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*Memorandum to
A/2000
AB*

July 3, 2000

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1038*

GROUNDWATER MONITORING REPORT
JUNE 2000 SAMPLING
ASE JOB NO. 3011

at
Zima Center Corporation
2951 High Street
Oakland, California 94619

Prepared by:
AQUA SCIENCE ENGINEERS, INC.
208 W. El Pintado
Danville, CA 94526
(925) 820-9391

1.0 INTRODUCTION

Site Location (Site), See Figure 1

Zima Center Corporation
2951 High Street
Oakland, CA 94619

Property Owner

Zima Center Corporation
1721 Jefferson Street
Oakland, CA 94612
Attn.: Mr. Mohammad Mashhoon
(510) 436-4700

Environmental Consulting Firm

Aqua Science Engineers, Inc. (ASE)
208 W. El Pintado
Danville, CA 94526
Contact: Robert Kitay, Senior Geologist
(925) 820-9391

Agency Review

Alameda County Health Care Services Agency (ACHCSA)
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502
Attn.: Mr. Amir Gholami
(510) 567-6700

California Regional Water Quality Control Board (RWQCB),
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612
Attn.: Mr. Chuck Headlee
(510) 622-2423

The following is a report detailing the results of the June 2000 groundwater sampling at the Zima Center Corporation site (Figure 1 and 2).

2.0 GROUNDWATER FLOW DIRECTION AND GRADIENT

On June 7, 2000, ASE associate geologist Ian Reed measured the depth to water in each site groundwater monitoring well using an electric water level sounder. No free-floating hydrocarbons or sheen were present in any site monitoring well. The groundwater elevation dropped an average of 4.2-feet since last quarter. Groundwater elevations are presented in Table One.

Since a sock of Oxygen Releasing Compound (ORC) was present in monitoring wells MW-4 and MW-5, these ORC socks had to be removed before a groundwater level could be recorded in these wells. Upon removing these socks, the water level in these wells dropped as water levels do during a "slug test." For this reason, the measured water levels are not representative of actual waters beneath the site. For this reason, a groundwater potentiometric surface map was not prepared this quarter. However, the groundwater potentiometric surface map for July 23, 1998 is presented as Figure 2. Potentiometric surface maps for this site have generally shown groundwater flow to southeast. However, the distribution of hydrocarbons in groundwater suggests a northward groundwater flow direction.

3.0 GROUNDWATER SAMPLE COLLECTION AND ANALYSES

On June 7, 2000, ASE associate geologist Ian Reed collected groundwater samples from monitoring wells MW-2, MW-5, and MW-6. Prior to sampling, the wells were purged of four well casing volumes of groundwater using dedicated polyethylene bailers. Temperature, pH and conductivity were monitored during purging, and samples were not collected until these values stabilized. Groundwater samples were 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 without headspace, 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. 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, benzene, toluene, ethyl benzene, and total xylenes (collectively known as 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) were 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, December 6, 1997, and March 3, 1998, 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.

On August 21, 1998, at the request of our client, ASE installed ORC socks in monitoring wells MW-4 and MW-5 to again increase the amount of DO in groundwater beneath the site.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Monitoring wells MW-1 and MW-3 have not been sampled since August 1995 due to their consistently non-detectable concentrations. Monitoring well MW-4 is not sampled because it is a tank backfill well.

The groundwater samples collected from monitoring well MW-2 contained 74 parts per billion (ppb) benzene, 37 ppb toluene, 98 ppb ethyl benzene, 220 total xylenes, and 9,200 ppb MTBE. The groundwater samples collected from monitoring well MW-5 contained 11,000 ppb benzene, 890 ppb toluene, 570 ppb ethyl benzene, 3,000 ppb total xylenes, and 68,000 ppb MTBE. Monitoring well MW-6 has remained relatively clean since its installation. Overall, the hydrocarbon concentrations in monitoring wells MW-2 and MW-5 increased from the last quarters results.

The hydrocarbon concentrations at the site still remain significantly elevated above the Risk Based Corrective Action (RBCA) levels. It appears

that additional remediation will be needed at the site to obtain case closure in a reasonable time period.

Due to the persistent elevated hydrocarbon concentrations in groundwater samples, ASE still recommends that additional remediation of groundwater at the site is needed and that it be considered to assist in case closure.

A copy of this report should be mailed to the ACHCSA and RWQCB at the addresses shown on page one of this report for their review.

6.0 REPORT LIMITATIONS

The results presented in 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 (925) 820-9391 if you have any questions or comments.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.



Ian Reed

Associate Geologist



Robert E. Kitay, R.G., R.E.A.
Senior Geologist



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

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		
	05-26-95		5.89	91.73
	08-23-95		5.20	92.42
	12-13-96		8.67	88.95
	01-16-97		4.61	93.01
	03-27-97		3.79	93.83
	06-27-97		5.87	91.75
	09-22-97		8.33	89.29
	12-06-97		9.62	87.90
	03-23-98		5.35	92.27
	03-05-99		4.02	93.60
	06-17-99		3.16	94.46
	09-15-99		6.69	90.93
	12-09-99		8.90	88.72
	03-06-00		8.22	89.40
MW-2		97.87	4.12	93.50
	02-23-95		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
	03-23-98		2.85	95.02
	07-23-98		6.69	91.18
	11-23-98		8.04	89.83
	03-05-99		1.50	96.37
	06-17-99		6.93	90.94
	09-15-99		9.01	88.86
	12-09-99		8.52	89.35
	03-06-00		2.25	95.62
06-07-00	6.47	91.40		

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-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
	03-23-98		5.42	91.61
	03-05-99		4.81	92.22
	06-17-99		7.60	89.43
	09-15-99		8.94	88.09
	12-09-99		8.62	88.41
03-06-00	4.78	92.25		
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
	03-23-98		6.07	90.70
	03-05-99		12.16	84.61
	06-17-99		Inaccessible	
	09-15-99		16.01	80.76
	MW-5		12-13-96	98.32
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	
03-23-98		6.60	91.72	
07-23-98		7.98	90.34	
11-23-98		11.20	87.12	
03-05-99		10.14	88.18	
06-17-99		11.53	86.79	
09-15-99		12.63	85.69	
03-06-00		6.89	91.43	
06-07-00		11.34	86.98	

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-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
	03-23-98		5.40	92.76
	07-23-98		7.10	91.06
	11-23-98		7.80	90.07
	03-05-99		4.82	93.34
	06-17-99		7.70	90.46
	09-15-99		8.58	89.58
	12-09-99		8.70	89.46
	03-06-00		3.10	95.06
	06-07-00		7.10	91.06

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
03-23-98	220	3.0	2.8	5.8	13	18
06-10-98	3,400	120	64	160	200	1,900
07-23-98	6,000	340	54	280	390	3,300
09-16-98	3,700	77	<25	80	69	5,500
11-23-98	<10,000	<100	150	<100	180	9,100
03-05-99	1,000	20	31	38	100	510
06-17-99	<10,000	110	38	79	140	4,200
09-15-99	20,000	<100	<100	<100	<100	20,000
12-09-99	25,000	<130	<130	<130	<130	28,000
03-06-00	<50	<0.5	<0.5	<0.5	<0.5	85
06-07-00	<10,000	74	37	98	220	9,200
<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

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-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
03-23-98	29,000	150	160	130	320	34,000
06-10-98	53,000	7,000	2,400	540	3,400	67,000
07-23-98	36,000	1,000	270	< 120	740	51,000
09-16-98	56,000	3,400	1,300	430	1,800	84,000
11-23-98	63,000	5,700	2,900	500	2,200	87,000
03-05-99	42,000	< 250	< 250	< 250	< 250	38,000
06-17-99	37,000	510	85	5.6	89	61,000
09-15-99	54,000	8,500	1,800	420	2,400	55,000
12-09-99	34,000	1,600	230	130	570	33,000
03-06-00	21,000	7,800	870	440	2,100	30,000
06-07-00	< 50,000	11,000	890	570	3,000	68,000
<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	< 5
12-06-97	94	< 0.5	< 0.5	< 0.5	< 0.5	24
03-23-98	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5
06-10-98	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5
07-23-98	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5
09-16-98	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5
11-23-98	Inaccessible due to rainwater runoff				< 0.5	< 5
03-05-99	55	< 0.5	0.92	0.5	1.3	< 5.0
06-17-99	< 50	< 0.5	< 0.5	< 0.5	< 0.5	8.0
09-15-99	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
12-09-99	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
03-06-00	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
06-07-00	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0

RBCA Values:

Onsite Commercial					
1 in 100,000 Cancer Risk	1,100	12,000	>SOL	>SOL	68,000

Notes:

RBCA = Risk Based Corrective Action Levels

* = 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	---
03-03-98	0.86	---
06-10-98	0.90	---
<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
03-03-98	5.12	4.64
06-10-98	0.93	0.97
<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	---
03-03-98	0.70	---
06-10-98	0.78	---
<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	---
03-03-98	1.08	---
06-10-98	1.21	---
<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
03-03-98	18.19	17.14
06-10-98	1.92	1.87

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-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
03-03-98	1.03	1.42
06-10-98	1.10	1.06

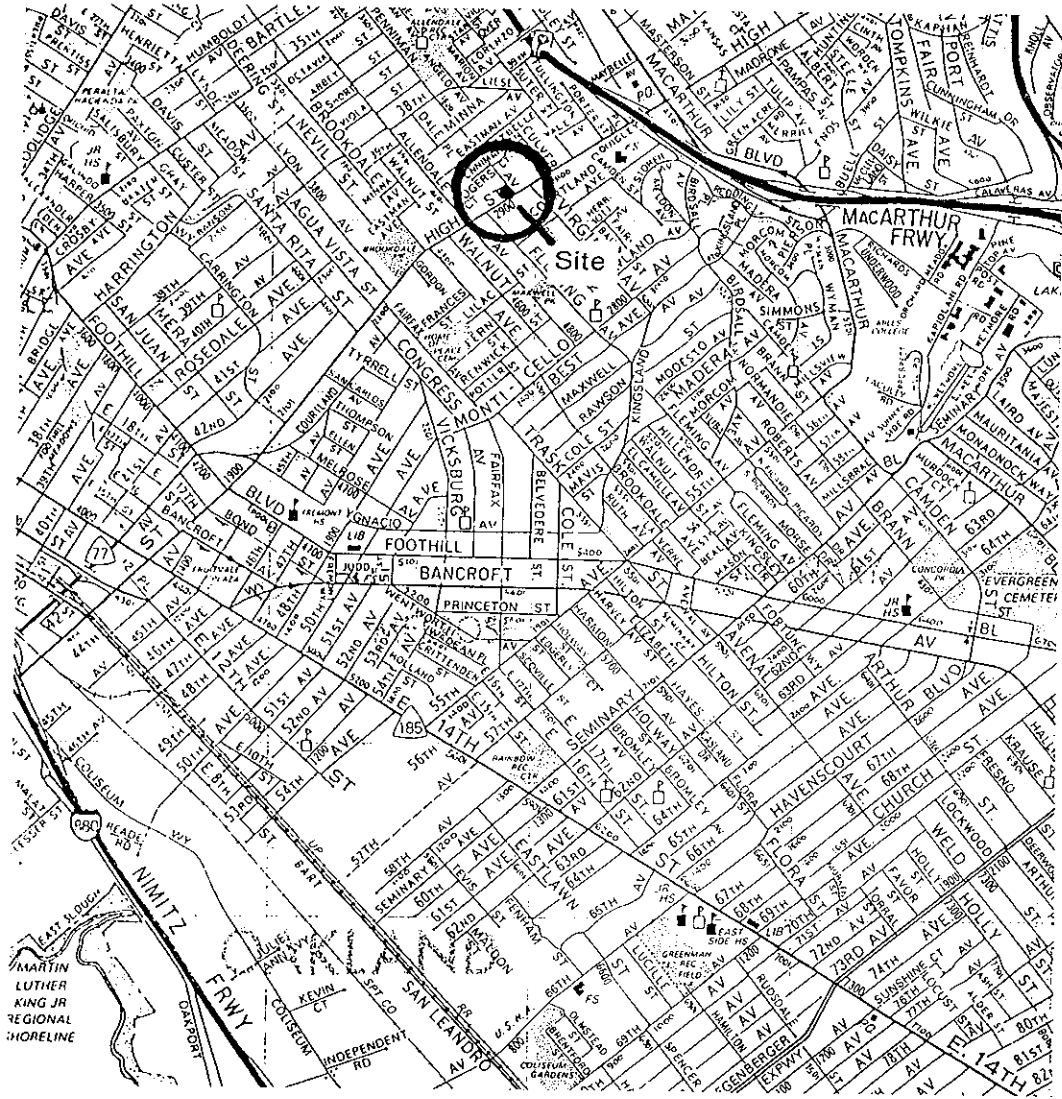
Notes:

--- = Well not purged

FIGURES



NORTH



SITE LOCATION MAP

ZIMA CENTER CORPORATION
2951 HIGH STREET
OAKLAND, CALIFORNIA

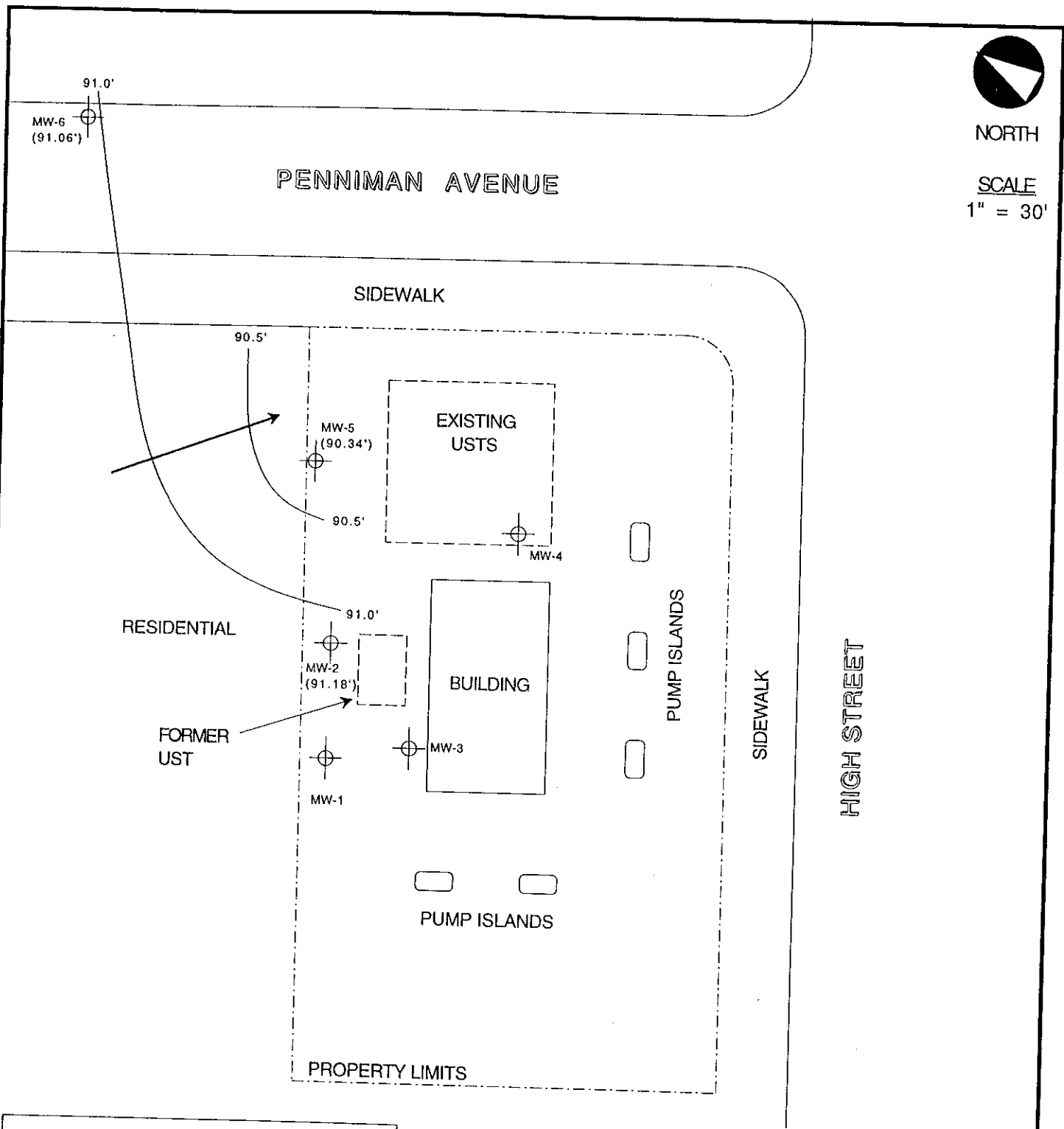
AQUA SCIENCE ENGINEERS, INC. FIGURE 1



NORTH

SCALE

1" = 30'



LEGEND

MW-6
(91.06')



Monitoring well with
groundwater elevation

91.0'

Groundwater elevation
contour



Approximate groundwater
flow direction

GROUNDWATER ELEVATION CONTOUR MAP - 07/23/98

ZIMA CENTER CORPORATION
2951 HIGH STREET
OAKLAND, CALIFORNIA

AQUA SCIENCE ENGINEERS, INC.

FIGURE 2

APPENDIX A

Well Sampling Field Logs



WELL SAMPLING FIELD LOG

Project Name and Address: Zima
 Job #: 3011 Date of sampling: 6/7/00
 Well Name: MW-2 Sampled by: ITR
 Total depth of well (feet): 19.90' Well diameter (inches): 2"
 Depth to water before sampling (feet): 6.47'
 Thickness of floating product if any: None
 Depth of well casing in water (feet): 13.43
 Number of gallons per well casing volume (gallons): 2.3
 Number of well casing volumes to be removed: 4
 Req'd volume of groundwater to be purged before sampling (gallons): 9
 Equipment used to purge the well: dedicated bailer
 Time Evacuation Began: 1015 Time Evacuation Finished: 1035
 Approximate volume of groundwater purged: 10
 Did the well go dry?: NO After how many gallons: —
 Time samples were collected: 1040
 Depth to water at time of sampling: 7.09
 Percent recovery at time of sampling: 92%
 Samples collected with: dedicated bailer
 Sample color: clear/gray Odor: mild HC odor
 Description of sediment in sample: none

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
<u>1</u>	<u>71.4</u>	<u>7.31</u>	<u>1101</u>
<u>2</u>	<u>72.0</u>	<u>7.92</u>	<u>1120</u>
<u>3</u>	<u>77.3</u>	<u>7.91</u>	<u>1247</u>
<u>4</u>	<u>71.9</u>	<u>7.90</u>	<u>1197</u>

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
<u>MW-2</u>	<u>3</u>	<u>40ml VOA's</u>	<u>✓</u>	<u>✓</u>	



WELL SAMPLING FIELD LOG

Project Name and Address: Zima
 Job #: 3011 Date of sampling: _____
 Well Name: MW-5 Sampled by: ITR
 Total depth of well (feet): 27.19 Well diameter (inches): 2'
 Depth to water before sampling (feet): 11.34
 Thickness of floating product if any: _____
 Depth of well casing in water (feet): 15.85
 Number of gallons per well casing volume (gallons): 2.7
 Number of well casing volumes to be removed: 4
 Req'd volume of groundwater to be purged before sampling (gallons): 10.8
 Equipment used to purge the well: dedicated bailer
 Time Evacuation Began: 1130 Time Evacuation Finished: 1150
 Approximate volume of groundwater purged: 11
 Did the well go dry?: NO After how many gallons: _____
 Time samples were collected: 1200
 Depth to water at time of sampling: 11.74
 Percent recovery at time of sampling: 98%
 Samples collected with: dedicated bailer
 Sample color: clear Odor: slight HC odor
 Description of sediment in sample: NONE

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
<u>1</u>	<u>70.1</u>	<u>6.07</u>	<u>374</u>
<u>2</u>	<u>70.9</u>	<u>6.10</u>	<u>390</u>
<u>3</u>	<u>76.2</u>	<u>6.11</u>	<u>873</u>
<u>4</u>	<u>76.3</u>	<u>6.14</u>	<u>870</u>

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
<u>MW-5</u>	<u>3</u>	<u>210 ml VIALs</u>	<u>✓</u>	<u>✓</u>	
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____



WELL SAMPLING FIELD LOG

Project Name and Address: Zima
 Job #: 3011 Date of sampling: 6/7/00
 Well Name: MW-6 Sampled by: NR
 Total depth of well (feet): 28.22 Well diameter (inches): 2"
 Depth to water before sampling (feet): 7.10'
 Thickness of floating product if any: None
 Depth of well casing in water (feet): 21.12
 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): 14.4
 Equipment used to purge the well: dedicated bailer
 Time Evacuation Began: 1055 Time Evacuation Finished: 1115
 Approximate volume of groundwater purged: 15
 Did the well go dry?: NO After how many gallons: —
 Time samples were collected: 1120
 Depth to water at time of sampling: 7.56
 Percent recovery at time of sampling: 98%
 Samples collected with: dedicated bailer
 Sample color: clear Odor: none
 Description of sediment in sample: f. silt

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
1	70.5	5.76	541
2	70.9	5.81	530
3	70.5	5.80	510
4	70.9	5.79	567

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
MW-6	3	2 liter JGB	✓	✓	

APPENDIX B

Certified Analytical Report
and
Chain of Custody Documentation

Aqua Science Engineers, Inc.
208 West El Pintado Road
Danville, CA 94526

Attn.: Mr. Ian T. Reed

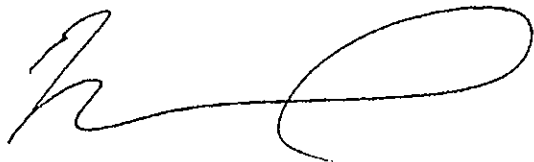
Project: 3011
Zima Center Corp.

Dear Mr. Reed,

Attached is our report for your samples received on Thursday June 8, 2000.
This report has been reviewed and approved for release. Reproduction of this report
is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after July 8, 2000
unless you have requested otherwise. We appreciate the opportunity to be of service to you.
If you have any questions, please call me at (925) 484-1919. You can also contact me via email.
My email address is: vvancil@chromalab.com

Sincerely,



Vincent Vancil

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-06-0166

Gas/BTEX and MTBE

Aqua Science Engineers, Inc.

☒ 208 West El Pintado Road
Danville, CA 94526

Attn: Ian T. Reed

Phone: (925) 820-9391 Fax: (925) 837-4853

Project #: 3011

Project: Zima Center Corp.

Samples Reported

Sample ID	Matrix	Date Sampled	Lab #
MW-2	Water	06/07/2000 10:40	1
MW-5	Water	06/07/2000 12:00	2
MW-6	Water	06/07/2000 11:20	3

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Page 1 of 6

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-06-0166

To: Aqua Science Engineers, Inc.

Test Method: 8015M
8020

Attn.: Ian T. Reed

Prep Method: 5030

Gas/BTEX and MTBE

Sample ID: MW-2	Lab Sample ID: 2000-06-0166-001
Project: 3011 Zima Center Corp.	Received: 06/08/2000 17:10
Sampled: 06/07/2000 10:40	Extracted: 06/20/2000 02:59
Matrix: Water	QC-Batch: 2000/06/19-01.01

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	ND	10000	ug/L	200.00	06/20/2000 02:59	
Benzene	74	0.50	ug/L	1.00	06/19/2000 15:52	
Toluene	37	0.50	ug/L	1.00	06/19/2000 15:52	
Ethyl benzene	98	0.50	ug/L	1.00	06/19/2000 15:52	
Xylene(s)	220	0.50	ug/L	1.00	06/19/2000 15:52	
MTBE	9200	1000	ug/L	200.00	06/20/2000 02:59	
<i>Surrogate(s)</i>						
4-Bromofluorobenzene	91.3	50-150	%	1.00	06/19/2000 15:52	
4-Bromofluorobenzene-FID	79.4	50-150	%	1.00	06/20/2000 02:59	

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Page 2 of 6

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-06-0166

To: Aqua Science Engineers, Inc.

Test Method: 8015M
8020

Attn.: Ian T. Reed

Prep Method: 5030

Gas/BTEX and MTBE

Sample ID: MW-5	Lab Sample ID: 2000-06-0166-002
Project: 3011 Zima Center Corp.	Received: 06/08/2000 17:10
Sampled: 06/07/2000 12:00	Extracted: 06/19/2000 22:20
Matrix: Water	QC-Batch: 2000/06/19-01.01

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	ND	50000	ug/L	1000.00	06/19/2000 22:20	
Benzene	11000	500	ug/L	1000.00	06/19/2000 22:20	
Toluene	890	500	ug/L	1000.00	06/19/2000 22:20	
Ethyl benzene	570	500	ug/L	1000.00	06/19/2000 22:20	
Xylene(s)	3000	500	ug/L	1000.00	06/19/2000 22:20	
MTBE	68000	5000	ug/L	1000.00	06/19/2000 22:20	
Surrogate(s)						
Trifluorotoluene	75.2	58-124	%	1.00	06/19/2000 22:20	
4-Bromofluorobenzene-FID	77.0	50-150	%	1.00	06/19/2000 22:20	

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CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-06-0166

To: Aqua Science Engineers, Inc.

Test Method: 8015M
8020

Attn.: Ian T. Reed

Prep Method: 5030

Gas/BTEX and MTBE

Sample ID: MW-6	Lab Sample ID: 2000-06-0166-003
Project: 3011 Zima Center Corp.	Received: 06/08/2000 17:10
Sampled: 06/07/2000 11:20	Extracted: 06/19/2000 14:42
Matrix: Water	QC-Batch: 2000/06/19-01.01

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	06/19/2000 14:42	
Benzene	ND	0.50	ug/L	1.00	06/19/2000 14:42	
Toluene	ND	0.50	ug/L	1.00	06/19/2000 14:42	
Ethyl benzene	ND	0.50	ug/L	1.00	06/19/2000 14:42	
Xylene(s)	ND	0.50	ug/L	1.00	06/19/2000 14:42	
MTBE	ND	5.0	ug/L	1.00	06/19/2000 14:42	
<i>Surrogate(s)</i>						
Trifluorotoluene	93.4	58-124	%	1.00	06/19/2000 14:42	
4-Bromofluorobenzene-FID	100.1	50-150	%	1.00	06/19/2000 14:42	

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Page 4 of 6

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-06-0166

To: Aqua Science Engineers, Inc.

Test Method: 8015M

Attn.: Ian T. Reed

8020

Prep Method: 5030

Batch QC Report Gas/BTEX and MTBE

Method Blank	Water	QC Batch # 2000/06/19-01.01
MB: 2000/06/19-01.01-001		Date Extracted: 06/19/2000 11:37

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Gasoline	ND	50	ug/L	06/19/2000 11:37	
Benzene	ND	0.5	ug/L	06/19/2000 11:37	
Toluene	ND	0.5	ug/L	06/19/2000 11:37	
Ethyl benzene	ND	0.5	ug/L	06/19/2000 11:37	
Xylene(s)	ND	0.5	ug/L	06/19/2000 11:37	
MTBE	ND	5.0	ug/L	06/19/2000 11:37	
<i>Surrogate(s)</i>					
Trifluorotoluene	90.4	58-124	%	06/19/2000 11:37	
4-Bromofluorobenzene-FID	82.2	50-150	%	06/19/2000 11:37	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-06-0166

To: Aqua Science Engineers, Inc.

Test Method: 8020
8015M

Attn: Ian T. Reed

Prep Method: 5030

Batch QC Report

Gas/BTEX and MTBE

Laboratory Control Spike (LCS/LCSD)		Water		QC Batch # 2000/06/19-01.01	
LCS:	2000/06/19-01.01-002	Extracted:	06/19/2000 12:21	Analyzed	06/19/2000 12:21
LCSD:	2000/06/19-01.01-003	Extracted:	06/19/2000 11:46	Analyzed	06/19/2000 11:46

Compound	Conc. [ug/L]		Exp. Conc. [ug/L]		Recovery [%]		RPD [%]	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD		Recovery	RPD	LCS	LCSD
Gasoline	507	513	500	500	101.4	102.6	1.2	75-125	20		
Benzene	99.3	99.7	100.0	100.0	99.3	99.7	0.4	77-123	20		
Toluene	93.5	94.2	100.0	100.0	93.5	94.2	0.7	78-122	20		
Ethyl benzene	95.5	96.0	100.0	100.0	95.5	96.0	0.5	70-130	20		
Xylene(s)	287	288	300	300	95.7	96.0	0.3	75-125	20		
Surrogate(s)											
Trifluorotoluene	436	433	500	500	87.2	86.6		58-124			
4-Bromofluorobenzene-FI	456	470	500	500	91.2	94.0		50-150			

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