



July 17, 1996

REPORT
of
SOIL AND GROUNDWATER ASSESSMENT
ASE JOB NO. 3011
at
Zima Center Corporation
2951 High Street
Oakland, California

ENVIRONMENTAL
PROTECTION
96 JUL 19 PM 3:31

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



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1.0 INTRODUCTION

This report outlines the methods and findings of Aqua Science Engineers, Inc. (ASE)'s soil and groundwater assessment for the Zima Center Corporation located at 2951 High Street in Oakland, California (Figures 1 and 2). The proposed site assessment activities were initiated by Mr. Mohammad A. Mashhoon, owner of the property, as required in a letter from the Alameda County Health Care Services Agency (ACHCSA) dated March 11, 1996 (Appendix A).

2.0 SITE HISTORY

The site is an operating gasoline service station and mini-mart. The following site history is based on a review of the following reports prepared by Soil Tech Engineering, Inc. (STE) as well as from conversations with Mr. Mohammad A. Mashhoon, owner of the property.

- * "Soil Sampling Below Removed Underground Storage Tank from the Property Located at 2951 High Street, Oakland, California" dated September 30, 1993.
- * "Remedial Excavation Activities and Soil Sampling at the Property Located at 2951 High Street, Oakland, California" dated December 15, 1993.
- * "Preliminary Site Assessment for the Property Located at 2951 High Street, Oakland, California" dated March 8, 1995.
- * "Quarterly Groundwater Monitoring and Sampling at the Property Located at 2951 High Street, Oakland, California" dated August 31, 1995.

In September 1993, one (1) 300-gallon waste oil underground storage tank (UST) was removed by Alpha Geo Services of Santa Clara, California. One soil sample was collected by STE approximately two (2) feet beneath the former UST. This sample contained 40 parts per million (ppm) total petroleum hydrocarbons as gasoline (TPH-G), 120 ppm total oil and grease (TOG), 0.13 ppm benzene, 0.33 ppm toluene, 0.018 ppm ethylbenzene, 0.50 ppm total xylenes, 0.091 ppm 1,1,2,2-tetrachloroethane and 0.034 ppm 1,1,2-trichloroethane. A soil sample collected from the stockpiled soil produced during the UST removal contained 48 ppm TPH-G, 70 ppm TOG, 0.65 ppm benzene, 1.8 ppm toluene, 0.38 ppm ethylbenzene, 2.5 ppm total xylenes, 0.036 ppm 1,1,2,2-tetrachloroethane and 0.085 ppm 1,1,2-

trichloroethane. No total petroleum hydrocarbons as diesel (TPH-D), semi-volatile organic compounds (SVOCs) or elevated metal concentrations were detected in these samples.

In October 1993, STE overexcavated approximately 40 cubic yards of contaminated soil from the former waste oil UST area. Confirmation soil samples were then collected from each excavation sidewall as well as from the floor of the excavation. Up to 2.6 ppm TPH-G, 3,700 ppm TOG, 0.014 ppm benzene, 0.013 ppm toluene, 0.005 ppm ethylbenzene, 0.018 ppm total xylenes and 0.042 ppm tetrachloroethylene (PCE) were detected in the confirmation soil samples. The TOG concentration of 3,700 ppm was, however, only in one location. The other samples contained TOG concentrations ranging from non-detectable to 120 ppm. The contaminated soil was subsequently disposed of at the Forward Landfill in Stockton, California under manifest.

In February 1995, STE drilled four (4) soil borings at the site and installed groundwater monitoring wells in the borings. No hydrocarbons were detected in soil samples collected from borings MW-1 and MW-3. Up to 3.5 ppm TPH-G, 21 ppm TOG, 0.005 ppm toluene, 0.0058 ppm ethylbenzene and 0.054 ppm total xylenes were detected in soil samples collected from monitoring well MW-2. Up to 110 ppm TPH-D, 1,900 ppm TPH-G, 200 ppm TOG, 3.5 ppm benzene, 4.7 ppm toluene, 3.9 ppm ethylbenzene and 11 ppm total xylenes were detected in the soil sample collected from 6-feet below ground surface (bgs) in monitoring well MW-4. Much lower hydrocarbon concentrations (4.6 ppm TPH-G, 0.048 ppm benzene, 0.026 ppm toluene, 0.037 ppm ethylbenzene and 0.06 ppm total xylenes) were detected in the soil sample collected from 11-feet bgs in boring MW-4, and no hydrocarbons were detected in the soil sample collected from 16-feet bgs in boring MW-4. Groundwater samples were collected following the installation and development of the monitoring wells. 3,300 parts per billion (ppb) TPH-G, 470 ppb TPH-D, 18,000 ppb TOG, 9.6 ppb benzene, 13 ppm toluene, 8 ppb ethylbenzene and 28 ppb total xylenes were detected in groundwater samples collected from monitoring well MW-2. Only 280 ppb TPH-D and 600 ppb TOG were detected in groundwater samples collected from monitoring well MW-1 with no TPH-G or benzene, toluene, ethylbenzene and total xylenes (BTEX) concentrations detected. No hydrocarbons were detected in the groundwater samples collected from monitoring well MW-3, and no volatile organic compounds (other than BTEX) were detected in groundwater samples collected from any of the monitoring wells. Monitoring well MW-4 contained a sheen and was not sampled. The

groundwater flow direction at the time of this initial assessment was to the north.

Following the initial assessment, the site was placed on a quarterly groundwater sampling schedule. During the next two quarters, up to 4,600 ppb TPH-G, 39 ppb benzene, 18 ppb toluene, 21 ppb ethylbenzene and 39 ppb total xylenes were detected in groundwater samples collected from monitoring well MW-2. No hydrocarbons were detected in groundwater samples collected from monitoring wells MW-1 and MW-3 during this period. In addition, no TPH-D, TOG or VOCs (other than BTEX) were detected in any of the groundwater samples during this period. Monitoring well MW-4 contained a sheen throughout this period and was not sampled. During the May and August 1995 sampling periods, the groundwater flow direction was to the south.

3.0 SCOPE OF WORK (SOW)

Based on the requirements of the ACHCSA, ASE's proposed SOW was as follows:

- 1) Prepare a workplan and health and safety plan for review and approval from the appropriate regulatory agencies.
- 2) Obtain the necessary drilling permit from the Alameda County Flood Control and Water Conservation District (Zone 7).
- 3) Drill five soil borings at the site to approximately 20-foot bgs using a Geoprobe or similar type of drill rig.
- 4) Collect soil and groundwater samples from each boring and analyze one soil and one groundwater sample from each boring at a CA-EPA certified analytical laboratory for TPH-G by modified EPA Method 5030/8015 and BTEX and methyl tertiary butyl ether (MTBE) by EPA Method 8020.
- 5) Backfill each boring with neat cement.
- 6) Collect groundwater samples from monitoring well MW-4 and analyze the groundwater sample for TPH-G by modified EPA Method 5030/8015 and BTEX and MTBE by EPA Method 8020.
- 7) Prepare a report presenting 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). A copy of this permit is presented in Appendix B.

On June 26, 1996, Vironex, Inc. of Foster City, California drilled five soil borings at the site using a Geoprobe hydraulic sampling rig. Boring BH-A was located west of the existing USTs between the existing USTs and the former waste oil UST. Borings BH-B and BH-C were located north and east of the existing USTs respectively. Boring BH-D was located at the east end of the pump islands and south of the existing USTs. Boring BH-E was located southwest of the pump islands. 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 were described by the site geologist using the Unified Soil Classification System and were 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 preserved with hydrochloric acid. The samples were labeled, placed in protective foam sleeves, and stored on ice for transport to Chromalab under chain of custody. Boring BH-D did not produce enough water to collect a representative sample and therefore was not sampled.

Groundwater samples were also collected from groundwater monitoring well MW-4. 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, preserved with hydrochloric acid, labeled, placed in protective foam sleeves, and stored on wet ice for transport to Chromalab under chain of custody.

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 various layers of sands and silts from the ground surface to the total depth explored of 30.0-feet bgs. Boring logs are presented as Appendix C.

5.0 ANALYTICAL RESULTS FOR SOIL

Soil samples collected from 5-foot bgs in each boring and from 15-foot bgs in each boring except BH-E were analyzed by Chromalab for TPH-G by modified EPA Method 5030/8015 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	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE
BH-A	5.0'	39	0.43	0.086	0.47	1.0	0.90
	15.0'	<1	0.026	<0.005	<0.005	<0.005	0.069
BH-B	5.0'	<1	<0.005	<0.005	<0.005	<0.005	<0.005
	15.0'	<1	0.045	0.043	<0.005	0.021	2.0
BH-C	5.0'	<1	<0.005	<0.005	<0.005	<0.005	<0.005
	15.0'	<1	<0.005	<0.005	<0.005	<0.005	<0.005
BH-D	5.0'	<1	<0.005	<0.005	<0.005	<0.005	0.072
	15.0'	<1	<0.005	<0.005	<0.005	<0.005	<0.005
BH-E	5.0'	<1	<0.005	<0.005	<0.005	<0.005	1.7

Notes:

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

39 ppm TPH-G, 0.43 ppm benzene, 0.086 ppm toluene, 0.47 ppm ethylbenzene, 1 ppm total xylenes and 0.90 ppm MTBE were detected in the soil sample collected from 5.0-foot bgs in boring BH-A. Lower BTEX and MTBE concentrations were detected in the soil sample collected from 15.0-foot bgs in this boring. 0.045 ppm benzene, 0.043 ppm toluene, 0.021 ppm total xylenes and 2.0 ppm MTBE were detected in the soil sample collected from 15.0-foot bgs in boring BH-B. No hydrocarbons were detected in the soil sample collected from 5.0-foot bgs in boring BH-B. No TPH-G or BTEX were detected in the soil samples collected from borings BH-C, BH-D and BH-E. MTBE concentrations in these samples ranged from non-detectable at a detection limit of 0.005 ppm to 1.7 ppm.

6.0 ANALYTICAL RESULTS FOR GROUNDWATER

The groundwater samples were analyzed by Chromalab for TPH-G by modified EPA Method 5030/8015 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

Well or Boring	TPH Gasoline	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE
MW-4	2,500	230	64	99	110	5,700
✓ BH-A	23,000	4,600	2,800	700	2,700	13,000
✓ BH-B	4,000	490	680	100	520	620
✓ BH-C	200	4.8	1.4	3.8	5.8	16,000
✓ BH-E	220	38	5.8	9.0	16	340
DTSC MCL	NE	1.0	100*	680	1,750	NE

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.

Relatively high hydrocarbon concentrations were detected in most of the water samples analyzed, especially those from borings BH-A, BH-B and monitoring well MW-4. All of these borings are to the north or west of the existing USTs. All of the groundwater samples analyzed contained benzene concentrations above the California Department of Toxic Substances Control (DTSC) maximum contaminant level (MCL) for drinking water. In addition, the ethylbenzene and toluene concentrations detected in groundwater samples collected from boring BH-A exceeded DTSC MCLs for drinking water. The toluene concentrations detected in groundwater samples collected from borings BH-A and BH-B exceeded the DTSC recommended action level (RAL) for drinking water. Although elevated MTBE concentrations were detected in groundwater samples collected from borings at the site, MTBE is not currently regulated.

[Handwritten Signature]

7.0 CONCLUSIONS AND RECOMMENDATIONS

None of the hydrocarbon concentrations detected in the soil during this assessment exceeded United States Environmental Protection Agency (US EPA) preliminary remediation goals (PRGs) for either industrial or residential soil. Based on these findings, ASE does not recommend any further remediation related to the soil.

Relatively high hydrocarbon concentrations were detected in groundwater north and west of the existing USTs. Since the highest hydrocarbon concentrations in groundwater were detected in boring BH-A between the existing USTs and monitoring wells MW-1, MW-2 and MW-3 which have much lower hydrocarbon concentrations, the extent of the extremely elevated concentrations in the vicinity of boring BH-A appears to be limited. Benzene concentrations exceeded the DTSC MCL for drinking water in each groundwater sample collected. In addition, concentrations of toluene, ethylbenzene and total xylenes exceeded either the DTSC MCL or RAL for drinking water established for these compounds. High concentrations of MTBE were also detected in the samples although MTBE is not currently regulated. The presence of MTBE at these concentrations is usually indicative of a relatively recent release. Since the USTs at the site are lined, tested regularly, and have never indicated a leak, the release may be due to overspill and not an integrity weakness in the tank.

Although hydrocarbon concentrations in groundwater samples collected at the site exceeded DTSC MCLs and RALs for drinking water, groundwater in the City of Oakland is not currently being utilized for drinking water. Since there appears to be very limited health risk related to subsurface conditions without groundwater being consumed, ASE requests, on behalf of the property owner Mr. Mohammad A. Mashhoon, that this site be reviewed by the ACHCSA for case closure.

8.0 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
Robert E. Kitay, R.E.A.
Project Geologist

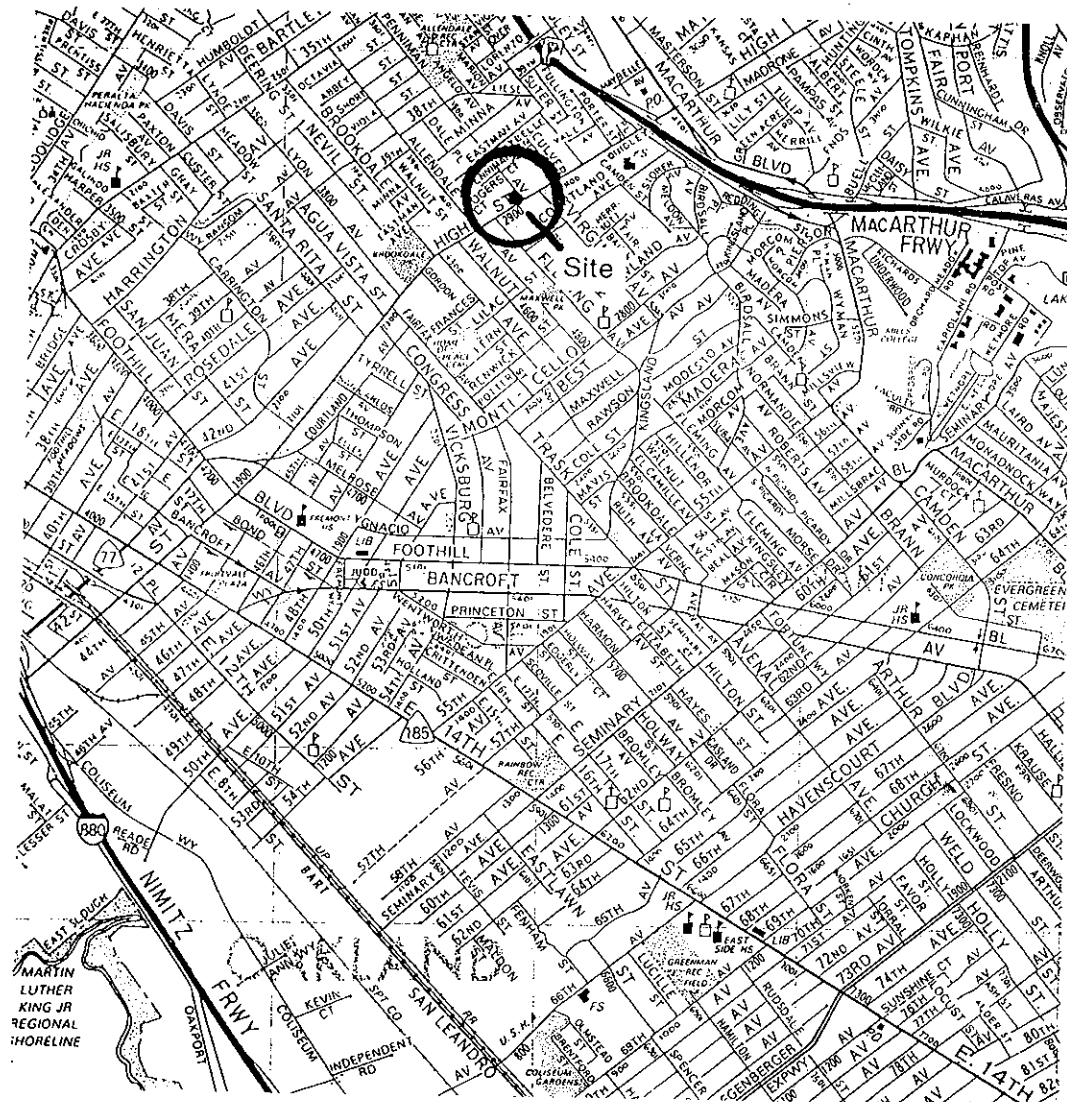


Attachments: Figures 1 and 2
Appendices A through D

FIGURES



NORTH



SITE LOCATION MAP

ZIMA CENTER CORPORATION
2951 HIGH STREET
OAKLAND, CALIFORNIA

AQUA SCIENCE ENGINEERS, INC.

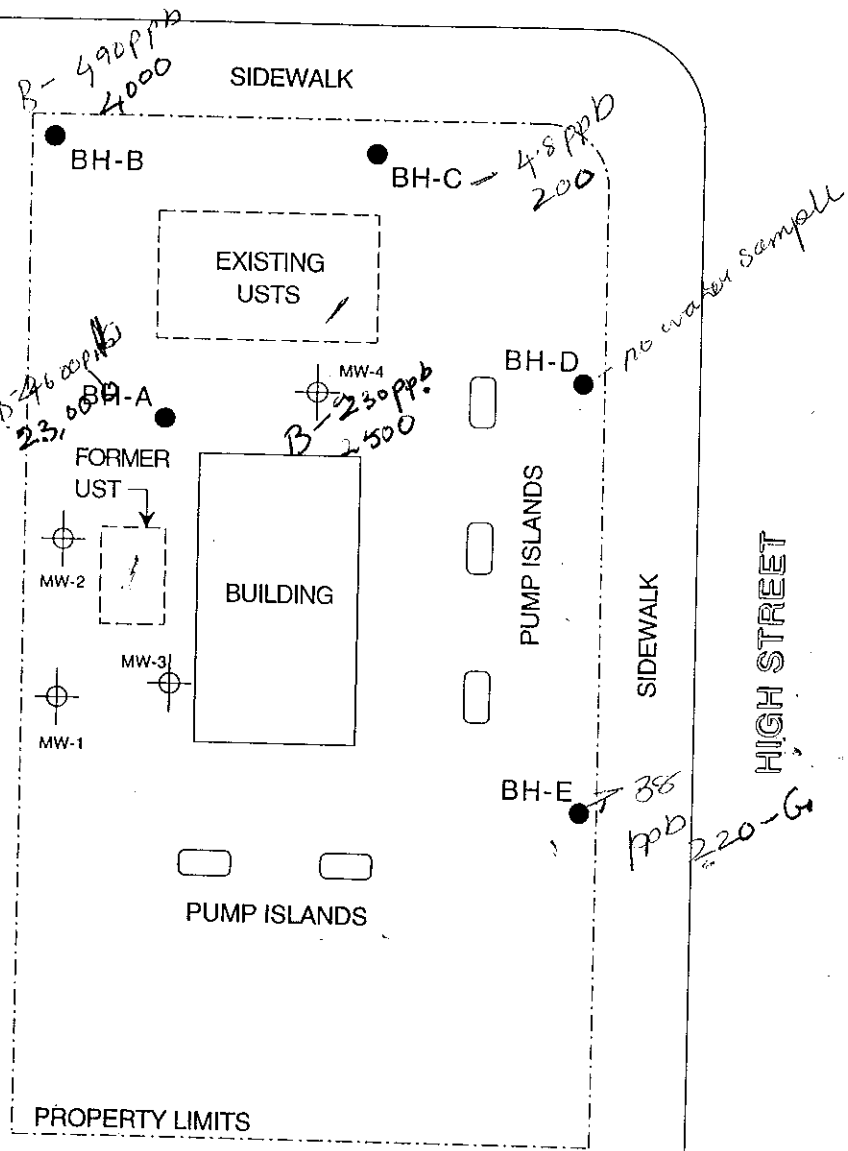
FIGURE 1

PENNIMAN AVENUE





NORTH

SCALE
1" = 30'



LEGEND

- MW-1  MONITORING WELL
- BH-E  SOIL BORING

**SOIL BORING
LOCATION MAP**

ZIMA CENTER CORPORATION
2951 HIGH STREET
OAKLAND, CALIFORNIA

APPENDIX A

ACHCSA Letter

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY

DAVID J. KEARS, Agency Director

RAFAT A. SHAHID, DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
1131 Harbor Bay Parkway
Alameda, CA 94502-6577
(510) 567-6700

March 11, 1996

Mr. Mohammad Mashoon
2951 High St,
Oakland, CA - 94619

STID 1038

RE: 2951 High Street, Oakland, CA

Dear Mr. Mashoon:

I am in receipt of the Quarterly Groundwater Monitoring report dated, December 19, 1995 for the above referenced site. All the pertinent records submitted to this Department has been reviewed for site evaluation.

In March 1990, a phase II investigation was conducted by McLaren Hart on the referenced property in response to the occurrence of a surface spill during a tank overflow, and observed surface stains on the site. Also, an on-site sump located east of the fuel tanks in a depressed area was full to capacity with a liquified material whose surface appeared to be covered with an undetermined thickness of gasoline. The report indicates that the sump's content was removed on February 15, 1990 by Haber Oil and the integrity of the sump's floor and walls were not known at the time of the removal. Subsequently, 1 soil boring was installed approximately 10 feet downgradient from the underground storage tank (UST) area which was converted into a monitoring well. Gasoline was found upto 460 ppm in the soil samples collected at the depth of 5 ft although no gasoline was found at the depths of 10 and 15 ft in the same boring. Gasoline and benzene were found in the groundwater samples at concentrations of 1200 ppb and 72 ppb respectively.

United Soil Engineering report, dated April 12, 1990 mentions that a subsurface investigation consisting of two exploratory borings was conducted on March 23, 1990 in response to signs of oil spillage on the property. Soil samples were collected from depths of 5 feet and 12 feet from the two borings. The laboratory results of the soil samples collected at depths of 5 feet indicate concentrations of 620 ppm and 59 ppm of low boiling hydrocarbons and 1900 ppb of benzene. The concentrations decreased in the 12 feet samples.

In September 1993, a 300 gallon waste oil tank was removed. Samples collected during the removal indicated gasoline up to 40 ppm, and benzene up to 130 ppb. About 30 cubic yards of soil was removed from the waste oil tank area and confirmation soil samples collected at the bottom of the excavation indicated concentrations of gasoline and oil and grease up to 3 ppm and 3700 ppm respectively. No benzene was found. Perchloroethylene was found at concentrations ranging from 5 ppb to 42 ppb.

In August 1994, 4 soil boring were drilled and 3 of them were converted into monitoring wells. The monitoring wells have been sampled for 4 quarters since February 1995. Benzene has consistently been found in monitoring well, MW-2 at concentrations of up to 110 ppb.

Based on the site evaluation, this Department has identified the following concerns:

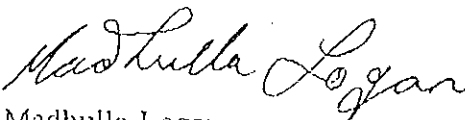
1. Although petroleum hydrocarbons has consistently been identified in the soil and groundwater sample collected near the fuel underground storage tanks, no remediation has yet been conducted and the extent of soil and groundwater contamination has not been defined.
2. Also, no information has been submitted about the status of the sump mentioned in the McLaren Hart report.

Please submit a work plan to this Department within 30 days from the date of this letter to address the above concerns and include the following requirements as part of your proposal:

1. At least one monitoring well should be located downgradient (based on a northerly groundwater flow) to the existing fuel USTs.
2. Since the soil samples collected in the previous investigations around the USTs were found to contain significant concentrations of petroleum hydrocarbons, the extent of this contamination has to be defined.
3. Based on the concentrations of petroleum hydrocarbons found in the soil samples, an adequate source removal plan should be included.
4. Include information on the status of the sump referenced in the McLaren Hart's report. Also, submit adequate disposal records for the gasoline pumped out of this sump.
5. Since benzene has consistently been found in monitoring well, MW-2, continue monitoring this well on a quarterly frequency and report the groundwater flow data for every quarter. Also in the future, monitoring well, MW-4 should be included in the quarterly monitoring events. However, monitoring wells, MW-1 and MW-3 can be monitored on a semi-annual frequency.

Please be advised that this is a formal request for technical reports pursuant to California Water Code Section 13267 (b). If you have any questions, you may reach me at (510) 567-6764.

Sincerely,



Madhulla Logan,
Hazardous Material Specialist

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

FOR OFFICE USE

LOCATION OF PROJECT 2951 High Street
Oakland, CA

PERMIT NUMBER _____
LOCATION NUMBER _____

CLIENT

Name Zima Center Corporation
Address 2951 High Street Voice (510) 436-4700
City Oakland, CA Zip 94619

PERMIT CONDITIONS

Circled Permit Requirements Apply

APPLICANT

Name Agua Scientific 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

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.

TYPE OF PROJECT

Well Construction	_____	Geotechnical Investigation	_____
Cathodic Protection	_____	General	_____
Water Supply	_____	Contamination	<u>X</u>
Monitoring	_____	Well Destruction	_____

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.

PROPOSED WATER SUPPLY WELL USE

Domestic	_____	Industrial	_____	Other	_____
Municipal	_____	Irrigation	_____		

DRILLING METHOD:

Mud Rotary	_____	Air Rotary	_____	Auger	_____
Cable	_____	Other	<u>Geoprobe</u>		

DRILLER'S LICENSE NO. C-57 487000

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.

WELL PROJECTS

Drill Hole Diameter	_____ in.	Maximum	
Casing Diameter	_____ in.	Depth	_____ ft.
Surface Seal Depth	_____ ft.	Number	_____

GEOTECHNICAL PROJECTS

Number of Borings	<u>5</u>	Maximum	
Hole Diameter	<u>2.5</u> in.	Depth	<u>25</u> ft.

ESTIMATED STARTING DATE 6-26-96

ESTIMATED COMPLETION DATE 7-3-96

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

Approved _____ Date _____

APPLICANT'S

SIGNATURE Robert E. Kitay Date 6-24-96

APPENDIX C

Boring Logs

SOIL BORING LOG AND COMPLETION DETAILS

BORING NO.: BH-A

Project Name: Zima Center Corporation

Project Location: 2951 High Street, Oakland, CA

Page 1 of 2

Driller: Vironex

Type of Rig: Geoprobe

Type and Size of Auger: Direct push

Logged By: Robert Kitay

Date Drilled: 6/26/96

Checked By: Michael Marelo, R.G.

WATER AND WELL DATA

Depth of Water First Encountered: 26'

Total Depth of Well Completed: NA

Well Screen Type and Diameter: NA

Static Depth of Water in Well: NA

Well Screen Slot Size: NA

Total Depth of Boring: 30'

Type and Size of Soil Sampler: 1.5" Diameter Sampler

Depth in Feet	WELLBORING DETAIL	Description	SOIL/ROCK SAMPLE DATA				Depth in Feet	DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
			Interval	Blow Ct.	Field VOC (ppmv)	Graphic Log		
0							Asphalt	
0 - 5		Portland Cement		No Blow Counts Taken	1,100		Gravelly SAND (SW); yellow brown; medium dense; dry; 60% medium to coarse sand; 30% subangular pebbles to 1" diameter; 10% silt; non-plastic; high estimated K; slight hydrocarbon odor	
5 - 10					400		SAND (SP); yellow brown; medium dense; damp; 90% medium to coarse sand; 5% silt; non-plastic; medium estimated K; slight hydrocarbon odor	
10 - 15					2.6		Clayey SILT (ML); brown; medium stiff; damp; 90% silt; 10% clay; slight plasticity; low estimated K; very slight hydrocarbon odor	
15 - 20					0		Clayey SAND (SC); yellow brown; medium dense; damp; 90% medium to coarse sand; 10% clay; slight plasticity; low estimated K; no odor	
20 - 30					0			

SOIL BORING LOG AND COMPLETION DETAILS

BORING NO.: BH-A

Project Name: Zima Center Corporation

Project Location: 2951 High Street, Oakland, CA

Page 2 of 2

Driller: Vironex

Type of Rig: Geoprobe

Type and Size of Auger: Direct push

Logged By: Robert Kitay

Date Drilled: 6/26/96

Checked By: Michael Marelo, R.G.

WATER AND WELL DATA

Depth of Water First Encountered: 26'

Total Depth of Well Completed: NA

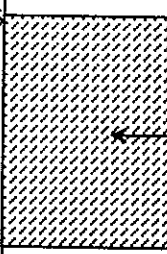

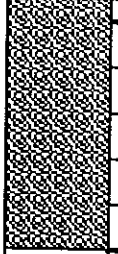
Well Screen Type and Diameter: NA

Static Depth of Water in Well: NA

Well Screen Slot Size: NA

Total Depth of Boring: 30'

Type and Size of Soil Sampler: 1.5" Diameter Sampler

Depth in Feet	WELLBORING DETAIL	Description	SOIL/ROCK SAMPLE DATA				Depth in Feet	DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
			Interval	Blow Ct.	Field VOC (ppmv)	Graphic Log		
25		Portland Cement		No Blow Counts Taken			25	▼ Groundwater First Encountered
30							30	
	End of Boring @ 30'						30	End of Boring @ 30.0'
35							35	
40							40	
45							45	

SOIL BORING LOG AND COMPLETION DETAILS

BORING NO.: BH-B

Project Name: Zima Center Corporation

Project Location: 2951 High Street, Oakland, CA

Page 1 of 2

Driller: Vironex

Type of Rig: Geoprobe

Type and Size of Auger: Direct push

Logged By: Robert Kitay

Date Drilled: 6/26/96

Checked By: Michael Marelo, R.G.

WATER AND WELL DATA

Depth of Water First Encountered: 26'

Total Depth of Well Completed: NA

Well Screen Type and Diameter: NA

Static Depth of Water in Well: NA

Well Screen Slot Size: NA

Total Depth of Boring: 30'

Type and Size of Soil Sampler: 1.5" Diameter Sampler

Depth in Feet	WELLBORING DETAIL	Description	SOIL/ROCK SAMPLE DATA				Depth in Feet	DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
			Interval	Blow Ct.	Field VOC (ppmv)	Graphic Log		
0			Interval	Blow Ct.	Field VOC (ppmv)		0	Asphalt
5							0	Gravelly SILT (ML); brown; stiff; damp; 60% silt; 30% subangular pebbles to 0.5" diameter; 5% fine to coarse sand; 5% clay; slight plasticity; low estimated K; no odor
10							790	Sandy SILT (ML); brown; medium stiff; moist; 65% silt; 25% medium to coarse sand; 5% clay; 5% subrounded pebbles to 0.5" diameter; slight plasticity; low estimated K; slight hydrocarbon odor
15							26	Clayey SILT (ML); yellow brown; stiff; moist; 85% silt; 10% clay; 5% fine sand; slight plasticity; low estimated K; very slight hydrocarbon odor
20							1.7	Silty SAND (SM); yellow brown; medium dense; moist; 65% fine to coarse sand; 25% silt; 10% clay; slight plasticity; low estimated K; no odor
					0			

SOIL BORING LOG AND COMPLETION DETAILS

BORING NO.: BH-B

Project Name: Zima Center Corporation

Project Location: 2951 High Street, Oakland, CA

Page 2 of 2

Driller: Vironex

Type of Rig: Geoprobe

Type and Size of Auger: Direct push

Logged By: Robert Kitay

Date Drilled: 6/26/96

Checked By: Michael Marello, R.G.

WATER AND WELL DATA

Depth of Water First Encountered: 26'

Total Depth of Well Completed: NA

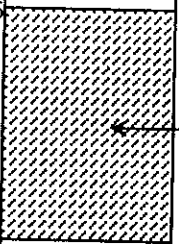

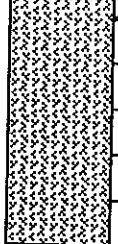
Well Screen Type and Diameter: NA

Static Depth of Water in Well: NA

Well Screen Slot Size: NA

Total Depth of Boring: 30'

Type and Size of Soil Sampler: 1.5" Diameter Sampler

Depth in Feet	WELLBORING DETAIL	Description	SOIL/ROCK SAMPLE DATA				Depth in Feet	DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
			Interval	Blow Ct.	Field VOC (ppmv)	Graphic Log		
25	 End of Boring @ 30'	Portland Cement		No Blow Counts Taken			25	▼ Groundwater First Encountered
30							30	
35							35	
40							40	
45							45	

SOIL BORING LOG AND COMPLETION DETAILS

BORING NO.: BH-C

Project Name: Zima Center Corporation

Project Location: 2951 High Street, Oakland, CA

Page 1 of 2

Driller: Vironex

Type of Rig: Geoprobe

Type and Size of Auger: Direct push

Logged By: Robert Kitay

Date Drilled: 6/26/96

Checked By: Michael Marelo, R.G.

WATER AND WELL DATA

Depth of Water First Encountered: 26'

Total Depth of Well Completed: NA

Well Screen Type and Diameter: NA

Static Depth of Water in Well: NA

Well Screen Slot Size: NA

Total Depth of Boring: 30'

Type and Size of Soil Sampler: 1.5" Diameter Sampler

Depth in Feet	WELLBORING DETAIL	Description	SOIL/ROCK SAMPLE DATA				Depth in Feet	DESCRIPTION OF LITHOLOGY
			Interval	Blow Ct.	Field VOC (ppmv)	Graphic Log		
0		Portland Cement		No Blow Counts Taken	312		0	Asphalt
5							SILT (ML); yellow brown; medium stiff; damp; 90% silt; 5% subangular pebbles to 0.5" diameter; 5% fine to coarse sand; non-plastic; low estimated K; moderate hydrocarbon odor	
10							olive at 4'	
15							yellow brown; no odor at 9'	
20					0		15	Clayey SILT (ML); yellow brown; stiff; moist; 70% silt; 25% clay; 5% subangular to subrounded pebbles to 0.3" diameter; medium plasticity; very low estimated K; no odor
					14		20	Silty SAND (SM); yellow brown; dense; damp; 75% medium to coarse sand; 20% silt; 5% clay; slight plasticity; low estimated K; no odor
					0			

SOIL BORING LOG AND COMPLETION DETAILS

BORING NO.: BH-C

Project Name: Zima Center Corporation

Project Location: 2951 High Street, Oakland, CA

Page 2 of 2

Driller: Vironex

Type of Rig: Geoprobe

Type and Size of Auger: Direct push

Logged By: Robert Kitay

Date Drilled: 6/26/96

Checked By: Michael Marelo, R.G.

WATER AND WELL DATA

Depth of Water First Encountered: 26'

Total Depth of Well Completed: NA

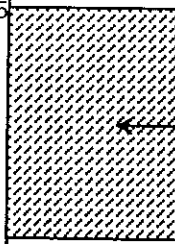

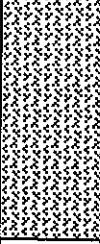
Well Screen Type and Diameter: NA

Static Depth of Water in Well: NA

Well Screen Slot Size: NA

Total Depth of Boring: 30'

Type and Size of Soil Sampler: 1.5" Diameter Sampler

Depth in Feet	WELLBORING DETAIL	Description	SOIL/ROCK SAMPLE DATA				Depth in Feet	DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
			Interval	Blow Ct.	Field VOC (ppmv)	Graphic Log		
25	 End of Boring @ 30'	Portland Cement	 No Blow Counts Taken				25	▼ Groundwater First Encountered
30							30	
35							35	
40							40	
45							45	

SOIL BORING LOG AND COMPLETION DETAILS

BORING NO.: BH-D

Project Name: Zima Center Corporation

Project Location: 2951 High Street, Oakland, CA

Page 1 of 2

Driller: Vironex

Type of Rig: Geoprobe

Type and Size of Auger: Direct push

Logged By: Robert Kitay

Date Drilled: 6/26/96

Checked By: Michael Marello, R.G.

WATER AND WELL DATA

Total Depth of Well Completed: NA

Depth of Water First Encountered: NA

Well Screen Type and Diameter: NA

Static Depth of Water in Well: NA

Well Screen Slot Size: NA

Total Depth of Boring: 30'

Type and Size of Soil Sampler: 1.5" Diameter Sampler

Depth in Feet	WELL BORING DETAIL	Description	SOIL/ROCK SAMPLE DATA				Depth in Feet	DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
			Interval	Blow Ct.	Field VOC (ppmv)	Graphic Log		
0		Portland Cement		No Blow Counts Taken			0	Asphalt
5							Sandy SILT (ML); yellow brown; medium stiff; damp; 80% silt; 15% fine to medium sand; 5% clay; non-plastic; low estimated K; strong hydrocarbon odor.	
10							Silty SAND (SM); olive brown; medium dense; damp; 65% medium sand; 35% silt; non-plastic; medium estimated K; strong hydrocarbon odor	
15							SILT (ML); yellow brown; medium stiff; damp; 100% silt; non-plastic; low estimated K; no odor	
20								

SOIL BORING LOG AND COMPLETION DETAILS

BORING NO.: BH-D

Project Name: Zima Center Corporation

Project Location: 2951 High Street, Oakland, CA

Page 2 of 2

Driller: Vironex

Type of Rig: Geoprobe

Type and Size of Auger: Direct push

Logged By: Robert Kitay

Date Drilled: 6/26/96

Checked By: Michael Marello, R.G.

WATER AND WELL DATA

Depth of Water First Encountered: NA

Total Depth of Well Completed: NA

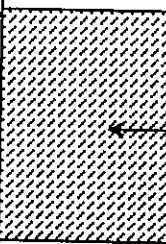

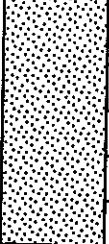
Static Depth of Water in Well: NA

Well Screen Type and Diameter: NA

Total Depth of Boring: 30'

Well Screen Slot Size: NA

Type and Size of Soil Sampler: 1.5" Diameter Sampler

Depth in Feet	WELL BORING DETAIL	Description	SOIL/ROCK SAMPLE DATA				Depth in Feet	DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
			Interval	Blow Ct.	Field VOC (ppmv)	Graphic Log		
25	 End of Boring @ 30'	Portland Cement	 No Blow Counts Taken			25	End of Boring @ 30.0'	
30						30		
35						35		
40						40		
45						45		

SOIL BORING LOG AND COMPLETION DETAILS

BORING NO.: BH-E

Project Name: Zima Center Corporation

Project Location: 2951 High Street, Oakland, CA

Page 1 of 2

Driller: Vironex

Type of Rig: Geoprobe

Type and Size of Auger: Direct push

Logged By: Robert Kitay

Date Drilled: 6/26/96

Checked By: Michael Marello, R.G.

WATER AND WELL DATA

Depth of Water First Encountered: NA

Total Depth of Well Completed: NA

Static Depth of Water in Well: NA

Well Screen Type and Diameter: NA

Total Depth of Boring: 30'

Well Screen Slot Size: NA

Type and Size of Soil Sampler: 1.5" Diameter Sampler

Depth in Feet	WELLBORING DETAIL	Description	SOIL/ROCK SAMPLE DATA				Depth in Feet	DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
			Interval	Blow Ct.	Field VOC (ppmv)	Graphic Log		
0		Portland Cement		No Blow Counts Taken			0	Asphalt
5							Sandy SILT (ML); yellow brown; medium stiff; damp; 80% silt; 15% fine to medium sand; 5% clay; non-plastic; low estimated K; no odor	
10							Silty SAND (SM); yellow brown; medium dense; moist; 80% medium to coarse sand; 20% silt; non-plastic; medium estimated K; no odor	
15							SILT (ML); yellow brown; medium stiff; damp; 100% silt; non-plastic; low estimated K; no odor	
20							Silty SAND (SM); yellow brown; medium dense; damp; 75% fine to coarse sand; 25% silt; non-plastic; medium estimated K; no odor	
							20	Sandy SILT (ML); yellow brown; medium stiff; damp; 75% silt; 25% medium to coarse sand; non-plastic; low estimated K; no odor

SOIL BORING LOG AND COMPLETION DETAILS

BORING NO.: BH-E

Project Name: Zima Center Corporation

Project Location: 2951 High Street, Oakland, CA

Page 2 of 2

Driller: Vironex

Type of Rig: Geoprobe

Type and Size of Auger: Direct push

Logged By: Robert Kitay

Date Drilled: 6/26/96

Checked By: Michael Marello, R.G.

WATER AND WELL DATA

Depth of Water First Encountered: 26'

Total Depth of Well Completed: NA

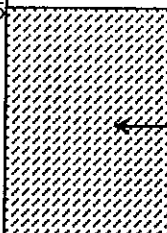


Well Screen Type and Diameter: NA

Static Depth of Water in Well: NA

Well Screen Slot Size: NA

Total Depth of Boring: 30'

Type and Size of Soil Sampler: 1.5" Diameter Sampler

Depth in Feet	WELLBORING DETAIL	Description	SOIL/ROCK SAMPLE DATA				Depth in Feet	DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
			Interval	Blow Ct.	Field VOC (ppmv)	Graphic Log		
25	 End of Boring @ 30'	Portland Cement		No Blow Counts Taken			25	▼ Groundwater First Encountered
30							30	
35							35	
40							40	
45							45	
								End of Boring @ 30.0'

APPENDIX D

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

CHROMALAB, INC.

Environmental Services (SDB)

July 8, 1996

Submission #: 9606931

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman.

Project: ZIMA CENTER CORPORATION
Received: June 28, 1996

Project#: 3011

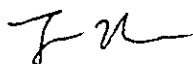
re: 1 sample for Gasoline and BTEX compounds analysis.
Method: EPA 5030/8015M/8020

Sampled: June 26, 1996


Matrix: SOIL
Run#: 2043

Analyzed: July 3, 1996

Spl#	CLIENT SPL ID	Gasoline (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl Benzene (mg/Kg)	Total Xylenes (mg/Kg)
90306	BH-A-5.0'	39	0.43	0.086	0.47	1.0
Reporting Limits		12	0.0050	0.0050	0.0050	0.0050
Blank Result		N.D.	N.D.	N.D.	N.D.	N.D.
Blank Spike Result (%)		99.2	114	111	112	115



June Zhao
Chemist



Marianne Alexander
Gas/BTEX Supervisor

CHROMALAB, INC.

Environmental Services (SDB)

July 8, 1996

Submission #: 9606931

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman.

Project: ZIMA CENTER CORPORATION
Received: June 28, 1996


Project#: 3011

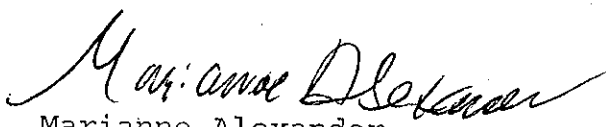
re: 8 samples for Gasoline and BTEX compounds analysis.
Method: EPA 5030/8015M/8020

Sampled: June 26, 1996
Matrix: SOIL
Run#: 2043

Analyzed: July 3, 1996

Spl#	CLIENT SPL ID	Gasoline (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl Benzene (mg/Kg)	Total Xylenes (mg/Kg)
90307	BH-A-15.0'	N.D.	0.026	N.D.	N.D.	N.D.
90309	BH-B-5.0'	N.D.	N.D.	N.D.	N.D.	N.D.
90310	BH-B-15.0'	N.D.	0.045	0.043	N.D.	0.021
90317	BH-C-5.0'	N.D.	N.D.	N.D.	N.D.	N.D.
90318	BH-C-15.0'	N.D.	N.D.	N.D.	N.D.	N.D.
90319	BH-D-5.0'	N.D.	N.D.	N.D.	N.D.	N.D.
90320	BH-D-15.0'	N.D.	N.D.	N.D.	N.D.	N.D.
90321	BH-E-5.0'	N.D.	N.D.	N.D.	N.D.	N.D.
Reporting Limits		1.0	0.0050	0.0050	0.0050	0.0050
Blank Result		N.D.	N.D.	N.D.	N.D.	N.D.
Blank Spike Result (%)		99.2	114	111	112	115


June Zhao
Chemist


Marianne Alexander
Gas/BTEX Supervisor

CHROMALAB, INC.

Environmental Services (SDB)

July 11, 1996

Submission #: 9606931

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman.

Project: ZIMA CENTER CORPORATION
Received: June 28, 1996

Project#: 3011

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

Client Sample ID: BH-A-5.0'

Spl#: 90306


Matrix: SOIL


Sampled: June 26, 1996

Run#: 2121

Analyzed: July 7, 1996

<u>ANALYTE</u>	<u>RESULT</u> (mg/Kg)	<u>REPORTING</u> <u>LIMIT</u> (mg/Kg)	<u>BLANK</u> <u>RESULT</u> (mg/Kg)	<u>BLANK</u> <u>SPIKE</u> (%)	<u>DILUTION</u> <u>FACTOR</u>
MTBE	0.90	0.050	N.D.	118	1


June Zhao
Chemist


Marianne Alexander
Gas/BTEX Supervisor

CHROMALAB, INC.

Environmental Services (SDB)

July 11, 1996

Submission #: 9606931

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman.

Project: ZIMA CENTER CORPORATION
Received: June 28, 1996

Project#: 3011

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

Client Sample ID: BH-A-15.0'

Spl#: 90307


Matrix: SOIL


Sampled: June 26, 1996

Run#: 2121

Analyzed: July 3, 1996

<u>ANALYTE</u>	<u>RESULT</u> (mg/Kg)	<u>REPORTING</u> <u>LIMIT</u> (mg/Kg)	<u>BLANK</u> <u>RESULT</u> (mg/Kg)	<u>BLANK</u> <u>SPIKE</u> (%)	<u>DILUTION</u> <u>FACTOR</u>
MTBE	0.069	0.0050	N.D.	118	1


June Zhao
Chemist


Marianne Alexander
Gas/BTEX Supervisor

CHROMALAB, INC.

Environmental Services (SDB)

July 11, 1996

Submission #: 9606931

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman.

Project: ZIMA CENTER CORPORATION
Received: June 28, 1996

Project#: 3011

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

Client Sample ID: BH-B-5.0'

Spl#: 90309

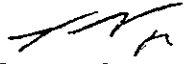
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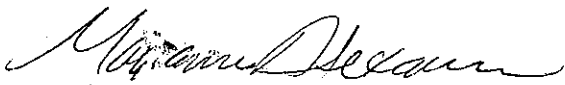
Sampled: June 26, 1996

Run#: 2121

Analyzed: July 3, 1996

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
MTBE	N.D.	0.0050	N.D.	118	1


June Zhao
Chemist


Marianne Alexander
Gas/BTEX Supervisor

CHROMALAB, INC.

Environmental Services (SDB)

July 11, 1996

Submission #: 9606931

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman.

Project: ZIMA CENTER CORPORATION
Received: June 28, 1996

Project#: 3011

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

Client Sample ID: BH-B-15.0'

Spl#: 90310


Matrix: SOIL

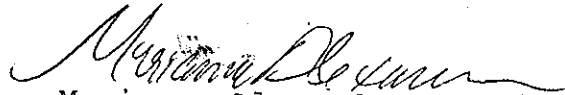
Sampled: June 26, 1996

Run#: 2112

Analyzed: July 10, 1996

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
MTBE	2.0	0.050	N.D.	110	50


June Zhao
Chemist


Marianne Alexander
Gas/BTEX Supervisor

CHROMALAB, INC.

Environmental Services (SDB)

July 11, 1996

Submission #: 9606931

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman.

Project: ZIMA CENTER CORPORATION

Project#: 3011

Received: June 28, 1996

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

Client Sample ID: BH-C-5.0'

Spl#: 90317


Matrix: SOIL

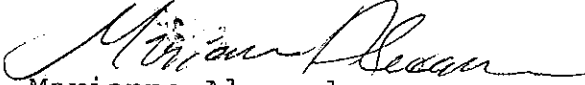
Sampled: June 26, 1996

Run#: 2121

Analyzed: July 3, 1996

<u>ANALYTE</u>	<u>RESULT</u> (mg/Kg)	<u>REPORTING</u> <u>LIMIT</u> (mg/Kg)	<u>BLANK</u> <u>RESULT</u> (mg/Kg)	<u>BLANK</u> <u>SPIKE</u> (%)	<u>DILUTION</u> <u>FACTOR</u>
MTBE	N.D.	0.0050	N.D.	118	1


June Zhao
Chemist


Marianne Alexander
Gas/BTEX Supervisor

CHROMALAB, INC.

Environmental Services (SDB)

July 11, 1996

Submission #: 9606931

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman.

Project: ZIMA CENTER CORPORATION

Project#: 3011

Received: June 28, 1996

re: One sample for Gasoline and BTEX compounds analysis.

Method: EPA 5030/8015M/8020

Client Sample ID: BH-C-15.0'

Spl#: 90318


Matrix: SOIL

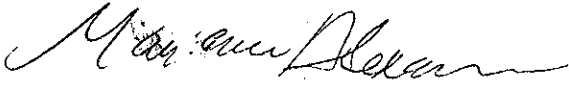
Sampled: June 26, 1996

Run#: 2121

Analyzed: July 3, 1996

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
MTBE	N.D.	0.0050	N.D.	118	1


June Zhao
Chemist


Marianne Alexander
Gas/BTEX Supervisor

CHROMALAB, INC.

Environmental Services (SDB)

July 11, 1996

Submission #: 9606931

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman.

Project: ZIMA CENTER CORPORATION
Received: June 28, 1996

Project#: 3011

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

Client Sample ID: BH-D-5.0'

Spl#: 90319

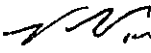
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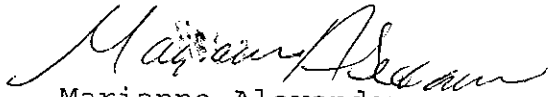
Sampled: June 26, 1996

Run#: 2121

Analyzed: July 3, 1996

<u>ANALYTE</u>	<u>RESULT</u> (mg/Kg)	<u>REPORTING</u> <u>LIMIT</u> (mg/Kg)	<u>BLANK</u> <u>RESULT</u> (mg/Kg)	<u>BLANK</u> <u>SPIKE</u> (%)	<u>DILUTION</u> <u>FACTOR</u>
MTBE	0.072	0.0050	N.D.	118	1


June Zhao
Chemist


Marianne Alexander
Gas/BTEX Supervisor

CHROMALAB, INC.

Environmental Services (SDB)

July 11, 1996

Submission #: 9606931

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman.

Project: ZIMA CENTER CORPORATION
Received: June 28, 1996

Project#: 3011

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

Client Sample ID: BH-D-15.0'

Spl#: 90320


Matrix: SOIL

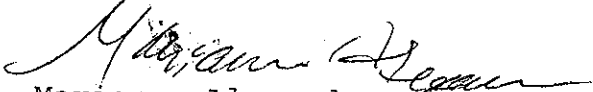
Sampled: June 26, 1996

Run#: 2121

Analyzed: July 3, 1996

<u>ANALYTE</u>	<u>RESULT</u> (mg/Kg)	<u>REPORTING</u> <u>LIMIT</u> (mg/Kg)	<u>BLANK</u> <u>RESULT</u> (mg/Kg)	<u>BLANK</u> <u>SPIKE</u> (%)	<u>DILUTION</u> <u>FACTOR</u>
MTBE	N.D.	0.0050	N.D.	118	1


June Zhao
Chemist


Marianne Alexander
Gas/BTEX Supervisor

CHROMALAB, INC.

Environmental Services (SDB)

July 11, 1996

Submission #: 9606931

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman.

Project: ZIMA CENTER CORPORATION
Received: June 28, 1996

Project#: 3011

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

Client Sample ID: BH-E-5.0'

Spl#: 90321


Matrix: SOIL

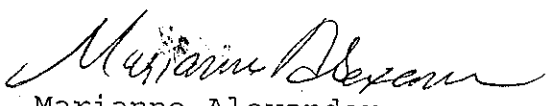
Sampled: June 26, 1996

Run#: 2112

Analyzed: July 10, 1996

<u>ANALYTE</u>	<u>RESULT</u> (mg/Kg)	<u>REPORTING</u> <u>LIMIT</u> (mg/Kg)	<u>BLANK</u> <u>RESULT</u> (mg/Kg)	<u>BLANK</u> <u>SPIKE</u> (%)	<u>DILUTION</u> <u>FACTOR</u>
MTBE	1.7	0.050	N.D.	110	50


June Zhao
Chemist


Marianne Alexander
Gas/BTEX Supervisor

CHROMALAB, INC.

Environmental Services (SDB)

July 10, 1996

Submission #: 9606910
revised from 6/5/96

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman.

Project: ZIMA CENTER CORPORATION
Received: June 27, 1996

Project#: 3011

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

Client Sample ID: BH-A WATER

Spl#: 90062

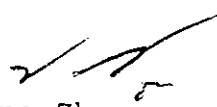
Matrix: WATER

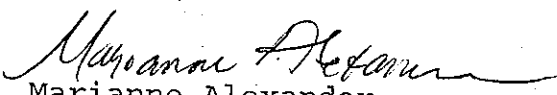
Sampled: June 26, 1996

Run#: 2052

Analyzed: July 5, 1996

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	23000	200	N.D.	116	20
BENZENE	4600	250	N.D.	94.2	500
TOLUENE	2800	250	N.D.	93.1	500
ETHYL BENZENE	700	250	N.D.	91.6	500
XYLENES	2700	250	N.D.	92.0	500
MTBE	13000	2500	N.D.	88.4	500


June Zhao
Chemist


Marianne Alexander
Gas/BTEX Supervisor

CHROMALAB, INC.

Environmental Services (SDB)

July 5, 1996

Submission #: 9606910
revised from 6/5/96

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman.

Project: ZIMA CENTER CORPORATION
Received: June 27, 1996

Project#: 3011

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

Client Sample ID: BH-B WATER

Spl#: 90063

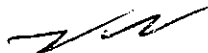
Matrix: WATER


Sampled: June 27, 1996

Run#: 2038

Analyzed: July 4, 1996

<u>ANALYTE</u>	<u>RESULT</u> (ug/L)	<u>REPORTING</u> <u>LIMIT</u> (ug/L)	<u>BLANK</u> <u>RESULT</u> (ug/L)	<u>BLANK</u> <u>SPIKE</u> (%)	<u>DILUTION</u> <u>FACTOR</u>
GASOLINE	4000	500	N.D.	97.4	50
BENZENE	490	25	N.D.	109	50
TOLUENE	680	25	N.D.	107	50
ETHYL BENZENE	100	25	N.D.	107	50
XYLENES	520	25	N.D.	103	50
MTBE	620	250	N.D.	106	50


June Zhao
Chemist


Marianne Alexander
Gas/BTEX Supervisor

CHROMALAB, INC.

Environmental Services (SDB)

July 5, 1996

Submission #: 9606910

AQUA SCIENCE ENGINEERS INC

revised from 6/5/96

Atten: Scott Ferriman.

Project: ZIMA CENTER CORPORATION

Project#: 3011

Received: June 27, 1996

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

Client Sample ID: BH-C WATER

Spl#: 90064


Matrix: WATER


Sampled: June 26, 1996

Run#: 2052

Analyzed: July 5, 1996

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE SPIKE (%)	DILUTION FACTOR
GASOLINE	200	50	N.D.	116	1
BENZENE	4.8	0.50	N.D.	94.2	1
TOLUENE	1.4	0.50	N.D.	93.1	1
ETHYL BENZENE	3.8	0.50	N.D.	91.6	1
XYLENES	5.8	0.50	N.D.	92.0	1
MTBE	16000	2500	N.D.	88.4	500


June Zhao
Chemist


Marianne Alexander
Gas/BTEX Supervisor

CHROMALAB, INC.

Environmental Services (SDB)

July 10, 1996

Submission #: 9606910

AQUA SCIENCE ENGINEERS INC

revised from 6/5/96

Atten: Scott Ferriman.

Project: ZIMA CENTER CORPORATION
Received: June 27, 1996

Project#: 3011

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

Client Sample ID: BH-E WATER

Spl#: 90065

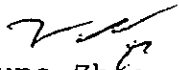
Matrix: WATER

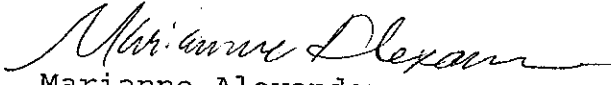
Sampled: June 26, 1996

Run#: 2052

Analyzed: July 5, 1996

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	220	50	N.D.	116	1
BENZENE	38	0.50	N.D.	94.2	1
TOLUENE	5.8	0.50	N.D.	93.1	1
ETHYL BENZENE	9.0	0.50	N.D.	91.6	1
XYLENES	16	0.50	N.D.	92.0	1
MTBE	340	120	N.D.	88.4	25


June Zhao
Chemist


Marianne Alexander
Gas/BTEX Supervisor

CHROMALAB, INC.

Environmental Services (SDB)

July 10, 1996

Submission #: 9606910

AQUA SCIENCE ENGINEERS INC

revised from 06/5/96

Atten: Scott Ferriman.

Project: ZIMA CENTER CORPORATION

Project#: 3011

Received: June 27, 1996

re: One sample for Gasoline, BTEX & MTBE analysis.

Method: EPA 5030/8015M/8020

Client Sample ID: MW-4

Spl#: 90066


Matrix: WATER


Sampled: June 26, 1996

Run#: 2038

Analyzed: July 4, 1996

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE FACTOR (%)	DILUTION FACTOR
GASOLINE	2500	50	N.D.	97.4	1
BENZENE	230	0.50	N.D.	109	1
TOLUENE	64	0.50	N.D.	107	1
ETHYL BENZENE	99	0.50	N.D.	107	1
XYLENES	110	25	N.D.	103	50
MTBE	5700	1000	N.D.	106	200


June Zhao
Chemist


Marianne Alexander
Gas/BTEX Supervisor

931/90.306-90327

SUBM #: 9606931 REP: MV
 CLIENT: ASE
 DUE: 07/08/96
 REF #: 28562

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

Chain

28562

DATE 6-26-96 PAGE 1 OF 2

SAMPLERS (SIGNATURE)

(PHONE NO.)

PROJECT NAME Zima Center Corporation NO. 3011

Robert E. Kitay : (510) 820-9391

ADDRESS 2751 High 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 602/6020)	PURGABLE HALOCARBONS (EPA 601/8010)	VOLATILE ORGANICS (EPA 624/8240)	BASE/NEUTRALS, ACIDS (EPA 625/8270)	OIL & GREASE (EPA 5520 EGF or B&F)	LUFT METALS (5) (EPA 6010+7000)	TITLE 22 (CM 17) (EPA 6010+7000)	TCLP (EPA 1311/1310)	STLC- CM WET (EPA 1311/1310)	REACTIVITY CORROSIVITY IGNITABILITY	HOLD	
																			✓ BH-A 5.0'
✓ BH-A 10.0'		8:35																	X
✓ BH-A 15.0'		8:45				X													X
✓ BH-A 20.0'		9:05																	X
✓ BH-A 25.0'		9:20																	X
✓ BH-B 5.0'		9:45				X													X
✓ BH-B 10.0'		9:55																	X
✓ BH-B 15.0'		10:12				X													X
✓ BH-B 20.0'		10:20																	X
✓ BH-B 25.0'	✓	10:40	✓	✓															X

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY LABORATORY:

COMMENTS:

Robert E. Kitay

Chris Rowley

Chris Rowley

Chris Rowley

(signature) (time)

(signature) (time)

(signature) (time)

(signature) (time)

Robert E. Kitay

Chris Rowley

Chris Rowley

Chris Rowley

(printed name) (date)

(printed name) (date)

(printed name) (date)

(printed name) (date)

Company- ASE

Company- Chromalab

Company- Chromalab

Company- Chromalab

9606931

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

Chain of Custody

28562

DATE 6-26-96 PAGE 2 OF 2

SAMPLERS (SIGNATURE)

(PHONE NO.)

PROJECT NAME

NO. 3011

Robert C. Kitzing

(510)820-9391

ADDRESS 2951 High 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 602/6020)	PURGABLE HALOCARBONS (EPA 601/8010)	VOLATILE ORGANICS (EPA 624/8240)	BASE/NEUTRALS, ACIDS (EPA 625/8270)	OIL & GREASE (EPA 5520 E&F OF B&F)	LUFT METALS (5) (EPA 6010+7000)	TITLE 22 (CM 17) (EPA 6010+7000)	TCMP (EPA 1311/1310)	STLC- CM WET (EPA 1311/1310)	REACTIVITY CORROSIONITY IGDTABILITY	
✓ BH-C 5.0'	6/26	11:50	Soil	1		X												HOLD
✓ BH-C 10.0'		11:57																X
✓ BH-C 15.0'		12:04				X												X
BH-C 20.0'		12:17																X
✓ BH-D 5.0'		13:13				X												X
✓ BH-D 10.0'		13:18																X
✓ BH-D 15.0'		13:31				X												X
✓ BH-D 20.0'		13:36																X
✓ BH-E 5.0'		14:11				X												X
✓ BH-E 10.0'		14:14																X
✓ BH-E 20.0'	✓	14:40		✓														X

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY LABORATORY:

COMMENTS:

Robert C. Kitzing

[Signature]

[Signature]

Chris Rowley 1930

(signature) (time)

(signature) (time)

(signature) (time)

(signature) (time)

Robert E. Kitzing

[Signature]

[Signature]

Chris Rowley 6/28/96

(printed name) (date)

(printed name) (date)

(printed name) (date)

(printed name) (date)

Company- *ASE*

Company- *Chromalab*

Company- *Chromalab*

Company- *Chromalab*

APPENDIX C

Boring Logs

SOIL BORING LOG AND COMPLETION DETAILS

BORING NO.: BH-A

Project Name: Zima Center Corporation

Project Location: 2951 High Street, Oakland, CA

Page 1 of 2

Driller: Vironex

Type of Rig: Geoprobe

Type and Size of Auger: Direct push

Logged By: Robert Kitay

Date Drilled: 6/26/96

Checked By: Michael Marello, R.G.

WATER AND WELL DATA

Depth of Water First Encountered: 26'

Total Depth of Well Completed: NA

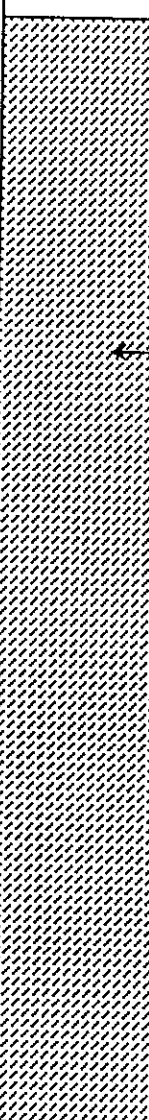
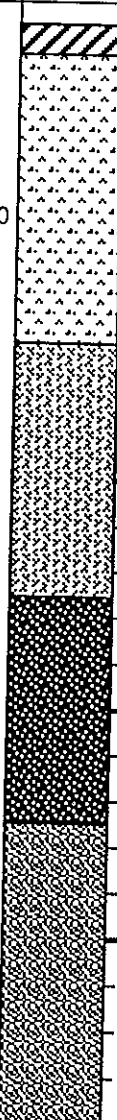
Well Screen Type and Diameter: NA

Static Depth of Water in Well: NA

Well Screen Slot Size: NA

Total Depth of Boring: 30'

Type and Size of Soil Sampler: 1.5" Diameter Sampler

Depth in Feet	WELL BORING DETAIL	Description	SOIL/ROCK SAMPLE DATA				Depth in Feet	DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
			Interval	Blow Ct.	Field VOC (ppmv)	Graphic Log		
0		Portland Cement	Interval	Blow Ct.	Field VOC (ppmv)		0	Asphalt
5							1,100	Gravelly SAND (SW); yellow brown; medium dense; dry; 60% medium to coarse sand; 30% subangular pebbles to 1" diameter; 10% silt; non-plastic; high estimated K; slight hydrocarbon odor
10							400	SAND (SP); yellow brown; medium dense; damp; 90% medium to coarse sand; 5% silt; non-plastic; medium estimated K; slight hydrocarbon odor
15							2.6	Clayey SILT (ML); brown; medium stiff; damp; 90% silt; 10% clay; slight plasticity; low estimated K; very slight hydrocarbon odor
20							0	Clayey SAND (SC); yellow brown; medium dense; damp; 90% medium to coarse sand; 10% clay; slight plasticity; low estimated K; no odor
							0	

SOIL BORING LOG AND COMPLETION DETAILS

BORING NO.: BH-A

Project Name: Zima Center Corporation

Project Location: 2951 High Street, Oakland, CA

Page 2 of 2

Driller: Vironex

Type of Rig: Geoprobe

Type and Size of Auger: Direct push

Logged By: Robert Kitay

Date Drilled: 6/26/96

Checked By: Michael Marello, R.G.

WATER AND WELL DATA

Depth of Water First Encountered: 26'

Total Depth of Well Completed: NA

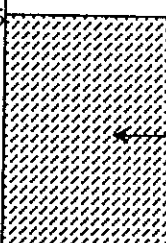


Well Screen Type and Diameter: NA

Static Depth of Water in Well: NA

Well Screen Slot Size: NA

Total Depth of Boring: 30'

Type and Size of Soil Sampler: 1.5" Diameter Sampler

Depth in Feet	WELL BORING DETAIL	Description	SOIL/ROCK SAMPLE DATA				Depth in Feet	DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
			Interval	Blow Ct.	Field VOC (ppmv)	Graphic Log		
25	 End of Boring @ 30'	Portland Cement	 No Blow Counts Taken				25	▼ Groundwater First Encountered
30							30	
35							35	
40							40	
45							45	

SOIL BORING LOG AND COMPLETION DETAILS

BORING NO.: BH-B

Project Name: Zima Center Corporation

Project Location: 2951 High Street, Oakland, CA

Page 1 of 2

Driller: Vironex

Type of Rig: Geoprobe

Type and Size of Auger: Direct push

Logged By: Robert Kitay

Date Drilled: 6/26/96

Checked By: Michael Marello, R.G.

WATER AND WELL DATA

Depth of Water First Encountered: 26'

Total Depth of Well Completed: NA

Well Screen Type and Diameter: NA

Static Depth of Water in Well: NA

Well Screen Slot Size: NA

Total Depth of Boring: 30'

Type and Size of Soil Sampler: 1.5" Diameter Sampler

Depth in Feet	WELLBORING DETAIL	Description	SOIL/ROCK SAMPLE DATA				Depth in Feet	DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
			Interval	Blow Ct.	Field VOC (ppmv)	Graphic Log		
0		Portland Cement		No Blow Counts Taken	0		0	Asphalt
5							Gravelly SILT (ML); brown; stiff; damp; 60% silt; 30% subangular pebbles to 0.5" diameter; 5% fine to coarse sand; 5% clay; slight plasticity; low estimated K; no odor	
10							Sandy SILT (ML); brown; medium stiff; moist; 65% silt; 25% medium to coarse sand; 5% clay; 5% subrounded pebbles to 0.5" diameter; slight plasticity; low estimated K; slight hydrocarbon odor	
15							Clayey SILT (ML); yellow brown; stiff; moist; 85% silt; 10% clay; 5% fine sand; slight plasticity; low estimated K; very slight hydrocarbon odor	
20							Silty SAND (SM); yellow brown; medium dense; moist; 65% fine to coarse sand; 25% silt; 10% clay; slight plasticity; low estimated K; no odor	
26					0			

SOIL BORING LOG AND COMPLETION DETAILS

BORING NO.: BH-C

Project Name: Zima Center Corporation

Project Location: 2951 High Street, Oakland, CA Page 1 of 2

Driller: Vironex

Type of Rig: Geoprobe

Type and Size of Auger: Direct push

Logged By: Robert Kitay

Date Drilled: 6/26/96

Checked By: Michael Marello, R.G.

WATER AND WELL DATA

Depth of Water First Encountered: 26'

Total Depth of Well Completed: NA

Well Screen Type and Diameter: NA

Static Depth of Water in Well: NA

Well Screen Slot Size: NA

Total Depth of Boring: 30'

Type and Size of Soil Sampler: 1.5" Diameter Sampler

Depth in Feet	WELL BORING DETAIL	Description	SOIL/ROCK SAMPLE DATA				Depth in Feet	DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
			Interval	Blow Ct.	Field VOC (ppmv)	Graphic Log		
0		Portland Cement		No Blow Counts Taken	312		0	Asphalt
5							olive at 4'	
10							yellow brown; no odor at 9'	
15							Clayey SILT (ML); yellow brown; stiff; moist; 70% silt; 25% clay; 5% subangular to subrounded pebbles to 0.3" diameter; medium plasticity; very low estimated K; no odor	
20							Silty SAND (SM); yellow brown; dense; damp; 75% medium to coarse sand; 20% silt; 5% clay; slight plasticity; low estimated K; no odor	

SOIL BORING LOG AND COMPLETION DETAILS

BORING NO.: BH-C

Project Name: Zima Center Corporation

Project Location: 2951 High Street, Oakland, CA

Page 2 of 2

Driller: Vironex

Type of Rig: Geoprobe

Type and Size of Auger: Direct push

Logged By: Robert Kitay

Date Drilled: 6/26/96

Checked By: Michael Marello, R.G.

WATER AND WELL DATA

Total Depth of Well Completed: NA

Depth of Water First Encountered: 26'

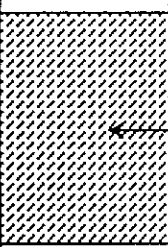


Well Screen Type and Diameter: NA

Static Depth of Water in Well: NA

Well Screen Slot Size: NA

Total Depth of Boring: 30'

Type and Size of Soil Sampler: 1.5" Diameter Sampler

Depth in Feet	WELLBORING DETAIL	Description	SOIL/ROCK SAMPLE DATA				Depth in Feet	DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
			Interval	Blow Ct.	Field VOC (ppmv)	Graphic Log		
25		Portland Cement		No Blow Counts Taken			25	▼ Groundwater First Encountered
30							30	
35								
40								
45								

SOIL BORING LOG AND COMPLETION DETAILS

BORING NO.: BH-D

Project Name: Zima Center Corporation

Project Location: 2951 High Street, Oakland, CA

Page 1 of 2

Driller: Vironex

Type of Rig: Geoprobe

Type and Size of Auger: Direct push

Logged By: Robert Kitay

Date Drilled: 6/26/96

Checked By: Michael Marello, R.G.

WATER AND WELL DATA

Total Depth of Well Completed: NA

Depth of Water First Encountered: NA

Well Screen Type and Diameter: NA

Static Depth of Water in Well: NA

Well Screen Slot Size: NA

Total Depth of Boring: 30'

Type and Size of Soil Sampler: 1.5" Diameter Sampler

Depth in Feet	WELLBORING DETAIL	Description	SOIL/ROCK SAMPLE DATA				Depth in Feet	DESCRIPTION OF LITHOLOGY
			Interval	Blow Ct.	Field VOC (ppmv)	Graphic Log		standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
0		Portland Cement		No Blow Counts Taken			0	Asphalt
5							Sandy SILT (ML); yellow brown; medium stiff; damp; 80% silt; 15% fine to medium sand; 5% clay; non-plastic; low estimated K; strong hydrocarbon odor.	
10							Silty SAND (SM); olive brown; medium dense; damp; 65% medium sand; 35% silt; non-plastic; medium estimated K; strong hydrocarbon odor	
15							SILT (ML); yellow brown; medium stiff; damp; 100% silt; non-plastic; low estimated K; no odor	
20								

SOIL BORING LOG AND COMPLETION DETAILS

BORING NO.: BH-D

Project Name: Zima Center Corporation

Project Location: 2951 High Street, Oakland, CA

Page 2 of 2

Driller: Vironex

Type of Rig: Geoprobe

Type and Size of Auger: Direct push

Logged By: Robert Kitay

Date Drilled: 6/26/96

Checked By: Michael Marelo, R.G.

WATER AND WELL DATA

Depth of Water First Encountered: NA

Total Depth of Well Completed: NA

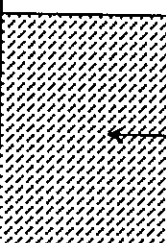

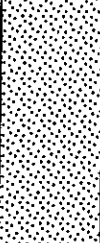
Static Depth of Water in Well: NA

Well Screen Type and Diameter: NA

Total Depth of Boring: 30'

Well Screen Slot Size: NA

Type and Size of Soil Sampler: 1.5" Diameter Sampler

Depth in Feet	WELLBORING DETAIL	Description	SOIL/ROCK SAMPLE DATA				Depth in Feet	DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
			Interval	Blow Ct.	Field VOC (ppmv)	Graphic Log		
25	 End of Boring @ 30'	Portland Cement	 No Blow Counts Taken				25	End of Boring @ 30.0'
30							30	
35							35	
40							40	
45							45	

SOIL BORING LOG AND COMPLETION DETAILS	BORING NO.: BH-E
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Project Name: Zima Center Corporation	Project Location: 2951 High Street, Oakland, CA	Page 1 of 2
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Driller: Vironex	Type of Rig: Geoprobe	Type and Size of Auger: Direct push
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Logged By: Robert Kitay	Date Drilled: 6/26/96	Checked By: Michael Marello, R.G.
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WATER AND WELL DATA	
Depth of Water First Encountered: NA	Total Depth of Well Completed: NA
Static Depth of Water in Well: NA	Well Screen Type and Diameter: NA
Total Depth of Boring: 30'	Well Screen Slot Size: NA
	Type and Size of Soil Sampler: 1.5" Diameter Sampler

Depth in Feet	WELLBORING DETAIL	Description	SOIL/ROCK SAMPLE DATA				Depth in Feet	DESCRIPTION OF LITHOLOGY
			Interval	Blow Ct.	Field VOC (ppmv)	Graphic Log		standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
0	Portland Cement	No Blow Counts Taken				0	Asphalt	
5			5	Sandy SILT (ML); yellow brown; medium stiff; damp; 80% silt; 15% fine to medium sand; 5% clay; non-plastic; low estimated K; no odor				
10			10	Silty SAND (SM); yellow brown; medium dense; moist; 80% medium to coarse sand; 20% silt; non-plastic; medium estimated K; no odor				
15			15	SILT (ML); yellow brown; medium stiff; damp; 100% silt; non-plastic; low estimated K; no odor				
20			20	Silty SAND (SM); yellow brown; medium dense; damp; 75% fine to coarse sand; 25% silt; non-plastic; medium estimated K; no odor				
25			25	Sandy SILT (ML); yellow brown; medium stiff; damp; 75% silt; 25% medium to coarse sand; non-plastic; low estimated K; no odor				

