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SECOND QUARTER 1995 GROUND WATER
MONITORING REPORT
S&S BUILDING SUPPLY 5-30-95
SAN LEANDRO, CALIFORNIA

LOWNEY ASSOCIATES

Environmental/Geotechnical/Engineering Services

LOWNEY ASSOCIATES

Environmental / Geotechnical / Engineering Services

May 30, 1995
1063-1, MV053004

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

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

Dear Mr. Gardner:

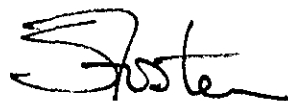
In accordance with your request, we are pleased to present the second quarter 1995 ground water monitoring report for the referenced site, located at 701 Fremont Avenue in San Leandro, California.

To evaluate the ground water quality, ground water samples were collected from monitoring wells MW-1, MW-2, and MW-3 on April 28, 1995. Laboratory analysis of the ground water samples detected gasoline range petroleum hydrocarbons at concentrations ranging from 220 to 6,500 parts per billion. The concentrations have generally decreased in monitoring wells MW-1 and MW-2 compared to those detected during previous sampling events; however, the gasoline range hydrocarbons detected in monitoring well MW-3 have increased.

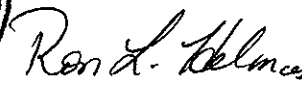
We refer you to the text of the report for details regarding our investigation. If you have any questions, please call.

Very truly yours,

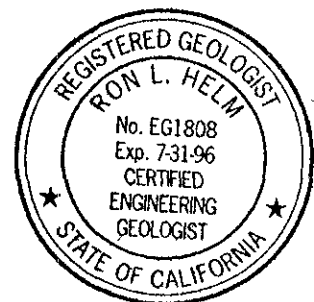
LOWNEY ASSOCIATES



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



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

SECOND 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

May 1995

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SECOND 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 second 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 as gasoline (TPHg) 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 TPHg 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 TPHg or BTEX

1.1 Purpose

1.2 Site Background

compounds. The stockpiled soil was subsequently used to backfill the excavation.

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

- ▼ Measurement of the on-site ground water flow direction.
- ▼ Collection of ground water samples from on-site monitoring wells MW-1, MW-2, and MW-3.
- ▼ Laboratory analysis of the ground water samples collected.

1.3 Scope of Work

2.0 GROUND WATER QUALITY INVESTIGATION

To evaluate current ground water quality, ground water samples from the three on-site wells were collected on April 28, 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	TPHg	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
	04/28/95	3,600	9.6	7.0	39	120

continued

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

Well Number	Date Sampled	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes
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
	04/28/95	220	1.8	<0.50	0.58	4.2
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
	04/28/95	6,500	12	11	300	410
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 levels 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, which is consistent with the previous measurements.

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
	04/28/95		11.07	88.98
MW-2	11/03/94	100.00	15.29	84.71
	01/25/95		12.06	87.94
	04/28/95		10.86	89.14

continued

*not to
MSL*

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

Well Number	Date	Relative Top of Casing Elevation	Ground Water Depth*	Relative Ground Water Elevation
MW-3	11/03/94	99.58	14.96	84.62
	01/25/95		11.75	87.83
	04/28/95		10.59	88.99

*Measured from top of casing

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 on-site monitoring wells detected gasoline range petroleum hydrocarbons ranging from 220 to 6,500 ppb. The concentrations have generally decreased in monitoring wells MW-1 and MW-2 compared to those detected during previous sampling events; however, the gasoline range hydrocarbons detected in monitoring well MW-3 have increased.

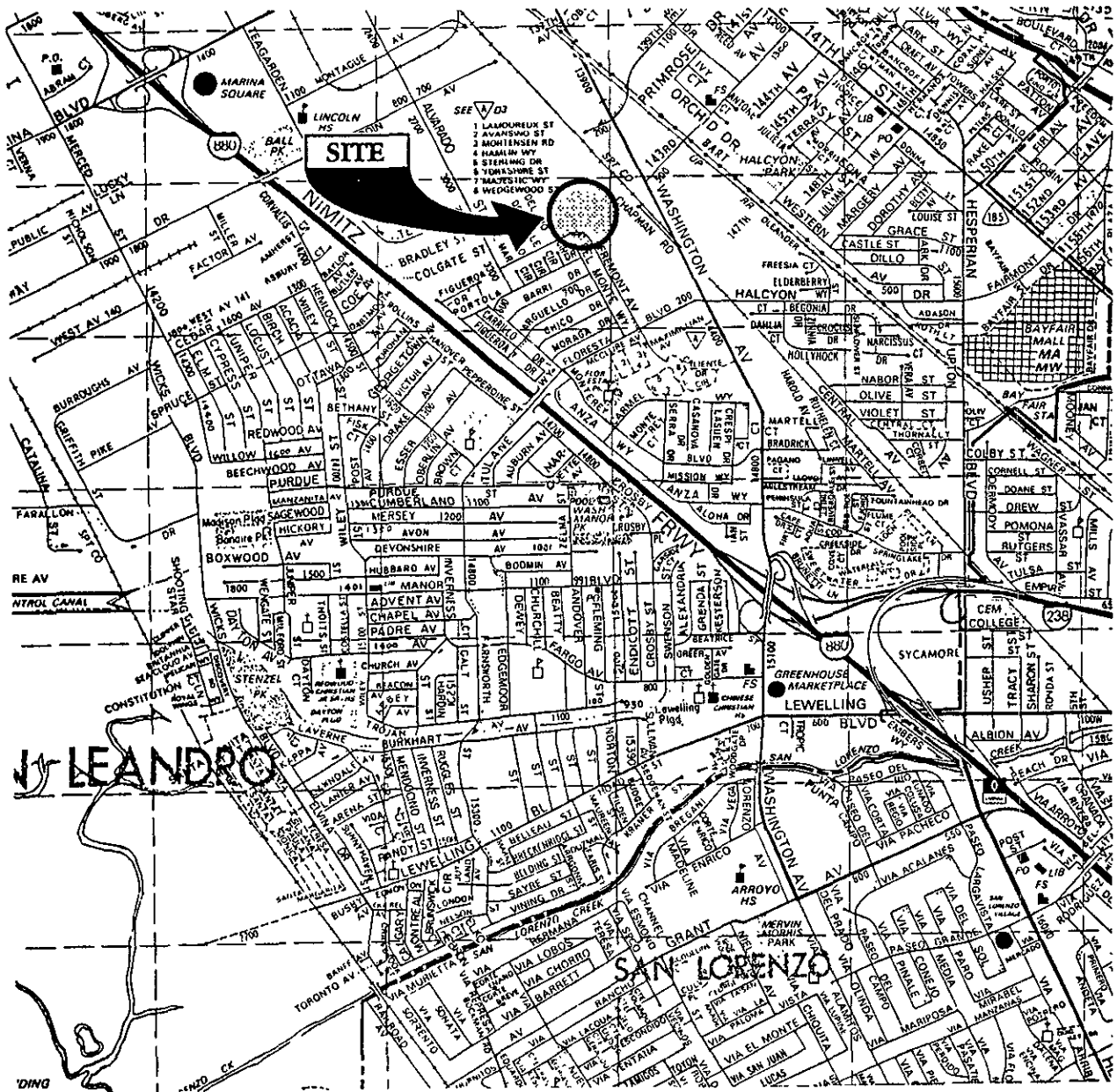
Continued quarterly sampling, as planned, will aid in better evaluating ground water quality. In our opinion, a continued decrease in petroleum hydrocarbon concentrations would be expected due to natural degradation and attenuation processes.

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.

* * * * *



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

1063-1, 5/95 BAF'EB

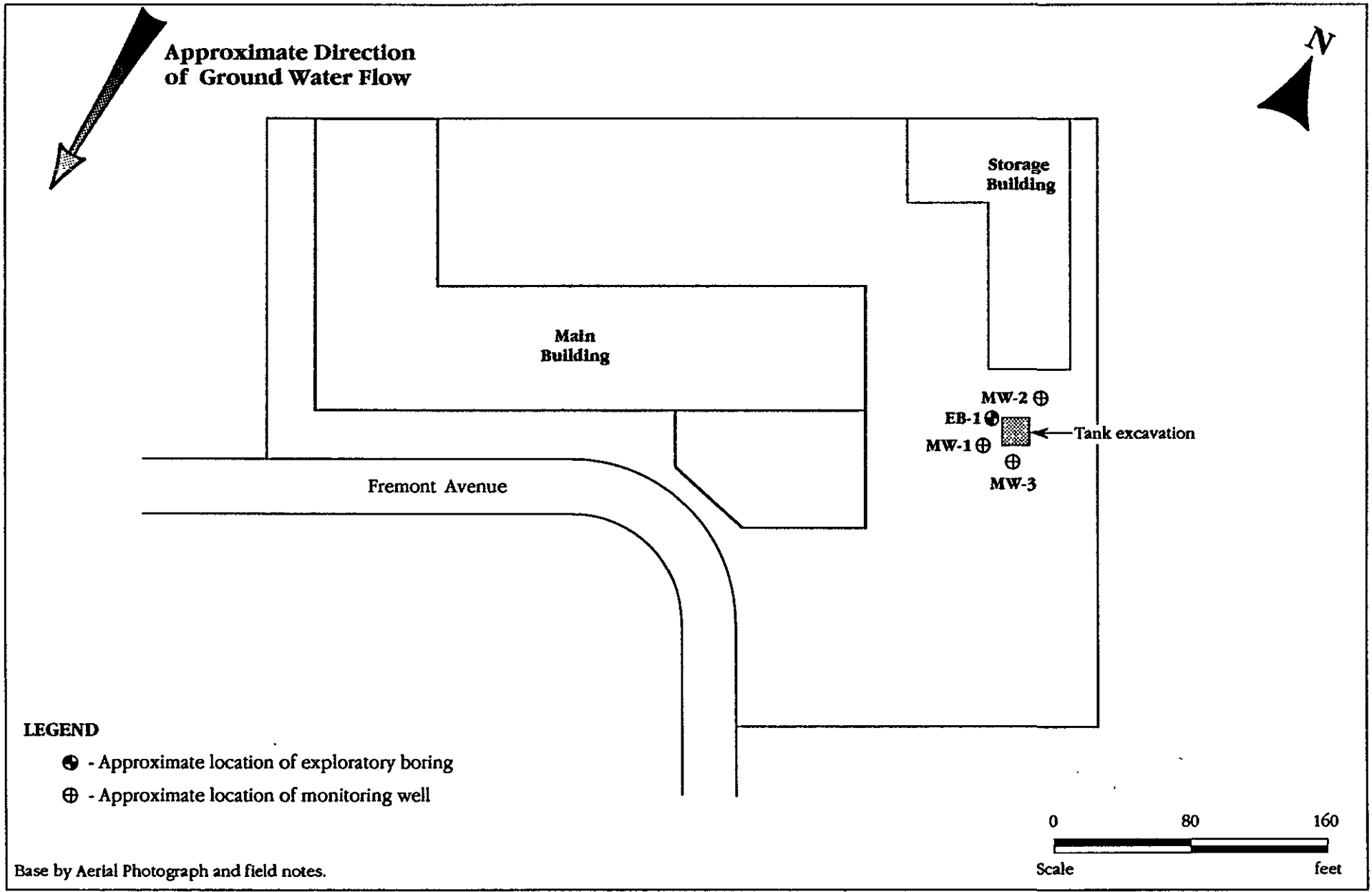
VICINITY MAP

S & S BUILDING SUPPLY
San Leandro, California

LOVNEY ASSOCIATES
Environmental/Geotechnical/Engineering Services

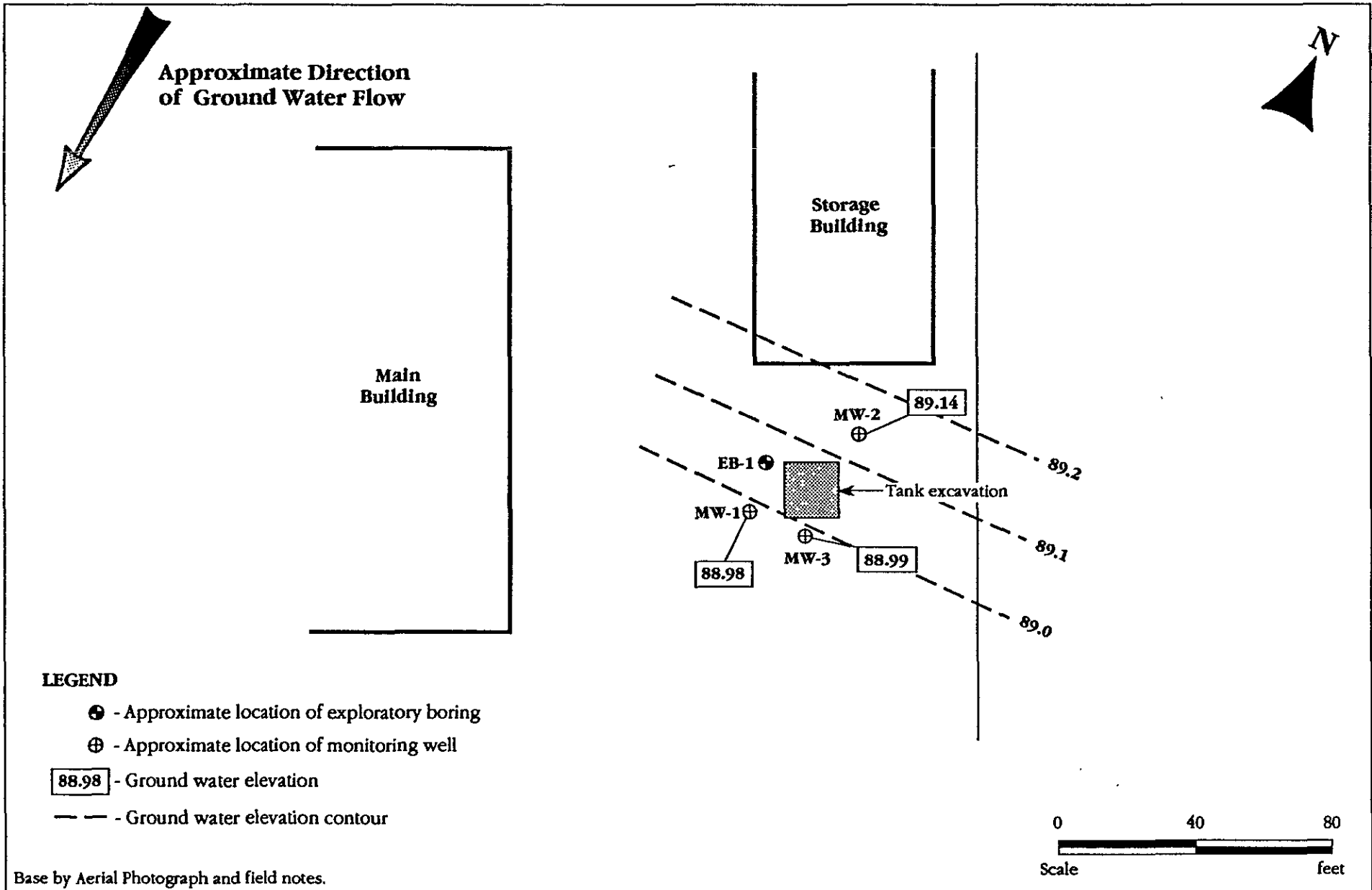
FIGURE 1

1063-1



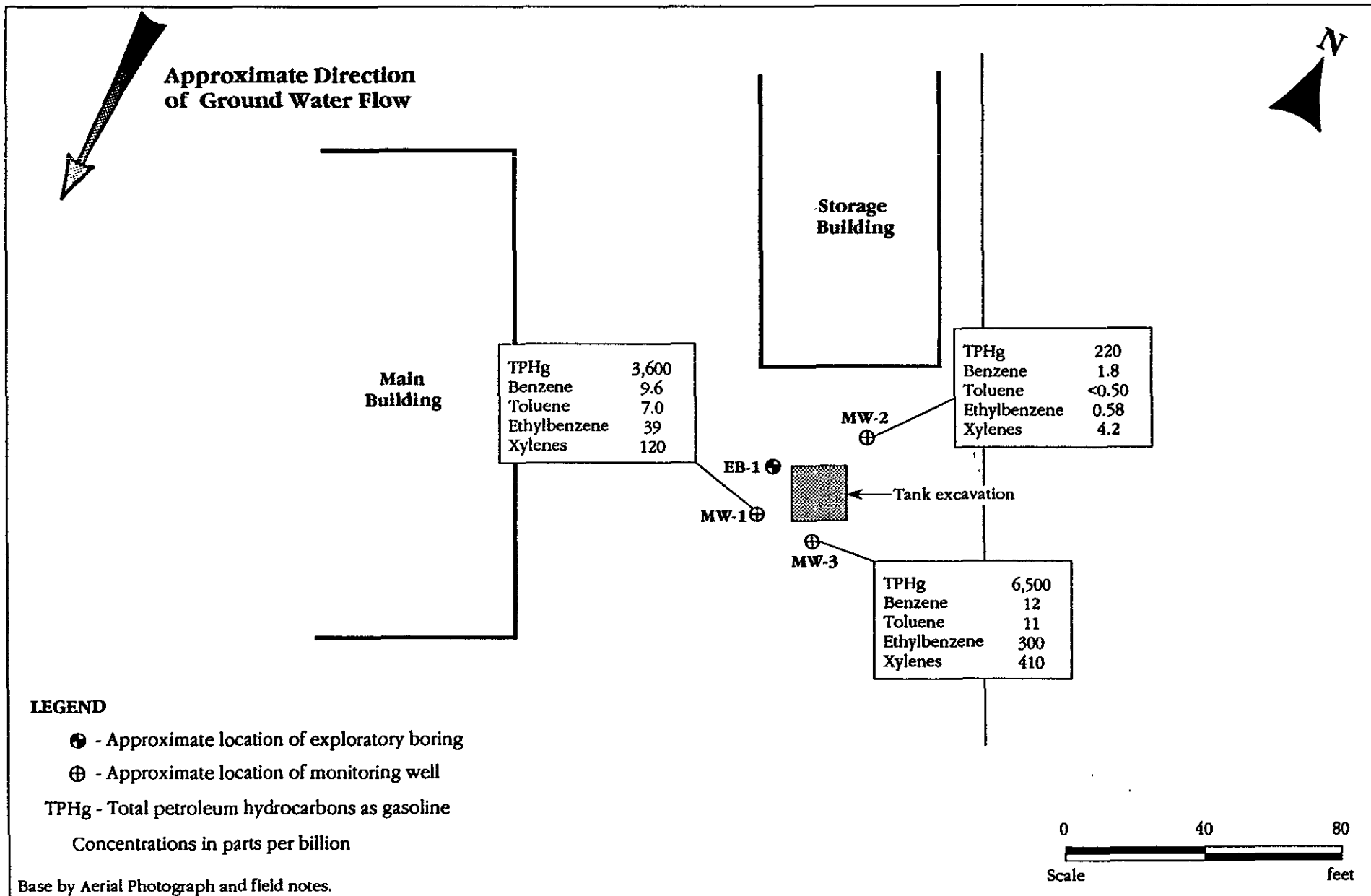
1063-1, 6/96 BAF*EB

SITE PLAN
S & S BUILDING SUPPLY
 San Leandro, California



1063-1, 6/96 BAF:EB

GROUND WATER ELEVATION MAP
S & S BUILDING SUPPLY
 San Leandro, California



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 4-28-95 Time 3:00 Method TEFLOW Bailer

Static Water Level Prior to Purging 11.07 (ft)
 (Measured from top of casing) H₂O = 13.93

Water Level After Recovery 11.08 (ft)
13.9
 80 Percent Recharged Yes No

Well Volume 8.6 (liter/gal)
 Three Well Volumes 25.9 (liter/gal)
 Total Produced 36 (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	7.7	6	64
2	7.5	6	64
3	7.6	6	64
4	7.5	6	64
5			
6			
7			
8			
9			
10			

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

Comments _____

Project Number 1063-1
 Project Name S+S BUILDING SUPPLY
 Field Geologist/Engineer RBF

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 4-28-95 Time 1:00 Method TEFLOW TBAILER
 Static Water Level Prior to Purging 10.86 (ft) Water Level After Recovery 10.88 (ft)
 (Measured from top of casing) $H_{H_2O} = 14.14$ 13.7
 80 Percent Recharged Yes No

Well Volume 8.8 (liter/gal)
 Three Well Volumes 26.3 (liter/gal)
 Total Produced 36 (liter/gal)
 Number of Well Volumes 4
 Production Time _____ (min)
 Production Rate _____ (/min)

Well Volumes	ph	Conductivity $\mu S \times 10$	Temp °F
1	7.8	5	64
2	7.4	6	64
3	7.5	6	64
4	7.5	6	64
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 RJAF

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 4-28-95 Time 2:00 Method Teflon Bailor

Static Water Level Prior to Purging 10.59 (ft)
 (Measured from top of casing) 4.420 = 14.41

Water Level After Recovery 10.59 (ft)
13.5
 80 Percent Recharged Yes No

Well Volume 8.9 (liter/gal)
 Three Well Volumes 26.8 (liter/gal)
 Total Produced 36 (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	7.7	6	65
2	7.5	6	65
3	7.5	6	65
4	7.5	6	65
5			
6			
7			
8			
9			
10			

Sample Description MW-3
 Laboratory Sequoia
 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
1600 S. Main St., Ste 125
Walnut Creek, CA 94596
Attention: Brock Foster

Client Project ID: S & S Building Supply
Sample Matrix: Water
Analysis Method: EPA 5030/8015/8020
First Sample #: 504-1789

Sampled: Apr 28, 1995
Received: Apr 28, 1995
Reported: May 12, 1995

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 504-1789 MW-2	Sample I.D. 504-1790 MW-3	Sample I.D. 504-1791 MW-1
Purgeable Hydrocarbons	50	220	6,500	3,600
Benzene	0.50	1.8	12	9.6
Toluene	0.50	N.D.	11	7.0
Ethyl Benzene	0.50	0.58	300	39
Total Xylenes	0.50	4.2	410	120
Chromatogram Pattern:		Gasoline and Unidentified Hydrocarbons >C9	Gasoline	Gasoline

Quality Control Data

Report Limit Multiplication Factor:	1.0	50	10
Date Analyzed:	5/7/95	5/7/95	5/9/95
Instrument Identification:	HP-2	HP-2	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	105	113	110

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Kevin Van Slambrook
Kevin Van Slambrook
Project Manager





Lowney Associates
1600 S. Main St., Ste 125
Walnut Creek, CA 94596
Attention: Brock Foster

Client Project ID: S & S Building Supply
Matrix: Liquid

QC Sample Group: 5041789-91

Reported: May 12, 1995

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	J. Fontecha	J. Fontecha	J. Fontecha	J. Fontecha

MS/MSD Batch#:	5050097	5050097	5050097	5050097
Date Prepared:	5/7/95	5/7/95	5/7/95	5/7/95
Date Analyzed:	5/7/95	5/7/95	5/7/95	5/7/95
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	105	105	110	112
Matrix Spike Duplicate % Recovery:	115	115	115	117
Relative % Difference:	9.1	9.1	4.4	4.4

LCS Batch#:	1LCS050795	1LCS050795	1LCS050795	1LCS050795
Date Prepared:	5/7/95	5/7/95	5/7/95	5/7/95
Date Analyzed:	5/7/95	5/7/95	5/7/95	5/7/95
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
LCS % Recovery:	115	115	121	119

% Recovery 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, #1271

Kevin Van Slambrook
Kevin Van Slambrook
Project Manager





Lowney Associates
1600 S. Main St., Ste 125
Walnut Creek, CA 94596
Attention: Brock Foster

Client Project ID: S & S Building Supply
Matrix: Liquid

QC Sample Group: 5041789-91

Reported: May 12, 1995

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	J. Fontecha	J. Fontecha	J. Fontecha	J. Fontecha

MS/MSD Batch#:	5050370	5050370	5050370	5050370
Date Prepared:	5/9/95	5/9/95	5/9/95	5/9/95
Date Analyzed:	5/9/95	5/9/95	5/9/95	5/9/95
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	105	105	110	110
Matrix Spike Duplicate % Recovery:	95	95	100	100
Relative % Difference:	10	10	9.5	9.5

LCS Batch#:	1LCS050995	1LCS050995	1LCS050995	1LCS050995
Date Prepared:	5/9/95	5/9/95	5/9/95	5/9/95
Date Analyzed:	5/9/95	5/9/95	5/9/95	5/9/95
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
LCS % Recovery:	104	105	111	110

% Recovery 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, #1271

Kevin Van Slambrook
Kevin Van Slambrook
Project Manager



LOVNEY ASSOCIATES

CHAIN OF CUSTODY RECORD

SEND RESULTS TO:

Mountain View Office
405 Clyde Ave
Mountain View, Ca 94043
415-967-2365

Walnut Creek Office
1600 S. Main St, Suite 125
Walnut Creek, Ca 94596
510-938-9356

FAX COPY: 415-967-2785 (FAX)

FAX COPY: 510-938-9359 (FAX)

Project Name: S & S Building Supply				Turnaround Requirements: <input checked="" type="checkbox"/> 10 Working days <input type="checkbox"/> 7 Working days <input type="checkbox"/> 5 Working days <input type="checkbox"/> 3 Working days <input type="checkbox"/> 24 Hours <input type="checkbox"/> 2-3 Hours		ANALYSIS REQUESTED											
Job No.: 1063-1						<div style="display: flex; justify-content: space-around; font-size: small;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TPHgas/BTEX (8015/8020)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TPH as diesel (8015M)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TRPH (5520) EF/BF</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Halogenated VOCs (8010)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Purgeable Organics (8240)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Extractable Organics (8270)</div> </div>											
Report To: Brock Foster																	
Sampler (print): " "																	
Sampler (signature):																	
QC Requirements: <input checked="" type="checkbox"/> Level A (standard) <input type="checkbox"/> Level B <input type="checkbox"/> Level C <input type="checkbox"/> Level D																	
Sample I.D.	Date	Time	Lab I.D.	Sample Matrix	No. of Cont.											Remarks	
MW-2	4-28-95	1:00	50017899	Ac H ₂ O	3	✓											
MW-3	↓	2:00	50017900	↓	3	✓											
MW-1	↓	3:00	50017901	↓	3	✓											
Relinquished By:				Date: 4/28/95 Time: 5:20		Received By:				Date: 4-28-95 Time: 5:20pm						Temperature:	
Relinquished By:				Date: Time:		Received By:				Date: Time:							
Relinquished By:				Date: Time:		Lab Of Record: _____				Received By Lab: Date: Time:							