



January 5, 1998

SNB
103.6

GROUNDWATER MONITORING REPORT
DECEMBER 6, 1997 GROUNDWATER SAMPLING
ASE JOB NO. 3011

at
Zima Center Corporation
2951 High Street
Oakland, California 94619

Prepared 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

Site Location (Site), See Figure 1

Zima Center Corporation
2951 High Street
Oakland, CA 94619

Property Owner

Zima Center Corporation
2951 High Street
Oakland, CA 94619
Attn.: Mr. Mohammad Mashhoon
(510) 436-4700

Environmental Consulting Firm

Aqua Science Engineers, Inc. (ASE)
2411 Old Crow Canyon Road, #4
San Ramon, CA 94583
Contact: Robert Kitay, Senior Geologist
(510) 820-9391

Agency Review

Alameda County Health Care Services Agency (ACHCSA)
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502
Attn.: Ms. Madhulla Logan
(510) 293-8695

California Regional Water Quality Control Board (RWQCB),
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, CA 94612
Contact: Mr. Kevin Graves
(510) 286-4359

The following is a report detailing the results of the December 6, 1997, groundwater sampling at the above referenced site (Figure 2).

2.0 GROUNDWATER FLOW DIRECTION AND GRADIENT

On December 6, 1997, ASE staff geologist Charlie Rous measured the depth to water in each site groundwater monitoring well using an electric water level sounder. The surface of the groundwater was also checked for the presence of free-floating hydrocarbons or sheen using a product thickness bailer. No free-floating hydrocarbons or sheen were present in any site monitoring well. Groundwater elevations are presented in Table One.

A groundwater potentiometric surface map is presented as Figure 2. The groundwater flow direction is to the south at a gradient of approximately 0.04. This gradient is consistent with previous calculated gradients and flow directions but is not consistent with petroleum hydrocarbon distribution in groundwater which suggest a northly groundwater flow direction.

3.0 GROUNDWATER SAMPLE COLLECTION AND ANALYSES

Prior to sampling, monitoring wells MW-2, MW-5 and MW-6 were purged of four well casing volumes of groundwater using dedicated polyethylene bailers. The pH, temperature and conductivity parameters were monitored during purging. Samples were not collected until these parameters stabilized. Groundwater samples were then collected from each well using dedicated polyethylene bailers. The samples were decanted from the bailers into 40-ml volatile organic analysis (VOA) vials containing hydrochloric acid as a preservative, capped, labeled and placed in coolers with wet ice for transport to a California state certified analytical laboratory, Chromalab, Inc. of Pleasanton, California (ELAP #1094), under appropriate chain-of-custody documentation.

The well purge water was placed in 55-gallon steel 17H drums, labeled, and left on-site for temporary storage. Copies of the well sampling field logs are included as Appendix A.

The groundwater samples collected from monitoring wells MW-2, MW-5 and MW-6 were analyzed for total petroleum hydrocarbons as gasoline (TPH-G) by EPA Method 5030/8015M and benzene, toluene, ethylbenzene, total xylenes (BTEX) and methyl tertiary butyl ether (MTBE) by EPA Method 8020.

The analytical results for this and previous sampling events are presented in Table Two, and the certified laboratory report and chain-of-custody documentation are included as Appendix B.

4.0 GROUNDWATER REMEDIATION

Between May 28, 1997 and June 24, 1997, 2,550 lbs. of Oxygen Releasing Compound (ORC) was injected into the borings along the northern and eastern sides of the existing underground storage tanks (USTs). This drilling and ORC injection was performed by Fast-Tek Engineering Support Services of San Rafael, California on May 28 and 29 1997, Soils Exploration Services of Benicia, California on May 30, 1997 and En Prob Environmental Probing of Oroville, California on June 24, 1997.

On August 22, September 22, and December 6, 1997 ASE measured the dissolved oxygen (DO) in groundwater from each monitoring well. DO substantially increased in all site monitoring wells since the ORC injection was performed. A DO increase in groundwater will stimulate aerobic biodegradation of petroleum hydrocarbons. DO concentration data is presented in Table Three.

5.0 CONCLUSIONS

Petroleum hydrocarbon concentrations in samples collected from site monitoring wells are slightly higher than the previous sampling event. However, all current BTEX concentrations are below ASE's established Risk Based Corrective Action cleanup goals.

6.0 RECOMMENDATIONS

The facility will be sampled next quarter in March 1998, if petroleum hydrocarbon concentrations in groundwater samples collected from site monitoring wells remain low, ASE and the property owner, Mr. Mohammad Mashoon, will request the site be reviewed for closure.

7.0 REPORT LIMITATIONS

The results of this report represent the conditions at the time of the groundwater sampling at the specific locations where the groundwater samples were collected, and for the specific parameters analyzed by the laboratory. It does not fully characterize the site for contamination resulting from sources other than the underground storage tanks and associated plumbing at the site, or for parameters not analyzed by the laboratory. All of the laboratory work cited in this report was prepared under the direction of independent CAL-EPA certified laboratory. The independent laboratory is solely responsible for the contents and conclusions of the chemical analysis data.

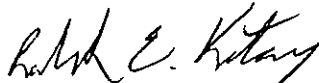
Aqua Science Engineers appreciates the opportunity to provide environmental consulting services for this project and trust that this report meets your needs. Please feel free to call us at (510) 820-9391 if you have any questions or comments.

Respectfully submitted,

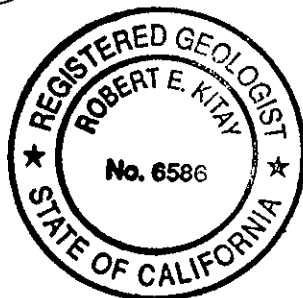
AQUA SCIENCE ENGINEERS, INC.



Charlie Rous
Staff Geologist



Robert E. Kitay, R.G.
Senior Geologist



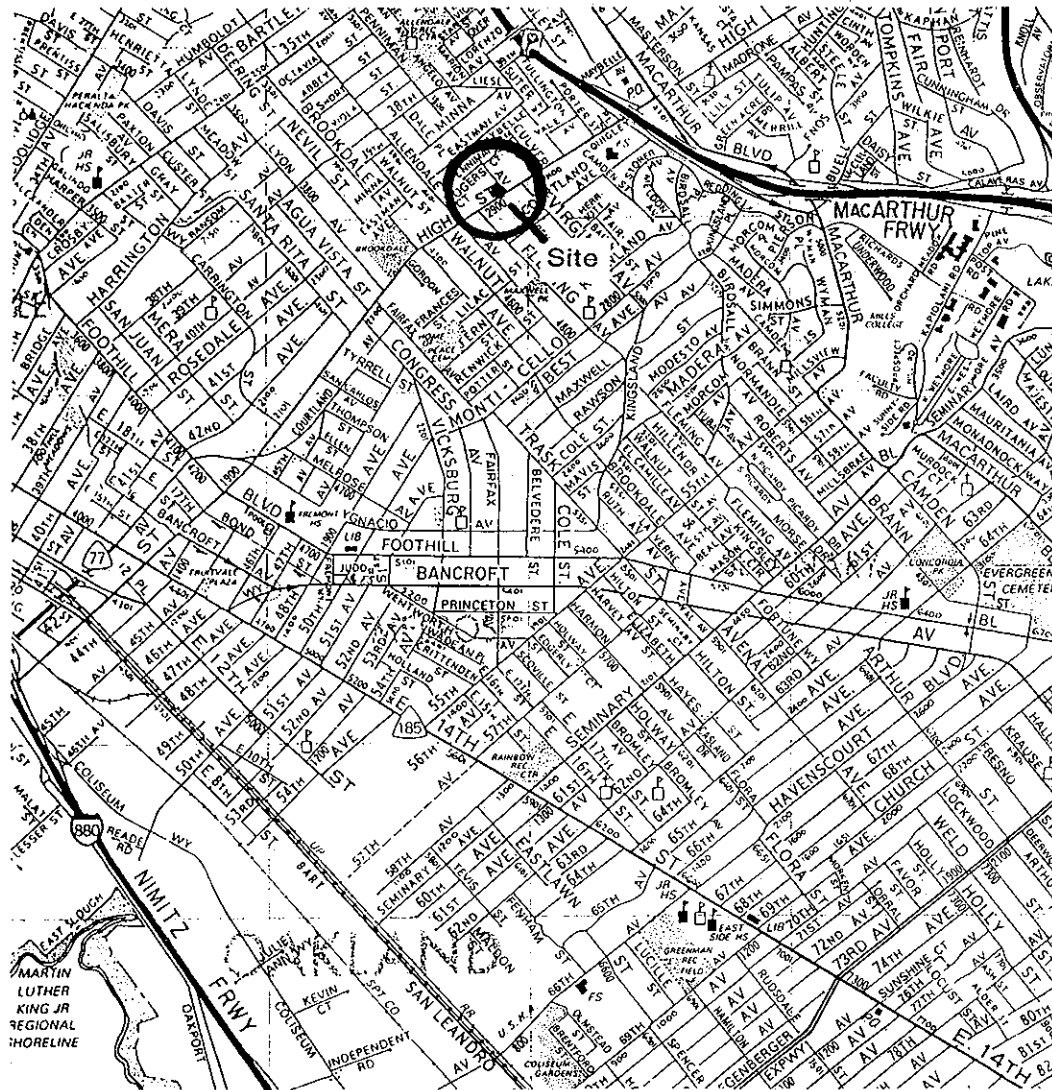
Attachments: Figures 1 and 2
Tables One, Two and Three
Appendices A and B

cc: Ms. Madhulla Logan, Alameda County Health Care Services Agency
Mr. Kevin Graves, RWQCB, San Francisco Bay Region

FIGURES



NORTH



SITE LOCATION MAP

ZIMA CENTER CORPORATION
2951 HIGH STREET
OAKLAND, CALIFORNIA

AQUA SCIENCE ENGINEERS, INC.

FIGURE 1



NORTH

SCALE
1" = 30'

MW-6
(92.75')



PENNIMAN AVENUE

SIDEWALK

EXISTING
USTS

MW-5
(92.31')

92.0'

91.5'

91.0'

MW-4
(90.52')

FORMER
UST

RESIDENTIAL

MW-2
(91.06')

BUILDING

PUMP ISLANDS

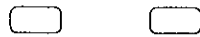
SIDEWALK

HIGH STREET

MW-1
(92.27')

MW-3
(90.65')

92.0' 91.5'



PUMP ISLANDS

PROPERTY LIMITS

LEGEND

MW-6
(92.75')



Monitoring well with
groundwater elevation

92.0'

Groundwater elevation
contour



Groundwater flow direction

GROUNDWATER ELEVATION
CONTOUR MAP - 12/06/97

ZIMA CENTER CORPORATION
2951 HIGH STREET
OAKLAND, CALIFORNIA

AQUA SCIENCE ENGINEERS, INC.

FIGURE 2

TABLES

TABLE ONE
Summary of Groundwater Well Survey Data

Well I.D.	Date of Measurement	Top of Casing Elevation (relative to project datum)	Depth to Water (feet)	Groundwater Elevation (project data)
MW-1	02-23-95	97.62	5.89	91.73
	05-26-95		5.20	92.42
	08-23-95		8.67	88.95
	12-13-96		4.61	93.01
	01-16-97		3.79	93.83
	03-27-97		5.87	91.75
	06-27-97		8.33	89.29
	09-22-97		9.62	87.90
	12-06-97		5.35	92.27
MW-2	02-23-95	97.87	6.81	91.06
	05-26-95		4.90	92.97
	08-23-95		8.33	89.54
	12-13-96		6.85	91.02
	01-16-97		1.54	96.33
	03-27-97		5.51	92.36
	06-27-97		8.43	89.44
	09-22-97		9.50	88.37
	12-06-97		6.81	91.06
MW-3	02-23-95	97.03	4.21	92.82
	05-26-95		6.44	90.59
	08-23-95		8.69	88.34
	12-13-96		5.60	91.43
	01-16-97		5.28	91.75
	03-27-97		6.64	90.39
	06-27-97		8.35	88.68
	09-22-97		9.42	87.61
	12-06-97		6.38	90.65
MW-4	02-23-95	96.77	6.25	92.07
	05-26-95		6.18	90.59
	08-23-95		8.55	88.22
	12-13-96		5.86	90.91
	01-16-97		5.79	90.98
	03-27-97		7.37	89.40
	06-27-97		8.75	88.02
	09-22-97		9.31	87.46
	12-06-97		6.25	90.52
MW-5	12-13-96	98.32	6.25	92.07
	01-16-97		6.32	92.00
	03-27-97		7.51	90.81
	06-27-97		8.96	89.36
	09-22-97		9.38	88.94
	12-06-97		6.01	92.31

TABLE ONE (Continued)
Summary of Groundwater Well Survey Data

Well I.D.	Date of Measurement	Top of Casing Elevation (relative to project datum)	Depth to Water (feet)	Groundwater Elevation (project data)
MW-6	01-16-97	98.16	5.12	93.04
	03-27-97		6.55	91.61
	06-27-97		8.39	89.77
	09-22-97		9.14	88.99
	12-06-97		5.41	92.75

TABLE TWO
Certified Analytical Results of GROUNDWATER Samples
All Results are in Parts Per Billion (ppb)

Sample I.D.	TPH Gasoline	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE
<u>MW-1</u>						
02-23-95	< 50	< 0.5	< 0.5	< 0.5	< 0.5	---
05-26-95	< 50	< 0.5	< 0.5	< 0.5	< 0.5	---
08-23-95	< 50	< 0.5	< 0.5	< 0.5	< 0.5	---
<u>MW-2</u>						
02-23-95	3,300	9.6	13	8	28	---
05-26-95	4,600	39	18	21	39	---
08-23-95	< 50	15	6	10	15	---
12-13-96	1,900	110	110	120	330	65
03-27-97	3,900	34	20	86	140	200
06-27-97	2,400	18	< 5	6	8.8	2,000
09-22-97	< 5,000	8.4	20	33	100	3,900
12-06-97	3,000	33	40	40	140	2,300
<u>MW-3</u>						
02-23-95	< 50	< 0.5	< 0.5	< 0.5	< 0.5	---
05-26-95	< 50	< 0.5	< 0.5	< 0.5	< 0.5	---
08-23-95	< 50	< 0.5	< 0.5	< 0.5	< 0.5	---
<u>MW-4</u>						
06-26-96	2,500	230	64	99	110	5,700
03-27-97	6,200	300	150	160	310	7,100
<u>MW-5</u>						
12-13-96	3,600	180	350	81	510	430
03-27-97	120,000	28,000	16,000	2,600	10,000	64,000
06-27-97	6,300	10,000	2,400	290	4,500	43,000
09-22-97	< 50,000	7.9	3.3	0.63	3.3	30,000
12-06-97	< 5,000**	33	12	< 5.0	7.3	33,000

TABLE TWO
(continued)
Certified Analytical Results of **GROUNDWATER** Samples
All Results are in Parts Per Billion (ppb)

Sample I.D.	TPH Gasoline	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE
<u>MW-6</u>						
01-13-97	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5
03-27-97	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5
06-27-97	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5
09-22-97	< 50	< 0.5	< 0.5	< 0.5	< 0.5	24
12-06-97	94	< 0.5	< 0.5	< 0.5	< 0.5	< 5
EPA METHOD	5030/ 8015M	8020	8020	8020	8020	8020
DTSC MCL	NE	1	100*	680	1,750	NE

Notes:

DTSC MCL = Department of Toxic Substances Control maximum level for drinking water

* = DTSC recommended action level; MCL not established

NE = DTSC MCLs and RALs not established

** = Hydrocarbon found in Gasoline Range is uncharacteristic of Gasoline Profile. If quantified using Gasoline's response factor, concentration would equal 24,000 ppb.

--- = Not Analyzed

TABLE THREE
Summary of Dissolved Oxygen Results in Groundwater
All Results in Parts Per Million (ppm)

Sample I.D.	Before Purging	After Purging
-----	-----	-----
<u>MW-1</u>		
06-27-97	0.99	---
08-20-97	0.64	0.96
09-22-97	1.60	---
12-06-97	1.30	---
<u>MW-2</u>		
06-27-97	0.86	0.94
08-20-97	0.43	0.81
09-22-97	1.15	3.40
12-06-97	1.52	4.88
<u>MW-3</u>		
06-27-97	1.26	---
08-20-97	1.13	1.29
09-22-97	2.75	---
12-06-97	3.15	---
<u>MW-4</u>		
06-27-97	0.97	---
08-20-97	5.50	6.18
09-22-97	11.80	---
12-06-97	5.15	---
<u>MW-5</u>		
06-27-97	0.71	8.70
08-20-97	>20.00	>20.00
09-22-97	>20.00	>20.00
12-06-97	19.20	19.17
<u>MW-6</u>		
06-27-97	0.61	0.89
08-20-97	0.69	1.02
09-22-97	1.10	2.90
12-06-97	2.11	2.50

Notes:

--- = Well not purged

APPENDIX A

Well Sampling Field Logs



WELL SAMPLING FIELD LOG

Project Name and Address: Zima, 2951 High St, Oakland
Job #: 3011 Date of sampling: 12/6/97
Well Name: MW-1 Sampled by: CR
Total depth of well (feet): _____ Well diameter (inches): 2
Depth to water before sampling (feet): 5.35
Thickness of floating product if any: _____
Depth of well casing in water (feet): _____
Number of gallons per well casing volume (gallons): _____
Number of well casing volumes to be removed: _____
Req'd volume of groundwater to be purged before sampling (gallons): _____
Equipment used to purge the well: _____
Time Evacuation Began: _____ Time Evacuation Finished: _____
Approximate volume of groundwater purged: _____
Did the well go dry?: _____ After how many gallons: _____
Time samples were collected: _____
Depth to water at time of sampling: _____
Percent recovery at time of sampling: _____
Samples collected with: _____
Sample color: _____ Odor: _____
Description of sediment in sample: _____

CHEMICAL DATA

<u>Volume Purged</u>	<u>Temp</u>	<u>pH</u>	<u>Conductivity</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

SAMPLES COLLECTED

<u>Sample</u>	<u># of containers</u>	<u>Volume & type container</u>	<u>Pres</u>	<u>Iced?</u>	<u>Analysis</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____



WELL SAMPLING FIELD LOG

Project Name and Address: ZUMA, 2951 High St, Oakland
 Job #: 3011 Date of sampling: 12/6/97
 Well Name: MW-2 Sampled by: CR
 Total depth of well (feet): 19.83 Well diameter (inches): 2
 Depth to water before sampling (feet): 6.81
 Thickness of floating product if any: N/A
 Depth of well casing in water (feet): 13.02
 Number of gallons per well casing volume (gallons): 2.21
 Number of well casing volumes to be removed: 4
 Req'd volume of groundwater to be purged before sampling (gallons): 8.8
 Equipment used to purge the well: Dedicated Bailer
 Time Evacuation Began: 12:50 Time Evacuation Finished: 13:09
 Approximate volume of groundwater purged: 9
 Did the well go dry?: NO After how many gallons: _____
 Time samples were collected: 13:10
 Depth to water at time of sampling: 13.32
 Percent recovery at time of sampling: _____
 Samples collected with: Dedicated Bailer
 Sample color: Clear Odor: None
 Description of sediment in sample: None

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
<u>0</u>	<u>76.1</u>		
<u>3</u>	<u>73.4</u>	<u>8.73</u>	<u>0.31 x 1000</u>
<u>6</u>	<u>71.2</u>	<u>8.51</u>	<u>0.34 x 1000</u>
<u>9</u>	<u>70.8</u>	<u>8.32</u>	<u>2.53 x 1000</u>

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
<u>MW-2</u>	<u>3</u>	<u>40ml VOA</u>	<u>HI</u>	<u>Yes</u>	<u>TPH, BTEX, M+BE</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____



WELL SAMPLING FIELD LOG

Project Name and Address: Zima, 2951 High St., Oakland
 Job #: 23011 Date of sampling: 12/6/97
 Well Name: MW-3 Sampled by: CR
 Total depth of well (feet): _____ Well diameter (inches): 2
 Depth to water before sampling (feet): 6.38
 Thickness of floating product if any: _____
 Depth of well casing in water (feet): _____
 Number of gallons per well casing volume (gallons): _____
 Number of well casing volumes to be removed: _____
 Req'd volume of groundwater to be purged before sampling (gallons): _____
 Equipment used to purge the well: _____
 Time Evacuation Began: _____ Time Evacuation Finished: _____
 Approximate volume of groundwater purged: _____
 Did the well go dry?: _____ After how many gallons: _____
 Time samples were collected: _____
 Depth to water at time of sampling: _____
 Percent recovery at time of sampling: _____
 Samples collected with: _____
 Sample color: _____ Odor: _____
 Description of sediment in sample: _____

CHEMICAL DATA

<u>Volume Purged</u>	<u>Temp</u>	<u>pH</u>	<u>Conductivity</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

SAMPLES COLLECTED

<u>Sample</u>	<u># of containers</u>	<u>Volume & type container</u>	<u>Pres</u>	<u>Iced?</u>	<u>Analysis</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____



WELL SAMPLING FIELD LOG

Project Name and Address: Ziona, 2951 High St, Oakland
Job #: 3011 Date of sampling: 12/6/97
Well Name: mw-4 Sampled by: CR
Total depth of well (feet): _____ Well diameter (inches): 2
Depth to water before sampling (feet): 6.25
Thickness of floating product if any: _____
Depth of well casing in water (feet): _____
Number of gallons per well casing volume (gallons): _____
Number of well casing volumes to be removed: _____
Req'd volume of groundwater to be purged before sampling (gallons): _____
Equipment used to purge the well: _____
Time Evacuation Began: _____ Time Evacuation Finished: _____
Approximate volume of groundwater purged: _____
Did the well go dry?: _____ After how many gallons: _____
Time samples were collected: _____
Depth to water at time of sampling: _____
Percent recovery at time of sampling: _____
Samples collected with: _____
Sample color: _____ Odor: _____
Description of sediment in sample: _____

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____



WELL SAMPLING FIELD LOG

Project Name and Address: ZUMA, 2957 High St, Oakland
 Job #: 3011 Date of sampling: 12/6/97
 Well Name: MW-5 Sampled by: CR
 Total depth of well (feet): 27.18 Well diameter (inches): 2
 Depth to water before sampling (feet): 6.01
 Thickness of floating product if any: N/A
 Depth of well casing in water (feet): 21.17
 Number of gallons per well casing volume (gallons): 3.6
 Number of well casing volumes to be removed: 4
 Req'd volume of groundwater to be purged before sampling (gallons): 15
 Equipment used to purge the well: Dedicated Bailer
 Time Evacuation Began: 13:10 Time Evacuation Finished: 13:40
 Approximate volume of groundwater purged: 15
 Did the well go dry?: NO After how many gallons: _____
 Time samples were collected: 15:15
 Depth to water at time of sampling: 20.96
 Percent recovery at time of sampling: _____
 Samples collected with: Dedicated Bailer
 Sample color: clear Odor: none
 Description of sediment in sample: none

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
<u>2</u>	<u>76.0</u>	<u>8.02</u>	<u>1.32 x 1000</u>
<u>2</u>	<u>75.8</u>	<u>8.01</u>	<u>1.27 x 1000</u>
<u>2</u>	<u>78.1</u>	<u>8.05</u>	<u>1.0 x 1000</u>
<u>2</u>	<u>72.4</u>	<u>8.91</u>	<u>1.04 x 1000</u>

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
<u>MW-5</u>	<u>3</u>	<u>40ml UDA</u>	<u>All</u>	<u>Yes</u>	<u>TPH-g/BTEX/MTBE</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____



WELL SAMPLING FIELD LOG

Project Name and Address: Zima, 2951 High St, Oakland
 Job #: 3011 Date of sampling: 12/6/97
 Well Name: mw-6 Sampled by: CR
 Total depth of well (feet): 28.20 Well diameter (inches): 2
 Depth to water before sampling (feet): 5.41
 Thickness of floating product if any: n/a
 Depth of well casing in water (feet): 22.79
 Number of gallons per well casing volume (gallons): 3.8
 Number of well casing volumes to be removed: 4
 Req'd volume of groundwater to be purged before sampling (gallons): 15
 Equipment used to purge the well: Dedicated Bailer
 Time Evacuation Began: 13:45 Time Evacuation Finished: 14:07
 Approximate volume of groundwater purged: _____
 Did the well go dry?: _____ After how many gallons: _____
 Time samples were collected: 15:20
 Depth to water at time of sampling: 5.410
 Percent recovery at time of sampling: _____
 Samples collected with: Dedicated Bailer
 Sample color: Clear Odor: None
 Description of sediment in sample: None

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
0	7.2	8.4	0.51 x 1000
	7.0	8.2	0.50 x 1000
	7.9	8.3	0.45 x 1000
	7.2	8.2	0.45 x 1000

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
<u>mw-6</u>	<u>3</u>	<u>40mL VOA</u>	<u>HU</u>	<u>Y</u>	<u>TPH, g/BTEX, pMTBE</u>

APPENDIX B

Certified Analytical Report
and
Chain of Custody Documentation

CHROMALAB, INC.

Environmental Services (SDB)

December 15, 1997

Submission #: 9712145

AQUA SCIENCE ENGINEERS INC

Atten: Charlie Rous

Project: ZIMA CENTER CORP
Received: December 8, 1997

Project#: 3011

re: One sample for Gasoline BTEX MTBE analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: MW-2

Spl#: 161533


Matrix: WATER


Sampled: December 6, 1997

Run#:10149

Analyzed: December 11, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	3000	500	N.D.	114	10
MTBE	2300	50	N.D.	102	10
BENZENE	33	5.0	N.D.	97	10
TOLUENE	40	5.0	N.D.	93	10
ETHYL BENZENE	40	5.0	N.D.	96	10
XYLENES	140	5.0	N.D.	93	10


Vincent Vancil
Chemist


Michael Verona
Operations Manager

CHROMALAB, INC.

Environmental Services (SDB)

December 15, 1997

Submission #: 9712145

AQUA SCIENCE ENGINEERS INC

Atten: Charlie Rous

Project: ZIMA CENTER CORP
Received: December 8, 1997

Project#: 3011

re: One sample for Gasoline BTEX MTBE analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: MW-5

Spl#: 161534

Matrix: WATER

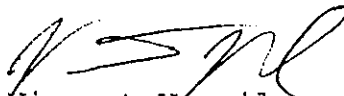
Sampled: December 6, 1997


Run#:10149

Analyzed: December 11, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
BENZENE	33	5.0	N.D.	97	10
TOLUENE	12	5.0	N.D.	93	10
ETHYL BENZENE	N.D.	5.0	N.D.	96	10
XYLENES	7.3	5.0	N.D.	93	10
GASOLINE	N.D.	5000	N.D.	114	100
MTBE	33000	500	N.D.	102	100

Note: Hydrocarbon found in Gasoline Range is uncharacteristic of Gasoline Profile. If quantified using Gasoline's response factor, concentration would equal 24000 ug/L.


Vincent Vancil
Chemist


Michael Verona
Operations Manager

CHROMALAB, INC.

Environmental Services (SDB)

December 15, 1997

Submission #: 9712145

AQUA SCIENCE ENGINEERS INC

Atten: Charlie Rous

Project: ZIMA CENTER CORP
Received: December 8, 1997

Project#: 3011

re: One sample for Gasoline BTEX MTBE analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: MW-6

Spl#: 161535


Matrix: WATER


Sampled: December 6, 1997

Run#: 10096

Analyzed: December 10, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	94	50	N.D.	110	1
MTBE	N.D.	5.0	N.D.	114	1
BENZENE	N.D.	0.50	N.D.	102	1
TOLUENE	N.D.	0.50	N.D.	99	1
ETHYL BENZENE	N.D.	0.50	N.D.	104	1
XYLENES	N.D.	0.50	N.D.	100	1


Vincent Vancil
Chemist


Michael Verona
Operations Manager

CHROMALAB, INC.

Environmental Service (SDB)

Sample Receipt Checklist

Client Name: AQUA SCIENCE ENGINEERS INC

Date/Time Received: 12/08/97 | 1350

Reference/Submis: 37106 | 9712145

Received by: MA

Checklist completed by: [Signature]

12/9/97
Date

Reviewed by: [Signature] 12/9/97

Initials | Date

Matrix: WATER

Carrier name: Client - (C/L)

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No Temp: 3.5 °C
- Water - VOA vials have zero headspace? Yes No No VOA vials submitted
- Water - pH acceptable upon receipt? Yes Adjusted? Checked by [Signature]

chemist for VOAs

Any No and/or NA (not applicable) response must be detailed in the comments section below.

Client contacted: _____ Date contacted: _____ Person contacted: _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action: _____

1214-161000-161000

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

Chain of Custody 37106

DATE 12/7/97 PAGE 1 OF 1

SAMPLERS (SIGNATURE) [Signature] (PHONE NO.) 820 9391 PROJECT NAME ZIMA CENTER LOOP NO. 3011
 ADDRESS 2951 HIGG ST, OAKLAND, CA

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:

5 DAY TAT

SAMPLE ID.	DATE	TIME	MATRIX	NO. OF SAMPLES	TPH- GASOLINE (EPA 5030/8015)	TPH- GASOLINE/BTEX/APE (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 625/6270)	OIL & GREASE (EPA 5520 BAF OR B&F)	LUFT METALS (5) (EPA 6010+7000)	TITLE 22 (CM 17) (EPA 6010+7000)	TCLP (EPA 1311/1310)	C.O.	SUBM #: 9712145 REP: PM	CLIENT: ASE	DUE: 12/15/97	REF #: 37106	
																					MW-2
MW-5	12/6/97	15:15	H ₂ O	3 VOA		X															
MW-6	12/6/97	15:25	H ₂ O	3 VOA		X															

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY LABORATORY:	COMMENTS:
<u>[Signature]</u> 13:40 (signature) (time)	<u>MUSA ATIBRI</u> (signature) (time)	<u>MUSA ATIBRI</u> (signature) (time)	<u>[Signature]</u> 1420 (signature) (time)	<u>5 DAY TAT</u>
Charlie Pous 12/8/97 (printed name) (date)	<u>[Signature]</u> 1350 (signature) (time)	<u>[Signature]</u> 1420 (signature) (time)	Mike Narajo 12/8/97 (signature) (time)	
Company- ASE	Company- 12-8-97	Company- 12-08-97	Company-	