2580

AEI CONSULTANTS
Environmental & Civil Engineering Services

3210 Old Tunnel Road, Suite B, Lafayette, CA 94549-4567
Phone: (925) 283-6000 Fax: (925) 283-6121

October 25, 2001

SLIC

Mr. Barney Chan
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Subject: **Groundwater Monitoring Report**
Foothill Square Shopping Center
10700 MacArthur Boulevard
Oakland, California
Project No. 3067

Dear Mr. Chan:

Enclosed is a copy of the report of most recent episode of monitoring and sampling of groundwater at the former Young's Cleaners. A copy of this report has also been sent to Betty Graham of the RWQCB.

Please contact me at (925) 283-6000 if you have any questions.

Sincerely,
AEI CONSULTANTS,

Peter McIntyre
Project Geologist

October 25, 2001

GROUNDWATER MONITORING REPORT

August 2001

10700 MacArthur Boulevard
Oakland, California

Project No. 3067

Prepared For

Jay-Phares Corporation
10700 MacArthur Boulevard, Suite 200
Oakland, CA 94506

Prepared By

AEI Consultants
3210 Old Tunnel Road, Suite B
Lafayette, CA 94549
(925) 283-6000

AEI

AEI CONSULTANTS
Environmental & Civil Engineering Services

3210 Old Tunnel Road, Suite B, Lafayette, CA 94549-4567
Phone: (925) 283-6000 Fax: (925) 283-6121

October 25, 2001

Messrs. Ken Phares & John Jay
Jay-Phares Corporation
10700 MacArthur Boulevard, Suite 200
Oakland, CA 94605

Subject: **Groundwater Monitoring Report**
Foothill Square Shopping Center
10700 MacArthur Boulevard
Oakland, California
AEI Project No. 3067

Dear John Jay & Ken Phares:

AEI Consultants (AEI) has prepared this groundwater monitoring report on behalf of The Jay-Phares Corporation, the owner and managers of the Foothill Square Shopping Center (Figure 1: Site Location Map). The documentation of groundwater quality beneath and around the site is performed to monitor the extent and stability of the chlorinated hydrocarbon plume released from a former dry-cleaning business at the site.

This reporting is performed in accordance with the requirements of the Alameda County Health Care Services Agency (ACHCSA) and the Regional Water Quality Control Board (RWQCB). This report presents the findings of the most recent semi-annual episode of monitoring and sampling of the wells.

Site Description and Background

The site is located in a mixed commercial and residential area of Oakland, California. The property is currently developed with the Foothill Square Shopping Center (FSSC). Refer to Figure 1: Site Location Map. One of the former tenants of the FSSC was Young's Cleaners, which operated from approximately 1984 though 1995.

Between 1989 and 1997, several phases of investigations took place into the extent of a release of chlorinated solvents from the former dry-cleaners. A total of 17 monitoring wells have been installed. In 1996, AEI removed and treated approximately 2,400 cubic yards of impacted soil.

During the excavation and subsequent paving and improvement activities, five of the wells, WGR-MW1, WGR-MW5, AMW-2, AMW-3, and AMW-7 were closed, damaged, or covered over. Please refer to Figure 2 for locations of the remaining wells.

This report summarizes the activities and results of the August 2001 well monitoring and sampling activities.

Summary of Activities

A total of fourteen wells remain at the site. Each well was opened and water levels were obtained with an electric water level indicator. The elevations of the top of the well casings were obtained from a previous groundwater monitoring report prepared by PES Environmental, Inc. The wells were purged using either a battery powered submersible pump or manual bailing, and a groundwater sample was collected from the appropriate wells using clean disposable Teflon bailers.

Although detailed well screen interval data are not currently available for all of the wells, in general, wells identified as deep are screened from approximately 40 to 56 feet bgs, and wells identified as shallow are screened from 20 to 30 feet bgs.

Temperature, pH, and specific conductivity were measured during the purging of the wells. At least 3 well volumes of water were removed prior to the collection of samples from each well. Once monitoring parameters stabilized and groundwater had recharged to at least 90% of its original volume, a water sample was collected.

Water was poured from bailers into 40-ml VOA vials, and the vials were capped so that no head space or air bubbles were visible within the sample containers. A total of six (6) samples were shipped on ice under proper chain of custody protocol to McCampbell Analytical, Inc. of Pacheco, California (State Certification #1644). All groundwater samples were analyzed for chlorinated volatile organic compounds by EPA method 601/8010.

Field Results

Water levels in the shallow, unconfined aquifer ranged from 37.02 to 52.39 feet above mean sea level (msl) in August 2001. The average water table elevation was 1.33 feet lower than in February 2001. Groundwater was determined to flow to the northwest, which is consistent with previous episodes.

Piezometric levels in the deep confined aquifer ranged from 25.78 to 46.25 feet above msl in August 2001. The average piezometric levels in this aquifer are 1.40 feet lower than in February 2001. Groundwater flow in the deep aquifer is to the southwest, which is also consistent with previous findings.

Groundwater elevation data are summarized in Table 1. The water level elevation contours are shown in Figures 3 and 4. Refer to Appendix A for Groundwater Monitoring Well Field Sampling Forms.

Groundwater Quality

The highest concentrations of PCE, TCE, and cis- and trans-1,2 DCE were detected in the water sample taken from shallow well AMW-6. The highest concentrations of PCE and TCE in the deeper zone were found at 550 µg/L and 38 µg/L, respectively, in well MW-6. PCE was detected off-site up to 16 µg/L in well FHS-MW-11.

A summary of groundwater quality data, including historical results, is presented in Table 2. Laboratory results and chain of custody documents are included in Appendix B. Refer to Figures 7 through 9 for a visual description of contaminant trends in selected wells.

Conclusions and Recommendations

In general, chlorinated hydrocarbon concentrations detected during the recent episode were consistent with previous episodes. A decreasing trend was noted for all contaminants in well AMW-6, as is shown in Figure 7. Although no concentrations of the PCE degradation end-products, vinyl chloride or chloroethane, have been observed to date; PCE concentrations are decreasing, and degradation is apparent in AMW-6, evidenced by TCE and cis- and trans-1,2 DCE (see Figure 9). In general, the plume remains beneath the shopping center, although low concentrations of PCE persist off-site in well FHS MW-11.

Monitoring and sampling will continue on a semi-annual basis, with the next episode scheduled for February 2002. Additional wells are to be sampled during February semester episodes.

References

Augeas Corporation. *Report of Subsurface Investigation, Young's Cleaners, 10700 MacArthur Boulevard, Oakland, California, December 1995.*

AEI Consultants Soil Remediation and Excavation Project Summary, *February 7, 1996.*

PES Environmental, Inc. *Groundwater Monitoring Well Installation, Foothill Square Shopping Center, 10700 MacArthur Boulevard, Oakland, California, February 3, 1997.*

PES Environmental, Inc. *Results of Additional Groundwater Investigation and Risk Evaluation, Former Young's Cleaners, Foothill Square Shopping Center, 10700 MacArthur Boulevard, Oakland, California, March 24, 1997.*

PES Environmental, Inc. Quarterly Monitoring and Well Installation Report, *Former Young's Cleaners, Foothill Square Shopping Center, 10700 MacArthur Boulevard, Oakland, California, January 22, 1998.*

AEI Consultants Quarterly Groundwater Monitoring Report, *Young's Cleaners, Foothill Shopping Center, 10700 MacArthur Boulevard, Oakland, California, April 20, 1999.*

AEI Consultants Quarterly Groundwater Monitoring Report, *Young's Cleaners, Foothill Shopping Center, 10700 MacArthur Boulevard, Oakland, California, May 25, 1999.*

AEI Consultants Quarterly Groundwater Monitoring Report, *Young's Cleaners, Foothill Shopping Center, 10700 MacArthur Boulevard, Oakland, California, October 25, 1999.*

AEI Consultants Quarterly Groundwater Monitoring Report, *Young's Cleaners, Foothill Shopping Center, 10700 MacArthur Boulevard, Oakland, California, March 21, 2000.*

AEI Consultants Groundwater Monitoring Report, *10700 MacArthur Boulevard, Oakland, California, March 19, 2001.*

Report Limitations and Signatures

This report presents a summary of work completed by AEI Consultants, including observations and descriptions of site conditions. Where appropriate, it includes analytical results for samples taken during the course of the work. The number and location of samples are chosen to provide required information, but it cannot be assumed that they are entirely representative of all areas not sampled. All conclusions and recommendations are based on these analyses, observations, and the governing regulations. Conclusions beyond those stated and reported herein should not be inferred from this document.

These services were performed in accordance with generally accepted practices in the environmental engineering and construction field which existed at the time and location of the work.

Sincerely,
AEI Consultants

Peter McIntyre
Project Geologist

Joseph P. Derhake, PE
Principal

Figures

Figure 1	Site Location Map
Figure 2	Site Plan
Figure 3	Piezometric Contours – Deep Aquifer (8/01)
Figure 4	Water Table Contours –Shallow Aquifer (8/01)
Figure 5	PCE Concentrations – Shallow Aquifer (8/01)
Figure 6	PCE Concentrations – Deep Zone (8/01)
Figure 7	PCE vs. Time – Selected Shallow Wells
Figure 8	PCE vs. Time – Selected Deep Wells
Figure 9	Concentrations vs. Time – AMW-6

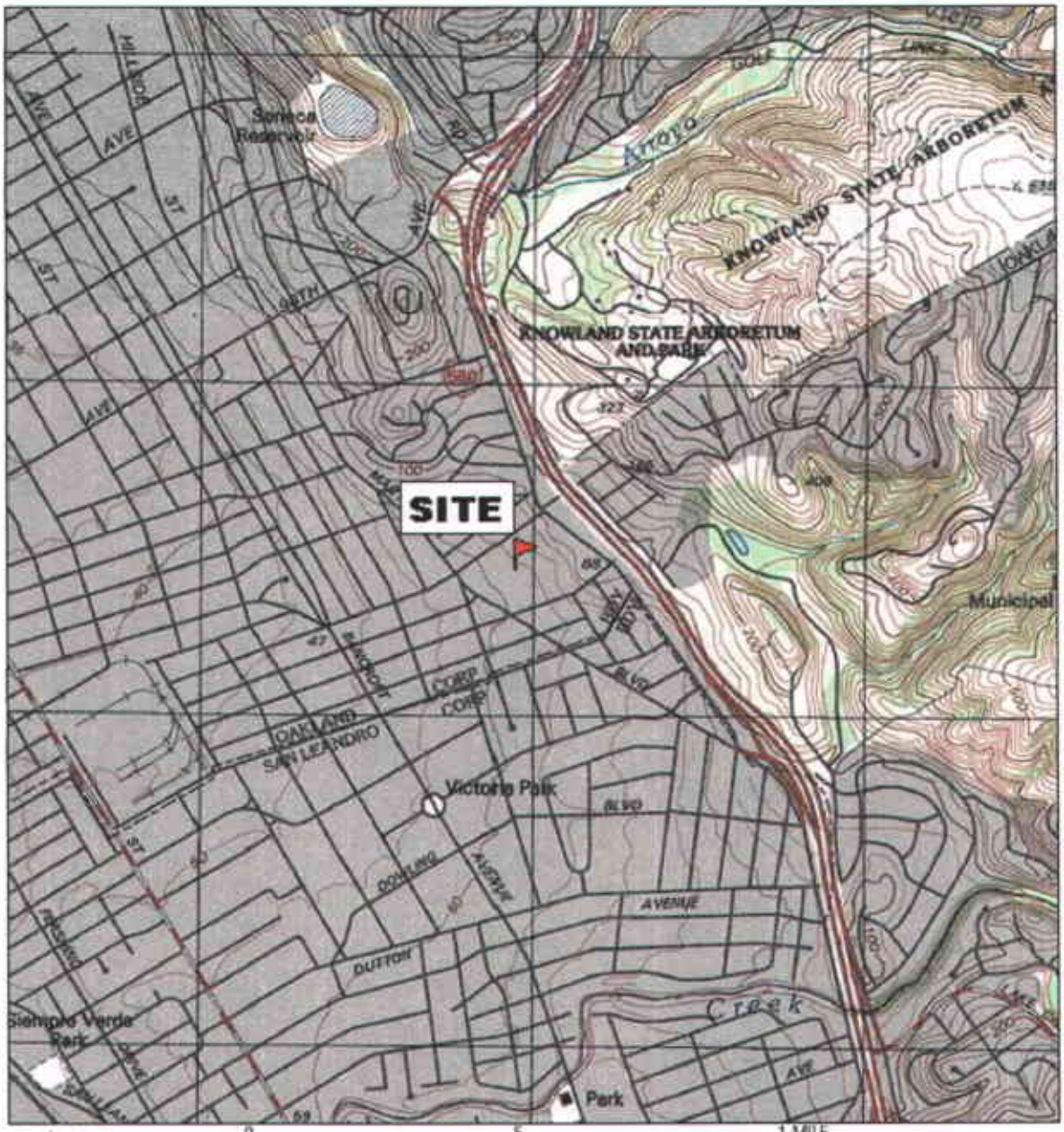
Tables

Table 1	Groundwater Levels
Table 2	Groundwater Sample Analytical Results

Appendices

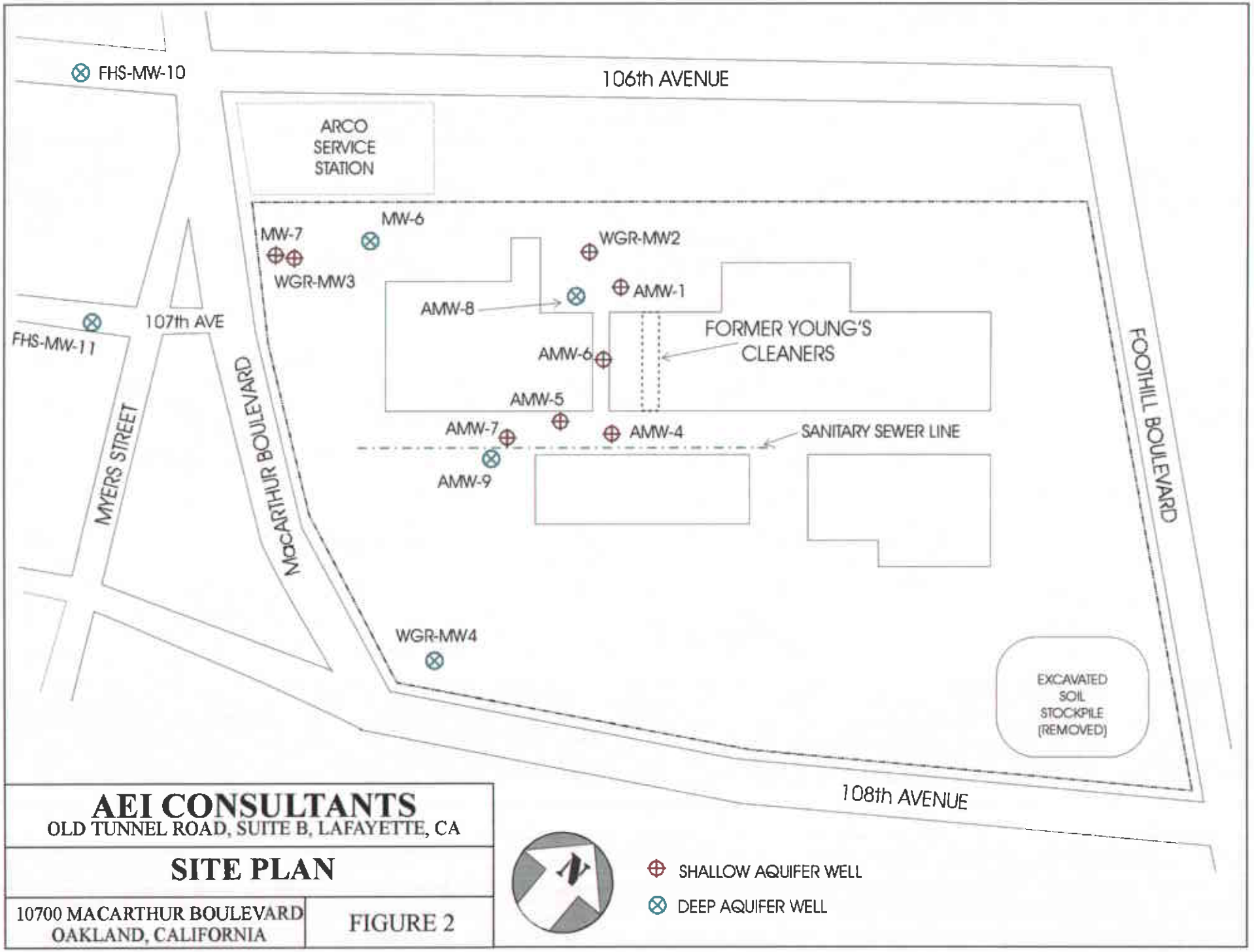
Appendix A Groundwater Monitoring Well Field Sampling Forms
Appendix B Laboratory Analyses With Chain of Custody Documentation

cc: Barney Chan, Alameda County Health Care Services Agency
Ms. Betty Graham, Regional Water Quality Control Board



Printed from TOPO! ©2001 National Geographic Holdings (www.topo.com)

AEI CONSULTANTS 3210 OLD TUNNEL RD. STE B. LAFAYETTE, CA	
SITE LOCATION MAP	
10700 MACARTHUR BLVD OAKLAND, CALIFORNIA	**FIGURE 1** PROJECT NO. 3067

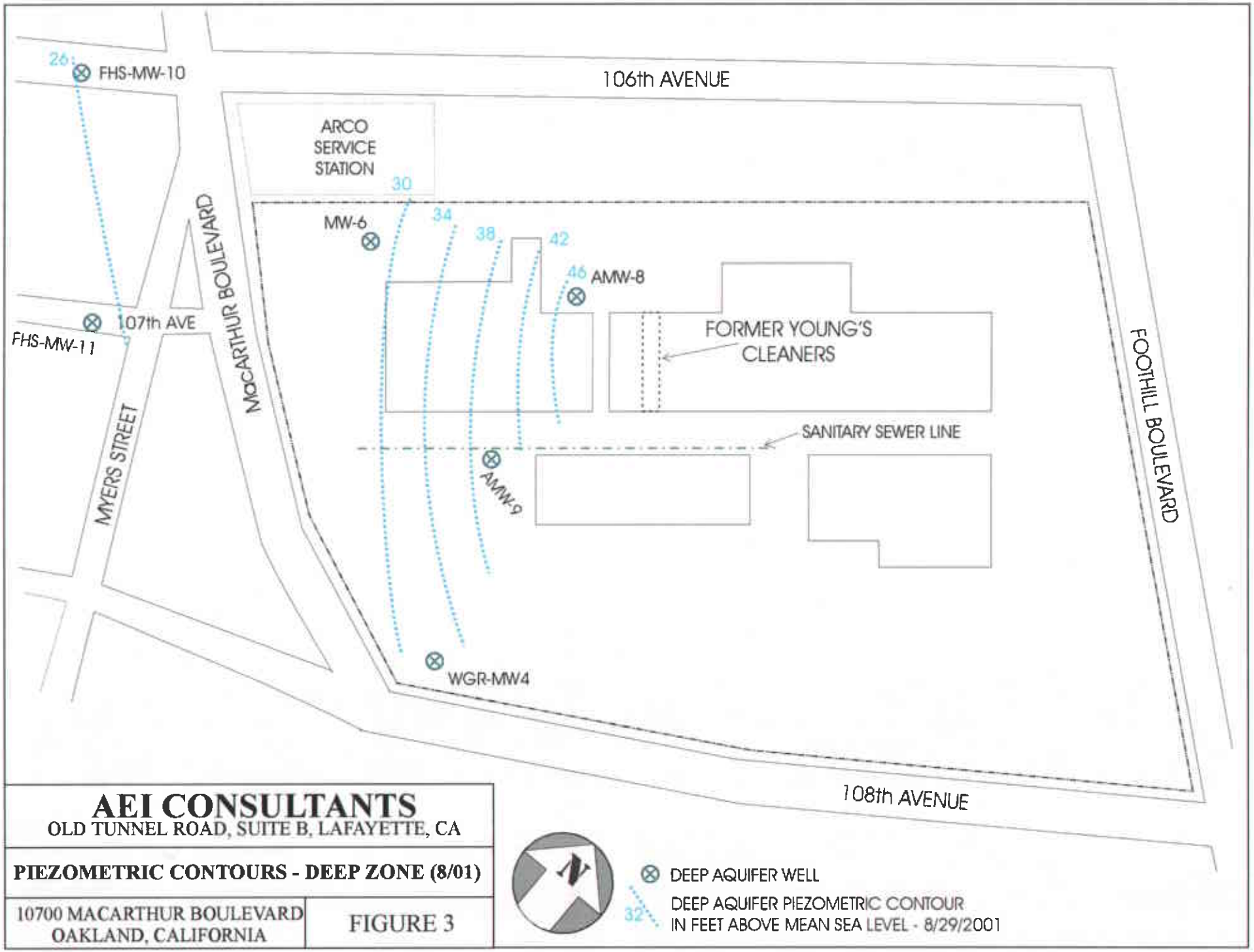


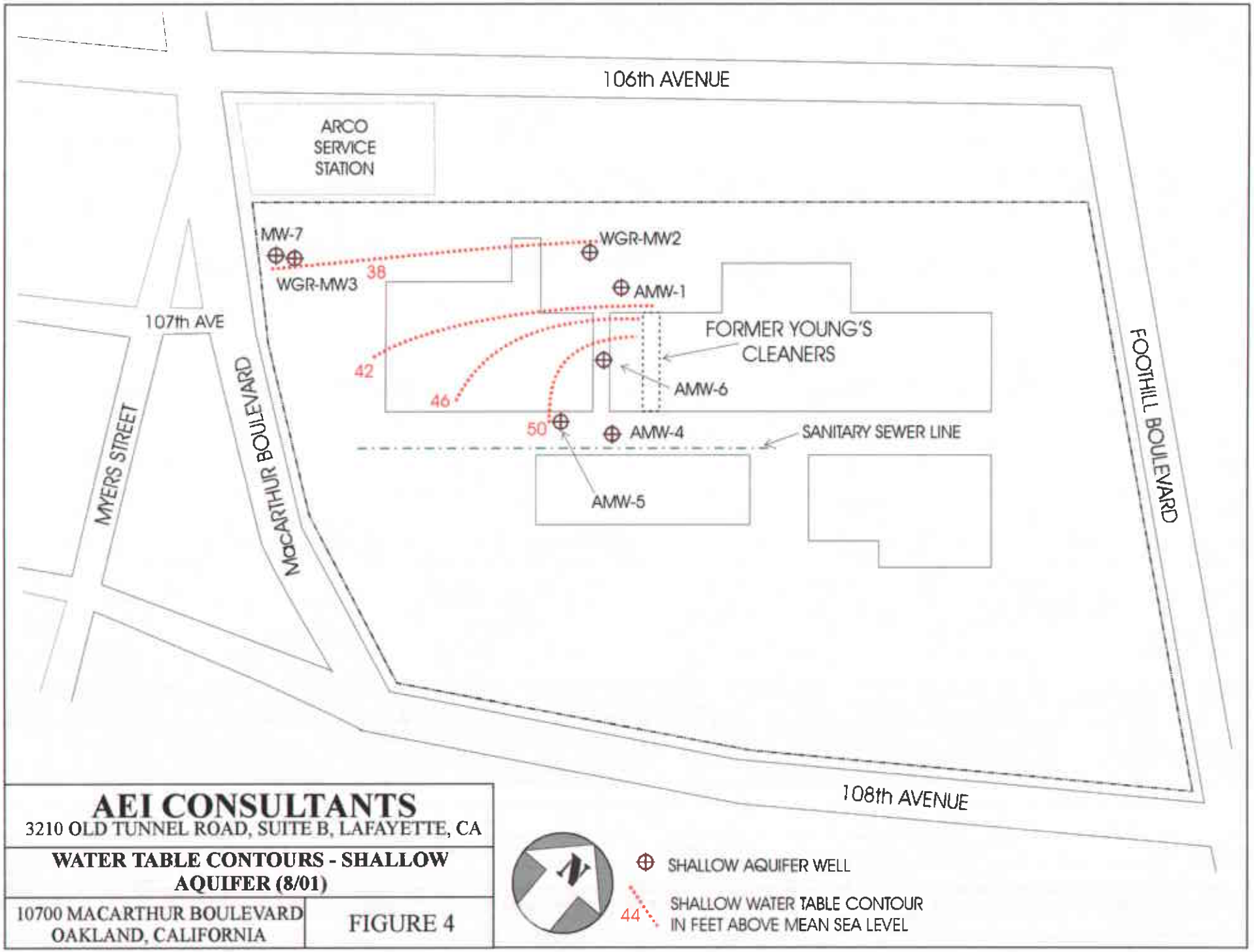
AEI CONSULTANTS
OLD TUNNEL ROAD, SUITE B, LAFAYETTE, CA

SITE PLAN

10700 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

FIGURE 2


26
FHS-MW-10
106th AVENUE
ARCO
SERVICE
STATION
30
34
38
42
46
MW-6
AMW-8
FORMER YOUNG'S
CLEANERS
FOOTHILL BOULEVARD
107th AVE
FHS-MW-11
MACARTHUR BOULEVARD
MYERS STREET
SANITARY SEWER LINE
AMW-9
WGR-MW4
108th AVENUE
AEI CONSULTANTS
OLD TUNNEL ROAD, SUITE B, LAFAYETTE, CA
PIEZOMETRIC CONTOURS - DEEP ZONE (8/01)
10700 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA
FIGURE 3
N
DEEP AQUIFER WELL
32
DEEP AQUIFER PIEZOMETRIC CONTOUR
IN FEET ABOVE MEAN SEA LEVEL - 8/29/2001

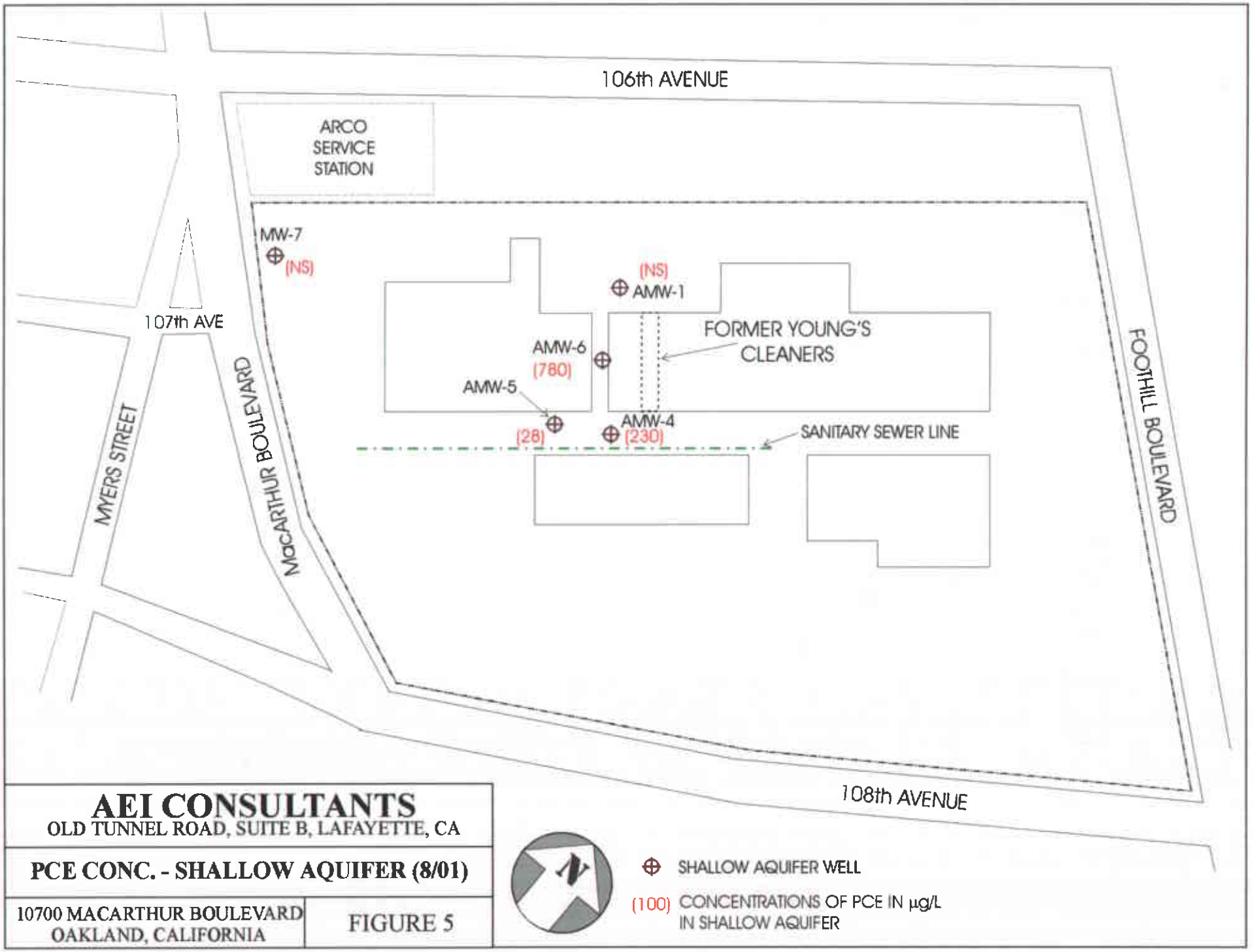


AEI CONSULTANTS
3210 OLD TUNNEL ROAD, SUITE B, LAFAYETTE, CA

WATER TABLE CONTOURS - SHALLOW AQUIFER (8/01)

10700 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

FIGURE 4

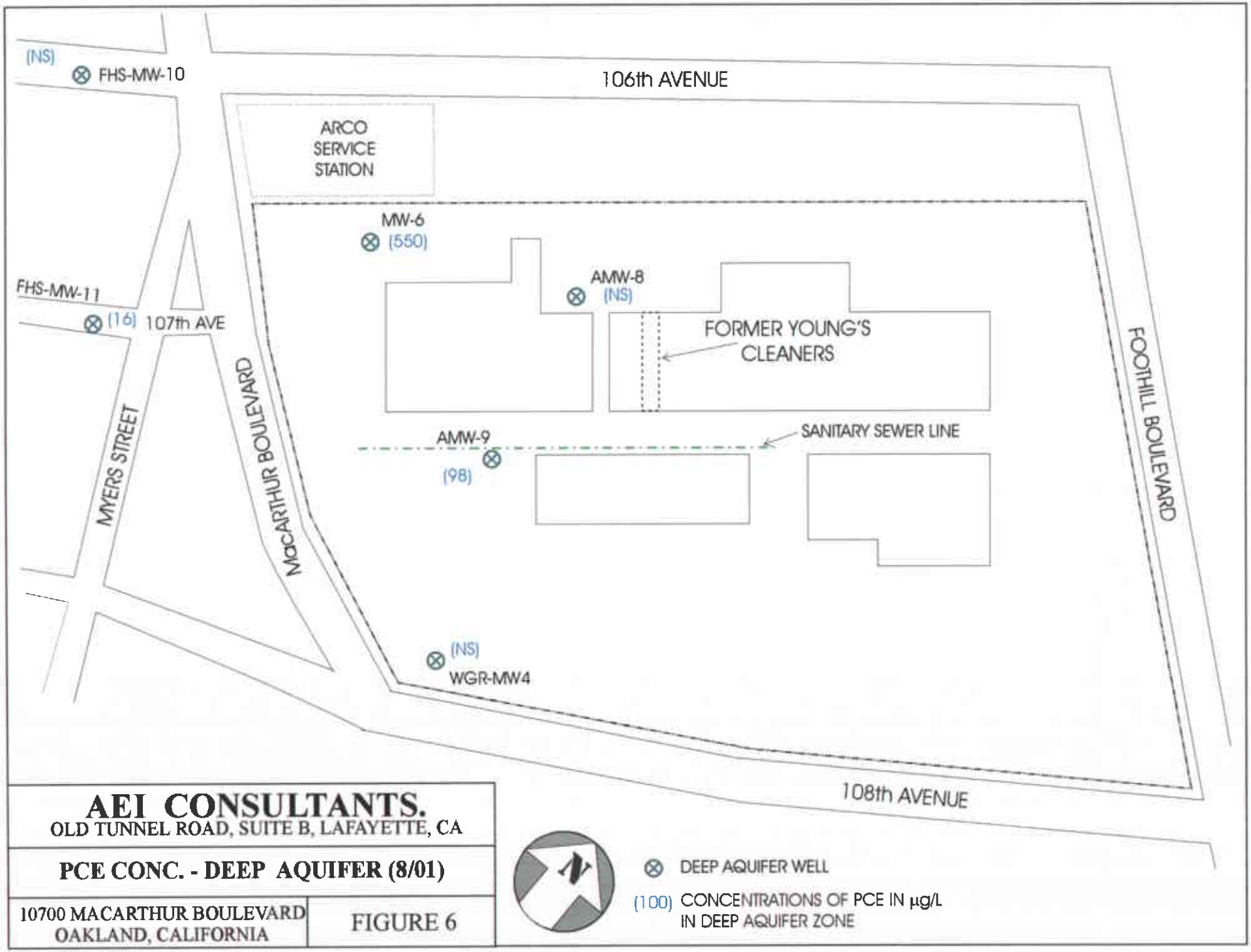


AEI CONSULTANTS
OLD TUNNEL ROAD, SUITE B, LAFAYETTE, CA

PCE CONC. - SHALLOW AQUIFER (8/01)

10700 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

FIGURE 5



AEI CONSULTANTS.
OLD TUNNEL ROAD, SUITE B, LAFAYETTE, CA

PCE CONC. - DEEP AQUIFER (8/01)

10700 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

FIGURE 6

FIGFURE 7

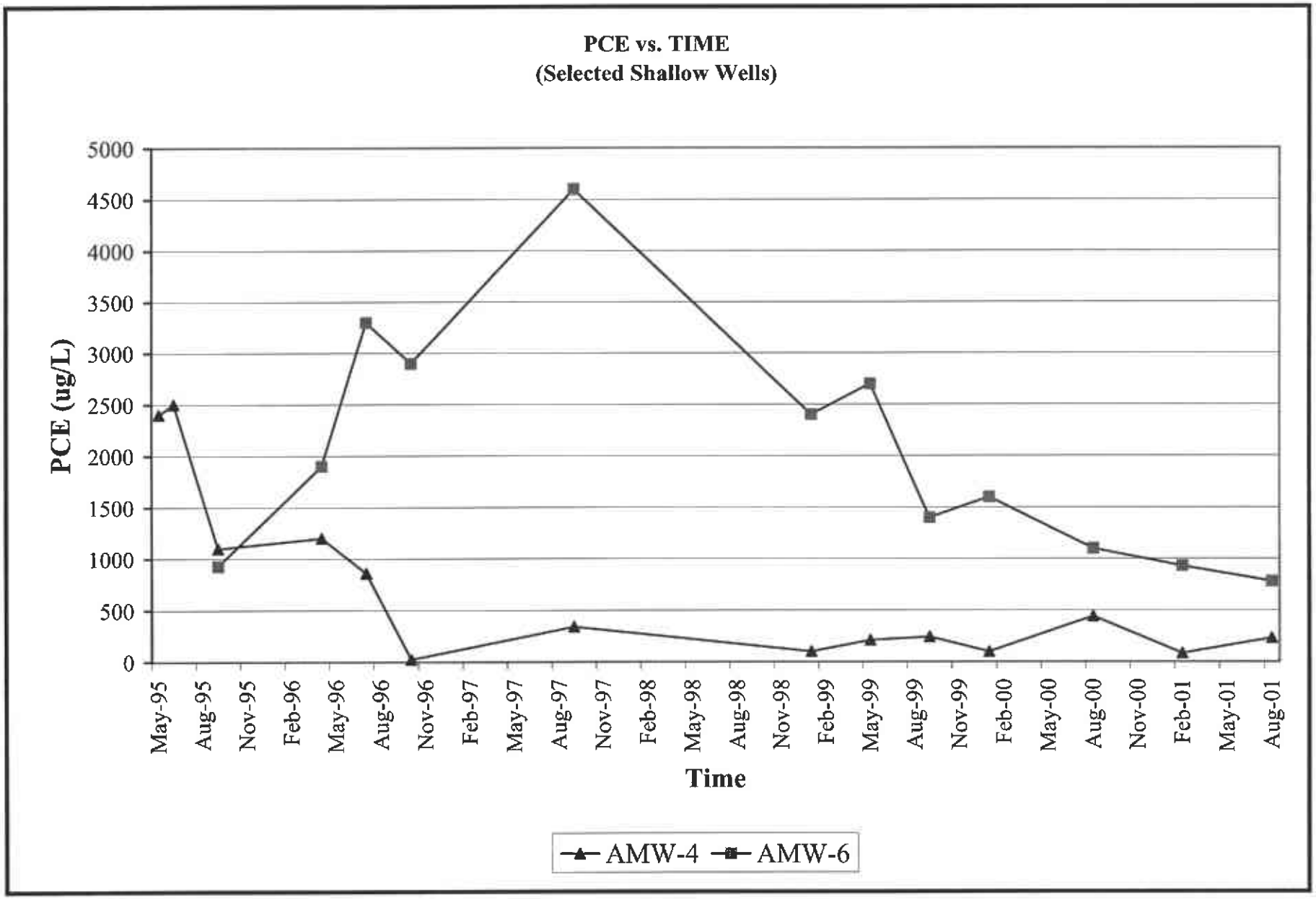

PCE vs. TIME
(Selected Shallow Wells)
PCE (ug/L)
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
May-95
Aug-95
Nov-95
Feb-96
May-96
Aug-96
Nov-96
Feb-97
May-97
Aug-97
Nov-97
Feb-98
May-98
Aug-98
Nov-98
Feb-99
May-99
Aug-99
Nov-99
Feb-00
May-00
Aug-00
Nov-00
Feb-01
May-01
Aug-01
Time
AMW-4
AMW-6

FIGURE 8

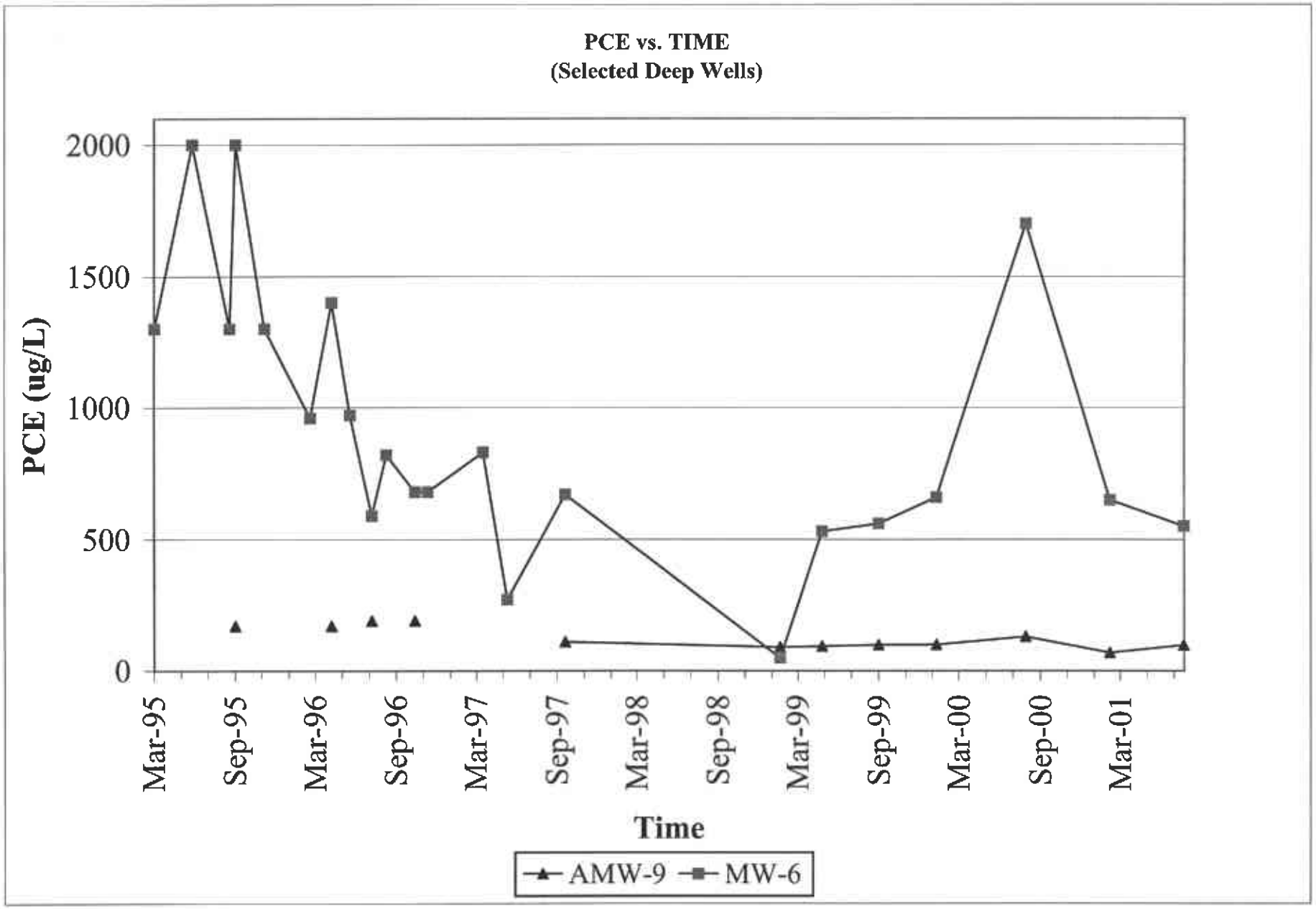

PCE vs. TIME
(Selected Deep Wells)
PCE (ug/L)
2000
1500
1000
500
0
Mar-95
Sep-95
Mar-96
Sep-96
Mar-97
Sep-97
Mar-98
Sep-98
Mar-99
Sep-99
Mar-00
Sep-00
Mar-01
Time
AMW-9
MW-6

FIGURE 9

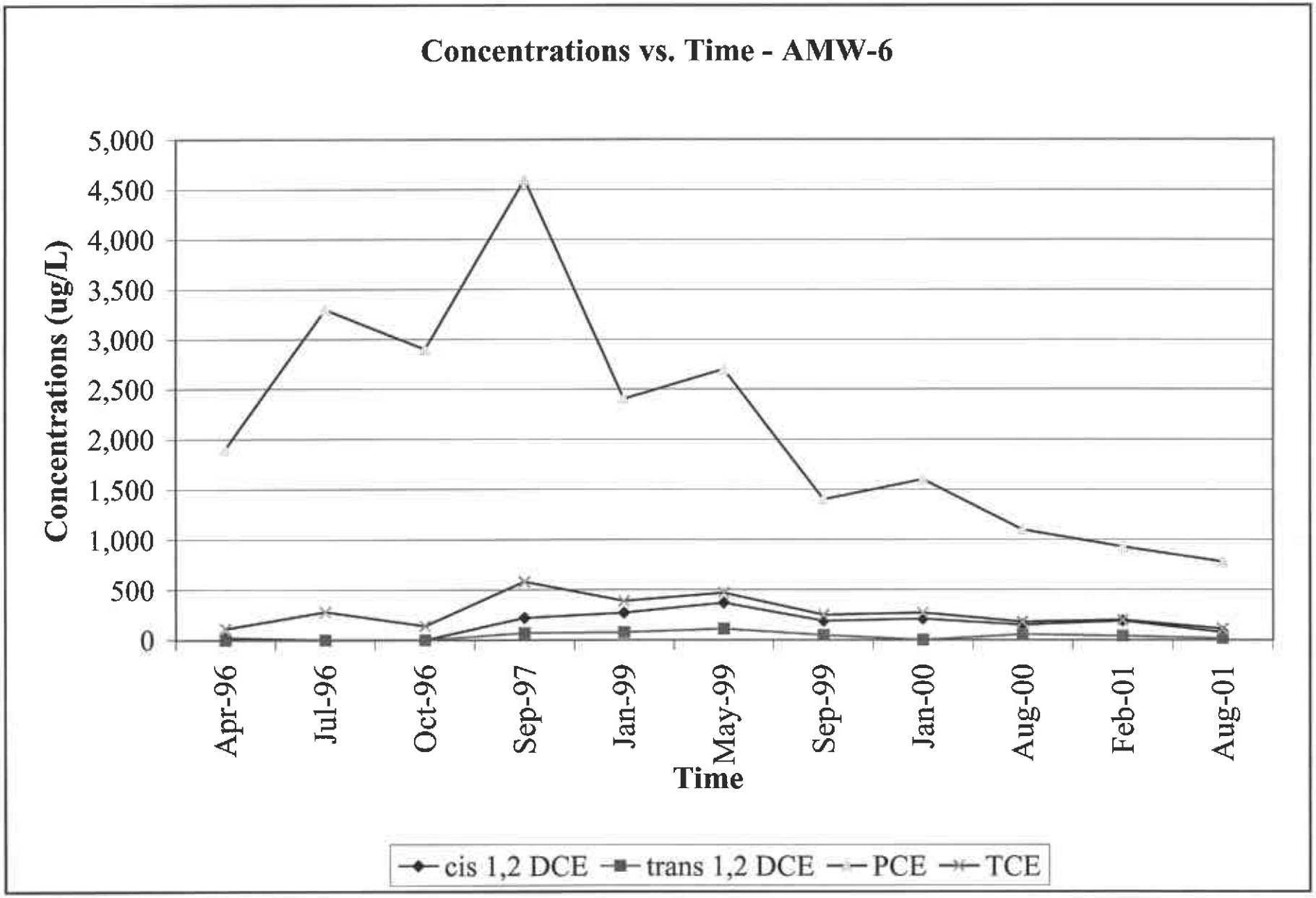

Concentrations vs. Time - AMW-6
Concentrations (ug/L)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
Apr-96
Jul-96
Oct-96
Sep-97
Jan-99
May-99
Sep-99
Jan-00
Aug-00
Feb-01
Aug-01
Time
cis 1,2 DCE
trans 1,2 DCE
PCE
TCE

Table 1
Groundwater Levels

Well ID (Aquifer zone)	Date	Well Elevation (ft msl)	Depth to Water (ft)	Groundwater Elevation (Potential) (ft msl)
AMW-1	1/29/1999	64.51	23.01	41.50
(Shallow)	5/5/1999	64.51	21.25	43.26
	10/9/1999	64.51	24.14	40.37
	1/20/2000	64.51	24.66	39.85
	8/8/2000	64.51	23.30	41.21
	2/15/2001	64.51	23.22	41.29
	8/29/2001	64.51	24.38	40.13
AMW-4	1/29/1999	64.79	11.51	53.28
(Shallow)	5/5/1999	64.79	10.14	54.65
	10/9/1999	64.79	12.04	52.75
	1/20/2000	64.79	13.50	51.29
	8/8/2000	64.79	11.74	53.05
	2/15/2001	64.79	12.32	52.47
	8/29/2001	64.79	12.40	52.39
AMW-5	1/29/1999	64.97	13.87	51.10
(Shallow)	5/5/1999	64.97	12.83	52.14
	10/9/1999	64.97	14.25	50.72
	1/20/2000	64.97	14.91	50.06
	8/8/2000	64.97	14.14	50.83
	2/15/2001	64.97	14.32	50.65
	8/29/2001	64.97	14.72	50.25
AMW-6	1/29/1999	65.10	12.74	52.36
(Shallow)	5/5/1999	65.10	11.30	53.80
	10/9/1999	65.10	13.29	51.81
	1/20/2000	65.10	14.21	50.89
	8/8/2000	65.10	12.95	52.15
	2/15/2001	65.10	12.64	52.46
	8/29/2001	65.10	13.65	51.45
AMW-7	1/29/1999	64.24	14.91	49.33
(Shallow)	5/5/1999	64.24	*	
AMW-8	1/29/1999	64.55	16.86	47.69
(Deep)	5/5/1999	64.55	14.46	50.09
	10/9/1999	64.55	17.10	47.45
	1/20/2000	64.55	18.51	46.04
	8/8/2000	64.55	16.71	47.84
	2/15/2001	64.55	17.31	47.24
	8/29/2001	64.55	18.30	46.25
AMW-9	1/29/1999	63.48	23.22	40.26
(Deep)	5/5/1999	63.48	21.40	42.08
	10/9/1999	63.48	23.74	39.74
	1/20/2000	63.48	24.92	38.56
	8/8/2000	63.48	23.01	40.47
	2/15/2001	63.48	21.20	42.28
	8/29/2001	63.48	22.59	40.89

Table 1: Continued

Well ID (Aquifer zone)	Date	Well Elevation (ft msl)	Depth to Water (ft)	Groundwater Elevation (Potential) (ft msl)
WGR MW-2	1/29/1999	63.18	23.41	39.77
(Shallow)	5/5/1999	63.18	21.41	41.77
	10/9/1999	63.18	24.62	38.56
	1/20/2000	63.18	25.24	37.94
	8/8/2000	63.18	23.41	39.77
	8/29/2001	63.18	25.09	38.09
WGR MW-3	1/29/1999	58.34	15.81	42.53
(Shallow)	5/5/1999	58.34	18.43	39.91
	10/9/1999	58.34	21.38	36.96
	1/20/2000	58.34	19.76	38.58
	8/8/2000	58.34	20.88	37.46
	8/29/2001	58.34	21.22	37.12
WGR MW-4	1/29/1999	60.02	26.23	33.79
(Deep)	5/5/1999	60.02	23.80	36.22
	10/9/1999	60.02	27.73	32.29
	1/20/2000	60.02	27.97	32.05
	8/8/2000	60.02	26.00	34.02
	2/15/2001	60.02	26.55	33.47
	8/29/2001	60.02	27.14	32.88
FHS MW-10	1/29/1999	52.34	23.91	28.43
(Deep)	5/5/1999	52.34	20.55	31.79
	10/9/1999	52.34	25.00	27.34
	1/20/2000	52.34	27.23	25.11
	8/8/2000	52.34	24.06	28.28
	2/15/2001	52.34	24.16	28.18
	8/29/2001	52.34	26.11	26.23
FHS MW-11	1/29/1999	54.06	26.38	27.68
(Deep)	5/5/1999	54.06	22.72	31.34
	10/9/1999	54.06	27.42	26.64
	1/20/2000	54.06	29.31	24.75
	8/8/2000	54.06	26.11	27.95
	2/15/2001	54.06	26.43	27.63
	8/29/2001	54.06	28.28	25.78
MW-6	1/29/1999	61.78	32.87	28.91
(Deep)	5/5/1999	61.78	29.41	32.37
	9/10/1999	61.78	33.98	27.80
	1/20/2000	61.78	36.02	25.76
	8/8/2000	61.78	32.73	29.05
	2/15/2001	61.78	33.34	28.44
	8/29/2001	61.78	34.98	26.80
MW-7	1/20/2000	58.64	20.32	38.32
(Shallow)	8/8/2000	58.64	20.50	38.14
	2/15/2001	58.64	16.95	41.69
	8/29/2001	58.64	21.61	37.03

Notes: All well elevations are measured from the top of casing not from the ground surface.
ft msl = feet above mean sea level
* AMW-7 was opened during construction activities, with top soil being introduced to the well, water level and samples were not collected from this well

Table 2
Groundwater Sample Analytical Data

Well (aguifer zone)	Date	Consultant	cis 1,2 DCE µg/L	trans 1,2 DCE µg/L	PCE µg/L	TCE µg/L	VHCs* µg/L
AMW-1	3/23/1995	Augeus	-	<0.5	<0.5	<0.5	<0.5
(shallow)	6/21/1995	Augeus	-	<0.5	<0.5	<0.5	<0.5
	9/11/1995	Augeus	-	<0.5	<0.5	<0.5	<0.5
	4/16/1996	PES	<0.5	<0.5	<0.5	<0.5	<0.5
	7/17/1996	PES	<0.5	<0.5	<0.5	<0.5	<0.5
	10/23/1996	PES	<0.5	<0.5	<0.5	<0.5	<0.5
	9/29/1997	PES	NS	NS	NS	NS	NS
	1/20/2000	AEI	<0.5	<0.5	<0.5	<0.5	<0.5
	8/8/2000	AEI	NS	NS	NS	NS	NS
	2/15/2001	AEI	<0.5	<0.5	<0.5	<0.5	<0.5
	8/29/2001	**AEI**	**NS**	**NS**	**NS**	**NS**	**NS**
AMW-4	5/15/1995	Augeus	NR	<50	2400	<50	NR
(shallow)	6/21/1995	Augeus	NR	<50	2500	<50	NR
	9/13/1995	Augeus	NR	<25	1100	<25	NR
	4/16/1996	PES	<10	<10	1200	10	NR
	7/17/1996	PES	<10	<10	860	<10	NR
	10/23/1996	PES	<0.5	<0.5	22	0.5	NR
	9/29/1997	PES	<3	<3	340	3	NR
	1/29/1999	AEI	<3	<3	100	<3	<3
	5/5/1999	AEI	<5	<5	210	<5	<5
	9/10/1999	AEI	10	<5	240	18	<5
	1/20/2000	AEI	46	<2.5	97	6.2	<2.5
	8/8/2000	AEI	<5	<5	440	8	<5
	2/15/2001	AEI	<2.5	<2.5	81	2.6	<2.5
	8/29/2001	**AEI**	**<2.5**	**<2.5**	**230**	**4.6**	**<2.5**
AMW-5	5/15/1995	Augeus	NR	<0.5	1.2	<0.5	NR
(shallow)	6/21/1995	Augeus	NR	<0.5	<0.5	<0.5	NR
	9/13/1995	Augeus	NR	<0.5	<0.5	<0.5	NR
	4/16/1996	PES	<0.5	<0.5	<0.5	<0.5	NR
	7/17/1996	PES	<0.5	<0.5	0.6	<0.5	NR
	10/23/1996	PES	<0.5	<0.5	0.8	<0.5	NR
	9/29/1997	PES	<0.5	<0.5	13	<0.5	NR
	1/29/1999	AEI	NA	NA	NA	NA	NA
	5/5/1999	AEI	<1	<1	36	<1	<1
	9/10/1999	AEI	<1	<1	35	<1	<1
	1/20/2000	AEI	<1	<1	36	<1	<1
	8/8/2000	AEI	<0.5	<0.5	50	0.72	<0.5
	2/15/2001	AEI	<0.5	<0.5	26	0.76	<0.5
	8/29/2001	**AEI**	**<0.5**	**<0.5**	**28**	**0.87**	**<0.5**
AMW-6	9/13/1995	Augeus	NR	<25	930	<25	NR
(shallow)	4/16/1996	PES	20	<10	1900	110	NR
	7/17/1996	PES	<30	<30	3300	280	NR
	10/23/1996	PES	<30	<30	2900	140	NR
	9/29/1997	PES	220	70	4600	580	NR
	1/29/1999	AEI	270	77	2400	390	<63
	5/5/1999	AEI	370	110	2700	470	<71
	9/10/1999	AEI	190	49	1400	250	<36
	1/20/2000	AEI	210	<35	1600	270	<35
	8/8/2000	AEI	150	56	1100	180	<25
	2/15/2001	AEI	190	40	930	200	<25
	8/29/2001	**AEI**	**77**	**17**	**780**	**110**	**<10**

Table 2 Continued

Well (aguifer zone)	Date	Consultant	cis 1,2 DCE µg/L	trans 1,2 DCE µg/L	PCE µg/L	TCE µg/L	VHCs* µg/L
AMW-7	9/13/1995	Augeus	NR	<25	2350	340	NR
(shallow)	4/16/1996	PES	2200	60	2300	500	NR
	7/17/1996	PES	2100	<30	2400	530	NR
	10/23/1996	PES	3100	50	3400	610	NR
	9/29/1997	PES	33	20	520	100	NR
	1/29/1999	AEI	22	<3	95	12	<3
	5/5/1999	AEI	NA	NA	NA	NA	NA
	9/10/1999	AEI	NA	NA	NA	NA	NA
	1/20/2000	AEI	NA	NA	NA	NA	NA
	8/8/2000	AEI	NA	NA	NA	NA	NA
	2/15/2001	AEI	NA	NA	NA	NA	NA
	8/29/2001	**AEI**	**NA**	**NA**	**NA**	**NA**	**NA**
AMW-8	9/13/1995	Augeus	-	<25	95	<25	<25
(deep)	4/16/1996	PES	<0.5	<0.5	0.8	<0.5	<0.5
	7/17/1996	PES	<0.5	<0.5	1.6	<0.5	<0.5
	10/23/1996	PES	<0.5	<0.5	<0.5	<0.5	<0.5
	9/29/1997	PES	<0.5	<0.5	0.7	<0.5	<0.5
	1/20/2000	AEI	<0.5	<0.5	0.73	<0.5	<0.5
	8/8/2000	AEI	NS	NS	NS	NS	NS
	2/15/2001	AEI	<0.5	<0.5	1.7	<0.5	<0.5
	8/29/2001	**AEI**	**NS**	**NS**	**NS**	**NS**	**NS**
AMW-9	9/13/1995	Augeus	NR	<25	170	<25	NR
(deep)	4/16/1996	PES	7	<3	170	4	NR
	7/17/1996	PES	<3	<3	190	4	NR
	10/23/1996	PES	<3	<3	190	<3	NR
	9/29/1997	PES	<3	<3	110	<3	NR
	1/29/1999	AEI	<4	<4	90	<4	<4
	5/5/1999	AEI	<2.5	<2.5	94	<2.5	<2.5
	9/10/1999	AEI	<2.1	<2.1	99	<2.1	<2.1
	1/20/2000	AEI	<0.5	<0.5	100	<0.5	<0.5
	8/8/2000	AEI	<2.5	<2.5	130	<2.5	<2.5
	2/15/2001	AEI	<1.0	<1.0	69	<1.0	<1.0
	8/29/2001	**AEI**	**<2.5**	**<2.5**	**98**	**<2.5**	**<2.5**
FHS MW-10	10/9/1997	PES	<0.5	<0.5	<0.5	<0.5	NR
(deep)	1/29/1999	AEI	<0.5	<0.5	<0.5	<0.5	<0.5
	5/5/1999	AEI	<0.5	<0.5	<0.5	<0.5	<0.5
	9/10/1999	AEI	<0.5	<0.5	<0.5	<0.5	<0.5
	1/20/2000	AEI	<0.5	<0.5	<0.5	<0.5	<0.5
	8/8/2000	AEI	NS	NS	NS	NS	NS
	2/15/2001	AEI	<0.5	<0.5	<0.5	<0.5	<0.5
	8/29/2001	**AEI**	**NS**	**NS**	**NS**	**NS**	**NS**
FHS MW-11	9/29/1997	PES	<0.5	<0.5	4	<0.5	NR
(deep)	1/29/1999	AEI	<0.5	<0.5	7	<0.5	<0.5
	5/5/1999	AEI	<0.5	<0.5	7.1	<0.5	<0.5
	9/10/1999	AEI	<0.5	<0.5	7.5	<0.5	<0.5
	1/20/2000	AEI	<0.5	<0.5	7.5	<0.5	<0.5
	8/8/2000	AEI	<0.5	<0.5	38	<0.5	<0.5
	2/15/2001	AEI	<0.5	<0.5	18	<0.5	<0.5
	8/29/2001	**AEI**	**<0.5**	**<0.5**	**16**	**<0.5**	**<0.5**

Table 2 Continued

Well (aguifer zone)	Date	Consultant	cis 1,2 DCE µg/L	trans 1,2 DCE µg/L	PCE µg/L	TCE µg/L	VHCs* µg/L
MW-6	3/11/1995	EMCON	<20	<0.5	1300	<20	NR
(deep)	6/5/1995	EMCON	<20	<20	2000	<20	NR
	8/29/1995	EMCON	<20	<20	1300	<20	NR
	9/11/1995	Augeus	NR	<50	2000	<50	NR
	11/16/1995	EMCON	<20	<20	1300	<20	NR
	2/28/1996	EMCON	<20	<20	960	<20	NR
	4/16/1996	PES	10	10	1400	10	NR
	5/28/1996	EMCON	<20	<20	970	<20	NR
	7/17/1996	PES	<5	<5	590	<5	NR
	8/19/1996	EMCON	<20	<20	820	<20	NR
	10/23/1996	PES	<5	<5	680	<5	NR
	11/21/1996	EMCON	<20	<20	680	<20	NR
	3/26/1997	EMCON	<40	<40	830	<40	NR
	5/20/1997	EMCON	<5	<5	270	<5	NR
	9/29/1997	PES	<10	<10	670	<10	NR
	1/29/1999	AEI	1.4	<1.3	49	3	<1.3
	5/5/1999	AEI	19	<11	530	38	<11
	9/10/1999	AEI	27	<12	560	53	<12
	1/20/2000	AEI	18	<8.5	660	31	<8.5
	8/8/2000	AEI	98	16	1700	170	<5
	2/15/2001	AEI	64	<10	650	87	<10
	8/29/2001	**AEI**	**19**	**<5.0**	**550**	**38**	**<5.0**
MW-7	3/11/1995	EMCON	NS	NS	NS	NS	NS
(shallow)	6/5/1995	EMCON	<10	<10	<10	<10	<10
	8/29/1995	EMCON	<10	<10	<10	<10	<10
	9/11/1995	Augeus	85	<50	-	<50	<50
	11/16/1995	EMCON	<20	<20	<20	<20	<20
	2/28/1996	EMCON	<10	<10	<10	<10	<10
	4/16/1996	PES	<0.5	<0.5	<0.5	<0.5	<0.5
	5/28/1996	EMCON	<10	<10	<10	<10	<10
	7/17/1996	PES	0.6	<0.5	<0.5	0.6	<0.5
	8/19/1996	EMCON	<1	<1	<1	<1	<1
	10/23/1996	PES	0.6	<0.5	<0.5	<0.5	<0.5
	11/21/1996	EMCON	<10	<10	<10	<10	<10
	3/26/1997	EMCON	<20	<20	<20	<20	<20
	5/20/1997	EMCON	<10	<10	<10	<10	<10
	9/29/1997	PES	<10	<10	<10	<10	<10
	1/20/2000	AEI	<6.5	<6.5	<6.5	<6.5	<6.5
	8/8/2000	AEI	NS	NS	NS	NS	NS
	2/15/2001	AEI	<0.5	<0.5	<0.5	<0.5	<0.5
	8/29/2001	**AEI**	**NS**	**NS**	**NS**	**NS**	**NS**
WGR MW-4	4/16/1996	PES	<0.5	<0.5	<0.5	<0.5	<0.5
(deep)	7/17/1996	PES	<0.5	<0.5	<0.5	<0.5	<0.5
	10/23/1996	PES	<0.5	<0.5	<0.5	<0.5	<0.5
	9/29/1997	PES	<0.5	<0.5	<0.5	<0.5	<0.5
	2/15/2001	AEI	<0.5	<0.5	<0.5	<0.5	<0.5
	8/29/2001	**AEI**	**NS**	**NS**	**NS**	**NS**	**NS**
M.C.L.s			**6**	**10**	**5**	**5**	

M.C.L.s = Maximum Contaminant Levels, listed for detected chemicals only

NS = Well not sampled

NR = Not Reported

cis 1,2-Dichloroethene (cis 1,2 DCE)

trans 1,2-Dichloroethene (trans 1,2 DCE)

Tetrachloroethene (PCE)

Trichloroethene (TCE)

VHCs = All other chemicals by EPA method 601/8010

APPENDIX A

WELL FIELD SAMPLING FORMS

AEI CONSULTANTS - GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: AMW-1 (shallow)

Project Name: Jay-Phares - Foothill Square	Date of Sampling: 8/29/01
Job Number: 3067	Name of Sampler: PJM / OA
Project Address: 10700 MacArthur Boulevard, Oakland	

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"
Seal at Grade -- Type and Condition	Cement / Good
Well Cap & Lock -- OK/Replace	OK
Elevation of Top of Casing	64.51
Depth of Well	34
Depth to Water	24.38
Water Elevation	40.13
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	4.62
4" casing: (TD - DTW)(0.65)(3)	
6" casing: (TD - DTW)(1.44)(3)	
Actual Volume Purged (gallons)	
Appearance of Purge Water	

GROUNDWATER SAMPLES

Number of Samples/Container Size	

Time	Vol Remvd (gal)	Temp (deg C)	PH	Cond (mS)	Comments

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Well not sampled

TD - Total Depth of Well
DTW - Depth To Water

AEI CONSULTANTS – GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: AMW-4 (shallow)

Project Name: Jay-Phares - Foothill Square	Date of Sampling: 8/29/01
Job Number: 3067	Name of Sampler: PJM / OA
Project Address: 10700 MacArthur Boulevard, Oakland	

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"
Seal at Grade -- Type and Condition	Cement / Good
Well Cap & Lock -- OK/Replace	OK
Elevation of Top of Casing	64.79
Depth of Well	25
Depth to Water	12.40
Water Elevation	52.39
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	6.05
4" casing: (TD - DTW)(0.65)(3)	
6" casing: (TD - DTW)(1.44)(3)	
Actual Volume Purged (gallons)	7
Appearance of Purge Water	Clear

GROUNDWATER SAMPLES

Number of Samples/Container Size	2 VOAs

Time	Vol Remvd (gal)	Temp (deg C)	pH	Cond (mS)	Comments
	2	21.1	7.09	771	
	4	19.4	7.06	904	
	6	21.5	6.94	883	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

No odor

TD - Total Depth of Well
DTW - Depth To Water

AEI CONSULTANTS - GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: AMW-5 (shallow)

Project Name: Jay-Phares - Foothill Square	Date of Sampling: 8/29/01
Job Number: 3067	Name of Sampler: PJM / OA
Project Address: 10700 MacArthur Boulevard, Oakland	

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"
Seal at Grade -- Type and Condition	Cement / Good
Well Cap & Lock – OK/Replace	OK
Elevation of Top of Casing	64.97
Depth of Well	30
Depth to Water	14.72
Water Elevation	50.25
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	7.33
4" casing: (TD - DTW)(0.65)(3)	
6" casing: (TD - DTW)(1.44)(3)	
Actual Volume Purged (gallons)	8
Appearance of Purge Water	Slightly turbid

GROUNDWATER SAMPLES

Number of Samples/Container Size	2 VOAs

Time	Vol Remvd (gal)	Temp (deg C)	pH	Cond (mS)	Comments
	3	21.6	6.87	1001	
	4.5	21.4	6.91	1057	
	6	20.0	6.88	1034	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

No odor

TD - Total Depth of Well
DTW - Depth To Water

AEI CONSULTANTS - GROUNDWATER MONITORING WELL FIELD SAMPLING FORM	
Monitoring Well Number: AMW-6 (shallow)	
Project Name: Jay-Phares - Foothill Square	Date of Sampling: 8/29/01
Job Number: 3067	Name of Sampler: PJM / OA
Project Address: 10700 MacArthur Boulevard, Oakland	
MONITORING WELL DATA	
Well Casing Diameter (2"/4"/6")	2"
Seal at Grade -- Type and Condition	Cement / Good
Well Cap & Lock -- OK/Replace	OK
Elevation of Top of Casing	65.10
Depth of Well	25
Depth to Water	13.65
Water Elevation	51.45
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	5.45
4" casing: (TD - DTW)(0.65)(3)	
6" casing: (TD - DTW)(1.44)(3)	
Actual Volume Purged (gallons)	6
Appearance of Purge Water	Turbid, clears
GROUNDWATER SAMPLES	
Number of Samples/Container Size	2 VOAs

Time	Vol Remvd (gal)	Temp (deg C)	pH	Cond (mS)	Comments

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)
No odor

TD - Total Depth of Well
DTW - Depth To Water

AEI CONSULTANTS – GROUNDWATER MONITORING WELL FIELD SAMPLING FORM	
Monitoring Well Number: AMW-8 (deep)	
Project Name: Jay-Phares - Foothill Square	Date of Sampling: 8/29/01
Job Number: 3067	Name of Sampler: PJM / OA
Project Address: 10700 MacArthur Boulevard, Oakland	
MONITORING WELL DATA	
Well Casing Diameter (2"/4"/6")	2"
Seal at Grade -- Type and Condition	Cement / Good
Well Cap & Lock -- OK/Replace	OK
Elevation of Top of Casing	64.55
Depth of Well	45
Depth to Water	18.30
Water Elevation	46.25
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	
4" casing: (TD - DTW)(0.65)(3)	
6" casing: (TD - DTW)(1.44)(3)	
Actual Volume Purged (gallons)	
Appearance of Purge Water	
GROUNDWATER SAMPLES	
Number of Samples/Container Size	

Time	Vol Remvd (gal)	Temp (deg C)	PH	Cond (mS)	Comments
COMMENTS (i.e., sample odor, well recharge time & percent, etc.)					

TD - Total Depth of Well
DTW - Depth To Water

AEI CONSULTANTS – GROUNDWATER MONITORING WELL FIELD SAMPLING FORM	
Monitoring Well Number: AMW-9 (deep)	
Project Name: Jay-Phares - Foothill Square	Date of Sampling: 8/29/01
Job Number: 3067	Name of Sampler: PJM / OA
Project Address: 10700 MacArthur Boulevard, Oakland	
MONITORING WELL DATA	
Well Casing Diameter (2"/4"/6")	2"
Seal at Grade -- Type and Condition	Cement / Good
Well Cap & Lock -- OK/Replace	OK
Elevation of Top of Casing	63.48
Depth of Well	54.3
Depth to Water	22.59
Water Elevation	40.89
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	15.22
4" casing: (TD - DTW)(0.65)(3)	
6" casing: (TD - DTW)(1.44)(3)	
Actual Volume Purged (gallons)	13
Appearance of Purge Water	Slightly turbid, clears
GROUNDWATER SAMPLES	
Number of Samples/Container Size	2 VOAs

Time	Vol Remvd (gal)	Temp (deg C)	PH	Cond (mS)	Comments
	1	21.4	6.69	1015	
	3	21.1	6.91	945	Dry 4 gal. – resume after 20 min
	6	20.4	6.92	1972	
	9	21.0	6.98	1996	
	12				Dry

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)
No solvent odor

TD - Total Depth of Well
DTW - Depth To Water

AEI CONSULTANTS – GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: WGR MW-2 (shallow)

Project Name: Jay-Phares - Foothill Square	Date of Sampling: 8/29/01
Job Number: 3067	Name of Sampler: PJM / OA
Project Address: 10700 MacArthur Boulevard, Oakland	

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	4"
Seal at Grade -- Type and Condition	Cement / Good
Well Cap & Lock -- OK/Replace	Replace
Elevation of Top of Casing	63.18
Depth of Well	28
Depth to Water	25.09
Water Elevation	38.09
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	
4" casing: (TD - DTW)(0.65)(3)	
6" casing: (TD - DTW)(1.44)(3)	
Actual Volume Purged (gallons)	
Appearance of Purge Water	

GROUNDWATER SAMPLES

Number of Samples/Container Size	

Time	Vol Remvd (gal)	Temp (deg C)	pH	Cond (mS)	Comments

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

TD - Total Depth of Well
DTW - Depth To Water

AEI CONSULTANTS – GROUNDWATER MONITORING WELL FIELD SAMPLING FORM					
Monitoring Well Number: WGR MW-3 (shallow)					
Project Name: Jay-Phares - Foothill Square				Date of Sampling: 8/29/01	
Job Number: 3067				Name of Sampler: PJM / OA	
Project Address: 10700 MacArthur Boulevard, Oakland					
MONITORING WELL DATA					
Well Casing Diameter (2"/4"/6")				4"	
Seal at Grade -- Type and Condition				Cement / Good	
Well Cap & Lock -- OK/Replace				OK	
Elevation of Top of Casing				58.34	
Depth of Well					
Depth to Water				21.22	
Water Elevation				37.12	
Three Well Volumes (gallons)*					
2" casing: (TD – DTW)(0.16)(3)					
4" casing: (TD – DTW)(0.65)(3)					
6" casing: (TD – DTW)(1.44)(3)					
Actual Volume Purged (gallons)					
Appearance of Purge Water					
GROUNDWATER SAMPLES					
Number of Samples/Container Size					
Time	Vol Remvd (gal)	Temp (deg C)	PH	Cond (mS)	Comments
COMMENTS (i.e., sample odor, well recharge time & percent, etc.)					

TD - Total Depth of Well
DTW - Depth To Water

AEI CONSULTANTS – GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: WGR MW-4 (deep)

Project Name: Jay-Phares - Foothill Square	Date of Sampling: 8/29/01
Job Number: 3067	Name of Sampler: PJM / OA
Project Address: 10700 MacArthur Boulevard, Oakland	

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	4"
Seal at Grade -- Type and Condition	Cement / Good
Well Cap & Lock -- OK/Replace	OK
Elevation of Top of Casing	60.02
Depth of Well	44.96
Depth to Water	27.14
Water Elevation	32.88
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	
4" casing: (TD - DTW)(0.65)(3)	
6" casing: (TD - DTW)(1.44)(3)	
Actual Volume Purged (gallons)	
Appearance of Purge Water	

GROUNDWATER SAMPLES

Number of Samples/Container Size	

Time	Vol Remvd (gal)	Temp (deg C)	pH	Cond (mS)	Comments

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

TD - Total Depth of Well
DTW - Depth To Water

AEI CONSULTANTS – GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: FHS MW-10 (deep)

Project Name: Jay-Phares - Foothill Square	Date of Sampling: 8/29/01
Job Number: 3067	Name of Sampler: PJM / OA
Project Address: 10700 MacArthur Boulevard, Oakland	

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"
Seal at Grade -- Type and Condition	Cement / Good
Well Cap & Lock -- OK/Replace	OK
Elevation of Top of Casing	52.34
Depth of Well	51.94
Depth to Water	26.11
Water Elevation	26.23
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	12.40
4" casing: (TD - DTW)(0.65)(3)	
6" casing: (TD - DTW)(1.44)(3)	
Actual Volume Purged (gallons)	
Appearance of Purge Water	

GROUNDWATER SAMPLES

Number of Samples/Container Size	2 VOAs

Time	Vol Remvd (gal)	Temp (deg C)	PH	Cond (mS)	Comments

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

TD - Total Depth of Well
DTW - Depth To Water

AEI CONSULTANTS – GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: FHS MW-11 (deep)

Project Name: Jay-Phares - Foothill Square	Date of Sampling: 8/29/01
Job Number: 3067	Name of Sampler: PJM / OA
Project Address: 10700 MacArthur Boulevard, Oakland	

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"
Seal at Grade -- Type and Condition	Cement / Good
Well Cap & Lock -- OK/Replace	OK
Elevation of Top of Casing	54.06
Depth of Well	64.07
Depth to Water	28.28
Water Elevation	25.78
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	17.18
4" casing: (TD - DTW)(0.65)(3)	
6" casing: (TD - DTW)(1.44)(3)	
Actual Volume Purged (gallons)	18
Appearance of Purge Water	Clear

GROUNDWATER SAMPLES

Number of Samples/Container Size	2 VOAs

Time	Vol Remvd (gal)	Temp (deg C)	PH	Cond (mS)	Comments
	5	21.8	6.67	410	
	10	20.8	6.55	402	
	16	20.7	6.53	405	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

TD - Total Depth of Well
DTW - Depth To Water

AEI CONSULTANTS – GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-6 (deep)

Project Name: Jay-Phares - Foothill Square	Date of Sampling: 8/29/01
Job Number: 3067	Name of Sampler: PJM / OA
Project Address: 10700 MacArthur Boulevard, Oakland	

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"
Seal at Grade -- Type and Condition	Cement / Good
Well Cap & Lock -- OK/Replace	OK
Elevation of Top of Casing	61.78
Depth of Well	48.69
Depth to Water	34.98
Water Elevation	26.80
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	6.58
4" casing: (TD - DTW)(0.65)(3)	
6" casing: (TD - DTW)(1.44)(3)	
Actual Volume Purged (gallons)	7
Appearance of Purge Water	Turbid, clears

GROUNDWATER SAMPLES

Number of Samples/Container Size	2 VOAs

Time	Vol Remvd (gal)	Temp (deg C)	PH	Cond (mS)	Comments
	1.5	21.3	6.59	923	
	4	19.6	6.62	890	
	6	19.8	6.57	882	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

TD - Total Depth of Well
DTW - Depth To Water

AEI CONSULTANTS – GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-7 (shallow)

Project Name: Jay-Phares - Foothill Square	Date of Sampling: 8/29/01
Job Number: 3067	Name of Sampler: PJM / OA
Project Address: 10700 MacArthur Boulevard, Oakland	

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"
Seal at Grade -- Type and Condition	good
Well Cap & Lock -- OK/Replace	OK
Elevation of Top of Casing	58.64
Depth of Well	38
Depth to Water	21.61
Water Elevation	37.03
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	
4" casing: (TD - DTW)(0.65)(3)	
6" casing: (TD - DTW)(1.44)(3)	
Actual Volume Purged (gallons)	
Appearance of Purge Water	

GROUNDWATER SAMPLES

Number of Samples/Container Size	

Time	Vol Remvd (gal)	Temp (deg C)	PH	Cond (mS)	Comments

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

TD - Total Depth of Well
DTW - Depth To Water

APPENDIX B

LABORATORY ANALYTICAL AND CHAIN OF CUSTODY DOCUMENTATION

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

All Environmental, Inc. 3210 Old Tunnel Road, Suite B Lafayette, CA 94549-4157	Client Project ID: #3067; FHS	Date Sampled: 08/29/01
		Date Received: 08/29/01
	Client Contact: Peter McIntyre	Date Extracted: 08/29/01
	Client P.O:	Date Analyzed: 08/29/01

09/07/01

Dear Peter:

Enclosed are:

1). the results of **6** samples from your **#3067; FHS** project,

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

All Environmental, Inc.	Client Project ID: #3067; FHS	Date Sampled: 08/29/01
3210 Old Tunnel Road, Suite B		Date Received: 08/29/01
Lafayette, CA 94549-4157	Client Contact: Peter McIntyre	Date Extracted: 08/30-09/04/01
	Client P.O:	Date Analyzed: 08/30-09/04/01

Volatile Halocarbons

EPA method 601 or 8010

Lab ID	76410	76411	76412	76413
Client ID	AMW-4	AMW-5	AMW-6	AMW-9
Matrix	W	W	W	W
Compound	Concentration*			
Bromodichloromethane	ND<2.5	ND	ND<10	ND<2.5
Bromoform[b]	ND<2.5	ND	ND<10	ND<2.5
Bromomethane	ND<2.5	ND	ND<10	ND<2.5
Carbon Tetrachloride[c]	ND<2.5	ND	ND<10	ND<2.5
Chlorobenzene	ND<2.5	ND	ND<10	ND<2.5
Chloroethane	ND<2.5	ND	ND<10	ND<2.5
2-Chloroethyl Vinyl Ether[d]	ND<2.5	ND	ND<10	ND<2.5
Chloroform [e]	ND<2.5	ND	ND<10	ND<2.5
Chloromethane	ND<2.5	ND	ND<10	ND<2.5
Dibromochloromethane	ND<2.5	ND	ND<10	ND<2.5
1,2-Dichlorobenzene	ND<2.5	ND	ND<10	ND<2.5
1,3-Dichlorobenzene	ND<2.5	ND	ND<10	ND<2.5
1,4-Dichlorobenzene	ND<2.5	ND	ND<10	ND<2.5
Dichlorodifluoromethane	ND<2.5	ND	ND<10	ND<2.5
1,1-Dichloroethane	ND<2.5	ND	ND<10	ND<2.5
1,2-Dichloroethane	ND<2.5	ND	ND<10	ND<2.5
1,1-Dichloroethene	ND<2.5	ND	ND<10	ND<2.5
cis 1,2-Dichloroethene	ND<2.5	ND	77	ND<2.5
trans 1,2-Dichloroethene	ND<2.5	ND	17	ND<2.5
1,2-Dichloropropane	ND<2.5	ND	ND<10	ND<2.5
cis 1,3-Dichloropropene	ND<2.5	ND	ND<10	ND<2.5
trans 1,3-Dichloropropene	ND<2.5	ND	ND<10	ND<2.5
Methylene Chloride[f]	ND<2.5	ND	ND<10	ND<2.5
1,1,2,2-Tetrachloroethane	ND<2.5	ND	ND<10	ND<2.5
Tetrachloroethene	230	28	780	98
1,1,1-Trichloroethane	ND<2.5	ND	ND<10	ND<2.5
1,1,2-Trichloroethane	ND<2.5	ND	ND<10	ND<2.5
Trichloroethene	4.6	0.87	110	ND<2.5
Trichlorofluoromethane	ND<2.5	ND	ND<10	ND<2.5
Vinyl Chloride[g]	ND<2.5	ND	ND<10	ND<2.5
% Recovery Surrogate	104	103	102	107
Comments				

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil and sludge samples in ug/kg, wipe samples in ug/wipe

Reporting limit unless otherwise stated: water/TCLP/SPLP extracts, ND<0.5ug/L; soils and sludges, ND<5ug/kg; wipes, ND<0.2ug/wipe

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis

(b) tribromomethane; (c) tetrachloromethane; (d) (2-chloroethoxy) ethene; (e) trichloromethane; (f) dichloromethane; (g) chloroethene; (h) a lighter than water immiscible sheen is present; (i) liquid sample that contains greater than ~5 vol. % sediment; (j) sample diluted due to high organic content.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

All Environmental, Inc.	Client Project ID: #3067; FHS	Date Sampled: 08/29/01
3210 Old Tunnel Road, Suite B		Date Received: 08/29/01
Lafayette, CA 94549-4157	Client Contact: Peter McIntyre	Date Extracted: 08/30-09/04/01
	Client P.O:	Date Analyzed: 08/30-09/04/01

Volatile Halocarbons

EPA method 601 or 8010

Lab ID	76414	76415		
Client ID	FHS-MW-11	MW-6		
Matrix	W	W		
Compound	Concentration*			
Bromodichloromethane	ND	ND<5.0		
Bromoform[b]	ND	ND<5.0		
Bromomethane	ND	ND<5.0		
Carbon Tetrachloride[c]	ND	ND<5.0		
Chlorobenzene	ND	ND<5.0		
Chloroethane	ND	ND<5.0		
2-Chloroethyl Vinyl Ether[d]	ND	ND<5.0		
Chloroform[e]	ND	ND<5.0		
Chloromethane	ND	ND<5.0		
Dibromochloromethane	ND	ND<5.0		
1,2-Dichlorobenzene	ND	ND<5.0		
1,3-Dichlorobenzene	ND	ND<5.0		
1,4-Dichlorobenzene	ND	ND<5.0		
Dichlorodifluoromethane	ND	ND<5.0		
1,1-Dichloroethane	ND	ND<5.0		
1,2-Dichloroethane	ND	ND<5.0		
1,1-Dichloroethene	ND	ND<5.0		
cis 1,2-Dichloroethene	ND	19		
trans 1,2-Dichloroethene	ND	ND<5.0		
1,2-Dichloropropane	ND	ND<5.0		
cis 1,3-Dichloropropene	ND	ND<5.0		
trans 1,3-Dichloropropene	ND	ND<5.0		
Methylene Chloride[f]	ND	ND<5.0		
1,1,2,2-Tetrachloroethane	ND	ND<5.0		
Tetrachloroethene	16	550		
1,1,1-Trichloroethane	ND	ND<5.0		
1,1,2-Trichloroethane	ND	ND<5.0		
Trichloroethene	ND	38		
Trichlorofluoromethane	ND	ND<5.0		
Vinyl Chloride[g]	ND	ND<5.0		
% Recovery Surrogate	103	103		
Comments				

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil and sludge samples in ug/kg, wipe samples in ug/wipe

Reporting limit unless otherwise stated: water/TCLP/SPLP extracts, ND<0.5ug/L; soils and sludges, ND<5ug/kg; wipes, ND<0.2ug/wipe

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis

(b) tribromomethane; (c) tetrachloromethane; (d) (2-chloroethoxy) ethene; (e) trichloromethane; (f) dichloromethane; (g) chloroethene; (h) a lighter than water immiscible sheen is present; (i) liquid sample that contains greater than ~5 vol. % sediment; (j) sample diluted due to high organic content.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 2nd Ave. South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

QC REPORT

EPA 8010/8020/EDB

Date: 09/04/01-09/05/01 **Extraction:** EPA 5030 **Matrix:** Water

Compound	Concentration: ug/L				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 83001					Instrument:	GC-1	
Surrogate1	ND	98.0	100.0	100.00	98	100	2.0
Chlorobenzene	ND	9.9	10.2	10.00	99	102	3.0
Trichloroethane	ND	10.4	10.7	10.00	104	107	2.8
1,1-DCE	ND	10.3	10.6	10.00	103	106	2.9

$$\%\ \text{Recovery} = \frac{(MS - Sample)}{AmountSpiked} \cdot 100$$

$$\text{RPD} = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation

27807 zale427

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HOUR ☐ 48 HOUR ☒ 5 DAY

Report To: Peter McIntyre Bill To:
Company: All Environmental
3210 Old Tunnel Road, Suite B
Lafayette, CA 94549-4157
Tele: (925) 283-6000 Fax: (925) 283-6121
Project #: 3067 Project Name: FHS
Project Location: Oakland
Sampler Signature:

SAMPLE ID	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX: Water	Soil	Air	Sludge	Other	METHOD PRESERVED: Ice	HCl	HNO_3	Other
AMW-4		8/29/14		2	VOA	X					X	X		
AMW-5				2		X					X	X		
AMW-6				2		X					X	X		
AMW-9				2		X					X	X		
FHS-MW-11				2		X					X	X		
MW-6				2	↓	X					X	X		

Analysis Request	Other	Comments
BTEX & TPH as Gas (602/8020 + 8015) MTBE		
TPH as Diesel (8015)		
Total Petroleum Oil & Grease (5520 E&F/B&F)		
Total Petroleum Hydrocarbons (418.1)		
EPA 601 / 8010		
BTEX ONLY (EPA 602 / 8020)		
EPA 608 / 8080		
EPA 608 / 8080 PCB's ONLY		
EPA 624 / 8240 / 8260		
EPA 625 / 8270		
PAH's / PNA's by EPA 625 / 8270 / 8310		
CAM-17 Metals		
LUFT 5 Metals		
Lead (7240/7421/239.2/6010)		
RCI		

76410
76411
76412
76413
76414
76415

Relinquished By:	Date:	Time:	Received By:
	8/29/14	3:17	8/29
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

Remarks: