

July 17, 1996

REPORT

of

SOIL AND GROUNDWATER ASSESSMENT ASE JOB NO. 3011

a t

Zima Center Corporation 2951 High Street Oakland, California PROTECTION AT 25.21

Submitted by:
AQUA SCIENCE ENGINEERS, INC
2411 Old Crow Canyon Road, #4
San Ramon, CA 94583
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FOR SOIL AND GROUNDWATER SAMPLES

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. 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 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 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.

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-feet 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.

Zima Center Corporation Report - July 1996

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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. 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.

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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 Groundwater samples were collected using a pre-cleaned stabilized. polyethylene bailer. The samples were decanted from the bailer into 40ml 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-feet bgs in each boring and from 15-feet 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 The analytical results are tabulated in Table One, and the certified analytical report and chain of custody forms are included in Appendix D.

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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' 15.0'	39 <1	0.43 0.026	0.086	0.47 < 0.005	1.0 < 0.005	0.90
вн-в	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
ВН-С	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
ВН-Е	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-feet bgs in boring BH-A. Lower BTEX and MTBE concentrations were detected in the soil sample collected from 15.0-feet 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-feet bgs in boring BH-B. No hydrocarbons were detected in the soil sample collected from 5.0-feet 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.

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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
J	ВН-А	23,000	4,600	2,800	700	2,700	13,000
J	ВН-В	4,000	490	680	100	520	620
`	ВН-С	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.



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. 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

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

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

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.

Robert E. Kitay, R.E.A.

Project Geologist

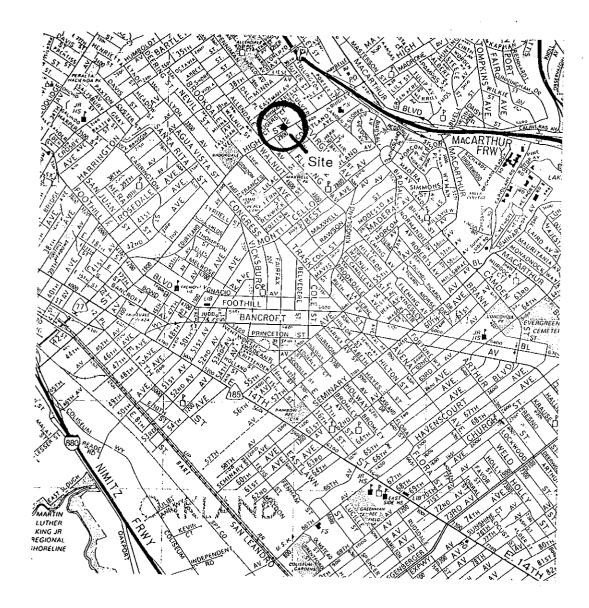
Attachments: Figures 1 and 2

Appendices A through D

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FIGURES





SITE LOCATION MAP

ZIMA CENTER CORPORATION 2951 HIGH STREET OAKLAND, CALIFORNIA

AQUA SCIENCE ENGINEERS, INC.

FIGURE 1

PENNIMAN AVENUE NORTH SIDEWALK <u>SCALE</u> 1" = 30' вн-в **EXISTING** USTS BH-D PUMP ISLANDS UST SIDEWALK BUILDING MW-1 BH-E PUMP ISLANDS PROPERTY LIMITS SOIL BORING LEGEND LOCATION MAP MONITORING WELL ZIMA CENTER CORPORATION 2951 HIGH STREET OAKLAND, CALIFORNIA SOIL BORING AQUA SCIENCE ENGINEERS, INC. FIGURE 2

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 overfill, 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, I 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 form 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.

<u>Please submit a work plan to this Department within 30 days from the date of this letter to address the above concerns</u> 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,

Machulla Logan.

Hazardous Material Specialist

APPENDIX B

Permits



APPLICANTS

SIGNATURE REAL E. Beter Date 6-24-96

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	PERMIT NUMBER
CLIENT Name Zima Confor Corporation Address 295/ High Strant Voice (510) 436-47-00 City Ontdand, CA Zip 94619 APPLICANT Name Agua Science Engineers Time After: Rebort Kitay Fax (510) 837-4853 Address 2411 013 Crow Conyon Rd. 44 Voice (510) 820-9391 City San Ruman CA Zip 94583 TYPE OF PROJECT Well Construction Geotechnical Investigation	PERMIT CONDITIONS Circled Permit Requirements Apply A. GENERAL 1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date. 2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well Projects, or drilling logs
Cathodic Protection General Water Supply Contamination Monitoring Well Destruction PROPOSED WATER SUPPLY WELL USE Domestic Industrial Other Municipal Irrigation	 and location sketch for geotechnical projects. 3. Permit is void if project not begun within 90 days of approval date. B. WATER WELLS, INCLUDING PIEZOMETERS 1. Minimum surface seal thickness is two inches of cement grout placed by tremie. 2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for
DRILLING METHOD: Mud Rotary Air Rotary Auger Cable Other Geopreize DRILLER'S LICENSE NO. C-57 487-ccc WELL PROJECTS Drill Hole Diameter in. Maximum Casing Diameter in. Depth ft. Surface Seal Depth tt. Number	monitoring wells is the maximum depth practicable or 20 feet. C. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings. D. CATHODIC. Fill hole above anode zone with concrete placed by tremie. E. WELL DESTRUCTION. See attached.
GEOTECHNICAL PROJECTS Number of Borings 5 Hole Diameter 2.5 in. Depth 25 ft. ESTIMATED STARTING DATE 6-26-96 ESTIMATED COMPLETION DATE 7-3-96	Approved Date
I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.	Dute

APPENDIX C

Boring Logs

Project Name: Zima Center Corp	T T	BORING NO.: BH-A
	oration Proje	ect Location: 2951 High Street, Oakland, CA Page 1 of 2
Driller: Vironex	Type of Rig: 0	Geoprobe Type and Size of Auger: Direct push
Logged By: Robert Kitay	Date Drilled:	: 6/26/96 Checked By: Michael Marello, R.G.
ATER AND WELL DATA		Total Depth of Well Completed: NA
epth of Water First Encountered:	26'	Well Screen Type and Diameter: NA
tatic Depth of Water in Well: NA		Well Screen Slot Size: NA
otal Depth of Boring: 30'		Type and Size of Soil Sampler: 1.5" Diameter Sampler
4)	CK SAMPLE DATA	
Description Delaction Blow Ct.	Field VOC (ppmv) Graphic Log	standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
Portland Cement No Blow Counts Taken	1,100	Asphalt 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 SAND (SP); yellow brown; medium dense; damp; 90% medium to coarse sand; 5% silt; non-plastic; medium estimated K; slight hydrocarbon odor Clayey SILT (ML); brown; medium stiff; damp; 90% silt; 10% clay; slight plasticity; low estimated K; very slight hydrocarbor odor Clayey SAND (SC); yellow brown; medium dense; damp; 90% medium to coarse sand; 10% clay; slight plasticity; low estimated K; no odor
SE Form 20A	0	NCE ENGINEERS, INC.

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SOIL BORING LOG AND COM	PLETION DET	All S	P.C. P.L. C. L. C.				
Project Name: Zima Center Corpo	<u> </u>		BORING NO.: BH-A				
Driller: Vironex	T		h Street, Oakland, CA Page 2 of 2				
	Type of Rig: G	- 7	e and Size of Auger: Direct push				
Logged By: Robert Kitay	Date Drilled:		ecked By: Michael Marello, R.G.				
WATER AND WELL DATA	001	Total Depth of Well Co					
Depth of Water First Encountered: 2		Well Screen Type and	· · · · · · · · · · · · · · · · · · ·				
Static Depth of Water in Well: NA		Well Screen Slot Size	: NA				
Total Depth of Boring: 30'		Type and Size of Soil	l Sampler: 1.5" Diameter Sampler				
	K SAMPLE DATA	DES	SCRIPTION OF LITHOLOGY				
Depth in Fe Blow Ct.	Field VOC (ppmv) Graphic Log	standard class density, stiffne	sification, texture, relative moisture, ess, odor-staining, USCS designation.				
25							
Portland Cement Blow Counts Taken		- - -					
End of Boring		30					
@ 30'			End of Boring @ 30.0'				
		•	,				
.							
-35		35					
-							
- 40 - 40							
.		40	i				
	-		į				
	-						
145	-						
45		45	·				
	-						
ASE Form 20A	SE Form 20A AQUA SCIENCE ENGINEERS, INC.						

SOIL BORING LOG AND COM	DI ETION DE	TALLO	
	· · · · · · · · · · · · · · · · · · ·		BORING NO.: BH-B
Project Name: Zima Center Corpo Driller: Vironex	T		1 High Street, Oakland, CA Page 1 of 2
	Type of Rig: 0		Type and Size of Auger: Direct push
Logged By: Robert Kitay	Date Drilled:	T	Checked By: Michael Marello, R.G.
WATER AND WELL DATA Depth of Water First Encountered:	aei		'ell Completed: NA
			e and Diameter: NA
Static Depth of Water in Well: NA	·	Well Screen Slot	
Total Depth of Boring: 30'	W. O. M. P. E. D. A. T.		f Soil Sampler: 1.5" Diameter Sampler
Depth in Fe Description Interval Blow Ct.	Field VOC (ppmv) Graphic Log	standard	DESCRIPTION OF LITHOLOGY classification, texture, relative moisture, stiffness, odor-staining, USCS designation.
WWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWW	790	Sandy SILT (I 25% medium to 0.5" diame hydrocarbon (Clayey SILT (Clay; 5% fine slight hydroca	(ML); yellow brown; stiff; moist; 85% silt; 10% sand; slight plasticity; low estimated K; very arbon odor SM); yellow brown; medium dense; moist; 65% sand; 25% silt; 10% clay; slight plasticity; low
ASE Form 20A	0 23333		
ASE Form 20A	AGUA SCIE	NCE ENGINEER	RS, INC.

Project Name: Zima Center Corpor	ration Project Location: 2051	BORING NO.: BH-B ligh Street, Oakland, CA Page 2 of 2
Driller: Vironex	-	
Logged By: Robert Kitay	Data Dall I areas	pe and Size of Auger: Direct push
WATER AND WELL DATA	Total Depth of Well	hecked By: Michael Marello, R.G.
Depth of Water First Encountered: 2	Well Screen Type a	
Static Depth of Water in Well: NA	Well Screen Slot Si	
Total Depth of Boring: 30'		oil Sampler: 1.5" Diameter Sampler
SOIL/ROCK	C Q A M D I C D A T A I	ESCRIPTION OF LITHOLOGY
Depth in Description Description Blow Ct.	1)	assification, texture, relative moisture ness, odor-staining, USCS designation
Portland Cement No Blow Counts Taken		End of Boring @ 30.0'
5	-35 -40 	

SOIL BORING L							BORING NO.: BH-C
Project Name: Zin	ma Center	Corpo	T			i	Street, Oakland, CA Page 1 of 2
		·	1	of Rig: G			and Size of Auger: Direct push
Logged By: Robe			Date	Drilled:			ced By: Michael Marello, R.G.
WATER AND WE					Tota	al Depth of Well Con	ppleted: NA
Depth of Water Firs			26' ———		Wel	Screen Type and D	Diameter: NA
Static Depth of Wat	·	NA			Wel	I Screen Slot Size:	NA
otal Depth of Borin						e and Size of Soil S	Sampler: 1.5" Diameter Sampler
O WELL/BORING DETAIL OCUMENTO DETAIL	Description Interval	Blow Ct.	Field VOC (ppmv)	Graphic PLOG	Depth in Feet	! standard classif	CRIPTION OF LITHOLOGY cation, texture, relative moisture, odor-staining, USCS designation.
5 0 5	Portland Cement WWW.WWW.WW.WW.WW.WW.WW.WW.WW.WW.WW.WW.	No Blow Counts Taken	312 10 0		15	olive at 4' yellow brown; no odo Clayey SILT (ML); yellow; 5% subangular medium plasticity; ver	own; medium stiff; damp; 90% silt; 5% o 0.5" diameter; 5% fine to coarse sand nated K; moderate hydrocarbon odor at 9' low brown; stiff; moist; 70% silt; 25% o subrounded pebbles to 0.3" diameter; y low estimated K; no odor w brown; dense; damp; 75% medium to 5% clay; slight plasticity; low estimated
SE Form 20A			0 🕅	*****		ENGINEERS, INC	

Project Name: Zima Conter 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 Checked By: Michael Marelto, R.G. WATER AND WELL DATA Depth of Water First Encountered: 26' Water Depth of Water in Well: NA Total Depth of Boring: 30' WELL\BORING End of Boring 9 30' Find of Boring 9 30' Type and Size of Auger: Direct push Type and Diameter: NA Well Screen Type and Diameter: NA Well Screen Slot Size: NA Type and Size of Soil Sampler: 1.5" Diameter Sempler Type and	Project Name: Zima Center Corpo	ration Projec	ct Location: 295:	High Street Ool	BORING NO		
Depth of Water First Encountered: 26' WATER AND WELL DATA Depth of Water First Encountered: 26' Well Screen Type and Diameter: NA Well Screen Type and Diameter: NA Well Screen Slot Size: NA Total Depth of Water First Encountered: 26' WELLUBORING DETAIL. Solit/ROCK SAMPLE DATA DETAIL. Solit/ROCK SAMPLE DATA DETAIL. Solit/ROCK SAMPLE DATA DETAIL. Solit/ROCK SAMPLE DATA DESCRIPTION OF LITHOLOGY Standard classification, texture, relative moisture density, stiffness, odor-staining, USCS designation density, stiffness, odor-staining, USCS designation of Boring 30' End of Boring 30' End of Boring 30' End of Boring 30' Total Depth of Well Completed: NA Well Screen Type and Diameter: NA Well Screen Slot Size: NA Type and Size of Soil Sampler: 1.5" Diameter Sampler DESCRIPTION OF LITHOLOGY Standard classification, texture, relative moisture density, stiffness, odor-staining, USCS designation of Boring 30' End of Boring 30' End of Boring 30' Ato				· —			
WATER AND WELL DATA Depth of Water First Encountered: 26' Static Depth of Water in Well: NA Static Depth of Water in Well: NA Well Screen Type and Diameter: NA Well Screen Slot Size: NA Total Depth of Boring: 30' Type and Size of Soil Sampler: 1.5" Diameter Sampler DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture density, stiffness, odor-staining, USCS designation DETAIL DETAIL DETAIL DETAIL DESCRIPTION OF LITHOLOGY Standard classification, texture, relative moisture density, stiffness, odor-staining, USCS designation 225 Mell Screen Type and Diameter: NA Well Screen Slot Size: NA Type and Size of Soil Sampler: 1.5" Diameter Sampler DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture density, stiffness, odor-staining, USCS designation Page 19				1			
Depth of Water First Encountered: 26' Well Screen Type and Diameter: NA Well Screen Slot Size: NA Total Depth of Boring: 30' Well Screen Slot Size: NA Total Depth of Boring: 30' Well Screen Slot Size: NA Total Depth of Boring: 30' Well Screen Slot Size: NA Total Depth of Boring: 30' DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture density, stiffness, odor-staining, USCS designation 10		Date Dilled.	 			R.G.	
Static Depth of Water in Well: NA Total Depth of Boring: 30' WELL\BORING DETAIL WEL		nei					
Total Depth of Boring: 30' Type and Size of Soil Sampler: 1.5" Diameter Sampler DESCRIPTION OF LITHOLOGY Soil/Rock SAMPLE DATA BY SOIL/ROCK SAMPLE DATA Fixed by Depth of Boring DETAIL Type and Size of Soil Sampler: 1.5" Diameter Sampler DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture density, stiffness, odor-staining, USCS designation 10							
SOIL/ROCK SAMPLE DATA WELL/BORING DETAIL WEL	· · · · · · · · · · · · · · · · · · ·				·		
WELLIBORING DETAIL Standard classification, texture, relative moisture density, stiffness, odor-staining, USCS designation Welliboring Detail Welliboring Details Welliboring Detail Welliboring Details Wellibo		V OALIDI E DATE		f Soil Sampler: 1.	5" Diameter S	ampler	
End of Boring 30.0' End of Boring 30.0' End of Boring 30.0'			standard	classification, tex	kture, relative	moisture	
	25 End of Boring @ 30' Portland Cement No Blow Counts Taken		-25				

SOIL BORING LOG AND COM	IPLETION DE	TAILS BORING	S NO.: BH-D
Project Name: Zima Center Corp	oration Projec	t Location: 2951 High Street, Oakland, CA	T
Driller: Vironex	Type of Rig: G		
Logged By: Robert Kitay	Date Drilled:	6/26/96 Checked By: Michael Mar	ello, 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" Diamet	er Sampler
Description Description Blow Ct.	Field VOC (ppmv) (ppmv) (Graphic Log	DESCRIPTION OF LITHOL standard classification, texture, rel density, stiffness, odor-staining, USG	ative moisture.
Portland Cement Portland Cement No Blow Counts Taken		Asphalt Sandy SILT (ML); yellow brown; medium sti 15% fine to medium sand; 5% clay; non-pla K; strong hydrocarbon odor. Silty SAND (SM); olive brown; medium dens medium sand; 35% silt; non-plastic; medium hydrocarbon odor SILT (ML); yellow brown; medium stiff; dam non-plastic; low estimated K; no odor	estic; low estimated se; damp; 65% n estimated K; strong
ASE Form 20A	AQUA SCIE	NCE ENGINEERS, INC.	<u> </u>

SOIL BORING LOG AND COM			BORING NO.: BH-D
Project Name: Zima Center Corpo	ration Proje	ect Location: 295	1 High Street, Oakland, CA Page 2 of 2
Driller: Vironex	Type of Rig:	· ·	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 W	Vell Completed: NA
Depth of Water First Encountered: N	IA	Well Screen Typ	e and Diameter: NA
Static Depth of Water in Well: NA		Well Screen Slo	
Total Depth of Boring: 30'		Type and Size of	of Soil Sampler: 1.5" Diameter Sampler
	K SAMPLE DATA	1 1	DESCRIPTION OF LITHOLOGY
Depth in Description Description Blow Ct.	Field VOC (ppmv) Graphic Log	standard density, s	classification, texture, relative moisture, stiffness, odor-staining, USCS designation.
ment S Taken		- 25	
Portland Cement MMMM Blow Counts Taken			
End of Boring	3, 22, 23, 23, 23,	30	Fig. 4D
@ 30'		_	End of Boring @ 30.0'
		-	
35		35	
		-	
		-	
.0		- -40	
		-	
	} }	-	
		_	
5		- 45	•
	-		
		,	
SE Form 20A	AOUA COID	NCE ENGINEER	

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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 Kitlay Date Drilled: 6/25/96 Checked By: Michael Marello, R.G. WATER AND WELL DATA Depth of Water First Encountered: NA Well Screen Type and Diameter: NA Static Depth of Boring: 30' Total Depth of Boring: 30' WELLBORING Total Depth of Well Completed: NA Well Screen Type and Diameter: NA Type and Size of Auger: Direct push Type and Size of Auger: Direct push Total Depth of Well Completed: NA Well Screen Type and Diameter: NA Type and Size of Soll Sampler: 1.5' Diameter Sampler DESCRIPTIONOF LITHOLOGY Standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation. Silly SAND (SM); yellow brown; medium dense; moist: 80% modium to coarse sand; 50% silt; non-plastic; medium estimated K; no odor Silly SAND (SM); yellow brown; medium stiff; damp; 75% silt; non-odor Silly SAND (SM); yellow brown; medium stiff; damp; 75% silt; non-odor Silly SAND (SM); yellow brown; medium stiff; damp; 75% silt; non-odor Silly SAND (SM); yellow brown; medium stiff; damp; 75% silt; non-odor	SOIL BORING LOG AND COMPI			BORING NO.: BH-E	
Logged By: Robert Kitay Date Drilled: 6/26/96 Checked By: Michael Marello, R.G. Total Depth of Well Completed: NA Depth of Water First Encountered: NA Depth of Water in Well: NA Fotal Depth of Boring: 30' WELLIBORING DETAIL Solid Depth of Boring: 30' Solid Rock Sample Data DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation. Asphalt Sandy SILT (ML); yellow brown; medium stiff; damp; 80% silt; non-plastic; medium odor Silty SAND (SM); yellow brown; medium stiff; damp; 100% silt; non-plastic; medium estimated K; no odor Silty SAND (SM); yellow brown; medium stiff; damp; 100% silt; non-plastic; medium dense; damp; 75% silt; sim to coarse sand; 25% silt; non-plastic; medium estimated K; no odor Sandy SILT (ML); yellow brown; medium stiff; damp; 75% silt; sim to coarse sand; 25% silt; non-plastic; medium estimated K; no odor	D.111			High Street, Oakland, CA Page 1 of 2	
WATER AND WELL DATA Depth of Water First Encountered: NA Depth of Water First Encountered: NA Well Screen Type and Diameter: NA Well Screen Slot Size: NA Total Depth of Boring: 30' WELLBORING DETAIL ON THE CONTROL SAMPLE DATA DESCRIPTION OF LITHOLOGY Standard classification. Lexture, relative moisture, density, stiffness, odor-staining, USCS designation. DESCRIPTION OF LITHOLOGY Standard classification texture, relative moisture, density, stiffness, odor-staining, USCS designation. Asphalt Sandy SILT (ML); yellow brown; medium stiff; damp; 80% silt; 5% fine to medium sand, 5% clay; non-plastic; low estimated K; no odor SILT (ML); yellow brown; medium stiff; damp; 100% silt; non-plastic; medium to coarse sand; 20% silt; non-plastic; medium estimated K; no odor SILT (ML); yellow brown; medium stiff; damp; 75% silt; non-plastic; medium estimated K; no odor Silty SAND (SM); yellow brown; medium stiff; damp; 75% silt; non-plastic; medium estimated K; no odor Sandy SILT (ML); yellow brown; medium stiff; damp; 75% silt; non-plastic; medium estimated K; no odor			·	Type and Size of Auger: Direct push	
Depth of Water First Encountered: NA Static Depth of Water in Well: NA Fotal Depth of Boring: 30' WELLISORING TO BETAIL Sandy SILT (ML); yellow brown; medium dense; moist; 80% medium to coarse sand; 20% silt; non-plastic; low estimated K; no odor Silty SAND (SM); yellow brown; medium dense; moist; 80% medium to coarse sand; 25% silt; non-plastic; medium estimated K; no odor SILT (ML); yellow brown; medium stiff; damp; 75% silt; non-plastic; medium estimated K; no odor Sandy SILT (ML); yellow brown; medium stiff; damp; 75% silt; non-plastic; medium estimated K; no odor		Date Drilled:			
Static Depth of Water in Well: NA Well Screen Siot Size: NA Type and Size of Soil Sampler: 1.5" Diameter Sampler Type and Size of Soil Sampler: 1.5" Diameter Sampler DESCRIPTION OF LITHOLOGY standard classification, toxture, relative moisture, density, stiffness, odor-staining, USCS designation. Asphalt Sandy SILT (ML); yellow brown; medium dense; moist; 80% medium to coarse sand; 20% silt; non-plastic; medium estimated K; no odor Silty SAND (SM); yellow brown; medium dense; moist; 80% medium to coarse sand; 20% silt; non-plastic; medium estimated K; no odor Silty SAND (SM); yellow brown; medium dense; damp; 75% silt; non-plastic; medium dense; damp; 75% silt; no odor Silty SAND (SM); yellow brown; medium dense; damp; 75% silt; no odor Sandy SILT (ML); yellow brown; medium dense; damp; 75% silt; no odor Sandy SILT (ML); yellow brown; medium dense; damp; 75% silt; no odor Sandy SILT (ML); yellow brown; medium dense; damp; 75% silt; no odor Sandy SILT (ML); yellow brown; medium stiff; damp; 75% silt; no odor			Total Depth of W	ell Completed: NA	
Total Depth of Boring: 30' Type and Size of Soil Sampler: 1.5" Diameter Sampler Type and Size of Soil Sampler: 1.5" Diameter Sampler Type and Size of Soil Sampler: 1.5" Diameter Sampler Type and Size of Soil Sampler: 1.5" Diameter Sampler DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation. Asphalt Sandy SiLT (ML); yellow brown; medium stiff; damp; 80% silt; 15% fine to medium sand; 5% clay; non-plastic; low estimated K; no odor Silty SAND (SM); yellow brown; medium dense; moist; 80% medium to coarse sand; 20% silt; non-plastic; medium estimated K; no odor Silty SAND (SM); yellow brown; medium stiff; damp; 100% silt; non-plastic; low estimated K; no odor Silty SAND (SM); yellow brown; medium dense; damp; 75% fine to coarse sand; 25% silt; non-plastic; medium estimated K; no odor Sandy SiLT (ML); yellow brown; medium stiff; damp; 75% silt; non-plastic; medium estimated K; no odor			Well Screen Type and Diameter: NA		
WELLBORING DETAIL Sandy SILT (ML); yellow brown; medium stiff; damp; 80% silt; 15% fine to coarse sand; 20% silt; non-plastic; medium estimated K; no odor Silty SAND (SM); yellow brown; medium stiff; damp; 100% silt; non-plastic; low estimated K; no odor Silty SAND (SM); yellow brown; medium stiff; damp; 100% silt; non-plastic; low estimated K; no odor Silty SAND (SM); yellow brown; medium dense; damp; 75% fine to coarse sand; 25% silt; non-plastic; medium estimated K; no odor Sandy SILT (ML); yellow brown; medium stiff; damp; 75% silt; 25% medium to coarse sand; non-plastic; low estimated K; no			Well Screen Slot	Size: NA	
WELLIBORING DETAIL Sandy SILT (ML); yellow brown; medium stiff; damp; 80% silt; 15% fine to coarse sand; 20% silt; non-plastic; medium dense; damp; 75% fine to coarse sand; 25% silt; non-plastic; medium estimated K; no odor Silty SAND (SM); yellow brown; medium dense; damp; 75% fine to coarse sand; 25% silt; non-plastic; medium estimated K; no odor Silty SAND (SM); yellow brown; medium dense; damp; 75% fine to coarse sand; 25% silt; non-plastic; medium estimated K; no odor Silty SAND (SM); yellow brown; medium stiff; damp; 75% silt; non-plastic; medium estimated K; no odor			Type and Size of	f Soil Sampler: 1.5" Diameter Sampler	
Asphalt Sandy SILT (ML); yellow brown; medium stiff; damp; 80% silt; 15% fine to medium sand; 5% clay; non-plastic; low estimated K; no odor Silty SAND (SM); yellow brown; medium dense; moist; 80% medium to coarse sand; 20% silt; non-plastic; medium estimated K; no odor SILT (ML); yellow brown; medium stiff; damp; 100% silt; non-plastic; low estimated K; no odor Silty SAND (SM); yellow brown; medium stiff; damp; 75% fine to coarse sand; 25% silt; non-plastic; medium estimated K; no odor Sandy SILT (ML); yellow brown; medium stiff; damp; 75% silt; 25% medium to coarse sand; non-plastic; low estimated K; no odor	Depth in Description Descripti)	standard density, si	DESCRIPTION OF LITHOLOGY classification, texture, relative moisture	
SE Form 20A AQUA SCIENCE ENGINEERS INC	Portland Cement No Blow Counts Taken		Sandy SILT (15% fine to n K; no odor Silty SAND (Simedium to constimated K; non-plastic; lowestimated	SM); yellow brown; medium dense; moist; 80% arse sand; 20% silt; non-plastic; medium no odor llow brown; medium stiff; damp; 100% silt; w estimated K; no odor M); yellow brown; medium dense; damp; 75% sand; 25% silt; non-plastic; medium estimated K;	

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: G		Type and Size of Auger: Direct push		
Logged By: Robert Kitay	Date Drilled:		Checked By: Michael Marello, R.G.		
WATER AND WELL DATA			Il Completed: NA		
Depth of Water First Encountered:	26'				
Static Depth of Water in Well: NA		Well Screen Type and Diameter: NA Well Screen Slot Size: NA			
otal Depth of Boring: 30'	······		Soil Sampler: 1.5" Diameter Sampler		
	CK SAMPLE DATA		DESCRIPTION OF LITHOLOGY		
Description Description Blow Ct.	Field VOC (ppmv) Graphic Log	standard of density, sti	classification, texture, relative moisture, iffness, odor-staining, USCS designation.		
Bow Counts Taken		25	End of Boring @ 30.0'		
.5		-40 			
ASE Form 20A	AQUA SCIE	NCE ENGINEER	S, INC.		

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APPENDIX D

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

Environmental Services (SDB)

July 8, 1996

Submission #: 9606931

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman.

Project: ZIMA CENTER CORPORATION

Project#: 3011

Received: June 28, 1996

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 90306 BH-A-5.0'	Gasoline (mg/Kg) 39	Benzene (mg/Kg) 0.43	Toluene (mg/Kg) 0.086	Ethyl Benzene (mg/Kg) 0.47	Total Xylenes (mg/Kg) 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

Environmental Services (SDB)

July 8, 1996

Submission #: 9606931

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman.

Project: ZIMA CENTER CORPORATION

Project#: 3011

Received: June 28, 1996

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

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

June Zhao Chemist

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-A-5.0'

Spl#: 90306

Matrix: SOIL

Sampled: June 26, 1996

Run#: 2121

Analyzed: July 7, 1996

| REPORTING | BLANK DILUTION | RESULT | LIMIT | RESULT | SPIKE FACTOR | Mg/Kg) | (%) | MTBE | 0.90 | 0.050 | N.D. | 118 | 1

June Zhao Chemist

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

June Zhao Chemist

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-B-5.0'

Spl#: 90309

Matrix: SOIL

Sampled: June 26, 1996

Run#: 2121

Analyzed: July 3, 1996

RESULT RESULT SPIKE FACTOR

ANALYTE (mg/Kg) (mg/Kg) (%)

N.D. 0.0050 N.D. 118 1

June Zhao Chemist

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-B-15.0'

Spl#: 90310

Matrix: SOIL

Sampled: June 26, 1996

Run#: 2112

Analyzed: July 10, 1996

REPORTING BLANK BLANK DILUTION RESULT LIMIT RESULT SPIKE FACTOR ANALYTE (mg/Kg) (mg/Kg) (mg/Kg) MTBE 0.050

June Zhao Chemist

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'

Sp1#: 90317

Matrix: SOIL

Sampled: June 26, 1996

Run#: 2121

Analyzed: July 3, 1996

| REPORTING | BLANK DILUTION | RESULT | LIMIT | RESULT | SPIKE FACTOR | MTBE | N.D. | 0.0050 | N.D. | 118 | 1

June Zhao Chemist

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

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

June Zhao Chemist

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-D-5.0'

Spl#: 90319

Matrix: SOIL

Sampled: June 26, 1996

Run#: 2121

Analyzed: July 3, 1996

ANALYTE MTBE RESULT (mg/Kg) 0.072 LIMIT (mg/Kg) 0.0050

REPORTING

BLANK RESULT . (mg/Kg) BLANK DILUTION SPIKE FACTOR

(%)

8)_____

N

June Zhao Chemist

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

ANALYTE MTBE

RESULT (mg/Kg) N.D.

REPORTING LIMIT (mg/Kg)0.0050

BLANK RESULT (mg/Kg)

BLANK DILUTION SPIKE FACTOR

June Zhao Chemist

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-E-5.0'

Spl#: 90321

Matrix: SOIL

Sampled: June 26, 1996

Run#: 2112

Analyzed: July 10, 1996

ANALYTE MTBE

RESULT

REPORTING LIMIT

BLANK RESULT BLANK DILUTION

(mg/Kg)

(mg/Kg) 0.050

SPIKE FACTOR

(mg/Kg)

June Zhao Chemist

Environmental Services (SDB)

July 10, 1996

Submission #: 9606910 revised from 6/5/96

AQUA SCIENCE ENGINEERS INC

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-A WATER

Spl#: 90062

Matrix: WATER

Sampled: June 26, 1996

Run#: 2052

Analyzed: July 5, 1996

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

June Zhao Chemist

Environmental Services (SDB)

July 5, 1996

Submission #: 9606910 revised from 6/5/96

AQUA SCIENCE ENGINEERS INC

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-B WATER

Spl#: 90063

Matrix: WATER

Sampled: June 27, 1996

Run#: 2038

Analyzed: July 4, 1996

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

June Zhao Chemist

-1/N

Gas/BTEX Supervisor

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

Chemist

Environmental Services (SDB)

July 10, 1996

Submission #: 9606910

AQUA SCIENCE ENGINEERS INC

revised from6/5/96

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-E WATER

Spl#: 90065

Matrix: WATER

Sampled: June 26, 1996

Run#: 2052

Analyzed: July 5, 1996

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

Chemist

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#:

Received: June 27, 1996

3011

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

June Zhao Chemist

Gas/BTEX Supervisor

931/90306-90327

Aqua Science Engineers, Inc. 2411 Old Crow Canyon Road, #4, San Ramon, CA 94583

Chain

SURM #: 9606931 REP: MV

CLIENT: ASE

DUE: 07/09/96

REF #:28562

(510) 820-9	1391 -	FAX (5	510) 837	-4853											DAT	TE_6	,-26	-96	PAGE)F	<u>-</u>
SAMPLERS (S						HONE		PRO	JECT 1	NAME	Zi	ma	ر-وی	stor	رس	-paro	ه سرکی	N	.YO	30	//	
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ANA	LY8	IS R	EQU	EST			6			22		g	BkF)									
SPECIAL INST	IRUCTI	IONS:	1			İ	BTEX 5-8020		TI CS	ARBO	Sol	ACT DS			5				.			
					,	गह 8015	NE/8	8015	ROYAY 020)	ALOCC.	RGALI	M.S., 270;	SE	3 (5)	1000)	310)	1310)	بخ ا	10			
					ļ	CASOLLITE 5030/8015)	,0E0	ESEL S10/	1LE A	10 H 31	24/8	UETR.	GREA 520	ETAL	22 (C	1/118	1 MAC	יידה ריד זען דידו זונ	7	,		ļ
SAMPLE ID.	DATE	ПМЕ	MATRIX		O. OF MPLES	÷ 6	TPH- GASOLLIFE/BTEX (EPA 5030/8015-8020)	TPH- DIESEL (EPA 3510/8015)	PURGABLE ARCHATICS (EPA 602/C020)	PURCABLE HALCCARBONS (EPA 601/8010)	VOLATILE ORGAIGCS (EPA 624/8240)	BASE/NUETRALS,	OIL & GREASE (EPA 5520 E&F OF	LUFT METALS (5) (EPA 6010+7000)	TITLE 22 (CM 17)	TCLP (EPA 1311/1310)	STLC- CAM MET (FFA 1311/1310)	REACTI VI TY CORROSI VI TY I GIG TABILLI TY	140			
BH-A 5.0	6/26	8:24	Soil		1		×				 		 			ļ						
BH-A 10.0		8:35										,						-	×			
BH-A 15-0		8:45	 		'		×			1												
Bit-A 20.0		9:25	 		<u> </u>	<u> </u>	ļ												×			
BH-A 25.0'	1	9:20	 			!				<u> </u>	<u> </u>								×			
BH-B 5.0		9:45		<u> </u>	<u> </u>	<u> </u>	×	<u> </u>	<u> </u>													
BH-B 10,0		9:55				<u> </u>			<u> </u>		<u> </u> !								X			
BH-B 15.0		10.12	-	ļ	<u> </u>		\times				<u> </u>											
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Company-	95E		Comi	oany-	(pro	nalah	<u> </u>	Соп	npany-	(hri	indip	/	Colf	way.	al	-cel	2					

Aqua Science Engineers, Inc. 2411 Old Crow Canyon Road, #4, San Ramon, CA 94583

Chain of Custody

28562

(510) 820-9391 - FAX (510) 837-4853

DATE 6-26-96 PAGE 2 OF 2

SAMPLERS (S	IGNAT	URE)		(P	HONE	кол	DD 0.					<u></u>	,						~~~		
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SAMPLE ID.	DATE	ПМЕ	MATRIX	NO. OF SAMPLES	TPH- GASOLLITE (EPA 5030/8015)	TPH-GASOLINE/BTEX (EPA 5030/8015-8020)	TPH- DIESEL (EPA 3510/8015)	PURGABLE AROMATICS (EPA 602/C320)	PURCABLE HALOCARBONS (EPA 601/8010)	VOLATILE ORGAUCS (EPA 624/8240)	BASE/NUETRALS, 1 (EFA 625/8270)	OIL & GREASE (EPA SS20 EKF OF	LUFT PETALS (5) (EPA 6010+7000)	TITLE 22 (CAM 17) (EPA 6010+7000)	TCLP (EPA 1311/1310)	STLC- CAM WET (FPA 1111/1310)	REACTT VITY CORROSI VITY ICIG TABILITY	1770H			
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BH-D 200		13:32											-					X			
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Company.	SE		Comp	any- Chro	milas		Com	pany-	(hei	BU/	1	dom	beave	me	Lc	S	174				

(S10) 820-9391 - FAX (S10) 837-4853

Aqua Science Engineers, Inc. 2411 Old Crow Canyon Road, #4, Chain of Custody

DATE 6-27-96 PAGE LOF / SAMPLERS (SIGNATURE) (PHONE NO.) PROJECT NAME Zima Contar Corporation NO. 30/1 C. Kity (510) 820-9391 ADDRESS 2951 High Street, Oakland CA ТРН- САSOLINE/BTEX/MIDE (EPA 5030/8015-8020) SPECIAL INSTRUCTIONS: FURCABLE ARONATICS VOLATTLE ORGAUCS (EPA 624/8240) TCLP (EPA 1311/1310) STLC- CAM WET (EPA 1311/1310) LUFT METALS (5) (EPA 6010+7000) BASE/NUETRALS, (EPA 625/6270) OIL & GREASE (EPA 5520 E&F o (EPA 602/C020) NO. OF SAMPLE ID DATE TIME MATRIX SAMPLES BH-A W.ter 6/26 15:22 whater -SUBM #: 9606910 REP: MV BH-BW.ty 528-96 11:35 CLIENT: ASE BH-CLUSTER 6/26 15:50 DHEE 07/05/96 REF #:28534 BH-E White 6/26 16:55 MW-4 7:25 RELINQUISHED BY: RECEIVED BY: RELINQUISHED BY: RECEIVED BY LABORATORY: COMMENTS hehl E. Kitay 9:11 Soft T. L. 9:11 (time) (time) (signature) (time) 'signature) (time) (signature)

hobert E. Kitay Scott Fersiman 6-27-96 Scott Fernman 6-27-96 Mayor (integrated name) (date) (printed name) (date)
ADD ON/CHANGE ORDER

New Submission No:	•
Order No:	+

Environmental Services (SDB) (DOHS 1094)

Original Sul	bmissio	on Info)								<u>/-</u> [_		 .						
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Date Received:	06/	28/76				3, 8015)	5)	SILCS	ARBON	2)	10S 52S)	w			E 2A 418.1)		Z 's		1			-		ЯS
Submission No					TPH · Gasoline (EPA 5030, 8015)	TPH - Gasoline (5030, 8015) W/BTEX (EPA 602, 8020)	TPH - Diesel, TEPH (EPA 3510/3550, 8015)	PURCEABLE AROMATICS BTEX (EPA 602, 8020)	PURGEABLE HALOCARBONS (EPA 601, 8010)	VOLATILE ORGANICS (EPA 624, 8240, 524.2)	BASE/NEUTRALS, ACIDS (EPA 625/627, 8270, 525)	TOTAL OIL & GREASE (EPA 5520, 8+F, E+F)	PCB (FPA 608, 8080)	PESTICIDES (EPA 608, 8080)	TOTAL RECOVERABLE HYDROCARBONS (EPA	MIBE GALY	LUFT METALS: Cd, Cr, Pb, Zn, Ni	CAM METALS (17)	PRIORITY POLLUTANT METALS (13)	LEAD	TION TLC)			NUMBER OF CONTAINERS
SAMPLE ID.	DATE	TIME	MATRIX	PRESERV.	TPH · (TPH - (TPH - I	PURGE BTEX (E	PURGE (EPA 60	VOLAT	BASE/N	TOTAL (EPA SS	PCB (EPA 60	PESTICIDES (EPA 608, 808	TOTAL P	KIBE	LUFT METALS	CAM M	PRIORI	TOTAL LEAD	EXTRACTION (TCLP, STLC)			UMBER
BH-A5.0	0426		٤													$\frac{\cdot}{\times}$				-	u -			2
BH- A-15,0												3						<u>.</u>						
3t1-B-5.0												2												
BH-B-15.0'																								{
8H-C-5.0																		~						
3H - C - 15,0"										-													 	-
BH-D-5.0'				İ					-												\rightarrow		 	
3H-D-1516						_		$\neg \dagger$			-	-								-			 _	_
all . F . C . C	7		21									-	-			 							 	4

APPENDIX C

Boring Logs

SOIL BORING LOG A Project Name: Zima Ce		7			BORING NO.: BH-A
	mer corbo	T			1 High Street, Oakland, CA Page 1 of 2
		Type of R			Type and Size of Auger: Direct push
Logged By: Robert Kitay		Date Dril		6/26/96	Checked By: Michael Marello, R.G.
WATER AND WELL DA			Γo	tal Depth of W	/ell Completed: NA
Depth of Water First Enco	untered: 2	26 ' —————	w	ell Screen Type	e and Diameter: NA
Static Depth of Water in W	/ell: NA	·	W	ell Screen Slot	t Size: NA
otal Depth of Boring: 30	,•		Ту	pe and Size of	of Soil Sampler: 1.5" Diameter Sampler
Feet	SOIL/ROC	K SAMPLE D			DESCRIPTION OF LITHOLOGY
Despth in Description Description	Interval Blow Ct.	Field VOC (ppmv) Graphic	Log	standard density, si	classification, texture, relative moisture, stiffness, odor-staining, USCS designation.
Portland Cement	NV V V V V V V V V V V V V V V V V V V	,100 400 2.6	10	SAND (SP); y to coarse sand slight hydroca Clayey SILT (Notality; slight platodor	yellow brown; medium dense; damp; 90% medium od; 5% silt; non-plastic; medium estimated K; arbon odor [ML); brown; medium stiff; damp; 90% silt; 10% asticity; low estimated K; very slight hydrocarbo (SC); yellow brown; medium dense; damp; 90% arse sand; 10% clay; slight plasticity; low
		0			
SE Form 20A		AQUA SO	IFNCE	ENGINEER	S INC

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SOIL BORING LOG AND COMPLETION DETAILS												
SOIL BORING LOG AND COMPLETION DETAILS BORING NO.: BH-A												
Project Name: Zima Center Corpo	ration Projec	t Location: 2951 High	Street, Oakland, CA Page 2 of 2									
Driller: Vironex	Type of Rig: G	eoprobe Type	and Size of Auger: Direct push									
Logged By: Robert Kitay	Date Drilled:	6/26/96 Ched	cked By: Michael Marello, R.G.									
WATER AND WELL DATA		Total Depth of Well Co	mpleted: 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									
	K SAMPLE DATA	DES	CRIPTION OF LITHOLOGY									
Description Description Blow Ct.	Field VOC (ppmv) Graphic Log	standard classi cuptode density, stiffnes	fication, texture, relative moisture, s, odor-staining, USCS designation.									
ment 25			Encountered									
Portland Cement Blow Counts Take		-	Sp									
End of Boring		30 E	End of Boring @ 30.0'									
35		35										
40		40										
	-											
	[
45	-	45										
	-		:									
ASE Form 20A	10112											
ASE Form 20A AQUA SCIENCE ENGINEERS, INC.												

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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' Static Depth of Water in Well: NA Total Depth of Boring: 30' WELLBORING OBJECT SAMPLE DATA OBJ	SOIL BORING LOG AND COMP	PLETION DETA	ILS	BORING NO.: BH-B									
Driller: Vironex 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' Static Depth of Water in Well: NA Total Depth of Boring: 30' Type and Size of Auger: Direct push Well Screen Type and Diameter: NA Well Screen Slot Size: NA Total Depth of Boring: 30' Type and Size of Soil Sampler: 1.5' Diameter Sampler WELLBORING BETAIL O O Asphalt Gravelly SILT (ML); brown; stiff; damp; 60% silt; 30% subragular pebbles to 0.5' diameter; 5% fine to coarse sand; 5% clay; 5% subrounded pebbles to 0.5' diameter; slight plasticity; low estimated K; no odor Sandy SILT (ML); brown; medium stiff; moist; 65% silt; 10% clay; 5% fine sand; slight plasticity; low estimated K; very slight hydrocarbon odor Clays SILT (ML); yellow brown; stiff; moist; 65% silt; 10% clay; 5% fine sand; slight plasticity; low estimated K; very slight hydrocarbon odor Silty SAND (SM); yellow brown; medium dense; moist; 65% Silty SAND (SM); yellow brown; medium dense; moist; 65% Silty SAND (SM); yellow brown; medium dense; moist; 65% Silty SAND (SM); yellow brown; medium dense; moist; 65% Silty SAND (SM); yellow brown; medium dense; moist; 65%	Project Name: Zima Center Corporation Project Location: 2951 High Street, Oakland, CA Page 1 of 2												
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' Static Depth of Water in Well: NA Total Depth of Boring: 30' Well Screen Type and Diameter: NA Well Screen Slot Size: NA Total Depth of Boring: 30' Type and Size of Soil Sampler: 1.5" Diameter Sampler Type and Size of Soil	Driller: Vironex												
Total Depth of Water First Encountered: 26' Well Screen Type and Diameter: NA Well Screen Type and Diameter: NA Total Depth of Boring: 30' Type and Sizo of Soil Sampler: 1.5" Diameter Sampler DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation. Asphalt Gravelly SILT (ML); brown; silft; damp; 60% silt; 30% subangular pebbles to 0.5" diameter; 5% fine to coarse sand; 5% clay; 5% subrounded pebbles to 0.5" diameter; slight plasticity; low estimated K; no odor 10 10 10 10 10 10 10 110 10	Logged By: Robert Kitay	Date Drilled: 6											
Static Depth of Water in Well: NA Total Depth of Boring: 30' WELLIBORING DETAIL Gravelly SILT (ML); brown; stiff; damp; 60% silt; 30% subangular pebbles to 0.5" diameter; 5% fine to coarse sand; 5% day; slight plasticity; low estimated K; no odor DETAIL Gravelly SILT (ML); brown; stiff; damp; 60% silt; 30% subangular pebbles to 0.5" diameter; 5% fine to coarse sand; 5% day; slight plasticity; low estimated K; no odor DETAIL Gravelly SILT (ML); brown; stiff; damp; 60% silt; 30% subangular pebbles to 0.5" diameter; 5% fine to coarse sand; 5% day; 5% subrounded pebbles to 0.5" diameter; slight plasticity; low estimated K; slight hydrocarbon odor DETAIL DET	WATER AND WELL DATA	То											
Total Depth of Boring: 30' Type and Size of Soil Sampler: 1.5" Diameter Sampler DESCRIPTION OF LITHOLOGY Sampler: 1.5" Diameter Sampler DESCRIPTION OF LITHOLOGY Standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation. Asphalt 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 Total Depth of Boring: 30' Sampler: 1.5" Diameter Sampler DESCRIPTION OF LITHOLOGY Asphalt 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 Total Depth of Boring: 30' Sampler: 1.5" Diameter Sampler DESCRIPTION OF LITHOLOGY Asphalt 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 Total Depth of Boring: 1.5" Diameter Sampler DESCRIPTION OF LITHOLOGY Asphalt Gravelly SiLT (ML); brown; stiff, amp; 60% silt; 30% subangular pebbles to 0.5" diameter; 5% fine to coarse sand; 5% clay; 5% subrounded pebbles to 0.5" diameter; slight plasticity; low estimated K; slight hydrocarbon odor Clayey SiLT (ML); brown; medium stiff; moist; 85% silt; 10% clay; 5% fine sand; slight plasticity; low estimated K; very slight hydrocarbon odor Silty SAND (SM); yellow brown; medium dense; moist: 65%	Depth of Water First Encountered: 20	6' W	ell Screen Type and Diameter:	: NA									
WELLBORING DETAIL Standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation. Asphalt 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 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 Clayey SILT (ML); yellow brown; stiff; moist; 85% silt; 10% clay; 5% fine sand; slight plasticity; low estimated K; very slight hydrocarbon odor Silty SAND (SM); yellow brown; medium dense; moist: 65% Silty SAND (SM); yellow brown; medium dense; moist: 65%	Static Depth of Water in Well: NA	w	ell Screen Slot Size: NA										
SOIL/ROCK SAMPLE DATA WELLIBORING DETAIL OON POINT OF LITHOLOGY standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation. Asphalt Gravelly SILT (ML); brown; stiff; damp; 60% silt; 30% subangular pebbles to 0.5" diameter; 5% fine to coarse sand; 5% clay; 5% subrounded pebbles to 0.5" diameter; stight plasticity; low estimated K; no odor 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 Clayey SILT (ML); yellow brown; stiff; moist; 65% silt; 10% clay; 5% fine sand; slight plasticity; low estimated K; very slight hydrocarbon odor Silty SAND (SM); yellow brown; medium dense; moist: 65% Silty SAND (SM); yellow brown	Total Depth of Boring: 30'	Ту	pe and Size of Soil Sampler:	1.5" Diameter Sampler									
WELLIBORING DETAIL TO	SOIL/ROCK		DESCRIPTION	N OF LITHOLOGY									
Asphalt 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 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 Clayey SiLT (ML); yellow brown; stiff; moist; 65% silt; 10% clay; 5% fine sand; slight plasticity; low estimated K; very slight hydrocarbon odor Silty SAND (SM); yellow brown; medium dense; moist; 65%	L .= WELL\BORING '용 [ㅠ 戌] :	ield VO ppmv) sraphic Log	density, stiffness, odor-s	texture, relative moisture									
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 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 Clayey SILT (ML); yellow brown; stiff; moist; 85% silt; 10% clay; 5% fine sand; slight plasticity; low estimated K; very slight hydrocarbon odor Silty SAND (SM); yellow brown; medium dense; moist; 65%	0	/////°	Asphalt										
Clayey SILT (ML); yellow brown; stiff; moist; 85% silt; 10% clay; 5% fine sand; slight plasticity; low estimated K; very slight hydrocarbon odor Silty SAND (SM); yellow brown; medium dense; moist: 65%	Cement MUMMUM Its Taken	**********	subangular pebbles to 0.5" dia 5% clay; slight plasticity; low	ameter; 5% fine to coarse sand; estimated K; no odor									
clay; 5% fine sand; slight plasticity; low estimated K; very slight hydrocarbon odor Silty SAND (SM); yellow brown; medium dense; moist: 65%	Portland No Blow Cou	PZ9Z9Z9Z9X	25% medium to coarse sand; to 0.5" diameter; slight plastic hydrocarbon odor	5% clay: 5% subrounded pebbles									
Silty SAND (SM); yellow brown; medium dense; moist; 65%	15	R0000000000000000000000000000000000000	clay; 5% fine sand; slight plas slight hydrocarbon odor	vn; stiff; moist; 85% silt; 10% ticity; low estimated K; very									
fine to coarse sand; 25% silt; 10% clay; slight plasticity; low estimated K; no odor	20	n; medium dense; moist; 65% 10% clay; slight plasticity; low											
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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: G					
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' _V	Well Screen Type and Diameter: NA			
Static Depth of Water in Well: NA		Well Screen Slot Size: NA			
Total Depth of Boring: 30'	7	Type and Size of Soil Sampler: 1.5" Diameter Sampler			
	K SAMPLE DATA	DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture.			
Depth Description	Field VOC (ppmv)				
Taken Taken		▼ Groundwater First Encountered			
Portland Cement No Blow Counts Tak					
End of Boring	2636363636	End of Boring @ 30.0'			
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35		35			
	-	+ ·			
40		40			
45		45			
		45			
	_				
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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: G		Geoprobe	Type and Size of Auger: Direct push		
Logged By: Robert Kitay Date Drilled:		6/26/96	Checked By: Michael Marello, R.G.		
ATER AND WELL DATA		Total Depth of We	ell Completed: NA		
epth of Water First Encountered:	26'	Well Screen Type	and Diameter: NA		
atic Depth of Water in Well: NA		Well Screen Slot	Size: NA		
tal Depth of Boring: 30'		Type and Size of	f Soil Sampler: 1.5" Diameter Sampler		
ă 	CK SAMPLE DATA		DESCRIPTION OF LITHOLOGY		
Description Dallace Blow Ct.	Field VOC (ppmv) Graphic Log	standard in density, si	classification, texture, relative moisture, tiffness, odor-staining, USCS designation.		
MWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWW	312 10 0	subangular proportion in the state of the st	ellow brown; medium stiff; damp; 90% silt; 5% ebbles to 0.5" diameter; 5% fine to coarse sand; ow estimated K; moderate hydrocarbon odor no odor at 9' (ML); yellow brown; stiff; moist; 70% silt; 25% angular to subrounded pebbles to 0.3" diameter; icity; very low estimated K; no odor (MM); yellow brown; dense; damp; 75% medium to 20% silt; 5% clay; slight plasticity; low estimated		
	0				
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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: G	eoprobe	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 W	ell Completed: NA		
Depth of Water First Encountered: 26	6'	Well Screen Type	e and Diameter: NA		
Static Depth of Water in Well: NA		Well Screen Slot	Size: NA		
Fotal Depth of Boring: 30'		Type and Size o	f Soil Sampler: 1.5" Diameter Sampler		
w	SAMPLE DATA	eet	DESCRIPTION OF LITHOLOGY		
Depth in Pescription Description Description Description Description Description Description Description Description	Field VOC (ppmv) Graphic Log	standard cup density, s	classification, texture, relative moisture, stiffness, odor-staining, USCS designation.		
s Taken		25 	aler First Encountered		
Portland Cement No Blow Counts Taken		- - - 30			
End of Boring Z		-	End of Boring @ 30.0'		
·		-			
35		35			
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•40		40			
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445					
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		-			
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ASE Form 20A AQUA SCIENCE ENGINEERS, INC.					

SOIL BORING LO	OG AND COM	PLETION DET	TAILS		BORING NO.: BH-D
Project Name: Zim	a Center Corpor	ation Projec	t Location: 295	1 High Street, Oal	kland, CA Page 1 of 2
Driller: Vironex		Type of Rig: G	eoprobe	Type and Size of	Auger: Direct push
Logged By: Robert	Kitay	Date Drilled:	6/26/96		chael Marello, R.G.
WATER AND WEL			Total Depth of W	/ell Completed: N/	A
Depth of Water First	Encountered: N	IA	Well Screen Typ	e and Diameter: 1	NA
Static Depth of Wate	r in Well: NA		Well Screen Slo	· · · · · · · · · · · · · · · · · · ·	
otal Depth of Borin		K SAMPLE DATA			.5" Diameter Sampler
WELL/BORING DETAIL	Description Interval Blow Ct.	Field VOC (ppmv) Graphic Log	standard density, s	DESCRIPTION C classification, te stiffness, odor-sta	OF LITHOLOGY xture, relative moisture, ining, USCS designation.
10	Portland Cement WWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWW		5 Silty SAND medium sar hydrocarbor	medium sand; 5% c ydrocarbon odor, (SM); olive brown; m nd; 35% silt; non-plas n odor	medium stiff; damp; 80% silt; clay; non-plastic; low estimated medium dense; damp; 65% stic; medium estimated K; stro

SOIL BORING LOG AND COMPLETION DETAILS BORING NO - DU D					
COTTING NO BH-D					
Deiller View View View View View View View View					
Driller: Vironex Type of Rig: G		yps and dize of Auger. Direct push			
Logged By: Robert Kitay		/26/96 Checked By: Michael Marello, R.G.			
WATER AND WELL DATA		al Depth of Well Completed: NA			
Depth of Water First Encountered: N	Wei	Il Screen Type and Diameter: NA			
Static Depth of Water in Well: NA	We	Well Screen Slot Size: NA			
Total Depth of Boring: 30'	Тур	pe and Size of Soil Sampler: 1.5" Diameter Sampler			
, <u>()</u>	K SAMPLE DATA	DESCRIPTION OF LITHOLOGY			
Depth in Interval Interval Blow Ct.	Field VOC (ppmv) Graphic Log Depth in F	standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.			
zement Zement Taken					
Portland Cement No Blow Counts Taken	30	\$\rangle \(\tau_1 \)			
End of Boring Z Z @ 30'	 	End of Boring @ 30.0'			
-35	35				
-					
-	-				
40	40	·			
45					
	-45				
ASE Form 204	10114 55				
ASE Form 20A AQUA SCIENCE ENGINEERS, INC.					

Project Name: Zima Conter 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 Drillod: 6/26/96 Checked By: Michael Marello, R.G. WATER AND WELL DATA Depth of Water First Encountered: NA Well Screen Type and Diameter: NA Static Dapth of Water in Woll: NA Well Screen Type and Diameter: NA Total Depth of Boring: 30' Type and Size of Soil Sampler: 1.5" Diameter Sampler Type and Size of Soil Sampler: 1.5" D	SOIL BORING LOG AND COMPLETION DETAILS BORING NO.: BH-E					
Logged By: Robert Kitay Date Drilled: 6/26/96 Checked By: Michael Marello, R.G. Total Depth of Well Completed: NA Well Screen Type and Diameter: NA Well Screen Type and Diameter: NA Type and Size of Soil Sampler: 1.5° Diameter Sampler DESCRIPTION OF LITHOLOGY Standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation. Depth of Well Completed: NA Well Screen Store Size NA Type and Size of Soil Sampler: 1.5° Diameter Sampler DESCRIPTION OF LITHOLOGY Standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation. Depth of Well Completed: NA Well Screen Store Size NA Type and Size of Soil Sampler: 1.5° Diameter Sampler DESCRIPTION OF LITHOLOGY Standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation. Depth of Well Completed: NA Well Screen Store, Sampler: 1.5° Dia	Project Name: 7ima Center Corporation Project Leasting 2054 U. J. O. J. C. J.					
WATER AND WELL DATA Depth of Water First Encountered: NA Static Depth of Water in Well: NA Total Depth of Boring: 30' SOIL/ROCK SAMPLE DATA Leading Depth of Boring: 30' SOIL/ROCK SAMPLE DATA GOIL/ROCK SAMPLE DATA Leading Depth of Boring: 30' SOIL/ROCK SAMPLE DATA Leading Depth of Boring: 1.5" Diameter Sampler DESCRIPTION OF LITH-OLOGY standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation. Asphalt Sandy SILT (ML); yellow brown; medium stiff; damp; 80% silt; 15% fine to medium sand; 5% clay; non-plastic; low estimated K; no odor Silty SAND (SM); yellow brown; medium stiff; damp; 100% silt; non-plastic; low estimated K; no odor SILT (ML); yellow brown; medium stiff; damp; 100% silt; non-plastic; low estimated K; no odor Silty SAND (SM); yellow brown; medium stiff; damp; 75% fine to coarse sand; 25% silt; non-plastic; medium estimated K; no odor Sandy SILT (ML); yellow brown; medium stiff; damp; 75% fine to coarse sand; 25% silt; non-plastic; medium estimated K; no odor			eoprobe	Type and Size of Auger: Direct push		
Depth of Water First Encountered: NA Static Depth of Water in Well: NA Total Depth of Boring: 30' Type and Diameter: NA Well Screen Type and Diameter: NA Well Screen Slot Size: NA Total Depth of Boring: 30' Type and Size of Soil Sampler: 1.5' Diameter Sampler DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation. Asphalt Sandy SILT (ML); yellow brown; medium stiff, damp; 80% silt; non-plastic; low estimated K; no odor Silty SAND (SM); yellow brown; medium dense; moist, 80% medium to coarse sand; 20% silt; non-plastic; medium dense; damp; 75% fine to coarse sand; 25% silt; non-plastic; medium estimated K; no odor Silty SAND (SM); yellow brown; medium stiff, damp; 100% silt; non-plastic; low estimated K; no odor Silty SAND (SM); yellow brown; medium dense; damp; 75% fine to coarse sand; 25% silt; non-plastic; medium estimated K; no odor Sandy SILT (ML); yellow brown; medium stiff, damp; 75% fine to coarse sand; 25% silt; non-plastic; medium estimated K; no odor	Logged By: Robert Kitay Date Drilled:		6/26/96	Checked By: Michael Marello, R.G.		
Static Depth of Water in Well: NA Total Depth of Boring: 30' Well Scroen Slot Size: NA Type and Size of Soil Sampler: 1.5" Diameter Sampler DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation. Asphalt Sandy SILT (ML); yellow brown; medium dense; moist; 80% medium to coarse sand; 20% silt; non-plastic; medium estimated K; no odor Silty SAND (SM); yellow brown; medium dense; moist; 80% medium to coarse sand; 20% silt; non-plastic; medium estimated K; no odor Silty SAND (SM); yellow brown; medium dense; moist; 80% medium to coarse sand; 20% silt; non-plastic; medium estimated K; no odor Silty SAND (SM); yellow brown; medium dense; damp; 75% fine to coarse sand; 25% silt; non-plastic; medium estimated K; no odor Sandy SILT (ML); yellow brown; medium stiff; damp; 75% silt; son odor Sandy SILT (ML); yellow brown; medium estimated K; no odor Sandy SILT (ML); yellow brown; medium stiff; damp; 75% silt; son odor	ATER AND WELL DATA		Total Depth of W	ell Completed: NA		
Total Depth of Boring: 30' Type and Size of Soil Sampler: 1.5" Diameter Sampler DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation. Asphalt Sandy SILT (ML); yellow brown; medium stiff; damp; 80% silt; 15% fine to medium sand; 5% clay; non-plastic; low estimated K; no odor Silty SAND (SM); yellow brown; medium dense; moist; 80% medium to coarse sand; 20% silt; non-plastic; medium estimated K; no odor Silty SAND (SM); yellow brown; medium stiff; damp; 100% silt; non-plastic; low estimated K; no odor Silty SAND (SM); yellow brown; medium dense; damp; 75% fine to coarse sand; 25% silt; non-plastic; medium estimated K; no odor Sandy SILT (ML); yellow brown; medium dense; damp; 75% fine to coarse sand; 25% silt; non-plastic; medium estimated K; no odor Sandy SILT (ML); yellow brown; medium dense; damp; 75% fine to coarse sand; 25% silt; non-plastic; medium estimated K; no odor	epth of Water First Encountered:	NA	Well Screen Type	e and Diameter: NA		
WELLBORING DETAIL DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation. Asphalt Sandy SILT (ML); yellow brown; medium stiff; damp; 80% silt; 15% fine to medium sand; 5% clay; non-plastic; low estimated K; no odor Silty SAND (SM); yellow brown; medium dense; moist; 80% medium to coarse sand; 20% silt; non-plastic; medium estimated K; no odor Silty SAND (SM); yellow brown; medium dense; damp; 75% fine to coarse sand; 25% silt; non-plastic; medium estimated K; no odor Silty SAND (SM); yellow brown; medium dense; damp; 75% fine to coarse sand; 25% silt; non-plastic; medium estimated K; no odor Sandy SILT (ML); yellow brown; medium stiff; damp; 75% silt; 25% medium to coarse sand; non-plastic; low estimated K; no odor	atic Depth of Water in Well: NA		Well Screen Slot	Size: NA		
WELL\BORING DETAIL Standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation. Asphalt Sandy SILT (ML); yellow brown; medium stiff; damp; 80% silt; 15% line to medium to coarse sand; 5% clay; non-plastic; low estimated K; no odor Silty SAND (SM); yellow brown; medium dense; moist; 80% medium to coarse sand; 20% silt; non-plastic; medium estimated K; no odor SILT (ML); yellow brown; medium stiff; damp; 100% silt; non-plastic; low estimated K; no odor Silty SAND (SM); yellow brown; medium dense; damp; 75% fine to coarse sand; 25% silt; non-plastic; medium estimated K; no odor Sandy SILT (ML); yellow brown; medium stiff; damp; 75% silt; 25% medium to coarse sand; non-plastic; low estimated K; no odor	otal Depth of Boring: 30'		Type and Size o	f Soil Sampler: 1.5" Diameter Sampler		
Asphalt Sandy SILT (ML); yellow brown; medium stiff; damp; 80% silt; non-plastic; low estimated K; no odor Silty SAND (SM); yellow brown; medium dense; moist; 80% medium to coarse sand; 20% silt; non-plastic; medium estimated K; no odor SILT (ML); yellow brown; medium dense; damp; 75% fine to coarse sand; 25% silt; non-plastic; medium estimated K; no odor Silty SAND (SM); yellow brown; medium stiff; damp; 100% silt; non-plastic; low estimated K; no odor Silty SAND (SM); yellow brown; medium dense; damp; 75% fine to coarse sand; 25% silt; non-plastic; medium estimated K; no odor Sandy SILT (ML); yellow brown; medium stiff; damp; 75% silt; 25% medium to coarse sand; non-plastic; low estimated K; no	E WELL\BORING 5 = 5		standard E density, s	classification, texture, relative moisture.		
ASE Form 20A AQUA SCIENCE ENGINEERS, INC.	Portland Cement No Blow Counts Taken		Asphalt Sandy SILT (15% fine to r K; no odor Silty SAND (medium to co estimated K; SILT (ML); ye non-plastic; k Silty SAND (S fine to coarse no odor Sandy SILT (25% medium odor	SM); yellow brown; medium dense; moist; 80% parse sand; 20% silt; non-plastic; medium no odor ellow brown; medium stiff; damp; 100% silt; ow estimated K; no odor SM); yellow brown; medium dense; damp; 75% parsend; 25% silt; non-plastic; medium estimated K; to coarse sand; non-plastic; low estimated K; no		
AND FORM YOU						

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: G	eoprobe	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 W	ell Completed: NA		
Depth of Water First Encountered: 2	26'	Well Screen Type	e and Diameter: NA		
Static Depth of Water in Well: NA		Well Screen Slot	Size: NA		
Total Depth of Boring: 30'		Type and Size o	f Soil Sampler: 1.5" Diameter Sampler		
1 5 T	K SAMPLE DATA	to standard	DESCRIPTION OF LITHOLOGY		
Depth in Perceiption Description Blow Ct.	Field VOC (ppmv) Graphic Log	- - -	classification, texture, relative moisture, tiffness, odor-staining, USCS designation.		
sment s Taken		T25 ■ Groundwa	ater First Encountered		
Borniand Cement No Blow Counts Taken		-30	₹ >		
@ 30'		-	End of Boring @ 30.0'		
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- 35		- 35 -	·		
		-			
-40		- - 40			
		-			
- 45 -		- 45			
		-			
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