

R081

Alameda County
APR 06 2003
Environmental Health

QUARTERLY GROUNDWATER MONITORING AND SAMPLING REPORT

SHEEHAN PROPERTY
845 Pacific Avenue
Alameda, California

WJ Sheehan
4/15/03
DS

Prepared for:

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

April 2, 2003

ADVANCED ASSESSMENT AND REMEDIATION SERVICES



2380 Salvio Street, Suite 202
Concord, CA 94520
Phone: (925) 363-1999
e-mail: aars@earthlink.net



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@earthlink.net
www.aars.com

April 2, 2003

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

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

Dear Mr. Gholami:

The enclosed report presents the results and findings of the February 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

1G/SHEEHANQ1/Enclosure

TABLE OF CONTENTS

1.0 INTRODUCTION.....	1
2.0 GROUNDWATER MONITORING WELLS.....	1
2.1 Groundwater Level Monitoring and Surveying.....	1
2.2 Field Observations.....	1
2.3 Sampling and Analysis Procedures.....	1
2.4 Analytical Methods.....	2
3.0 INTERPRETATION OF RESULTS	2
3.1 Groundwater Elevations and Gradients	2
3.2 Analytical Results	2
4.0 CONCLUSIONS AND RECOMMENDATIONS.....	3
5.0 CERTIFICATION.....	3

TABLES

Table 1 Survey and Water Level Monitoring Data
Table 2 Summary of Analytical Results of Groundwater Sampling
Table 3 Field Parameters of Groundwater Sampling

FIGURES

Figure 1 Site Vicinity Map
Figure 2 Site Plan
Figure 3 Groundwater Surface Elevations
Figure 4 TPHd Concentrations in Groundwater

APPENDICES

Appendix A	Certified Analytical Reports and Chain-of-Custody Documents
------------	---

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 March 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 March 7, 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 March 7, 2003, following water level measurements. Samples were analyzed by McCampbell Analytical, Inc. of Pacheco, 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 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 SW8021B/8015Cm. TPHd by analytical methods SW8015C.

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 March 7, 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 0.0135 foot per foot for this monitoring period. The average depth to stabilized groundwater in these wells was approximately 7 feet below ground surface.

3.2 Analytical Results

The analytical results for groundwater samples from monitoring wells MW-1, MW-2 and MW-3, found to contain TPHd ranging from 68 to 640 parts per billion (ppb). However, laboratory reported the groundwater samples from MW-1 and MW-3 indicate diesel range compounds are significant but do not match the recognizable diesel pattern. TPHg was detected only in groundwater samples from MW-2 at a concentration of 100 ppb. The laboratory reported that heavier gasoline range compounds are significant in samples from MW-2. 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.

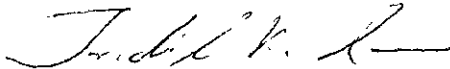
4.0 CONCLUSIONS AND RECOMMENDATIONS

The next monitoring event scheduled for this site is June 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.

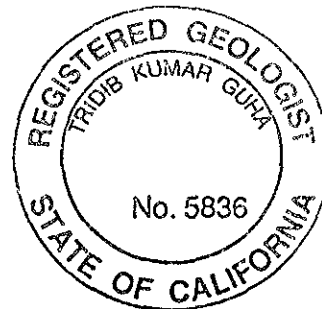
5.0 CERTIFICATION

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-2	10/17/02	100.8	10.61	0	90.19
MW-2	3/7/03	100.8	7.81	0	92.99
MW-3	10/17/03	100.08	10.17	0	89.91
MW-3	3/7/03	100.08	7.39	0	92.69

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.

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-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-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
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

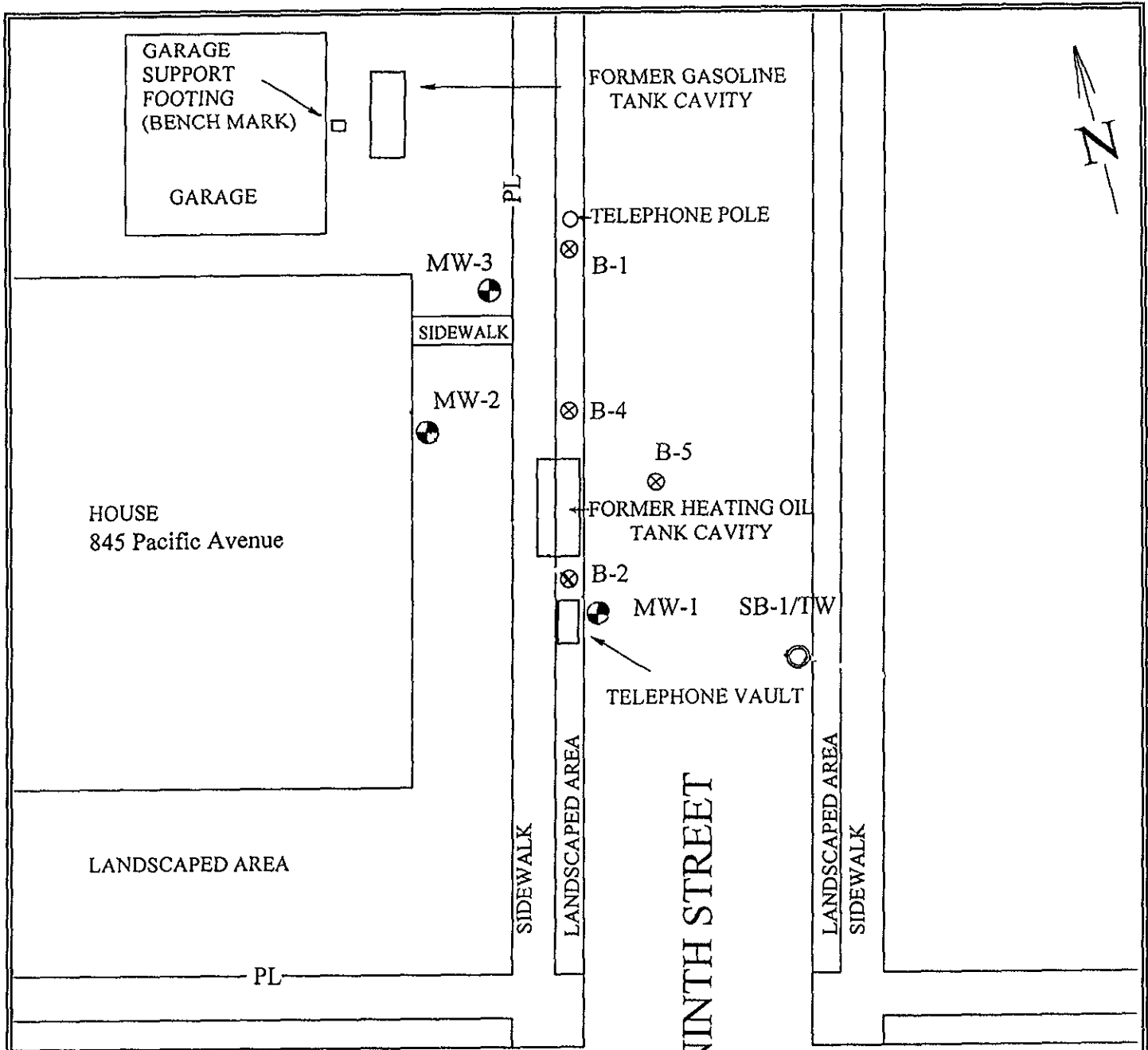
TABLE 3: FIELD PARAMETERS OF GROUNDWATER SAMPLING
Sheehan Property
845 Pacific Avenue
Alamea , California

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-2	10/17/02	67.9	6.92	1691
MW-2	3/7/03	62.8	6.97	430
MW-3	10/17/02	67.8	7.03	1652
MW-3	3/7/03	61.9	7.33	338

Note:

°F = degree Fahrenheit
uS = microSiemens

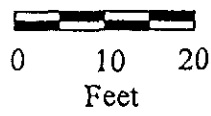
FIGURES



PACIFIC AVENUE

NINTH STREET

LEGEND

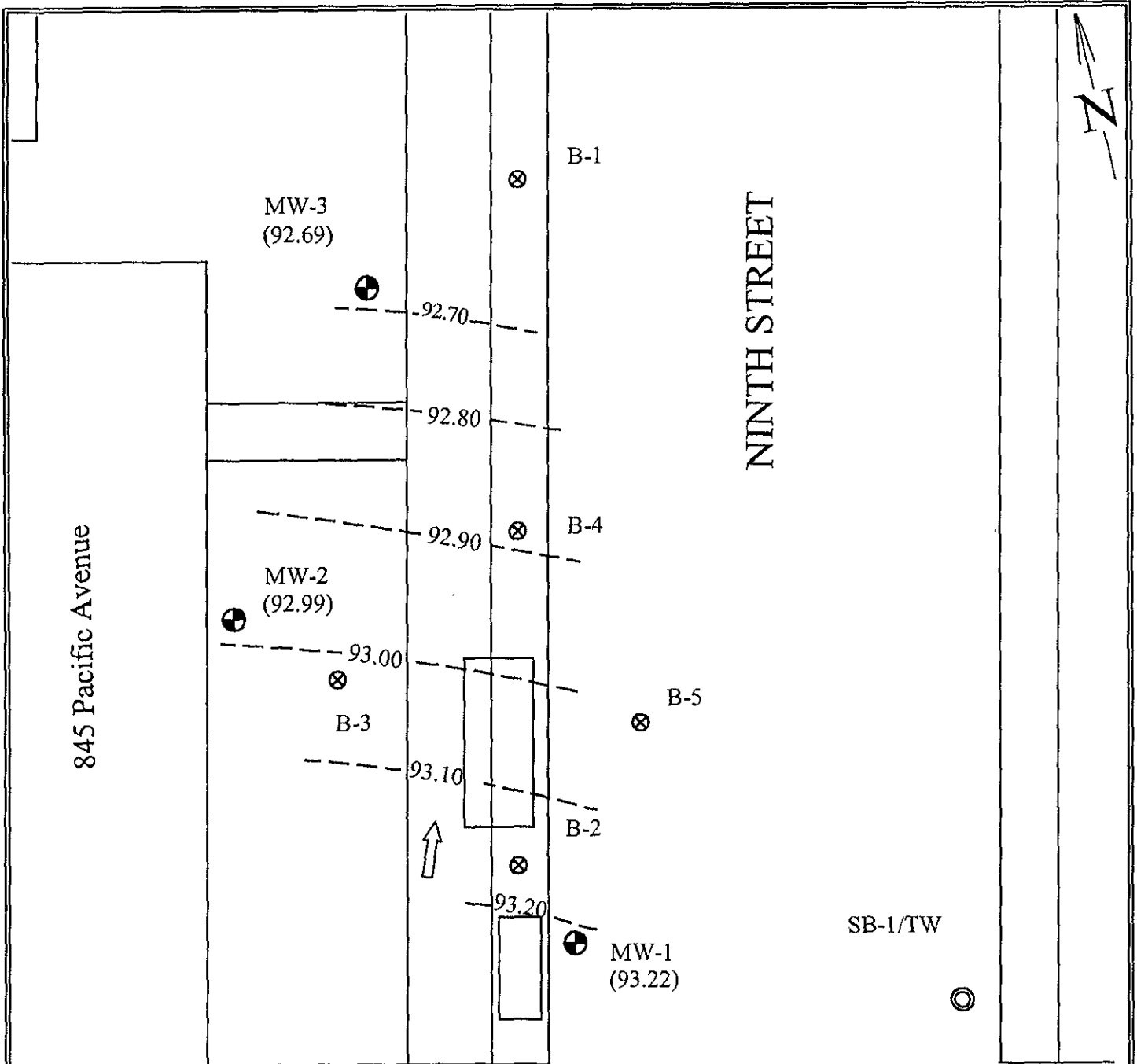


- ⊗ B-1 Soil Boring by HK2, Inc.
- ⊕ MW-1 Monitoring Well
- ⊙ SB-1/TW Soil Boring/ Temporary Well
- PL Property Line

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

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

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



PACIFIC AVENUE



LEGEND

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

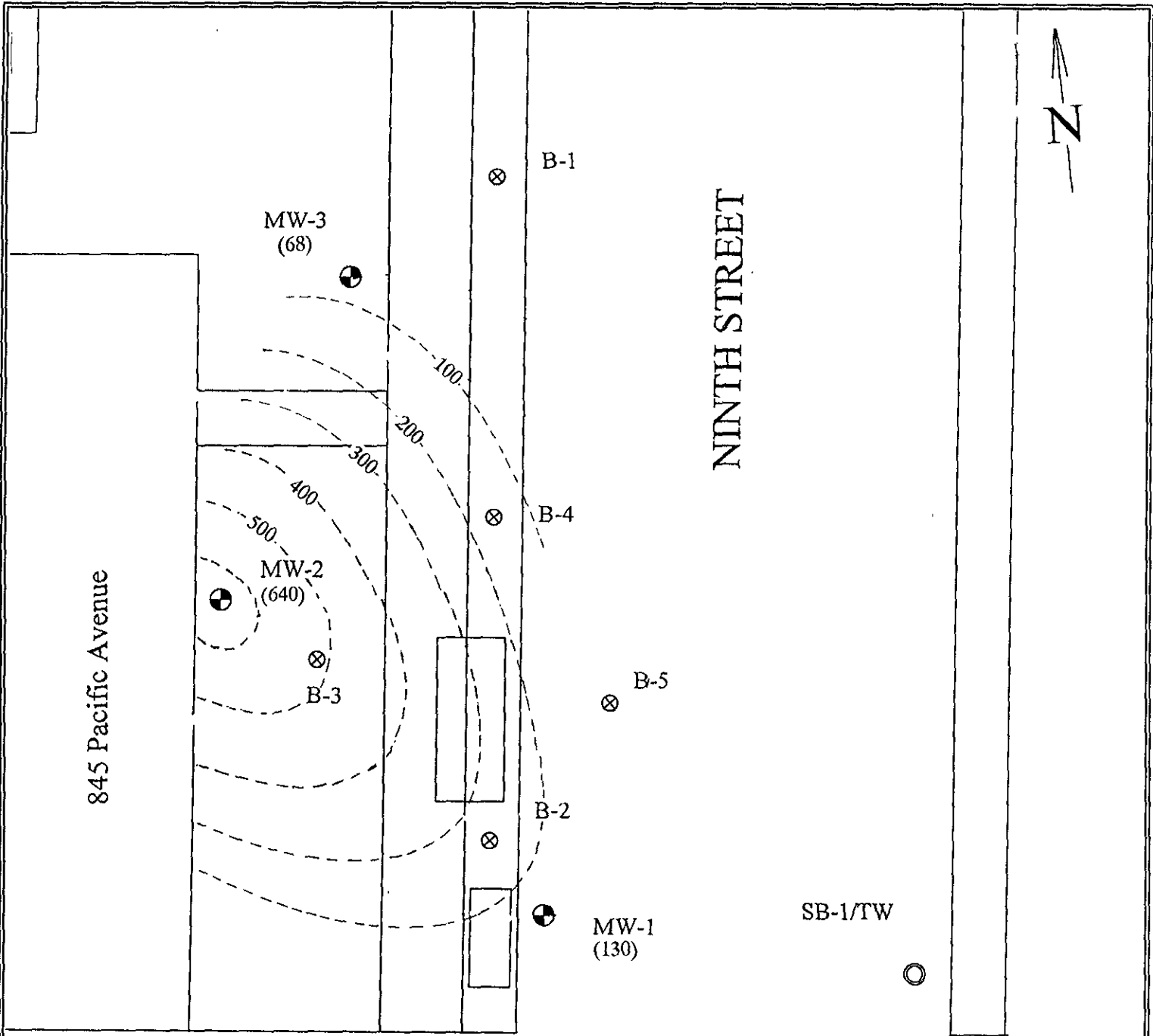
- (92.69) Relative Groundwater Elevations
 - 93.00- Groundwater Elevation Contour
 - ↑ General Direction of Groundwater Flow
- Note:

1. Water Levels in Monitoring Wells measured on March 7, 2003
2. Contour Interval = 0.01 foot
3. Hydraulic Gradient = 0.0135 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
REMEDATION SERVICES
2380 Salvio Street, Suite 202
Concord, California 94520**



PACIFIC AVENUE



LEGEND

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

(640) Total Petroleum Hydrocarbon as Diesel (TPHd) Concentrations in Groundwater in Parts Per Billion (ppb)

-500- TPHg Concentrations Contour

ND Not Detected above Reported Detection Limit

Note:

1. Groundwater samples collected on March 7, 2003
2. Contour Interval = 100 ppb

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

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



McC Campbell Analytical Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
<http://www.mccampbell.com> E-mail: main@mccampbell.com

Advanced Assessment and Remed 2380 Salvio Street, Suite 202 Concord, CA 94520	Client Project ID: #2002; Sheehan Property	Date Sampled: 03/07/03
		Date Received: 03/07/03
	Client Contact: Tridib Guha	Date Reported: 03/14/03
	Client P.O.:	Date Completed: 03/14/03

WorkOrder: 0303105

March 14, 2003

Dear Tridib:

Enclosed are:

- 1). the results of 3 analyzed samples from your #2002; Sheehan Property project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions please contact me. McC Campbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Angela Rydelius, Lab Manager



QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W

WorkOrder: 0303105

EPA Method: SW8021B/8015Cm		Extraction: SW5030B		BatchID: 6102		Spiked Sample ID: 0303106-003A				
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(gas)	ND	60	117	112	3.86	111	109	1.20	80	120
MTBE	ND	10	91.1	86.2	5.49	81.2	85.2	4.73	80	120
Benzene	ND	10	96.6	94.4	2.30	94.9	93.1	1.88	80	120
Toluene	ND	10	92.8	90.1	3.02	93.4	88.1	5.85	80	120
Ethylbenzene	ND	10	99.1	97.4	1.76	99.1	95.7	3.44	80	120
Xylenes	ND	30	96.7	96.7	0	100	92.7	7.61	80	120
%SS:	99.0	100	99.1	97.7	1.35	96.4	97.4	0.978	80	120

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
 NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / (MS + MSD) * 2.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if. a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery



McC Campbell Analytical Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
 Telephone : 925-798-1620 Fax : 925-798-1622
<http://www.mccampbell.com> E-mail: main@mccampbell.com

QC SUMMARY REPORT FOR SW8015C

Matrix: W

WorkOrder: 0303105

EPA Method: SW8015C		Extraction: SW3510C			BatchID: 6103		Spiked Sample ID: N/A			
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(d)	N/A	7500	N/A	N/A	N/A	108	104	3.93	70	130
%SS	N/A	100	N/A	N/A	N/A	99.1	96.2	3.00	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
 NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

% Recovery = $100 * (MS - Sample) / (Amount\ Spiked)$; RPD = $100 * (MS - MSD) / (MS + MSD) * 2$.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

McC Campbell Analytical Inc.



110 Second Avenue South, #D7
Pacheco, CA 94553-5560
(925) 798-1620

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0303105

Client:

Advanced Assessment and Remediation Serv TEL:
2380 Salvio Street, Suite 202 FAX:
Concord, CA 94520 ProjectNo #2002; Sheehan Property
PO:

Date Received: 3/7/03

Date Printed: 3/7/03

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests	
					SW8015C	8021B/8015
0303105-001	MW-1/GW	Water	3/7/03 12:00:00 PM		B	A
0303105-002	MW-2/GW	Water	3/7/03 12:15:00 PM		B	A
0303105-003	MW-3/GW	Water	3/7/03 11:45:00 AM		B	A

Prepared by: Melissa Valles

Comments:

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

