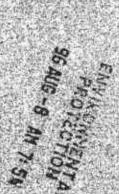
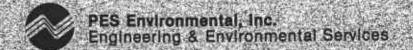
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A Report Prepared For:

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Attention:

Mr. Hugh K. Phares, III

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QUARTERLY MONITORING REPORT FORMER YOUNG'S CLEANERS FOOTHILL SQUARE SHOPPING CENTER OAKLAND, CALIFORNIA

**AUGUST 7, 1996** 

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502.0101.003

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#### 1.0 INTRODUCTION

This report presents the results of the first quarterly groundwater monitoring performed by PES Environmental, Inc. (PES) during April 1996 at Foothill Square Shopping Center (Site) in Oakland, California (Plate 1). PES has been retained by Jay-Phares Corporation to conduct the quarterly groundwater monitoring at the site. The current groundwater monitoring program consists of measuring the depth to groundwater in fourteen onsite monitoring wells on a quarterly basis, and purging and sampling twelve of the monitoring wells (Wells WGR MW-2 through 4, AMW-1, AMW-4 through 9, MW-6, and MW-7).

The purpose of the groundwater monitoring program at the site is to: (1) evaluate the presence of volatile organic compounds (VOCs) in groundwater; and (2) monitor water-level variations at the site. The quarterly monitoring program was performed in accordance with the procedures outlined in the *Proposal*, *Groundwater Monitoring*, *Former Young Cleaners*, *Foothill Square Shopping Center*, *Oakland*, *California* dated April 8, 1996 prepared by PES (PES, 1996).

#### 2.0 BACKGROUND INFORMATION

The site is located in a residential and commercial area in Oakland, California. The site is presently used as a shopping center, which was developed in the early 1960's. Prior to the development of the Foothill Square Shopping Center, the site was a truck manufacturing plant. Young's Cleaners, located in the center of the shopping center near Well AMW-6, operated at the site between 1984 and 1995. Prior to Young's Cleaners, a coin operated dry cleaner, Norge Cleaners, operated at the location between 1962 and 1980. The cleaners have been on the CALSITES database list since 1980.

Beginning in January 1989, Western Geologic Resources (WGR) installed and monitored Wells WGR MW-1 through WGR MW-5 on the property to characterize the subsurface conditions due to the presence the adjacent ARCO gas station. Wells WGR MW-1, WGR MW-2, WGR MW-3, and WGR MW-5 were installed in what WGR defined as the shallow groundwater bearing zone, and Well WGR MW-4 was installed in the deep groundwater bearing zone.

Between 1991 and 1993, RESNA Consultants (RESNA) conducted an investigation on behalf of ARCO for the service station site in order to define the extent of gasoline contamination caused by leakage of petroleum fuels. During their investigation, RESNA reported detectable concentrations of chlorinated solvents in several soil borings. As a result, Alameda County Health Care Services Agency (ACHSA) requested an investigation of the vertical and lateral extent of tetrachloroethylene (PCE) on both the ARCO site and the Foothill Square Shopping Center by ARCO as documented in the March 23, 1993 letter.

In order to verify the source and extent of the PCE contamination, Augeas Corporation (Augeas) installed Wells AMW-1 through AMW-3 in September through November of 1994, Wells AMW-4 and AMW-5 in March 1995, and Wells AMW-6 through AMW-9 in July through August of 1995. Using groundwater bearing zones defined by the WGR wells, Augeas installed Wells

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AMW-1 through AMW-7 in the shallow groundwater bearing zone, and Wells AMW-8 and AMW-9 in the deep groundwater bearing zone. A summary of the monitoring well completion details are provided on Table 1.

Augeas began groundwater monitoring the AMW wells in October 1994. During September 1995, the last monitoring event conducted by Augeas, Wells WGR MW-1 through WGR MW-5, and MW-6 and MW-7 (installed on Foothill Square property by ARCO) were monitored in addition to the AMW wells (Augeas, 1995). The groundwater investigations conducted by Augeas concluded that the PCE contamination on the site was caused by a release of solvents from the dry cleaner and the associated underground sanitary sewer lateral. From October 1995 to January 1996, All Environmental, Inc. (AEI) excavated the contaminated soil and backfilled the excavation with clean fill material. During the excavation process, Wells AMW-2 and AMW-3 were accidentally destroyed (AEI, 1996). Soil from the excavation was spread over the southeast corner of the property for treatment by aeration under a permit from the Bay Area Air Quality Management District. Well WGR MW-5 was covered by the soil and is not currently accessible.

#### 3.0 WATER-LEVEL MEASUREMENTS

Water levels in the fourteen onsite groundwater monitoring wells (Wells WGR MW-1 through WGR MW-4, AMW-1, AMW-4 through AMW-9, MW-6, and MW-7) were measured by PES prior to sampling on April 16, 1996. Depth-to-water in the monitoring wells was measured from the top-of-casing (TOC) reference benchmark to a precision of 0.01 foot using an electronic water-level indicator/interface probe. Depth-to-water measurements were converted to water-level elevations referenced to mean sea level (MSL) by subtracting the depth to water from the TOC reference elevation. Free product was not observed in any of the monitoring wells. The Water Level Data Form completed by PES is presented in Appendix A.

To prevent cross-contamination between wells, the portion of the water-level indicator that was submerged in the well was cleaned between well measurements using a phosphate-free detergent/deionized water solution and double rinsed with deionized water.

#### 4.0 GROUNDWATER SAMPLING

Groundwater samples were collected from Wells WGR MW-2 through WGR MW-4, AMW-1, AMW-4 through AMW-9, MW-6, and MW-7 on April 16, 1996, by Blaine Tech Services, Inc. (Blaine Tech) of San Jose, California, under direct supervision of PES.

Groundwater samples were collected from each well after removing approximately three well volumes of water using either a positive displacement pump or disposable bailers. During well purging, the discharged water was monitored for pH, temperature, electrical conductivity, and turbidity. Following purging, samples were collected from the wells using a stainless steel or teflon disposable bailer and transferred to the appropriate laboratory sample containers. The sample containers were filled slowly to minimize sample volatilization and ensure that the sample

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was free of air bubbles. The samples were labeled to designate sample number, time and date collected, and analysis required. The samples were immediately placed in a chilled, thermally-insulated cooler. To prevent cross-contamination between wells, the pump and the bailer were decontaminated using a high pressure steam cleaner prior to or after sampling at each well. Sampling procedures are documented in the groundwater sampling report prepared by Blaine Tech and included in Appendix B.

Groundwater samples were transported under proper chain-of-custody to American Environmental Network (AEN), a state-certified laboratory in Pleasant Hill, California. Samples collected from the twelve wells were analyzed for volatile organic compounds (VOCs) by EPA Test Method 8010. The AEN laboratory reports and chain-of-custody records are included in Appendix C.

#### 5.0 DISCUSSION OF MONITORING RESULTS

This section presents a summary of water-level measurements and groundwater analyses results from the April 1996 sampling event.

#### 5.1 Water-Level Measurements

Depth-to-water measurements and water-level elevations are presented in Table 2. Depth-to-water measurements for April 16, 1996, for the shallow groundwater zone ranged from 3.88 feet (WGR MW-1) to 21.99 feet (AMW-1) below top-of-casing (TOC). Shallow groundwater zone water-level elevations ranged from 39.38 feet MSL (MW-7) to 62.09 feet MSL (WGR MW-1). Depth-to-water measurements for the deep groundwater zone ranged from 14.31 feet (AMW-9) to 29.40 feet (MW-6) below TOC. Deep groundwater zone water-level elevations ranged from 32.38 feet MSL (MW-6) to 49.49 feet MSL (AMW-8).

Plates 3 and 4 present water-level elevation contours measured on April 16, 1996, for the shallow and the deep groundwater zones, respectively. The contoured water-level elevations indicate that groundwater flow for both the shallow and the deep groundwater zones is generally west to northwest. The groundwater gradient in the shallow groundwater zone ranges from 0.04 to 0.09 foot per foot (ft/ft). In the deep groundwater zone, the groundwater gradient is approximately 0.08 ft/ft.

#### 5.2 Groundwater Chemistry

A summary of laboratory chemical analyses results is presented in Table 3; only those chemicals that were detected in at least one sample are listed. The analytical laboratory reports and chain-of-custody forms are presented in Appendix C.

In the shallow groundwater zone, the highest concentrations of VOCs were detected in Wells AMW-6, located near the former dry cleaners, and AMW-7, located adjacent to the onsite sanitary sewer lateral. This quarter PCE was detected at concentrations ranging from 0.6 (WGR.

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MW-3) to 2,300 (AMW-7) micrograms per liter (μg/L); PCE concentrations in wells completed in the shallow groundwater zone are presented on Plate 5. Trichloroethylene (TCE), cis-1,2-dichloroethylene (c-1,2-DCE), trans-1,2-dichloroethylene (t-1,2-DCE), and Freon-12 were also detected in Wells WGR MW-3, AMW-4, and AMW-6, but generally at much lower concentrations than PCE. No VOCs were detected in Wells WGR MW-1, AMW-1, and AMW-5.

In the deep groundwater zone, PCE was detected in Wells AMW-8, AMW-9, and MW-6 at concentrations ranging from 0.8 to 1,400 µg/L. PCE concentrations in deep wells are presented on Plate 6. Low concentrations of TCE and c-1,2-DCE were detected in Wells AMW-9 and MW-6. No VOCs were detected in Well WGR MW-4.

#### 6.0 QUALITY ASSURANCE/QUALITY CONTROL (QA/AC)

Chemical data obtained from groundwater sample analyses were validated according to accuracy, precision, and completeness criteria. For the quantity of samples analyzed this quarter, the QA/QC program evaluated chemical data on the basis of a trip blank and a field equipment blank.

The evaluation procedure for blanks includes a qualitative review of the chemical analyses data reported by the laboratory. The trip blank was prepared by AEN and submitted for EPA Test Method 8010. The field equipment blank was prepared in the field using deionized water supplied by AEN and analyzed using EPA Test Method 8010. No VOCs were detected in the trip blank or the field equipment blank. The data from AEN are considered to be representative and of good quality.

#### 7.0 REFERENCES

- PES Environmental, Inc. (PES), 1996. Proposal, Groundwater Monitoring, Former Young Cleaners, Foothill Square Shopping Center, Oakland, California. April 8.
- Augeas Corporation (Augeas), 1995. Report of Subsurface Investigation, Young's Cleaners, 10700 MacArthur Boulevard, Oakland, California. December.
- All Environmental, Inc. (AEI), 1996. Soil Remedial Investigation and Excavation Project Summary, Young's Cleaners, Foothill Shopping Center, 10700 MacArthur Boulevard, Oakland, California, 94605. February 7.

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Table 1
Summary of Monitoring Well Completion Details

Former Young's Cleaners
Foothill Square Shopping Center
Oakland, California

Well Number	Date Installed	Installed By	Total Depth (feet bgs)	Screened Interval (feet bgs)	Top-of-Casing Elevation (feet MSL)	Groundwater Zone Monitored
WGR MW-1	12/5/88	WGR	33.5	23.5 - 28.5	65.97	Shallow
WGR MW-2	12/6/88	WGR	40.5	23 - 28	63.18	Shallow
WGR MW-3	12/7/88	WGR	42	22 - 27	58.34	Shallow
WGR MW-4	12/7/88	WGR	50.5	23 - 45	60.02	Deep
WGR MW-5	12/8/88	WGR	31.5	23.5 - 31.5	68.94	Shallow
AMW-1	9/12/94	Augeas	34	24 - 34	64.51	Shallow
AMW-2	9/30/94	Augeas	29	19 - 29	65.33	Shallow (abandoned)
AMW-3	11/18/94	Augeas	29	19 - 29	65.09	Shallow (abandoned)
AMW-4	3/22/95	Augeas	25	15 - 25	64.79	Shallow
AMW-5	3/22/95	Augeas	30	20 - 30	64.97	Shallow
AMW-6	NA	Augeas	25	NA	65.10	Shallow
AMW-7	NA NA	Augeas	25	NA	64.24	Shallow
8-WMA	NA	Augeas	48	NA	64.55	Deep
AMW-9	NA	Augeas	53	NA	63.48	Deep
MW-6	6/16/92	RESNA	56	37.5 - 56	61.78	Deep
MW-7	6/16/92	RESNA	37.5	17.5 - 37.5	58.64	Shallow

#### Note:

feet bgs = Feet below ground surface feet MSL = Feet above mean sea level WGR = Western Geologic Resources, Inc. Augeas = Augeas Corporation RESNA = RESNA Consultants NA = Not available

Table 2
Summary of Wells Sampled - April 16, 1996
Former Young's Cleaners
Foothill Square Shopping Center
Oakland, California

Well
Number
WGR MW-2
WGR MW-3
WGR MW-4
AMW-1
AMW-4
AMW-5
AMW-6
AMW-7
AMW-8
AMW-9
MW-6
MW-7

## Table 3 Water-Level Elevation Measurements

Former Young's Cleaners
Foothill Square Shopping Center
Oakland, California

Well Number	Date Measured	Measured by	Top of Casing Elevation (feet MSL)	Depth to Water (feet bgs)	Water Table Elevation (feet MSL)
WGR MW-1	9/7/95	Augeas	65.97	5,82	60.15
(Shallow Zone)	4/16/96	PES	65.97	3.88	62.09
WGR MW-2	11/3/94	WGR	63.18	25.7	37.48
(Shallow Zone)	3/23/95	Augeas	63.18	21.32	41.86
(Challow Zorie)	6/21/95	Augeas	63.18	21.55	41.63
	9/7/95	Augeas	63.18	23.37	39.81
	4/16/96	PES	63.18	20.97	42.21
WGR MW-3	9/7/95	Augeas	58.34	21.55	36.79
(Shallow Zone)	4/16/96	PES	58.34	18.49	39.85
WGR MW-4	9/7/95	Augeas	60.02	27.2	32.82
(Deep Zone)	4/16/96	PES	60.02	23.26	36.76
WGR MW-5	1/11/89	WGR	68.94	19.00	49.94
(Shallow Zone)	9/7/95	Augeas	68,94	NA	NA
	4/16/96	PES	68.94	NA	NA
AMW-1	10/4/94	Augeas	64.51	24.82	39.69
(Shallow Zone)	11/3/94	Augeas	64.51	25.08	39.43
	3/23/95	Augeas	64.51	21.42	43.09
	6/21/95	Augeas	64.51	23.5	41.01
	9/7/95	Augeas	64.51	23.01	41.5
	4/16/96	PES	64.51	21.99	42.52
AMW-2	10/4/94	Augeas	65.33	16.57	48.76
(Shallow Zone)	10/18/94	Augeas	65.33	16.70	48.63
	11/3/94	Augeas	65.33	16.83	48.50
	3/23/95	Augeas	65.33	13.12	52.21
	6/21/95	Augeas	65.33	13.00	52.33
	9/7/95	Augeas	Well abandoned durin	g site remediation	
AMW-3	11/28/94	Augeas	65.09	14.84	50.25
(Shallow Zone)	3/23/95	Augeas	65.09	12.20	52.89
	6/21/95	Augeas	65.09	11.80	53.29
	9/7/95	Augeas	Well abandoned durin	g site remediation	
AMW-4	5/15/95	Augeas	64.79	12.6	52.19
(Shallow Zone)	6/21/95	Augeas	64.79	12.5	52.29
	9/7/95	Augeas	64.79	13.45	51.34
	4/16/96	PES	64.79	11.00	53.79

Table 3
Water-Level Elevation Measurements

Former Young's Cleaners
Foothill Square Shopping Center
Oakland, California

Well	Dete	Measured	Top of Casing	Depth to	Water Table
	Date		Elevation	Water	Elevation
Number	Measured	by	(feet MSL)	(feet bgs)	(feet MSL)
AMW-5	5/15/95	Augeas	64.97	13.71	51.26
(Shallow Zone)	6/21/95	Augeas	64.97	13.85	51.12
,	9/7/95	Augeas	64.97	14.7	50.27
	4/16/96	PES	64.97	13.04	51.93
AMW-6	9/7/95	Augeas	65.10	14.32	50.78
(Shallow Zone)	4/16/96	PES	65.10	12.10	53.00
AMW-7	9/7/95	Augeas	64.24	15.30	48.94
(Shallow Zone)	4/16/96	PES	64.24	20.98	43.26
8-WMA	9/7/95	Augeas	64.55	17.90	46.65
(Deep Zone)	4/16/96	PES	64.55	15.06	49.49
AMW-9	9/7/95	Augeas	63.48	23.02	40.46
(Deep Zone)	4/16/96	PES	63.48	14.31	49.17
MW-6	6/30/92	RESNA	61.21	35.50	25.71
(Deep Zone)	7/15/92	RESNA	61.21	39.89	21.32
	8/25/92	RESNA	61.21	34.90	26.31
	9/9/92	RESNA	61.21	NA	NA
	10/31/92	RESNA	61.21	NA	NA
	11/20/92	RESNA	61.21	NA	NA
	12/16/92	RESNA	61.21	NA	NA
	1/22/93	RESNA	61.21	36.52	24.69
	2/12/93	RESNA	61.21	35.65	25.56
	3/28/93	RESNA	61.21	33.33	27.88
	4/30/93	RESNA	61.21	33.56	27.65
	5/12/93	RESNA	61.21	33.95	27.26
	6/17/93	RESNA	61.21	34.90	26.31
	8/18/93	RESNA	61.21	36.72	24.49
	11/10/93	RESNA	61.21	38.64	22.57
	2/4/94	RESNA	61.21	38.48	22.73
	5/2/94	RESNA	61.21	37.02	24.19
	8/3/94	RESNA	61.21	37.97	23.24
	12/6/94	EMCON	61.21	37.33	23.88
	3/10/95	EMCON	61.21	31.54	29.67
	6/5/95	EMCON	61.21	31.15	30.06
	9/7/95	EMCON	61.78*	34.09	27.69
	4/16/96	PES	61.78	29.40	32.38

## Table 3 Water-Level Elevation Measurements

Former Young's Cleaners
Foothill Square Shopping Center
Oakland, California

Date Measured 6/30/92 7/15/92	Measured by RESNA	Elevation (feet MSL)	Water (feet bgs)	Elevation (feet MSL)
6/30/92			(feet bgs)	(feet MSL)
	RESNA			<b>X</b>
	RESNA	· '		
7/15/92		58.22	23.70	34.52
	RESNA	58.22	23.10	35.12
8/25/92	RESNA	58.22	34.23	23.99
9/9/92	RESNA	58.22	26.30	31.92
10/31/92	RESNA	58.22	35.44	22.78
11/20/92	RESNA	58.22	23.47	34.75
12/16/92	RESNA	58.22	19.07	39.15
1/22/93	RESNA	58.22	16.56	41.66
2/12/93	RESNA	58.22	18.22	40.00
3/28/93	RESNA	58.22	18.04	40.18
4/30/93	RESNA	58.22	19.34	38.88
5/12/93	RESNA	58.22	19.80	38.42
6/17/93	RESNA	58.22	22.63	35.59
8/18/93	RESNA	58.22	22.44	35.78
11/10/93	RESNA	58.22	24.51	33.71
2/4/94	RESNA	58,22	20.78	37.44
5/2/94	RESNA	58.22	20,51	37.71
8/3/94	RESNA	58.22	22.66	35.56
12/6/94	EMCON	58.22	18.37	39.86
3/10/95	EMCON	58.22	17.69	40.53
6/5/95	EMCON	58.22	19.68	38.54
9/7/95	EMCON	58.64*	21.86	36.78
		ł		39.38
	10/31/92 11/20/92 12/16/92 1/22/93 2/12/93 3/28/93 4/30/93 5/12/93 6/17/93 8/18/93 11/10/93 2/4/94 5/2/94 8/3/94 12/6/94 3/10/95 6/5/95	10/31/92 RESNA 11/20/92 RESNA 12/16/92 RESNA 1/22/93 RESNA 2/12/93 RESNA 3/28/93 RESNA 4/30/93 RESNA 5/12/93 RESNA 6/17/93 RESNA 8/18/93 RESNA 11/10/93 RESNA 2/4/94 RESNA 5/2/94 RESNA 8/3/94 RESNA 12/6/94 EMCON 3/10/95 EMCON 9/7/95 EMCON	10/31/92       RESNA       58.22         11/20/92       RESNA       58.22         12/16/92       RESNA       58.22         1/22/93       RESNA       58.22         2/12/93       RESNA       58.22         3/28/93       RESNA       58.22         4/30/93       RESNA       58.22         5/12/93       RESNA       58.22         6/17/93       RESNA       58.22         8/18/93       RESNA       58.22         11/10/93       RESNA       58.22         2/4/94       RESNA       58.22         5/2/94       RESNA       58.22         8/3/94       RESNA       58.22         12/6/94       EMCON       58.22         3/10/95       EMCON       58.22         6/5/95       EMCON       58.22         9/7/95       EMCON       58.64*	10/31/92       RESNA       58.22       35.44         11/20/92       RESNA       58.22       23.47         12/16/92       RESNA       58.22       19.07         1/22/93       RESNA       58.22       16.56         2/12/93       RESNA       58.22       18.22         3/28/93       RESNA       58.22       18.04         4/30/93       RESNA       58.22       19.34         5/12/93       RESNA       58.22       19.80         6/17/93       RESNA       58.22       22.63         8/18/93       RESNA       58.22       22.44         11/10/93       RESNA       58.22       24.51         2/4/94       RESNA       58.22       20.78         5/2/94       RESNA       58.22       20.51         8/3/94       RESNA       58.22       22.66         12/6/94       EMCON       58.22       17.69         6/5/95       EMCON       58.22       19.68         9/7/95       EMCON       58.64*       21.86

#### Notes:

feet MSL = Feet above mean sea level

NA = Not accessible

WGR = Western Geologic Resources, Inc.

Augeas = Augeas Corporation

PES = PES Environmental, Inc.

RESNA = RESNA Consultants

\* = Top of casing elevations were resurveyed by Augeas Corporation in March 1995.

Table 4
Summary of Analytical Results for Groundwater Samples Through April 1996

Former Young's Cleaners
Foothill Square Shopping Center
Oakland, California

Well	Date	Sampled		Concentration	s expressed in m	icrograms per lite	
Number	Sampled	by	PCE	TCE	c-1,2-DCE	t-1,2-DCE	Freon-12
WGR MW-1	12/13/88	WGR	<0.1	<0.1	<0.1	<0.1	<0.1
(Shallow Zone)	9/12/95	Augeas	<0.1	<0.5	<0.5	<0.1 <0.5	<0.5
(0.14.10.11.20.110)	5255	9	3.3	10.0	10.0	10.0	45.5
WGR MW-2	12/13/88	WGR	<0.1	<0.1	<0.1	<0.1	<0.1
(Shallow Zone)	2/10/94	WGR	<0.5	<0.5	<0.5	<0.5	<0.5
(3.1.1)	3/23/95	Augeas	<0.5	<0.5	<0.5	<0.5	<0.5
	6/21/95	Augeas	<0.5	<0.5	<0.5	<0.5	<0.5
	9/11/95	Augeas	<0.5	<0.5	<0.5	<0.5	<0.5
	4/16/96	PES	<0.5	<0.5	<0.5	<0.5	<2
WGR MW-3	12/13/88	WGR	<0.1	<0.1	<0.1	<0.1	<0.1
(Shallow Zone)	5/2/94	EMCON	<1	<1	<1	NS	NS
	8/3/94	EMCON	<1	<1	<1	NS	NS
	12/6/94	EMCON	4	<1	<1	NS	NS
	9/11/95	Augeas	<0.5	<0.5	<0.5	<0.5	<0.5
	4/16/96	PES	0.6	0.5	<0.5	<0.5	11
WGR MW-4	12/13/88	WGR	<0.1	<0.1	<0.1	<0.1	<0.1
(Deep Zone)	4/16/96	PES	<0.5	<0.5	<0.5	<0.5	<2
14/07 504 5	40/5/00	14/05	.0.4	.0.4			.0.4
WGR MW-5 (Shallow Zone)	12/5/88	WGR	<0.1	<0.1	<0.1	<0.1	<0.1
	!						
AMW-1	10/4/94	Augeas	<0.2	<0.2	<0.5	<0.5	<0.5
(Shallow Zone)	3/23/95	Augeas	<0.5	<0.5	<0.5	<0.5	<0.5
	6/21/95	Augeas	<0.5	<0.5	<0.5	<0.5	<0.5
	9/11/95	Augeas	<0.5	<0.5	<0.5	<0.5	<0.5
	4/16/96	PES	<0.5	<0.5	<0.5	<0.5	<2
AMW-2	10/4/94	Augeas	28,000	320	110	50	<0.5
(Shallow Zone)	10/18/94	Augeas	18,000	<250	<0.5	<0.5	<0.5
	11/8/94	Augeas	35,000	<0.5	<0.5	<0.5	<0.5
	3/23/95	Augeas	13,000	<0.5	<0.5	<0.5	<0.5
	6/21/95	Augeas	36,000	<0.5	<0.5	<0.5	<0.5
	9/12/95	Augeas	Well abandon	ed during site r 	remediation 		

## Table 4 Summary of Analytical Results for Groundwater Samples Through April 1996

Former Young's Cleaners
Foothill Square Shopping Center
Oakland, California

Well	Date	Sampled	<del></del> .	Concentration	s expressed in m	icrograms per lite	<u> </u>
Number	Sampled	by	PCE	TCE	c-1,2-DCE	t-1,2-DCE	Freon-12
AMW-3	11/28/94	Augeas	22	<0.5	<0.5	<0.5	<0.5
(Shallow Zone)	3/23/95	Augeas	45	<0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5
(Shallow Zone)	6/21/95	Augeas	<0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5
	9/12/95	Augeas	l.	ed during site r		\ \0.5	~0.5
		_					
AMW-4	5/15/95	Augeas	2,400	<0.5	<0.5	<0.5	<0.5
(Shallow Zone)	6/21/95	Augeas	2,500	<0.5	<0.5	<0.5	<0.5
	9/13/95	Augeas	1,100	<0.5	<0.5	<0.5	<0.5
	4/16/96	PES	1,200	10	<10	<10	<40
AMW-5	5/15/95	Augeas	1.2	<0.5	<0.5	<0.5	<0.5
(Shallow Zone)	6/21/95	Augeas	<0,5	<0.5	<0.5	<0.5	<0.5
(andien dans)	9/12/95	Augeas	<0.5	<0.5	<0.5	<0.5	<0.5
	4/16/96	PES	<0.5	<0.5	<0.5	<0.5	<2
	044000						
AMW-6	9/13/95	Augeas	930	<0.5	<0.5	<0.5	<0.5
(Shallow Zone)	4/16/96	PES	1,900	110	20	<10	<40
	04005		0.050	040	40 F	-0.5	-0 F
AMW-7	9/12/95	Augeas	2,350	340	<0.5	<0.5	<0.5
(Shallow Zone)	4/16/96	PES	2,300	500	2,200	60	<100
8-WMA	9/11/95	Augeas	95	<0.5	<0.5	<0.5	<0.5
(Deep Zone)	4/16/96	PES	0.8	<0.5	<0.5	<0.5	<2
AMW-9	9/13/95	Augeas	170	<0.5	<0.5	<0.5	<0.5
(Deep Zone)	4/16/96	PES	170	4	7	<3	<10
MW-6	6/30/92	RESNA	2,400	<0.5	<0.5	<0.5	<0.5
(Deep Zone)	9/9/92	RESNA	NS	NS	NS	NS	NS
, , ,	11/20/92	RESNA	NS	NS	NS	NS	NS
	2/12/93	RESNA	4,200	<0.5	<0.5	<0.5	<0.5
	5/12/93	RESNA	3,500	<0.5	<0.5	<0.5	<0.5
	8/18/93	RESNA	3,000	<0.5	<0.5	<0.5	<0.5
	11/10/93	RESNA	3,900	<0.5	<0.5	<0.5	<0.5
	2/4/94	RESNA	2,900	<50	<50	<0.5	<0.5
	5/2/94	RESNA	2,000	<50	<50	<0.5	<0.5
	8/3/94	RESNA	1,400	<50	<50	<0.5	<0.5
	12/6/94	EMCON	2,000	<50	<50	<0.5	<0.5
	3/11/95	EMCON	1,300	<20	<20	<0.5	<0.5
	6/5/95	EMCON	2,000	<20	<20	<20	<20
	9/11/95	EMCON	2,000	<0.5	<0.5	<0.5	<0.5
	4/16/96	PES	1,400	10	<10	<10	100

## Table 4 Summary of Analytical Results for Groundwater Samples Through April 1996

Former Young's Cleaners
Foothill Square Shopping Center
Oakland, California

Well	Date	Sampled		Concentration	s expressed in m	icrograms per lite	)r
Number	Sampled	by	PCE	TCE	c-1,2-DCE	t-1,2-DCE	Freon-12
MW-7	6/30/92	RESNA	<1000	<1000	<1000	<1000	<1000
(Shallow Zone)	9/9/92	RESNA	Not sampled:	well contained	floating product		
	11/20/92	RESNA	Not sampled: 1	well contained	floating product		
	2/12/93	RESNA	Not sampled:	well contained	floating product		
	5/12/93	RESNA	Not sampled:	well contained	floating product		
	8/18/93	RESNA	Not sampled:	well contained	floating product		
	11/10/93	RESNA	Not sampled:flo	ating product er	tering the well duri	ng purging	
	2/4/94	RESNA	<50	<50	<50	<50	<50
	5/2/94	RESNA	<50	<50	<50	<50	<50
	8/3/94	RESNA	<50	<50	<50	<50	<50
	12/6/94	EMCON	<50	<50	<50	<50	<50
	3/11/95	EMCON	Not sampled:flo	ating product er	ntering the well duri	ng purging	
	6/5/95	EMCON	<10	<10	<10	<10	<10
	9/11/95	EMCON	85	<0.5	<0.5	<0.5	<0.5
	4/16/96	PES	<0.5	<0.5	<0.5	<0.5	8

#### Notes:

PCE = Tetrachloroethylene

TCE = Trichloroethylene

c-1,2-DCE = cis-1,2-dichloroethylene

t-1,2-DCE = trans-1,2-dichloroethylene

Freon 12 = Dichlorodifluoromethane

WGR = Western Geologic Resources, Inc.

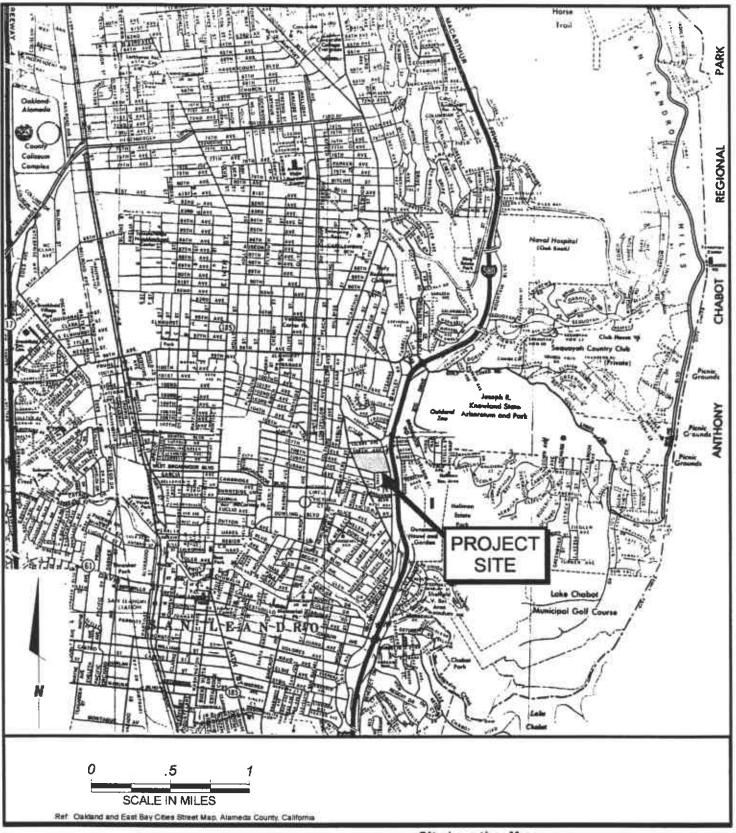
Augeas = Augeas Corporation

PES = PES Environmental, Inc.

**RESNA = RESNA Consultants** 

<0.002 = Concentration not detected at or above the indicated detection limit

NS = Not sampled because well was inaccessible





Site Location Map Foothill Square Shopping Center 10700 MacArthur Boulevard Oakland, California

PLATE

502.0101.001

502011V1.CDR

PSS

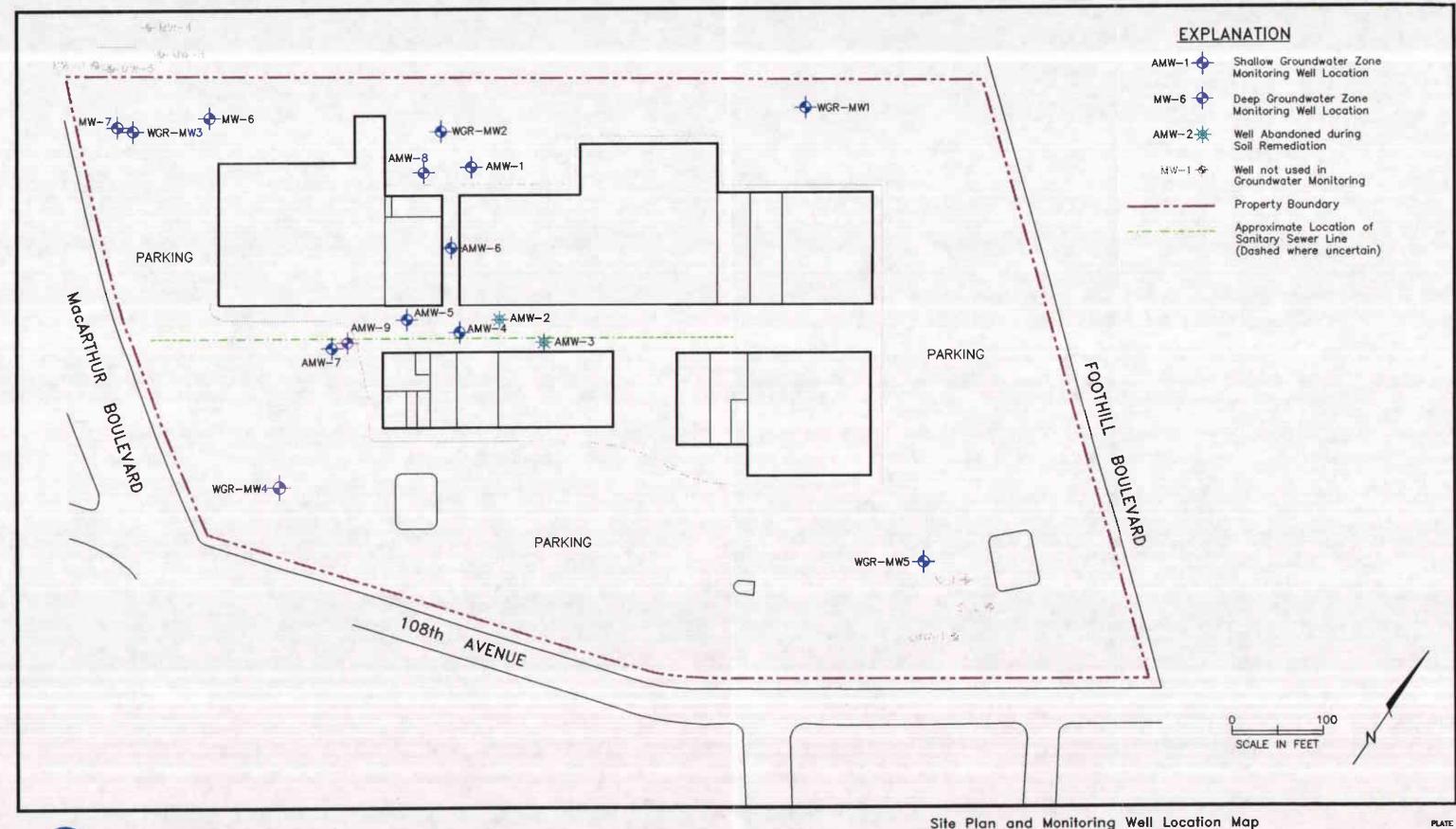
6/96

JOB NUMBER

DRAWING NUMBER

REVIEWED BY

DATE



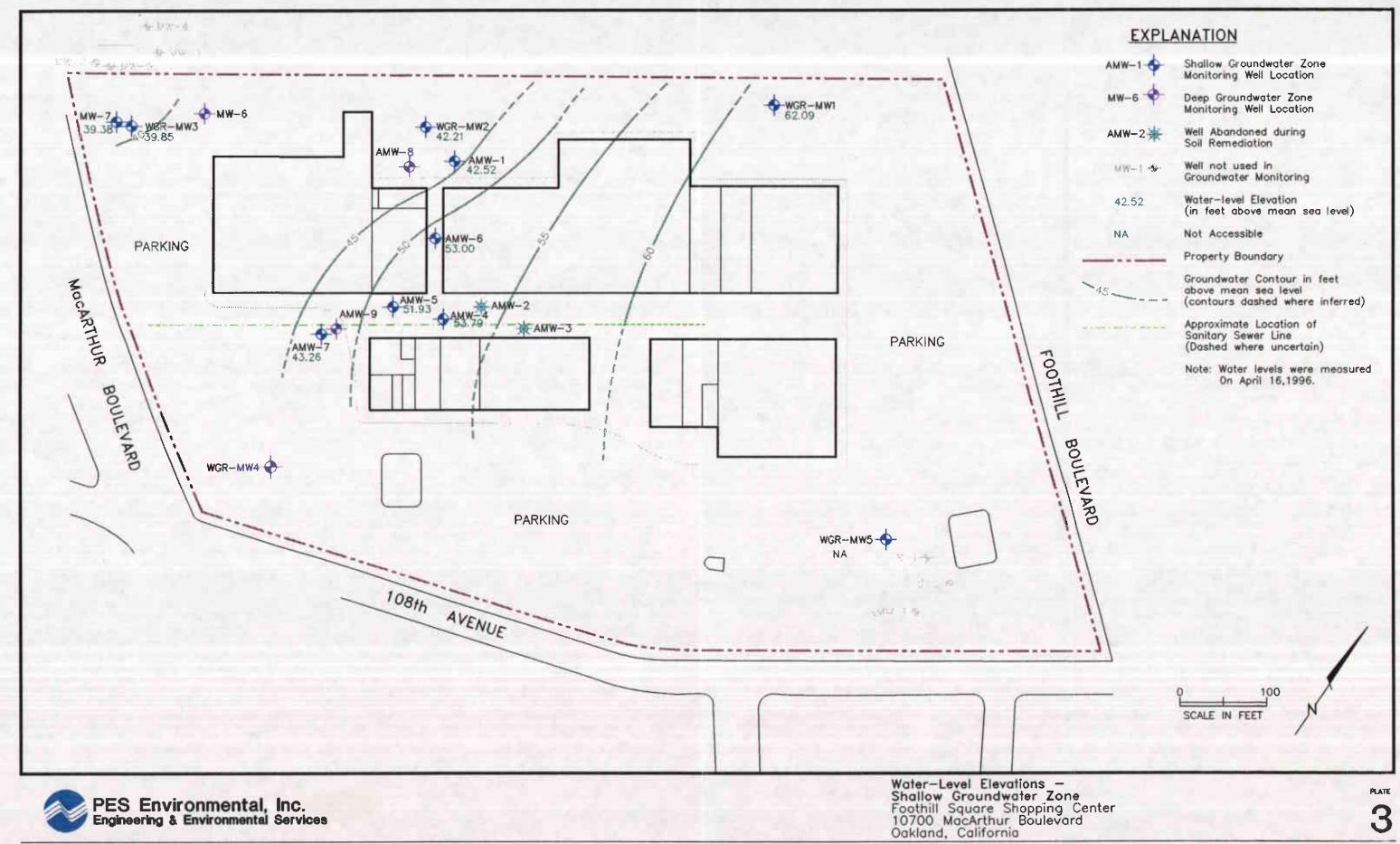
Site Plan and Monitoring Well Location Map Foothill Square Shopping Center 10700 MacArthur Boulevard Oakland, California

2

010030-D 502.0101.003

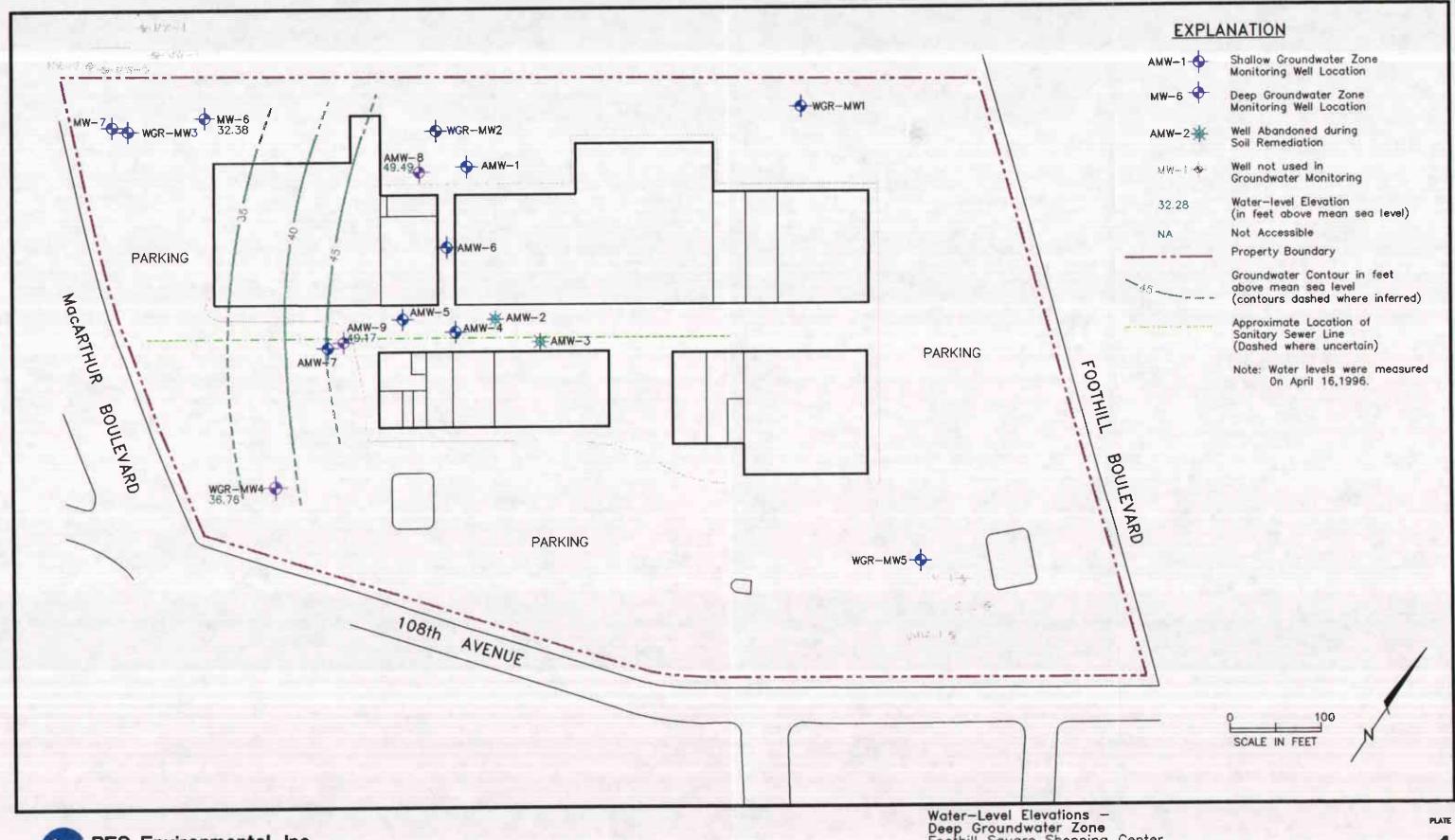
DRAWING NUMBER

DIZZ REVIEWED BY



DIS REVIEWED BY

502.0101.003



Water-Level Elevations — Deep Groundwater Zone Foothill Square Shopping Center 10700 MacArthur Boulevard Oakland, California

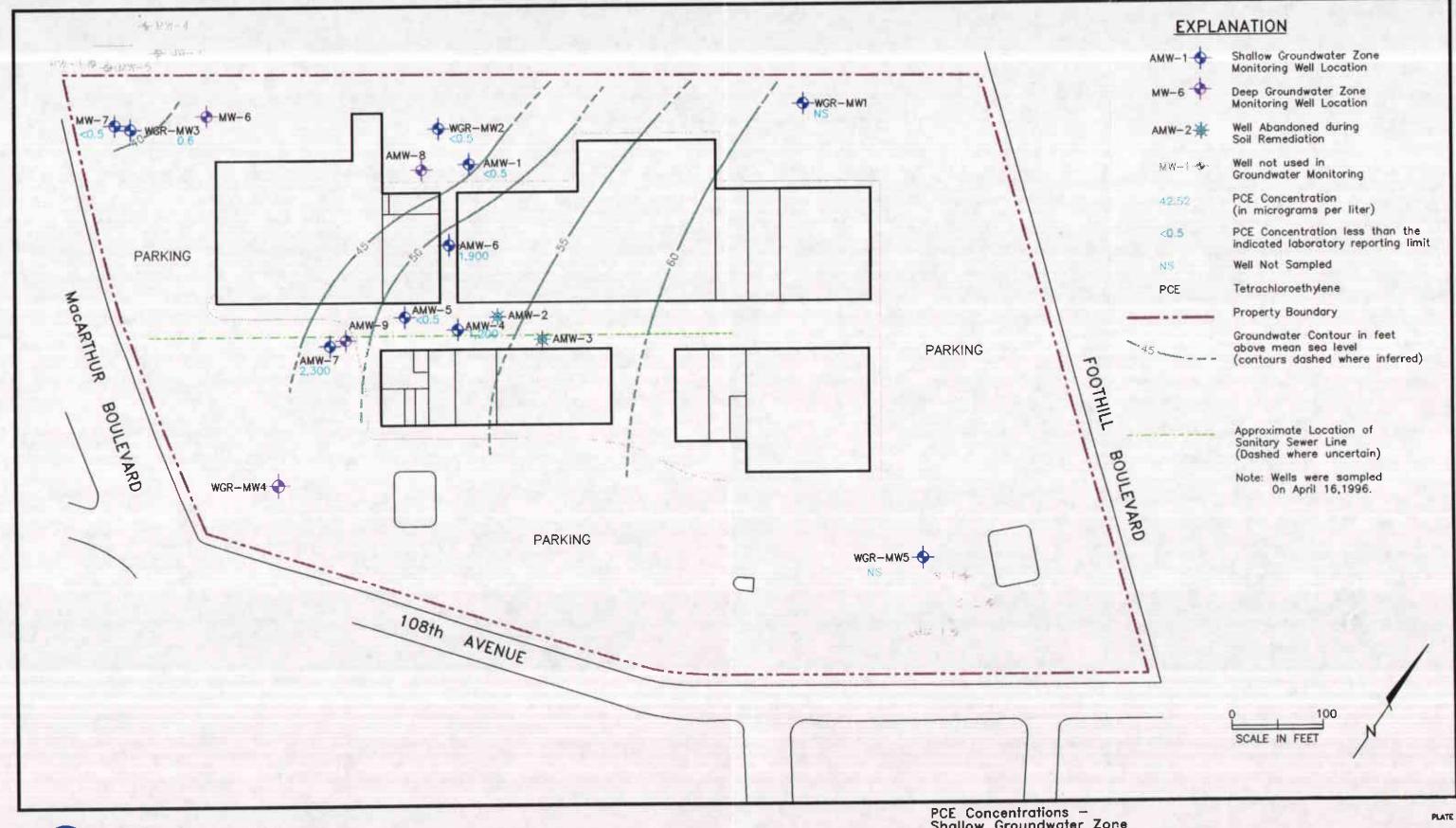
502.0101.003

JOB NUMBER

010030-D DRAWING HUMBER

REVIEWED BY

555



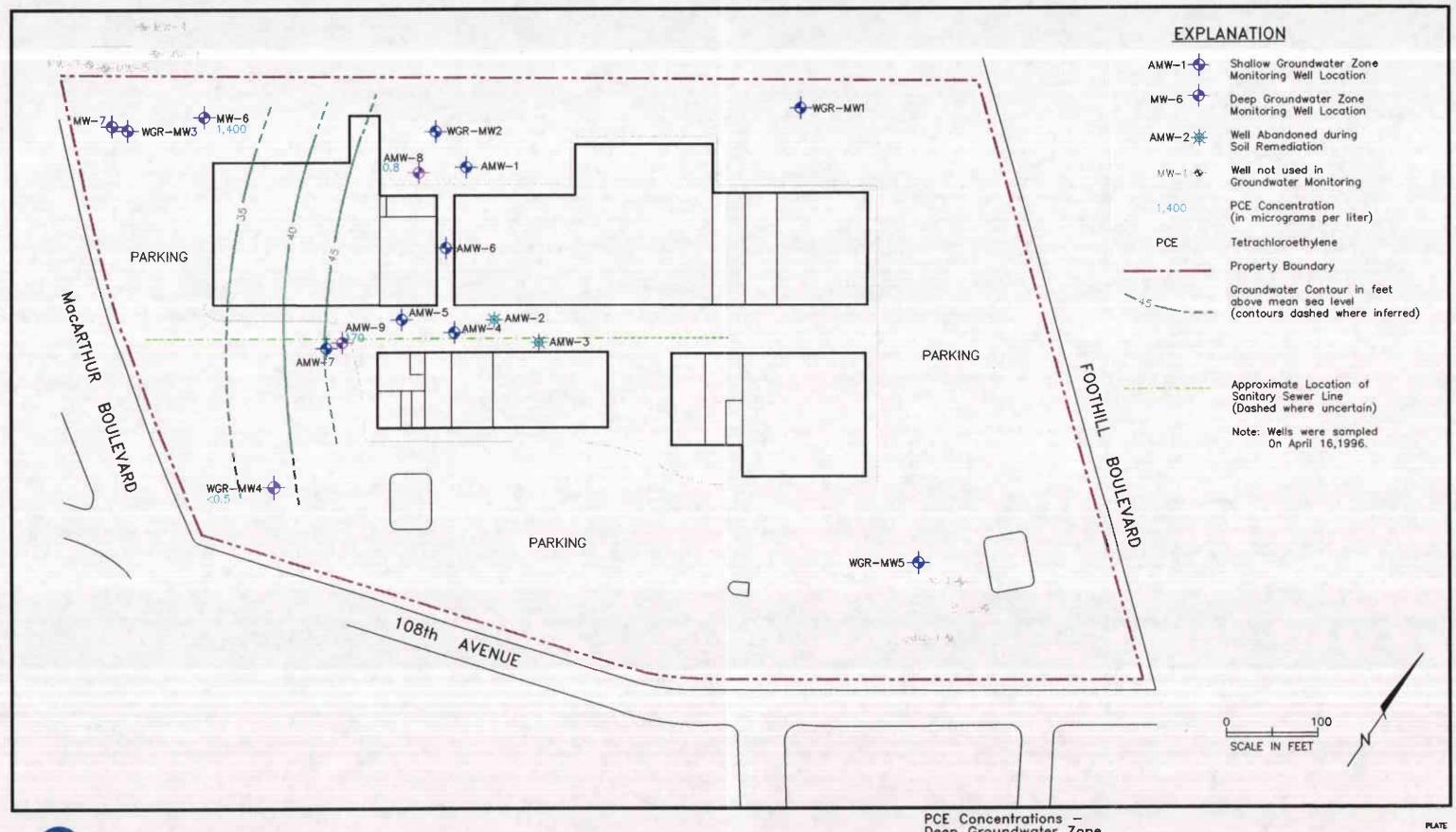
Shallow Groundwater Zone
Foothill Square Shopping Center
10700 MacArthur Boulevard
Oakland, California

502.0101.003 010030-D JOB NUMBER

DRAWING NUMBER

REVIEWED BY

222





PCE Concentrations —
Deep Groundwater Zone
Foothill Square Shopping Center
10700 MacArthur Boulevard
Oakland, California

6

502.0101.003

JOB NUMBER

010030-D

REVIEWED BY

DJS

### APPENDIX A

WATER-LEVEL DATA FORM



PAGE | OF | DATE: 4/16/96

WATER LEVEL DATA FORM

JOB NO.: 502 - 0101-003
FIELD PERSONNEL: JFH, Blame Tech

MEASURING INSTRUMENT:

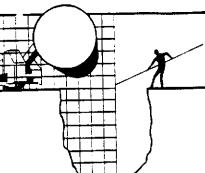
| STEEL TAPE | OTHER-TYPE | DATUM: | DMEAN SEA LEVEL

INSTRUMENT ... SOLINS+ 14454 DOTHER - DESCRIBE

OUNDER	SERIAL NO.	<del>jolins+</del>	।पपुर		OTHE	ER - DESCRIBE
TIME	REFERENCE ELEVATION (feet)	DEPTH 1st	TO WATE	R (feet)	WATER LEVEL BLEVATION (feet)	COMMENTS (well condition, odor, presence of product, etc.)
0957	65.97	3.88			62.09	No christy box lid. Campe filled with
0912	63.18	20.97			42.21	H"well; Blains Replaces cap
0925	58.34	18.49			39.85	4" well; theme Replaces Car
0930	60.02	23.26			36.76	
NA	48.94	NA-			NA	Could not locate
0915	64.57	21.99			42.52	Double Christy box
0906	64.79	11.00			53.79	
0905	64.97	13.04			51.93	·
1011	65.10	12.10			53.00	
0900	64.24	20.98			43.26	
0910	64.55	15.06	_		49.49	
0902	63.48	14.31			149.17	
	1X		<u> </u>	ļ		
0918	61.78	29.40	<b>1</b>		32.38	Arco Well
0920	58.64	19.24			39.38	Arco well-had socks in well
<del> </del>		<u> </u>		<u> </u>		
			<u> </u>	<u> </u>		
<del></del>		<u> </u>			1	
			<u> </u>			
	,	1	1	Í	1	,
		<u> </u>	<u> </u>	!	<u> </u>	
	TIME  0957  0912  0925  0930  NA  0915  0906  0905  1011  0900  0910  0902	TIME REFERENCE ELEVATION (teet)  0957 65.97  0912 63.18  0925 58.34  0930 60.02  NA 48.94  0915 64.57  0906 64.79  0905 64.97  1011 65.10  0900 64.24  0910 64.55  0902 63.48  \$24  0918 61.76	TIME REFERENCE ELEVATION (Neet) 1st	TIME REFERENCE ELEVATION (Newt) 1st 2nd  0957 65.97 3.88  0912 63.18 20.97  0925 58.34 18.49  0930 60.02 23.26  NA 48.44 NA  0915 64.57 21.99  0906 64.79 11.00  0905 64.97 13.04  1011 65.10 12.10  0900 64.24 20.98  0910 64.57 15.06  0902 63.48 14.31  \$\$  0918 61.75 29.40	TIME REFERENCE ELEVATION (Neet) 1st 2nd 3rd 20957 65.97 3.88 20.97 20925 58.34 18.49 20.97 23.26 24.47 21.99 20905 64.79 11.00 20905 64.79 11.00 20905 64.79 12.10 20.98 20.98 20.98 20.98 20.902 63.48 14.31 23.4 29.40 20.98 29.18 61.76 29.40	TIME REFERENCE ELEVATION (Neet) 1st 2nd 3rd ELEVATION (Neet) 21.09 25 25.26 20.97 21.29 21.29 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20 21.20

### APPENDIX B

GROUNDWATER SAMPLING REPORT



## BLAINE TECH SERVICES INC.

985 TIMOTHY DRIVE SAN JOSE. CA 95133 (408) 995-5535 FAX (408) 293-8773

April 26, 1996

PES Environmental, Inc. 1682 Novato Blvd., Suite 100 Novato, CA 94947

ATTN: John Skaibeck

Site: 10700 MacArthur Blvd. Oakland, California

Date: April 16, 1996

## **GROUNDWATER SAMPLING REPORT 960416-D-1**

Blaine Tech Services, Inc. performs specialized environmental sampling and documentation as an independent third party. In order to avoid compromising the objectivity necessary for the proper and disinterested performance of this work, Blaine Tech Services, Inc. does not participate in the interpretation of analytical results, or become involved with the marketing or installation of remedial systems.

This report deals with the groundwater well sampling performed by our firm in response to your request. Data collected in the course of our work at the site are presented in the TABLE OF WELL MONITORING DATA. This information was collected during our inspection, well evacuation and sample collection. Measurements include the total depth of the well and the depth to water. Water surfaces were further inspected for the presence of immiscibles. A series of electrical conductivity, pH, and temperature readings were obtained during well evacuation and at the time of sample collection.

## **Evacuation and Sampling Equipment**

As shown in the TABLE OF WELL MONITORING DATA, the wells at this site were evacuated according to a protocol requirement for the removal of three case volumes of water, before sampling. The wells were evacuated using bailers, middleburg, and electric submersible pumps.

Samples were collected using bailers.

Bailers: A bailer, in its simplest form, is a hollow tube which has been fitted with a check valve at the lower end. The device can be lowered into a well by means of a cord. When the bailer enters the water, the check valve opens and liquid flows into the interior of the bailer. The bottom check valve prevents water from escaping when the bailer is drawn up and out of the well.

Two types of bailers are used in groundwater wells at sites where fuel hydrocarbons are of concern. The first type of bailer is made of a clear material such as acrylic plastic and is used to obtain a sample of the surface and the near surface liquids, in order to detect the presence of visible or measurable fuel hydrocarbon floating on the surface. The second type of bailer is made of Teflon or stainless steel, and is used as an evacuation and/or sampling device.

Bailers are inexpensive and relatively easy to clean. Because they are manually operated, variations in operator technique may have a greater influence than would be found with more automated sampling equipment. Also, where fuel hydrocarbons are involved, the bailer may include near surface contaminants that are not representative of water deeper in the well.

USGS/Middleburg Positive Displacement Sampling Pumps: USGS/Middleburg positive displacement sampling pumps are EPA approved pumps appropriate for use in wells down to two inches in diameter and depths up to several hundred feet. The pump contains a flexible Teflon bladder which is alternately allowed to fill with well water and then collapsed. Actuation of the pump is accomplished with compressed air supplied by a single hose to one side of the Teflon membrane. Water on the other side of the membrane is squeezed out of the pump and up a Teflon conductor pipe to the surface. Evacuation and sampling are accomplished as a continuum. The rate of water removal is relatively slow and loss of volatiles almost non-existent. There is only positive pressure on the water being sampled and there is no impeller cavitation or suction. The pumps can be placed at any location within the well, can draw water from the very bottom of the well case, and are virtually immune to the erosive effects of silt or lack of water which destroy other types of pumps.

Disadvantages associated with Middleburg pumps include their high cost, low flow rate, temperamental operation, and cleaning requirements which are both elaborate and time consuming.

Suction Pumps: High volume suction pumps are frequently selected because of their low cost and simplicity of operation. The pump is located at the well head and draws water up through pipes lowered into the well and attached to the pump. The lowest section of pipe is fitted with a checkvalve to preclude water which has entered the pipe from re-entering the monitoring well. Well evacuation is efficient down to the effective twenty five foot limit of suction evacuation, but the discharge stream is unsuitable for sampling owing to the loss of volatiles caused by the suction applied by the pump. Therefore, the suction pump is only used to perform the evacuation protocol, and is then withdrawn. Sample collection is accomplished with a clean Teflon or stainless steel bailer.

Electric Submersible Pumps: Electric submersible pumps are appropriate for the high volume evacuation of wells of any depth provided the well diameter is large enough to admit the pump. Four inch and three inch diameter wells will readily accept electric submersible pumps, while two inch wells do not. In operation, the pump is lowered into the well with a pipe train above it. A checkvalve immediately above the pump and below the first section of pipe prevents water that has entered the pipe from flowing back into the well. Electricity is provided to the pump via an electrical cable and the action of the pump is to push water up out of the well.

Electric submersible pumps are often used as well evacuation devices, which are then supplanted with a more specialized sample collection device (such as a bailer) at the time of sampling. An alternative is to use the pump for both evacuation and sampling. When a bailer is used to collect the sample, interpretation of results by the consultant should allow for variations attributable to near surface contamination entering the bailer. When the electric submersible is, itself, used for sample collection it should be operated with the output restricted to a point where the loss of volatiles becomes indistinguishable from the level obtained with true sampling pumps. It should be noted that when the pump is used for both evacuation and sample collection that it is possible to perform these operations as an uninterrupted continuum. This contrasts with the variations in elapsed time between evacuation and sample collection that occur when field personnel cease one mode of operation and must bring other apparatus into use.

#### Decontamination

All apparatus is brought to the site in clean and serviceable condition. The equipment is decontaminated after each use and before leaving the site.

#### Effluent Materials

The evacuation process creates a volume of effluent water which must be contained. Blaine Tech Services, Inc. will place this water in appropriate containers of the client's choice or bring new 55 gallon DOT 17 E drums to the site, which are appropriate for the containment of the Blaine Tech Services, Inc. Report No. 960416-D-1

PES Environmental, Inc.

Page 3

effluent materials. The determination of how to properly dispose of the effluent water must usually await the results of laboratory analyses of the sample collected from the groundwater well. If that sample does not establish whether or not the effluent water is contaminated, or if effluent from more than one source has been combined in the same container, it may be necessary to conduct additional analyses on the effluent material.

### Sampling Methodology

Samples were obtained by standardized sampling procedures that follow an evacuation and sample collection protocol. The sampling methodology conforms to both State and Regional Water Quality Control Board standards and specifically adheres to EPA requirements for apparatus, sample containers and sample handling as specified in publication SW 846 and T.E.G.D. which is published separately.

#### Sample Containers

Sample containers are supplied by the laboratory performing the analyses.

### Sample Handling Procedures

Following collection, samples are promptly placed in an ice chest containing deionized ice or an inert ice substitute such as Blue Ice or Super Ice. The samples are maintained in either an ice chest or a refrigerator until delivered into the custody of the laboratory.

## Sample Designations

All sample containers are identified with both a sampling event number and a discrete sample identification number. Please note that the sampling event number is the number that appears on our chain of custody. It is roughly equivalent to a job number, but applies only to work done on a particular day of the year rather than spanning several days, as jobs and projects often do.

## Chain of Custody

Samples are continuously maintained in an appropriate cooled container while in our custody and until delivered to the laboratory under our standard chain of custody. If the samples are taken charge of by a different party (such as another person from our office, a courier, etc.) prior to being delivered to the laboratory, appropriate release and acceptance records are made on the chain of custody (time, date and signature of person accepting custody of the samples).

### Hazardous Materials Testing Laboratory

The samples obtained at this site were delivered to American Environmental Network in Pleasant Hill, California. AEN is certified by the California Department of Health Services as a Hazardous Materials Testing Laboratory, and is listed as DOHS HMTL #1172.

#### Personnel

All Blaine Tech Services, Inc. personnel receive 29 CFR 1910.120(e)(2) training as soon after being hired as is practical. In addition, many of our personnel have additional certifications that include specialized training in level B supplied air apparatus and the supervision of employees working on hazardous materials sites. Employees are not sent to a site unless we are confident they can adhere to any site safety provisions in force at the site and unless we know that they can follow the written provisions of an SSP and the verbal directions of an SSO.

In general, employees sent to a site to perform groundwater well sampling will assume an OSHA level D (wet) environment exists unless otherwise informed. The use of gloves and double glove protocols protects both our employees and the integrity of the samples being collected. Additional protective gear and procedures for higher OSHA levels of protection are available.

#### Reportage

Submission to the Regional Water Quality Control Board and the local implementing agency should include copies of the sampling report, the chain of custody and the certified analytical report issued by the Hazardous Materials Testing Laboratory.

The following addresses have been listed here for your convenience:

Water Quality Control Board San Francisco Bay Region 2101 Webster Street 5th Floor Oakland, CA 94612 ATTN: John West

Oakland Fire Prevention Bureau One City Hall Plaza Oakland, CA 94612 ATTN: Stanley Y. Chi Please call if we can be of any further assistance.

Richard C. Blaine

RCB/mc

attachments: table of well monitoring data

chain of custody

Well I.D.	AMW-1			AMW-4			AMW-5			
Date Sampled	4/16/96			4/16/96	ı		4/16/96			
2400										
Well Diameter (in.)	2			2			2			
Total Well Depth (ft.)	33.98			24.72			30.25			
Depth To Water (ft.)	20.88			10.95			12.94			
•										
Free Product (in.)	NONE			NONE			NONE			
Reason If Not Sampled										
1 Case Volume (gal.)	2.0			2.2			2.8			
Did Well Dewater?	NO			NO			МО			
Gallons Actually Evacuated	6.0			9.0			8.5			
									•	
Purging Device	BAILER			BAILER			BAILER			
Sampling Device	BAILER			BAILER			BAILER			
		40-10		10:30	10:34	10:41	11:30	11:34	11:38	
Time	13:15	13:18	13:22	64.4	65.4	65.6	64.8	65.2	64.8	
Temperature (Fahrenheit)	68.6	68.4	68.4		8.4	8.2	7.6	7.3	7.4	
рН	7.2	7.1	7.2	8.2		1000	2200	2200	2200	
Conductivity (micromhos/cm)	1800	2000	2100	600	710		>200	>200	>200	
Nephelometric Turbidity Units	>200	>200	>200	>200	>200	>200	>200	7200	>250	
BTS Chain of Custody	960416-	-n-1		960416-D-1			960416-D-1			
BTS Sample I.D.	AMW-1			AMW-4			AMW-5			
DOHS HMTL Laboratory	AEN			AEN			AEN			
	EPA 801	· ·		EPA 801	1.0		EPA 801	LO		
Analysis	PLW OAT				-			-		

Well I.D.	AMW-6* 4/16/96  2 25.00 11.94  NONE  2.0 NO 6.0  BAILER BAILER  11:06 11:09 11:12 63.8 63.6 64.0 7.4 7.2 7.1 2400 2500 2500 >200 >200			AMW-7			AMW-8			
Date Sampled				4/16/96			4/16/96			
Decc Sempres										
Well Diameter (in.)	2			2			2			
Total Well Depth (ft.)	25.00			25.02			48.42			
Depth To Water (ft.)	11.94			14.26			15.02			
Free Product (in.)	NONE			NONE			NONE			
Reason If Not Sampled										
				_						
1 Case Volume (gal.)	2.0			1.7			5.3			
Did Well Dewater?	ИО			Ю			NO			
Gallons Actually Evacuated	6.0			5.5		•	16.0			
				BAILER			MIDDLEE	MBG		
Purging Device				BAILER			BAILER			
Sampling Device	BAILER			BALLER			D#42.01/			
Time	11:06	11:09	11:12	12:00	12:02	12:05	13:35	13:40	13:45	
Temperature (Fahrenheit)			64.0	68.8	68.4	68.2	66.6	66.6	66.2	
pH		7.2	7.1	7.4	7.3	7.2	8.2	8.0	8.0	
Conductivity (micromhos/cm)	2400	2500	2500	1600	1800	1800	540	410	400	
Nephelometric Turbidity Units	>200	>200	>200	>200	>200	>200	>200	>200	>200	
1.00										
BTS Chain of Custody	960416-	-D-1		960416-D-1			960416-D-1			
BTS Sample I.D.	AMW-6			AMW-7			8-WMA			
DOHS HMTL Laboratory	aen			AEN			AEN			
Analysis	EPA 801	10		EPA 80	10		EPA 80	10		
-										

<sup>\*</sup> Sample EB was an equipment blank sample taken after sampling AMW-4 and before sampling AMW-6.

Well I.D.	AMW-9			MW-6			MW-7				
Date Sampled	4/16/96			4/16/96			4/16/96				
							_				
Well Diameter (in.)	2			2			2				
Total Well Depth (ft.)	54.30			50.72			36.65				
Depth To Water (ft.)	20.89			29.42			19.22				
Free Product (in.)	NONE			NONE			NONE				
Reason If Not Sampled				••							
Keason II NOC Sempies											
1 Case Volume (gal.)	5.3			3.4			2.8				
Did Well Dewater?	ИО			МО			NO				
Gallons Actually Evacuated	16.0			10.5			8.5				
Purging Device	MIDDLEB	IURG		BAILER			BAILER				
Sampling Device	4/16/96  2 54.30 20.89  NONE  5.3  NO 16.0  MIDDLEBURG BAILER  12:18 12:24 12:30 69.0 68.2 68.4 7.4 7.2 7.0 2200 2100 2100			BAILER			BAILER				
Jampany Jovens											
Time	12:18	12:24	12:30	14:22	14:25	14:30	15:06	15:10	15:14		
Temperature (Fahrenheit)	69.0	68.2	68.4	67.0	6 <b>6.</b> 6	66.8	68.2	68.8	68.6		
pH	7.4	7.2	7.0	7.4	7.0	7.1	7.2	7.1	7.1		
Conductivity (micromhos/cm)	2200	2100	2100	1200	1700	1800	580	540	500		
Nephelometric Turbidity Units		92.3	33.2	>200	>200	>200	>200	>200	>200		
BTS Chain of Custody	960416-	-D-1		960416-	-D <b>-1</b>		960416-	-D-1			
BTS Sample I.D.				MM-6	MM-6			MW-7			
DOBS HMTL Laboratory	AEN			aen			aen				
hane this series.											

EPA 8010

EPA 8010

Analysis

EPA 8010

	WGR-MW-2			WGR-MW-3	3		WGR-MW-	4		
Well I.D. Date Sampled	4/16/96			4/16/96			4/16/96			
Well Diameter (in.) Total Well Depth (ft.) Depth To Water (ft.)	4 27.95 20.92			4 26.90 18.53			4 44.93 23.24			
Free Product (in.) Reason If Not Sampled	NONE			NONE 			none 			
<pre>1 Case Volume (gal.) Did Well Dewater? Gallons Actually Evacuated</pre>	4.6 NO 14.0			5.4 NO 16.5			14.0 NO 42.5			
Purging Device Sampling Device	ELECTRIC BAILER	SUBMERS	SIBLE	ELECTRI BAILER	C SUBMERS	SIBLE	ELECTRI BAILER	C SUBMERS	IBLE	
Time Temperature (Fahrenheit) pH Conductivity (micromhos/cm) Nephelometric Turbidity Units	14:02 70.6 7.1 800 >200	14:04 70.8 6.8 1200 162.8	14:06 71.4 6.8 1200 116.2	14:47 70.2 7.6 600 193.2	14:49 70.8 7.2 480 146.3	14:52 70.6 7.0 440 132.6	12:54 71.2 7.6 750 >200	12:57 71.2 7.0 900 178.5	13:00 72.0 6.8 1000 99.4	
BTS Chain of Custody BTS Sample I.D. DORS HMTL Laboratory	960416			960416-D-1 WGR-MW-3 AEN			960416-D-1 WGR-MW-4 AEN EPA 8010			

EPA 8010

EPA 8010

Analysis

BLANE 985 TIMOTHT DR SAN JOSE, CA 95			CONDUCT ANA	LYSIS TO DET	ECT	LAB AEN			DHS #
TECH SERVICES INC. FAX (408) 293-8	535					ALL ANALYSES MUST SET BY CALIFORNIA ( PPA	MEET SPECIFIC DHS AND		DETECTION LIMITS  B REGION
CLIENT: Dec Custody 460416-D/	ERS					LIA OTHER			<del></del>
SITE FOOTHILL Shopping Center	ALL CONTAINE	0100				SPECIAL INSTRUCTION  FOR PEG 6	ins I 400, Ex <i>ureo,</i>	ice d Lines	Report 1/al
OALLANA.  MATRIX CONTAINER	SITE	3#1				AHHN! So.	hut 5k	albe	L
SAMPLE ID.	Ü	E7		_ _ _		ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
WGR-14-16 1410 W 3 Way	LAN	X			<u> </u>				
WGR-MW3 4-16 1455 3	·	X						<del>  </del>	
WER-MY 4-16 1300 3		X,							
4MW-1 4-16 1325 S		X			<del>                                     </del>			<u> </u>	
AMW-4 4-11 1045 3		X					<u></u>	-	
AMW-5 4-16 1145 3		X.		_ _ _			<u></u>	-	
AMW-6 4-16 1115 3		X	<u> </u>				,	<u> </u>	
AMW-7 4-16 120 3		13		_ _ _	<u> </u>			-	
AMW-8 4-16 1350 3		Įχ			<del>                                     </del>				
AMW-9 4-16 1235 3 U		X			]	RESULTS NEEDED 'NO LATER THAN	45 Co	1/100	Led =
	DATE.	<u>. I</u>	TUAUGO TIME 1035	A RECEIV	ED BY	X/ - 17 - 1	75 60	DATE C	TIME 1035
4	<i> - 7-</i>	96	1035 TIME	₩ RECEIV	FDAY/			DATE	TIME
HELEAGER	DATE	<u> </u>	TIME	RECEIV	/ ' '			DATE	TIME
SHIPPED VIA	DATE SE	NT	TIME SENT	COOLER	#				
			1						

BANE SAN JOSE, CA		C	ONDUCT ANALY	SIS TO DETECT	LAB AEN
TECH SERVICES INC. FAX (408) 29:	5-5535				ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND  PPA  RWQCB REGION
CHAIN OF CUSTODY 9604 16-D1					LIA OTHER
CLIENT PES	Z   E				SPECIAL INSTRUCTIONS
SITE FOOTHILL SHOPPING CENT	CONTAINER	SEU			ZAVOICE + REPORT
10:100 Plac Arthur BLVP	Ar L	*			TO PES ENVIRONMENTAL
OAKLAND MATRIX CONTAINE	COMPOSITE	1204			ATT: JOHN SKALBECK
SAMPLE ID. 0 ≥ IOTAL		100			ADD'L INFORMATION STATUS CONDITION LAB SAMPLE #
176-6 4-16 1435 W 3 VOA	<u>_</u>	X			
116-7 11-16 1520 3		X			
EB 4-16 1055 3 V		X			
TB 4-16 1 Z V		X			
		<u> </u>			
SAMPLING DATE TIME SAMPLING PERFORMED BY	9/16-15	$\mathcal{I}$	MOUG	HERY	RESULTS NEEDED (NO LATER THAN FG) CONTRACTED!
HELEASON FOR THE LAND OF THE L	11/2	96		REGEIVED DY	100 PATE 11/1-96 1035
RELEASED BY	DATE		TIME	RECEIVER	DATE TIME
RELEASED BY	DATE	·	TIME	RECEIVED BY	DATE TIME
SHIPPED VIA	DATE SE	NT	TIME SENT	COOLER #	
	ļ			1	

# APPENDIX C

LABORATORY REPORT
AND
CHAIN-OF-CUSTODY RECORDS

# American Environmental Network

# Certificates of Analysis

DOHS Certification: 1172

AIHA Accreditation: 11134

PAGE 1

PES ENVIRONMENTAL, INC. 1682 NOVATO BLVD. SUITE 100 NOVATO, CA 94947

ATTN: JOHN SKALBECK

CLIENT PROJ. ID: 960416-D1

CLIENT PROJ. NAME: FOOTHILL CTR

REPORT DATE: 05/23/96

DATE(S) SAMPLED: 04/16/96

DATE RECEIVED: 04/17/96

AEN WORK ORDER: 9604227

#### PROJECT SUMMARY:

On April 17, 1996, this laboratory received 14 water sample(s).

Client requested sample(s) be analyzed for chemical parameters. Results of analysis are summarized on the following page(s). Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Client Services at (510) 930-9090.

Larr (Klein

Laboratory Director

Revision of report dated 04/26/96

# PES ENVIRONMENTAL, INC.

SAMPLE ID: WGR-MW3 AEN LAB NO: 9604227-02 AEN WORK ORDER: 9604227 CLIENT PROJ. ID: 960416-D1

ND = Not detected at or above the reporting limit
\* = Value at or above reporting limit

#### PES ENVIRONMENTAL, INC.

SAMPLE ID: AMW-1

AEN LAB NO: 9604227-04 AEN WORK ORDER: 9604227 CLIENT PROJ. ID: 960416-01

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT UNITS	DATE ANALYZED
CDA 9010 Water matrix E	PA 8010			
EPA 8010 · Water matrix E Bromodichloromethane	75-27-4	ND	0.5 <b>ug/</b> L	04/19/96
Bromoform	75-25-2	ND	0.5 ug/L	04/19/96
Bromomethane	74-83-9	ND	2 ug/L	04/19/96
Carbon Tetrachloride	56-23-5	ND	2 ug/L 0.5 ug/L	04/19/9
Chlorobenzene	108-90-7	ND	0.5 ug/L	04/19/9
Chloroethane	75-00-3	ND	2 ug/L	04/19/9
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5 ug/L	04/19/9
Chloroform	67-66-3	ND	0.5 ug/L	04/19/9
Chloromethane	74-87-3	ND	2 ug/L	04/19/9
Dibromochloromethane	124-48-1	ND	0.5 ug/L	04/19/9
1.2-Dichlorobenzene	95-50-1	ND	0.5 ug/L	04/19/9
1.3-Dichlorobenzene	541-73-1	ND	0.5 ug/L	04/19/9
1.4-Dichlorobenzene	106-46-7	ND	0.5 ug/L	04/19/9
Dichlorodifluoromethane	75-71-8	ND	2 ug/L	04/19/9
1,1-Dichloroethane	75-34-3	ND	0.5 ug/L	04/19/9
1.2-Dichloroethane	107-06-2	ND	0.5 ug/L 0.5 ug/L	04/19/9
1,1-Dichloroethene	75-35-4	ND	0.5 ug/L	04/19/9
cis-1,2-Dichloroethene	156-59-2	ND	0.5 ug/L	04/19/9
trans-1.2-Dichloroethene	156-60-5	ND	0.5 ug/L	04/19/9
1,2-Dichloropropane	7 <b>8-</b> 87-5	ND	0.5 ug/L	04/19/9
cis-1.3-Dichloropropene	10061-01-5	ND	0.5 ug/L 0.5 ug/L 0.5 ug/L 0.5 ug/L 0.5 ug/L	04/19/9
trans-1,3-Dichloropropene	10061-02-6	ND	0.5 ug/L	04/19/9
Methylene Chloride	75-09-2	ND	2 uq/L	04/19/9
1.1.2.2-Tetrachloroethane	79-34-5	ND	0.5 ug/L	04/19/9
Tetrachloroethene	127-18-4	ND	0.5 ug/L	04/19/9
1,1,1-Trichloroethane	71-55-6	ND	0.5 ug/L	04/19/9
1.1.2-Trichloroethane	79-00-5	ND	0.5 ug/L	04/19/9
Trichloroethene	79-01-6	ND	0.5 ug/L	04/19/9
Trichlorofluoromethane	75-69-4	ND	2 ug/L	04/19/9
1.1.2Trichlorotrifluoroethan	e /6-13-1	ND	0.5 ug/L	04/19/9
Vinyl Chloride	75-01-4	ND	2 ug/L	04/19/

ND = Not detected at or above the reporting limit
\* = Value at or above reporting limit

#### PES ENVIRONMENTAL, INC.

SAMPLE ID: AMW-4

AEN LAB NO: 9604227-05 AEN WORK ORDER: 9604227 CLIENT PROJ. ID: 960416-D1

DATE SAMPLED: 04/16/96 DATE RECEIVED: 04/17/96

**REPORT DATE: 05/23/96** 

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix E	PA 8010				
Bromodichloromethane	75-27-4	ND	10 ug	n/I	04/18/96
Bromoform	75-25-2	ND	10 u		04/18/96
Bromomethane	74-83-9	ND	40 u		04/18/96
Carbon Tetrachloride	56-23-5	ND	10 u		04/18/96
Chlorobenzene	108-90-7	ND	10 u	3/1 3/1	04/18/96
Chloroethane	75-00-3	ND	40 u	g/_ g/L	04/18/96
2-Chloroethyl Vinyl Ether	110-75-8	ND	10 u	g/Ľ	04/18/96
Chloroform	67-66-3	ND	10 u	g/L	04/18/96
Chloromethane	74-87-3	ND	40 u	g/L	04/18/96
Dibromochloromethane	124-48-1	ND	10 u	g/L	04/18/96
1,2-Dichlorobenzene	95-50-1	ND	10 u	g/L	04/18/96
1,3-Dichlorobenzene	541-73-1	ND	10 u	g/L	04/18/96
1.4-Dichlorobenzene	106-46-7	ND	10 u	g/L	04/18/96
Dichlorodifluoromethane	75-71-8	ND	40 u	g/L	04/18/96
1.1-Dichloroethane	75-34-3	ND	10 u	g/L	04/18/96
1.2-Dichloroethane	107-06-2	ND	10 u	g/L	04/18/96
1.1-Dichloroethene	75-35-4	ND	10 u		04/18/96
cis-1,2-Dichloroethene	156-59-2	ND		g/L	04/18/96
trans-1,2-Dichloroethene	156-60-5	ND	10 u	g/L	04/18/96
1,2-Dichloropropane	78-87-5	ND		g/L	04/18/96
cis-1.3-Dichloropropene	10061-01-5	ND	10 u		04/18/96
trans-1.3-Dichloropropene	10061-02-6	ND	10 u	g/L	04/18/96
Methylene Chloride	75-09-2	ND	40 u	g/L	04/18/96
1.1.2.2-Tetrachloroethane	79-34-5	ND	. 10 u	g/L	04/18/96
Tetrachloroethene	127-18-4	1.200			04/18/96
1,1,1-Trichloroethane	71-55-6	ND	10 u		04/18/96
1.1.2-Trichloroethane	79-00-5	ND	10 u		04/18/96
Trichloroethene	79-01-6	10			04/18/96
Trichlorofluoromethane	75-69-4	ND	40 u		04/18/96
1.1.2Trichlorotrifluoroethan	9 /b-13-1	ND	10 u	9/L	04/18/96 04/18/96
Vinyl Chloride	75-01-4	ND	40 u	y/L	04/18/90

Reporting limits elevated due to high levels of target compounds. Sample run at dilution.

ND = Not detected at or above the reporting limit
\* = Value at or above reporting limit

# PES ENVIRONMENTAL, INC.

SAMPLE ID: AMW-5

AEN LAB NO: 9604227-06 AEN WORK ORDER: 9604227 CLIENT PROJ. ID: 960416-D1

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix E	PA 8010				
Bromodichloromethane	75-27-4	ND	0.5 u	g/L	04/18/96
Bromoform	75-25-2	ND	0.5 u 0.5 u 0.5 u 0.5 u 0.5 u	ğ/L	04/18/96
Bromomethane	74-83-9	ND	2 u	ğ/L	04/18/96
Carbon Tetrachloride	56-23-5	ND	0.5 u	g/L	04/18/96
Chlorobenzene	108-90-7	ND	0.5 u	ġ/L	04/18/96
Chloroethane	75-00-3	ND	2 u	ġ/L	04/18/96
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5 น	ġ/L	04/18/96
Chloroform	67-66-3	ND	0.5 u	ıg/L	04/18/96
Chloromethane	74-87-3	ND	2 u 0.5 u	ıg/L	04/18/96
Dibromochloromethane	124-48-1	ND	0.5 u	ıg/L	04/18/96
1.2-Dichlorobenzene	95-50-1	ND	0.5 u	ıg/L	04/18/96
1,3-Dichlorobenzene	541-73-1	ND	0.5 u	ıg/L	04/18/96
1,4-Dichlorobenzene	106-46-7	ND	0.5 u 0.5 u 0.5 u 0.5 u	ıg/L	04/18/96
Dichlorodifluoromethane	75-71-8	ND	2 L	ig/L	04/18/96
1,1-Dichloroethane	75-34-3	ND	0.5 r	ig/L	04/18/96
1.2-Dichloroethane	107-06-2	ДИ	0.5 t	ig/L	04/18/96
1,1-Dichloroethene	75-35-4	ND	U.5 L	19/L	04/18/96
cis-1.2-Dichloroethene	156-59-2	ND	0.5 (	ig/L	04/18/96 04/18/96
trans-1,2-Dichloroethene	156-60-5	ND	0.5 t	14/ L	04/18/96
1.2-Dichloropropane	78-87-5	ND	0.5 ι	197 L	04/18/96
cis-1,3-Dichloropropene	10061-01-5	ND ND	0.5 ເ 0.5 ເ	19/L	04/18/96
trans-1.3-Dichloropropene	10061-02-6	ND ND	0.5 (	ig/L	04/18/96
Methylene Chloride	75-09-2 79-34-5	ND	0.5 t	197 L 1071	04/18/96
1.1.2.2-Tetrachloroethane	127-18-4	ND ND	0.5 (	ia/L	04/18/96
Tetrachloroethene	71-55-6	ND	0.5	ig/L	04/18/96
1,1.1-Trichloroethane	79-00-5	ND	0.5	ig/L	04/18/9
1,1,2-Trichloroethane Trichloroethene	79-00-5 79-01-6	ND	0.5 (	ים/ן יפי ב	04/18/9
Trichlorofluoromethane	75-69-4	ND	2 1	ia/[	04/18/9
1,1.2Trichlorotrifluoroethane		ND	0.5 ( 2 ( 0.5 (	ua/L	04/18/96
Vinyl Chloride	75-01-4	ND	2 i	ug/L	04/18/96

ND = Not detected at or above the reporting limit

<sup>\* =</sup> Value at or above reporting limit

#### PES ENVIRONMENTAL, INC.

SAMPLE ID: AMW-6
AFN LAR NO: 9604227-0

AEN LAB NO: 9604227-07 AEN WORK ORDER: 9604227 CLIENT PROJ. ID: 960416-D1 DATE SAMPLED: 04/16/96 DATE RECEIVED: 04/17/96

REPORT DATE: 05/23/96

	METHOD/		REPORTING	,	DATE
ANALYTE	CAS#	RESULT	LIMIT	UNITS	ANALYZED
EPA 8010 - Water matrix E	PA 8010		·		
Bromodichloromethane	75-27-4	ND	10 ι	ıg/L	04/18/96
Bromoform	75-25-2	ND	10 t	ığ/L	04/18/96
Bromomethane	74-83-9	ND	40 L		04/18/96
Carbon Tetrachloride	56-23-5	ND	10 ι	ığ/L	04/18/96
Chlorobenzene	108-90-7	ПО	10 ι	ıg/L	04/18/96
Chloroethane	75-00-3	ND	40 L	ıg/L	04/18/96
2-Chloroethyl Vinyl Ether	110-75-8	ND	10 ι	ıg/L	04/18/96
Chloroform	67-66-3	ND	10 u	ıg/L	04/18/96
Chloromethane	74-87-3	ND	40 u	ıg/L	04/18/96
Dibromochloromethane	124-48-1	ND	10 ι		04/18/96
1.2-Dichlorobenzene	95-50-1	ND	10 t	1 <b>g/</b> L	04/18/96
1.3-Dichlorobenzene	541-73-1	ND	10 t	1g/L	04/18/96
1.4-Dichlorobenzene	106-46-7	ND	10 մ 40 մ	19/L	04/18/96 04/18/96
Dichlorodifluoromethane	75-71-8	ND ND	10 t	19/L	04/18/96
1.1-Dichloroethane	75-34-3 107-06-2	ND ON	10 t	197 L 1971	04/18/96
1.2-Dichloroethane	75-35-4	ND	10 t	197 L 1071	04/18/96
1.1-Dichloroethene cis-1.2-Dichloroethene	156-59-2	20 *		197 L 10/1	04/18/96
trans-1.2-Dichloroethene	156-60-5	ND	10 (		04/18/96
1,2-Dichloropropane	78-87-5	ND		ig/L	04/18/96
cis-1.3-Dichloropropene	10061-01-5	ND		ıg/L	04/18/96
trans-1.3-Dichloropropene	10061-02-6	ND	10 (	ıg/L	04/18/96
Methylene Chloride	75-09-2	ND	40 i	ıg/L	04/18/96
1.1.2.2-Tetrachloroethane	79-34-5	ND	10 (	ığ/L	04/18/96
Tetrachloroethene	127-18-4	1,900	t 10 (	uğ/L	04/18/96
1.1.1-Trichloroethane	71-55-6	ND	10 (	ug/L	04/18/96
1.1.2-Trichloroethane	79 <b>-</b> 00-5	ND	10 (	uġ/L	04/18/96
Trichloroethene	79 <b>-</b> 01-6	110 '		ug/L	04/18/96
Trichlorofluoromethane	75-69-4	ND		ug/L	04/18/96
1.1.2Trichlorotrifluoroethan	e 76-13-1	ND		ug/L	04/18/96
Vinyl Chloride	75-01 <b>-4</b>	ND	40	ug/L	04/18/96

Reporting limits elevated due to high levels of target compounds. Sample run at dilution.

\* = Value at or above reporting limit

ND = Not detected at or above the reporting limit

#### PES ENVIRONMENTAL, INC.

SAMPLE ID: AMW-7

AEN LAB NO: 9604227-08 AEN WORK ORDER: 9604227 CLIENT PROJ. ID: 960416-D1 DATE SAMPLED: 04/16/96 DATE RECEIVED: 04/17/96 REPORT DATE: 05/23/96

WALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZE
PA 8010 - Water matrix E	PA 8010				
Bromodichloromethane	75-27-4	ND	30	ug/L	04/18/9
Bromoform	75-25-2	ND	30	ug/L	04/18/9
Bromomethane	74-83-9	ND	100		04/18/9
Carbon Tetrachloride	56-23-5	ND		ug/L	04/18/9
Chlorobenzene	108-90-7	ND		ug/L	04/18/9
Chloroethane	75-00-3	ND	100	ug/L	04/18/9
2-Chloroethyl Vinyl Ether	110-75-8	ND		ug/L	04/18/9
Chloroform	67-66-3	ND	30	ug/L	04/18/
Chloromethane	74-87-3	ND	100	ug/L	04/18/
Dibromochloromethane	124-48-1	ND		ug/L	04/18/
1,2-Dichlorobenzene	95-50-1	ND		ug/L	04/18/
1,3-Dichlorobenzene	541-73-1	ND		ug/L	04/18/
1,4-Dichlorobenzene	106-46-7	ND		ug/L	04/18/
Dichlorodifluoromethane	75-71-8	ND		ug/L	04/18/
1,1-Dichloroethane	75-34-3	ND		ug/L	04/18/
1,2-Dichloroethane	107-06-2	ND		ug/L	04/18/
1.1-Dichloroethene	75-35-4	ND		ug/L	04/18/
cis-1,2-Dichloroethene	156-59-2	2.200 *	30	ug/L	04/18/
trans-1.2-Dichloroethene	156-60-5	60 *	30	ug/L	04/18/
1,2-Dichloropropane	78-87-5	ŇĎ	30	ug/L	04/18/
cis-1.3-Dichloropropene	10061-01-5	ND	30	ug/L	04/18/
trans-1.3-Dichloropropene	10061-02-6	ND	30	ug/L	04/18/
Methylene Chloride	75-09-2	ND	100	ug/L	04/18/
1.1.2.2-Tetrachloroethane	79-34-5	ND	30	ug/L	04/18/
Tetrachloroethene	127-18-4	2.300 *	30	ug/L	04/18/
1.1.1-Trichloroethane	71-55-6	ND	30	ug/L	04/18/
1.1.2-Trichloroethane	79-00-5	ND	30	ug/L	04/18/
Trichloroethene	79-01-6	500 *		ug/L	04/18/
Trichlorofluoromethane	75-69-4	ND		ug/L	04/18/
1.1.2Trichlorotrifluoroethane		ND	30	ug/L	04/18/
Vinyl Chloride	75-01-4	ND		ug/L	04/18/

Reporting limits elevated due to high levels of target compounds. Sample run at dilution.

ND = Not detected at or above the reporting limit
 \* = Value at or above reporting limit

# PES ENVIRONMENTAL, INC.

SAMPLE ID: AMW-8

AEN LAB NO: 9604227-09 AEN WORK ORDER: 9604227 CLIENT PROJ. ID: 960416-D1

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZEI
EPA 8010 - Water matrix E	PA 8010				
Bromodichloromethane	75-27-4	ND	0.5 u	a/1	04/18/9
Bromoform	75-25-2	ND	0.5 m	a/I	04/18/9
Bromomethane	74-83-9	ND	0.5 u 0.5 u	a/L	04/18/9
Carbon Tetrachloride	56-23-5	ND	0.5 u	g/L	04/18/9
Chlorobenzene	108-90-7	ND	0.5 u	a/L	04/18/9
Chloroethane	75-00-3	ND	2 u	q/L	04/18/9
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5 u	q/L	04/18/9
Chloroform	67-66-3	ND	0.5 u	g/L	04/18/9
Chloromethane	74-87-3	ND	2 u	a/L	04/18/9
Dibromochloromethane	124-48-1	ND	0.5 u	ā/L	04/18/9
1.2-Dichlorobenzene	95-50-1	ND	0.5 u	g/L	04/18/9
1.3-Dichlorobenzene	541-73-1	ND	0.5 น 0.5 น	g/L	04/18/9
1.4-Dichlorobenzene	106-46-7	ND	0.5 น	ġ/L	04/18/9
Dichlorodifluoromethane	75-71-8°	ND	2 u	g/L	04/18/9
1.1-Dichloroethane	75-34-3	ND	0.5 u	g/L	04/18/9
1.2-Dichloroethane	107-06-2	ND	0.5 u u 0.5	g/L	04/18/9
1.1-Dichloroethene	75-35-4	ND	0.5 u	g/L	04/18/9
cis-1.2-Dichloroethene	156-59-2	ND	0.5 u	g/L	04/18/9
trans-1.2-Dichloroethene	156-60-5	ND	0.5 u	g/L	04/18/9
1.2-Dichloropropane	78-87-5	ND	0.5 u	g/L	04/18/9
cis-1.3-Dichloropropene	10061-01-5	ND	0.5 u	g/L	04/18/9
trans-1.3-Dichloropropene	10061-02-6	ND	v.s u	9/L	04/18/9
Methylene Chloride	75-09-2	ND		g/L	04/18/9
1.1.2.2-Tetrachloroethane	79-34-5	ND	0.5 u	g/L	04/18/9
Tetrachloroethene	127-18-4	0.8		g/L	04/18/9
1.1.1-Trichloroethane	71-55-6	ND	0.5 u	g/L	04/18/9
1,1,2-Trichloroethane	79-00-5	ND	0.5 u		04/18/9
Trichloroethene	79-01-6	ND		g/L	04/18/9
Trichlorofluoromethane	75-69-4	ND		g/L	04/18/9
1.1.2Trichlorotrifluoroethane Vinyl Chloride	75-13-1 75-01-4	ND ND	0.5 u 2 u	ig/L ig/L	04/18/9 04/18/9

ND = Not detected at or above the reporting limit
\* = Value at or above reporting limit

#### PES ENVIRONMENTAL, INC.

SAMPLE ID: AMW-9

AEN LAB NO: 9604227-10 AEN WORK ORDER: 9604227 CLIENT PROJ. ID: 960416-D1

**DATE SAMPLED: 04/16/96** DATE RECEIVED: 04/17/96

**REPORT DATE:** 05/23/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
				,	
	PA_8010	MD	2		04/10/06
Bromodichloromethane	75-27-4	ND	3	ug/L	04/18/96
Bromoform	75-25-2	ND	ئ 10	ug/L	04/18/96
Bromomethane	74-83-9	ND	10	ug/L ug/L	04/18/9
Carbon Tetrachloride	56-23-5	ND	3	ug/L	04/18/9
Chlorobenzene	108-90-7	ND	3	ug/L	04/18/96
Chloroethane	75-00-3	ND	10	ug/L	04/18/9
2-Chloroethyl Vinyl Ether	110-75-8	ND	3	ug/L ug/L ug/L	04/18/96
Chloroform	67-66-3	ND	3	ug/L	04/18/9
Chloromethane	74-87-3	ND	10	ug/L	04/18/9
Dibromochloromethane	124-48-1	ND	3	ug/L	04/18/9
1,2-Dichlorobenzene	95-50-1	ND	3	ug/L	04/18/9
1,3-Dichlorobenzene	541-73-1	ND		ug/L	04/18/9
1.4-Dichlorobenzene	106-46-7	ND	_3	ug/L	04/18/9
Dichlorodifluoromethane	75-71-8	ND	10	ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	04/18/9
1.1-Dichloroethane	75-34-3	ND	3	ug/L	04/18/9
1.2-Dichloroethane	107-06-2	ND	3	ug/L	04/18/9
1,1-Dichloroethene	75-35-4	ND	3	ug/L	04/18/9
cis-1.2-Dichloroethene	1 <del>56</del> -59-2	,	* 3	ug/L	04/18/9
trans-1,2-Dichloroethene	156-60-5	ND	3	ug/L	04/18/9
1.2-Dichloropropane	78-87-5	ND	3	ug/L	04/18/9
cis-1,3-Dichloropropene	10061-01-5	ND	3	ug/L	04/18/9
trans-1.3-Dichloropropene	1 <b>006</b> 1-02 <b>-</b> 6	ND	3	ug/L	04/18/9
Methylene Chloride	75-09-2	ND	10	uq/L	04/18/9
1,1,2,2-Tetrachloroethane	79-34-5	ND	* 3 * 3	ug/L	04/18/9
Tetrachloroethene	127-18-4	170	* 3	ug/L	04/18/9
1.1.1-Trichloroethane	71-55-6	ND	3	ug/L	04/18/9
1,1,2-Trichloroethane	79-00-5	ND	3	ug/L	04/18/9
Trichloroethene	79-01-6	4		ug/L	04/18/9
Trichlorofluoromethane	75-69-4	ND	10	ug/L	04/18/9
1.1.2Trichlorotrifluoroethane		ND	3	ug/L	04/18/9
Vinyl Chloride	75-01-4	ND	10	ug/L	04/18/9

Reporting limits elevated due to high levels of target compounds. Sample run at dilution.

ND = Not detected at or above the reporting limit \* = Value at or above reporting limit

#### PES ENVIRONMENTAL, INC.

SAMPLE ID: MW-6

AEN LAB NO: 9604227-11 AEN WORK ORDER: 9604227 CLIENT PROJ. ID: 960416-D1 DATE SAMPLED: 04/16/96 DATE RECEIVED: 04/17/96

**REPORT DATE:** 05/23/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix E Bromodichloromethane Bromoform Bromomethane	PA 8010 75-27-4 75-25-2 74-83-9	ND ND ND	10 u 10 u 40 u	g/L g/L	04/18/96 04/18/96 04/18/96
Carbon Tetrachloride Chlorobenzene Chloroethane 2-Chloroethyl Vinyl Ether Chloroform	56-23-5 108-90-7 75-00-3 110-75-8 67-66-3	ND ND ND ND ND	10 u 10 u 40 u 10 u 10 u	ig/L ig/L ig/L	04/18/96 04/18/96 04/18/96 04/18/96
Chloromethane Dibromochloromethane 1.2-Dichlorobenzene 1.3-Dichlorobenzene 1.4-Dichlorobenzene	74-87-3 124-48-1 95-50-1 541-73-1 106-46-7	ND ND ND ND ND	40 u 10 u 10 u 10 u	ig/L ig/L ig/L	04/18/96 04/18/96 04/18/96 04/18/96 04/18/96
Dichlorodifluoromethane 1.1-Dichloroethane 1.2-Dichloroethane 1.1-Dichloroethene	75-71-8 75-34-3 107-06-2 75-35-4	100 * ND ND ND	40 u 10 u 10 u 10 u	ig/L ig/L ig/L ig/L	04/18/96 04/18/96 04/18/96 04/18/96
cis-1,2-Dichloroethene trans-1,2-Dichloroethene 1,2-Dichloropropane cis-1,3-Dichloropropene trans-1,3-Dichloropropene	156-59-2 156-60-5 78-87-5 10061-01-5 10061-02-6	ND ND ND ND ND	10 u 10 u 10 u 10 u 10 u	ig/L ig/L ig/L	04/18/96 04/18/96 04/18/96 04/18/96 04/18/96
Methylene Chloride 1.1.2.2-Tetrachloroethane Tetrachloroethene 1.1.1-Trichloroethane 1.1.2-Trichloroethane	75-09-2 79-34-5 127-18-4 71-55-6 79-00-5	ND ND 1.400 * ND ND	40 u 10 u 10 u 10 u 10 u	ig/L ig/L ig/L ig/L ig/L	04/18/96 04/18/96 04/18/96 04/18/96
Trichloroethene Trichlorofluoromethane 1.1.2Trichlorotrifluoroethane Vinyl Chloride	79-01-6 75-69-4 76-13-1 75-01-4	10 * ND ND ND	10 u 40 u 10 u 40 u	ığ/L	04/18/96 04/18/96 04/18/96 04/18/96

Reporting limits elevated due to high levels of target compounds. Sample run at dilution.

ND = Not detected at or above the reporting limit
 \* = Value at or above reporting limit

# PES ENVIRONMENTAL, INC.

SAMPLE ID: MW-7

AEN LAB NO: 9604227-12 AEN WORK ORDER: 9604227 CLIENT PROJ. ID: 960416-D1

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EDA 0010 Mater materia	PA 8010				
EPA 8010 · Water matrix E Bromodichloromethane	75-27-4	ND	0.5 ປ	ıa/l	04/17/96
Bromoform	75-25-2	ND	0.5 u	ig/L	04/17/96
Bromomethane	74-83-9	ND	2 1	ig/L	04/17/96
Carbon Tetrachloride	56-23-5	ND	กรีเ	ia/l	04/17/96
Chlorobenzene	108-90-7	ND	0.5 u 0.5 u	ig/L	04/17/96
Chloroethane	75-00-3	ND	2.0	ig/L	04/17/96
2-Chloroethyl Vinyl Ether	110-75-8	ND	กรีเ	10.\[	04/17/96
Chloroform	67-66-3	ND	0.5 u 0.5 u	197 L	04/17/96
Chloromethane	74-87-3	ND	2 1	ig/L	04/17/96
Dibromochloromethane	124-48-1	ND	0.5%	ıā/l	04/17/96
1.2-Dichlorobenzene	95-50-1	ND	0.5 i	ia/l	04/17/96
1.3-Dichlorobenzene	541-73-1	ND	0.5 (	10/l	04/17/96
1.4-Dichlorobenzene	106-46-7	ND	0.5 u 0.5 u 0.5 u	ia/L	04/17/96
Dichlorodifluoromethane	75-71-8		* 21	ia/L	04/17/96
1,1-Dichloroethane	75-34-3	NĎ	* 2 i	ua/L	04/17/9
1.2-Dichloroethane	107-06-2	ND	0.5 i	ia/L	04/17/9
1.1-Dichloroethene	75-35-4	ND	0.5 i	ug/L	04/17/9
cis-1,2-Dichloroethene	156-59-2	ND	0.5 (	ua/L	04/17/9
trans-1,2-Dichloroethene	156-60-5	ND	0.5 (	ıq/L	04/17/9
1,2-Dichloropropane	78-87-5	ND	0.5 ι	uā/L	04/17/9
cis-1,3-Dichloropropene	10061-01-5	ND	0.5 t	uğ/L	04/17/9
trans-1.3-Dichloropropene	10061-02-6	ND	0.5 เ	ug/L	04/17/9
Methylene Chloride	75-09-2	ND	2 ر	ug/L	04/17/9
1.1.2.2-Tetrachloroethane	79-34-5	ND	0.5 i. 0.5 i. 0.5 i. 0.5 i. 0.5 i. 0.5 i.	ug/L	04/17/9
Tetrachloroethene	127-18-4	ND	0.5 (	uy/L	04/17/9
1,1,1-Trichloroethane	71-55-6	МÐ	0.5 เ	ug/L	04/17/9
1.1.2-Trichloroethane	79-00-5	ND	0.5 ι	ua/L	04/17/9
Trichloroethene	79-01-6	ND	0.5 (	ug/L	04/17/9
Trichlorofluoromethane	75-69-4	ND	2ι	ug/L	04/17/9
1.1.2Trichlorotrifluoroethane		ND	0.5 ເ	ug/L	04/17/9
Vinyl Chloride	75-01-4	ND	2 (	ug/L	04/17/9

ND = Not detected at or above the reporting limit
\* = Value at or above reporting limit

#### PES ENVIRONMENTAL, INC.

SAMPLE ID: EB

AEN LAB NO: 9604227-13 AEN WORK ORDER: 9604227 CLIENT PROJ. ID: 960416-D1 DATE SAMPLED: 04/16/96 DATE RECEIVED: 04/17/96

REPORT DATE: 05/23/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix E	PA 8010				
Bromodichloromethane	75-27-4	ND	0.5 ug/	/1	04/17/96
Bromoform	75-25-2	ND	0.5 ug/		04/17/96
Bromomethane	74-83-9	ND	2 ug/		04/17/96
Carbon Tetrachloride	56-23-5	ND	0.5 ug/	/[	04/17/96
Chlorobenzene	108-90-7	ND	0.5 ug/	/Ī	04/17/96
Chloroethane	75-00-3	ND	2 ug/	/i	04/17/96
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5 ug/	/Ī	04/17/96
Chloroform	67-66-3	ND	0.5 ug/	/Ī	04/17/96
Chloromethane	74-87-3	ND	2 ug/	/i	04/17/96
Dibromochloromethane	124-48-1	ND	2 ug/ 0.5 ug/	/ <u> </u>	04/17/96
1.2-Dichlorobenzene	95-50-1	ND	0.5 ug/	/i	04/17/96
1,3-Dichlorobenzene	541-73-1	ND	0.5 ug/ 0.5 ug/	/ <u>i</u>	04/17/96
1,4-Dichlorobenzene	106-46-7	ND	0.5 ug/	/ <u>i</u>	04/17/96
Dichlorodifluoromethane	75-71-8	ND	2 ug/	/i	04/17/96
1,1-Dichloroethane	75-34-3	ND	0.5 ug/	/I	04/17/96
1.2-Dichloroethane	107-06-2	ND	0.5 ug/	/i	04/17/96
1.1-Dichloroethene	75-35-4	ND	0.5 ug/	/i	04/17/96
cis-1.2-Dichloroethene	156-59-2	ND	0.5 ug/	/i	04/17/96
trans-1.2-Dichloroethene	156-60-5	ND	0.5 ug/	/i	04/17/96
1.2-Dichloropropane	7 <b>8-</b> 87-5	ND	0.5 ug/ 0.5 ug/	/[	04/17/96
cis-1,3-Dichloropropene	10061-01-5	ND	0.5 ug/	/[	04/17/96
trans-1.3-Dichloropropene	10061-02-6	NĎ	0 E 1104	/	04/17/96
Methylene Chloride	75-09-2	ND	2 ug/	/i	04/17/96
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5 ug/	/Ī	04/17/96
Tetrachloroethene	127-18-4	NĎ	0.5 ug/	/i	04/17/96
1,1.1-Trichloroethane	71-55-6	ND	0.5 ug/	/i	04/17/96
1.1.2-Trichloroethane	79-00-5	ND	0.5 ug/ 0.5 ug/ 0.5 ug/ 0.5 ug/ 0.5 ug/	/Ī	04/17/96
Trichloroethene	79-01-6	ND	0.5 ug/	/Ī	04/17/96
Trichlorofluoromethane	75-69-4	ND	2 ug/	/ <u> </u>	04/17/96
1,1.2Trichlorotrifluoroethane		ND	0.5 ug/	/L	04/17/96
Vinyl Chloride	75-01-4	ND	2 ug/	/Ĺ	04/17/96

ND = Not detected at or above the reporting limit

<sup>\* =</sup> Value at or above reporting limit

#### PES ENVIRONMENTAL, INC.

SAMPLE ID: TB

AEN LAB NO: 9604227-14 AEN WORK ORDER: 9604227 CLIENT PROJ. ID: 960416-D1

	S# RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Bromoform 75-2 Bromomethane 74-8 Carbon Tetrachloride 56-2 Chlorobenzene 108- Chloroethane 75-0 2-Chloroethyl Vinyl Ether 110- Chloroform 67-6 Chloromethane 74-8 Dibromochloromethane 124- 1,2-Dichlorobenzene 95-5 1,3-Dichlorobenzene 541- 1,4-Dichlorobenzene 106- Dichlorodifluoromethane 75-7 1,1-Dichloroethane 75-7 1,2-Dichloroethane 107-		0.5		04/17/06
Bromomethane 74-8 Carbon Tetrachloride 56-2 Chlorobenzene 108- Chloroethane 75-0 2-Chloroethyl Vinyl Ether 110- Chloroform 67-6 Chloromethane 74-8 Dibromochloromethane 124- 1,2-Dichlorobenzene 95-8 1,3-Dichlorobenzene 541- 1,4-Dichlorobenzene 106- Dichlorodifluoromethane 75-7 1,1-Dichloroethane 75-7 1,2-Dichloroethane 107-3		0.5	ug/L	04/17/96
Carbon Tetrachloride 56-2 Chlorobenzene 108- Chloroethane 75-0 2-Chloroethyl Vinyl Ether 110- Chloroform 67-6 Chloromethane 74-8 Dibromochloromethane 124- 1,2-Dichlorobenzene 95-5 1,3-Dichlorobenzene 541- 1,4-Dichlorobenzene 106- Dichlorodifluoromethane 75-7 1,1-Dichloroethane 75-7 1,2-Dichloroethane 107-		0.5	ug/L	04/17/96 04/17/96
Chlorobenzene 108- Chloroethane 75-0 2-Chloroethyl Vinyl Ether 110- Chloroform 67-6 Chloromethane 74-8 Dibromochloromethane 124- 1,2-Dichlorobenzene 95-5 1,3-Dichlorobenzene 541- 1,4-Dichlorobenzene 106- Dichlorodifluoromethane 75-7 1,1-Dichloroethane 75-7	3-5 ND	0.5 0.5	ug/L	04/17/96
Chloroethane 75-0 2-Chloroethyl Vinyl Ether 110- Chloroform 67-6 Chloromethane 74-8 Dibromochloromethane 124- 1,2-Dichlorobenzene 95-5 1,3-Dichlorobenzene 541- 1,4-Dichlorobenzene 106- Dichlorodifluoromethane 75-7 1,1-Dichloroethane 75-7 1,2-Dichloroethane 107-	90-7 ND	0.5	ug/L ug/l	04/17/96
2-Chloroethyl Vinyl Ether 67-6 Chloroform 67-6 Chloromethane 74-8 Dibromochloromethane 124- 1,2-Dichlorobenzene 95-5 1,3-Dichlorobenzene 541- 1,4-Dichlorobenzene 106- Dichlorodifluoromethane 75-7 1,1-Dichloroethane 75-3 1,2-Dichloroethane 107-		0.3	ug/L ug/l	04/17/96
Chloroform 67-6 Chloromethane 74-8 Dibromochloromethane 124- 1,2-Dichlorobenzene 95-5 1,3-Dichlorobenzene 541- 1,4-Dichlorobenzene 106- Dichlorodifluoromethane 75-7 1,1-Dichloroethane 75-3 1,2-Dichloroethane 107-	75-8 ND	0.5	ug/L ug/l	04/17/96
Chloromethane 74-8 Dibromochloromethane 124- 1,2-Dichlorobenzene 95-5 1,3-Dichlorobenzene 541- 1,4-Dichlorobenzene 106- Dichlorodifluoromethane 75-7 1,1-Dichloroethane 75-3 1,2-Dichloroethane 107-		0.5	ug/L ug/l	04/17/96
Dibromochloromethane 124-1,2-Dichlorobenzene 95-5 1,3-Dichlorobenzene 541- 1,4-Dichlorobenzene 106- Dichlorodifluoromethane 75-7 1,1-Dichloroethane 75-3 1,2-Dichloroethane 107-		2.3	ug/L ug/L	04/17/96
1,2-Dichlorobenzene 95-5 1,3-Dichlorobenzene 541- 1,4-Dichlorobenzene 106- Dichlorodifluoromethane 75-7 1,1-Dichloroethane 75-3 1,2-Dichloroethane 107-		0.5	ug/L ug/l	04/17/96
1.3-Dichlorobenzene 541- 1.4-Dichlorobenzene 106- Dichlorodifluoromethane 75-7 1.1-Dichloroethane 75-3 1.2-Dichloroethane 107-		0.5	ug/L	04/17/96
1.4-Dichlorobenzene 106- Dichlorodifluoromethane 75-7 1.1-Dichloroethane 75-3 1.2-Dichloroethane 107-		0.5	ug/L	04/17/96
Dichlorodifluoromethane 75-7 1.1-Dichloroethane 75-3 1.2-Dichloroethane 107-			ug/L	04/17/96
1.1-Dichloroethane 75-3 1.2-Dichloroethane 107-		2	uā/l	04/17/96
1.2-Dichloroethane 107-		0.5	ug/L	04/17/96
	·06-2 ND	0.5 0.5 0.5 0.5	ug/L	04/17/96
1.1-Dichloroethene 75-3	35-4 <b>ND</b>	0.5	ug/L	04/17/96
cis-1,2-Dichloroethene 156-	·59-2 ND	0.5	ug/L	04/17/96
trans-1,2-Dichloroethene 156-	-60-5 ND	0.5	ug/L	04/17/96
1,2-Dichloropropane 78-8	37-5 ND	0.5	ug/L	04/17/96
	1-01-5 ND	0.5	ug/L	04/17/96
	1-02-6 ND	0.5	ug/L	04/17/96
Methylene Chloride 75-0		2	ug/L	04/17/96
	34-5 ND	0.5	ug/L	04/17/96
	18-4 ND	0.5	ug/L	04/17/96
1,1,1-Trichloroethane 71-5		0.5	ug/L	04/17/96 04/17/96
1.1.2-Trichloroethane 79-0		0.5	ug/L	04/17/96
Trichloroethene 79-6		ບ.ວ	ug/L ug/L	04/17/96
Trichlorofluoromethane 75-6		0.5	ug/L ug/l	04/17/96
1.1.2Trichlorotrifluoroethane 76-1 Vinyl Chloride 75-0	13-1 ND 11-4 ND		ug/L ug/L	04/17/96

ND = Not detected at or above the reporting limit
\* = Value at or above reporting limit

#### AEN (CALIFORNIA) QUALITY CONTROL REPORT

AEN JOB NUMBER: 9604227

CLIENT PROJECT ID: 960416-D1

#### Quality Control and Project Summary

All laboratory quality control parameters were found to be within established limits.

#### <u>Definitions</u>

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

- D: Surrogates diluted out.
- #: Indicates result outside of established laboratory QC limits.

# QUALITY CONTROL DATA

METHOD: EPA 8010

AEN JOB NO: 9604227

INSTRUMENT: I MATRIX: WATER

# Surrogate Standard Recovery Summary

			Percent Recovery						
Date Analyzed	Client Id.	Lab Id.	Bromochloro- methane	1-Bromo-3-chloro propane					
04/18/96 04/18/96 04/18/96 04/19/96 04/18/96 04/18/96 04/18/96 04/18/96 04/18/96 04/18/96 04/18/96 04/17/96 04/17/96	WGR-MW-2 WGR-MW-4 WGR-MW-4 AMW-1 AMW-5 AMW-6 AMW-8 AMW-9 MW-6 MW-7 EB TB	01 02 03 04 05 06 07 08 09 10 11 12 13 14	91 92 89 92 96 97 94 99 97 94 93 90 91	100 101 93 100 98 102 100 99 98 97 98 96 98 96 98					
QC Limits:			70-130	70-130					

# QUALITY CONTROL DATA

METHOD: EPA 8010

AEN JOB NO: 9604227 DATE ANALYZED: 04/15/96 SAMPLE SPIKED: 9604174-01

INSTRUMENT: I

# Matrix Spike Recovery Summary

	6 41	•		QC Limit	ES .
Analyte	Spike Added (ug/L)	Average Percent Recovery	RPD	Percent Recovery	RPD
1.1-Dichloroethene Trichloroethene Chlorobenzene	50 50 50	90 95 93	4 <1 1	37-156 54-122 54-141	20 20 20

Daily method blanks for all associated analytical runs showed no contamination at or above the reporting limit.

BLAINE	SAN JOSE, CA 95			CONDUCT ANAL	YSIS TO DETECT	LAB			W	DHS
TECH SERVICES INC	(408) 995-59 FAX (408) 293-8	535				SETE	NALYSES MUS' IY CALIFORNIA   EPA	MEET SPECIFI DHS AND		DETECTION LIMITS
CHAIN OF CUSTODY 460416-1	0/	ر پر					LIA OTHER			
SITE FALL IL SLOPE	S. Center	CONTAINERS				SPEC	CIAL INSTRUCTI	ONS TALVO,	ice of	Report
10700 MACAR	7)	¥	108			10	PES 6	EXUIRO	MME	Whole.
	TRIX CONTAINERS	COMPOSITE	#			PAT	FR. Jo	THN GE	ALDE	4
SAMPLE I.D.	TOTAL	ن	HA.F			ADD'L	INFORMATION	STATUS	CONDITION	LAB SAMPLE #
WGR-116 4-16 1410 L	V 3 10 m	1.4	$\langle$							DIA-C
WGR-1143 4-16 1455	3	•	X							DZA-C
W(-R-MV-4 41-16 1300	3		X							D3A -C
<u></u>	13		X							D4A-C
4MW-1 4-16 1325	13		X							D5A-C
AMW-4 4-11 1045	13		V				, <u>, , , , , , , , , , , , , , , , , , </u>	<del></del>		OUA-C
AMW-5 4-16 1145	3	_  -	<b>3</b>				<del></del>			07A-C
AMW-6 4-16 1115	<del>                                     </del>		Y						1	OBA-C
AMW-7 4-16 120	1131		🕎					<u> </u>	-	09A -C
AMW-8 4-16 1350	1, 3	-	1			<del></del>	····			
AMW-9 4.16 1235	13 U		X			preu	LTS NEEDED '			10A-C
SAMPLING DATE TIME SYPE	AMPLING ERFORMED BY	IKE	T	WAUGH	TER. V	NO		45 Co	AFIFE	Led -
RELEASED BY		DATE -/7-		TIME 1035	AECEIVED BY	Me			9-17-96	TIME 1035
RECEASED BY	-	DATE 1-17-92	•	TIME 12:40	RECEIVED BY	NP	olle		DATE 4/17/	171ME 94 1240
RELEASEP BY		DATE		TIME	RECEIVED BY		·		DATE	TIME
SHIPPED VIA		DATE SEI	NŤ	TIME SENT	COOLER#					
					<u></u>					

.

BLAINE 985 TIMOTHY DRIVE SAN JOSE, CA 95133				CONDUCT	ANALYS	IS TO DE	ECT	LAB AEN	<u>UNU</u>	<u>4222)</u>	DHS#
TECH SERVICES INC	(408) 995-5535 FAX (408) 293-8773							ALL ANALYSES MUST SET BY CALIFORNIA	MEET SPECIF DHS AND	ICATIONS ÂND	DETECTION LIMITS
		,						□ EPA		□RWQC	B REGION
CHAIN OF CUSTODY 9604 16-7	7/	ارا						□ LIA □ OTHER			
CLIENT PES	E E					Ì	SPECIAL INSTRUCTION	ONS			
0.75	ALL CONTAINERS	1	1				ZNVOICE	E + RD	PORT		
FOOTHILL SHOPPING		립	K					TO PES			11141
10700 Mac Arthur	BLVP_		*					1012	P-NV	11/614116	WITE
OAKLAND MATRIX	CONTAINERS	COMPOSITE	EPA					ATT:	TOHN	SKAL	BECK
SAMPLE I.D.	TOTAL	) - )	17/					ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
17W-6 4-16 1435 W	3 104		X								<u>IIA-C</u>
	3		$\overline{X}$								12A-C
FB 4-16 1055	3		X		1 1						13A-C
-22	12/1	11	V								14AB
112 4-16 W	160	+			1-1		<del> </del>				
		-			╁─┼					<del>- </del>	
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		,	·								
		1-1									
	<del>   </del>	╂┈┤			11					-	
CAMP					1		<u>l</u> L.	RESULTS NEEDED		<u></u>	
SAMPLING DATE TIME SAMP PERF	ORMED BY	15	$\mathcal{D}$	TILLO	U61	HERL		NO LATER THAN	48)C	OKITRI	ACTED"
RELEASED BY	104		A6	TIME 1035	5	RECEIV	ED BY	there of		DATE 4-17-9	6 1035
RELEASED BY	DA	ſĒ		TIME	1	RECEIV	BY /			DATE	TIME 124D
My Hefe	- 4	<u>-17</u>	6	124	2	RECEIVE	<u> VILL</u>	WHILL-		DATE	TIME
IRPLEASED AS	DA1	i <b>C</b>	!	111MC ,		LECEIAL	2001				
SHIPPED VIA	DA <sup>*</sup>	TE SEN	NT.	TIME SE	NT	COOLER	<del>,</del>				

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