
FIRST QUARTER 1995 GROUND WATER
MONITORING REPORT
S&S BUILDING SUPPLY 2-28-95
SAN LEANDRO, CALIFORNIA

LOWNEY ASSOCIATES
Environmental/Geotechnical/Engineering Services

LOWNEY ASSOCIATES

Environmental / Geotechnical / Engineering Services

February 28, 1995
1063-1, MV022802

Mr. Bob Gardner
S&S BUILDING SUPPLY
701 Fremont Avenue
San Leandro, California 94577

**RE: FIRST QUARTER 1995
GROUND WATER
MONITORING REPORT
S&S BUILDING SUPPLY
SAN LEANDRO, CALIFORNIA**

Dear Mr. Gardner:

In accordance with your request, we are pleased to present the first quarter 1995 ground water monitoring report for the referenced site, located at 701 Fremont Avenue in San Leandro, California.

To evaluate the ground water quality, ground water samples were collected from monitoring wells MW-1, MW-2, and MW-3. Laboratory analysis of the ground water samples detected gasoline range petroleum hydrocarbons at concentrations ranging from 330 to 4,100 parts per billion. These levels are significantly lower than those detected when the wells were sampled shortly after installation.

We refer you to the text of the report for details regarding our investigation. If you have any questions, please call.

Very truly yours,

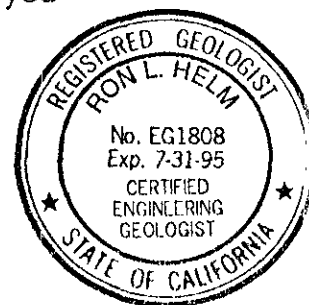
LOWNEY ASSOCIATES



Stason I. Foster, P.E.
Associate, Environmental Engineer

A handwritten signature in black ink, appearing to read "R20H", positioned between the two professional seals.

Ron L. Helm, C.E.G.
Principal, Environmental Geologist



RLH:SIF:BAF:tjc

Copies: Addressee (3)
Alameda County Department of Environmental Health (1)
Attn: Mr. Scott Seery

FIRST QUARTER 1995 MONITORING REPORT

For

S&S BUILDING SUPPLY
San Leandro, California

To

Mr. Bob Gardner
S&S BUILDING SUPPLY
701 Fremont Avenue
San Leandro, California 94577

February 1995

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FIRST QUARTER 1995 GROUND WATER MONITORING REPORT
S&S BUILDING SUPPLY
SAN LEANDRO, CALIFORNIA

1.0 INTRODUCTION

In this report, we present the results of the first quarter 1995 monitoring of ground water at 701 Fremont Avenue in San Leandro, California. The purpose of this work was to evaluate current ground water quality.

Two 1,000-gallon gasoline underground storage tanks (USTs) and dispenser island were formerly located on-site. During the removal of the USTs in 1989, two soil samples were collected from beneath the northern and southern ends of each UST. Laboratory analysis of soil samples collected from beneath the northern and southern ends of the westernmost UST detected total petroleum hydrocarbons (TPH) as gasoline at 2,300 parts per million (ppm) and 7,600 ppm, respectively. Laboratory analysis of soil samples collected from beneath the easternmost UST did not detect TPH as gasoline or benzene, ethylbenzene, toluene, or xylenes (BTEX) above the laboratory detection limits.

We understand that additional soil was removed from the UST excavation; however, it does not appear that any additional verification soil samples were collected. The excavation reportedly was extended to ground water at a depth of 10 to 12 feet. Analysis of five composite soil samples collected from the stockpiled soil after aeration did not detect TPH as gasoline or BTEX compounds. The stockpiled soil was subsequently used to backfill the excavation.

1.1 Purpose

1.2 Site Background

The scope of work performed during this investigation included the following:

1.3 Scope of Work

- ▼ Purging and sampling of ground water from three existing ground water monitoring wells (MW-1, MW-2, and MW-3).
- ▼ Laboratory analysis of the ground water samples collected.
- ▼ Preparation of this report.

2.0 GROUND WATER QUALITY INVESTIGATION

To evaluate current ground water quality, ground water samples from the three on-site wells were collected on January 25, 1995. The samples were analyzed for TPH as gasoline and BTEX compounds (EPA Test Method 8015/8020). The analytical results are presented in Table 1. A discussion of well sampling protocol and copies of all laboratory reports are presented in Appendices A and B, respectively.

2.1 Ground Water Quality

TABLE 1. Analytical Results for Ground Water Samples
(concentrations in parts per billion)

Well Number	Date Sampled	TPH Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes
MW-1	11/03/94	35,000	<25	<25	140	430
	01/25/95	4,100	22	9.4	25	71
MW-2	11/03/94	1,200	<2.5	<2.5	<2.5	<2.5
	01/25/95	330	<0.50	<0.50	<0.50	<0.50

continued

TABLE 1. Analytical Results for Ground Water Samples
(concentrations in parts per billion)
(continued)

Well Number	Date Sampled	TPH Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes
MW-3	11/03/94	2,400	4.2	<2.0	40	43
	11/03/94*	3,000	5.6	<2.0	39	44
	01/25/95	2,800	27	<5.0	110	150
Drinking Water Standards*		NE	1.0	1,000	680	1,750

- -U.S. Environmental Protection Agency, "Drinking Water Standards and Health Advisory Table", August 1991
- < -Compound not detected above the specified laboratory detection limit.
- * -Split Sample
- NE -Not Established

To evaluate the ground water flow direction at the site, the static ground water level in monitoring wells MW-1, MW-2, and MW-3 were measured using an electronic depth sounder. The ground water and top of casing elevations are presented in Table 2. As shown on Figure 3, the ground water flow direction beneath the site is towards the south. A more southwesterly flow direction was measured during the previous sampling event (Lowney 1994).

2.2 Ground Water Flow

TABLE 2. Ground Water and Top of Casing Elevations
(measurements in feet)

Well Number	Date	Relative Top of Casing Elevation	Ground Water Depth*	Relative Ground Water Elevation
MW-1	11/03/94	100.05	15.46	84.59
	01/25/95		12.21	87.84
MW-2	11/03/94	100.00	15.29	84.71
	01/25/95		12.06	87.94
MW-3	11/03/94	99.58	14.96	84.62
	01/25/95		11.75	87.83

*Measured from top of casing

not to MSL

3.0 CONCLUSIONS AND RECOMMENDATIONS

The purpose of this investigation was to evaluate the current ground water quality in the existing on-site monitoring wells.

Laboratory analysis of the ground water samples collected from the monitoring wells detected gasoline range petroleum hydrocarbons ranging from 330 to 4,100 ppb. These levels are significantly lower than those detected during the last sampling event. Continued quarterly sampling, as planned, will aid in better evaluating ground water quality. In our opinion, a continued decrease in petroleum hydrocarbon concentrations would be expected due to natural degradation and attenuation processes.

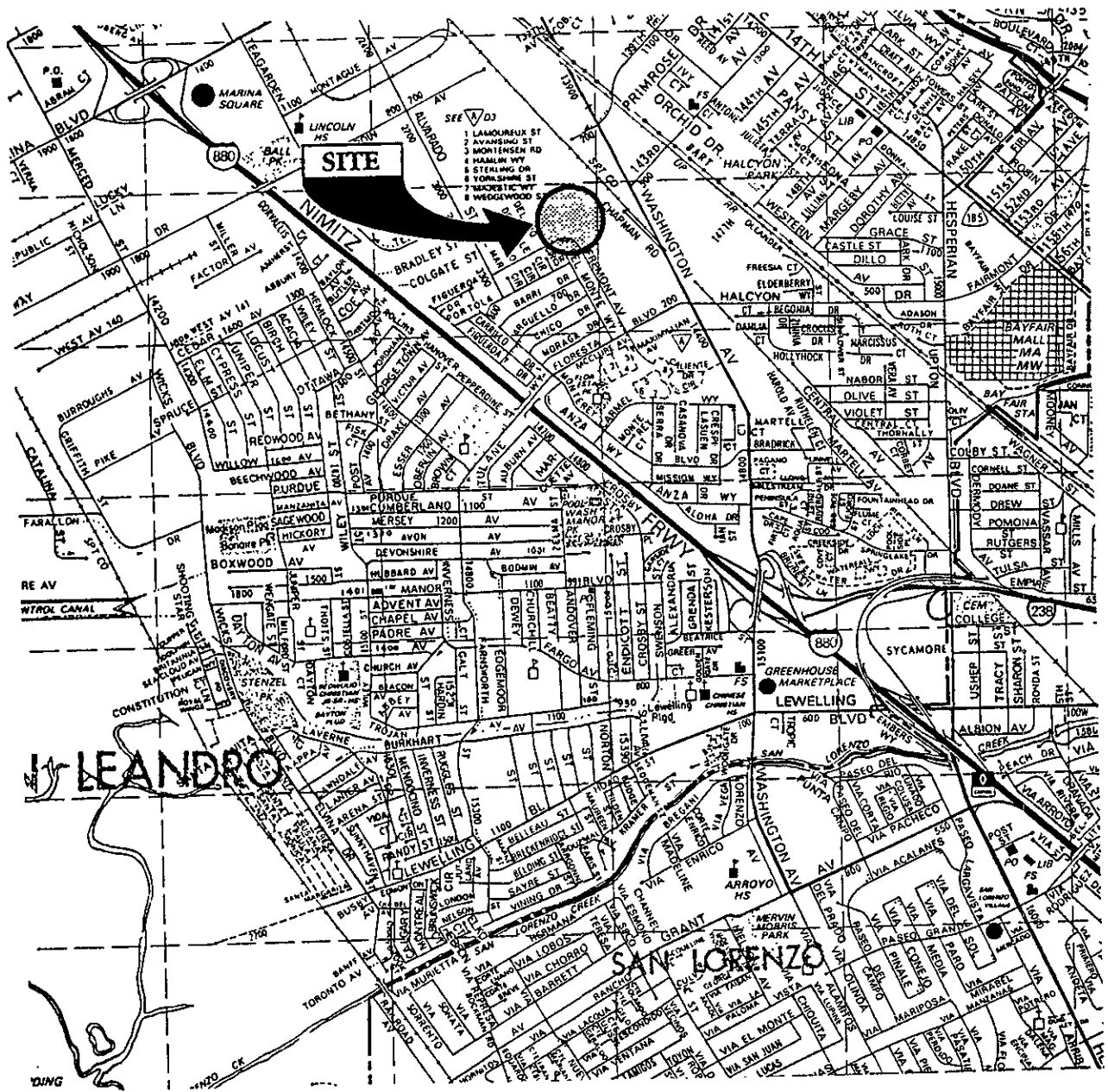
4.0 LIMITATIONS

This report was prepared for the use of S&S Building Supply in evaluating ground water quality at the referenced site at the time of this study. We make no warranty, expressed or implied, except that our services have been performed in accordance with environmental principles generally accepted at this time and location. The chemical and other data presented in this report can change over time and are applicable only to the time this study was performed.

* * * * *

REFERENCE

Lowney Associates. 1994. *Soil and Ground Water Quality Reconnaissance, S&S Building Supply, San Leandro, California.*



"Reproduced with permission granted by THOMAS BROS. MAPS."

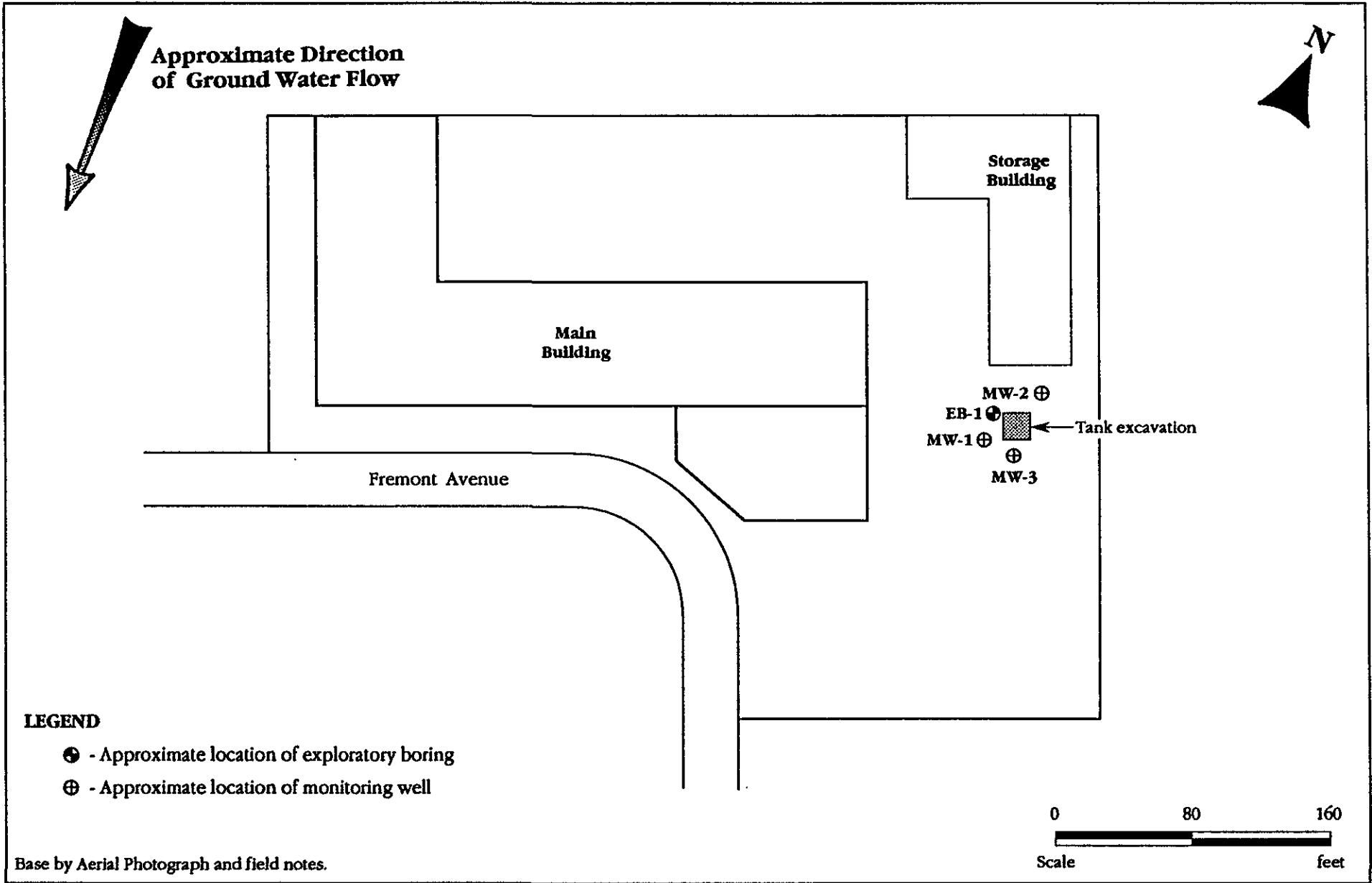
1063-1, 2/27 BAF'EB

VICINITY MAP

S & S BUILDING SUPPLY
San Leandro, California

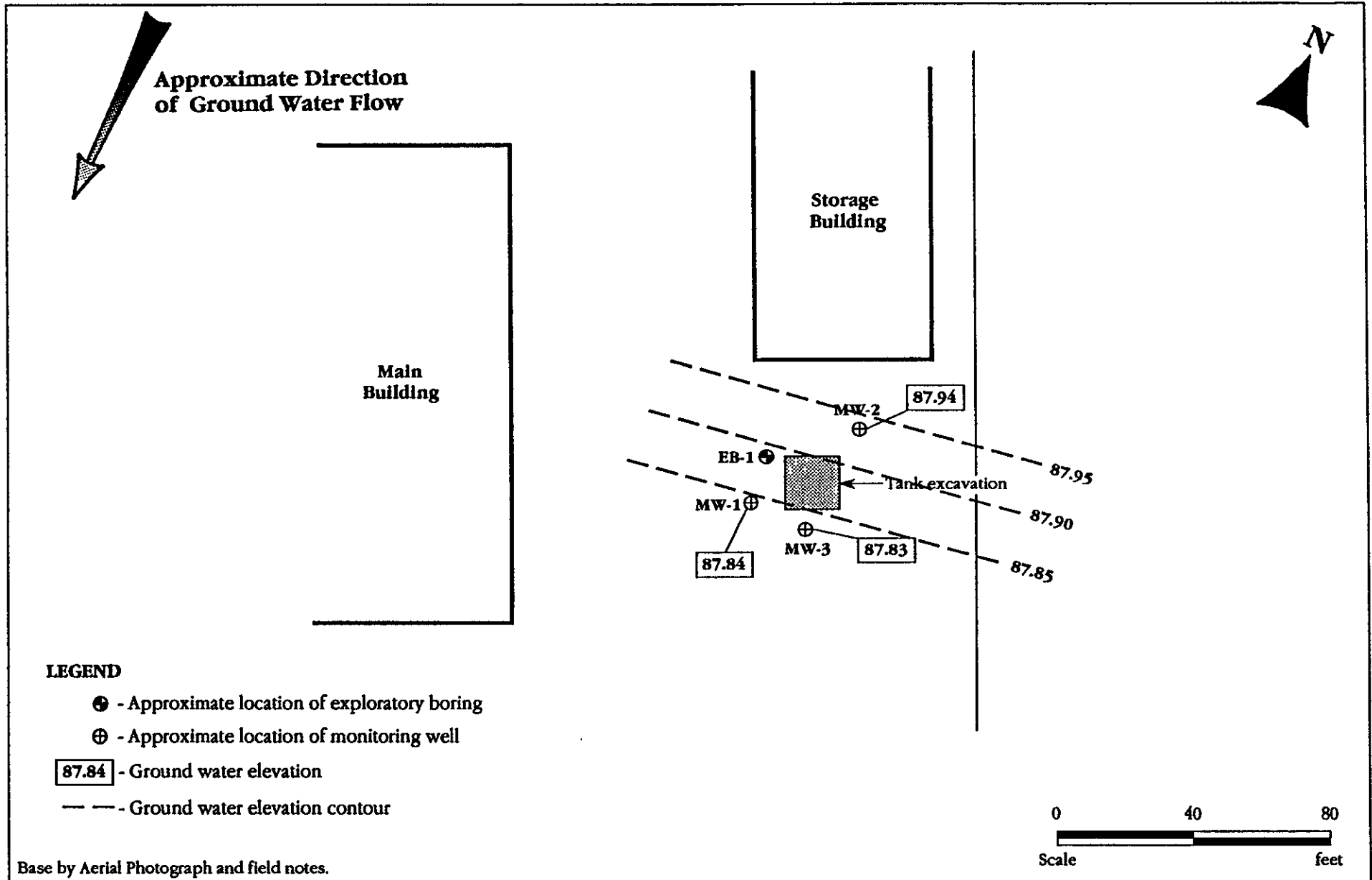
LOVNEY ASSOCIATES
Environmental/Geotechnical/Engineering Services

FIGURE 1
1063-1, February 1995



1063-1, 2/27 BAF*EB

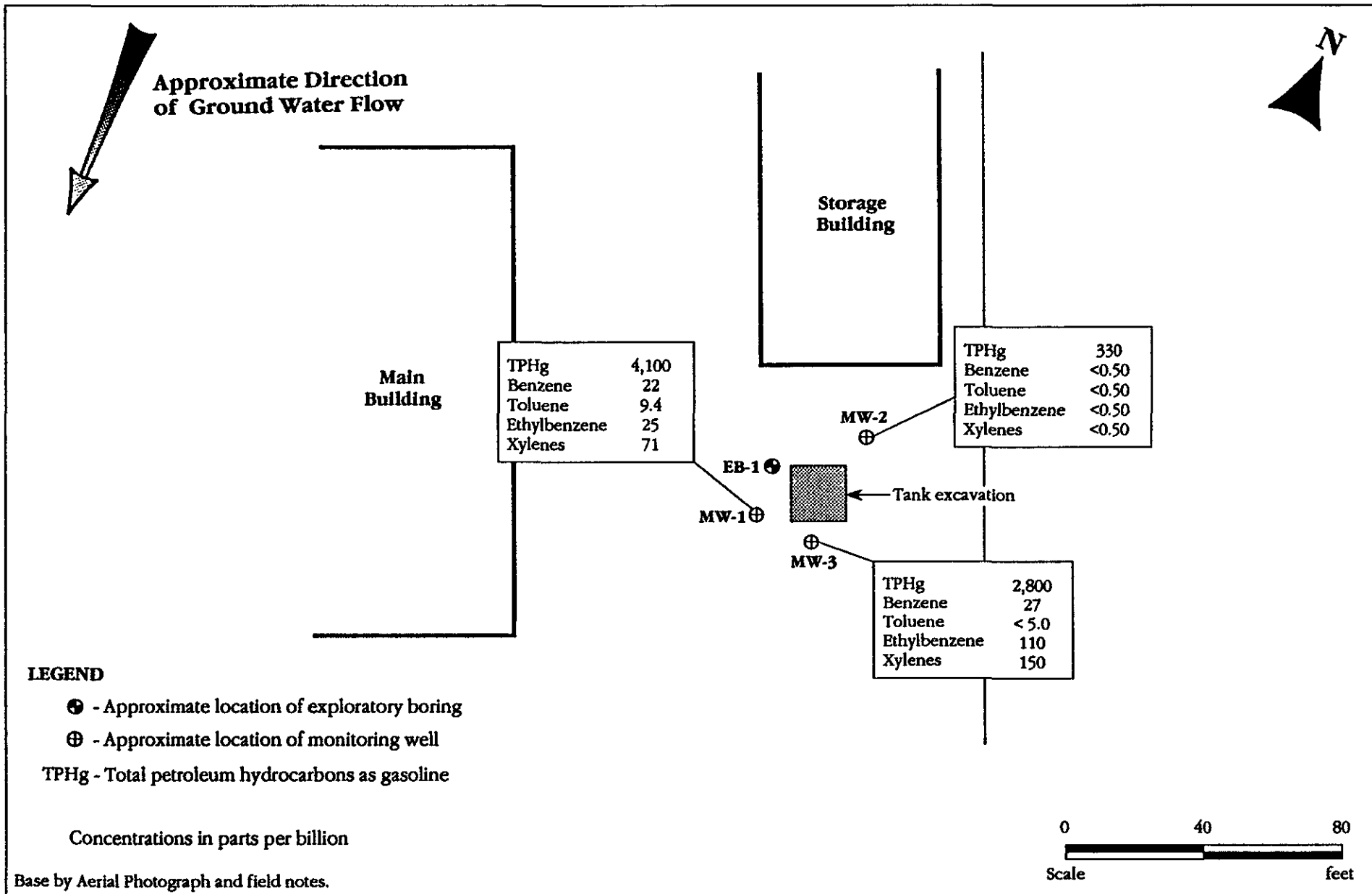
SITE PLAN
S & S BUILDING SUPPLY
 San Leandro, California



1063-1, 2/27 BAF'EB

GROUND WATER ELEVATION MAP

S & S BUILDING SUPPLY
San Leandro, California



1063-1, 2/27BAF*EB

ANALYTICAL RESULTS FOR GROUND WATER SAMPLES

S & S BUILDING SUPPLY
 San Leandro, California

APPENDIX A

WELL SAMPLING PROTOCOL AND RECORDS

A Teflon bailer was used to purge a minimum of three well casing volumes of water from each well. After purging each well volume, pH, temperature, and conductivity measurements were recorded. In general, these measurements stabilize after three to four well volumes. If, after the third well volume the pH and conductivity did not stabilize, additional well volumes were removed until these measurements did stabilize. If the yield was low and the well was pumped dry, the well was allowed to recharge to 80 percent of the initial water level before sampling. Samples were collected in appropriate sample bottles, labeled, and immediately placed into an ice-cooled chest for delivery to a state certified analytical laboratory for analysis.

Ground Water
Sampling

All well sampling equipment was cleaned with an aqueous tri-sodium phosphate solution and distilled water or steam cleaned prior to entering each well.

Equipment
Decontamination

Well development and sampling records are attached.

Project Number 1063-1
 Project Name S & S Building Supply
 Field Geologist/Engineer BAF

Well Number MW-1 Boring Diameter _____ (inches)
 Well Total Depth (completed) 25 (feet) Casing Diameter 2 (inches)

Development Date _____ Method _____ Volume Produced _____ (liter/gal)

WELL VOLUME CONVERSION FACTORS

2-INCH CASING DIAMETER

VOL (GALLONS) = FEET OF WATER x 0.17
 VOL (LITERS) = FEET OF WATER x 0.62

4-INCH CASING DIAMETER

VOL (GALLONS) = FEET OF WATER x 0.66
 VOL (LITERS) = FEET OF WATER x 2.5

Sampling Date 1/25/95 Time 3:00 Method Teflow Bailor

Static Water Level Prior to Purging 12.21 (ft) Water Level After Recovery 12.24 (ft)
 (Measured from top of casing)

80 Percent Recharged Yes No

Well Volume 7.9 (liter/gal)
 Three Well Volumes 23.8 (liter/gal)
 Total Produced 32 (liter/gal)
 Number of Well Volumes 4
 Production Time _____ (min)
 Production Rate _____ (/min)

Well Volumes	ph	Conductivity $\mu\text{S} \times 10$	Temp °F
1	7.1	78	-
2	7.2	74	-
3	7.2	76	-
4	7.1	75	-
5			
6			
7			
8			
9			
10			

Sample Description MW-1
 Laboratory Sequoia
 Deliver Pick-Up Date _____

Comments TEMPERATURE METER MALFUNCTIONING

Project Number 1063-1
Project Name S+S Building
Field Geologist/Engineer BAF

Well Number MW-2 Boring Diameter _____ (inches)
Well Total Depth (completed) 25 (feet) Casing Diameter 2 (inches)
Development Date _____ Method _____ Volume Produced _____ (liter/gal)

WELL VOLUME CONVERSION FACTORS

2-INCH CASING DIAMETER

VOL (GALLONS) = FEET OF WATER x 0.17
VOL (LITERS) = FEET OF WATER x 0.62

4-INCH CASING DIAMETER

VOL (GALLONS) = FEET OF WATER x 0.66
VOL (LITERS) = FEET OF WATER x 2.5

Sampling Date 1/25/95 Time 1:00 Method Flow Bailer

Static Water Level Prior to Purging 12.06 (ft)
(Measured from top of casing)

Water Level After Recovery 12.10 (ft)

80 Percent Recharged Yes No

Well Volume 8.0 (liter/gal)
Three Well Volumes 24.1 (liter/gal)
Total Produced 32 (liter/gal)
Number of Well Volumes 4
Production Time _____ (min)
Production Rate _____ (l/min)

Well Volumes	ph	Conductivity $\mu\text{S} \times 10$	Temp 'F
1	7.1	75	-
2	7.1	78	-
3	7.1	79	-
4	7.1	79	-
5			
6			
7			
8			
9			
10			

Sample Description MW-2
Laboratory Sequoia
Deliver Pick-Up Date _____

Comments _____

Project Number 1063-1
 Project Name S&S Building Supply
 Field Geologist/Engineer TBAF

Well Number MW-3 Boring Diameter _____ (inches)
 Well Total Depth (completed) 25 (feet) Casing Diameter 2 (inches)

Development Date _____ Method _____ Volume Produced _____ (liter/gal)

WELL VOLUME CONVERSION FACTORS

2-INCH CASING DIAMETER

VOL (GALLONS) = FEET OF WATER x 0.17
 VOL (LITERS) = FEET OF WATER x 0.62

4-INCH CASING DIAMETER

VOL (GALLONS) = FEET OF WATER x 0.66
 VOL (LITERS) = FEET OF WATER x 2.5

Sampling Date 1/25/95 Time 2:00 Method Teflon Bailor

Static Water Level Prior to Purging 11.75 (ft) Water Level After Recovery 11.79 (ft)
 (Measured from top of casing)

80 Percent Recharged Yes No

Well Volume 8.2 (liter/gal)
 Three Well Volumes 24.6 (liter/gal)
 Total Produced 33 (liter/gal)
 Number of Well Volumes 4
 Production Time _____ (min)
 Production Rate _____ (/min)

Well Volumes	ph	Conductivity $\mu\text{S} \times 10$	Temp °F
1	7.1	79	-
2	7.1	80	-
3	7.1	81	-
4	7.1	81	-
5			
6			
7			
8			
9			
10			

Sample Description MW-3
 Laboratory Seacoin
 Deliver Pick-Up Date _____

Comments _____

APPENDIX B
ANALYTICAL RESULTS

The chilled samples were delivered to a state certified analytical laboratory. Chain of custody documentation was maintained for all samples. Attached are copies of the analytical results and chain of custody forms.



Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043

Client Proj. ID: 1063-1
Sample Descript: MW-2
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9501G45-01

Sampled: 01/25/95
Received: 01/25/95
Analyzed: 02/01/95
Reported: 02/08/95

QC Batch Number: GC020195BTEX03A
Instrument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	330
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern: Weathered Gas		C7-C12

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	94

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

SEQUOIA ANALYTICAL - ELAP #1210

FEB 9 1995

Vytautas Ankaitytis
Project Manager





Lowney Associates 405 Clyde Avenue Mountain View, CA 94043 Attention: Brock Foster	Client Proj. ID: 1063-1 Sample Descript: MW-1 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9501G45-02	Sampled: 01/25/95 Received: 01/25/95 Analyzed: 02/01/95 Reported: 02/08/95
GC Batch Number: GC020195BTEX03A Instrument ID: GCHP03		

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	500	4100
Benzene	5.0	22
Toluene	5.0	9.4
Ethyl Benzene	5.0	25
Xylenes (Total)	5.0	71
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

Vytautas Ankaitytis
Project Manager

FEB 9 1995





Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043

Client Proj. ID: 1063-1
Sample Descript: MW-3
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9501G45-03

Sampled: 01/25/95
Received: 01/25/95
Analyzed: 02/02/95
Reported: 02/08/95

QC Batch Number: GC020195BTEX17A
Instrument ID: GCHP17

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	500	2800
Benzene	5.0	27
Toluene	5.0	N.D.
Ethyl Benzene	5.0	110
Xylenes (Total)	5.0	150
Chromatogram Pattern:		Gas

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	88

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

SEQUOIA ANALYTICAL - ELAP #1210

Vytas Ankaris
Project Manager

FEE 9 1995





Lowney Associates
 405 Clyde Avenue
 Mountain View, CA 94043
 Attention: Brock Foster

Client Project ID: 1063-1
 Matrix: Liquid

Work Order #: 9501G45 -01-02

Reported: Feb 8, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC020195BTEX03A	GC020195BTEX03A	GC020195BTEX03A	GC020195BTEX03A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel
MS/MSD #:	9501E0401	9501E0401	9501E0401	9501E0401
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	2/1/95	2/1/95	2/1/95	2/1/95
Analyzed Date:	2/1/95	2/1/95	2/1/95	2/1/95
Instrument I.D.#:	GCHP3	GCHP3	GCHP3	GCHP3
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	10	9.9	9.9	29
MS % Recovery:	100	99	99	97
Dup. Result:	9.8	9.6	9.7	29
MSD % Recov.:	98	96	97	97
RPD:	2.0	3.1	2.0	0.0
RPD Limit:	0-20	0-50	0-50	0-50

LCS #:

Prepared Date:
 Analyzed Date:
 Instrument I.D.#:
 Conc. Spiked:

LCS Result:
 LCS % Recov.:

MS/MSD LCS Control Limits	71-133	72-128	72-130	71-120
Control Limits				

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.

SEQUOIA ANALYTICAL

[Signature]
 Vytas Ankaitis
 Project Manager

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

9501G45.JVL <1>





Lowney Associates
 405 Clyde Avenue
 Mountain View, CA 94043
 Attention: Brock Foster

Client Project ID: 1063-1
 Matrix: Liquid
 Work Order #: 9501G45-03

Reported: Feb 8, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC020195BTEX17A	GC020195BTEX17A	GC020195BTEX17A	GC020195BTEX17A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

	J. Minkel	J. Minkel	J. Minkel	J. Minkel
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel
MS/MSD #:	9501E0401	9501E0401	9501E0401	9501E0401
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	2/1/95	2/1/95	2/1/95	2/1/95
Analyzed Date:	2/1/95	2/1/95	2/1/95	2/1/95
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	9.4	9.4	9.6	29
MS % Recovery:	94	94	96	97
Dup. Result:	9.2	9.2	9.1	27
MSD % Recov.:	92	92	91	90
RPD:	2.2	2.2	5.3	7.1
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:

Prepared Date:
 Analyzed Date:
 Instrument I.D.#:
 Conc. Spiked:

LCS Result:
 LCS % Recov.:

MS/MSD LCS Control Limits	71-133	72-128	72-130	71-120

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.

SEQUOIA ANALYTICAL

Vytas Ankaitis
 Project Manager

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

9501G45.JVL <2>





SEQUOIA ANALYTICAL CHAIN OF CUSTODY

- 680 Chesapeake Drive • Redwood City, CA 94063 • (415) 364-9600 FAX (415) 364-9233
- 819 West Striker Ave. • Sacramento, CA 95834 • (916) 921-9600 FAX (916) 921-0100
- 1900 Bates Ave., Suite LM • Concord, CA 94520 • (510) 686-9600 FAX (510) 686-9689

Company Name: <u>LOWNEY</u>		Project Name: <u>1063-1</u>	
Address: <u>405 Clyde Ave</u>		Billing Address (if different):	
City: <u>MT View</u> State: <u>CA</u>	Zip Code: <u>94087</u>		
Telephone: <u>415 967 2365</u> FAX #:		P.O. #:	
Report To: <u>Brook Foster</u>	Sampler: <u>Brook Foster</u>	QC Data: <input type="checkbox"/> Level A (Standard) <input type="checkbox"/> Level B <input type="checkbox"/> Level C <input type="checkbox"/> Level D	

Turnaround 10 Working Days 3 Working Days 2 - 8 Hours
 Time: 7 Working Days 2 Working Days
 5 Working Days 24 Hours 9501645

Analyses Requested
 Drinking Water
 Waste Water
 Other

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Sequoia's Sample #	Analyses Requested								Comments
1. MW-2	1/25/95 1:00	420	3		-01	<div style="border: 1px solid black; padding: 5px; transform: rotate(-45deg); display: inline-block;"> TPH-GAS/BIEN </div>								
2. MW-1	1/25/95 2:00	1	3		-02									
3. MW-3	1/25/95 3:00	2	3		-03									
4.														
5.														
6.														
7.														
8.														
9.														
10.														

Relinquished By: <u>Brook Foster</u>	Date: <u>1/25/95</u>	Time: <u>3:30</u>	Received By: _____	Date: _____	Time: _____
Relinquished By: _____	Date: _____	Time: _____	Received By: _____	Date: _____	Time: _____
Relinquished By: _____	Date: _____	Time: _____	Received By: <u>Guannep</u>	Date: <u>1-25-95</u>	Time: <u>1530</u>

Pink - Client
Yellow - Sequoia
White - Sequoia