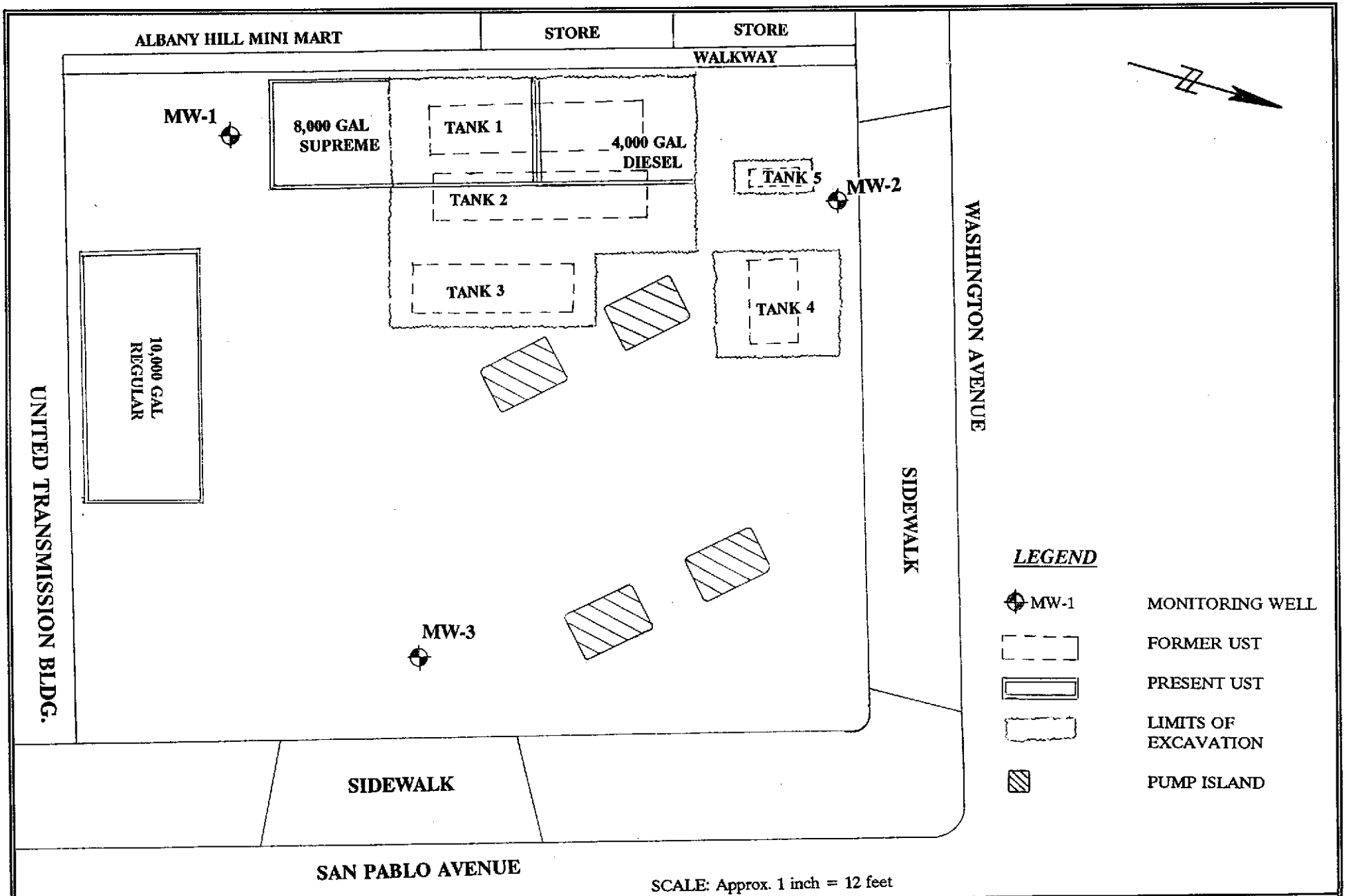
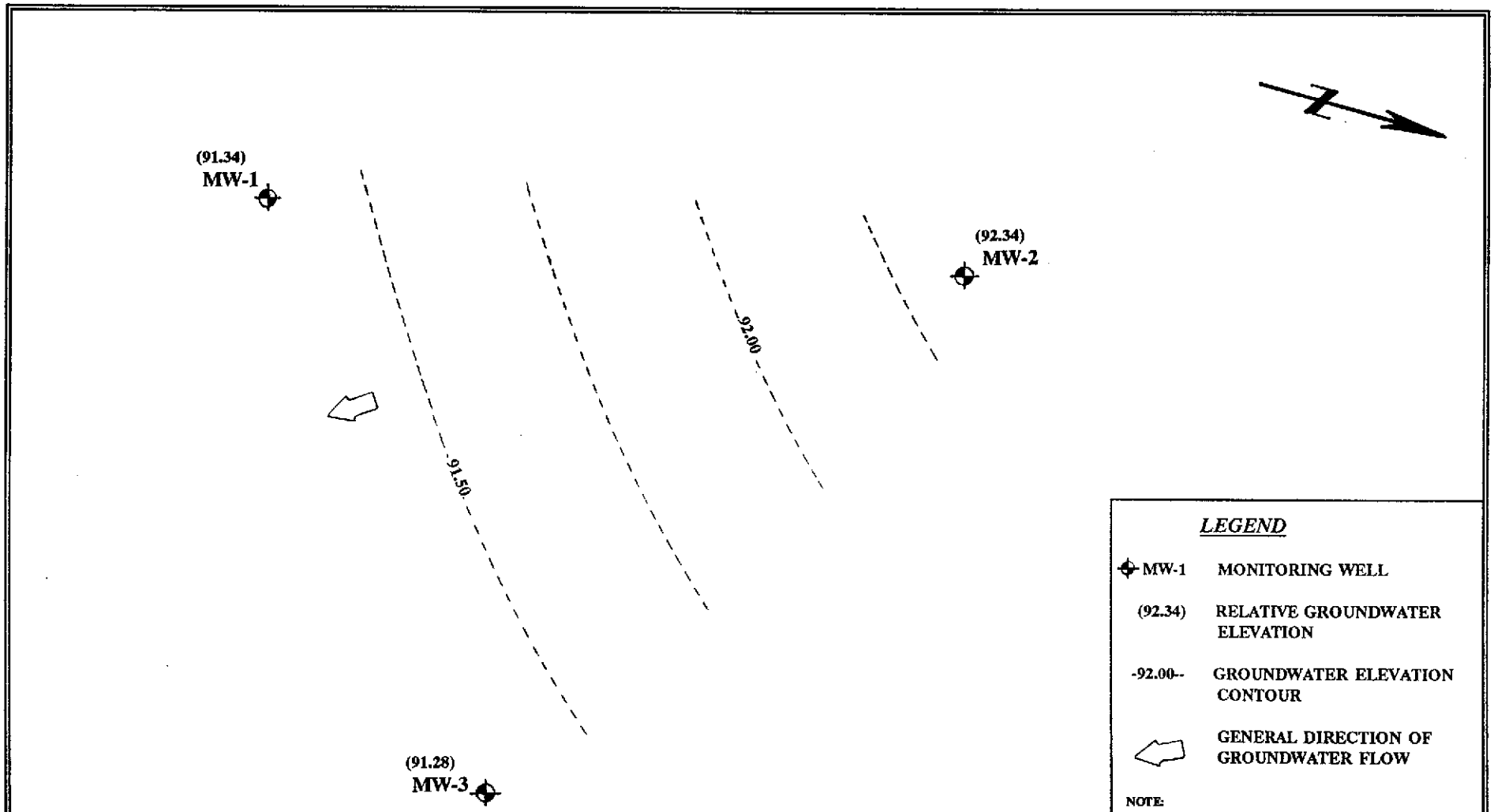


FIGURE 2: SITE PLAN
ALBANY HILL MINI MART
800 San Pablo Avenue
Albany, California

ADVANCED ASSESSMENT AND REMEDIATION SERVICES
2380 Salvio Street, Suite 202
Concord, California 94520



Scale:

Approximately 1 inch = 12 feet

FIGURE 3: GROUNDWATER SURFACE ELEVATIONS (02/07/00)
ALBANY HILL MINI MART
800 San Pablo Avenue
Albany, California

ADVANCED ASSESSMENT AND REMEDIATION SERVICES
2380 Salvio Street, Suite 202
Concord, California 94520

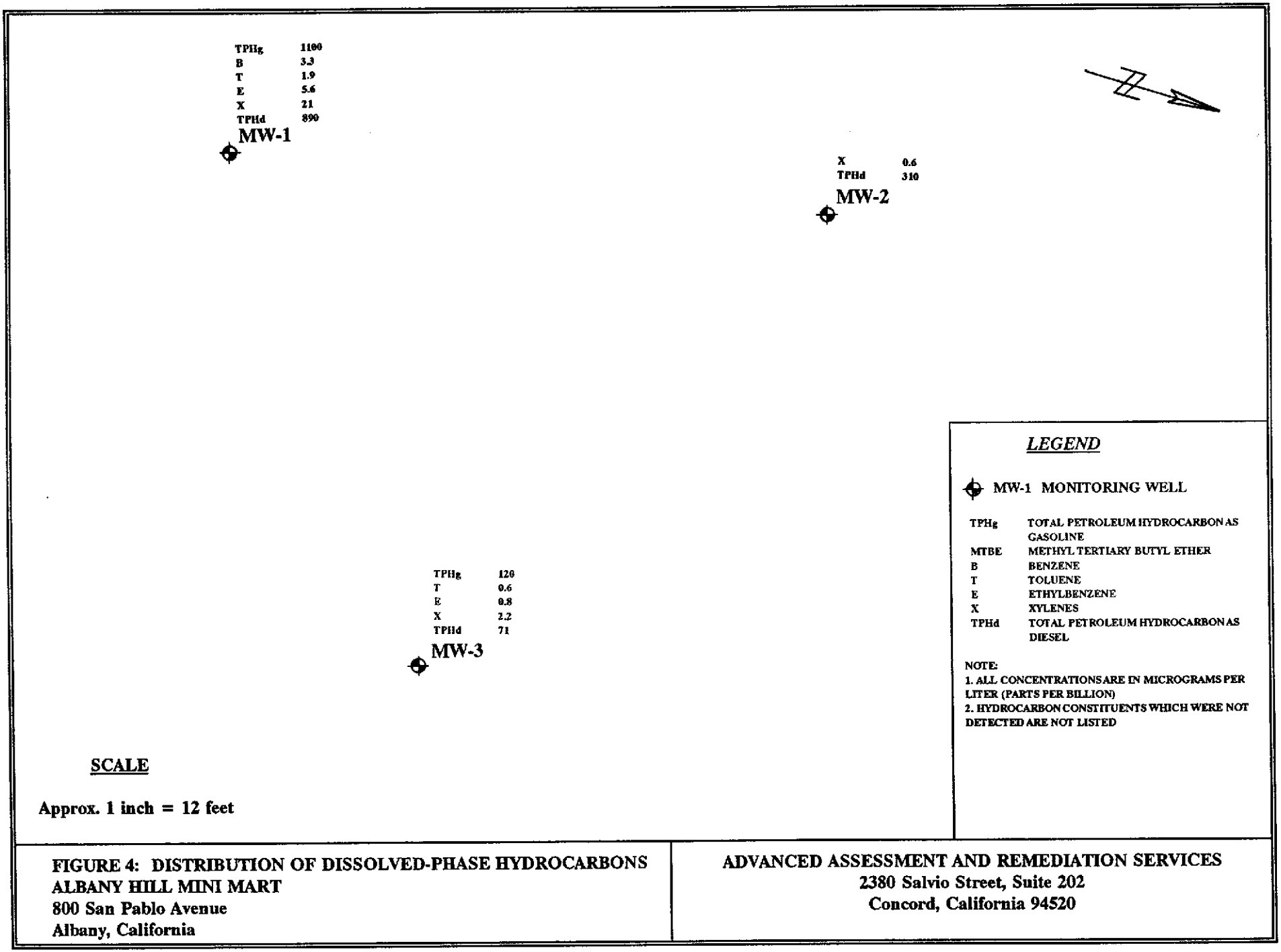


FIGURE 4: DISTRIBUTION OF DISSOLVED-PHASE HYDROCARBONS
ALBANY HILL MINI MART
800 San Pablo Avenue
Albany, California

ADVANCED ASSESSMENT AND REMEDIATION SERVICES
2380 Salvio Street, Suite 202
Concord, California 94520

GROUNDWATER MONITORING WELL PURGE/SAMPLING WORKSHEET

PROJECT NAME: Albany Hill Mini Mart PROJECT NUMBER: 99005

SITE ADDRESS: 800 San Pablo Avenue, Albany, CA

WELL NUMBER: MW-1 WELL CASING DIA.: 2" DATE: 2-7-00

Stagnant Volume Calculation

Total Well Depth (ft) - Initial Depth to Water = Water Column Height (ft) - Time: 12:19
24 10.34 13.66

Water column Height (ft) x Gallons/Linear Foot = Stagnant Volume (Gallons)
13.66 0.17 2.3

(Gallons/Linear Foot: 2" dia. = 0.17; 4" dia. = 0.66; 6" dia. = 1.5)

Groundwater Inspection

Floating Product (ft. or in.): NONE Sheen/Iridescence: YES Odor: YES

Time	Volume Purged (gal)	Temperature (degrees F)	pH	Conductivity µS	Color/Turbidity/Other
13:00	0	62.9	7.18	2508	CLEAR
13:10	2	62.8	7.20	2535	SLIGHTLY TURBID BROWNISH
13:20	5	63.0	7.25	2531	" "
13:30	8	63.2	7.28	2530	" "

Purged Water Containment Purge Method Used:

8 gals stored in 1 55 gal (drums); Any previous drums? 1 Capacity 55

Groundwater Sampling Water Level Recovery (Depth to groundwater in feet)

(P) After purging: 11.36 (I) Initially: 10.34 (S) Before sampling: 10.45 Time: 15:13

(P-S)/P-I) x 100 = 100 % Total Recovery: 89 %

Sample Containers (How many? Preservatives?)

1 liter amber glass: 1; 40 ml VOA: 2; 500 ml polypropylene: —

REMARKS: SAMPLE TIME 15:15

SAMPLER: TRIDIB GUHA SIGNATURE:
(Print)

ADVANCED ASSESSMENT AND REMEDIATION SERVICES

GROUNDWATER MONITORING WELL PURGE/SAMPLING WORKSHEET

PROJECT NAME: Albany Hill Mini Mart PROJECT NUMBER: 99005

SITE ADDRESS: 800 San Pablo Avenue, Albany, CA

WELL NUMBER: MW-2 WELL CASING DIA.: 2" DATE: 2-7-00

Stagnant Volume Calculation

Time: 12:15

Total Well Depth (ft)	-	Initial Depth to Water	=	Water Column Height (ft)
24		9.23		14.77

Water column Height (ft)	x	Gallons/Linear Foot	=	Stagnant Volume (Gallons)
14.77		0.17		2.5

(Gallons/Linear Foot: 2" dia. = 0.17; 4" dia. = 0.66; 6" dia. = 1.5)

Groundwater Inspection

Floating Product (ft. or in.): NONE Sheen/Iridescence: NONE Odor: [redacted]

Time	Volume Purged (gal)	Temperature (degrees F)	pH	Conductivity µS	Color/Turbidity/Other
12:20	0	62.7	7.45	1030	CLEAR
12:30	2	63.0	7.39	1024	SLIGHTLY TURBID BROWN
12:40	5	63.2	7.35	1136	" "
12:50	8	63.4	7.30	1252	" "

Purged Water Containment Purge Method Used:

8 gals stored in 1 55 gal (drums); Any previous drums? 1 Capacity 55

Groundwater Sampling Water Level Recovery (Depth to groundwater in feet)

(P) After purging: 10.19 (I) Initially: 9.23 (S) Before sampling: 9.31 Time: 14:58

(P-S)/P-I) x 100 = 100 % Total Recovery: 92%

Sample Containers (How many? Preservatives?)

1 liter amber glass: 1; 40 ml VOA: 2; 500 ml polypropylene: —

REMARKS: SAMPLE TIME 15:00

SAMPLER: TRIDIB GUHA SIGNATURE: [signature]

(Print)

ADVANCED ASSESSMENT AND REMEDIATION SERVICES

GROUNDWATER MONITORING WELL PURGE/SAMPLING WORKSHEET

PROJECT NAME: Albany Hill Mini Mart PROJECT NUMBER: 99005

SITE ADDRESS: 800 San Pablo Avenue, Albany, CA

WELL NUMBER: MW-3 WELL CASING DIA.: 2" DATE: 2-7-00

Stagnant Volume Calculation

Total Well Depth (ft) - Initial Depth to Water = Water Column Height (ft) - Time: 12:17

24 9.05 14.95

Water column Height (ft) x Gallons/Linear Foot = Stagnant Volume (Gallons)

14.95 0.17 2.5

(Gallons/Linear Foot: 2" dia. = 0.17; 4" dia. = 0.66; 6" dia. = 1.5)

Groundwater Inspection

Floating Product (ft. or in.): NONE Sheen/Iridescence: NONE Odor: YES

Time	Volume Purged (gal)	Temperature (degrees F)	pH	Conductivity µS	Color/Turbidity/Other
13:40	0	64.8	7.35	1773	CLEAR
13:50	2	64.9	7.25	1785	SLIGHTLY TURBID BROWN
14:00	5	65.0	7.22	1784	" "
14:10	8	65.0	7.20	1780	" "

Purged Water Containment Purge Method Used:

8 gals stored in 1 55 gal (drums); Any previous drums? 1 Capacity 55

Groundwater Sampling Water Level Recovery (Depth to groundwater in feet)

(P) After purging: 10.03 (I) Initially: 9.05 (S) Before sampling: 9.18 Time: 15:28

(P-S)/P-I) x 100 = 100 % Total Recovery: 87 %

Sample Containers (How many? Preservatives?)

1 liter amber glass: 1; 40 ml VOA: 2; 500 ml polypropylene: —

REMARKS: SAMPLE TIME 15:30

SAMPLER: TRIDIB GUHA SIGNATURE:

(Print)

ADVANCED ASSESSMENT AND REMEDIATION SERVICES