LUSH
GEOSCIENCES
GEOLOGICAL AND ENVIRONMENTAL SERVICES

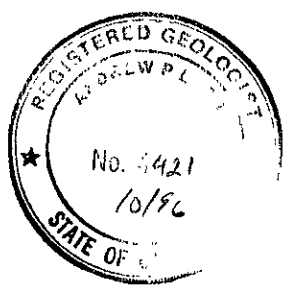
QUARTERLY MONITORING REPORT
APRIL 23, 1995
BECK ROOFING
HAYWARD, CALIFORNIA

LUSH GEOSCIENCES JOB NO. 423-001

JUNE 3, 1996

F. William Welter
Project Manager

Andrew P. Lush
RG 4421



LUSH
GEOSCIENCES

3560 BUSINESS DRIVE, SUITE 120 • SACRAMENTO, CA 95820 • (916) 737-9294 • FAX (916) 737-9298

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

APPENDICES

1.0 INTRODUCTION

This report was prepared to summarize quarterly monitoring work performed in the investigation of contamination associated with one former 1,000-gallon underground gasoline storage tank at the Beck Roofing Facility in Hayward, California (site). The report describes methods and procedures used to evaluate groundwater quality near the former tank. The methods and procedures used during this phase of investigation included:

- Collecting groundwater samples from the four previously installed wells;
- Analyzing the groundwater samples; and,
- Preparing this report.

This report summarizes the field and laboratory operations conducted, the methods and procedures used, the data obtained, and presents conclusions and recommendations.

2.0 SITE BACKGROUND

The site is an operating roofing company. One wooden structure located on the northwest side of the site contains office and warehouse space. The remainder of the site is used for equipment and materials storage. In May of 1990, a 1,000-gallon underground fuel tank used to store gasoline was removed. When the tank was removed, evidence of leakage was noted in soil adjacent to the tank.

We have attached a Generalized Site Plan (Figure 2), showing the site configuration.

2.1 Previous Work

Previous work, performed by other consultants, includes excavation of approximately 350 cubic yards of contaminated soil, drilling and sampling 20 soil borings, installation of four groundwater monitoring wells, excavation of an additional 400 cubic yards of contaminated soil, and quarterly monitoring of the wells. Previous analyses have shown variable contaminant concentrations in one well (MW3), and slight to non detectable levels in the remaining wells.

3.0 QUARTERLY GROUNDWATER SAMPLING

3.1 Field Procedures

Groundwater samples were collected from each well on April 23,1996. Sampling activities were conducted as follows:

- Water and product levels were determined using an electronic water sensitive measuring device. Depth to water or product was measured to an accuracy of 0.01 ft. No free product was encountered.

- Prior to sampling, each well was purged with a submersible pump until at least 3 well volumes of water were removed. The purged water was monitored for temperature, pH, and electrical conductivity (Table 1). Purging continued until these parameters stabilized. The well was allowed to recover until at least 80% of the initial water level had been reached.

- After each well stabilized, a sample was collected with an unused, clean, disposable polyethylene bailer. The collected sample was transferred from the bailer to appropriate 40-ml glass sample vials. All sample containers were filled completely with a convex meniscus to eliminate any trapped air or headspace. Each sample container cap was fitted with a Teflon septum.

- After sampling, the samples were labeled, showing the sample number, well number, date, time, samplers name, and preservation. The samples were refrigerated in a cooler containing ice until delivery to the laboratory to perform the specified analyses. Chain-of-custody documentation was maintained from the sampling location to the laboratory. The chain-of custody was signed by the sampler and placed in the container holding the samples. Condition of the samples was noted on the chain-of-custody document by the laboratory.

TABLE 1

PURGED WATER PARAMETERS
GROUNDWATER MONITORING WELLS
BECK ROOFING FACILITY
HAYWARD, CALIFORNIA
Page 1of 2

Well	Date	Subjective Evidence	T (°F)	pH	K	3WV	Volume Purged
MW1	10/25/94	No Odor	64.7	6.98	1,930	27	30
MW2	10/25/94	No Odor	63.8	6.92	2,600	27	30
MW3	10/25/94	No Odor	66.5	6.90	2,600	27	30
MW4	10/25/94	No Odor	64.5	8.61	2,400	27	30
MW1	1/20/95	No Odor	62.9	7.37	570	27	30
MW2	1/20/95	No Odor	62.1	7.20	775	27	30
MW3	1/20/95	No Odor	63.6	7.10	870	27	30
MW4	1/20/95	No Odor	63.3	7.26	728	27	30
MW1	4/11/95	No Odor	65.9	6.66	637	30	35
MW2	4/11/95	No Odor	72.9	6.63	926	30	35
MW3	4/11/95	Odor	70.8	6.62	873	30	35
MW4	4/11/95	No Odor	69.2	6.68	791	30	35
MW1	7/13/95	INACCESSIBLE					
MW2	7/13/95	No Odor	73.6	6.30	819	30	35
MW3	7/13/95	Odor	75.0	6.60	800	30	35
MW4	7/13/95	No Odor	75.0	7.00	739	30	35
MW1	10/10/95	No Odor	68.7	7.20	544	30	30
MW2	10/10/95	No Odor	68.4	7.05	732	30	30
MW3	10/10/95	Odor	68.0	7.79	704	30	30
MW4	10/10/95	No Odor	68.1	7.01	693	30	30

Continued on Next Page

K = Conductivity in micromhos
T = Temperature in degrees Fahrenheit
pH = Hydrogen ion concentration
3WV = Calculated three well volumes in gallons

TABLE 1

PURGED WATER PARAMETERS
GROUNDWATER MONITORING WELLS
BECK ROOFING FACILITY
HAYWARD, CALIFORNIA
Page 2 of 2

Well	Date	Subjective Evidence	T (°F)	pH	K	3WV	Volume Purged
MW1	1/11/96	No Odor	67.0	6.81	565	30	30
MW2	1/11/96	No Odor	65.8	6.43	734	30	30
MW3	1/11/96	No Odor	63.1	7.59	690	30	30
MW4	1/11/96	No Odor	63.2	7.59	644	30	30
MW1	4/23/96	No Odor	67.3	6.54	1,187	30	30
MW2	4/23/96	No Odor	67.9	6.51	1,613	30	30
MW3	4/23/96	No Odor	66.5	6.87	980	30	30
MW4	4/23/96	No Odor	66.4	6.52	1,416	30	30

K = Conductivity in micromhos
T = Temperature in degrees Fahrenheit
pH = Hydrogen ion concentration
3WV = Calculated three well volumes in gallons

3.2 Groundwater Analyses

Groundwater samples from each accessible well were analyzed for TPHg using Environmental Protection Agency (EPA) Method 8015 (modified for gasoline) with purge and trap EPA Method 5030, and for the associated volatile constituents BTEX using EPA Method 602 with purge and trap EPA Method 5030. Results of the analyses are summarized in Table 2; copies of laboratory reports are attached as Appendix A. All analyses were conducted by Sparger Technology Laboratories, of Sacramento, California, which is certified by the State of California for the requested analyses.

TABLE 2
RESULTS OF LABORATORY ANALYSES
GROUNDWATER SAMPLES
BECK ROOFING FACILITY
HAYWARD, CALIFORNIA

Well Number and Date	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes
MW1					
8/4/94	<0.05	<0.0003	<0.0003	<0.0003	<0.0005
10/25/94	<0.05	<0.0003	<0.0003	<0.0003	<0.0003
1/20/95	<0.05	<0.0003	<0.0003	<0.0003	<0.0003
4/11/95	<0.05	<0.0003	<0.0003	<0.0003	<0.0003
7/13/95		INACCESSIBLE			
10/10/95	<0.05	<0.0003	<0.0003	<0.0003	**0.0012**
1/11/96	<0.05	<0.0003	<0.0003	<0.0003	<0.0003
4/23/96	**0.53**	<0.0003	**0.00064**	<0.0003	**0.00082**
MW2					
8/4/94	<0.05	<0.0003	<0.0003	<0.0003	<0.0005
10/25/94	<0.05	<0.0003	<0.0003	<0.0003	<0.0003
1/20/95	<0.05	**0.0010**	<0.0003	<0.0003	<0.0003
4/11/95	<0.05	**0.0012**	<0.0003	<0.0003	<0.0003
7/13/95	<0.05	<0.0003	<0.0003	<0.0003	<0.0003
10/10/95	<0.05	**0.00069**	<0.0003	<0.0003	**0.052**
1/11/96	<0.05	<0.0003	<0.0003	<0.0003	**0.00067**
4/23/96	<0.05	<0.0003	**0.00068**	<0.0003	**0.00066**

Continued on Next Page

TPHg = Total petroleum hydrocarbons
Results given in milligrams per liter (parts per million)
< = Less than laboratory minimum detection limits
MW1 = Monitoring well number

RESULTS OF LABORATORY ANALYSES
GROUNDWATER SAMPLES
BECK ROOFING FACILITY
HAYWARD, CALIFORNIA
page2 of 2

Well Number and Date	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes
MW3					
8/4/94	**4.2**	**0.45**	<0.003	**0.18**	**0.16**
10/25/94	<0.05	<0.0003	<0.0003	<0.0003	<0.0003
1/20/95	**4.4**	**0.58**	**0.002**	**0.130**	**0.160**
4/11/95	**1.8**	**0.088**	**0.0014**	**0.033**	**0.027**
7/13/95	**3.4**	**0.5**	<0.0003	**0.130**	**0.094**
10/10/95	**4.2**	**0.360**	**0.0024**	**0.190**	**0.096**
1/11/96	<0.05	<0.0003	<0.0003	<0.0003	<0.0003
4/23/96	**0.079**	**0.0012**	**0.00033**	**0.00045**	**0.00048**
MW4					
8/4/94	<0.05	<0.003	0.0005	<0.0003	<0.0005
10/25/94	<0.05	<0.0003	<0.0003	<0.0003	<0.0003
1/20/95	<0.05	<0.0003	<0.0003	<0.0003	<0.0003
4/11/95	<0.05	<0.0003	<0.0003	<0.0003	<0.0003
7/13/95	<0.05	<0.0003	<0.0003	<0.0003	<0.0003
10/10/95	<0.05	<0.0003	<0.0003	<0.0003	<0.0003
1/11/96	<0.05	**0.0021**	**0.004**	<0.0003	**0.00079**
4/23/96	<0.05	**0.00042**	**0.0011**	**0.00039**	**0.00079**

TPHg = Total petroleum hydrocarbons
Results given in milligrams per liter (parts per million)
< = Less than laboratory minimum detection limits
MW1 = Monitoring well number

3.3 Groundwater Gradient

As directed by the Alameda County Environmental Health Department, groundwater surface measurements have been taken on a monthly basis since April, 1995. Elevation data gathered during the monthly measurements indicate the groundwater had been receding since April, 1995, and began to recharge in January, 1996. The groundwater gradient was approximated from calculations made using surveyed wellhead elevations and locations in combination with depth to groundwater measurements made on February 7 and April 23, 1996, (Table 3, Figures 3 and 4). The data indicate that groundwater flow was S68°W and S63°W respectively. The gradient data is very consistent with data generated during the preceding twelve months indicating a southwesterly flow across the site.

TABLE 3
GROUNDWATER ELEVATION DATA
BECK ROOFING FACILITY
HAYWARD, CALIFORNIA
page 1 of 4

Well Number	Elevation of Top of Casing (ft. above MSL)	Depth to Water (ft. below top of casing)	Water-level Elevation (ft. above MSL)	Gradient and Direction
8/4/94				
MW1	58.55	29.96	29.29	
MW2	58.65	29.35	29.30	
MW3	58.52	29.27	29.25	
MW4	58.01	28.80	29.21	
10/25/94				
MW1	58.55	30.10	28.45	
MW2	58.65	30.15	28.50	0.0009 ft/ft
MW3	58.52	30.10	28.42	S22°W
MW4	58.01	29.60	28.41	
1/20/95				
MW1	58.55	26.57	31.98	
MW2	58.65	26.65	32.00	0.0002 ft/ft
MW3	58.52	26.54	31.98	S0°W
MW4	58.01	26.03	31.98	

Continued on Next Page

TOC = Top of the well casing (elevation in ft. above mean sea level- AMSL)
Gradient = groundwater gradient in ft per ft
Direction = groundwater flow direction

TABLE 3
GROUNDWATER ELEVATION DATA
BECK ROOFING FACILITY
HAYWARD, CALIFORNIA
page 2 of 4

Well Number	Elevation of Top of Casing (ft. above MSL)	Depth to Water (ft. below top of casing)	Water-level Elevation (ft. above MSL)	Gradient and Direction
4/11/95				
MW1	58.55	23.87	34.68	
MW2	58.65	23.92	34.73	0.0009 ft/ft
MW3	58.52	23.87	34.65	S24°W
MW4	58.01	23.38	34.63	
5/09/95				
MW2	58.55	24.65	33.90	
MW2	58.65	24.735	33.915	0.00125ft/ft
MW3	58.52	24.66	33.86	S65°W
MW4	58.01	24.20	33.81	
6/09/95				
MW1	58.55	25.39	33.16	
MW2	58.65	25.47	33.18	0.0008ft/ft
MW3	58.52	25.40	33.12	S59°W
MW4	58.01	24.92	33.10	
7/13/95				
MW1	58.55	INACCESSIBLE		
MW2	58.65	26.032.65		
MW3	58.52	25.95	32.57	
MW4	58.01	25.532.51		
8/10/95				
MW1	58.55	26.33	32.16	
MW2	58.65	26.48	32.17	
MW3	58.52	26.43	32.09	
MW4	58.01	25.97	32.04	

Continued on Next Page

TOC = Top of the well casing (elevation in ft. above mean sea level- AMSL)
Gradient = groundwater gradient in ft per ft
Direction = groundwater flow direction

TABLE 3
GROUNDWATER ELEVATION DATA
BECK ROOFING FACILITY
HAYWARD, CALIFORNIA
page 3 of 4

Well Number	Elevation of Top of Casing (ft. above MSL)	Depth to Water (ft. below top of casing)	Water-level Elevation (ft. above MSL)	Gradient and Direction
9/14/95				
MW1	58.55	26.84	31.71	
MW2	58.65	26.92	31.73	
MW3	58.52	26.87	31.65	
MW4	58.01	26.42	31.30	
10/10/95				
MW1	58.55	27.18	31.37	
MW2	58.65	27.27	31.38	
MW3	58.52	27.22	31.30	
MW4	58.01	26.76	31.25	
11/7/95				
MW1	58.55	27.52	31.03	
MW2	58.65	27.60	31.05	0.001ft/ft
MW3	58.52	27.55	30.97	S65°W
MW4	58.01	27.08	30.93	
12/6/95				
MW1	58.55	27.80	30.75	
MW2	58.65	27.88	30.77	0.001ft/ft
MW3	58.52	27.83	30.65	S63°W
MW4	58.01	27.37	30.64	
1/11/96				
MW1	58.55	26.76	31.79	
MW2	58.65	26.84	31.81	0.001ft/ft
MW3	58.52	26.77	31.75	S67°W
MW4	58.01	26.30	31.71	

Continued on Next Page

TOC = Top of the well casing (elevation in ft. above mean sea level- AMSL)
Gradient = groundwater gradient in ft per ft
Direction = groundwater flow direction

TABLE 3
GROUNDWATER ELEVATION DATA
BECK ROOFING FACILITY
HAYWARD, CALIFORNIA
page 4 of 4

Well Number	Elevation of Top of Casing (ft. above MSL)	Depth to Water (ft. below top of casing)	Water-level Elevation (ft. above MSL)	Gradient and Direction
2/7/96				
MW1	58.55	24.24	34.31	
MW2	58.65	24.32	34.33	0.0007ft/ft
MW3	58.52	24.26	34.26	S68°W
MW4	58.01	23.76	34.25	
4/23/96				
MW1	58.55	23.02	35.53	
MW2	58.65	23.09	35.56	0.0014ft/ft
MW3	58.52	23.06	35.46	S63°W
MW4	58.01	22.60	35.41	

TOC = Top of the well casing (elevation in ft. above mean sea level- AMSL)
Gradient = groundwater gradient in ft per ft
Direction = groundwater flow direction

3.4 Quality Assurance/Quality Control

All field equipment was cleaned and decontaminated prior to being introduced into the sampling environment. Each sample was collected using a dedicated, disposable bailer. Care was taken to prevent the bailer from becoming contaminated prior to being introduced into the sampling environment.

3.4.1 Laboratory QA/QC

Sparger is certified by the CalEPA Hazardous Waste Testing Laboratory Certification Program to conduct the analyses requested. The methods used by the laboratory are published, approved analytical methods which have built-in QA/QC practices. Other QA/QC practices are part of CalEPA's certification program. The laboratory provided pertinent QA/QC documents pertaining to the analytical protocol. These QA/QC documents include surrogate recovery data and analytical charts including those of the spikes and matrix spike duplicates. Copies of these

documents were incorporated into the laboratory reports of analyses (Appendix A).

4.0 CONCLUSIONS AND DISCUSSION

Low concentrations of gasoline and/or proportional concentrations of the volatile constituents BTEX were detected in all four of the site wells. Historically, gasoline and the associated volatile constituents have been detected at significant concentrations in MW3, located immediately downgradient of the former tank, while petroleum contaminants have not been detectable in MW4 located further downgradient, or in MW1 and MW2 located cross and upgradient, respectively. During the last sampling event (1/11/96), benzene, toluene, and xylenes were detected in MW4 at concentrations of 0.0003, 0.0003, and 0.0006 ppm respectively, while no contaminants were detectable in MW3. This data represented a reversal of historic contamination data.

Detection of gasoline constituents during this sampling event in wells formerly free of contamination may indicate the plume is migrating or that groundwater has risen to elevations which previously had been in the vadose zone during the samping process and the fdetected concentrations are related to previous migration during previous higher water levels prior to previous sampling events; however, the levels detected in all wells are very low. The highest BTEX concentration in any well was 0.0012 ppm benzene in MW3 and 0.0011 ppm toluene in MW4. Other BTEX concentrations reported were less than 0.001 ppm. Only the one benzene concentration from MW3 is above EPA-desgnated drinking water standards.

Groundwater elevation data indicates that the groundwater has been recharging since January 1996. The groundwater elevation measured during this event is roughly 3.7 ft higher then measured during the last regular quarterly monitoring event in January.

5.0 RECOMMENDATIONS

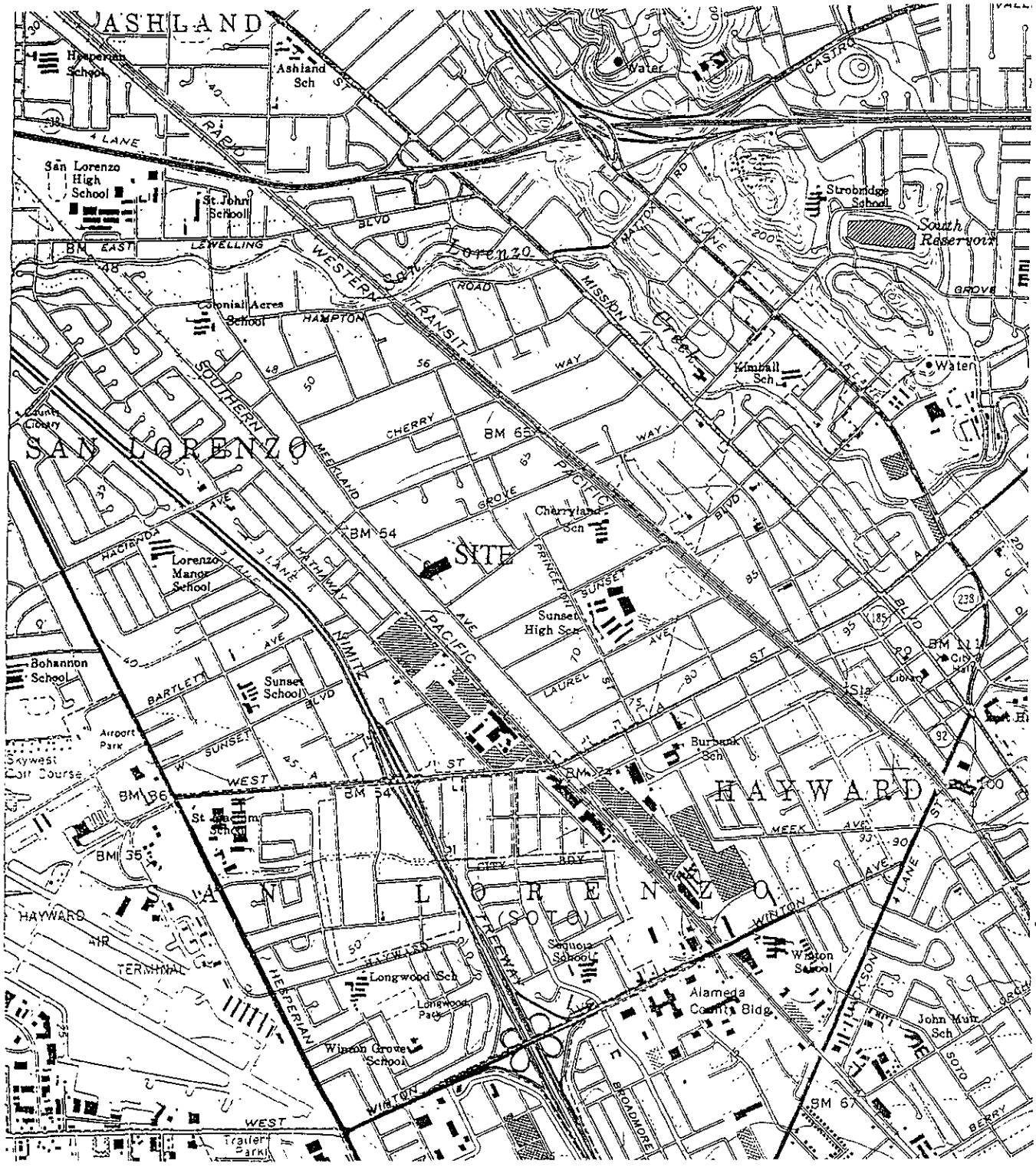
The present data suggest that the groundwater contamination plume may be beginning to migrate. It appears likely that the detection of contamination in wells further from the source may be associated with the rise in the groundwater elevation. We anticipate that the groundwater will again recede during the following summer and fall months. As such it is also very possible contaminant concentrations will also attenuate. Further remedial action is being considered. Sampling of all of the onsite monitoring wells should continue on a quarterly basis until

completion of all remedial action, or until otherwise directed. We have discontinued monthly groundwater level measurments because of the consistency of the latest several data sets. OK

6.0 LIMITATIONS

The above conclusions are based on our assessment of conditions indicated to exist as of the dates of our field work. Our assessment included review of previous documents and interviews with state or local regulatory persons familiar with the area. This assessment was conducted in accordance with generally accepted standards of environmental geological practice at the time it was performed. The results of this assessment do not preclude the possibility that substances that are currently, or which in the future may be defined as hazardous, may be present on the property because of activities that we could not identify, or in locations which were not sampled.

Our conclusions are based on groundwater sample analyses representative of contaminant concentrations at the locations sampled. These results are considered indicative of site conditions, but such conditions may vary away from the points sampled. Further investigation, including additional subsurface exploration and laboratory testing of soil and groundwater samples can reduce the uncertainties inherent in this type of limited environmental assessment. No soil engineering or geotechnical references are made, nor should they be inferred.



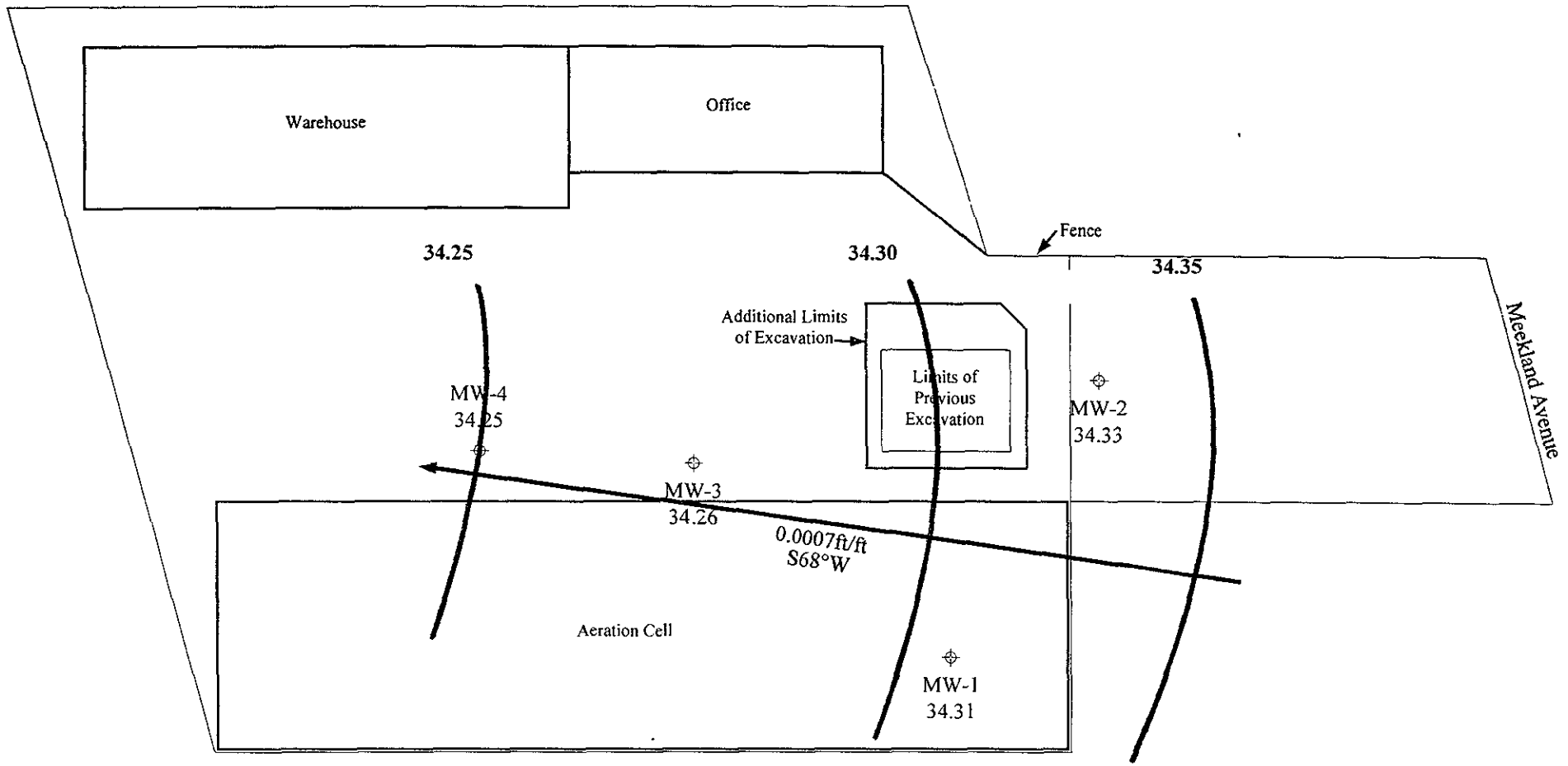
Reference: USGS 7.5'- series topographic map of the Hayward Quadrangle (photorevised 1980)

SITE LOCATION MAP
BECK ROOFING FACILITY
21123 MEEKLAND AVENUE

HAYWARD, CALIFORNIA

LUSH GEOSCIENCES

FIGURE 1



North

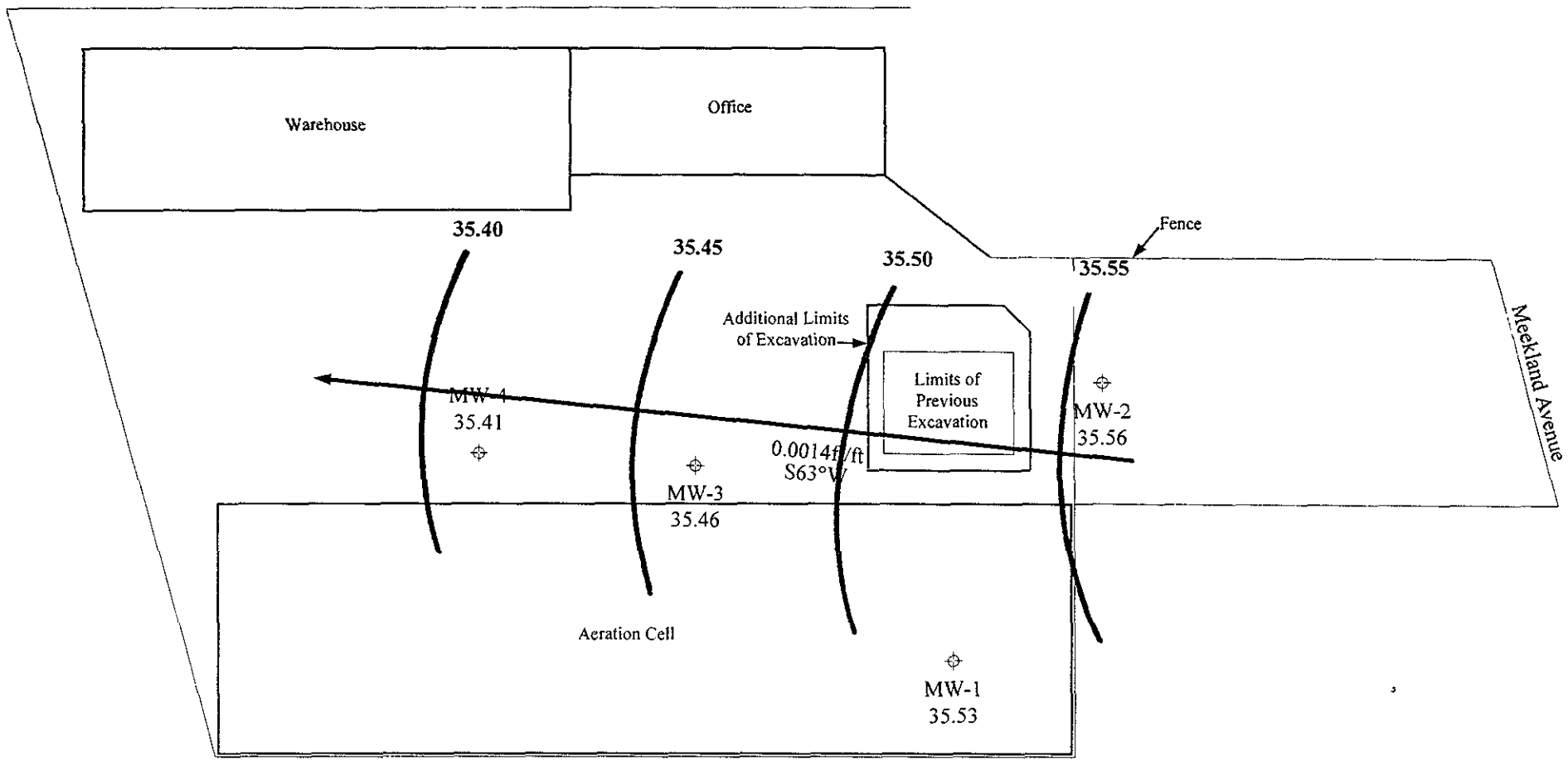
Monitoring Well Location

0' 20' 40'

POTENTIOMETRIC SURFACE MAP
FEBRUARY 7, 1996
BECK ROOFING FACILTY
21123 MEEKLAND AVENUE

LUSH GEOSCIENCES

FIGURE 2



POTENTIOMETRIC SURFACE MAP
APRIL 23, 1996
BECK ROOFING FACILTY
21123 MEEKLAND AVENUE

North

Monitoring Well Location

0' 20' 40'

LUSH GEOSCIENCES

FIGURE 3

Sparger Technology, Inc.

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

May 29, 1996

Invoice #: 6539
Project #: 423-001
Project Name: Beck

Mr. Andrew Lush
Lush Geosciences
3560 Business Dr., Ste. 120
Sacramento, CA 95820

Mr. Andrew Lush,

Enclosed is the report for the four (4) water samples. The samples were received at Sparger Technology Analytical Lab on April 24, 1996.

The samples were received in eight (8) 40 mL VOAs. The samples were transported and received under documented chain of custody and stored at four (4) degrees C until analysis was performed.

The report consists of the following sections:

I. Sample Description & Analysis Request
II. Quality Control Report
III. Analysis Results

No problems were encountered with the analysis of your samples.

If you require additional information please give us a call at (916) 362-8947.

Sincerely,

R. L. James
Principal Chemist

Sparger Technology, Inc.

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

I Sample Description & Analysis Request

Laboratory ID			Sample ID	Analysis Description	Matrix
6539	001	A	MW-1	BTEX/TPHgas	W
6539	002	A	MW-2	BTEX/TPHgas	W
6539	003	A	MW-3	BTEX/TPHgas	W
6539	004	A	MW-4	BTEX/TPHgas	W

Sparger Technology, Inc.

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

II Quality Control

A. **Project Specific QC.** No project specific QC (i.e., spikes and/or duplicates) was requested.

B. **Method Blank Results.** A method blank is a laboratory-generated sample which assesses the degree to which laboratory operations and procedures cause false-positive analytical results for your sample.

No target parameters were detected in the method blank associated with your sample at the reporting limit levels noted on the data sheets in the Analytical Results section.

C. **Laboratory Control Spike.** A Laboratory Control Spike (LCS) is a sample which is spiked with known analyte concentrations, and analyzed at approximately 10% of the sample load in order to establish method-specific control limits. The LCS results associated with your samples are on the attached Laboratory Control Spike and Laboratory Control Spike Duplicate Analysis Report.

D. **Matrix Spike Results.** A Matrix Spike is a sample which is spiked with known analyte concentrations, and analyzed at approximately 10% of the sample load in order to establish method-specific control limits. The Matrix Spike results associated with your samples are on the attached Matrix Spike and Matrix Spike Duplicate Analysis Report.

Accuracy is measured by Percent Recovery as in:

$$\% \text{ recovery} = \frac{(\text{measured concentration}) \times 100}{(\text{actual concentration})}$$

III Analysis Results

Results are on the attached data sheets.

(916) 362-3047 • FAX (916) 362-3048

Sparger Technology, Inc.

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

EPA Method 8020/8015
Modified Analysis Report

Attention:	Mr. Andrew Lush	Date Sampled:	Apr 23, 1996
	Lush Geosciences	Date Received:	Apr 24, 1996
	3560 Business Dr., Ste. 120	Date Analyzed:	May 7, 1996
	Sacramento, CA 95820	Invoice #:	6539
Project #:	423-001	Project Name:	Beck
Client ID:	MW-1	LAB ID:	6539-001A
Matrix:	Water	Dilution: 1:	1

Name	Amount	Detection Limit	Units
Benzene	ND	0.3	ug/l
Toluene	0.64	0.3	ug/l
Ethylbenzene	ND	0.3	ug/l
Xylenes	0.82	0.3	ug/l
TPHgas	53.0	50	ug/l
Surrogate % Recovery of Trifluorotoluene =	97%		

ppb = parts per billion = ug/l = micrograms per liter
ppm= parts per million = ug/ml = micrograms per milliliter
ND = Not Detected Compound(s) may be present at concentrations below the detection limit

R. L. James, Principal Chemist

May 9, 1996
Date

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No 1614)

8020001.XLS

(916) 362-3947 • FAX (916) 362-0947

Sparger Technology, Inc.

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

EPA Method 8020/8015
Modified Analysis Report

Attention:	Mr. Andrew Lush	Date Sampled:	Apr 23, 1996
	Lush Geosciences	Date Received:	Apr 24, 1996
	3560 Business Dr., Ste. 120	Date Analyzed:	May 7, 1996
	Sacramento, CA 95820	Invoice #:	6539
Project #:	423-001	Project Name:	Beck
Client ID:	MW-2	LAB ID:	6539-002A
Matrix:	Water	Dilution: 1:	1

Name	Amount	Detection Limit	Units
Benzene	ND	0.3	ug/l
Toluene	0.68	0.3	ug/l
Ethylbenzene	ND	0.3	ug/l
Xylenes	0.66	0.3	ug/l
TPHgas	ND	50	ug/l
Surrogate % Recovery of Trifluorotoluene =	100%		

ppb = parts per billion = ug/l = micrograms per liter
ppm= parts per million = ug/ml = micrograms per milliliter
ND = Not Detected Compound(s) may be present at concentrations below the detection limit

R L. James, Principal Chemist

May 9, 1996
Date

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No 1614)

8020002.XLS

(916) 362-3947 • FAX (916) 362-0947

Sparger Technology, Inc.

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

EPA Method 8020/8015
Modified Analysis Report

Attention:	Mr. Andrew Lush	Date Sampled:	Apr 23, 1996
	Lush Geosciences	Date Received:	Apr 24, 1996
	3560 Business Dr., Ste. 120	Date Analyzed:	May 7, 1996
	Sacramento, CA 95820	Invoice #:	6539
Project #:	423-001	Project Name:	Beck
Client ID:	MW-3	LAB ID:	6539-003A
Matrix:	Water	Dilution: 1:	1

Name	Amount	Detection Limit	Units
Benzene	1.2	0.3	ug/l
Toluene	0.33	0.3	ug/l
Ethylbenzene	0.45	0.3	ug/l
Xylenes	0.48	0.3	ug/l
TPHgas	79	50	ug/l

Surrogate % Recovery of Trifluorotoluene = 93%

ppb = parts per billion = ug/l = micrograms per liter
ppm= parts per million = ug/ml = micrograms per milliliter
ND = Not Detected Compound(s) may be present at concentrations below the detection limit

R. L. James, Principal Chemist

May 9, 1996
Date

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No 1614)

[illegible] 95823 • (916) 362-3947 • FAX (916) 362-3947

Sparger Technology, Inc.

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

EPA Method 8020/8015
Modified Analysis Report

Attention:	Mr. Andrew Lush	Date Sampled:	Apr 23, 1996
	Lush Geosciences	Date Received:	Apr 24, 1996
	3560 Business Dr., Ste. 120	Date Analyzed:	May 7, 1996
	Sacramento, CA 95820	Invoice #:	6539
Project #:	423-001	Project Name:	Beck
Client ID:	MW-4	LAB ID:	6539-004A
Matrix:	Water	Dilution: 1:	1

Name	Amount	Detection Limit	Units
Benzene	0.42	0.3	ug/l
Toluene	1.1	0.3	ug/l
Ethylbenzene	0.39	0.3	ug/l
Xylenes	0.79	0.3	ug/l
TPHgas	ND	50	ug/l

Surrogate % Recovery of Trifluorotoluene = 100%

ppb = parts per billion = ug/l = micrograms per liter
ppm= parts per million = ug/ml = micrograms per milliliter
ND = Not Detected Compound(s) may be present at concentrations below the detection limit

R. L. James, Principal Chemist

May 9, 1996
Date

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No 1614)

8020004.XLS

(916) 362-3947 • FAX (916) 362-0947

Sparger Technology, Inc.

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

EPA Method 8020
Modified Laboratory Control Spike (LCS) & Laboratory Control Spike Duplicate (LCSD) BTEX Analysis Report

Attention:	Mr. Andrew Lush Lush Geosciences 3560 Business Dr., Ste. 120 Sacramento, CA 95820	Date Sampled: Date Received: Date Analyzed: Invoice #:	Apr 23, 1996 Apr 24, 1996 May 7, 1996 6539
Project ID:	423-001	Project Name:	Beck
Client ID:	LCS/LCSD	LAB ID:	0507961H-D 0507961J-D
Matrix:	Water	Dilution:	

Name	Conc. Spike Added	Sample Result	LCS Result	LCSD Result	Units	LCS % Recovery	LCSD % Recovery	% RPD Recovery
Benzene	30	ND	31	24	ug/l	103%	80%	25%
Toluene	30	ND	32	32	ug/l	107%	107%	0%
Ethylbenzene	30	ND	31	31	ug/l	103%	103%	0%
m,p-Xylenes	60	ND	65	65	ug/l	108%	108%	0%

Surrogate % Recovery of Trifluorotoluene = 94% LCS 100% LCSD

ppb = parts per billion = ug/l = micrograms per liter
ppm= parts per million = ug/ml = micrograms per milliliter
ND = Not Detected Compound(s) may be present at concentrations below the detection limit

R. L. James, Principal Chemist

May 9, 1996
Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY INC IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No 1614)

8020LCDW.XLS

(916) 362-3947 • FAX (916) 362-0947

Sparger Technology, Inc.

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

EPA Method 8020
Modified Matrix Spike (MS) & Matrix Spike Duplicate (MSD)
BTEX Analysis Report

Attention:	Mr. Andrew Lush Lush Geosciences 3560 Business Dr., Ste. 120 Sacramento, CA 95820	Date Sampled: Date Received: Date Analyzed: Invoice #:	Apr 23, 1996 Apr 24, 1996 May 7, 1996 6539
Project ID:	423-001	Project Name:	Beck
Client ID:	MS/MSD (Batch)	LAB ID:	6568-024MS 6568-024MSD
Matrix:	Water	Dilution:	

Name	Conc. Spike Added	Sample Result	MS Result	MSD Result	Units	MS % Recovery	MSD % Recovery	% RPD Recovery
Benzene	30	ND	24	27	ug/l	80%	90%	12%
Toluene	30	ND	32	28	ug/l	107%	93%	13%
Ethylbenzene	30	ND	32	28	ug/l	107%	93%	13%
m,p-Xylenes	60	ND	68	57	ug/l	113%	95%	18%

Surrogate % Recovery of Trifluorotoluene = 100% MS 81% MSD

ppb = parts per billion = ug/l = micrograms per liter
ppm= parts per million = ug/ml = micrograms per milliliter
ND = Not Detected Compound(s) may be present at concentrations below the detection limit

R L. James, Principal Chemist

May 9, 1996
Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No 1614)

8020MSW.XLS

(916) 362-3947 • FAX (916) 362-0017

LUSH GEOSCIENCES

GEOLOGICAL AND ENVIRONMENTAL SERVICES

June 4, 1996
423-001

Ms. ~~Juliet Shin~~ Amy Leech
Alameda County Health Services
1131 Harbor Bay Parkway
Alameda, CA 94502

Subject: Transmittal of Quarterly Monitoring Report
Beck Roofing Facility, Hayward, California

Dear Ms. Shin:

Enclosed, please find the Quarterly Monitoring Report for the Beck Roofing Facility at 21123 Meekland Avenue in Hayward, California. Please call our office if you have any questions regarding this report or any other aspect of this project.

Sincerely,

LUSH GEOSCIENCES

Andrew P. Lush
President

Enclosure

3560 BUSINESS DRIVE, SUITE 120 • SACRAMENTO, CA 95820 • (916) 737-9294 • FAX (916) 737-9298