RO 262

QUARTERLY GROUNDWATER MONITORING AND SAMPLING REPORT

ALBANY HILL MINI MART
800 SAN PABLO AVENUE
ALBANY, CALIFORNIA

Prepared for:

Mr. Mohinder S. & Dr. Joginder K. Sikand
1300 Ptarmigan Drive, #1
Walnut Creek, California 94595

December 30, 2002

ADVANCED ASSESSMENT AND REMEDIATION SERVICES

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December 30, 2002

Ms. eva chu
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, California 94502

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

Dear Ms. chu:

The enclosed report presents the results and findings of the November 2002, quarterly groundwater monitoring and sampling for the above-referenced facility

Should you have any questions regarding this 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 S. Sikand and Dr. Joginder K. Sikand, Walnut Creek, California
Mr. Larry Oelkers, Albany, California

TG/AHMM.Q9/Enclosure

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QUARTERLY GROUNDWATER MONITORING AND SAMPLING REPORT
For
Albany Hill Mini Mart
800 San Pablo Avenue
Albany, California

1.0 INTRODUCTION

Advanced Assessment and Remediation Services (AARS) completed quarterly groundwater sampling of the wells at the site as specified in the letter dated October 3, 2002. This report presents the results and findings of November 2002, 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 tape. A groundwater surface elevation map, based on interpretation of groundwater level measurements taken on November11, 2002, 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 all eight monitoring wells, MW-1 through MW-8 were clear initially and with continual purging the water turned turbid and some turned silty or muddy. However, water samples collected at the time of sampling were clear. Monitoring well MW-9 was not purged, because of extremely slow recharge. No floating product was observed in the groundwater samples from all nine monitoring wells. Sheen was observed in groundwater samples from monitoring wells, MW- 4, MW-7 and MW-8. In addition, a very strong petroleum odor was noticed in the groundwater samples from all monitoring wells.

2.3 Sampling and Analysis Procedures

Groundwater samples were collected on November 11, 2002, following water level measurements. Samples were analyzed by North State Environmental Laboratory of South San Francisco, 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 proceeded sampling in order to ensure collection of non-stagnant water. A minimum of three casing volumes was removed before sampling the wells. The purged water was monitored for temperature, pH, and conductivity. Purging was considered complete when these parameters had stabilized. Field parameters of groundwater sampling are presented in Table 3.

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), fuel oxygenates 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 and fuel oxygenates 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 A). All 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 labeled with the source (i.e. well number) and date.

2.4 Analytical Methods

Samples were analyzed for TPHg/BTEX/MTBE/fuel oxygenates by using GC/MS Method 8260. TPHd by EPA Methods 3510/8015 modified (CATFH).

All nine groundwater samples were re-analyzed three times. A summary of the analytical results of groundwater samples from the monitoring wells is presented in Table 2. The certified analytical reports and chain-of-custody documents for these sampling events are included in Appendix A.

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 November 11, 2002, is presented in Figure 3. The flow direction, based on groundwater level data, was toward the southeast with an average hydraulic gradient of 0.015 foot per foot for this monitoring period. The average depth to stabilized groundwater in these wells was approximately 11 feet below ground surface.

3.2 Analytical Results

The analytical results for groundwater samples from monitoring wells were found to contain TPHg ranging from 824 to 19,000 parts per billion (ppb); benzene concentrations ranging from 2 to 19,400 ppb; toluene concentrations ranging from ND to 4,540 ppb; ethylbenzene concentrations ranging from ND to 1,050 ppb; and xylenes concentrations ranging from ND to 9,050 ppb; TPHd , concentrations ranging from ND to 13,200 ppb. However, laboratory reported samples do not match the diesel pattern. The samples showed varied levels of response in the diesel range. The laboratory notes that applied to these samples showed that the results for diesel range hydrocarbons were for peaks that did not match the typical diesel pattern. These samples, with high gasoline values, give responses in the diesel range. These results are typical for samples with high gasoline contaminants and do not indicate the presence of diesel fuel. MTBE were detected in groundwater samples concentrations ranging from ND to 16,600 ppb. **Tertiary Butyl Alcohol** was detected in groundwater samples from MW-2, MW-3, MW-7 and MW-8 at 386, 5,670, 576 and 2,830 ppb, respectively. **Tertiary Amyl Methyl Ether** was detected in groundwater samples MW-3, MW-7 and MW-8 at 73, 4 and 64 ppb, respectively. No other fuel oxygenates were detected. TPHg concentrations in groundwater are presented in Figure 4. MTBE concentrations in groundwater are presented in Figure 5. Benzene concentrations in groundwater are presented in Figure 6. TPHd concentrations in groundwater are presented in Figure 7.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The next monitoring event scheduled for the site is February 2003. The analytical results for this sampling event detected high concentrations of TPHg, MTBE and benzene in MW-9, MW-8, MW-7, MW-4 and MW-3. Laboratory reported samples do not match diesel pattern. AARS just completed a pilot study for in-situ bioremediation for a site in San Jose. The results are very encouraging. AARS recommends that we conduct a Feasibility Study/Interim corrective Action Plan for an expedited clean up and closure of 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

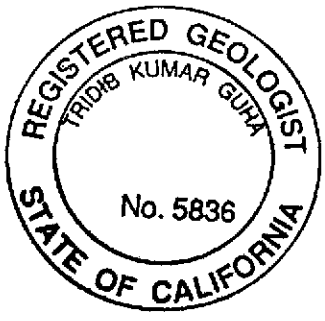


TABLE 1: SURVEY AND WATER LEVEL MONITORING DATA
Albany Hill Mini Mart
800 San Pablo Avenue
Albany, California

Well No.	Date of Measurement	Casing Elevation (Feet - Relative)	Depth to Groundwater (Feet - Relative)	Product Thickness (Feet)	Groundwater Elevation (Feet - Relative)
MW-1	8/6/99	101.68	11.95	0	89.73
	11/5/99	101.68	12.72	0	88.96
	2/7/00	101.68	10.34	0	91.34
	5/5/00	101.68	10.59	0	91.09
	8/3/00	101.68	11.75	0	89.93
	11/8/00	101.68	11.67	0	90.01
	2/8/01	101.68	11.2	0	90.48
	6/7/01	101.68	11.35	0	90.33
	9/7/01	101.68	11.71	0	89.97
	12/13/01	101.68	10.67	0	91.01
	6/13/02	101.68	11.42	0	90.26
	6/13/02	101.68	12.42	0	89.26
MW-2	8/6/99	101.57	10.83	0	90.74
	11/5/99	101.57	11.66	0	89.91
	2/7/00	101.57	9.23	0	92.34
	5/5/00	101.57	9.54	0	92.03
	8/3/00	101.57	10.69	0	90.88
	11/8/00	101.57	10.62	0	90.95
	2/8/01	101.57	10.17	0	91.4
	6/7/01	101.57	10.3	0	91.27
	9/7/01	101.57	10.65	0	90.92
	12/13/01	101.57	9.65	0	91.92
	6/13/02	101.57	10.37	0	91.2
	9/11/02	101.57	11.32	0	90.25
MW-3	8/6/99	100.33	10.58	0	89.75
	11/5/99	100.33	11.39	0	88.94
	2/7/00	100.33	9.05	0	91.28
	5/5/00	100.33	9.29	0	91.04
	8/3/00	100.33	10.43	0	89.9
	11/8/00	100.33	10.33	0	90
	2/8/01	100.33	9.94	0	90.39
	6/7/01	100.33	10.04	0	90.29
	9/7/01	100.33	10.31	0	90.02
	12/13/01	100.33	9.38	0	90.95
	6/13/02	100.33	10.03	0	90.3
	9/11/02	100.33	11.02	0	89.31
					Continued

AARS

TABLE 1: SURVEY AND WATER LEVEL MONITORING DATA (Contd.)					
MW-4	6/13/02	100.05	10.18	0	89.87
MW-4	9/11/02	100.05	11.12	0	88.93
MW-5	6/13/02	98.37	8.88	0	89.49
MW-5	9/11/02	98.37	9.95	0	88.42
MW-6	6/13/02	99.36	8.85	0	90.51
MW-6	9/11/02	99.36	9.82	0	89.54
MW-7	6/13/02	100.96	10.95	0	90.01
MW-7	9/11/02	100.96	11.9	0	89.06
MW-8	6/13/02	100.54	10.57	0	89.97
MW-8	9/11/02	100.54	11.53	0	89.01

Note: A bench mark, with an 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 on July 30, 1999. On July 8, 2002, the top of the well casing elevations for MW-4 through MW-8 were surveyed with reference to the benchmark.

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 ug/L	MTBE ug/L	Benzene ug/L	Toluene ug/L	Ethylbenzene ug/L	Xylenes ug/L	TPHd ug/L
MW-1 GW	8/6/99	1500	ND	4.3	2.9	9.1	28	1200
	8/6/99	Polynuclear Aromatic Hydrocarbon Analyses by EPA method 610 were non-detect with detection limit 1.0 ug/L						
	11/5/99	1800	ND	5.1	3.2	8.9	33	1400
	2/7/00	1100	ND	3.3	1.9	5.6	21	890
	5/7/00	970	ND	2.9	1.7	4.9	18	650
	8/3/00	1200	360	190	43	41	160	**270
	11/8/00	4200	*840	990	200	130	560	**230
	2/8/01	2800	390	630	130	51	250	**380
	6/7/01	650	320	97	13	20	62	190
	9/7/01	970	460	260	17	44	140	400
	12/13/01	291	499	91.7	1.4	17.4	7.2	ND
	6/13/02	5120	325	1860	22	316	318	**2160
	11/11/02	824	290	216	ND	22	20	ND
MW-2 GW	8/6/99	ND	ND	ND	ND	ND	ND	340
	11/5/99	ND	ND	ND	ND	ND	0.7	420
	2/7/00	ND	ND	ND	ND	ND	0.6	310
	5/7/00	ND	ND	ND	ND	ND	ND	280
	8/3/00	460	3300	79	3	43	8	**70
	11/8/00	200	3000	57	2	13	8	120
	2/8/01	290	3100	50	1	0.6	4	80
	6/7/01	210	2000	18	0.6	3	5	80
	9/7/01	230	2400	51	ND	8	8	ND
	12/13/01	172	1780	53	1.2	7.7	8.4	ND
	6/13/02	86	1830	6	6.7	1.1	4.5	ND
	11/11/02	1040	1250	5	1	ND	5	ND
MW-3 GW	8/6/99	ND	ND	ND	ND	ND	ND	ND
	11/5/99	92	ND	ND	ND	0.6	1.7	54
	2/7/00	120	ND	ND	0.6	0.8	2.2	71
	5/7/00	100	ND	ND	ND	0.7	1.9	68
	8/3/00	910	*11000	220	9	35	16	**300
	11/8/00	990	8000	320	0.8	18	9	200
	2/8/01	990	*5200	180	21	7	24	110
	6/7/01	370	*6600	62	4	8	13	140
	9/7/01	460	*9400	87	1	11	25	ND
	12/13/01	251	6610	66.8	0.9	2.6	8.4	ND
	6/13/02	3630	*8820	41	60	41	187	ND
	11/11/02	6210	7770	150	ND	5	ND	ND

CONTINUED

TABLE 2: SUMMARY OF ANALYTICAL RESULTS OF GROUNDWATER SAMPLING (Continued)								
MW-4/GW	6/13/02	4460	32	425	409	115	730	**1500
MW-4/GW	11/11/02	5150	ND	2010	74	399	252	**2380
MW-5/GW	6/13/02	536	11	6.4	0.6	22	23	ND
MW-5/GW	11/11/02	3270	ND	ND	ND	28	8	**1230
MW-6/GW	6/13/02	2980	310	31	2.3	3.8	12	**1460
MW-6/GW	11/11/02	3570	95	336	5	ND	ND	**1210
MW-7/GW	6/13/02	24100	951	2310	657	945	5430	**1570
MW-7/GW	11/11/02	4760	702	1820	21	316	1141	**2160
MW-8/GW	6/13/02	20000	12000	2200	1140	1050	4090	**7760
MW-8/GW	11/11/02	5010	16600	187	ND	15	ND	**2010
MW-9/GW	6/27/02	19000	ND	1430	1750	501	5410	NS
MW-9/GW	11/11/02	19000	549	3390	4540	1020	9050	**13200
SB-1/TW	6/7/01	1400	33	120	160	48	240	**250
SB-2/TW	6/7/01	8900	26	1100	1900	280	1300	**770
SB-3/TW	6/7/01	2400	3600	280	31	110	340	**430
SB-4/TW	6/7/01	8800	*4500	1400	190	86	230	**19000
SB-6/GW	6/6/02	4270	*5300	332	226	127	511	**1340
RL		50	0.5	0.5	0.5	0.5	1	50

Notes:

ND- Not Detected RL- Reporting Limit

ug/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 8020; after 9/24/01 by Method 8260)

BTEX- Benzene, toluene, ethylbenzene, and xylenex (EPA Method 8020)

PAH- Polynuclear Atomic Hydrocarbon (EPA method 610)

Fuel Oxygenates: Ethanol (non-detect), Di-isopropyl Ether (non-detect), Ethyl-t-Butyl Ether (non-detect)
Tertiary Butyl Alcohol (MW-2, MW-3, MW-7 and MW-8 at 386, 5670, 576 and 2830 ppb respectively)
Tertiary Amyl Methyl Ether (MW-3, MW-7 and MW-8 at 73, 4, 64 ppb respectively),
(EPA Method 8260)

** Does not match diesel pattern

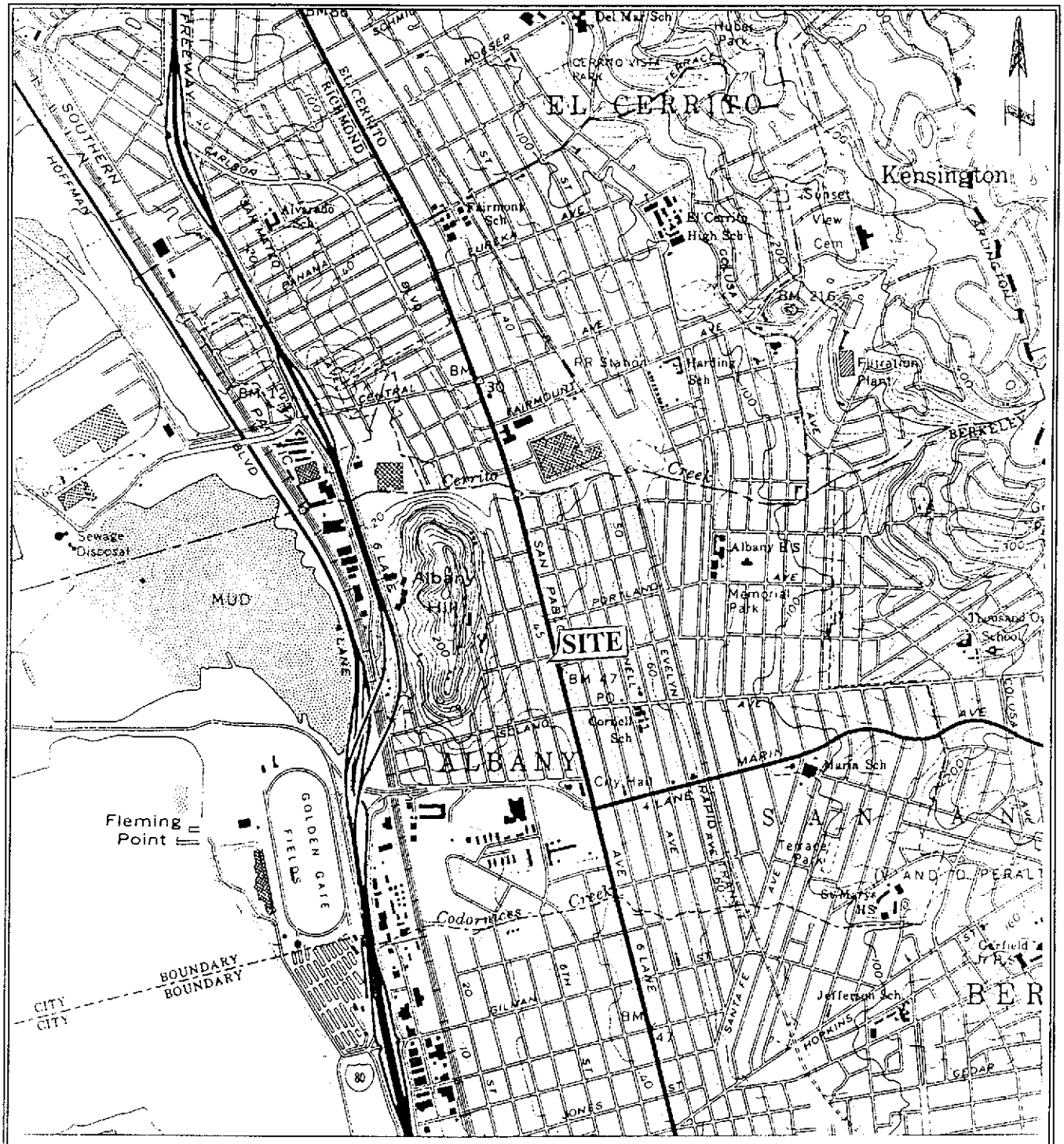
* Confirmed by GC/MS method 8260

TABLE 3: FIELD PARAMETERS OF GROUNDWATER SAMPLING
Albany Hill Mini Mart
800 San Pablo Avenue
Albany , California

Sample I.D. No.	Date of Sampling	Temperature °F	pH	Conductivity uS
MW-1	6/13/02	65.6	7.43	2168
MW-1	11/11/02	65.6	6.84	1952
MW-2	6/13/02	67.3	7.23	1023
MW-2	11/11/02	67.8	7.46	932
MW-3	6/13/02	68.6	7.39	1437
MW-3	11/11/02	69.4	7.02	1340
MW-4	6/13/02	66.2	7.07	4287
MW-4	11/11/02	65.8	6.86	3012
MW-5	6/13/02	66.1	7.17	2888
MW-5	11/11/02	67.3	7.05	648
MW-6	6/13/02	66.2	7.08	2112
MW-6	11/11/02	68.9	6.86	1038
MW-7	6/13/02	65.5	7.1	3638
MW-7	11/11/02	64.8	6.9	2646
MW-8	6/13/02	65.6	7.18	3886
MW-8	11/11/02	65.4	6.97	2094
MW-9	6/13/02	66.5	7.04	1174

Note:

°F = degree Fahrenheit
uS = microSiemens



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

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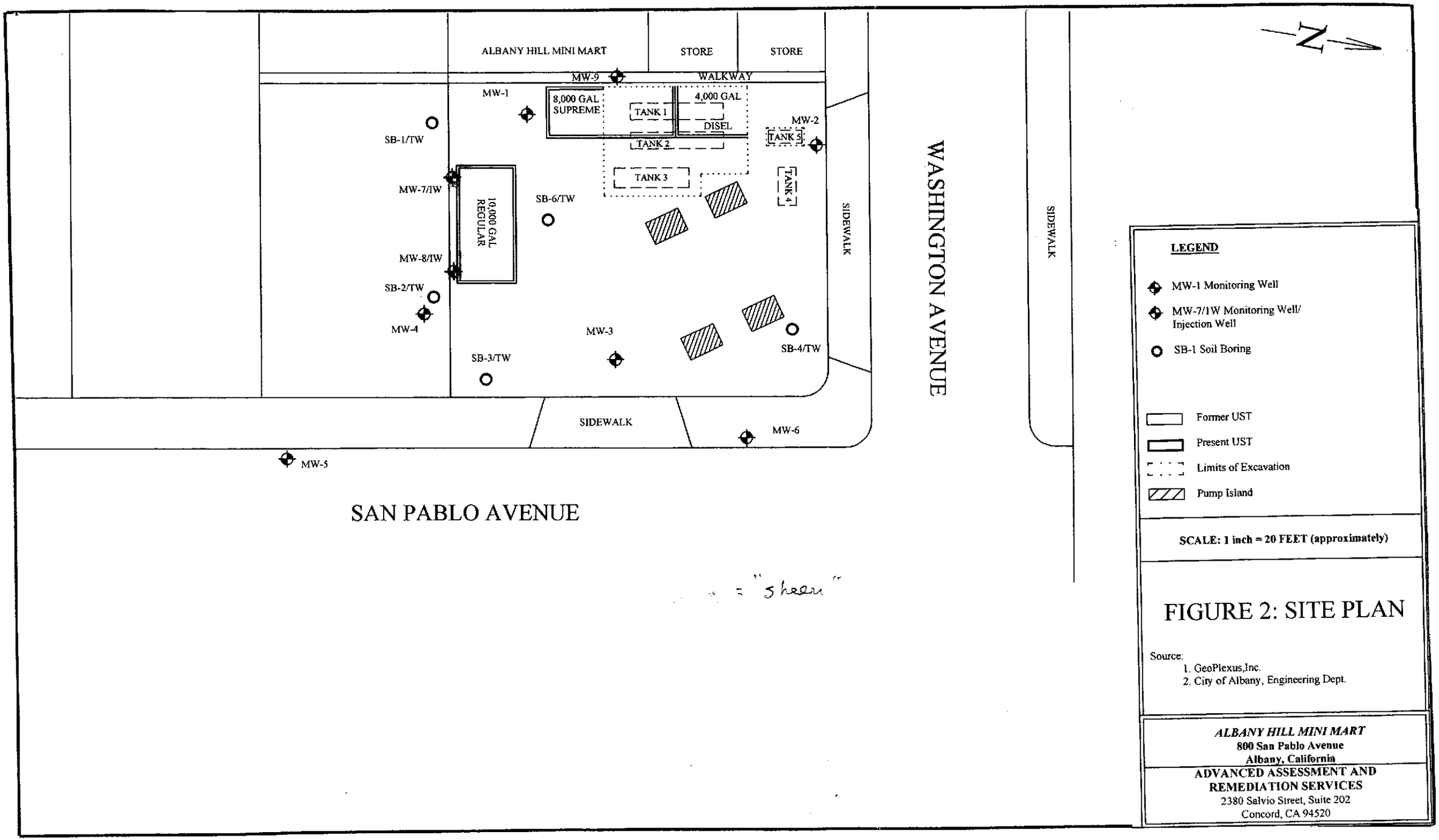
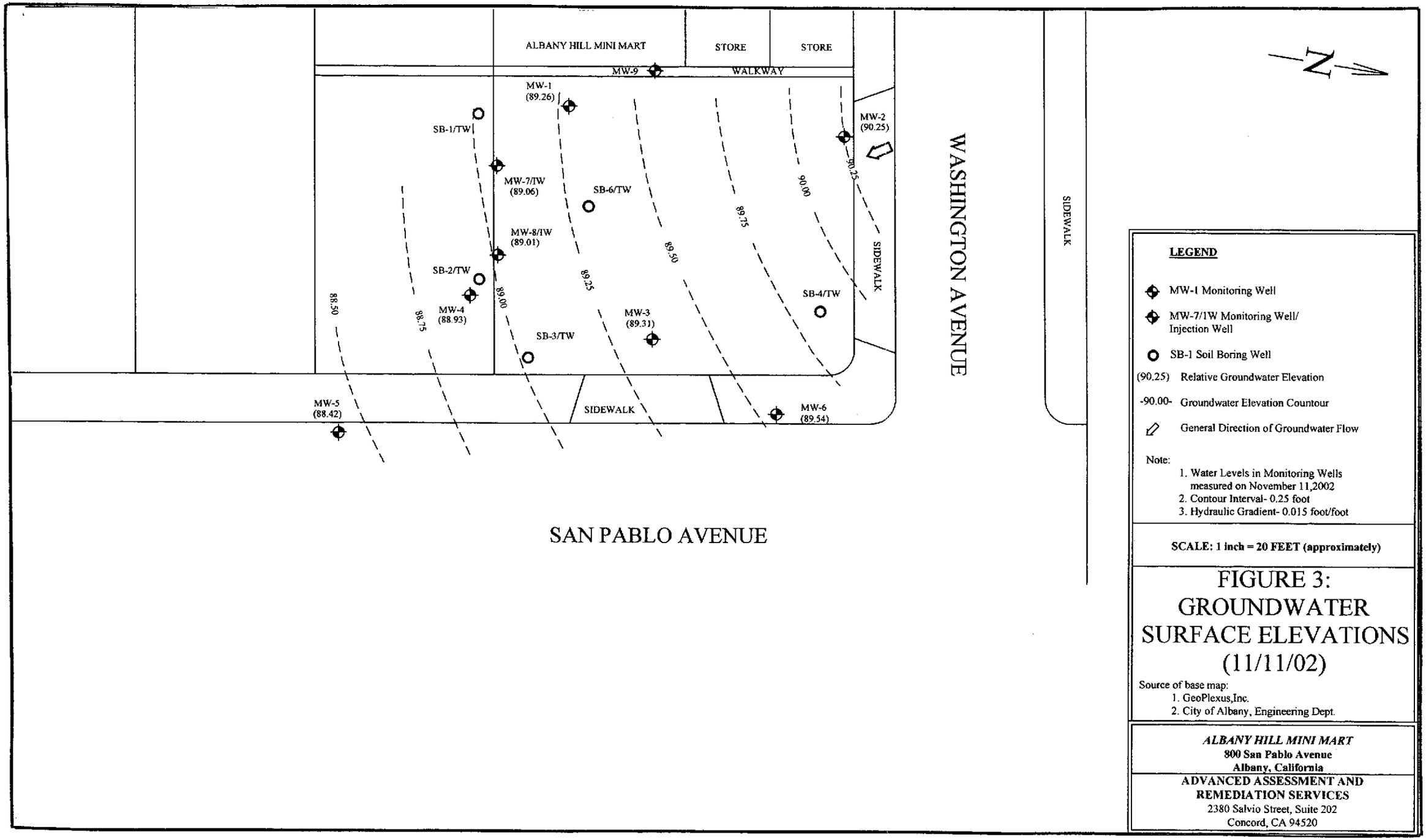
2380 Salvio Street, Suite 202
Concord, California


ALBANY HILL MINI MART
STORE
STORE
WALKWAY
MW-9
MW-1
8,000 GAL SUPREME
TANK 1
4,000 GAL
DISEL
TANK 2
TANK 3
TANK 4
TANK 5
MW-2
SB-1/TW
MW-7/IW
10,000 GAL REGULAR
SB-6/TW
MW-8/IW
SB-2/TW
MW-4
MW-3
SB-3/TW
SB-4/TW
SIDEWALK
MW-6
MW-5
SAN PABLO AVENUE
WASHINGTON AVENUE
SIDEWALK
N
LEGEND
MW-1 Monitoring Well
MW-7/1W Monitoring Well/ Injection Well
SB-1 Soil Boring
Former UST
Present UST
Limits of Excavation
Pump Island
SCALE: 1 inch = 20 FEET (approximately)
FIGURE 2: SITE PLAN
Source:
1. GeoPlexus,Inc.
2. City of Albany, Engineering Dept.
ALBANY HILL MINI MART
800 San Pablo Avenue
Albany, California
ADVANCED ASSESSMENT AND REMEDIATION SERVICES
2380 Salvio Street, Suite 202
Concord, CA 94520



LEGEND

- MW-1 Monitoring Well
- MW-7/1W Monitoring Well/ Injection Well
- SB-1 Soil Boring Well
- (90.25) Relative Groundwater Elevation
- -90.00- Groundwater Elevation Countour
- General Direction of Groundwater Flow

Note:

1. Water Levels in Monitoring Wells measured on November 11,2002
2. Contour Interval- 0.25 foot
3. Hydraulic Gradient- 0.015 foot/foot

SCALE: 1 inch = 20 FEET (approximately)

FIGURE 3: GROUNDWATER SURFACE ELEVATIONS (11/11/02)

Source of base map:

1. GeoPlexus,Inc.
2. City of Albany, Engineering Dept.

ALBANY HILL MINI MART
800 San Pablo Avenue
Albany, California

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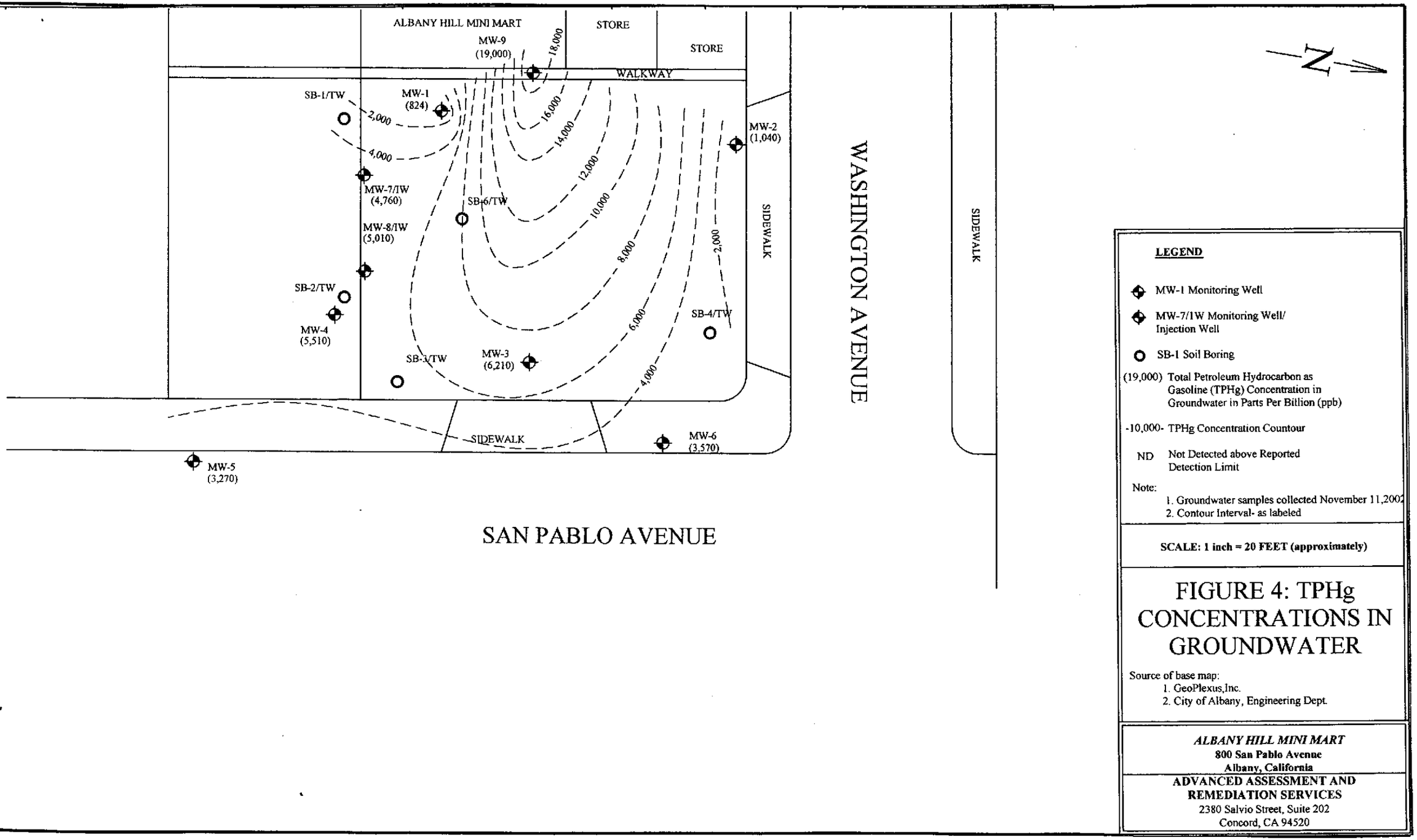
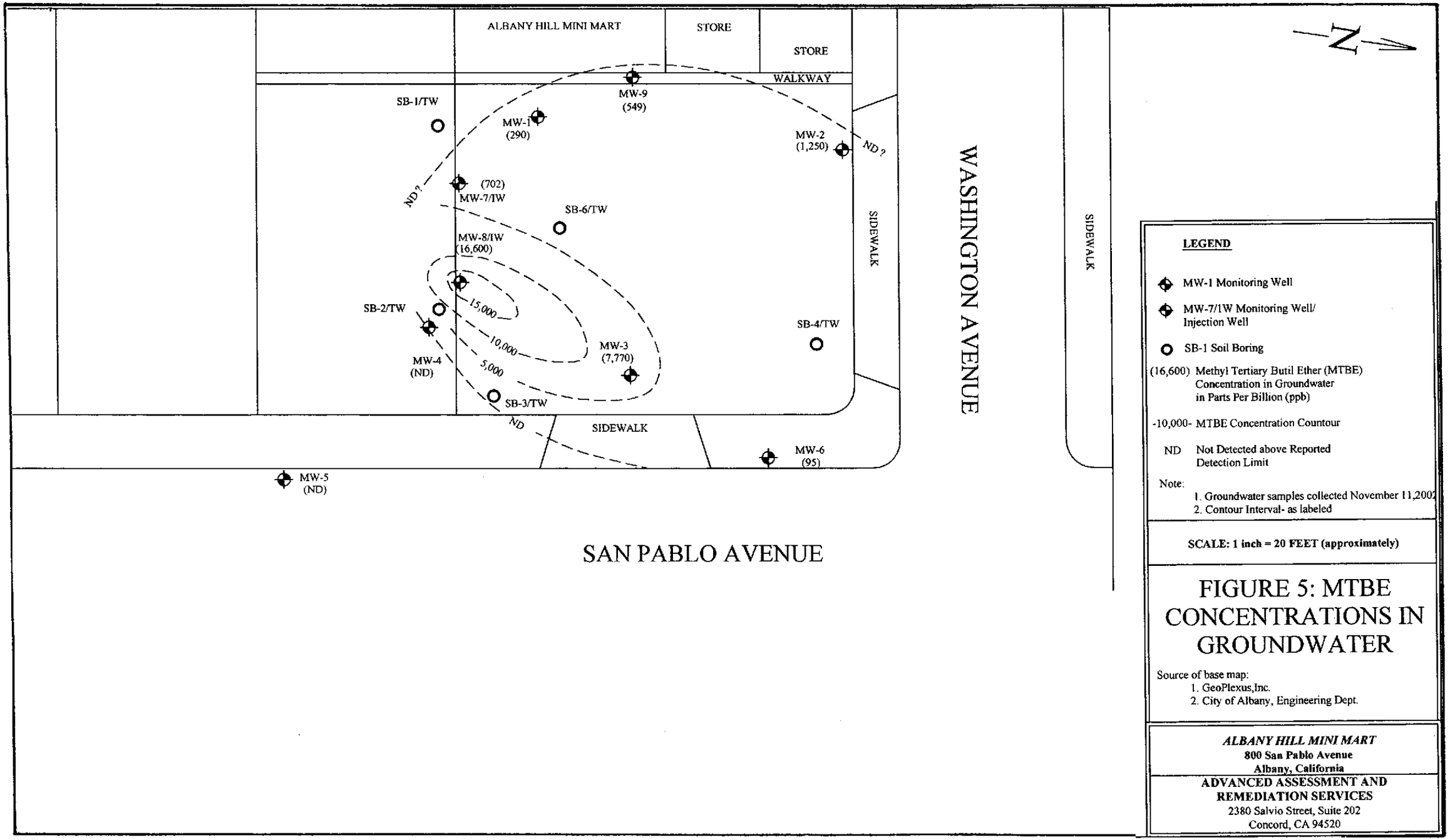
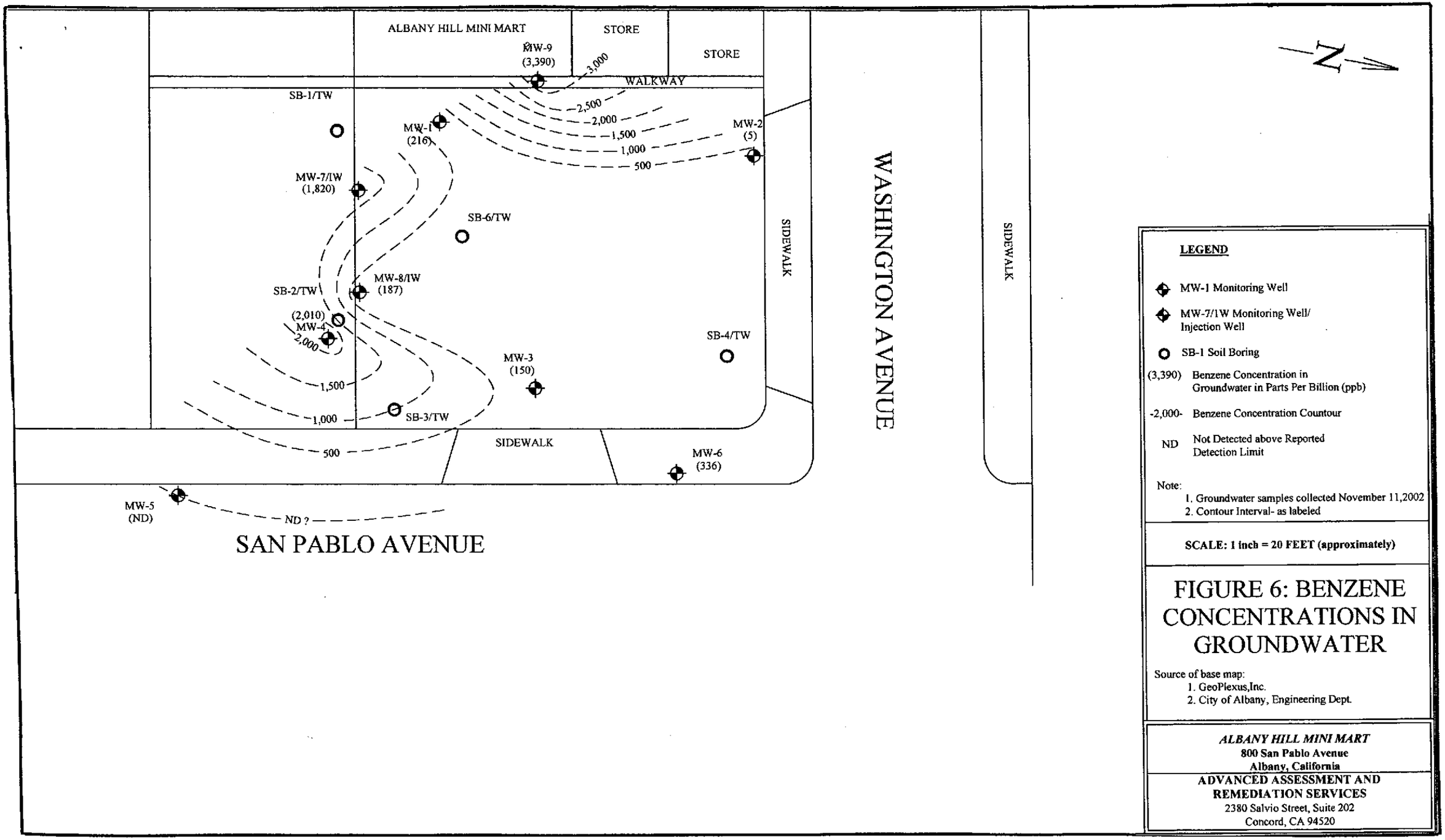
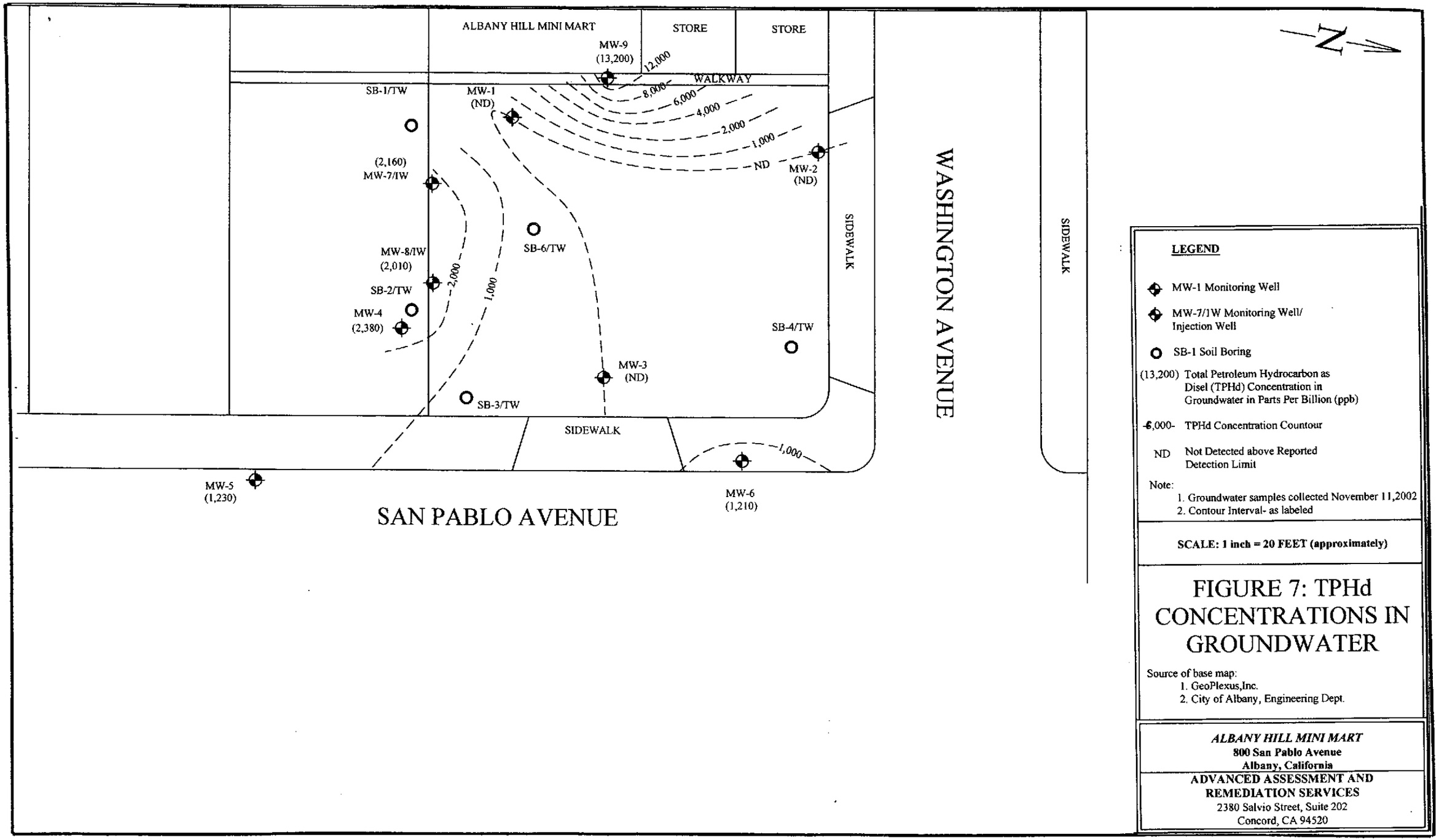

ALBANY HILL MINI MART
STORE
STORE
WALKWAY
MW-9
(19,000)
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
SB-1/TW
MW-1
(824)
2,000
4,000
MW-2
(1,040)
MW-7/1W
(4,760)
SB-6/TW
MW-8/1W
(5,010)
SB-2/TW
MW-4
(5,510)
SB-4/TW
SB-3/TW
MW-3
(6,210)
SIDEWALK
SIDEWALK
MW-6
(3,570)
MW-5
(3,270)
WASHINGTON AVENUE
SIDEWALK
SAN PABLO AVENUE
N
LEGEND
MW-1 Monitoring Well
MW-7/1W Monitoring Well/ Injection Well
SB-1 Soil Boring
(19,000) Total Petroleum Hydrocarbon as Gasoline (TPHg) Concentration in Groundwater in Parts Per Billion (ppb)
-10,000- TPHg Concentration Countour
ND Not Detected above Reported Detection Limit
Note:
1. Groundwater samples collected November 11,2002
2. Contour Interval- as labeled
SCALE: 1 inch = 20 FEET (approximately)
FIGURE 4: TPHg CONCENTRATIONS IN GROUNDWATER
Source of base map:
1. GeoPlexus,Inc.
2. City of Albany, Engineering Dept.
ALBANY HILL MINI MART
800 San Pablo Avenue
Albany, California
ADVANCED ASSESSMENT AND REMEDIATION SERVICES
2380 Salvio Street, Suite 202
Concord, CA 94520


ALBANY HILL MINI MART
STORE
STORE
WALKWAY
MW-9
(549)
SB-1/TW
MW-1
(290)
MW-2
(1,250)
ND ?
ND ?
(702)
MW-7/IW
SB-6/TW
MW-8/IW
(16,600)
SB-2/TW
15,000
10,000
5,000
MW-3
(7,770)
MW-4
(ND)
SB-4/TW
SB-3/TW
ND
SIDEWALK
SIDEWALK
WASHINGTON AVENUE
SIDEWALK
MW-6
(95)
MW-5
(ND)
SAN PABLO AVENUE
N
LEGEND
MW-1 Monitoring Well
MW-7/1W Monitoring Well/ Injection Well
SB-1 Soil Boring
(16,600) Methyl Tertiary Butil Ether (MTBE) Concentration in Groundwater in Parts Per Billion (ppb)
-10,000- MTBE Concentration Countour
ND Not Detected above Reported Detection Limit
Note:
1. Groundwater samples collected November 11,2002
2. Contour Interval- as labeled
SCALE: 1 inch = 20 FEET (approximately)
FIGURE 5: MTBE CONCENTRATIONS IN GROUNDWATER
Source of base map:
1. GeoPlexus,Inc.
2. City of Albany, Engineering Dept.
ALBANY HILL MINI MART
800 San Pablo Avenue
Albany, California
ADVANCED ASSESSMENT AND REMEDIATION SERVICES
2380 Salvio Street, Suite 202
Concord, CA 94520


ALBANY HILL MINI MART
STORE
STORE
MW-9
(3,390)
3,000
WALKWAY
SB-1/TW
MW-1
(216)
2,500
2,000
1,500
1,000
500
MW-2
(5)
MW-7/IW
(1,820)
SB-6/TW
SIDEWALK
WASHINGTON AVENUE
SIDEWALK
MW-8/IW
(187)
SB-2/TW
(2,010)
MW-4
2,000
SB-4/TW
MW-3
(150)
1,500
1,000
SB-3/TW
500
SIDEWALK
MW-6
(336)
MW-5
(ND)
ND ?
SAN PABLO AVENUE
N
LEGEND
MW-1 Monitoring Well
MW-7/1W Monitoring Well/ Injection Well
SB-1 Soil Boring
(3,390) Benzene Concentration in Groundwater in Parts Per Billion (ppb)
-2,000- Benzene Concentration Countour
ND Not Detected above Reported Detection Limit
Note:
1. Groundwater samples collected November 11,2002
2. Contour Interval- as labeled
SCALE: 1 inch = 20 FEET (approximately)
FIGURE 6: BENZENE CONCENTRATIONS IN GROUNDWATER
Source of base map:
1. GeoPlexus,Inc.
2. City of Albany, Engineering Dept.
ALBANY HILL MINI MART
800 San Pablo Avenue
Albany, California
ADVANCED ASSESSMENT AND REMEDIATION SERVICES
2380 Salvio Street, Suite 202
Concord, CA 94520


ALBANY HILL MINI MART
STORE
STORE
MW-9
(13,200)
12,000
WALKWAY
SB-1/TW
MW-1
(ND)
8,000
6,000
4,000
2,000
1,000
ND
MW-2
(ND)
(2,160)
MW-7/IW
SB-6/TW
MW-8/IW
(2,010)
2,000
1,000
SB-2/TW
MW-4
(2,380)
SB-4/TW
MW-3
(ND)
SB-3/TW
SIDEWALK
SIDEWALK
WASHINGTON AVENUE
SIDEWALK
1,000
MW-5
(1,230)
MW-6
(1,210)
SAN PABLO AVENUE
N
LEGEND
MW-1 Monitoring Well
MW-7/1W Monitoring Well/ Injection Well
SB-1 Soil Boring
(13,200) Total Petroleum Hydrocarbon as Disel (TPHd) Concentration in Groundwater in Parts Per Billion (ppb)
-6,000- TPHd Concentration Countour
ND Not Detected above Reported Detection Limit
Note:
1. Groundwater samples collected November 11,2002
2. Contour Interval- as labeled
SCALE: 1 inch = 20 FEET (approximately)
FIGURE 7: TPHd CONCENTRATIONS IN GROUNDWATER
Source of base map:
1. GeoPlexus,Inc.
2. City of Albany, Engineering Dept.
ALBANY HILL MINI MART
800 San Pablo Avenue
Albany, California
ADVANCED ASSESSMENT AND REMEDIATION SERVICES
2380 Salvio Street, Suite 202
Concord, CA 94520

Case Narrative

North State Environmental, South San Francisco, CA

Report Date: 11/18/2002	Project: ALBANY HILL MINI MART 800
Report Number: 02-1617	Order #: 02-1617

Nine water samples were analyzed for Fuel Oxygenates, Gasoline and BTEX by GC/MS method 8260, and Diesel by CATHF. No errors occurred during analysis.

Approved by: _____ Date: 11/18/02

North State Labs
CA ELAP # 1753
90 South Spruce Avenue, Suite V • South San Francisco, CA 94080 • **(650) 266-4563** • FAX (650) 266-4560

C E R T I F I C A T E O F A N A L Y S I S

Job Number: 02-1617
Client : Advanced Assessment & Remd.
Project : ALBANY HILL MINI MART 800 SAN PABLO

Date Sampled : 11/11/2002
Date Analyzed: 11/15/2002
Date Reported: 11/18/2002

Volatile Organics by GC/MS Method 8260

Laboratory Number	02-1617-01	02-1617-02	02-1617-03	02-1617-04	02-1617-05
Client ID	MW-1/GW	MW-2/GW	MW-3/GW	MW-4/GW	MW-5/GW
Matrix	W	W	W	W	W
Analyte	UG/L	UG/L	UG/L	UG/L	UG/L
Methyl-tert-butyl ether	**290**	**1250**	**7770**	ND<20	ND<1
Ethyl tert-butyl ether	ND<5	ND<1	ND<1	ND<20	ND<1
tert-Amyl methyl ether	ND<5	ND<1	**73**	ND<20	ND<1
Di-isopropyl ether (DIPE)	ND<5	ND<1	ND<1	ND<20	ND<1
tert-Butyl alcohol	ND<250	**386**	**5670**	ND<1000	ND<50
1,2-Dichloroethane	ND<5	ND<1	ND<1	ND<20	ND<1
1,2-Dibromoethane	ND<5	ND<1	ND<1	ND<20	ND<1
Ethanol	ND<500	ND<100	ND<100	ND<2000	ND<100
Benzene	216	5	150	2010	ND<1
Toluene	ND<5	1	ND<1	74	ND<1
Ethylbenzene	22	ND<1	5	399	28
Xylene, Isomers m & p	20	4	ND<2	252	8
o-xylene	ND<5	1	ND<1	ND<20	ND<1
Gasoline Range Organics	824	1040	6210	5150	3270
SUR-Dibromofluoromethane	97	100	123	103	126
SUR-Toluene-d8	109	111	113	104	117
SUR-4-Bromofluorobenzene	100	102	118	104	116

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C E R T I F I C A T E O F A N A L Y S I S

Job Number: 02-1617
Client : Advanced Assessment & Remd.
Project : ALBANY HILL MINI MART 800 SAN PABLO

Date Sampled : 11/11/2002
Date Analyzed: 11/15/2002
Date Reported: 11/18/2002

Volatile Organics by GC/MS Method 8260

Laboratory Number	02-1617-06	02-1617-07	02-1617-08	02-1617-09
Client ID	MW-6/GW	MW-7/GW	MW-8/GW	MW-9/GW
Matrix	W	W	W	W
Analyte	UG/L	UG/L	UG/L	UG/L
Methyl-tert-butyl ether	**95**	**702**	**16600**	**549**
Ethyl tert-butyl ether	ND<5	ND<1	ND<1	ND<5
tert-Amyl methyl ether	ND<5	**4**	**64**	ND<5
Di-isopropyl ether (DIPE)	ND<5	ND<1	ND<1	ND<5
tert-Butyl alcohol	ND<250	**576**	**2830**	ND<250
1,2-Dichloroethane	ND<5	ND<1	ND<1	ND<5
1,2-Dibromoethane	ND<5	ND<1	ND<1	ND<5
Ethanol	ND<500	ND<100	ND<100	ND<500
Benzene	336	1820	187	3390
Toluene	5	21	ND<1	4540
Ethylbenzene	ND<5	316	15	1020
Xylene, Isomers m & p	ND<10	946	ND<2	6200
o-xylene	ND<5	195	ND<1	2850
Gasoline Range Organics	3570	4760	5010	19000
SUR-Dibromofluoromethane	107	120	100	128
SUR-Toluene-d8	107	113	101	112
SUR-4-Bromofluorobenzene	101	120	104	117

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C E R T I F I C A T E O F A N A L Y S I S

Job Number: 02-1617
Client : Advanced Assessment & Remd.
Project : ALBANY HILL MINI MART 800 SAN PABLO

Date Sampled : 11/11/2002
Date Analyzed: 11/15/2002
Date Reported: 11/18/2002

Volatile Organics by GC/MS Method 8260
Quality Control/Quality Assurance Summary

Laboratory Number	02-1617	MS/MSD	RPD	Recovery	RPD
Client ID	Blank	Recovery		Limit	Limit
Matrix	W	W			
Analyte	Results UG/L	%Recoveries			
Methyl-tert-butyl ether	ND<1				
Ethyl tert-butyl ether	ND<1				
tert-Amyl methyl ether	ND<1				
Di-isopropyl ether (DIPE)	ND<1				
tert-Butyl alcohol	ND<50				
1,2-Dichloroethane	ND<1				
1,2-Dibromoethane	ND<1				
Ethanol	ND<100				
Benzene	ND<1	106/104	2	74-135	21
Toluene	ND<1	112/110	2	61-141	19
Ethylbenzene	ND<1				
Xylene, Isomers m & p	ND<2				
o-xylene	ND<1				
Gasoline Range Organics	ND<50				
Chlorobenzene	ND<2	106/104	2	70-139	19
1,1-Dichloroethene	ND<1	80/78	3	61-121	25
Trichloroethene	ND<2	94/92	2	69-129	20
SUR-Dibromofluoromethane	107	117/118	1	67-129	21
SUR-Toluene-d8	109	108/112	4	72-119	16
SUR-4-Bromofluorobenzene	101	107/110	3	78-121	19

Reviewed and Approved

John A. Murphy
Laboratory Director

North State Labs
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C E R T I F I C A T E O F A N A L Y S I S

Lab Number: 02-1617
Client: Advanced Assessment & Remd.
Project: ALBANY HILL MINI MART 800 SAN PABLO

Date Reported: 11/18/2002

Diesel Range Hydrocarbons by Method CATFH

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 02-1617-01 Client ID: MW-1/GW				11/11/2002	W
Diesel Fuel #2	CATFH	ND<0.05	MG/L		11/15/2002
Sample: 02-1617-02 Client ID: MW-2/GW				11/11/2002	W
Diesel Fuel #2	CATFH	ND<0.05	MG/L		11/15/2002
Sample: 02-1617-03 Client ID: MW-3/GW				11/11/2002	W
Diesel Fuel #2	CATFH	ND<0.05	MG/L		11/15/2002
Sample: 02-1617-04 Client ID: MW-4/GW				11/11/2002	W
Diesel Fuel #2	CATFH	*2.38	MG/L		11/15/2002
Sample: 02-1617-05 Client ID: MW-5/GW				11/11/2002	W
Diesel Fuel #2	CATFH	*1.23	MG/L		11/15/2002
Sample: 02-1617-06 Client ID: MW-6/GW				11/11/2002	W
Diesel Fuel #2	CATFH	*1.21	MG/L		11/15/2002
Sample: 02-1617-07 Client ID: MW-7/GW				11/11/2002	W
Diesel Fuel #2	CATFH	*2.16	MG/L		11/15/2002

*Does not match diesel.

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C E R T I F I C A T E O F A N A L Y S I S

Lab Number: 02-1617
Client: Advanced Assessment & Remd.
Project: ALBANY HILL MINI MART 800 SAN PABLO

Date Reported: 11/18/2002

Diesel Range Hydrocarbons by Method CATFH

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 02-1617-08 Client ID: MW-8/GW				11/11/2002	W
Diesel Fuel #2	CATFH	*2.01	MG/L		11/15/2002
Sample: 02-1617-09 Client ID: MW-9/GW				11/11/2002	W
Diesel Fuel #2	CATFH	*13.2	MG/L		11/16/2002

*Does not match diesel.

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C E R T I F I C A T E O F A N A L Y S I S

Quality Control/Quality Assurance

Lab Number: 02-1617
Client: Advanced Assessment & Remd.
Project: ALBANY HILL MINI MART 800 SAN PABLO

Date Reported: 11/18/2002

Diesel Range Hydrocarbons by Method CATFH

Analyte	Method	Reporting Limit	Unit	Blank	Avg MS/MSD Recovery	RPD
Diesel Fuel #2	CATFH	0.05	MG/L	ND	64/74	14

ELAP Certificate NO:1753
Reviewed and Approved

John A.Murphy, Laboratory Director

02-1617 .

North State Labs

90 South Spruce Avenue, Suite W, South San Francisco, CA 94080
Phone: (650) 266-4563 Fax: (650) 266-4560

Chain of Custody / Request for Analysis.
Lab Job No.:_____ Page 1 of 1

Client: ADVANCED ASSESSMENT & REMEDIATION SERVICES	Report to: TRIDIB GUHA	Phone: 925-363-1999	Turnaround Time: 5 DAYS
Mailing Address: 2380 SALVIO STREET, STE. 202 CONCORD, CA 94520	Billing to: SAME	Fax:	
		email: aars@earthlink.net	Date: 11-11-02
		PO# AHMM	Sampler: T. GUHA

Project / Site Address / Global ID: ALBANY HILL MINI MART 800 SAN PABLO AVE. ALBANY, CA.

Analysis Requested

Sample ID	Sample Type	Container No. / Type	Pres.	Sampling Date / Time	TPHS/MTBE FUEL OXY. 8260B	TPHd	EDF ☒ Field Point ID
MW-1/GW	WATER	2-VOAs 1-1L. AMB	HCL	11-11-02 / 11:30	X	X	NOTE:
MW-2/GW		2-VOAs 1-1L. AMB	HCL	11-11-02 / 11:10	X	X	GLOBAL ID
MW-3/GW		2-VOAs 1-1L. AMB	HCL	11-11-02 / 11:20	X	X	FROM PRIOR
MW-4/GW		2-VOAs 1-1L. AMB	HCL	11-11-02 / 12:10	X	X	AUGUST
MW-5/GW		2-VOAs 1-1L. AMB	HCL	11-11-02 / 11:50	X	X	CIELO ET.
MW-6/GW		2-VOAs 1-1L. AMB	HCL	11-11-02 / 12:00	X	X	AL.
MW-7/GW		2-VOAs 1-1L. AMB	HCL	11-11-02 / 12:20	X	X	SAMPLE ID
MW-8/GW		2-VOAs 1-1L. AMB	HCL	11-11-02 / 12:30	X	X	
MW-9/GW	↓	2-VOAs 1-1L AMB	HCL	11-11-02 / ~~12:40~~ 11:40	X	X	
							RECEIVED IN
							IICED IN GOOD
							CONDITION
							COLD @ 4°C

Relinquished by:	Date: 11-11-02	Time: 12:40	Received by: NSLABS	Lab Comments / Hazards
Relinquished by:	Date:	Time:	Received by:	
Relinquished by:	Date:	Time:	Received by:	