aqua science engineers inc.

February 17, 1995

REPORT
of
SOIL AND GROUNDWATER ASSESSMENT
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

LIST OF APPENDICES

1.0 INTRODUCTION

This report outlines the methods and findings of Aqua Science Engineers, Inc. (ASE)'s soil and groundwater assessment at the Lim family property located at 250 8th Street in Oakland, California *(Figure 1)*. The site assessment activities were initiated by the property owners as required by the Alameda County Health Care Services Agency (ACHCSA) and the California Regional Water Quality Control Board - San Francisco Bay Region (RWQCB).

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 possible groundwater contamination.

The subject property has numerous gasoline service stations in the site vicinity. The Unocal Service Station located at 800 Harrison Street, approximately 150-feet west of the subject property, contains eight groundwater monitoring wells. The groundwater gradient beneath the Unocal Service Station has been consistently to the south southwest at a gradient of approximately 0.007 feet/foot. The groundwater flow direction and gradient beneath the subject site should be similar to the flow direction and gradient beneath the Unocal property.

3.0 SCOPE OF WORK (SOW)

Based on the site history and requirements of the ACHCSA, ASE's SOW was limited to:

1) Preparing a site safety plan;

2) Obtaining all necessary permits from the appropriate agencies including permits to install monitoring wells and permits to drill in the city's right of way;

3) Drilling two (2) soil borings, one (1) on-site and one (1) downgradient of the site;

4) Collecting and analyzing soil samples collected from the borings for TPH-G, TPH-D, oil and grease (O&G), benzene, toluene, ethylbenzene and total xylenes (BTEX) and volatile organic compounds (VOCs);

5) Completing the borings as 2-inch diameter groundwater monitoring wells;

6) Developing the monitoring wells;

7) Collecting groundwater samples from the wells for analyses;

8) Analyzing the groundwater samples for TPH-G, TPH-D, O&G, BTEX and VOCs;

9) Reporting the subsurface assessment results.

4.0 DRILLING SOIL BORINGS AND COLLECTING SAMPLES

Prior to drilling, ASE obtained an Alameda County Flood Control and Water Conservation District (Zone 7) well construction permit, a City of Oakland encroachment permit to allow a well to be constructed in the city's right of way, and a City of Oakland excavation permit to allow for drilling in the city street (Appendix A).

On January 24, 1995, Soils Exploration Services of Benicia, California drilled soil borings BH-A and BH-B at the site using a CME-55 drill rig equipped with 8-inch diameter hollow-stem augers. Groundwater monitoring wells MW-1 and MW-2 were subsequently constructed in the borings *(Figure 2)*.

The drilling was directed by ASE project geologist Robert E. Kitay. The boring was located to assess the extent of soil and groundwater contamination both on and downgradient of the site.

Undisturbed soil samples were collected every 5-feet as drilling progressed to the total depth explored for lithologic and hydrogeologic description and for possible chemical analyses. The samples were collected by driving a split-barrel drive sampler lined with 2-inch diameter stainless steel tubes ahead of the auger tip with successive blows from a 140-lb. hammer dropped 30-inches. One tube from each sampling interval was immediately trimmed, sealed with Teflon tape, plastic end caps and duct tape, labeled, sealed in a plastic bag and stored on ice for transport to American Environmental Network (AEN) of Pleasant Hill, California (DHS #1172) 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 with 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 hydrocarbons 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.

Drilling equipment was steam-cleaned prior to use, and sampling equipment was washed with a TSP solution between sampling intervals to prevent cross-contamination. Rinsate was contained on-site in sealed and labeled Department of Transportation approved 55-gallon (DOT 17H) drums.

Sediments encountered during drilling consisted primarily of silty sand to the total depth explored in each boring of 30-feet below ground surface (bgs). Groundwater was encountered at approximately 18-feet bgs in boring BH-A and at approximately 17-feet bgs in boring BH-B. The boring logs and well construction details are included as Appendix B. Drill cuttings were contained in DOT 17H drums, labeled and stored on-site for future disposal by the client.

5.0 ANALYTICAL RESULTS FOR SOIL

The soil samples collected at 10.0 and 16.0-feet bgs in boring BH-A and the soil sample collected from 16.0-feet bgs in boring BH-B were analyzed by AEN for TPH-G and TPH-D by modified EPA Method 8015, BTEX by EPA Method 8020, O&G by Standard Method 5520B&F and VOCs by EPA

Method 8010. The analytical results are tabulated in Tables One and Two, and copies of the certified analytical report and chain of custody form are included in Appendix C.

A trace concentration of 2 ppm TPH-D were detected in the soil sample collected from 16.0-feet bgs in boring BH-A. No hydrocarbons were detected in the soil sample collected from 10.0-feet bgs in boring BH-A. High hydrocarbon concentrations were detected in the soil sample collected from 16.0-feet bgs in boring BH-B. , The trace methylene chloride concentrations detected in the soil samples collected from boring BH-A are suspected laboratory contaminants, and should not be of concern.

6.0 MONITORING WELL INSTALLATION, DEVELOPMENT AND SAMPLING

Groundwater monitoring wells MW-1 and MW-2 were installed in borings BH-A and BH-B, respectively. The wells were constructed with 2-inch diameter, 0.020-inch slotted, flush-threaded, Schedule 40 PVC well screen and blank casing. The wells are screened between 10 and 30-feet bgs to monitor the first water bearing zone encountered at approximately 17 to 18-feet bgs. Lonestar #3 Monterey sand occupies the annular space between the borehole and the casing from the bottom of the boring to 2-feet above the well screen. A 1.5-foot thick hydrated bentonite layer separates the sand from the overlying cement surface seal. The wellhead is secured with a locking wellplug beneath an at-grade traffic-rated vault.

On January 28, 1995, ASE project geologist Robert Kitay developed the monitoring wells using two episodes of surge-block agitation and evacuation with bailers and an electric PVC pump. Ten well casing volumes of water were removed from the well during development, and evacuation continued until the water was relatively clear. The wells yielded approximately 1 gallon per minute during development.

On January 30, 1995, ASE collected groundwater samples from the monitoring wells. Prior to sampling, each well was purged of four well casing volumes of groundwater. The pH, temperature and conductivity of the groundwater were monitored during the purging, and samples were not collected until these parameters stabilized. The samples were collected from each well using a disposable polyethylene bailer. The groundwater samples were decanted from the bailer into six (6) 40-ml volatile organic analysis (VOA) vials and three (3) 1-liter amber glass bottles. All of the samples were preserved with hydrochloric acid, labeled, placed in protective foam sleeves, and stored on ice for transport to AEN under chain

of custody. Well development and sampling purge water were contained in a labeled, 55-gallon, steel, DOT 17H drum and stored on-site for handling by the client at a later date. See Appendix C for a copy of the Field Log.

7.0 ANALYTICAL RESULTS FOR GROUNDWATER

The groundwater samples were analyzed by AEN for TPH-G and TPH-D by modified EPA Method 8015, O&G by Standard Method 5520B&F, BTEX by EPA Method 8020 and VOCs by EPA Method 8010. The analytical results are tabulated in Tables Three and Four, and copies of the certified analytical report and chain of custody form are included in Appendix E.

The analytical results show high hydrocarbon concentrations in groundwater samples collected from monitoring well MW-2, downgradient of the site. All BTEX constituents in monitoring well MW-2 exceeded the California Department of Toxic Substances Control (DTSC) maximum contaminant levels (MCLs) for drinking water. In addition, the benzene and PCE concentrations in monitoring well MW-1 exceeded the DTSC MCLs for drinking water.

8.0 CONCLUSIONS AND RECOMMENDATIONS

High hydrocarbon concentrations were detected in groundwater samples collected from monitoring well MW-2, downgradient of the site. In addition, benzene and PCE concentrations in groundwater samples collected from monitoring well MW-1 exceeded DTSC MCL for drinking water. The source of the PCE is unknown. Soil contamination which had to be left under the street following the overexcavation activities as well as soil contamination in the capillary zone may continue to act as a source of groundwater contamination. Any remediation activities at this site must address the remaining soil contamination as well as the groundwater contamination. But how? It's in the street -

It appears that some sort of environmental remediation will be required at the site in order to remediate the high hydrocarbon concentrations detected in soil and groundwater downgradient of the site and to prevent the contamination from spreading further from the site. In addition, additional work to define the extent of hydrocarbons in soil and groundwater downgradient of the site will likely be required. Since all accessible soil on the subject property has been removed, additional remedial work will require work in the city's right of way. Close cooperation between the responsible party, the regulatory agencies and

the City of Oakland will be required in order to clean up the soil and groundwater contamination that has left the property.

9.0 REPORT LIMITATIONS

The results of this investigation 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 for by the laboratory.

It does not fully characterize the site for contamination resulting from unknown sources, or for parameters not analyzed for by the laboratory. All of the laboratory work cited in this report was prepared under the direction of an independent CSDHS certified laboratory. The independent laboratory is solely responsible for the contents and conclusions of the chemical analysis data.

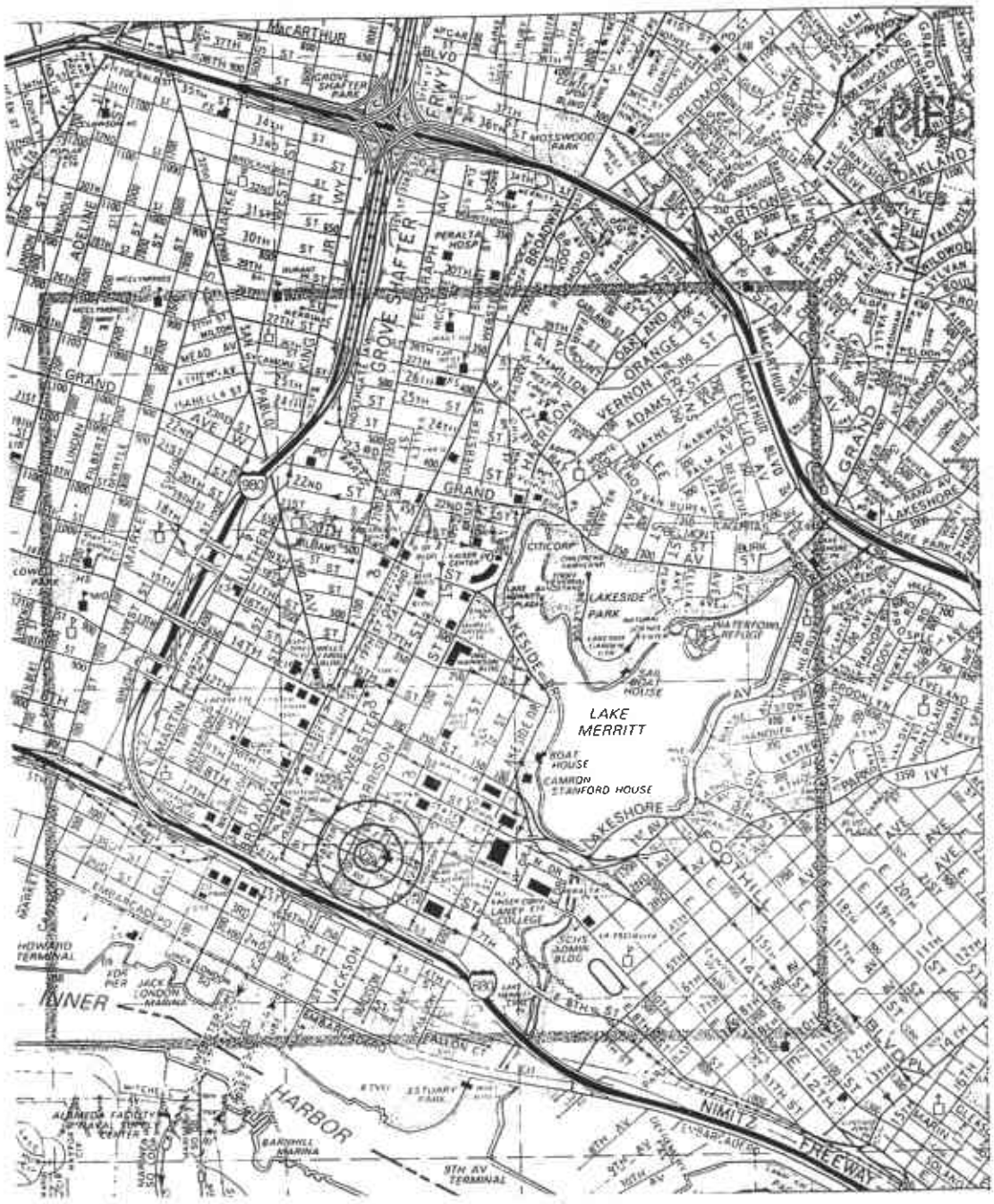
Aqua Science Engineers appreciates the opportunity to assist you with your environmental needs. Should you have any questions or comments, please feel free to call us at (510) 820-9391.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.

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

Attachments: Figures 1 and 2
Tables 1 through 4
Appendices A through E

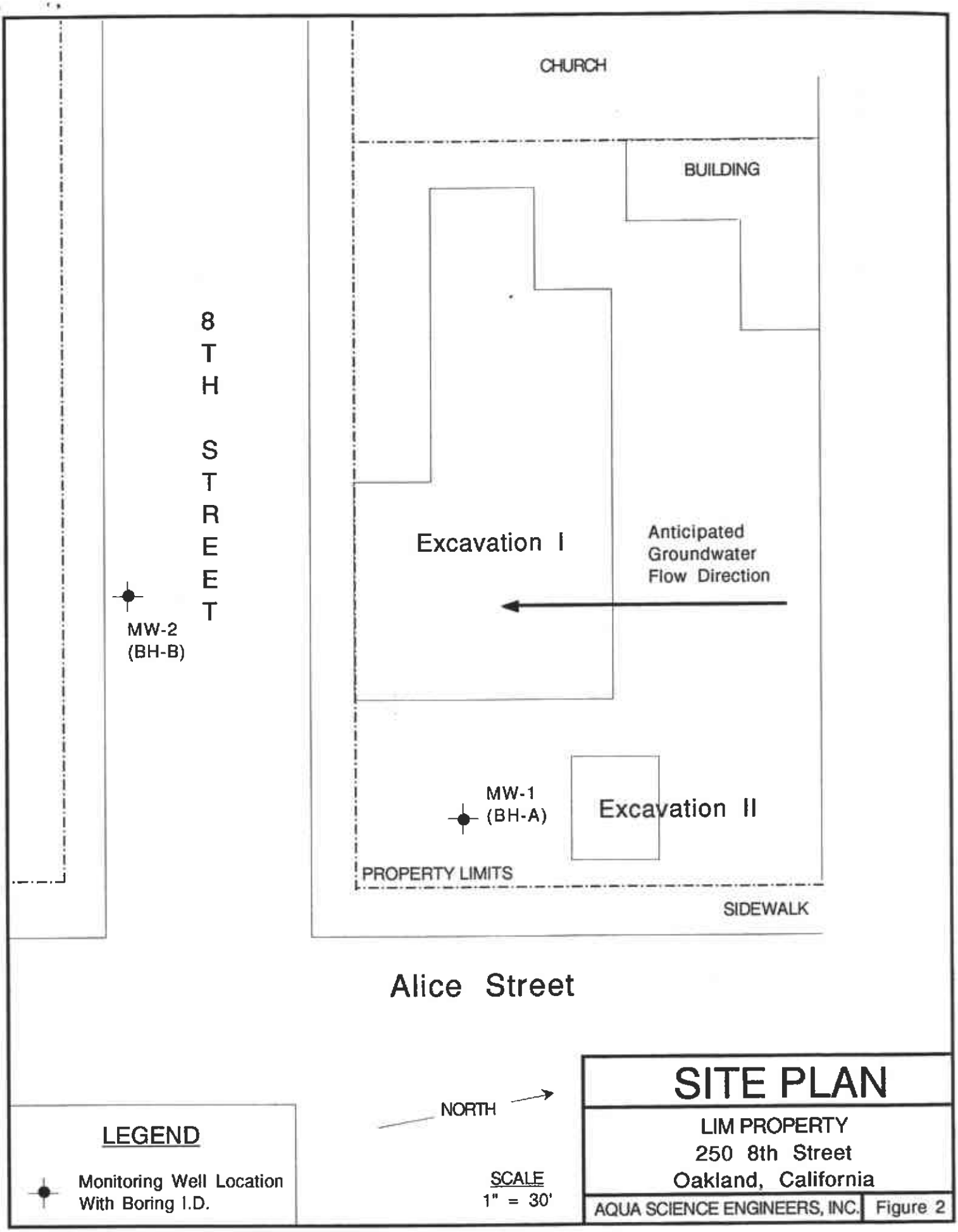


SITE LOCATION MAP

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



SITE PLAN

LIM PROPERTY
250 8th Street
Oakland, California

AQUA SCIENCE ENGINEERS, INC. | Figure 2

TABLE ONE

Summary of Chemical Analysis of SOIL Samples
TPH-G, TPH-D and BTEX
All results are in parts per million

1-24-95

Boring	Depth BGS	TPH Gasoline	TPH Diesel	Benzene	Toluene	Ethyl Benzene	Total Xylenes
BH-A	10.0'	<0.2	<1	<0.005	<0.005	<0.005	<0.005
	16.0'	<0.2	2	<0.005	<0.005	<0.005	<0.005
BH-B	16.0'	4,200	200	25	180	85	420
EPA METHOD		5030/ 8015	3550/ 8015	8020	8020	8020	8020

TABLE TWO

Summary of Chemical Analysis of SOIL Samples
Lead, Oil & Grease and Volatile Organic Compounds
All results are in parts per ~~million~~ billion

Compound	BH-A 10.0'	BH-A 16.0'	BH-B 16.0'
Total Lead	3	<3	3
Total Oil and Grease	<10	<10	610
Hydrocarbon Oil and Grease	<10	<10	600
Methylene Chloride	36* ppb = .036 ppm	24* ppb	<40,000**
Other VOCs	<5-20	<5-20	<10,000-40,000**

*Suspected laboratory contaminant
**Detection limit raised due to high hydrocarbon concentrations

static water in well 16.5'

1st water 17'

1-30-95

TABLE THREE
Summary of Chemical Analysis of **GROUNDWATER** Samples
TPH-G, TPH-D and BTEX
All results are in **parts per billion**

Boring	Date Sampled	TPH Gasoline	TPH Diesel	Benzene	Toluene	Ethyl Benzene	Total Xylenes
MW-1	1-30-95	740	200	3	5	1	4
MW-2	1-30-95	88,000	800	19,000	18,000	2,400	10,000
EPA METHOD		5030/ 8015	3550/ 8015	8020	8020	8020	8020

TABLE FOUR
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
Dissolved Lead	<0.04	<0.04
Total Oil and Grease	<500	19,000
Hydrocarbon Oil and Grease	<500	17,000
Chloroform	0.5	<30
Tetrachloroethane (PCE)	8	<30
Other VOCs	<0.5-2	<30-100

APPENDIX A

Permits

350-2 (REV. 6/90)

CITY OF OAKLAND
PERMIT TO EXCAVATE IN STREETS OR OTHER WORK AS SPECIFIED

X9500062
195.00 Excav.
40.00 Applic.
235.00 Total

CITY OF OAKLAND
NO REFUND W/O

LOCATION OF WORK: 250 5th St. [illegible] (Street or Address) BETWEEN Alice St. (Street/Ave.) AND Harrison St. (Specify)

PERMISSION TO EXCAVATE IN THE PUBLIC RIGHT-OF-WAY IS HEREBY GRANTED TO:

APPLICANT Aqua [illegible]

ADDRESS [illegible] PHONE #: ( ) 520 9371

TYPE OF WORK: GAS____ ELECTRIC____ WATER____ TELEPHONE____ CABLE TV____ SEWER____ OTHER Wells (Specify)

NATURE OF WORK: [illegible]

INSPECTION CO[...] COMPANIES & A[...] TION HOURS WI[...] CONFORMANCE [...] FEE SCHEDULE[...]

01-18-95

APPL	40.00
EXCV	195.00
SUBTL	235.00
TOTAL	235.00
CHECK	230.00
CATEND	5.00
CHANGE	0.00
ITEM	2
10L	3501 [illegible]

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 it's 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 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. 70044, Business and 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 in 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 __________

Signature __________ Date __________

WORKER'S COMPENSATION

I hereby affirm that I have a certificate of consent to self-insure, or a certificate of Workers' Compensation Insurance, or a certified copy thereof (Sec. 3800, Lab C).

Policy # 135 340 - 94 Company Name [illegible]

☐ Certified copy is hereby furnished.

☐ Certified copy is filed with the city building inspection dept.

Signature [signature] Date 1/18/95

(This section need not be completed if the permit is for one hundred dollars ($100) or less.)

I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Workers' Compensation Laws of California.

Signature __________ Date __________

NOTICE TO APPLICANT. If, after making this Certificate of Exemption, you should become subject to the Workers' Compensation provisions of the Labor Code, you must forthwith imply with such provisions or this permit shall be deemed revoked.

PERMIT VOID 90 DAYS FROM DATE OF ISSUE UNLESS EXTENSION GRANTED BY DIRECTOR OF PUBLIC WORKS.

Approximate Starting Date DATE __________

Approximate Completion Date DATE __________

HOLIDAY RESTRICTION (1 NOV — 1 JAN) YES ✓ NO ____

LIMITED OPERATION AREA (7AM – 9AM/4PM – 6PM) YES ✓ NO ____

DATE STREET LAST RESURFACED DATE 5/74

SPECIAL PAVING DETAIL REQUIRED YES ____ NO ✓

24-HOUR EMERGENCY PHONE NUMBER [illegible]
PERMIT NOT VALID WITHOUT 24 HOUR NUMBER.

Telephone 238-3651 Forty-eight (48) HOURS BEFORE ACTUAL CONSTRUCTION.

ATTENTION

State law requires that contractor/owner call Underground Service Alert two working days before excavating to have below-ground utilities located. This permit is not valid unless applicant has secured an inquiry identification number issued by Underground Service Alert.

Call Toll Free: 800-642-2444 USA ID Number [illegible]

This permit issued pursuant to all provisions of Chapter 6, Article 2 of the Oakland Municipal Code.

This permit 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.

CONTRACTOR

I hereby affirm that I am licensed under provisions of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code, and my license is in full force and effect.

LICENSE # AND CLASS 457710 A CITY BUSINESS TAX # 241532

X [signature] Date 1/18/95
Signature of Contractor Owner or Agent

☐ Agent for ☒ Contractor ☐ Owner

OFFICIA[L]
UTILITY CO[...]

Supervisor __________

Completion Date __________

CITY INSPE[CTOR]

Initials __________

Hours __________

Date __________

Concrete __________

Asphalt __________

Sidewalk __________

Size of Cut: Sq. Ft. ____ Inches ____

Paved by __________ Type __________

Bill No. __________

Charges Backfill __________

Paving __________

Paving Insp. __________

Traffic Striping Replaced __________ Date

APPROVED

Engineering Services __________ Date __________

Planning __________ Date __________

Field Services __________ Date __________

Construction __________ Date __________

Traffic Engineering __________ Date __________

Electrical Engineering __________ Date __________

DIRECTOR OF PUBLIC WORKS

APPROVED BY: [signature]

DATE: 1/18/95

EXTENSION GRANTED BY: __________

DATE: __________

Recording Requested by:
CITY OF OAKLAND

When Recorded Mail to:
Engineering Services - City of Oakland
1330 Broadway, 2nd Floor
Oakland, CA 94612

TAX ROLL PARCEL NUMBER
(ASSESSOR'S REFERENCE NUMBER)

01	0185	011	00
MAP	BLOCK	PARCEL	SUB

Address: 250 - 8th Street
Oakland, California

Space Above for Recorder's Use Only

MINOR ENCROACHMENT PERMIT AND AGREEMENT

Alice Lim, Edward Lim, and May Lim, the owners of certain real property described in the Grant Deed number OQ 39860, dated August 11, 1943 and Grant Deed Series AR-33661, Reel 059, Image 586, and commonly known as 250 - 8th Street, Oakland, Alameda County, California is hereby granted a Conditional Revocable Permit to encroach into the public right-of-way of 8th Street in Oakland with one monitoring well. The location of said encroachment and the type of cover used shall be as delineated in Exhibit 'A' attached hereto and made a part hereof.

The permittee agrees to comply with and be bound by the conditions for granting an Encroachment Permit attached hereto and made a part hereof.

This agreement shall be binding upon the undersigned, the present owners of the property described above, and their successors in interest thereof.

In witness whereof, we, Alice Lim, Edward Lim, and May Lim have set our signatures this 18 day of January, 1995

Alice Lim

Alice Lim

Edward Lim

Edward Lim

May Lim

May Lim

Dated: _____

By: _____
CALVIN N. WONG
Deputy Director of Building Services

For:
KAY WINER
Director of Planning & Building

CALIFORNIA ALL-PURPOSE ACKNOWLEDGEMENT

STATE OF CALIFORNIA
COUNTY OF ALAMEDA } SS.

On January 18, 1995 before me, the undersigned, a Notary Public in and for said State personally appeared ALICE LIM, EDWARD LIM & MAY LIM
Name(s) of Signer(s)

~~☐ Personally known to me~~ **OR** ☑ proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) ~~is~~/are subscribed to the within instrument and acknowledged to me that ~~he/she~~/they executed the same in ~~his/her~~/their authorized capacity(ies), and that by ~~his/her~~/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

NEOMAI K. FISIIAHI
COMM. #984917
NOTARY PUBLIC-CALIFORNIA
ALAMEDA COUNTY
My Comm. Expires Feb. 15, 1997

Witness my hand and offical seal.

Neomai K. Fisiiahi
Signature of Notary

NEOMAI K. FISIIAHI
Name (Typed or Printed)

(This area for official notarial seal)

Capacity Claimed by Signer

☑ Individual(s)
☐ Corporate Officer(s) - Title(s) _____
☐ Partner(s)
☐ Attorney-In-Fact
☐ Trustee(s)
☐ Guardian/Conservator
☐ Other: _____

Signer is Representing:

Name of person(s) or Entity(ies)

Description of Attached Document

This certificate must be attached to the document described below:

Title or type of document MINOR ENCROACHMENT PERMIT & AGREEMENT
Number of Pages 6
Date of Document 1/18/95
Signer(s) Other than Named Above CALVIN N. WONG

ATTENTION NOTARY

Although the information requested above is **optional**, it could prevent fraudulent attachment of this certificate to another document.

TO: Alice, Edward, and May Lim
250 - 8th Street
Oakland, CA 94607
(APN: 01-0185-11-0)

RE: Minor Encroachment Permit for installation of one groundwater monitoring well adjacent to 250 - 8th Street, Oakland, California.

CONDITIONS FOR GRANTING A MINOR ENCROACHMENT PERMIT

1. That this permit shall be revocable at the pleasure of the Director of Planning and Building.

2. That the permittee, by the acceptance, either expressed or implied, of the minor encroachment permit hereby disclaims any right, title, or interest in or to any portion of the public street area, and agrees that said temporary use of said area does not constitute an abandonment on the part of the City of Oakland of any of its rights for street purposes and otherwise.

3. The permittee shall maintain in force and effect at all times that said encroachment occupies said public area, good and sufficient public liability insurance in the amount of $300,000 for each occurrence, and property damage insurance in the amount of $50,000 for each occurrence, both including contractual liability against any and all claims arising out of the existence of said encroachment in said sidewalk area, as respects liabilities assumed under this permit,and that a certificate of such insurance and subsequent notices of the renewal thereof, shall be filed with the Director of Planning and Building Services of the City of Oakland, and that such certificate shall state that said insurance coverage shall not be canceled or be permitted to lapse without thirty (30) days written notice to said Director of Planning and Building. The Permittee also agrees that the City may review the type and amount of insurance required of the Permittee every five (5) years and may require the permittee to increase the amount of and/or change the type of insurance coverage required.

4. That the permittee, by the acceptance, either expressed or implied, of this revocable permit shall be solely and fully responsible for the repair or replacement of any portion or all of said improvements in the event that said improvements shall have failed or have been damaged to the extent of creating a menace or of becoming a hazard to the safety of the general public; and that the permittee shall be liable for the expenses connected therewith.

5. That upon the termination of the permission herein granted, permittee shall immediately remove said encroachment from the street area, and any damage resulting therefrom shall be repaired to the satisfaction of the Director of Planning and Building.

6. That the permittee shall file with the City of Oakland for recordation a Minor Encroachment Permit and Agreement, and shall be bound by and comply with all the terms and conditions of said permit.

7. That said permittee shall obtain an excavation permit prior to construction and a separate excavation permit prior to the removal of the ground water monitoring wells.

8. That said permittee shall provide to the City of Oakland an AS BUILT plan showing the actual location of the ground water monitoring wells and the results of all data collected from the monitoring wells.

9. That said permittee shall remove the monitoring well and repair any damage to the street area in accordance with City standards two (2) years after construction or as soon as monitoring is complete.

10. That said permittee shall notify the Office of Planning and Building after the monitoring well(s) is/are removed and the street area restored to initiate the procedure to rescind the minor encroachment permit.

11. That the monitoring well cover installed within the sidewalk area shall have a skid-proof surface.

12. That the ground water monitoring well casting and cover shall be iron and shall meet H-20 load rating. The cover shall be secured with a minimum of two stainless steel bolts. Bolts and cover shall be mounted flush with the surrounding surface. For sidewalk installations, a precast concrete utility box and non-skid cover may be needed in conjunction with the bolted cast iron cover with City approval.

13. That the Permittee acknowledges that the City makes no representations or warranties as to the conditions beneath said encroachment. By accepting this revocable permit, Permittee agrees that it will use the encroachment area at its own risk, is responsible for the proper coordination of its activities with all other permittees, underground utilities, contractors, or workmen operating, within the encroachment area and for the safety of itself and any of its personnel in connection with its entry under this revocable permit.

14. The Permittee acknowledges that the City is unaware of the existence of any hazardous substances beneath the encroachment area, and Permittee hereby waives and fully releases and forever discharges the City and its officers, directors, employees, agents, servants, representatives, assigns and successors from any and all claims, demands, liabilities, damages, actions, causes of action, penalties, fines, liens, judgements, costs, or expenses whatsoever (including, without limitation, attorneys' fees and costs), whether direct or indirect, known or unknown, foreseen or unforeseen, that may arise out of or in any way connected with the physical condition or required remediation of the excavation area of any law or regulation applicable thereto, including, without limitation, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (42 U.S.C. Sections 9601 et seq.), the Resource Conservation and Recovery Act of 1976 (42 U.S.C. Section 466 et seq.), the Safe Drinking Water Act (14 U.S.C. Sections 1401, 1450), the Hazardous Waste Control Law (California Health and Safety Code Sections 25100 et seq.), the Porter-Cologne Water Quality Control Act (California Health and Safety Code Section 13000 et seq.), the Hazardous Substance Account Act (California Health and Safety Code Sections 253000 et seq.), and the Safe Drinking Water and Toxic Enforcement Act (California Health and Safety Code Section 25249.5 et seq.).

15. Permittee further acknowledges that it understands and agrees that it hereby expressly waives all rights and benefits which it now has or in the future may have, under and by virtue of the terms of California Civil Code Section 1542, which reads as follows: "A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUBJECT TO EXIST IN HIS FAVOR BY HIM MUST HAVE MATERIALLY AFFECTED HIS SETTLEMENT WITH THE DEBTOR."

16. Permittee recognizes that by waiving the provisions of this section, Permittee will not be able to make any claims for damages that may exist, and to which, if known, would materially affect its decision to agree to these encroachment terms and conditions, regardless of whether Permittee's lack of knowledge is the result of ignorance, oversight, error, negligence, or any other cause.

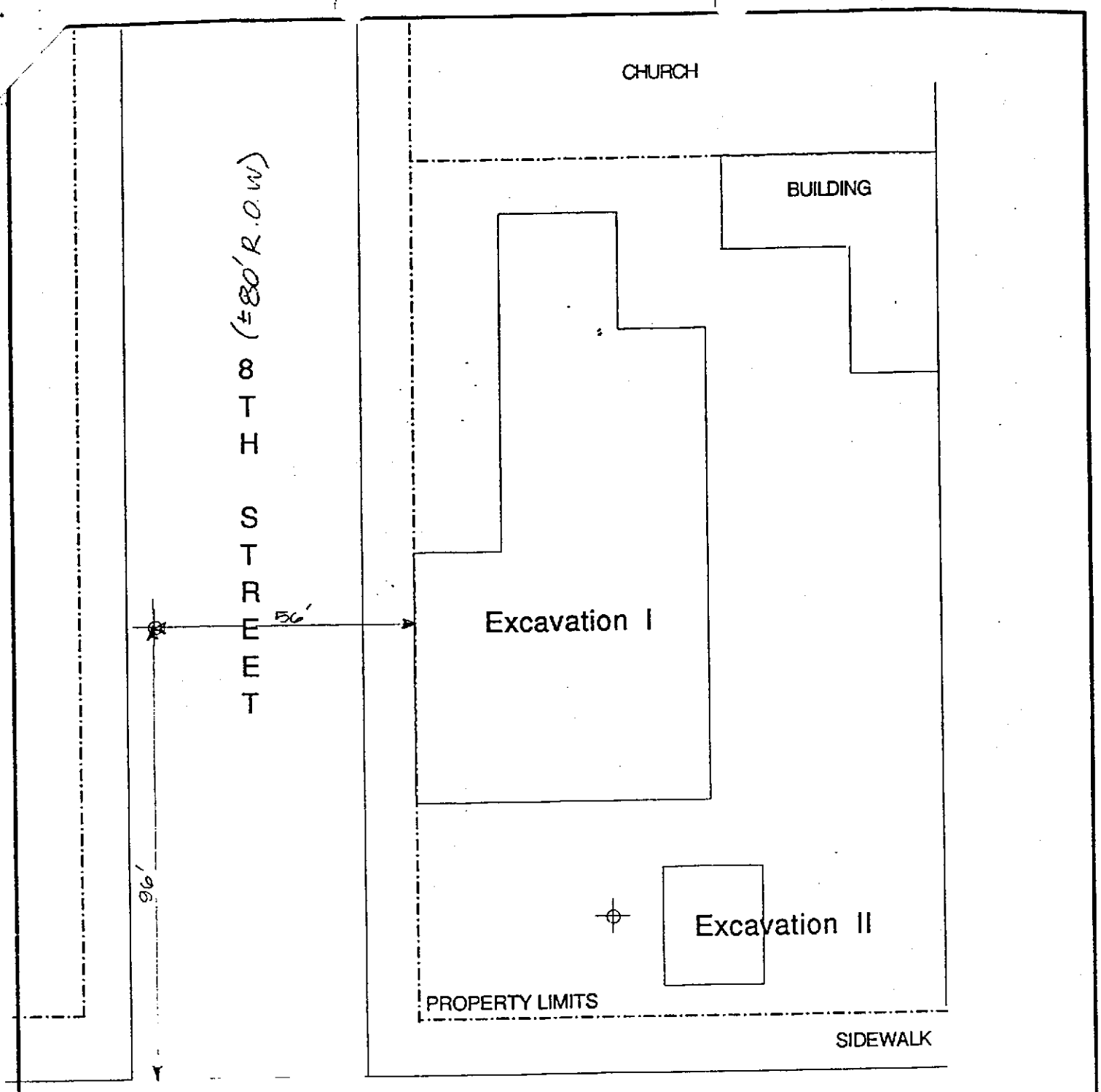
17. (a) That the permittee, by the acceptance of this revocable permit, agrees and promises to indemnify, defend, and hold harmless the City of Oakland, its officers, agents, and employees, to the maximum extent permitted by law, from any and all claims, demands, liabilities damages, actions, causes of action, penalties, fines, liens, judgments, costs, or expenses whatsoever (including, without limitation, attorneys' fees and costs; collectively referred to as "claims", whether direct or indirect, known or unknown, foreseen or unforeseen, to the extent that such claims were either (1) caused by the permittee, its agents, employees, contractors or representatives, or, (2) in the case of environmental contamination, the claim is a result of environmental contamination that emanates or emanated from 250 - 8th Street, Oakland, California site, or was otherwise caused by the permittee, its agents, employees, contractors or representatives.

(b) That, if any contamination is discovered below or in the immediate vicinity of the encroachment, and the contaminants found are of the type used, housed, stored, processed or sold on or from 250 - 8th Street, Oakland, California site, such shall amount to a rebuttable presumption that the contamination below, or in the immediate vicinity of, the encroachment was caused by the permittee, its agents, employees, contractors or representatives.

(c) That the permittee shall comply with all applicable federal, state, county and local laws, rules, and regulations governing the installation, maintenance, operation and abatement of the encroachment.

8. That the herein above conditions shall be binding upon the Permittee and the successive owners and assigns thereof.

9. That said Minor Encroachment Permit and Agreement shall take effect when all the conditions hereinabove set forth shall have been complied with to the satisfaction of the Director of Planning and Building, and shall become null and void upon the failure of the permittee to comply with all conditions.



LEGEND

Proposed Well Location

NORTH

SCALE
1" = 30'

SITE PLAN

LIM PROPERTY
250 8th Street
Oakland, California

AQUA SCIENCE ENGINEERS, INC. | Figure 2

EXHIBIT "A"

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

5997 PARKSIDE DRIVE ♦ PLEASANTON, CALIFORNIA 94566 ♦ (415) 484-2600

GROUNDWATER PROTECTION ORDINANCE 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. Phone
City Oakland, CA Zip 94607

APPLICANT
Name Aqua Science Engineers
Address 2411 Old Crow Canyon Rd #4 Phone (510) 820-9391
City San Ramon, CA Zip 94583

TYPE OF PROJECT

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

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

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

DRILLER'S LICENSE NO. C-57 582696

WELL PROJECTS
Drill Hole Diameter 7 in. Maximum
Casing Diameter 2 in. Depth 30 ft.
Surface Seal Depth 5 ft. Number 2

GEOTECHNICAL PROJECTS
Number of Borings ___ Maximum
Hole Diameter ___ in. Depth ___ ft.

ESTIMATED STARTING DATE 1/24/95
ESTIMATED COMPLETION DATE 2/1/95

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

APPLICANT'S SIGNATURE Robert E. Kutay Date 1/18/95

FOR OFFICE USE

PERMIT NUMBER ___
LOCATION NUMBER ___

PERMIT CONDITIONS

Circled Permit Requirements Apply

A. GENERAL
1. A permit application should be submitted so as t arrive at the Zone 7 office five days prior t proposed starting date.
2. Submit to Zone 7 within 60 days after completio of permitted work the original Department o Water Resources Water Well Drillers Report o equivalent for well projects, or drilling log and location sketch for geotechnical projects.
3. Permit is void if project not begun within 9 days of approval date.

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

C. GEOTECHNICAL. Backfill bore hole with compacted cut tings or heavy bentonite and upper two feet with com pacted material. In areas of known or suspecte contamination, tremied cement grout shall be used i place of compacted cuttings.

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

E. WELL DESTRUCTION. See attached.

Approved ___ Date ___

121989

APPENDIX B

Boring Log and Well Construction Details

SOIL BORING LOG AND MONITORING WELL CONSTRUCTION DETAILS

Boring BH-A/Well MW-1

Project Name: Lim Family Property	Project Location: 250 8th Street, Oakland, CA	Page 1 of 1
Driller: Soils Exploration Services	Type of Rig: CME 55	Type and Size of Auger: 8-inch O.D. Hollow-stem.
Logged By: Robert E. Kitay	Date Drilled: January 24, 1995	Checked By: David M. Schultz, P.E.

WATER AND WELL DATA

Depth of Water First Encountered: 18.0'

Static Depth of Water in Well: 16.5'

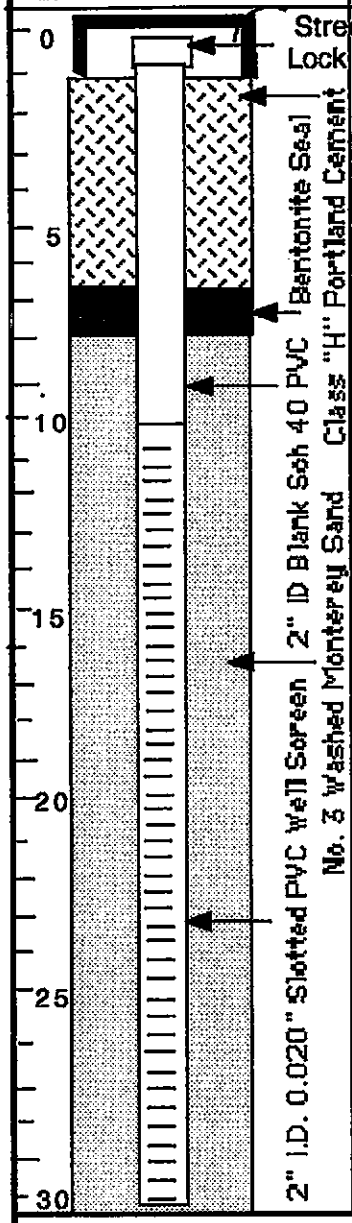
Total Depth of Boring: 30.0'

Total Depth of Well Completed: 30.0'

Well Screen Type and Diameter: 2" Diameter Schedule 40 PVC

Well Screen Slot Size: 0.020"

Type and Size of Soil Sampler: 2" I.D., Calif. Split-barrel



SOIL/ROCK SAMPLE DATA					DESCRIPTION OF LITHOLOGY
Depth in Feet	Interval	Blow Ct.	OVM (ppmv)	Graphic Log	standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
0					Asphaltic Concrete
					Silty SAND (SM); yellow brown; medium dense; damp; 80% fine to medium sand; 15% silt; 5% subrounded pebbles to 0.25" diameter; medium estimated K; no odor
5		3 7 12	0		
10		5 11 14	5.4		moist; no odor at 10'
15		6 16 20	5.4		olive brown; no odor at 15'
					wet at 18'
20		6 26 32	574		olive brown; wet; moderate hydrocarbon odor at 15'
25		26 32 35	0		yellow brown; no hydrocarbon odor at 25'
30		28 29 32	0		End of boring at 30.0'

SOIL BORING LOG AND MONITORING WELL CONSTRUCTION DETAILS

Boring BH-B/Well MW-2

Project Name: Lim Family Property	Project Location: 250 8th Street, Oakland, CA	Page 1 of 1
Driller: Soils Exploration Services	Type of Rig: CME 55	Type and Size of Auger: 8-inch O.D. Hollow-stem.
Logged By: Robert E. Kitay	Date Drilled: January 24, 1995	Checked By: David M. Schultz, P.E.

WATER AND WELL DATA

Depth of Water First Encountered: 17.0'

Static Depth of Water in Well: 16.5'

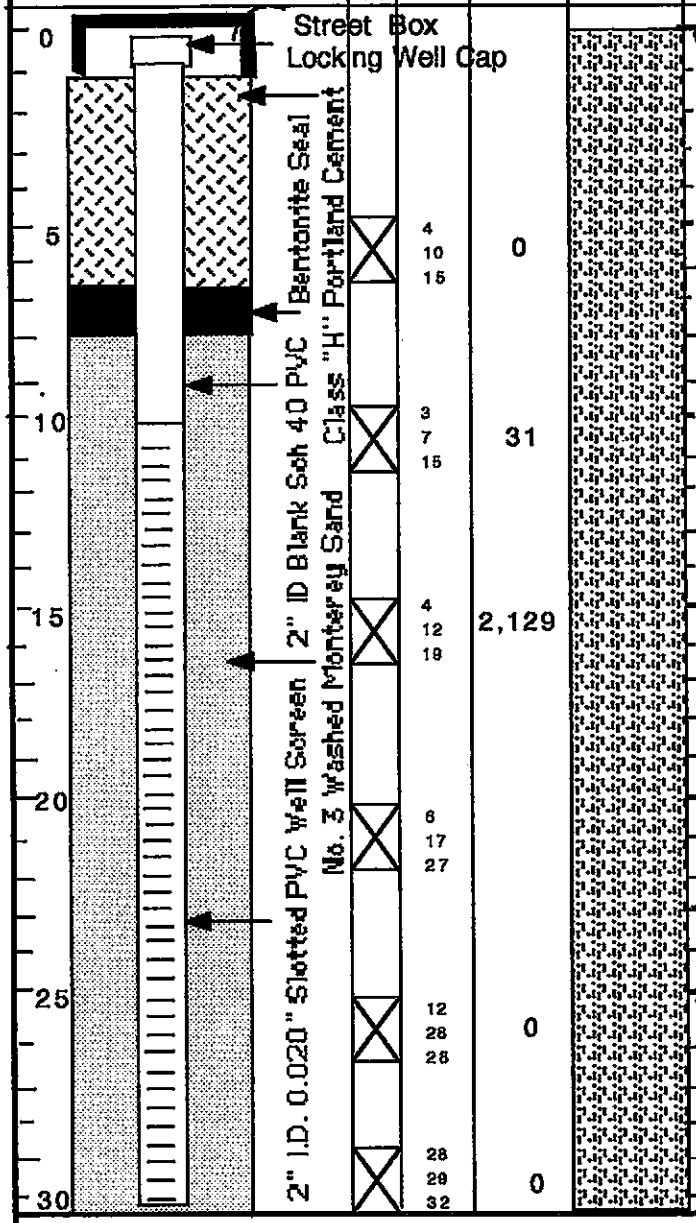
Total Depth of Boring: 30.0'

Total Depth of Well Completed: 30.0'

Well Screen Type and Diameter: 2" Diameter Schedule 40 PVC

Well Screen Slot Size: 0.020"

Type and Size of Soil Sampler: 2" I.D., Calif. Split-barrel



Depth in Feet	Interval	Blow Ct.	OVM (ppmv)	Graphic Log	DESCRIPTION OF LITHOLOGY (standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.)
0					Concrete
0					Silty SAND (SM); yellow brown; medium dense; damp; 80% fine to medium sand; 20% silt; medium estimated K; no odor
5	X	4 10 15	0		
10	X	3 7 15	31		no odor at 10'
15	X	4 12 19	2,129		olive; moist; strong hydrocarbon odor at 15' wet at 17'
20	X	6 17 27			sheen on sample; very strong hydrocarbon odor at 15'
25	X	12 28 28	0		brown; no hydrocarbon odor at 25'
30	X	28 29 32	0		End of boring at 30.0'

ASE Form 20A

AQUA SCIENCE ENGINEERS, INC.

APPENDIX C

Analytical Report and Chain of Custody Forms
For Soil Samples

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 11134

AQUA SCIENCE ENGINEERS, INC
2411 OLD CROW CANYON RD. #4
SAN RAMON, CA 94583

ATTN: ROBERT KITAY
CLIENT PROJ. ID: 2808
CLIENT PROJ. NAME: LIM PROPERTY

REPORT DATE: 02/09/95
DATE(S) SAMPLED: 01/24/95
DATE RECEIVED: 01/26/95
AEN WORK ORDER: 9501290

PROJECT SUMMARY:

On January 26, 1995, this laboratory received 8 soil sample(s).

Client requested three samples be analyzed for inorganic and organic parameters; five samples were placed on hold. Results of analysis are summarized on the following page(s).

Please see quality control report for a summary of QC data pertaining to this project.

If you have any questions, please contact Client Services at (510) 930-9090.

Larry Klein
Laboratory Director

AQUA SCIENCE ENGINEERS, INC.

AEN JOB NO: 9501290
DATE SAMPLED: 01/24/95
DATE RECEIVED: 01/26/95
CLIENT PROJ. ID: 2808

Client Sample Id	AEN Lab Id	Purgeable Hydrocarbons as Gasoline (mg/kg)	Extractable Hydrocarbons as Diesel (mg/kg)	Oil & Grease (mg/kg)	Hydrocarbons (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)
BH-A 10.0'	02	ND	ND	ND	ND	ND	ND	ND	ND
BH-A 16.0'	03	ND	2	ND	ND	ND	ND	ND	ND
BH-B 16.0'	07	4,200	200	610	600	25	180	85	420
Reporting Limits:		0.2 400 (07)	1	10	10	0.005 10 (07)	0.005 10 (07)	0.005 10 (07)	0.005 10 (07)
EPA Method:		5030 GCFID	3550 GCFID	5520C	5520F	8020	8020	8020	8020
Date Extracted:		NA	01/29/95	01/30/95	01/30/95	NA	NA	NA	NA
Date Analyzed:		01/31/95- 02/02/95	01/31/95	01/30/95	01/30/95	01/31/95- 02/02/95	01/31/95- 02/02/95	01/31/95- 02/02/95	01/31/95- 02/02/95

Reporting limits were elevated for sample BH-B 16.0' (9501290-07) due to high levels of target compounds; sample was run at dilution.

NA = Not Applicable
ND = Not Detected

AQUA SCIENCE ENGINEERS, INC

SAMPLE ID: BH-A 10.0'
AEN LAB NO: 9501290-02
AEN WORK ORDER: 9501290
CLIENT PROJ. ID: 2808

DATE SAMPLED: 01/24/95
DATE RECEIVED: 01/26/95
REPORT DATE: 02/09/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Lead	EPA 7420	3 *	3	mg/kg	01/31/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	01/30/95
EPA 8010 - Soil matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	5	ug/kg	02/06/95
Bromoform	75-25-2	ND	20	ug/kg	02/06/95
Bromomethane	74-83-9	ND	20	ug/kg	02/06/95
Carbon Tetrachloride	56-23-5	ND	5	ug/kg	02/06/95
Chlorobenzene	108-90-7	ND	5	ug/kg	02/06/95
Chloroethane	75-00-3	ND	20	ug/kg	02/06/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	5	ug/kg	02/06/95
Chloroform	67-66-3	ND	5	ug/kg	02/06/95
Chloromethane	74-87-3	ND	20	ug/kg	02/06/95
Dibromochloromethane	124-48-1	ND	5	ug/kg	02/06/95
1,2-Dichlorobenzene	95-50-1	ND	5	ug/kg	02/06/95
1,3-Dichlorobenzene	541-73-1	ND	5	ug/kg	02/06/95
1,4-Dichlorobenzene	106-46-7	ND	5	ug/kg	02/06/95
Dichlorodifluoromethane	75-71-8	ND	20	ug/kg	02/06/95
1,1-Dichloroethane	75-34-3	ND	5	ug/kg	02/06/95
1,2-Dichloroethane	107-06-2	ND	5	ug/kg	02/06/95
1,1-Dichloroethene	75-35-4	ND	5	ug/kg	02/06/95
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/kg	02/06/95
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/kg	02/06/95
1,2-Dichloropropane	78-87-5	ND	5	ug/kg	02/06/95
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/kg	02/06/95
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/kg	02/06/95
Methylene Chloride	75-09-2	36 * ppb	20	ug/kg	02/06/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/kg	02/06/95
Tetrachloroethene	127-18-4	ND	5	ug/kg	02/06/95
1,1,1-Trichloroethane	71-55-6	ND	5	ug/kg	02/06/95
1,1,2-Trichloroethane	79-00-5	ND	5	ug/kg	02/06/95
Trichloroethene	79-01-6	ND	5	ug/kg	02/06/95
Trichlorofluoromethane	75-69-4	ND	20	ug/kg	02/06/95
1,1,2Trichlorotrifluoroethane	76-13-1	ND	5	ug/kg	02/06/95
Vinyl Chloride	75-01-4	ND	20	ug/kg	02/06/95

Methylene chloride is a suspected laboratory contaminant.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

AQUA SCIENCE ENGINEERS, INC

SAMPLE ID: BH-A 16.0'
AEN LAB NO: 9501290-03
AEN WORK ORDER: 9501290
CLIENT PROJ. ID: 2808

DATE SAMPLED: 01/24/95
DATE RECEIVED: 01/26/95
REPORT DATE: 02/09/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Lead	EPA 7420	ND	3	mg/kg	01/31/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	01/30/95
EPA 8010 - Soil matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	5	ug/kg	02/06/95
Bromoform	75-25-2	ND	20	ug/kg	02/06/95
Bromomethane	74-83-9	ND	20	ug/kg	02/06/95
Carbon Tetrachloride	56-23-5	ND	5	ug/kg	02/06/95
Chlorobenzene	108-90-7	ND	5	ug/kg	02/06/95
Chloroethane	75-00-3	ND	20	ug/kg	02/06/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	5	ug/kg	02/06/95
Chloroform	67-66-3	ND	5	ug/kg	02/06/95
Chloromethane	74-87-3	ND	20	ug/kg	02/06/95
Dibromochloromethane	124-48-1	ND	5	ug/kg	02/06/95
1,2-Dichlorobenzene	95-50-1	ND	5	ug/kg	02/06/95
1,3-Dichlorobenzene	541-73-1	ND	5	ug/kg	02/06/95
1,4-Dichlorobenzene	106-46-7	ND	5	ug/kg	02/06/95
Dichlorodifluoromethane	75-71-8	ND	20	ug/kg	02/06/95
1,1-Dichloroethane	75-34-3	ND	5	ug/kg	02/06/95
1,2-Dichloroethane	107-06-2	ND	5	ug/kg	02/06/95
1,1-Dichloroethene	75-35-4	ND	5	ug/kg	02/06/95
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/kg	02/06/95
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/kg	02/06/95
1,2-Dichloropropane	78-87-5	ND	5	ug/kg	02/06/95
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/kg	02/06/95
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/kg	02/06/95
Methylene Chloride	75-09-2	24 *	20	ug/kg	02/06/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/kg	02/06/95
Tetrachloroethene	127-18-4	ND	5	ug/kg	02/06/95
1,1,1-Trichloroethane	71-55-6	ND	5	ug/kg	02/06/95
1,1,2-Trichloroethane	79-00-5	ND	5	ug/kg	02/06/95
Trichloroethene	79-01-6	ND	5	ug/kg	02/06/95
Trichlorofluoromethane	75-69-4	ND	20	ug/kg	02/06/95
1,1,2Trichlorotrifluoroethane	76-13-1	ND	5	ug/kg	02/06/95
Vinyl Chloride	75-01-4	ND	20	ug/kg	02/06/95

Methylene chloride is a suspected laboratory contaminant.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

AQUA SCIENCE ENGINEERS, INC

SAMPLE ID: BH-B 16.0'
AEN LAB NO: 9501290-07
AEN WORK ORDER: 9501290
CLIENT PROJ. ID: 2808

DATE SAMPLED: 01/24/95
DATE RECEIVED: 01/26/95
REPORT DATE: 02/09/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Lead	EPA 7420	3 *	3	mg/kg	01/31/95
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	01/30/95
EPA 8010 - Soil matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	10000	ug/kg	02/06/95
Bromoform	75-25-2	ND	40000	ug/kg	02/06/95
Bromomethane	74-83-9	ND	40000	ug/kg	02/06/95
Carbon Tetrachloride	56-23-5	ND	10000	ug/kg	02/06/95
Chlorobenzene	108-90-7	ND	10000	ug/kg	02/06/95
Chloroethane	75-00-3	ND	40000	ug/kg	02/06/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	10000	ug/kg	02/06/95
Chloroform	67-66-3	ND	10000	ug/kg	02/06/95
Chloromethane	74-87-3	ND	40000	ug/kg	02/06/95
Dibromochloromethane	124-48-1	ND	10000	ug/kg	02/06/95
1,2-Dichlorobenzene	95-50-1	ND	10000	ug/kg	02/06/95
1,3-Dichlorobenzene	541-73-1	ND	10000	ug/kg	02/06/95
1,4-Dichlorobenzene	106-46-7	ND	10000	ug/kg	02/06/95
Dichlorodifluoromethane	75-71-8	ND	40000	ug/kg	02/06/95
1,1-Dichloroethane	75-34-3	ND	10000	ug/kg	02/06/95
1,2-Dichloroethane	107-06-2	ND	10000	ug/kg	02/06/95
1,1-Dichloroethene	75-35-4	ND	10000	ug/kg	02/06/95
cis-1,2-Dichloroethene	156-59-2	ND	10000	ug/kg	02/06/95
trans-1,2-Dichloroethene	156-60-5	ND	10000	ug/kg	02/06/95
1,2-Dichloropropane	78-87-5	ND	10000	ug/kg	02/06/95
cis-1,3-Dichloropropene	10061-01-5	ND	10000	ug/kg	02/06/95
trans-1,3-Dichloropropene	10061-02-6	ND	10000	ug/kg	02/06/95
Methylene Chloride	75-09-2	ND	40000	ug/kg	02/06/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	10000	ug/kg	02/06/95
Tetrachloroethene	127-18-4	ND	10000	ug/kg	02/06/95
1,1,1-Trichloroethane	71-55-6	ND	10000	ug/kg	02/06/95
1,1,2-Trichloroethane	79-00-5	ND	10000	ug/kg	02/06/95
Trichloroethene	79-01-6	ND	10000	ug/kg	02/06/95
Trichlorofluoromethane	75-69-4	ND	40000	ug/kg	02/06/95
1,1,2Trichlorotrifluoroethane	76-13-1	ND	10000	ug/kg	02/06/95
Vinyl Chloride	75-01-4	ND	40000	ug/kg	02/06/95

RLs elevated for EPA 8010 due to high levels of non-target compounds. Sample run at dilution.

ND = Not detected at or above the reporting limit
* = Value above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9501290

CLIENT PROJECT ID: 2808

Quality Control and Project Summary

All laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

METHOD: EPA 3550 GCFID

AEN JOB NO: 9501290
DATE EXTRACTED: 01/29/95
INSTRUMENT: C
MATRIX: SOIL

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery n-Pentacosane
01/31/95	BH-A 10.0'	02	57
01/31/95	BH-A 16.0'	03	84
01/31/95	BH-B 16.0'	07	114
QC Limits:			45-120

DATE EXTRACTED: 01/29/95
DATE ANALYZED: 01/30/95
SAMPLE SPIKED: 9501290-02
INSTRUMENT: C

Matrix Spike Recovery Summary

Analyte	Spike Added (mg/kg)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Diesel	42	61	8	44-108	13

Daily method blanks for all associated analytical runs showed no contamination over the reporting limit.

QUALITY CONTROL DATA

METHODS: SM 5520

QC BATCH: 9501290
DATE EXTRACTED: 01/30/95
DATE ANALYZED: 01/30/95
SAMPLE SPIKED: 9501291-05
INSTRUMENT: IR
MATRIX: SOIL

Matrix Spike Recovery Summary

				QC Limits	
Analyte	Spike Added (mg/kg)	Average Percent Recovery	RPD	Percent Recovery	RPD
Oil	[illegible]	[illegible]	[illegible]	61-127	[illegible]

Method blanks for all associated analytical runs showed no contamination over the reporting limit.

QUALITY CONTROL DATA

METHOD: EPA 8010

AEN JOB NO: 9501290
INSTRUMENT: G
MATRIX: SOIL

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Bromochloro-methane	Percent Recovery 1-Bromo-3-chloro-propane
02/06/95	BH-A 10.0'	02	98	92
02/06/95	BH-A 16.0'	03	96	93
02/06/95	BH-B 16.0'	07	102	106
QC Limits:			72-113	69-107

DATE ANALYZED: 01/28/95
SAMPLE SPIKED: 9501226-02
INSTRUMENT: G

Matrix Spike Recovery Summary

Analyte	Spike Added (ug/kg)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
1,1-Dichloroethene	500	66	2	48-111	12
Trichloroethene	500	109	8	63-129	8
Chlorobenzene	500	71	6	56-114	13

Daily method blanks for all associated analytical runs showed no contamination over the reporting limit.

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9501290
INSTRUMENT: E
MATRIX: SOIL

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Fluorobenzene
01/31/95	BH-A 10.0'	02	100
01/31/95	BH-A 16.0'	03	101
02/02/95	BH-B 16.0'	07	102
QC Limits:			92-110

DATE ANALYZED: 01/31/95
SAMPLE SPIKED: 9501291-09
INSTRUMENT: E

Matrix Spike Recovery Summary

Analyte	Spike Added (ug/kg)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Benzene	35.5	95	3	79-113	26
Toluene	100.9	99	<1	84-110	20
Hydrocarbons as Gasoline	1000	94	5	60-126	20

Daily method blanks for all associated analytical runs showed no contamination over the reporting limit.

QUALITY CONTROL DATA

AEN JOB NO: 9501290
SAMPLE SPIKED: SAND
DATE ANALYZED: 01/31/95
MATRIX: SOIL

Method Spike Recovery Summary

Analyte	Inst./ Method	Spike Added (mg/kg)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Pb, Lead	V22/7420	50	98	2	75-125	20

Daily method blanks for all associated runs showed no contamination over the reporting limit.

*** END OF REPORT ***

R- R-7, S-D 950270

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 1-24-95 PAGE 1 OF 1

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

PROJECT NAME Linn 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 (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	Total Pb	HOLD			
01A	BH-A 6.0'	1/24	10:15	Soil	1															X			
02A	BH-A 10.0'		10:25				X	X		X			X								X			
03A	BH-A 16.0'		10:35				X	X		X			X								X			
04A	BH-A 21.0'		10:48																	X			
05A	BH-B 6.0'		13:50																	X			
06A	BH-B 11.0'		13:55																	X			
07A	BH-B 16.0'		14:05				X	X		X			X								X			
08A	BH-B 21.0'	↓	14:15	↓	↓															X			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY LABORATORY:	COMMENTS:
Robert E. Kitay 14:07	[signature] 14:10	[signature] 1700	Denise Harrington	
(signature) (time)	(signature) (time)	(signature) (time)	(signature) (time)	
Robert E. Kitay 1-26-95	NEIL HERRICK 1-26-95	NEIL HERRICK 1-26-95	DENISE HARRINGTON	
(printed name) (date)	(printed name) (date)	(printed name) (date)	(printed name) (date)	
Company- ASE	Company- AEN	Company- AEN	AEN 1/26/95 1516 Company-	

APPENDIX D

Well Sampling Field Log

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Project Name and Address: Lim, 250-8th Street, Oakland CA
Job #: 2808 Date of sampling: 1-30-96
Well Name: MW-1 Sampled by: RK
Total depth of well (feet): 27.96 Well diameter (inches): 2
Depth to water before sampling (feet): 16.21
Thickness of floating product if any: —
Depth of well casing in water (feet): 11.75
Number of gallons per well casing volume (gallons): 2.0
Number of well casing volumes to be removed: 4
Req'd volume of groundwater to be purged before sampling (gallons): 8
Equipment used to purge the well: 12 volt PVC pump
Time Evacuation Began: 12:25 Time Evacuation Finished: 12:35
Approximate volume of groundwater purged: 10 gallons
Did the well go dry?: No After how many gallons: —
Time samples were collected: 13:00
Depth to water at time of sampling: —
Percent recovery at time of sampling: —
Samples collected with: Disposable polyethylene bailer
Sample color: None Odor: slight hc
Description of sediment in sample: small amount of fine brown silt

CHEMICAL DATA

Volume Purged	Temp	pH RK	Conductivity
Initial	64.7	7.18	2060
2.0 gal	66.4	7.28	2110
4.0 gal	66.6	7.26	2130
6.0 gal	66.5	7.25	2120
8.0 gal	66.6	7.24	2130

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
MW-1	2	40-ml VOA vials	HCl	Yes	TPH-G/BTEX
↓	2	↓	↓	↓	EPA 8010
	2	1-liter amber glass			TPH-D
	1	↓			O&G
↓	2			↓	Total Pb (Dissolved)

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Project Name and Address: Lim, 250 - 8th Street, Oakland, CA
Job #: 2808 Date of sampling: 1-30-95
Well Name: MW-2 Sampled by: RK
Total depth of well (feet): 25.82 Well diameter (inches): 2
Depth to water before sampling (feet): 15.02
Thickness of floating product if any: None (sheen)
Depth of well casing in water (feet): 10.80
Number of gallons per well casing volume (gallons): 1.8
Number of well casing volumes to be removed: 4
Req'd volume of groundwater to be purged before sampling (gallons): 7.2
Equipment used to purge the well: 12 volt PVC pump
Time Evacuation Began: 11:15 Time Evacuation Finished: 11:25
Approximate volume of groundwater purged: 10 gallons
Did the well go dry?: No After how many gallons: —
Time samples were collected: 11:55
Depth to water at time of sampling: —
Percent recovery at time of sampling: —
Samples collected with: Disposable polyethylene bailer
Sample color: None Odor: Strong hc
Description of sediment in sample: Small amount of fine brown silt

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
Initial	63.6	8.55	1910
2 gals	64.5	8.50	1910
4 gals	64.9	8.32	1920
6 gals	65.0	8.33	1920
8 gals	64.9	8.35	1920

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
MW-2	2	40-ml VOA vials	HCl	Yes	TPH-G/BTEX
↓	2	↓	↓	↓	EPA 8010
	2	1-liter amber glass			TPH-D
	1	↓	↓		O&G
↓	2		None	↓	Total Pb (Dissolved)

APPENDIX E

Analytical Report and Chain of Custody Forms
For Groundwater Samples

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 11134

AQUA SCIENCE ENGINEERS, INC
2411 OLD CROW CANYON RD. #4
SAN RAMON, CA 94583

ATTN: ROBERT KITAY
CLIENT PROJ. ID: 2808
CLIENT PROJ. NAME: LIM PROPERTY

REPORT DATE: 02/15/95
DATE(S) SAMPLED: 01/30/95
DATE RECEIVED: 01/31/95
AEN WORK ORDER: 9501355

PROJECT SUMMARY:

On January 31, 1995, this laboratory received 2 water sample(s).

Client requested sample(s) be analyzed for inorganic and organic parameters. Results of analysis are summarized on the following page(s). Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Client Services at (510) 930-9090.

Larry Klein
Laboratory Director

AQUA SCIENCE ENGINEERS, INC.

AEN JOB NO: 9501355
DATE SAMPLED: 01/30/95
DATE RECEIVED: 01/31/95
CLIENT PROJ. ID: 2808

Client Sample Id	AEN Lab Id	Purgeable Hydrocarbons as Gasoline (ug/L)	Extractable Hydrocarbons as Diesel (ug/L)	Oil & Grease (ug/L)	Hydrocarbons (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)
MW-1	01	740	200	ND	ND	3	5	1	4
MW-2	02	88,000	800	19,000	17,000	19,000 (50)	18,000 (50)	2,400 (50)	10,000 (200)
Reporting Limit		50	50	500	500	0.5	0.5	0.5	2
EPA Method:		5030 GCFID	3510 GCFID	5520C	5520C,F	8020	8020	8020	8020
Date(s) Extracted:		NA	02/06/95	02/06/95	02/06/95	NA	NA	NA	NA
Date(s) Analyzed:		02/03/95 02/06/95	02/07/95	02/08/95	02/08/95	02/03/95 02/06/95	02/03/95 02/06/95	02/03/95 02/06/95	02/03/95 02/06/95

NA = Not Applicable
ND = Not Detected

Reporting limits elevated for gas/BTEX for sample MW-2 due to high levels of target compounds. Sample(s) run at dilution.

AQUA SCIENCE ENGINEERS, INC

SAMPLE ID: MW-1
AEN LAB NO: 9501355-01
AEN WORK ORDER: 9501355
CLIENT PROJ. ID: 2808

DATE SAMPLED: 01/30/95
DATE RECEIVED: 01/31/95
REPORT DATE: 02/15/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Sample Filtration	0.45 um	-		Filtr Date	01/31/95
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	01/31/95
Lead	EPA 6010	ND	0.04	mg/L	02/01/95
EPA 8010 - Water matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	0.5	ug/L	02/08/95
Bromoform	75-25-2	ND	0.5	ug/L	02/08/95
Bromomethane	74-83-9	ND	2	ug/L	02/08/95
Carbon Tetrachloride	56-23-5	ND	0.5	ug/L	02/08/95
Chlorobenzene	108-90-7	ND	0.5	ug/L	02/08/95
Chloroethane	75-00-3	ND	2	ug/L	02/08/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5	ug/L	02/08/95
Chloroform	67-66-3	0.5 *	0.5	ug/L	02/08/95
Chloromethane	74-87-3	ND	2	ug/L	02/08/95
Dibromochloromethane	124-48-1	ND	0.5	ug/L	02/08/95
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	02/08/95
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	02/08/95
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	02/08/95
Dichlorodifluoromethane	75-71-8	ND	2	ug/L	02/08/95
1,1-Dichloroethane	75-34-3	ND	0.5	ug/L	02/08/95
1,2-Dichloroethane	107-06-2	ND	0.5	ug/L	02/08/95
1,1-Dichloroethene	75-35-4	ND	0.5	ug/L	02/08/95
cis-1,2-Dichloroethene	156-59-2	ND	0.5	ug/L	02/08/95
trans-1,2-Dichloroethene	156-60-5	ND	0.5	ug/L	02/08/95
1,2-Dichloropropane	78-87-5	ND	0.5	ug/L	02/08/95
cis-1,3-Dichloropropene	10061-01-5	ND	0.5	ug/L	02/08/95
trans-1,3-Dichloropropene	10061-02-6	ND	0.5	ug/L	02/08/95
Methylene Chloride	75-09-2	ND	2	ug/L	02/08/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5	ug/L	02/08/95
Tetrachloroethene	127-18-4	8 *	0.5	ug/L	02/08/95
1,1,1-Trichloroethane	71-55-6	ND	0.5	ug/L	02/08/95
1,1,2-Trichloroethane	79-00-5	ND	0.5	ug/L	02/08/95
Trichloroethene	79-01-6	ND	0.5	ug/L	02/08/95
Trichlorofluoromethane	75-69-4	ND	2	ug/L	02/08/95
1,1,2Trichlorotrifluoroethane	76-13-1	ND	0.5	ug/L	02/08/95
Vinyl Chloride	75-01-4	ND	2	ug/L	02/08/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

AQUA SCIENCE ENGINEERS, INC

SAMPLE ID: MW-2
AEN LAB NO: 9501355-02
AEN WORK ORDER: 9501355
CLIENT PROJ. ID: 2808

DATE SAMPLED: 01/30/95
DATE RECEIVED: 01/31/95
REPORT DATE: 02/15/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Sample Filtration	0.45 um	-		Filtr Date	01/31/95
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	01/31/95
Lead	EPA 6010	ND	0.04	mg/L	02/01/95
EPA 8010 - Water matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	30	ug/L	02/08/95
Bromoform	75-25-2	ND	30	ug/L	02/08/95
Bromomethane	74-83-9	ND	100	ug/L	02/08/95
Carbon Tetrachloride	56-23-5	ND	30	ug/L	02/08/95
Chlorobenzene	108-90-7	ND	30	ug/L	02/08/95
Chloroethane	75-00-3	ND	100	ug/L	02/08/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	30	ug/L	02/08/95
Chloroform	67-66-3	ND	30	ug/L	02/08/95
Chloromethane	74-87-3	ND	100	ug/L	02/08/95
Dibromochloromethane	124-48-1	ND	30	ug/L	02/08/95
1,2-Dichlorobenzene	95-50-1	ND	30	ug/L	02/08/95
1,3-Dichlorobenzene	541-73-1	ND	30	ug/L	02/08/95
1,4-Dichlorobenzene	106-46-7	ND	30	ug/L	02/08/95
Dichlorodifluoromethane	75-71-8	ND	100	ug/L	02/08/95
1,1-Dichloroethane	75-34-3	ND	30	ug/L	02/08/95
1,2-Dichloroethane	107-06-2	ND	30	ug/L	02/08/95
1,1-Dichloroethene	75-35-4	ND	30	ug/L	02/08/95
cis-1,2-Dichloroethene	156-59-2	ND	30	ug/L	02/08/95
trans-1,2-Dichloroethene	156-60-5	ND	30	ug/L	02/08/95
1,2-Dichloropropane	78-87-5	ND	30	ug/L	02/08/95
cis-1,3-Dichloropropene	10061-01-5	ND	30	ug/L	02/08/95
trans-1,3-Dichloropropene	10061-02-6	ND	30	ug/L	02/08/95
Methylene Chloride	75-09-2	ND	100	ug/L	02/08/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	30	ug/L	02/08/95
Tetrachloroethene	127-18-4	ND	30	ug/L	02/08/95
1,1,1-Trichloroethane	71-55-6	ND	30	ug/L	02/08/95
1,1,2-Trichloroethane	79-00-5	ND	30	ug/L	02/08/95
Trichloroethene	79-01-6	ND	30	ug/L	02/08/95
Trichlorofluoromethane	75-69-4	ND	100	ug/L	02/08/95
1,1,2Trichlorotrifluoroethane	76-13-1	ND	30	ug/L	02/08/95
Vinyl Chloride	75-01-4	ND	100	ug/L	02/08/95

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9501355

CLIENT PROJECT ID: 2808

Quality Control and Project Summary

All laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

METHOD: EPA 3510 GCFID

AEN JOB NO: 9501355
DATE(S) EXTRACTED: 02/06/95
INSTRUMENT: C
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery n-Pentacosane
02/07/95	MW-1	01	92
02/07/95	MW-2	02	92
QC Limits:			30-120

DATE EXTRACTED: 02/03/95
DATE ANALYZED: 02/04/95
SAMPLE SPIKED: DI WATER
INSTRUMENT: C

Method Spike Recovery Summary

Analyte	Spike Added (mg/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Diesel	1.7	93	5	65-103	12

Daily method blanks for all associated analytical runs showed no contamination over the reporting limit.

QUALITY CONTROL DATA

METHOD: SM 5520

AEN JOB NO: 9501355
DATE EXTRACTED: 02/02/95
DATE ANALYZED: 02/03/95
SAMPLE SPIKED: DI WATER
INSTRUMENT: IR
MATRIX: WATER

Method Spike Recovery Summary

Analyte	Spike Added (mg/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Oil	6.9	92	<1	80-109	5

Daily method blanks for all associated analytical runs showed no contamination over the reporting limit.

QUALITY CONTROL DATA

METHOD: EPA 8010

AEN JOB NO: 9501355
INSTRUMENT: G
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery: Bromochloro-methane	Percent Recovery: 1-Bromo-3-chloro-propane
02/08/95	MW-1	01	87	89
02/08/95	MW-2	02	96	104
QC Limits:			78-153	74-143

DATE ANALYZED: 02/07/95
SAMPLE SPIKED: 9502028-02
INSTRUMENT: G

Matrix Spike Recovery Summary

Analyte	Spike Added (ug/L)	Average Percent Recovery	RPD	QC Limits: Percent Recovery	QC Limits: RPD
1,1-Dichloroethene	50	74	14	40-130	18
Trichloroethene	50	90	9	67-136	17
Chlorobenzene	50	83	2	59-123	15

Daily method blanks for all associated analytical runs showed no contamination over the reporting limit.

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9501355
INSTRUMENT: F
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Fluorobenzene
02/03/95	MW-1	01	97
02/06/95	MW-2	02	100
QC Limits:			92-109

DATE ANALYZED: 02/01/95
SAMPLE SPIKED: 9501354-02
INSTRUMENT: F

Matrix Spike Recovery Summary

Analyte	Spike Added (ug/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Benzene	17.9	105	5	85-109	17
Toluene	49.9	107	5	87-111	16
Hydrocarbons as Gasoline	500	102	<1	66-117	19

Daily method blanks for all associated analytical runs showed no contamination over the reporting limit.

QUALITY CONTROL DATA

AEN JOB NO: 9501355
SAMPLE SPIKED: DI WATER
DATE ANALYZED: 02/01/95
MATRIX: WATER

Method Spike Recovery Summary

Analyte	Inst./ Method	Spike Added (mg/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Pb, Lead	ICP/6010	0.1	99	1	87-119	7

Daily method blanks for all associated runs showed no contamination over the reporting limit.

*** END OF REPORT ***

R-1, S-D
R-3, S-2

9501355

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 1-30-95 PAGE 1 OF 1

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

PROJECT NAME Lim Property NO. 2808

ADDRESS 250 - 8th Street, Oakland, CA

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:
Filter Pb samples upon receipt.

	SAMPLE ID.	DATE	TIME	MATRIX	NO. OF SAMPLES	TPH-GASOLINE (EPA 5030/8015)	TPH-GASOLINE/BTEX (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	Soluble Pb dissolved			
A-I	MW-1	1/30	13:00	Water	9		X	X		X			X						X			
A-I	MW-2	1/30	11:55	Water	9		X	X		X			X						X			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY LABORATORY:	COMMENTS:
Robert E. Kitay 10:40 (signature) (time)	[signature] 10:40 (signature) (time)	[signature] 10:41 (signature) (time)	Gina Gillespie 1040 (signature) (time)	
Robert E. Kitay 1-31-95 (printed name) (date)	NEIL HERRICK 1-31-95 (printed name) (date)	NEIL HERRICK 1-31-95 (printed name) (date)	Gina Gillespie 1-31-95 (printed name) (date)	
Company- ASE	Company- AEN	Company- AEN	Company- AEN	