RO81

QUARTERLY GROUNDWATER MONITORING AND SAMPLING REPORT

at

SHEEHAN PROPERTY

845 Pacific Avenue

Alameda, California

Prepared for:

Mr. William J. Sheehan
1236 Bay Street
Alameda, California

July 14, 2003

ADVANCED ASSESSMENT AND REMEDIATION SERVICES

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July 14, 2003

Alameda County

JUL 17 2003

Environmental Health

Mr. Amir Gholami
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, California 94502

Subject: Submittal of Quarterly Groundwater Monitoring and Sampling Report for Sheehan Property at 845 Pacific Avenue, Alameda, California

Dear Mr Gholami:

Enclosed report presents the results and findings of June 2003, 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 William Sheehan, Alameda, California

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QUARTERLY GROUNDWATER MONITORING AND SAMPLING REPORT
For
Sheehan Property
845 Pacific Avenue
Alameda, California

1.0 INTRODUCTION

This report presents the results and findings of June 2003, quarterly groundwater monitoring and sampling performed at 845 Pacific Avenue, Alameda, 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 water level monitoring, field observations, sampling and analysis procedures, as well as 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 June 5, 2003, and survey data are 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 three monitoring wells, MW-1 through MW-3 were clear initially but with continual purging, some water turned turbid and some turned silty or muddy. However, water samples collected at the time of sampling were clear. Neither floating product nor sheen was observed in the groundwater samples from all three monitoring wells. However, a very strong petroleum odor was noticed in the groundwater samples from monitoring well, MW-2.

2.3 Sampling and Analytical Procedures

Groundwater samples were collected on June 5, 2003, following water level measurements. Samples were analyzed by North State Labs 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) 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 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 within 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 by using analytical methods SW8020F. TPHd by analytical methods SW8015M

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 June 5, 2003, is presented in Figure 3. The flow direction, based on groundwater level data, was toward the north-northeast with an average hydraulic gradient of 0.0115 foot per foot for this monitoring period. The average depth to stabilized groundwater in these wells was approximately 8 feet below ground surface.

3.2 Analytical Results

The analytical results for groundwater samples from monitoring well, MW-2, found to contain TPHd at a concentration 620 parts per billion (ppb) and TPHg at 132 ppb. However, laboratory reported the groundwater samples from MW-2 indicate diesel range compounds are significant but do not match the recognizable diesel pattern. TPHg and TPHd were not detected in groundwater samples from MW-1 and MW-3. MTBE and BTEX compounds were not detected in the groundwater samples from all three monitoring wells. TPHd concentrations in groundwater are presented in Figure 4.

4.0 CONCLUSIONS AND RECOMMENDATIONS

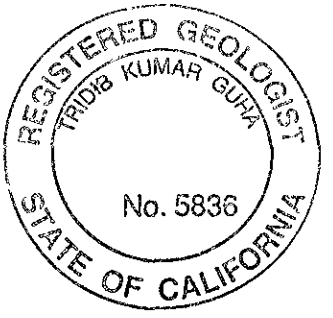
The next monitoring event scheduled for this site is September 2003. The report for the next monitoring event will contain tabulated data for all monitoring events for the site. The groundwater sampling and analytical results of this event is showing decreasing trend of petroleum hydrocarbon compounds in groundwater, since October 2002.

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 of a similar nature

Advanced Assessment and Remediation Services

Tridib K. Guha, R.G. 5836



TABLES

TABLE 1: SURVEY AND WATER LEVEL MONITORING DATA
SHEEHAN PROPERTY
845 Pacific Avenue
Alameda, California

Well No.	Date of Measurement	Casing Elevation (Feet - Relative)	Depth to Groundwater (Feet - Relative)	Product Thickness (Feet)	Groundwater Elevation (Feet - Relative)
MW-1	10/17/02	100	9.55	0	90.45
MW-1	3/7/03	100	6.78	0	93.22
MW-1	6/5/03	100	7.66	0	92.34
MW-2	10/17/02	100.8	10.61	0	90.19
MW-2	3/7/03	100.8	7.81	0	92.99
MW-2	6/5/03	100.8	8.7	0	92.1
MW-3	10/17/03	100.08	10.17	0	89.91
MW-3	3/7/03	100.08	7.39	0	92.69
MW-3	6/5/03	100.08	8.24	0	91.94

Notes:

1. Wellhead elevations surveyed relative to each other, from a common datum, but not tied to a benchmark.
2 The top of the casing elevation for MW-1 was assumed 100.00 feet (Above Mean Sea Level); all well elevations are relative to MW-1. The elevations at each well were taken on the top of the well casing on October 17, 2002.

AARS

TABLE 2: SUMMARY OF ANALYTICAL RESULTS OF GROUNDWATER SAMPLING

SHEEHAN PROPERTY

845 Pacific Avenue, Alameda, 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
B-1	5/14/97	ND	ND	2	2	3	9	ND
B-2	5/14/97	360	ND	ND	ND	1	15	2,000
B-3	5/14/97	3,200	ND	ND	ND	3	6	ND
B-4	5/14/97	6,100	ND	35	ND	27	160	430,000
B-5	5/14/97	3,100	27	2	0.5	19	34	65,000
SB-1/TW/GW	10/9/02	ND	*ND	ND	1	ND	ND	ND
MW-1/GW	10/17/02	**71	ND	ND	ND	ND	2	ND
MW-1/GW	3/7/03	ND	ND	ND	ND	ND	ND	130
MW-1/GW	6/5/03	ND	ND	ND	ND	ND	ND	ND
MW-2/GW	10/17/02	**809	*ND	ND	1.2	1.2	5.7	4,490
MW-2/GW	3/7/03	**100	ND	ND	ND	ND	ND	640
MW-2/GW	6/5/03	**132	ND	ND	ND	ND	ND	620
MW-3/GW	10/17/02	ND	ND	ND	ND	ND	ND	ND
MW-3/GW	3/7/03	ND	ND	ND	ND	ND	ND	68
MW-3/GW	6/5/03	ND	ND	ND	ND	ND	ND	ND
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)

** Does not match gasoline pattern

* Confirmed by GC/MS method 8260

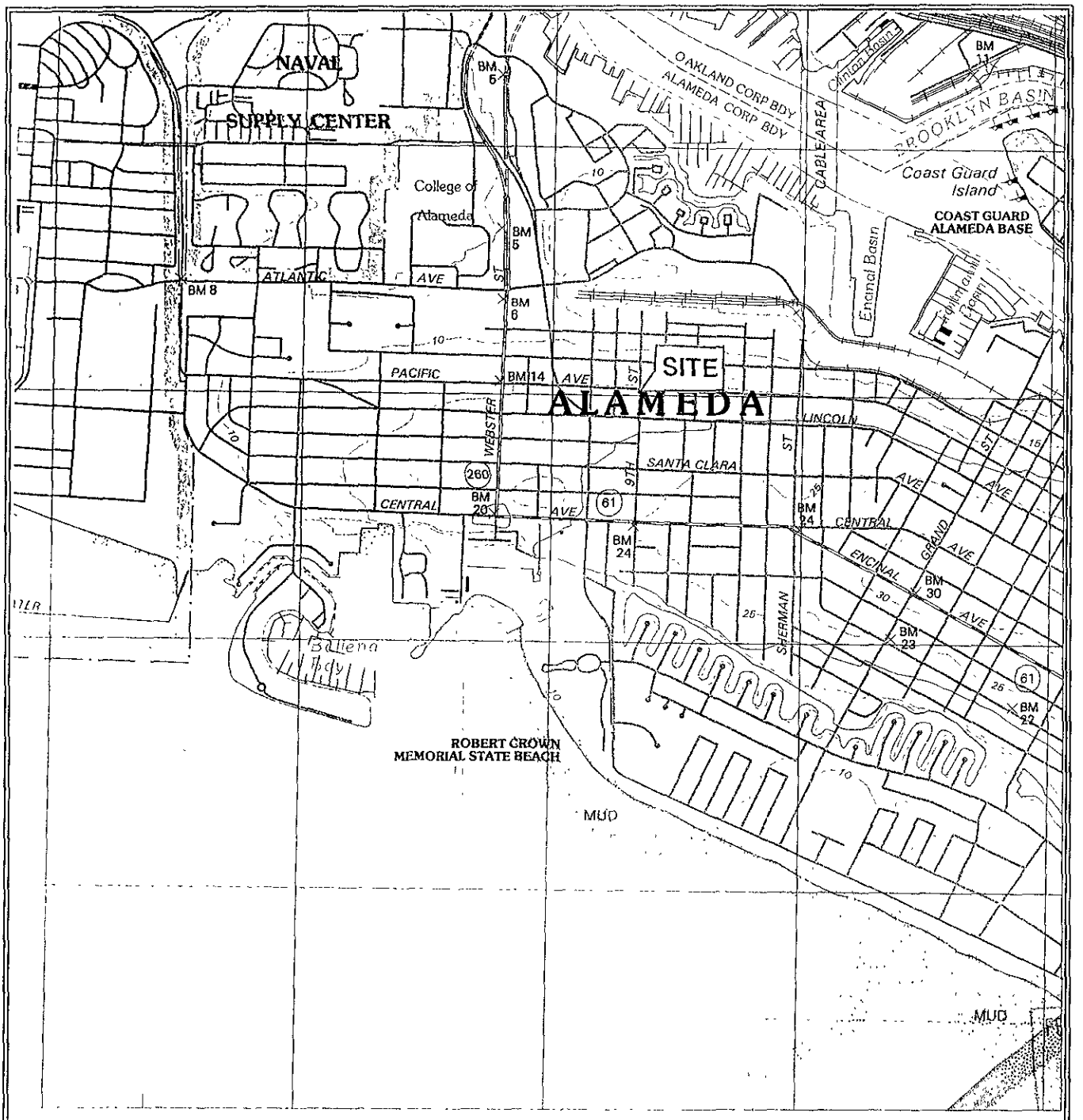
TABLE 3: FIELD PARAMETERS OF GROUNDWATER SAMPLING
Sheehan Property
845 Pacific Avenue
Alamea , California

Sample I.D. No.	Date of Sampling	Temperature °F	pH	Conductivity uS
MW-1	10/17/02	70	7.18	1408
MW-1	3/7/03	62.1	6.71	226
MW-1	6/5/03	67.3	6.58	177
MW-2	10/17/02	67.9	6.92	1691
MW-2	3/7/03	62.8	6.97	430
MW-2	6/5/03	67.1	7.18	273
MW-3	10/17/02	67.8	7.03	1652
MW-3	3/7/03	61.9	7.33	338
MW-3	6/5/03	67	6.46	289

Note:

°F = degree Fahrenheit
uS = microsiemens/cm

FIGURES



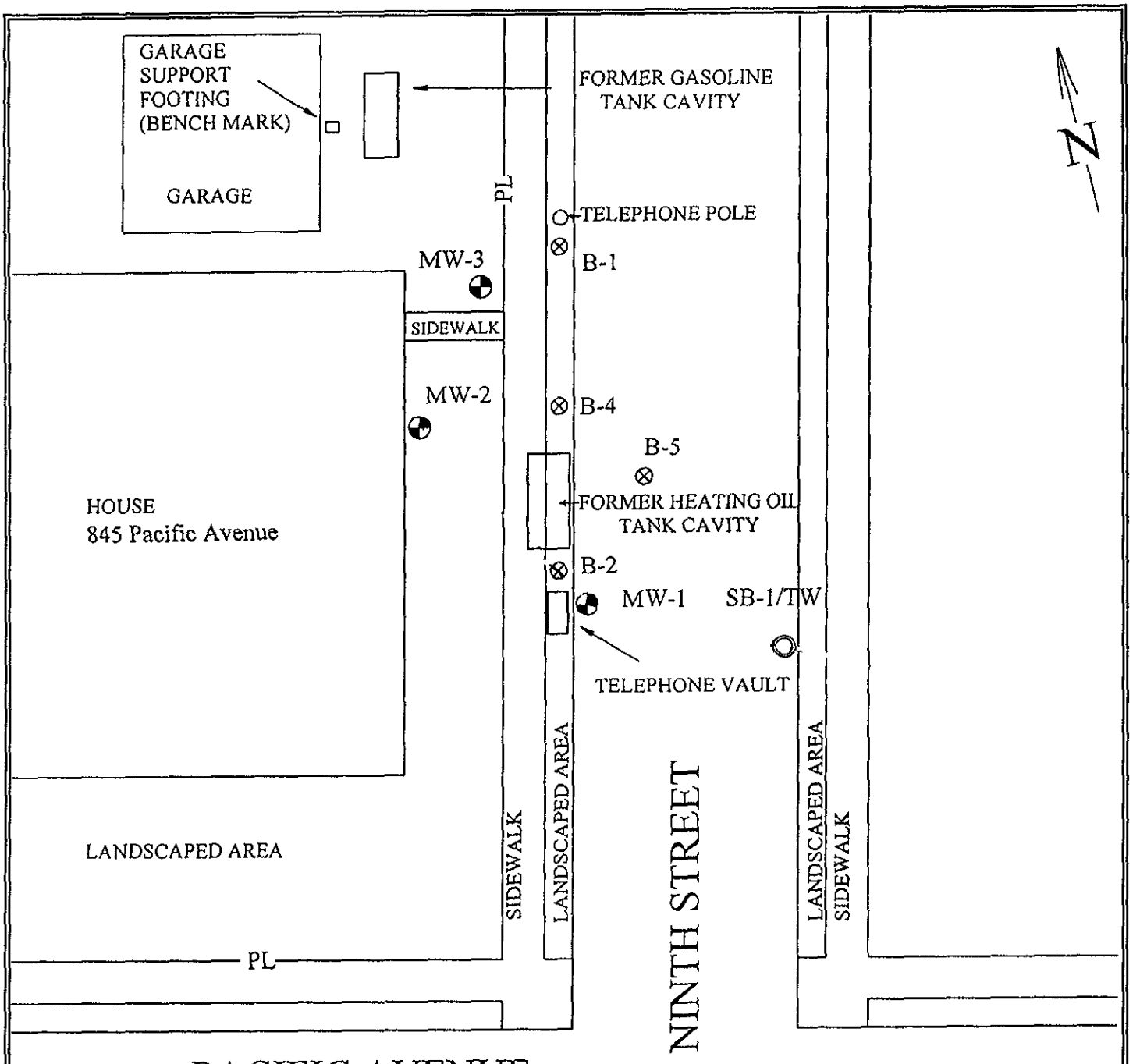
SCALE 1:24 000

KILOMETERS 1 0 1 2
METERS 1000 0 1000 2000
MILES 1 .5 0 1

Source U.S.G.S. Maps; 7.5 Minute Series (Topographic)
Oakland West Quadrangle, CA
1993 Map Edited 1996

FIGURE 1: SITE VICINITY MAP
SHEEHAN PROPERTY
845 Pacific Avenue
Alameda, California

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



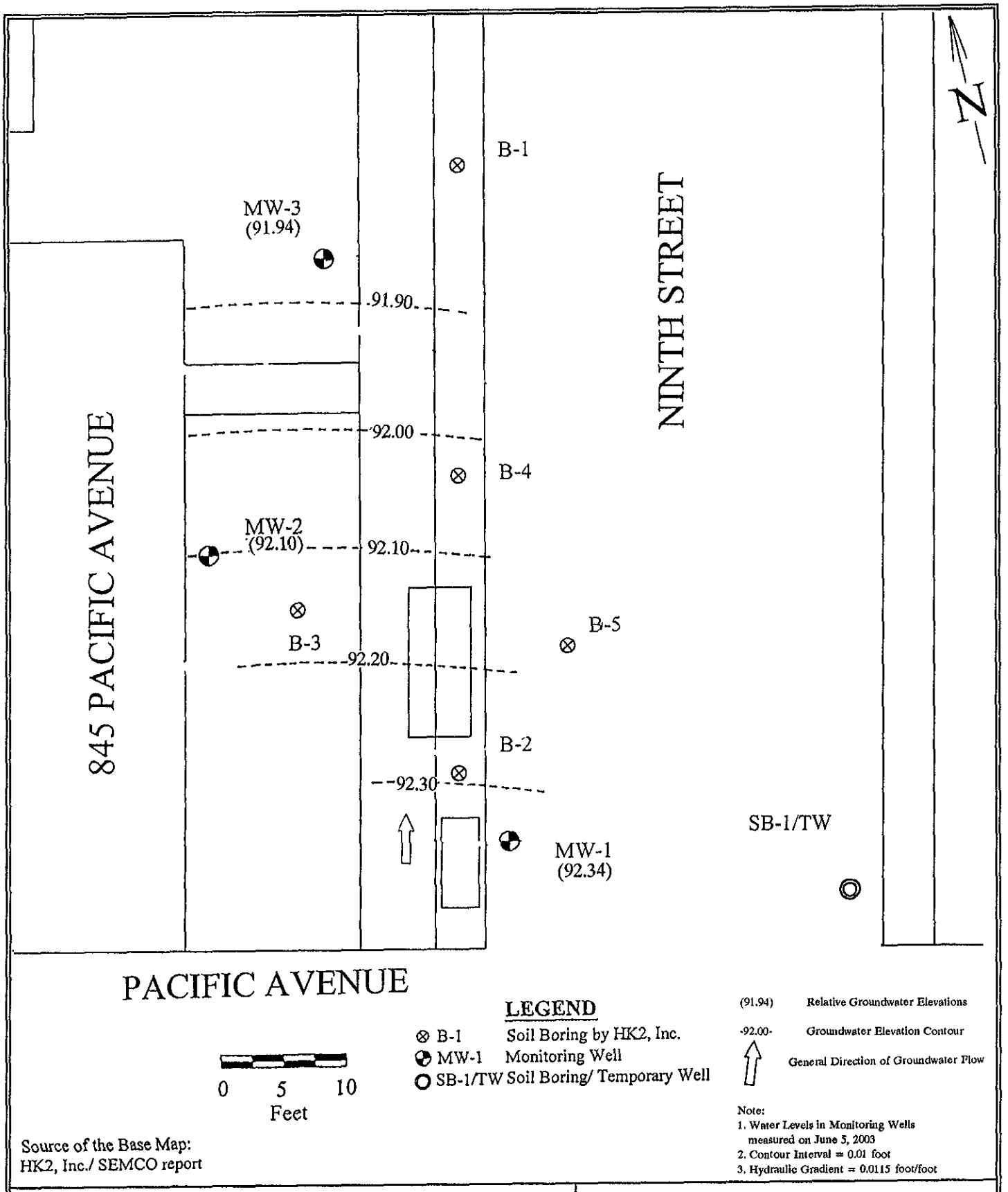
LEGEND

⊗ B-1	Soil Boring by HK2, Inc.
◒ MW-1	Monitoring Well
◎ SB-1/TW	Soil Boring/ Temporary Well
PL	Property Line

Source of the Base Map:
HK2, Inc./ SEMCO report

FIGURE 2: SITE PLAN
SHEEHAN PROPERTY
845 Pacific Avenue
Alameda, California

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



LEGEND

- ⊗ B-1 Soil Boring by HK2, Inc.
- MW-1 Monitoring Well
- O SB-1/TW Soil Boring/ Temporary Well

(91.94) Relative Groundwater Elevations

-92.00- Groundwater Elevation Contour

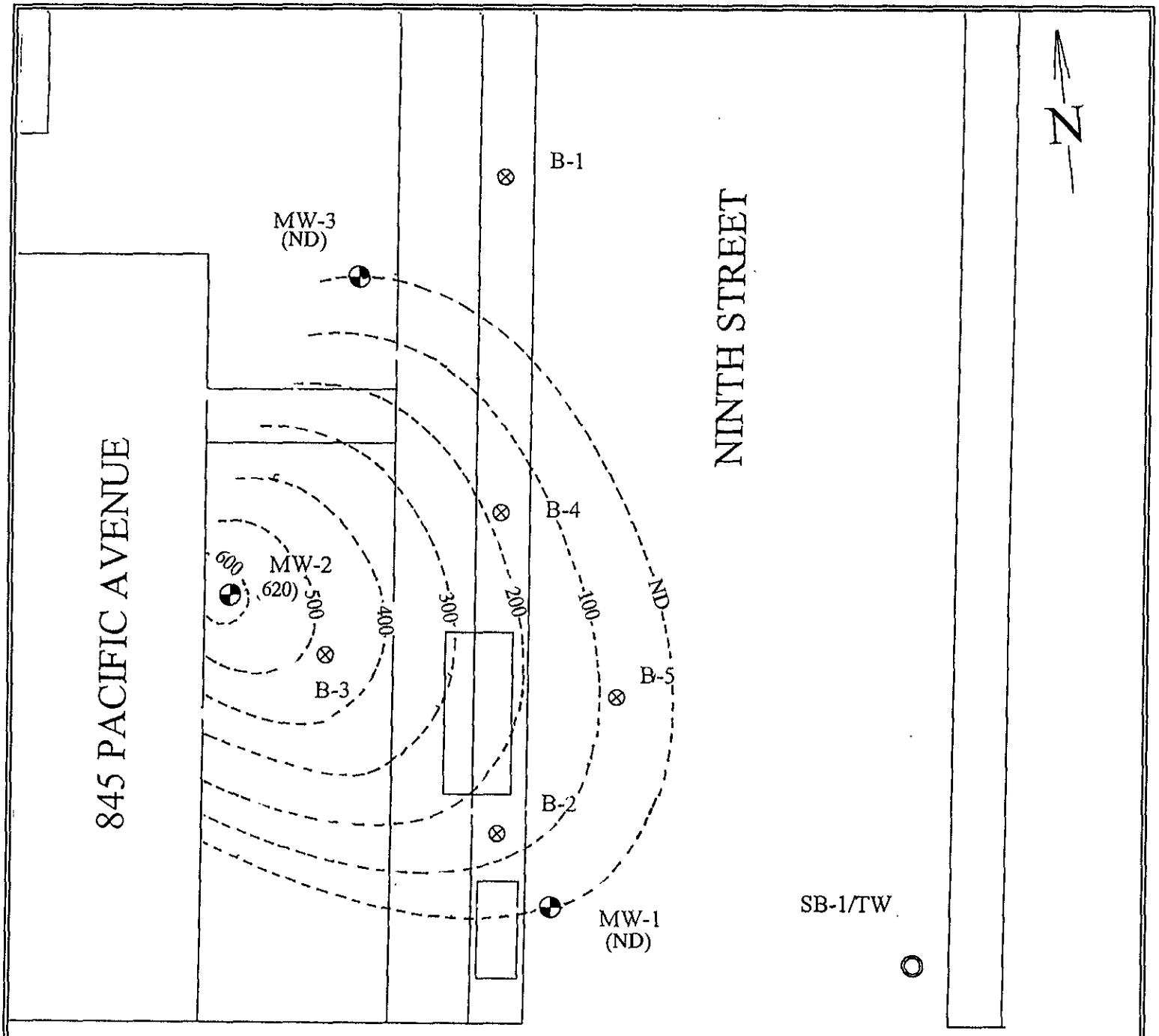
General Direction of Groundwater Flow

Note:
1. Water Levels in Monitoring Wells measured on June 5, 2003
2. Contour Interval = 0.01 foot
3. Hydraulic Gradient = 0.0115 foot/foot

Source of the Base Map:
HK2, Inc./ SEMCO report

FIGURE 3: GROUNDWATER SURFACE ELEVATIONS
SHEEHAN PROPERTY
845 Pacific Avenue
Alameda, California

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



LEGEND

⊗ B-1	Soil Boring by HK2, Inc.	(620)	Total Petroleum Hydrocarbon as Diesel (TPHd) concentrations in groundwater in Parts Per Billion (ppb)
◕ MW-1	Monitoring Well	-500-	TPHd Concentrations Contour
○ SB-1/TW	Soil Boring/ Temporary Well	ND	Not Detected above Reported Detection Limit

Source of the Base Map:
HK2, Inc./ SEMCO report

Note:
1. Groundwater Samples collected on June 5, 2003
2. Contour Interval = 100 ppb

FIGURE 4: TPHd CONCENTRATIONS IN GROUNDWATER
SHEEHAN PROPERTY
845 Pacific Avenue
Alameda, California

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

APPENDIX A

Certified Analytical Reports and Chain-of-Custody Documents

Case Narrative

North State Environmental, South San Francisco, CA

Report Date: 06/11/2003	Project: SHEEHAN PROP. 845
Report Number: 03-0777	Order #: 03-0777

Three water samples were analyzed for gasoline and TPH-diesel by method 8015 and MTBE and BTEX by method 8021B. No problems were encountered during analysis.

Approved by: _____ Date: 6/11/03

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

Lab Number: 03-0777
Client: Advanced Assessment & Remd.
Project: SHEEHAN PROP. 845 PACIFIC AVE., ALAMEDA

Date Reported: 06/11/2003

Gasoline,BTEX and MTBE by Methods SW8020F
Diesel Range Hydrocarbons by Method 8015M

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 03-0777-01 Client ID: MW-1/GW				06/05/2003	W
Benzene	SW8020F	ND<0.5	UG/L		06/09/2003
Ethylbenzene	SW8020F	ND<0.5	UG/L		06/09/2003
Gasoline Range Organics	SW8020F	ND<50	UG/L		06/09/2003
Methyl-tert-butyl ether	SW8020F	ND<0.5	UG/L		06/09/2003
Toluene	SW8020F	ND<0.5	UG/L		06/09/2003
Xylenes	SW8020F	ND<1.0	UG/L		06/09/2003
Diesel Fuel #2	CATFH	ND<0.05	MG/L		06/10/2003
Sample: 03-0777-02 Client ID: MW-2/GW				06/05/2003	W
Benzene	SW8020F	ND<0.5	UG/L		06/09/2003
Ethylbenzene	SW8020F	ND<0.5	UG/L		06/09/2003
Gasoline Range Organics	SW8020F	*132	UG/L		06/09/2003
Methyl-tert-butyl ether	SW8020F	ND<0.5	UG/L		06/09/2003
Toluene	SW8020F	ND<0.5	UG/L		06/09/2003
Xylenes	SW8020F	ND<1.0	UG/L		06/09/2003
Diesel Fuel #2	CATFH	0.62	MG/L		06/10/2003
Sample: 03-0777-03 Client ID: MW-3/GW				06/05/2003	W
Benzene	SW8020F	ND<0.5	UG/L		06/09/2003
Ethylbenzene	SW8020F	ND<0.5	UG/L		06/09/2003
Gasoline Range Organics	SW8020F	ND<50	UG/L		06/09/2003
Methyl-tert-butyl ether	SW8020F	ND<0.5	UG/L		06/09/2003
Toluene	SW8020F	ND<0.5	UG/L		06/09/2003

*Does not match typical gasoline pattern

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

Lab Number: 03-0777
Client: Advanced Assessment & Remd.
Project: SHEEHAN PROP. 845 PACIFIC AVE., ALAMEDA

Date Reported: 06/11/2003

Gasoline,BTEX and MTBE by Methods SW8020F
Diesel Range Hydrocarbons by Method 8015M

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 03-0777-03	Client ID: MW-3/GW			06/05/2003	W
Xylenes	SW8020F	ND<1.0	UG/L		06/09/2003
Diesel Fuel #2	CATFH	ND<0.05	MG/L		06/10/2003

*Does not match typical gasoline pattern

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

Quality Control/Quality Assurance

Lab Number: 03-0777
Client: Advanced Assessment & Remd.
Project: SHEEHAN PROP. 845 PACIFIC AVE., ALAMEDA

Date Reported: 06/11/2003

Gasoline,BTEX and MTBE by Methods SW8020F
Diesel Range Hydrocarbons by Method 8015M

Analyte	Method	Reporting Limit	Unit	Blank	Avg MS/MSD Recovery	RPD
Gasoline Range Organics	SW8020F	50	UG/L	ND	104/108	4
Benzene	SW8020F	0.5	UG/L	ND	109/108	1
Toluene	SW8020F	0.5	UG/L	ND	112/111	1
Ethylbenzene	SW8020F	0.5	UG/L	ND	98/97	1
Xylenes	SW8020F	1.0	UG/L	ND	117/118	1
Methyl-tert-butyl ether	SW8020F	0.5	UG/L	ND	104/103	1
Diesel Fuel #2	CATFH	0.05	MG/L	ND	89/76	16

ELAP Certificate NO:1753
Reviewed and Approved

John A.Murphy,Laboratory Director

03-0777

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 & REMED SV.	Report to: TRIDIB GUHA	Phone: 925-363-1559	Turnaround Time: 5 DAYS
Mailing Address: 2380 SALVIO STREET, STE. 202, CONCORD, CA 94520	Billing to: SAME	Fax: CALL BEFORE	
		email: mars@earthlink.net	Date: 6-5-03
		PO# SHEEHAN	Sampler: T. GUHA

Project / Site Address / Global ID: SHEEHAN PROPERTY, 845 PACIFIC AVE., ALAMEDA, CA

Analysis Requested: TPHg/MTBE; TPHd

EDF ☐

Sample ID	Sample Type	Container No. / Type	Pres.	Sampling Date / Time	Field Point ID
MW-1/GW	WATER	2 VOAs 1-1-L AMBER	HCl	11:45 6-5-03	
MW-2/GW	↓	2 VOAs 1-1-L AMBER	HCl	11:30 6-5-03	
MW-3/GW	↓	2 VOAs 1-1-L AMBER	HCl	12:00 6-5-03	

Relinquished by: Tridib K. Guha	Date: 6-5-03	Time: 15:50	Received by: NS LABS	Lab Comments/ Hazards
Relinquished by:	Date:	Time:	Received by:	
Relinquished by:	Date:	Time:	Received by:	