aqua science engineers inc.

August 1, 1996

REPORT
of
SOIL AND GROUNDWATER ASSESSMENT
AND SEMI-ANNUAL GROUNDWATER SAMPLING
ASE JOB NO. 2808
at
Lim Family Property
250 8th Street
Oakland, California

Submitted by:
AQUA SCIENCE ENGINEERS, INC.
2411 Old Crow Canyon Road, #4
San Ramon, CA 94583
(510) 820-9391

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

1.0 INTRODUCTION

This report outlines the methods and findings of Aqua Science Engineers, Inc. (ASE)'s soil and groundwater assessment and semi-annual groundwater sampling for the Lim family property located at 250 8th Street in Oakland, California (Figure 1). The site assessment activities were performed to satisfy the requirements outlined in the December 5, 1995 letter from the Alameda County Health Care Services Agency (Appendix A).

2.0 SITE HISTORY

A gasoline service station previously occupied the site. In May 1992, ASE removed ten underground fuel storage tanks from the site. The tanks consisted of one (1) 10,000-gallon gasoline tank, one (1) 5,000-gallon diesel tank, three (3) 2,000-gallon gasoline tanks, one (1) 2,000-gallon diesel tank, three (3) 500-gallon gasoline tanks and one (1) 250-gallon waste oil tank. Up to 10,000 parts per million (ppm) total petroleum hydrocarbons as gasoline (TPH-G) and 5,900 ppm total petroleum hydrocarbons as diesel (TPH-D) were detected in soil samples collected during the tank removal.

Between December 1992 and March 1993, All Environmental of San Ramon, California overexcavated 1,762 cubic yards of soil from the site and off-hauled the soil to the BFI Landfill in Livermore, California. Analytical results show that all on-site soil with hydrocarbon concentrations greater than 10 ppm was removed from the site with the exception of soil along the 8th Street shoring. Up to 1,800 ppm TPH-G and 120 ppm TPH-D were detected in soil samples collected along the shoring indicating that contamination likely extends below 8th Street. This contamination left in place may still be a source for groundwater contamination.

In January 1995, ASE installed monitoring wells MW-1 and MW-2 at the site (Figure 2). High hydrocarbon concentrations were detected in monitoring well MW-2, downgradient of the site. Moderate hydrocarbon concentrations were detected in on-site monitoring well MW-1.

Between April 1995 and January 1996, the site was on a quarterly groundwater monitoring schedule. The site is currently on a semi-annual groundwater monitoring schedule with volatile organic compound (VOC) analyses only being performed annually. Analytical results for all previous sampling periods are included in Table Two of this report.

3.0 SCOPE OF WORK (SOW)

Based on the requirements of the Alameda County Health Care Services Agency (ACHCSA), ASE's proposed SOW was to:

1) Obtain a subsurface drilling permit from the Alameda County Flood Control and Water Conservation District (Zone 7) and an excavation permit from the City of Oakland;

2) Drill two soil borings at the site in the location shown on Figure 2, and collect soil samples for analyses;

3) Collect groundwater samples from the borings;

4) Backfill the borings with neat cement to the ground surface;

5) Collect groundwater samples from monitoring wells MW-1 and MW-2 located at the site

6) Analyze the soil and groundwater samples at a CA-EPA certified analytical laboratory for TPH-G, TPH-D, benzene, toluene, ethylbenzene and total xylenes (BTEX) and methyl tertiary butyl ether (MTBE);

7) Prepare a report detailing the methods and findings of this assessment.

Details of the assessment are presented below.

4.0 DRILL SOIL BORINGS AND COLLECT SAMPLES

Prior to drilling, ASE obtained a drilling permit from the Alameda County Flood Control and Water Conservation District (Zone 7). ASE also obtained an excavation permit from the City of Oakland to allow for drilling in the city's right of way. A copy of these permits are presented in Appendix B.

On July 8, 1996, Vironex, Inc. of Foster City, California drilled two soil borings across 8th Street using a Geoprobe hydraulic sampling rig. These borings were located across 8th Street from the site east and west of monitoring well MW-2 in order to better determine the width of the hydrocarbon plume related to the Lim property and to determine whether the plume may be migrating toward the Lum property located at 245 8th Street where elevated hydrocarbon concentrations have been detected in

the soil and groundwater. The drilling was directed by ASE project geologist Robert E. Kitay.

Undisturbed soil samples were collected every five feet as drilling progressed for lithologic and hydrogeologic description and for possible chemical analysis. The samples were collected by driving a sampler lined with stainless steel tubes using hydraulic direct push methods. Selective soil samples were immediately trimmed, sealed with Teflon tape, plastic end caps and duct tape, labeled, sealed in plastic bags and stored on ice for transport to Chromalab, Inc. of Pleasanton, California (ELAP #1094) under chain of custody. Soil from the remaining tubes was described by the site geologist using the Unified Soil Classification System and was screened for volatile compounds using an Organic Vapor Meter (OVM). The soil was screened by emptying soil from one of the sample tubes into a plastic bag. The bag was then sealed and placed in the sun for approximately 10 minutes. After the VOCs were allowed to volatilize, the OVM measured the vapor in the bag through a small hole punched in the bag. OVM readings are used as a screening tool only, since the procedures are not as rigorous as those used in the laboratory.

A temporary PVC well casing was driven into place in each boring for the collection of groundwater samples. Groundwater samples were removed from the boring with a pre-cleaned bailer. The groundwater samples were contained in 40-ml volatile organic analysis (VOA) vials and 1-liter amber glass bottles. The samples were then preserved with hydrochloric acid, labeled, placed in protective foam sleeves, and stored on ice for transport to Chromalab under chain of custody. A strong hydrocarbon odor was present in the groundwater samples collected from boring BH-C. No odor was present in the groundwater samples collected from boring BH-D.

Groundwater samples were also collected from groundwater monitoring wells MW-1 and MW-2. The monitoring well sampling activities were performed by ASE environmental specialist Scott Ferriman. Prior to sampling, the well was purged of four well casing volumes of groundwater using an electric PVC pump. The pH, temperature and conductivity of the purge water were monitored during evacuation, and groundwater samples were not collected until these parameters stabilized. Groundwater samples were collected using a pre-cleaned polyethylene bailer. The samples were decanted from the bailer into 40-ml VOA vials and 1-liter amber glass bottles, preserved with hydrochloric acid, labeled, placed in protective foam sleeves, and stored on wet ice for transport to Chromalab under chain of custody. A hydrocarbon sheen and strong hydrocarbon odor were present on the surface of groundwater in monitoring well MW-2. No sheen

or odor were present on the surface of groundwater in monitoring well MW-1.

Drilling equipment was cleaned with a TSP solution between sampling intervals and between borings to prevent potential cross-contamination.

Sediments encountered during drilling generally consisted of silty sand from the ground surface to the total depth explored of 26-feet below ground surface (bgs). Groundwater was encountered at approximately 16-feet bgs. Boring logs are presented as Appendix C.

5.0 ANALYTICAL RESULTS FOR SOIL

Soil samples collected from 15-feet bgs or 15.5-feet bgs (the capillary zone) in each boring were analyzed by Chromalab for TPH-G by modified EPA Method 5030/8015, TPH-D by modified EPA Method 3510/8015 and BTEX and MTBE by EPA Method 8020. The analytical results are tabulated in Table One, and the certified analytical report and chain of custody forms are included in Appendix D.

TABLE ONE
Summary of Chemical Analysis of **SOIL** Samples
All results are in **parts per million**

Boring	Depth Sampled	TPH Gasoline	TPH Diesel	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE
BH-C	15.5'	<1	<1	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
BH-D	15.0'	<1	2.4	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

Notes:
Non-detectable concentrations noted by the less than symbol (<) followed by the detection limit

Only 2.4 ppm TPH-D was detected in the soil sample collected from 15.0-feet bgs in boring BH-D. No TPH-G, BTEX or MTBE were detected in soil samples collected from either of the borings during this assessment.

6.0 ANALYTICAL RESULTS FOR GROUNDWATER

The groundwater samples were analyzed by Chromalab for TPH-G by modified EPA Method 5030/8015, TPH-D by modified EPA Method 3510/8015 and BTEX and MTBE by EPA Method 8020. The analytical results are tabulated in Table Two, and the certified analytical report and chain of custody forms are included in Appendix D.

TABLE TWO
Summary of Chemical Analysis of **GROUNDWATER** Samples
All results are in **parts per billion**

Boring	Date Sampled	TPH Gasoline	TPH Diesel	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE
MW-1	01-30-95	740	200	3	5	1	4	-
	04-12-95	400	500	<0.5	<0.5	3	<2	-
	07-14-95	520	400	1	<0.5	2	3	-
	10-17-95	400	200	0.5	1	3	<2	-
	01-12-96	120	890	<0.5	<0.5	<0.5	<1.0	<2.0
	[illegible]	[illegible]	[illegible]	[illegible]	2.7	1.2	2.3	<5.0
MW-2	01-30-95	88,000	800	19,000	18,000	2,400	10,000	-
	04-12-95	110,000	990	21,000	28,000	2,800	14,000	-
	07-14-95	120,000	5,000	20,000	25,000	3,200	15,000	-
	10-17-95	190,000	4,000	15,000	26,000	4,900	23,000	-
	01-12-96	32,000	2,600	10,000	8,000	1,100	4,800	<2.0
	07-08-96	110,000	[illegible]	[illegible]	18,000	2,500	12,000	<500
BH-C	[illegible]	[illegible]	[illegible]	[illegible]	3,100	630	3,400	670
BH-D	[illegible]	<50	<62	<0.5	0.6	<0.5	0.59	<5.0
DTSC MCL		NE	NE	1.0	100*	680	1,750	NE
EPA METHOD		5030/ 8015	3550/ 8015	8020	8020	8020	8020	8020

GWE ↑ ~1 foot see pg 8

Notes:
Non-detectable concentrations noted by the less than symbol (<) followed by the detection limit.

DTSC MCL is the California Department of Toxic Substances Control maximum contaminant level for drinking water.

NE = DTSC MCLs are not established.

* = DTSC recommended action level for drinking water; MCL is not established.

TABLE THREE
Summary of Chemical Analysis of **GROUNDWATER** Samples
Lead, Oil & Grease and Volatile Organic Compounds
All results are in **parts per billion**

Compound	MW-1	MW-2
1-30-95		
Dissolved Lead	< 0.04	< 0.04
Total Oil and Grease	< 500	19,000
Hydrocarbon Oil and Grease	< 500	17,000
Chloroform	0.5	< 30
Tetrachloroethene (PCE)	8	< 30
Other VOCs	< 0.5-2	< 30-100
4-12-95		
Dissolved Lead	< 0.04	< 0.04
Hydrocarbon Oil and Grease	< 500	22,000
Tetrachloroethene (PCE)	6	0.9
1,2-Dichloroethane	< 0.5	43
Other VOCs	< 0.5-2	< 30-100
7-14-95		
Total Oil and Grease	< 500	25,000
Hydrocarbon Oil and Grease	< 500	23,000
1,2-Dichloroethane	< 0.5	35
Tetrachloroethene (PCE)	4	< 5
Other VOCs	< 0.5-2	< 5-20
10-17-95		
Total Oil and Grease	< 1,000	15,000
Hydrocarbon Oil and Grease	< 1,000	13,000
Tetrachloroethene (PCE)	5	< 0.5
Trichloroethene (TCE)	< 0.5	5
Other VOCs	< 0.5-2	< 0.5-2
01-12-96		
Hydrocarbon Oil and Grease	< 5,000	< 5,000
07-08-96		
Hydrocarbon Oil and Grease 5520	---	< 1,000
Chloroform	0.8	< 0.5
Tetrachloroethene (PCE)	6.4	< 0.5
Other VOCs	< 0.5-3	< 0.5-3

8010

The analytical results of groundwater samples collected from monitoring wells MW-1 and MW-2 are consistent with previous results. analytical results from monitoring well MW-2 show very high hydrocarbon

concentrations with the benzene, ethylbenzene and total xylene concentrations exceeding California Department of Toxic Substances Control (DTSC) maximum contaminant levels (MCLs) for drinking water. In addition, the toluene concentration detected in groundwater samples collected from monitoring well MW-2 exceeded the DTSC recommended action level (RAL) for drinking water. Groundwater samples collected from boring BH-C also contained very high hydrocarbon concentrations at concentrations approximately one half to one quarter of those detected in groundwater samples collected from monitoring well MW-2. The benzene and total xylenes concentrations in groundwater samples collected from boring BH-C exceeded the DTSC MCLs for drinking water. The toluene concentration in groundwater samples collected from boring BH-C exceeded the DTSC RAL for drinking water. None of the trace hydrocarbon concentrations detected in groundwater samples collected from monitoring well MW-1 and boring BH-D exceeded DTSC MCLs or RALs, although the tetrachloroethene (PCE) concentration of 6.4 parts per billion (ppb) in groundwater samples collected from monitoring well MW-1 exceeded the DTSC MCL of 5 ppb.

7.0 GROUNDWATER FLOW DIRECTION AND GRADIENT

On July 25, 1996, ASE environmental specialist Scott Ferriman measured the depth to water in each site well using an electric water level sounder. The surface of the groundwater was also checked for the presence of free-floating hydrocarbons or sheen. A sheen was present on the surface of the groundwater in monitoring well MW-2. No free-floating hydrocarbons or sheen was present on the surface of water in monitoring well MW-1. Depth to groundwater and product thickness measurements for the wells on the LUM property were measured by personnel from All Environmental. These measurements are utilized along with the data from the Lim property measurements to determine the groundwater flow direction and gradient beneath the site. This data is presented below in Table Four.

TABLE FOUR

Summary of Groundwater Well Survey Data

Well I.D.	Date of Measurement	Top of Casing Elevation (msl)	Depth to Water (feet)	Product Thickness (feet)	Groundwater Elevation (msl)
MW-1	01-30-95	25.51	16.21		9.30
	04-12-95		15.71		9.80
	07-14-95		16.71		8.80
	10-17-95		17.72		7.79
	01-12-96		18.03		7.48
	07-25-96		16.82		8.69↑
MW-2	01-30-95	23.99	15.02		8.97
	04-12-95		14.75		9.24
	07-14-95		16.02		7.97
	10-17-95		16.94		7.05
	01-12-96		17.05		6.94
	07-25-96		16.02		7.97 ↑
LUM-1	07-14-95	23.42	Unknown		Unknown
	10-17-95		18.21	1.53	6.43*
	01-12-96		18.15	1.35	6.35*
	07-25-96		18.08	2.36	7.23*
LUM-2	07-14-95	23.98	17.21		6.77
	10-17-95		17.67		6.31
	01-12-96		17.89	0.01	6.10*
	07-25-96		16.94		7.04

* = Adjusted for the presence of free-floating oil by the equation: Adjusted Groundwater Elevation = Top of Casing Elevation - Depth to Groundwater + (0.8 x Floating Hydrocarbon Thickness)

Groundwater elevation contours are presented on Figure 3. On July 25, 1996, groundwater flowed to the south beneath the site at a gradient of 0.01-feet/foot, which is consistent with previous findings.

8.0 CONCLUSIONS AND RECOMMENDATIONS

Relatively high hydrocarbon concentrations continue to be detected in groundwater samples collected from monitoring well MW-2 downgradient of the site. Slightly lower but still very high hydrocarbon concentrations were detected in groundwater samples collected from boring ~~BH-D~~ BH-C west of monitoring well MW-2. Very low hydrocarbon concentrations, below DTSC MCLs and RALs, were detected in groundwater samples collected from

monitoring well MW-1, located on the site, and boring BH-D, east of monitoring well MW-2. Based on these findings, the plume appears to be moving to the south of Excavation I on the site and not toward the Lum property south southeast of the site. Therefore, it appears that the elevated hydrocarbon concentrations on the Lum property are not related to contamination resulting from the Lim property. An additional boring was not placed west of boring BH-C since it would be approaching monitoring wells related to Unocal Service Station #0752 located at 800 Harrison Street.

Since the plume appears to be crossing 8th Street and then under a large city block which will make drilling further downgradient within a reasonable distance of the site impossible, and since other properties with sources of hydrocarbons are located on both Alice Street and Harrison Street, ASE does not recommend any further assessment of groundwater contamination downgradient or crossgradient of the site either to the east or west of the site. In addition, should future groundwater remediation be required at this site, it appears that some form of passive remediation such as enhanced bioremediation would be the preferred method.

A copy of this report will be forwarded to the following regulatory agencies for their review:

Alameda County Health Care Services Agency
Attn: Ms. Jennifer Eberle
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

California Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, CA 94612

9.0 REPORT LIMITATIONS

The results of this assessment represent conditions at the time of the soil and groundwater sampling, at the specific locations at which the samples were collected, and for the specific parameters analyzed by the laboratory.

This report does not fully characterize the site for contamination resulting from unknown sources or for parameters not analyzed by the laboratory. All of the laboratory work cited in this report was prepared under the direction of an independent CA-EPA certified laboratory. The independent

laboratory is solely responsible for the contents and conclusions of the chemical analysis data.

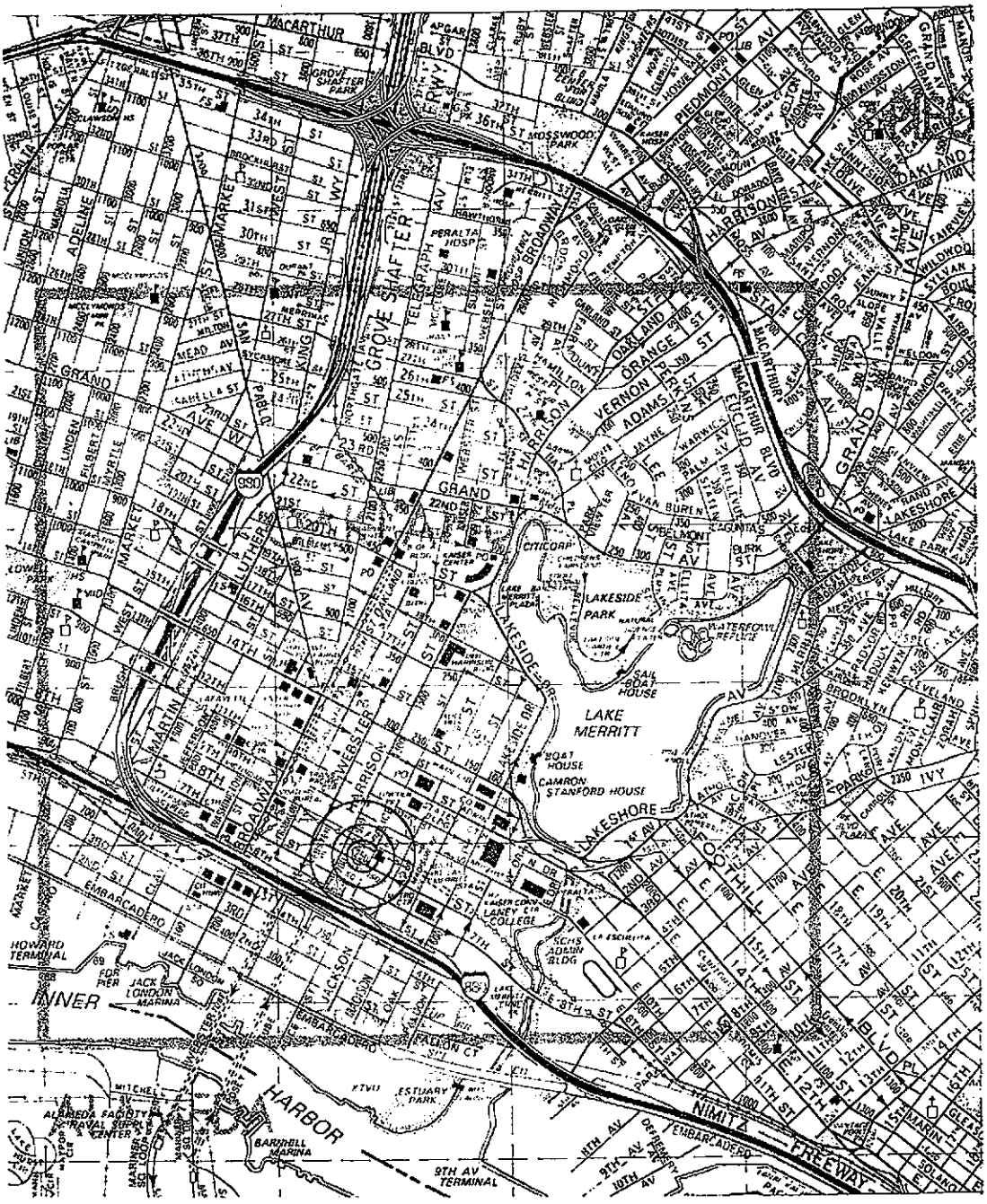
Aqua Science Engineers appreciates the opportunity provide environmental consulting services for this project. Should you have any questions or comments, please feel free to call us at (510) 820-9391.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.

Robert E. Kitay, R.E.A.
Project Geologist

Attachments: Figures 1 and 3
Appendices A through D

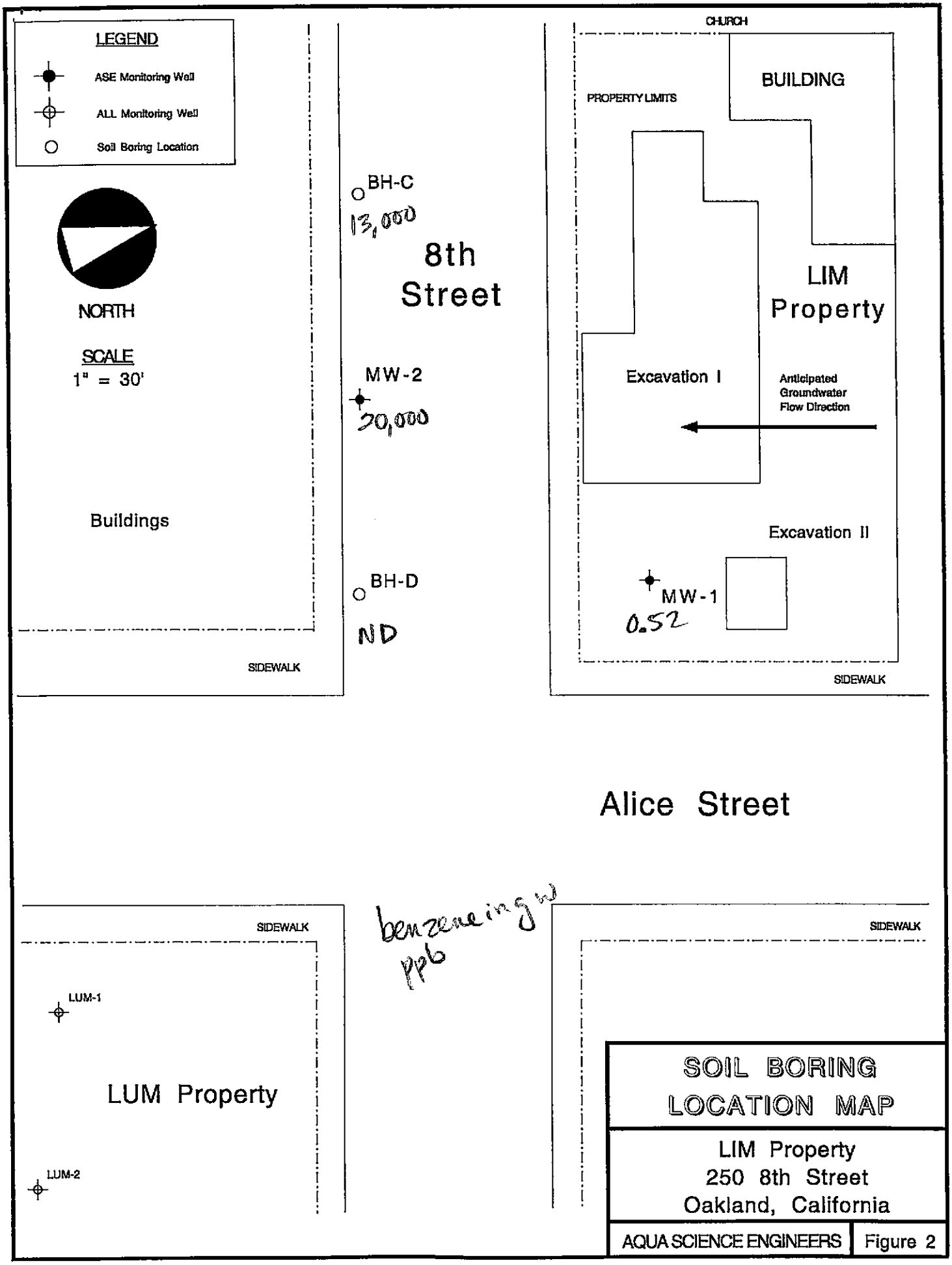


SITE LOCATION MAP

Lim Property
250 8th Street
Oakland, California

Aqua Science Engineers | Figure 1

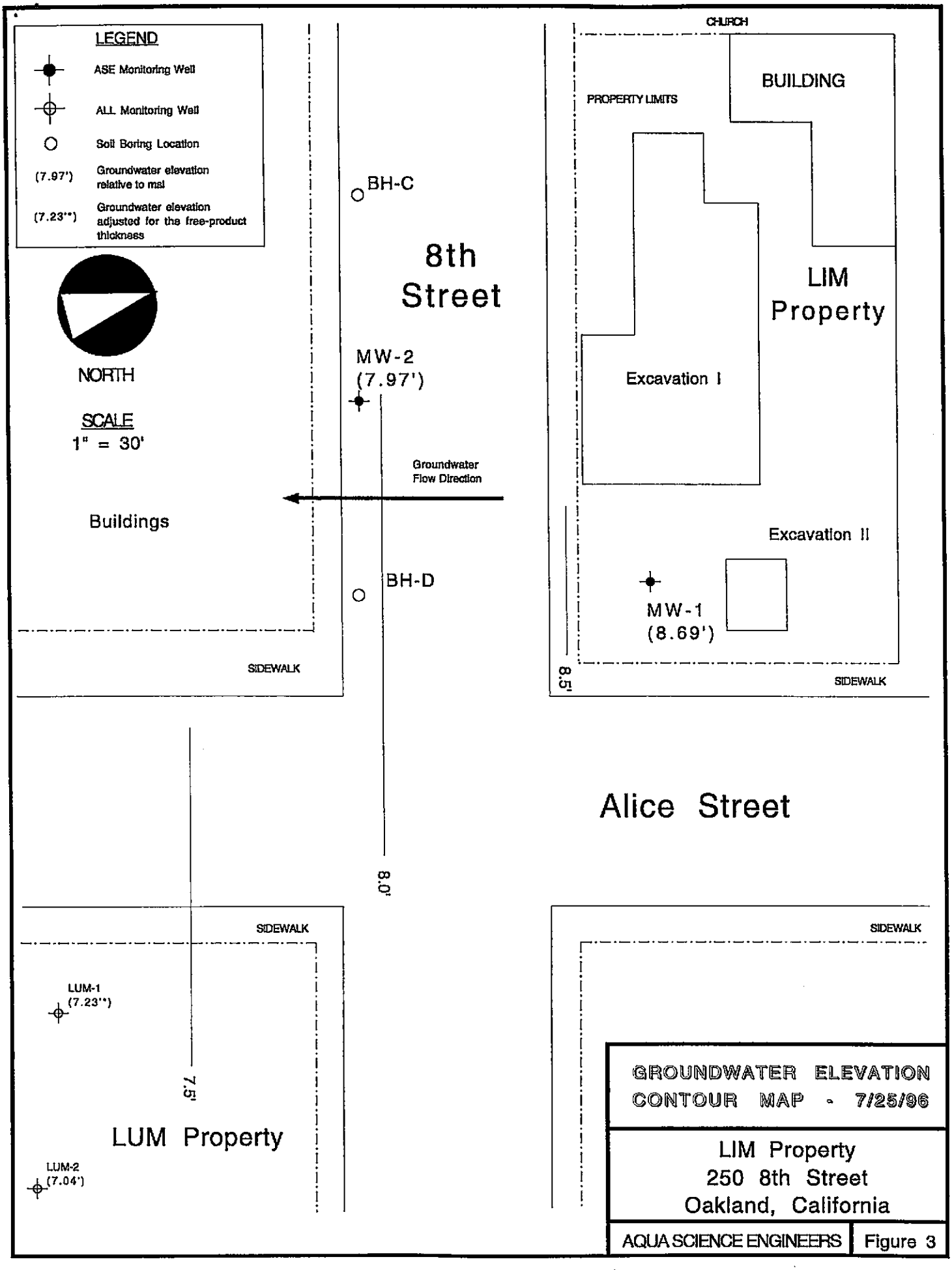
BASE: The Thomas Guide, Alameda and Contra Costa Counties Street Guide & Directory, 1990



SOIL BORING LOCATION MAP

LIM Property
250 8th Street
Oakland, California

AQUA SCIENCE ENGINEERS | Figure 2



GROUNDWATER ELEVATION CONTOUR MAP - 7/25/96

LIM Property
250 8th Street
Oakland, California

AQUA SCIENCE ENGINEERS | Figure 3

APPENDIX A

ACHCSA Letter

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

RAFAT A. SHAHID, DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
State Water Resources Control Board
Division of Clean Water Programs
UST Local Oversight Program
1131 Harbor Bay Parkway
Alameda, CA 94502-6577
(510) 567-6700

December 5, 1995
STID 1585

Alice, Edward, and May Lim
c/o Russell Lim
601 Brush St.
Oakland CA 94607

RE: former Exxon station, 250-8th St., Oakland CA 94607

Dear Lim Family,

Since my last letter to you, dated 11/9/94, the following documents have been received:

1) 2/17/95 "Report of Soil and Groundwater Assessment," by Aqua Science Engineers (ASE),

2) 5/1/95 "Quarterly Groundwater Monitoring Report," by ASE

3) 8/7/95 "Quarterly Groundwater Monitoring Report," by ASE

4) 11/2/95 "Quarterly Groundwater Monitoring Report," by ASE

It appears that dissolved concentrations of contaminants in MW-2 have not decreased over four quarters of sampling. In fact, TPH-gasoline has actually increased from 88,000 ppb to 190,000 ppb over four quarters. Benzene has remained fairly consistent, with a slight decrease, from 19,000 ppb to 15,000 ppb. TPH-diesel has increased from 800 ppb to 4,000 ppb, while hydrocarbon oil and grease has remained fairly consistent. MW-1 has fairly low concentrations of contaminants.

The MW-2 concentrations warrant further investigation. Although the commercial district located directly south of MW-2 may prevent investigation to the south, it would be possible to investigate the areas immediately west and east of MW-2.

Therefore, **you are requested to perform a Soil and Water Investigation (SWI),** as per Sect. 2724 of Chapter 16, Division 3, Title 23, California Code of Regulations. Rapid site assessment methods (i.e. cone penetrometer testing, geoprobe, hydropunch, etc.) are suggested to qualitatively assess impacts and to define the extent of the groundwater contaminant plume, as a first step of the SWI. Permanent wells may be required; however, the results of an investigation done with rapid site assessment methods will be evaluated before further work is requested. **Please submit a workplan for the SWI within 60 days, or by February 5, 1996.**

In an effort to perform the SWI in a cost-effective manner, you are encouraged to work cooperatively with your neighbor, Vic Lum, who is also being requested to perform a SWI.

In addition, quarterly groundwater elevation (GWE) measurements must be taken. Since you were allowed to install 2 wells instead of 3, you must work with Vic Lum in order to take GWE measurements from his wells at the same time. The last GWE measurements were conducted on 7/21/95; it is my understanding that this was a cooperative effort. October was apparently missed. **Therefore, the next GWE measurements are due.**

Lastly, it has been noted that halogenated VOCs have been sampled for four quarters. The concentrations are mostly below the MCLs; however, 1,2-DCA continues to be elevated at a noticeable level. **Therefore, you may decrease the sampling frequency for HVOCs from quarterly to annually.**

If you have any questions, please contact me at 510-567-6761.

Sincerely,

Jennifer Eberle
Hazardous Materials Specialist

cc: Robert Kitay, Aqua Science Engineers, 2411 Old Crow Canyon Rd., #4, San Ramon CA 94583
Acting Chief/file

je.1585-B

APPENDIX B

Permits

ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588 VOICE (510) 484-2600
FAX (510) 462-3914

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 250 - 8th Street
Oakland, CA

CLIENT
Name Alice Edward and May Lim
Address 601 Brush St. Voice (510) 452-3450
City Oakland, CA Zip 94607

APPLICANT
Name Aqua Science Engineers, Inc.
Attn: Robert Kitay Fax (510) 837-4853
Address 2411 old Crow Canyon Rd. #4 Voice (510) 820-9391
City San Ramon, CA Zip 94583

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	___	General	___
Water Supply	___	Contamination	X
Monitoring	___	Well Destruction	___

PROPOSED WATER SUPPLY WELL USE
Domestic ___ Industrial ___ Other ___
Municipal ___ Irrigation ___

DRILLING METHOD:
Mud Rotary ___ Air Rotary ___ Auger ___
Cable ___ Other Geoprobe

DRILLER'S LICENSE NO. C-57 487000

WELL PROJECTS

Drill Hole Diameter	___ in.	Maximum	
Casing Diameter	___ in.	Depth	~~200~~ ft.
Surface Seal Depth	___ ft.	Number	___

GEOTECHNICAL PROJECTS

Number of Borings	2	Maximum	
Hole Diameter	2.5 in.	Depth	20 ft.

ESTIMATED STARTING DATE 7-1-96
ESTIMATED COMPLETION DATE 7-12-96

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE Robert E. Kitay Date ___

FOR OFFICE USE

PERMIT NUMBER 96468
LOCATION NUMBER ___

PERMIT CONDITIONS

Circled Permit Requirements Apply

A. GENERAL
(1.) A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well Projects, or drilling logs and location sketch for geotechnical projects.
(3.) Permit is void if project not begun within 90 days of approval date.

B. WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

(C.) GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

E. WELL DESTRUCTION. See attached.

Approved Wyman Hong Date 28 Jun
Wyman Hong

91992

CITY OF OAKLAND
Office of Planning and Building

EXCAVATION PERMIT

CIVIL ENGINEERING

TO EXCAVATE IN STREETS OR OTHER SPECIFIED WORK

PERMIT NUMBER X 9600511	SITE ADDRESS/LOCATION Geoprobe on west side of 8th 250 8th Street between Alice and Harrison

APPROX. START DATE 7/8/96	APPROX. END DATE 7/8/96	24-HOUR EMERGENCY PHONE NUMBER (Permit not valid without 24-Hour number) 510-355-4485
CONTRACTOR'S LICENSE # AND CLASS 487000 Haz A, C57		CITY BUSINESS TAX #

ATTENTION:

1) State law requires that the contractor/owner call *Underground Service Alert (USA)* two working days before excavating. This permit is not valid unless applicant has secured an inquiry identification number issued by USA. The USA telephone number is 1 (800) 642-2444. UNDERGROUND SERVICE ALERT (USA) #: 172199

2) **48 hours prior to starting work, YOU MUST CALL (510) 238-3651 TO SCHEDULE AN INSPECTION.**

OWNER/BUILDER

I hereby affirm that I am exempt from the Contractor's License Law for the following reason (Sec. 7031.5 Business and Professions Code: Any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he is licensed pursuant to the provisions of the Contractor's License law Chapter 9 (commencing with Sec. 7000) of Division 3 of the Business and Professions Code, or that he is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than $500):

☐ I, as an owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or through his own employees, provided that such improvements are not intended or offered for sale. If however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he did not build or improve for the purpose of sale).

☐ I, as owner of the property, am exempt from the sale requirements of the above due to: (1) I am improving my principal place of residence or appurtenances thereto, (2) the work will be performed prior to sale, (3) I have resided in the residence for the 12 months prior to completion of the work, and (4) I have not claimed exemption on this subdivision on more than two structures more than once during any three-year period. (Sec. 7044 Business and Professions Code).

☐ I, as owner of the property, am exclusively contracting with licensed contractors to construct the project, (Sec. 7044, Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractor's License law).

☐ I am exempt under Sec. ________, B&PC for this reason ________.

WORKER'S COMPENSATION

☑ I hereby affirm that I have a certificate of consent to self-insure, or a certificate of Worker's Compensation Insurance, or a certified copy thereof (Sec. 3700, Labor Code).

Policy # ________ Company Name ________

☐ I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner as to become subject to the Worker's Compensation Laws of California (not required for work valued at one hundred dollars ($100) or less).

NOTICE TO APPLICANT: If, after making this Certificate of Exemption, you should become subject to the Worker's Compensation provisions of the Labor Code, you must forthwith comply with such provisions or this permit shall be deemed revoked. This permit is issued pursuant to all provisions of Chapter 6, Article 2 of the Oakland Municipal Code. It is granted upon the express condition that the permittee shall be responsible for all claims and liabilities arising out of work performed under the permit or arising out of permittee's failure to perform the obligations with respect to street maintenance. The permittee shall, and by acceptance of the permit agrees to defend, indemnify, save and hold harmless the City, its officers and employees, from and against any and all suits, claims, or actions brought by any person for or on account of any bodily injuries, disease or illness or damage to persons and/or property sustained or arising in the construction of the work performed under the permit or in consequence of permittee's failure to perform the obligations with respect to street maintenance. This permit is void 90 days from the date of issuance unless an extension is granted by the Director of the Office of Planning and Building.

I hereby affirm that I am licensed under provisions of Chapter 9 of Division 3 of the Business and Professions Code and my license is in full force and effect (if contractor), that I have read this permit and agree to its requirements, and that the above information is true and correct under penalty of law.

Scott T. [signature] for ASE, I — 7-3-96

Signature of Permittee ☒ Agent for ☐ Contractor ☐ Owner — Date

DATE STREET LAST RESURFACED	SPECIAL PAVING DETAIL REQUIRED? ☐ YES ☒ NO	HOLIDAY RESTRICTION? (NOV 1 - JAN 1) ☐ YES ☒ NO	LIMITED OPERATION AREA? (7AM-9AM & 4PM-6PM) ☒ YES ☐ NO
ISSUED BY [signature]		DATE ISSUED 7-3-96	

APPENDIX C

Boring Logs

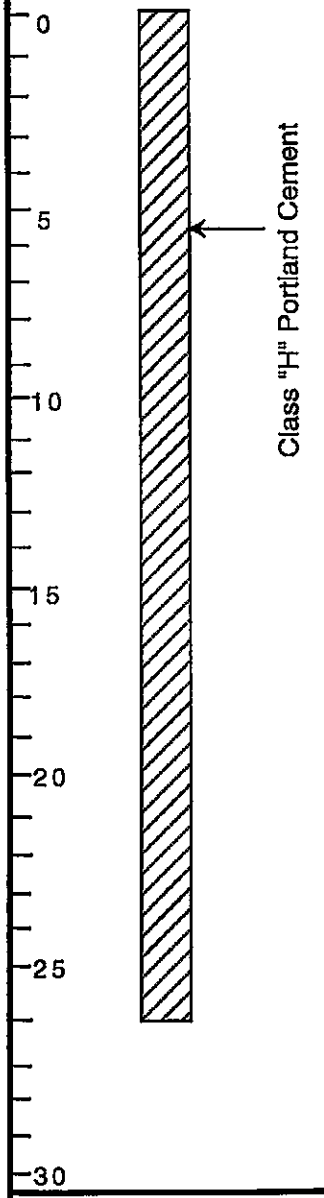
SOIL BORING LOG AND COMPLETION DETAILS

Boring BH-C

Project Name: Lim Family Property	Project Location: 250 8th Street, Oakland, CA	Page 1 of 1
Driller: Vironex	Type of Rig: Geoprobe	Size of Drill: 2" Diameter Direct Push
Logged By: Robert E. Kitay	Date Drilled: July 8, 1996	Checked By: David M. Schultz, P.E.

WATER AND WELL DATA

Depth of Water First Encountered: 16'	Total Depth of Well Completed: NA
Static Depth of Water in Well: 16'	Well Screen Type and Diameter: NA
Total Depth of Boring: 26'	Well Screen Slot Size: NA
	Type and Size of Soil Sampler: 1.5" I.D. Micro Sampler



Interval	Blow Ct.	OVM (ppmv)	Graphic Log
		0	
		31	
		1,248	

SOIL/ROCK SAMPLE DATA

Depth in Feet	DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
0	Concrete
	Silty SAND (SM); yellow brown; dense; damp; 70-85% fine to medium sand; 15-30% silt; non-plastic; medium estimated K; no odor
5	
10	yellow brown mottled olive; slight hydrocarbon odor at 10.5'
15	olive grey; moderate hydrocarbon odor at 14' moist at 15' wet at 16' ▼ *Groundwater First Encountered*
20	
25	
30	End of Boring at 26'

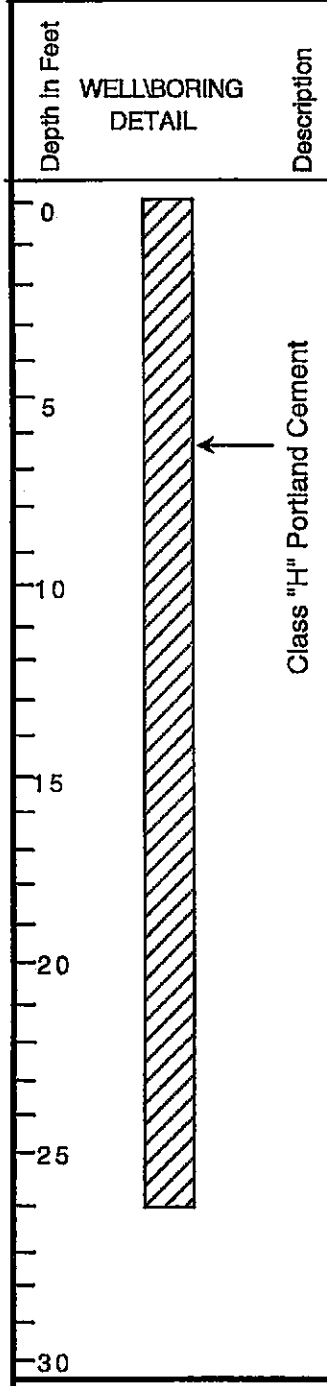
SOIL BORING LOG AND COMPLETION DETAILS

Boring BH-D

Project Name: Lim Family Property	Project Location: 250 8th Street, Oakland, CA	Page 1 of 1
Driller: Vironex	Type of Rig: Geoprobe	Size of Drill: 2" Diameter Direct Push
Logged By: Robert E. Kitay	Date Drilled: July 8, 1996	Checked By: David M. Schultz, P.E.

WATER AND WELL DATA

Depth of Water First Encountered: 16'	Total Depth of Well Completed: NA
Static Depth of Water in Well: 16'	Well Screen Type and Diameter: NA
Total Depth of Boring: 26'	Well Screen Slot Size: NA
	Type and Size of Soil Sampler: 1.5" I.D. Micro Sampler



Interval	Blow Ct.	OVM (ppmv)	Graphic Log	Depth in Feet	DESCRIPTION OF LITHOLOGY (standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.)
				0	Concrete
					Silty SAND (SM); yellow brown; dense; damp; 70-85% fine to medium sand; 15-30% silt; non-plastic; medium estimated K; no odor
		0		5	
		8.2		10	slight hydrocarbon odor at 10.5'
		62		15	olive grey; slight hydrocarbon odor at 14' moist at 15' wet at 16' ▼ Groundwater First Encountered
				20	
				25	
				30	End of Boring at 26'

SOIL/ROCK SAMPLE DATA

APPENDIX D

Analytical Report and Chain of Custody Forms
For Soil and Groundwater Samples

CHROMALAB, INC.

Environmental Services (SDB)

July 15, 1996 *Submission #:* 9607587

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman.

Project: LIM PROPERTY *Project#:* 2808
Received: July 8, 1996

re: 2 samples for TPH - Diesel analysis.
Method: *EPA 3510/8015M*

Matrix: WATER *Extracted:* July 11, 1996
Sampled: July 8, 1996 *Run#:* 2171 *Analyzed:* July 12, 1996

Spl#	CLIENT SPL ID	DIESEL (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
91221	MW-2	2500	51	N.D.	88.5	1

Matrix: WATER *Extracted:* July 11, 1996
Sampled: July 8, 1996 *Run#:* 2171 *Analyzed:* July 13, 1996

Spl#	CLIENT SPL ID	DIESEL (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
91220	MW-1	300	51	N.D.	88.5	1

Note: Hydrocarbon reported is in the early Diesel range, and does not match our Diesel pattern.

Dennis Mayugba
Chemist

Alex Tam
Semivolatiles Supervisor

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

July 15, 1996 *Submission #:* 9607587

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman.

Project: LIM PROPERTY *Project#:* 2808
Received: July 8, 1996

re: One sample for Gasoline, BTEX & MTBE analysis.
Method: *EPA 5030/8015M/8020*

Client Sample ID: **MW-1**
Spl#: 91220 *Matrix:* WATER
Sampled: July 8, 1996 *Run#:* 2112 *Analyzed:* July 11, 1996

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	320	50	N.D.	105	1
BENZENE	0.52	0.50	N.D.	94.0	1
TOLUENE	2.7	0.50	N.D.	94.8	1
ETHYL BENZENE	1.2	0.50	N.D.	94.6	1
XYLENES	2.3	0.50	N.D.	91.5	1
MTBE	N.D.	5.0	N.D.	110	1

June Zhao
Chemist

Marianne Alexander
Gas/BTEX Supervisor

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

July 16, 1996 *Submission #:* 9607587

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman.

Project: LIM PROPERTY *Project#:* 2808
Received: July 8, 1996

re: One sample for Gasoline, BTEX & MTBE analysis.
Method: *EPA 5030/8015M/8020*

Client Sample ID: **MW-2**
Spl#: 91221 *Matrix:* WATER
Sampled: July 8, 1996 *Run#:* 2112 *Analyzed:* July 12, 1996

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	110000	25000	N.D.	105	500
BENZENE	20000	50	N.D.	94.0	100
TOLUENE	18000	50	N.D.	94.8	100
ETHYL BENZENE	2500	50	N.D.	94.6	100
XYLENES	12000	50	N.D.	91.5	100
MTBE	N.D.	500	N.D.	110	100

June Zhao
Chemist

Marianne Alexander
Gas/BTEX Supervisor

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

July 23, 1996 *Submission #:* 9607719

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman

Project: LIM PROPERTY *Project#:* 2808
Received: July 8, 1996

re: 1 sample for Oil and Grease analysis.
Method: 5520 B&F

Matrix: WATER *Extracted:* July 22, 1996
Sampled: July 8, 1996 *Run#:* 2277 *Analyzed:* July 22, 1996

Spl#	CLIENT SPL ID	OIL & GREASE (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE (%)	DILUTION FACTOR
92513	MW-2	N.D.	1.0	N.D.	92.0	1

Carolyn House
Extractions Supervisor

Chip Poalinelli
Operations Manager

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

July 25, 1996 *Submission #:* 9607719

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman

Project: LIM PROPERTY *Project#:* 2808
Received: July 8, 1996

re: One sample for Volatile Halogenated Organics analysis.
Method: *SW846 METHOD 8010A JULY, 1992*

Client Sample ID: **MW-1**
Spl#: 92512 *Matrix:* WATER
Sampled: July 8, 1996 *Run#:* 2304 *Analyzed:* July 19, 1996

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
VINYL CHLORIDE	N.D.	0.50	N.D.	--	1
CHLOROETHANE	N.D.	0.50	N.D.	--	1
TRICHLOROFLUOROMETHANE	N.D.	0.50	N.D.	--	1
1,1-DICHLOROETHENE	N.D.	0.50	N.D.	89.0	1
METHYLENE CHLORIDE	N.D.	3.0	N.D.	--	1
TRANS-1,2-DICHLOROETHENE	N.D.	0.50	N.D.	--	1
CIS-1,2-DICHLOROETHENE	N.D.	0.50	N.D.	--	1
1,1-DICHLOROETHANE	N.D.	0.50	N.D.	--	1
CHLOROFORM	0.80	0.50	N.D.	--	1
1,1,1-TRICHLOROETHANE	N.D.	0.50	N.D.	--	1
CARBON TETRACHLORIDE	N.D.	0.50	N.D.	--	1
1,2-DICHLOROETHANE	N.D.	0.50	N.D.	--	1
TRICHLOROETHENE	N.D.	0.50	N.D.	103	1
1,2-DICHLOROPROPANE	N.D.	0.50	N.D.	--	1
BROMODICHLOROMETHANE	N.D.	0.50	N.D.	--	1
2-CHLOROETHYL VINYL ETHER	N.D.	0.50	N.D.	--	1
TRANS-1,3-DICHLOROPROPENE	N.D.	0.50	N.D.	--	1
CIS-1,3-DICHLOROPROPENE	N.D.	0.50	N.D.	--	1
1,1,2-TRICHLOROETHANE	N.D.	0.50	N.D.	--	1
TETRACHLOROETHENE	6.4	0.50	N.D.	--	1
DIBROMOCHLOROMETHANE	N.D.	0.50	N.D.	--	1
CHLOROBENZENE	N.D.	0.50	N.D.	106	1
BROMOFORM	N.D.	0.50	N.D.	--	1
1,1,2,2-TETRACHLOROETHANE	N.D.	0.50	N.D.	--	1
1,3-DICHLOROBENZENE	N.D.	0.50	N.D.	--	1
1,4-DICHLOROBENZENE	N.D.	0.50	N.D.	--	1
1,2-DICHLOROBENZENE	N.D.	0.50	N.D.	--	1
TRICHLOROTRIFLUOROETHANE	N.D.	0.50	N.D.	--	1

Oleg Nemtsov
Chemist

Chip Poalinelli
Operations Manager

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

July 25, 1996 *Submission #:* 9607719

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman

Project: LIM PROPERTY *Project#:* 2808
Received: July 8, 1996

re: One sample for Volatile Halogenated Organics analysis.
Method: *SW846 METHOD 8010A JULY, 1992*

Client Sample ID: **MW-2**
Spl#: 92513 *Matrix:* WATER
Sampled: July 8, 1996 *Run#:* 2304 *Analyzed:* July 19, 1996

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
VINYL CHLORIDE	N.D.	0.50	N.D.	--	1
CHLOROETHANE	N.D.	0.50	N.D.	--	1
TRICHLOROFLUOROMETHANE	N.D.	0.50	N.D.	--	1
1,1-DICHLOROETHENE	N.D.	0.50	N.D.	89.0	1
METHYLENE CHLORIDE	N.D.	3.0	N.D.	--	1
TRANS-1,2-DICHLOROETHENE	N.D.	0.50	N.D.	--	1
CIS-1,2-DICHLOROETHENE	N.D.	0.50	N.D.	--	1
1,1-DICHLOROETHANE	N.D.	0.50	N.D.	--	1
CHLOROFORM	N.D.	0.50	N.D.	--	1
1,1,1-TRICHLOROETHANE	N.D.	0.50	N.D.	--	1
CARBON TETRACHLORIDE	N.D.	0.50	N.D.	--	1
1,2-DICHLOROETHANE	N.D.	0.50	N.D.	--	1
TRICHLOROETHENE	N.D.	0.50	N.D.	103	1
1,2-DICHLOROPROPANE	N.D.	0.50	N.D.	--	1
BROMODICHLOROMETHANE	N.D.	0.50	N.D.	--	1
2-CHLOROETHYL VINYL ETHER	N.D.	0.50	N.D.	--	1
TRANS-1,3-DICHLOROPROPENE	N.D.	0.50	N.D.	--	1
CIS-1,3-DICHLOROPROPENE	N.D.	0.50	N.D.	--	1
1,1,2-TRICHLOROETHANE	N.D.	0.50	N.D.	--	1
TETRACHLOROETHENE	N.D.	0.50	N.D.	--	1
DIBROMOCHLOROMETHANE	N.D.	0.50	N.D.	--	1
CHLOROBENZENE	N.D.	0.50	N.D.	106	1
BROMOFORM	N.D.	0.50	N.D.	--	1
1,1,2,2-TETRACHLOROETHANE	N.D.	0.50	N.D.	--	1
1,3-DICHLOROBENZENE	N.D.	0.50	N.D.	--	1
1,4-DICHLOROBENZENE	N.D.	0.50	N.D.	--	1
1,2-DICHLOROBENZENE	N.D.	0.50	N.D.	--	1
TRICHLOROTRIFLUOROETHANE	N.D.	0.50	N.D.	--	1

Oleg Nemtsov
Chemist

Chip Poalinelli
Operations Manager

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

July 15, 1996 *Submission #:* 9607586

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman.

Project: LIM PROPERTY *Project#:* 2808
Received: July 8, 1996

re: One sample for Gasoline and BTEX compounds analysis.
Method: *EPA 5030/8015M/8020*

Client Sample ID: **BH-C 15.5'**
Spl#: 91216 *Matrix:* SOIL
Sampled: July 8, 1996 *Run#:* 2170 *Analyzed:* July 15, 1996

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	1.0	N.D.	111	1
BENZENE	N.D.	0.0050	N.D.	99.0	1
TOLUENE	N.D.	0.0050	N.D.	97.5	1
ETHYL BENZENE	N.D.	0.0050	N.D.	95.5	1
XYLENES	N.D.	0.0050	N.D.	96.8	1
MTBE	N.D.	0.0050	N.D.	101	1

June Zhao
Chemist

Marianne Alexander
Gas/BTEX Supervisor

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

July 15, 1996 *Submission #:* 9607586

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman.

Project: LIM PROPERTY *Project#:* 2808
Received: July 8, 1996

re: One sample for Gasoline and BTEX compounds analysis.
Method: *EPA 5030/8015M/8020*

Client Sample ID: **BH-D 15.0'**
Spl#: 91217 *Matrix:* SOIL
Sampled: July 8, 1996 *Run#:* 2170 *Analyzed:* July 15, 1996

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	1.0	N.D.	111	1
BENZENE	N.D.	0.0050	N.D.	99.0	1
TOLUENE	N.D.	0.0050	N.D.	97.5	1
ETHYL BENZENE	N.D.	0.0050	N.D.	95.5	1
XYLENES	N.D.	0.0050	N.D.	96.8	1
MTBE	N.D.	0.0050	N.D.	101	1

June Zhao
Chemist

Marianne Alexander
Gas/BTEX Supervisor

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

July 15, 1996 *Submission #:* 9607586

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman.

Project: LIM PROPERTY *Project#:* 2808
Received: July 8, 1996

re: 4 samples for TPH - Diesel analysis.
Method: *EPA 3510/8015M*

Matrix: SOIL *Extracted:* July 10, 1996
Sampled: July 8, 1996 *Run#:* 2118 *Analyzed:* July 11, 1996

Spl#	CLIENT SPL ID	DIESEL (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
91216	BH-C 15.5'	N.D.	1.0	N.D.	78.8	1
91217	BH-D 15.0'	2.4	1.0	N.D.	78.8	1

Note: Compounds reported are in the Diesel range. They do not have a pattern characteristics of petroleum hydrocarbons.

Matrix: WATER *Extracted:* July 11, 1996
Sampled: July 8, 1996 *Run#:* 2171 *Analyzed:* July 12, 1996

Spl#	CLIENT SPL ID	DIESEL (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
91219	BH-D WATER	N.D.	62	N.D.	88.5	1

Matrix: WATER *Extracted:* July 11, 1996
Sampled: July 8, 1996 *Run#:* 2171 *Analyzed:* July 11, 1996

Spl#	CLIENT SPL ID	DIESEL (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
91218	BH-C WATER	3200	140	N.D.	88.5	2

Note: Hydrocarbon reported is in the early Diesel range, and does not match our Diesel standard.

Dennis Mayugba
Chemist

Alex Tam
Semivolatiles Supervisor

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

July 17, 1996

Submission #: 9607586
revised from 7/16/96

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman.

Project: LIM PROPERTY *Project#:* 2808
Received: July 8, 1996

re: One sample for Gasoline, BTEX & MTBE analysis.
Method: *EPA 5030/8015M/8020*

Client Sample ID: **BH-C WATER**
Spl#: 91218 *Matrix:* WATER
Sampled: July 8, 1996 *Run#:* 2186 *Analyzed:* July 16, 1996

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	37000	5000	N.D.	108	100
BENZENE	13000	50	N.D.	107	100
TOLUENE	3100	50	N.D.	102	100
ETHYL BENZENE	630	50	N.D.	110	100
XYLENES	3400	50	N.D.	114	100
MTBE	670	500	N.D.	107	100

June Zhao
Chemist

Marianne Alexander
Gas/BTEX Supervisor

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

July 16, 1996 *Submission #:* 9607586

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman.

Project: LIM PROPERTY *Project#:* 2808
Received: July 8, 1996

re: One sample for Gasoline, BTEX & MTBE analysis.
Method: *EPA 5030/8015M/8020*

Client Sample ID: **BH-D WATER**
Spl#: 91219 *Matrix:* WATER
Sampled: July 8, 1996 *Run#:* 2186 *Analyzed:* July 16, 1996

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	50	N.D.	108	1
BENZENE	N.D.	0.50	N.D.	107	1
TOLUENE	0.60	0.50	N.D.	102	1
ETHYL BENZENE	N.D.	0.50	N.D.	110	1
XYLENES	0.59	0.50	N.D.	114	1
MTBE	N.D.	5.0	N.D.	107	1

June Zhao
Chemist

Marianne Alexander
Gas/BTEX Supervisor

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

586/91212 - 91219

28669

Aqua Science Engineers, Inc.
2411 Old Crow Canyon Road, #4,
San Ramon, CA 94583
(510) 820-9391 - FAX (510) 837-4853

Chain of Custody

DATE 7-8-96 PAGE 1 OF 1

SAMPLERS (SIGNATURE) (PHONE NO.)
Robert C. Kitay (510) 820-9391

PROJECT NAME Lim Property NO. 2808
ADDRESS 250 - 8th Street, Oakland, CA

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:

SAMPLE ID.	DATE	TIME	MATRIX	NO. OF SAMPLES	TPH-GASOLINE (EPA 5030/8015)	TPH-GASOLINE/BTEX/MTBE (EPA 5030/8015-8020)	TPH: DIESEL (EPA 3510/8015)	PURGABLE AROMATICS (EPA 602/8020)	PURGABLE HALOCARBONS (EPA 601/8010)	VOLATILE ORGANICS (EPA 624/8240)	BASE/NUETRALS, ACIDS (EPA 625/8270)	OIL & GREASE (EPA 5520 E&F or B&F)	LUFT METALS (5) (EPA 6010+7000)	TITLE 22 (CAM 17) (EPA 6010+7000)	TCLP (EPA 1311/1310)	STLC - CAM WET (EPA 1311/1310)	REACTIVITY CORROSIVITY IGNITABILITY	HOLD
BH-B 5.0'	7/8	9:40	Soil	1														X
BH-C 10.0'		9:55		1														X
BH-C 15.5'		10:08		1		X	X											
BH-D 5.0'		12:00		1														X
BH-D 10.0'		12:10		1														X
BH-D 15.0'	↓	12:30	↓	1		X	X											
BH-C Water	7/8	11:15	Water	4		X	X											
BH-D Water	↓	13:05	↓	4		X	X											

SUBM #: 9607506 REP: MV
CLIENT: ASE
DUE: 07/15/96
REF #:28669

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY LABORATORY:	COMMENTS:
Robert E. Kitay 17:11	1717			
(signature) (time)	(signature) (time)	(signature) (time)	(signature) (time)	
Robert E. Kitay 7-8-96	Pedro Solis 7/8/96	Pedro Solis 7/9/96		
(printed name) (date)	(printed name) (date)	(printed name) (date)	(printed name) (date)	
Company- ASE	Company- Chromalab	Company- Chromalab	Company-	

507/91220 - 91221

28668

Aqua Science Engineers, Inc.
2411 Old Crow Canyon Road, #4,
San Ramon, CA 94583
(510) 820-9391 - FAX (510) 837-4853

Chain of Custody

DATE 7-8-96 PAGE 1 OF 1

SAMPLERS (SIGNATURE) (PHONE NO.)
Scott T. Ferriman 510-820-9391

PROJECT NAME Lim Property NO. 2808
ADDRESS 250 8th Street Oakland, CA

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:
5-Day

SAMPLE ID.	DATE	TIME	MATRIX	NO. OF SAMPLES	TPH GASOLINE (EPA 5030/8015)	TPH GASOLINE/BTEX/MTBE (EPA 5030/8015-8020)	TPH DIESEL (EPA 3510/8015)	PURGABLE AROMATICS (EPA 602/CC20)	PURGABLE HALOCARBONS (EPA 601/8010)	VOLATILE ORGANICS (EPA 624/8240)	BASE/NUETRALS, ACIDS (EPA 625/8270)	OIL & GREASE	LUFT METALS (5) (EPA 6010+7000)	TITLE 22 (CAM 17) (EPA 6010+7000)	TCLP (EPA 1311/1310)	STLC- CAM WET (EPA 1311/1310)	REACTIVITY CORROSIVITY IGNITABILITY
MW-1	7-8-96	10:50	water	5		X	X										
MW-2	7-8-96	9:30	water	5		X	X										

SUBM #: 9607587 REP: MV
CLIENT: ASE
DUE: 07/15/96
REF #: 28668

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY LABORATORY:	COMMENTS:
Scott T. Ferriman	Pedro Solis 7/8/96	Pedro Solis 7/9/96		
(signature) (time)	(signature) (time)	(signature) (time)	(signature) (time)	
Scott T. Ferriman	Pedro Solis 7/8/96	Pedro Solis 7/9/96		
(printed name) (date)	(printed name) (date)	(printed name) (date)	(printed name) (date)	
Company- ASE, Inc.	Company- Chromalab	Company- Chromalab	Company-	

719/92512 - 92513

CHROMALAB, INC.

Environmental Services (SDB) (DOHS 1094)

ADD ON/CHANGE ORDER

New Submission No: _____

Order No: 28823

SUBM #: 9607719 REP: MV
CLIENT: ASE
DUE: 07/25/96
REF #:28823/9607587

Original Submission Info

Client Name: ASE

Project Mgr: Scott Ferriman

Project Name: LIM PROPERTY

Project No: 2808

PO#: _____

Date Received: 7/8/96

Submission No: 9607587

Name of Caller: Scott Ferriman

Call Date: 7/18/96 Time: _____

Add on Due Date: 7/25/96 Date Sampled _____

Comments: Note: HOLD TIME IS UP 7/22/96

NO FAX TO FOLLOW (by GC)

SAMPLE ID.	DATE	TIME	MATRIX	PRESERV.	ANALYSIS REPORT: TPH - Gasoline (EPA 5030, 8015)	TPH - Gasoline (5030, 8015) w/BTEX (EPA 602, 8020)	TPH - Diesel, TEPH (EPA 3510/3550, 8015)	PURGEABLE AROMATICS BTEX (EPA 602, 8020)	PURGEABLE HALOCARBONS (EPA 601, 8010)	VOLATILE ORGANICS (EPA 624, 8240, 524.2)	BASE/NEUTRALS, ACIDS (EPA 625/627, 8270, 525)	TOTAL OIL & GREASE (EPA 5520 (B+F), E+F)	PCB (EPA 608, 8080)	PESTICIDES (EPA 608, 8080)	TOTAL RECOVERABLE HYDROCARBONS (EPA 418.1)		LUFT METALS: Cd, Cr, Pb, Zn, Ni	CAM METALS (17)	PRIORITY POLLUTANT METALS (13)	TOTAL LEAD	EXTRACTION (TCLP, STLC)				NUMBER OF CONTAINERS
mw-1	7/8/96		W						X																2
mw-2	7/8/96		W						X			X														3