

January 11, 1999

Ms. Madhulla Logan Alameda County Health Care Services Agency 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502

SUBJECT:

Zima Center Corporation 2951 High Street Oakland, California

Dear Ms. Logan:

Attached please find the quarterly groundwater monitoring report for the above referenced site. As you can see in the report, the hydrocarbon concentrations in groundwater samples collected from monitoring well MW-5 remain high and have generally increased since historic low concentrations following the ORC remediation project in September 1997. There appears to be two reasons for this increase. The first was that there have been several spill incidents at the site over the past year as indicated in the attached letter. A second reason for the increase in hydrocarbon concentrations was that a missing gasket and a cracked O-ring were discovered on the top section of the submersible pump which pumps supreme gasoline from the UST closest to monitoring well MW-5. understands that this condition was discovered when positive in-line was installed in early December and this condition shutdown corrected immediately. This leak was apparently very small and was not detected by product inventory records.

As you know, Mr. Mashhoon is very anxious to have this case closed. The ORC remediation project which was previously performed at the site was very successful in reducing BTEX concentrations in groundwater beneath the site, but the MTBE concentrations only decreased by approximately 50%. This site does not appear to be conducive to other common remediation strategies such as air sparging/soil vapor extraction or "pump and treat" since the soil beneath the site has very low permeability. ASE proposes conducting an ORC injection project similar to previous one provided the case may be closed with the MTBE concentrations still being

elevated since it is unknown whether there will be a significant decrease in MTBE concentrations without a continued source.

If you have any questions, please feel free to call me at (925) 820-9391.

No. 6586

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.

Robert E. Kitzy, R.G., R.E.A.

Senior Geologist

cc: Mr. Mohammad A. Mashhoon, Mash Petroleum, Inc., 5725 Thornhill Drive, Oakland, CA 94611

January 8, 1999

GROUNDWATER MONITORING REPORT FOURTH QUARTER 1998 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 13775 Campus Drive Oakland, CA 94605 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, 2nd Floor Alameda, CA 94502 Attn.: Ms. Madhulla Logan (510) 293-8695

California Regional Water Quality Control Board (RWQCB), San Francisco Bay Region 1515 Clay Street, Suite 500 Oakland, CA 94612 (510) 286-4359

The following is a report detailing the results of the fourth quarter 1998 groundwater sampling at the above referenced site (Figure 2).

- 1-

2.0 GROUNDWATER FLOW DIRECTION AND GRADIENT

On November 23, 1998, ASE staff geologist Greg Schramm 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.

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 which suggests a northward groundwater flow direction.

3.0 GROUNDWATER SAMPLE COLLECTION AND ANALYSES

On November 23, 1998, ASE staff geologist Greg Schramm collected groundwater samples from monitoring wells MW-2 and MW-5. Monitoring well MW-6 was not accessible due to rainwater runoff over the top of the well, and therefore was not sampled. Since it was not desirable to remove oxygenated groundwater from the subsurface, the monitoring wells were not purged prior to sampling. 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, 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.

Zima Center Corporation Monitoring Report - Fourth Quarter 1998 Sampling

- 2-

The groundwater samples collected from monitoring wells MW-2 and MW-5 were analyzed for total petroleum hydrocarbons as gasoline (TPH-G) by EPA Method 5030/8015M, benzene, toluene, ethylbenzene, 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

Hydrocarbon concentrations in groundwater samples collected from the site continue the increasing trend that has been present since the historic low concentrations following the ORC injection remediation project in September 1997. The Department of Toxic Substances Control maximum level for drinking water (DTSC MCL) for benzene and toluene are exceeded in groundwater samples collected from monitoring wells MW-2 and MW-5. The DTSC MCL for total xylenes was also exceeded in groundwater samples collected from monitoring well MW-5.

Zima Center Corporation Monitoring Report - Fourth Quarter 1998 Sampling

- 3-

Since hydrocarbon concentrations continue to increase, there appears to be a continued source of hydrocarbons. Once the source of the hydrocarbons is determined and rectified, ASE suggests that this case be discussed with the regulatory agencies to determine the appropriate course of action to expedite case closure. ASE also recommends that quarterly groundwater sampling continue at the site. The next monitoring event is scheduled for March 1999.

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.

Greg Schramm Staff Geologist

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

Senior Geologist

Attachments: Figures 1 and 2

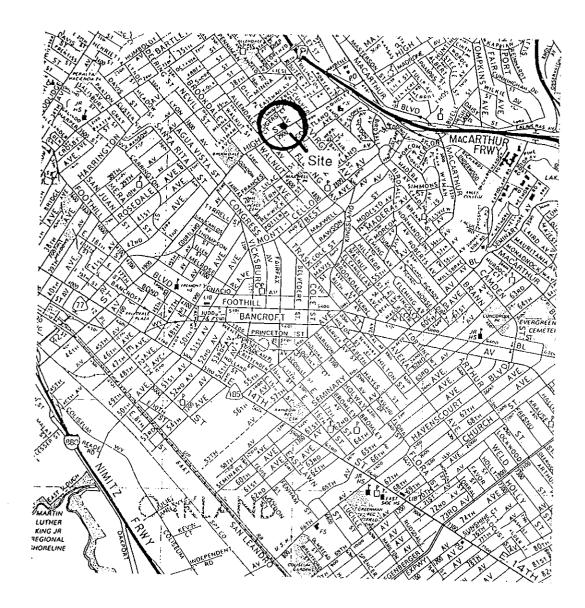
Tables One, Two and Three

Appendices A and B

No. 6586

FIGURES



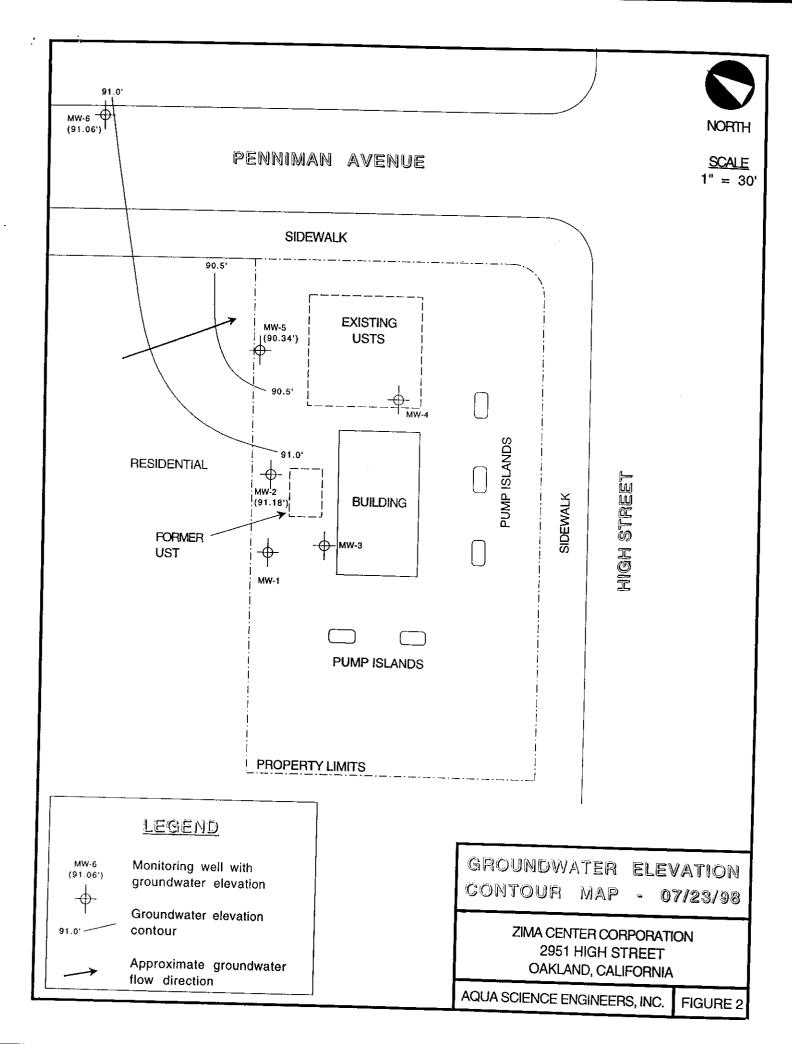


SITE LOCATION MAP

ZIMA CENTER CORPORATION 2951 HIGH STREET OAKLAND, CALIFORNIA

AQUA SCIENCE ENGINEERS, INC.

FIGURE 1



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	
	05-26-95		5.20	91.73
	08-23-95		8.67	92.42
	12-13-96	•	4.61	88.95
	01-16-97		3.79	93.01
	03-27-97		5.87	93.83
	06-27-97		8.33	91.75
	09-22-97		9.62	89.29
	12-06-97		5.35	87.90
	03-23-98		4.02	92.27
			4.02	93.60
MW-2	02-23-95	97.87	6.81	_
	05-26-95	27.07		91.06
	08-23-95		4.90	92.97
	12-13-96		8.33	89.54
	01-16-97		6.85	91.02
	03-27-97		1.54	96.33
	06-27-97		5.51	92.36
	09-22-97		8.43	89.44
	12-06-97		9.50	88.37
	03-23-98		6.81	91.06
	07-23-98		2.85	95.02
	11-23-98		6.69	91.18
			8.04	89.83
MW-3	02-23-95	97.03	4.04	
	05-26-95	27.03	4.21	92.82
	08-23-95		6.44	90.59
	12-13-96		8.69	88.34
	01-16-97		5.60	91.43
	03-27-97		5.28	91.75
	06-27-97		6.64	90.39
	09-22-97		8.35	88.68
	12-06-97		9.42	87.61
	03-23-98		6.38	90.65
			5.42	91.61

(Continued)

TABLE ONE (Cont'd)
Summary of Groundwater Well Survey Data

Weli I.D.	Date of Measurement	Top of Casing Elevation (relative to project datum)	Depth to Water (feet)	Groundwater Elevation (project data)
MW-4	02-23-95	96.77	6.25	02.07
	05-26-95		6.18	92.07
	08-23-95		8.55	90.59
	12-13-96	·	5.86	88.22
	01-16-97		5.79	90.91
	03-27-97		7.37	90.98
	06-27-97		8.75	89.40
	09-22-97		9.31	88.02
	12-06-97		6.25	87.46
	03-23-98		6.07	90.52
			0.07	90.70
MW-5	12-13-96	98.32	6.25	00.00
	01-16-97		6.32	92.07
	03-27-97		7.51	92.00
	06-27-97		8.96	90.81
	09-22-97		9.38	89.36
	12-06-97		6.01	88.94
	03-23-98		6.60	92.31
	07-23-98			91.72
	11-23-98		7.98	90.34
			11.20	87.12
1W -6	01-16-97	98.16	5.12	
	03-27-97	-	5.12 6.55	93.04
	06-27-97			91.61
	09-22-97		8.39	89.77
	12-06-97		9.14	88.99
	03-23-98		5.41	92.75
	07-23-98	•	5.40	92.76
	11-23-98		7.10	91.06
			7.80	90.07

TABLE TWO

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

		The state of the s	III I dI to	Let. DIIIIOD (ppb)	
Sample I.D.	TPH Gasoline	Benzene	Toluene	Ethvi	Total Xylenes	Marine
<u>MW-1</u>						
02-23-95	5 < 50	-0.5				
05-26-95		< 0.5 < 0.5	< 0.5	< 0.5	< 0.5	
08-23-95		< 0.5 < 0.5	< 0.5	< 0.5	< 0.5	
	150	₹0.5	< 0.5	< 0.5	< 0.5	
<u>MW-2</u>						
02-23-95	3,300	9.6	4.5			
05-26-95		9.0 39	13	8	28	
08-23-95		15	18	21	39	~
12-13-96		110	6	10	15	
03-27-97		34	110	120	330	65
06-27-97	2,400	18	20	86	140	200
09-22-97	< 5,000	8.4	< 5	6	8.8	2,000
12-06-97	3,000	33	20	33	100	3,900
03-23-98	220		40	40	140	
06-10-98	3,400	3.0	2.8	5.8	13	2,300
07-23-98	6,000	120	64	160	200	18
09-16-98	3,700	340	54	280	390	1,900
11-23-9	8 < 10,000	77	< 25	80	69	3,300
	10,000	< 100	150	< 100	180	5,500 9,100
MW-3					~ 0 0	9,100
02-23-95	< 50	< 0.5	۰.			
05-26-95	< 50	< 0.5	< 0.5	< 0.5	< 0.5	
08-23-95	< 50	< 0.5	< 0.5	< 0.5	< 0.5	
	120	~ 0.3	< 0.5	< 0.5	< 0.5	~ - -
<u>MW-4</u>						~
06-26-96	2,500	230	<i>-</i> .			
03-27-97	6,200	300	64	99	110	5 700
	0,200	300	150	160	310	5,700
MW-5					210	7,100
12-13-96	3,600	100				
03-27-97	120,000	180	350	81	510	420
06-27-97	6,300	28,000	16,000	2,600	10,000	430
09-22-97	< 50,000	10,000	2,400	290	4,500	64,000
12-06-97	< 5,000**	7.9	3.3	0.63	3.3	43,000
03-23-98	29,000	33	12	< 5.0	7.3	30,000
06-10-98	53,000	150	160	130	320	33,000
07-23-98	36,000	7,000	2,400	540	3,400	34,000
09-16-98	56,000	1,000	270	< 120	740	67,000
11-23-98	63,000	3,400	1,300	430	1,800	51,000
5 70	00,000	5,700	2,900	500	2,200	84,000
DTSC MCLs	NE	1	200 o operation	-	4,400	87,000
	A TEAL .	4	150	700	1,750	za za zadenia
				2 800 K 80 \$00 K \$386 10 10 10 10 10 10 10 10 10 10 10 10 10	Service of the servic	35*

(continued)

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

			\ L .	/	
TPH Gasoline	Benzene	Toluene	Ethyl Benzene	Total Xylenes	МТВЕ
		<0.5 <0.5 <0.5 <0.5 <0.5 <0.5 <0.5 <0.5	<0.5 <0.5 <0.5 <0.5 <0.5 <0.5 <0.5 <0.5	< 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5	<5 <5 <5 24 <5 <5 <5 <5
NE	1	150	700	1.750	3 5 4
5030/ 8015M	8020	8020	8020	8020	8020
	<pre> <50 <50 <50 <50 <50 <50 <50 <50 <50 <50</pre>	Gasoline Benzene <50	Gasoline Benzene Toluene	TPH Gasoline Benzene Toluene Benzene	Casoline Benzene Toluene Benzene Xylenes

Notes:

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

		(Pp1
Sample I.D.	Before	After
1.D.	Purging	Purging
<u>MW-1</u>		*
06-27-97	0.99	
08-20-97	0.64	= = = ··
09-22-97	1.60	0.96
12-06-97	1.30	
03-03-98	0.86	
06-10-98	0.86	~
	0.90	~
<u>MW-2</u>		
06-27-97	0.86	
08-20-97	0.43	0.94
09-22-97	1.15	0.81
12-06-97	1.52	3.40
03-03-98	5.12	4.88
06-10-98	0.93	4.64
•	4. /3	0.97
<u>MW-3</u>		
06-27-97	1.26	
08-20-97	1.13	
09-22-97	2.75	1.29
12-06-97	3.15	*
03-03-98	0.70	
06-10-98	0.78	
<u>MW</u> -4		
06-27-97		
08-20-97	0.97	
09-22-97	5.50	6.18
12-06-97	11.80	0.16
03-03-98	5.15	
06-10-98	1.08	
00-10-90	1.21	
<u>MW-5</u>		
06-27-97	0.31	
08-20-97	0.71	8.70
09-22-97	>20.00	>20.00
12-06-97	>20.00	>20.00
03-03-98	19.20	19.17
06-10-98	18.19	17.14
- 0 70	1.92	1.87
		1.07

TABLE THREE

(continued)

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

		'1 1
Sample I.D. <u>MW-6</u>	Before Purging	After Purging
06-27-97 08-20-97 09-22-97 12-06-97 03-03-98 06-10-98	0.61 0.69 1.10 2.11 1.03 1.10	0.89 1.02 2.90 2.50 1.42 1.06
3.7		

Notes:

:

--- = Well not purged

APPENDIX A

Well Sampling Field Logs



WELL SAMPLING FIELD LOG

Project Name and	Address:	< Ima		
Job #:3011		Date o	f sampling	a: 111001-c3
** OIL INGING #1111	\ - /	~ ,	a sambini	g: 11/23/98
Total depth of wal	1 (foot). 1	0 0	w by. <u> </u>	diameter (inches): 2
Depth to water be	fore sampling	(feet)	₩ €11 (nameter (inches):
Thickness of floati	ng product if	anv		liameter (inches): Z
Depth of well cost	20 12 2004	· · · · · · · · · · · · · · · · · · ·	4	
Number of gallons	ner well co	sing volume	<u> </u>	
Number of well co	cina volumes	. 4 - 1	(gamons)	!
Reo'd volume of a	connduiate		10 100	
Equipment used to	nurge the	be purged	before s	ampling (gallons):
Time Evacuation R	Acon			non pura e
Approximate volum	ogan,	_ T	ime Evac	ampling (gallons): nen perge uation Finished:
Did the well on do	·9.	ΙΟ		·
Time camples were	11	•••	TOT TION	many Sallous.
Denth to water at a	· · · · · · · · · · · ·	**		·
Percent recovery at	ine or samp	ling:	· · · · · · · · · · · · · · · · · · ·	
Samples collected	ume or san	npling:	·	- 140
C- 1 CONCEGED	vitn: <u>aea</u>	accated b	ailer_	
Sample colon A				· — · · · · · · · · · · · · · · · · · ·
Description of and	ew	_ 00	dor: Slight	I+C
Sample color:	nent in samp	_ October Octo	dor: <u>Sligh</u>	HC
Description of sedir	nent in samp	ole: none	dor: <u>Slight</u>	HC
Description of sedir CHEMICAL DATA	nent in samp	_ Oo ple:none	dor: <u>Slight</u>	HC
CHEMICAL DATA	nent in samp	_ Od ole: <u> </u>	dor: <u>Sligh)</u>	HC.
Description of sedir	nent in samp	_ Oo ole: <u>none</u>	2	
CHEMICAL DATA Volume Purged	nent in samp	ole:none	dor: <u>Sligki</u>	
CHEMICAL DATA Volume Purged	nent in samp	ole:none	2	
CHEMICAL DATA Volume Purged	nent in samp	ole:none	2	
CHEMICAL DATA Volume Purged	nent in samp	ole:none	2	
CHEMICAL DATA Volume Purged	nent in samp	ole:none	Conduc	tivity
CHEMICAL DATA Volume Purged	Temp	ole:none	Conduc	
CHEMICAL DATA Volume Purged	Temp	ole:none	Conduc	tivity
CHEMICAL DATA Volume Purged SAMPLES COLLECT	Temp	pH	Conduc	tivity
CHEMICAL DATA Volume Purged SAMPLES COLLECT Sample # of containers	Temp Temp	pH	Conduc	tivity
CHEMICAL DATA Volume Purged SAMPLES COLLECT	Temp	pH container p	Conduc	Analysis
CHEMICAL DATA Volume Purged SAMPLES COLLECT Sample # of containers	Temp Temp	pH container p	Conduc	tivity
CHEMICAL DATA Volume Purged SAMPLES COLLECT Sample # of containers	Temp Temp	pH container p	Conduc	Analysis
CHEMICAL DATA Volume Purged SAMPLES COLLECT Sample # of containers	Temp Temp	pH container p	Conduc	Analysis
CHEMICAL DATA Volume Purged SAMPLES COLLECT Sample # of containers	Temp Temp	pH container p	Conduc	Analysis

aqua science aqua science inc.

WELL SAMPLING FIELD LOG

		<u>lima</u>	····	
Job #: 3011	In-E	Date of	f sampling	5: 11/23/98 15
Total depth of we	11 (foot)	Sample	d by:@	<u>\</u>
YOUR GODELL OF MC	II (ICCI):	/ / 1/1	1X/~11 4	14
Thickness of float	ing product	g (feet):	17	11 1268 11.20
Depth of well one	ing in much	/C ->		
Number of gallone	ng m water	(leet):		
Number of well of	asing volume	sing volume	(gallons)	•
Reald volume of			·····	
Equipment used to	Stoundwater to	o de purged	before s	ampling (gallons):
Time Evacuation 1	Beaan.	<u> </u>	THE TON - OF	arter non house
Approximate volum	ne of ground	livator	1	ration ranished;
Did the well go de	.v.).	water purge	ec:	many gallons:
Time camples were	0 0011		W OIL TON	many gamons:
Depth to water at	time of same			
Percent recent				
Samples collected	with: ded	Cated ha	7	ML 1) C
ANDONE COLOR. A	۸ د فسا			
D		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		
		ple: none	101. STIG	ht HC
CHEMICAL DATA Volume Purged		ple: none	Conduct	
CHEMICAL DATA		7000		
CHEMICAL DATA		7000		
CHEMICAL DATA		7000		
CHEMICAL DATA		7000		
CHEMICAL DATA	<u>Temp</u>	7000		
CHEMICAL DATA	Temp TED	pH De container P	Conduct	tivity
CHEMICAL DATA Volume Purged 5 SAMPLES COLLECT Sample # of container	Temp TED S Volume & typ	pH De container P	Conduct	Livity
CHEMICAL DATA Volume Purged 5 SAMPLES COLLECT Sample # of container	Temp TED S Volume & typ	pH De container P	Conduct	Livity
CHEMICAL DATA Volume Purged 5 SAMPLES COLLECT Sample # of container	Temp TED S Volume & typ	pH De container P	Conduct	Livity
CHEMICAL DATA Volume Purged SAMPLES COLLEC Sample # of container	Temp TED S Volume & typ	pH De container P	Conduct	Livity



WELL SAMPLING FIELD LOG

JOD #:		Zima	
Well Marron in		Date of	sampling: 11123148 d by: Well diameter (inches):
Total depth of my	<u> </u>	Sample	d by: <u>G</u> S
Depth to water b	efore com	25,22	Well diameter (inches):
THEOLD OF WALL AS		-	
Number of gallon	S per well c	(1661):2((gallons): oved:
INUMBER Of well a	20.010.01	-	(8-120/10/
Time Evacuation	o purge the	well: dedi	ated batter
THOV SIBILIANTHALL	me of anous	.1	- addition Linished.
Time some	ry?:	Af	ter how many goll
Depth to water at	time of sam	nling:	many gailons:
Percent recovery a	it time of sa	mpling.	or:
Samples collected	with: ded	icated ball	
Description 6		Od-	OI:
pescription of sedi	ment in san	ple:	or:
CHEMICAL DATA			
DATA			
Volume Purged	Temp		
Y	<u> </u>	<u>H</u> g	Conductivity
·			Conductività
			<u>conductività</u>
			CONGUCITARY
			and the same and the born the same than the same
	TED - no + (allected due	
SAMPLES COLLEC	TED - not (collected due	to floodal gotter
SAMPLES COLLEC	TED - No i (rellected due	to floodal gotter
SAMPLES COLLEC	TED - 116 4 (s	container Pro	
SAMPLES COLLEC	TED - No i (rellected due	to flooded gotter
SAMPLES COLLEC	TED - 116 4 (s	celle, led due	to flooded gotter
SAMPLES COLLEC	TED - No ; (container Pro	to flooded gotter

APPENDIX B

Certified Analytical Report and Chain of Custody Documentation

CHROMALAB, INC.

Environmental Services (SDB)

December 3, 1998

Submission #: 9811403

AQUA SCIENCE ENGINEERS INC

Atten: GREG SCHRAMM

Project: ZIMA

Received: November 24, 1998

Project#: 3011

 $re\colon$ One sample for Gasoline BTEX MTBE analysis.

Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: MW-2

Sp1#: 217825

Matrix: WATER

Sampled: November 23, 1998 Run#:16260

Analyzed: December 2, 1998

ANALYTE GASOLINE MTBE	RESULT (ug/L) N.D.	REPORTING LIMIT (ug/L) 10000	BLANK RESULT (ug/L)	BLANK DILUTION SPIKE FACTOR (%)
BENZENE TOLUENE ETHYL BENZENE XYLENES	9100 N.D. 150 N.D. 180	1000 100 100 100 100	N.D. N.D. N.D. N.D. N.D. N.D.	104 200 86 200 95 200 94 200 92 200 91 200

Vincent Vancil

Analyst

Michael Verona

Operations Manager

CHROMALAB, INC.

Environmental Services (SDB)

December 3, 1998

Submission #: 9811403

AQUA SCIENCE ENGINEERS INC

Atten: GREG SCHRAMM

Project: ZIMA

Received: November 24, 1998

Project#: 3011

re: One sample for Gasoline BTEX MTBE analysis.

Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: MW-5

Spl#: 217826 Sampled: November 23, 1998

Matrix: WATER

Run#:16287

Analyzed: December 2, 1998

ANALYTE GASOLINE MTBE BENZENE TOLUENE ETHYL BENZENE XYLENES	RESULT (ug/L) 63000 87000 5700 2900 500 2200	REPORTING LIMIT (ug/L) 25000 2500 250 250 250 250	BLANK RESULT (ug/L) N.D. N.D. N.D. N.D. N.D. N.D.	BLANK DILUTION SPIKE FACTOR (%) 101 500 91 500 100 500 99 500 96 500 95 500
05				

Craig Huntzinger

Analyst

Michael Verona

Laboratory Operations Manager

Aqua Science Engineers, Inc. 2411 Old Crow Canyon Road, #4, San Ramon, CA 94583 (925) 820-9391

FAX (925) 837-4853 SAMPLER (SIGNATURE) PAGE ___OF ! (PHONE NO.) PROJECT NAME Zima #281820-4341 ADDRESS Z951 High St. JOB NO. 3011 ANALYSIS REOUEST DATE 1/23/98 PURGEABLE HALOCARBONS (EPA 601/8010) SEMI-VOLATILE ORGANICS (EPA 625/8270) SPECIAL INSTRUCTIONS: TPH-GAS/MTBE & BTEX (EPA 5030/8015-8020) ORGANOPHOSPHORUS PESTICIDES (EPA 8140) PURGEABLE AROMATICS (EPA 602/8020) ORGANOCHLORINE HERBICIDES (EPA 8150) PCBs & PESTICIDES (EPA 608/8080) VOLATILE ORGANICS (EPA 624/8240) FUEL OXYGENATES (EPA 8260) LUFT METALS (5) (EPA 6010+7000) CAM 17 METALS (EPA 6010+7000) COMPOSITE SAMPLE ID. DATE TIME MATRIX NO. OF SAMPLES Mw-2 11123 11:66 المحافظين X mw - 5 11:11 χ^{c} RECEIVED BY:

RECEIVED BY:

RECEIVED BY:

RECEIVED BY LABORATORY: COMMENTS:

(signature)

(time) (signatur