PES Environmental, Inc.
Engineering & Environmental Services

A Report Prepared For:

Drake Builders, Inc.
5201 Sacramento Avenue
Richmond, California 94804

Attention: Mr. Richard Gilcrease

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

AUGUST 14, 1998

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1.0 INTRODUCTION

This report presents the results of quarterly groundwater monitoring performed by PES Environmental, Inc. (PES) during the first quarter of 1998 at Foothill Square Shopping Center (Site) in Oakland, California (Plate 1). PES was retained by Drake Builders, Inc. to conduct quarterly groundwater monitoring at the site. The groundwater monitoring program consists of measuring the depth to groundwater in 14 onsite monitoring wells and two offsite wells on a quarterly basis, and purging and sampling 10 of the monitoring wells (Wells AMW-1, AMW-4, AMW-6 through AMW-9, MW-6, MW-7, FHS-MW-10, and FHS-MW-11).

The purpose of the groundwater monitoring program 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 PES documents *Proposal, Groundwater Monitoring, Former Young Cleaners, Foothill Square Shopping Center, Oakland, California*, dated April 8, 1996, and *Results of Additional Groundwater Investigation and Risk Evaluation, Former Young's Cleaners, Foothill Square Shopping Center, Oakland, California*, dated March 24, 1997 (PES, 1996, 1997b).

2.0 BACKGROUND INFORMATION

The site is located in a mixed 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 development of Foothill Square Shopping Center, the site was a truck manufacturing plant. Young's Cleaners, formerly located in the center of the shopping center near Well AMW-6 (refer to Plate 2), operated at this location between 1984 and 1995. Prior to Young's Cleaners, a coin-operated dry cleaner, Norge Cleaners, operated at the location between 1962 and 1980.

Beginning in January 1989, Western Geologic Resources (WGR) installed and monitored Wells WGR-MW1 through WGR-MW5 on the property to characterize the subsurface conditions due to the presence of the adjacent ARCO gas station, northwest of the site. Wells WGR-MW1, WGR-MW2, WGR-MW3, and WGR-MW5 were installed in what WGR defined as the shallow groundwater bearing zone, and Well WGR-MW4 was installed in the deep groundwater bearing zone. Monitoring well locations in the vicinity of the site are shown on Plate 2.

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 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 a March 23, 1993 letter to Drake Builders.

In order to verify the source and extent of the PCE contamination, Augeas Corporation (Augeas), on behalf of Drake Builders, 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 AMW-1 through AMW-7 in the shallow groundwater bearing zone, and Wells AMW-8 and AMW-9 in the deep groundwater bearing zone.

Augeas began groundwater monitoring of the AMW wells in October 1994. During September 1995, the last monitoring event conducted by Augeas, Wells WGR-MW1 through WGR-MW5, and MW-6 and MW-7 (installed on Foothill Square property by ARCO) were monitored in addition to the AMW wells (Augeas, 1995). Augeas concluded that the PCE contamination on the site was caused by a release of solvents from the dry cleaner and an associated underground sanitary sewer lateral. Between October 1995 and 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-MW5 was covered by the soil and has not been accessible since that time.

In December 1996 and January 1997, PES implemented a groundwater investigation program to assess the potential offsite migration of PCE (PES, 1997b). The investigation consisted of HydroPunch™ sampling to collect groundwater samples from the shallow and deep groundwater zones. The results of the offsite groundwater sampling indicated that PCE was not detected offsite in the shallow groundwater zone. In the deep groundwater zone, PCE was detected northwest of the site near the ARCO station and offsite to the west of the site near the intersection of Myers Street and 107th Avenue (see Plate 2). On the basis of the these data, PES concluded that the VOC groundwater plume had not migrated substantially off the Foothill Square Shopping Center site. To provide continuing data to evaluate the stability of the PCE groundwater plume, PES installed two sentry wells at the leading edge of the plume in July 1997 and added these wells to the quarterly monitoring program (PES, 1998a). Additionally, the analytical program was expanded at selected wells to evaluate the progress of intrinsic (i.e., naturally occurring) remediation by testing for geochemical parameters indicative of biological and chemical degradation.

3.0 WATER-LEVEL MEASUREMENTS

Water levels in 12 onsite groundwater monitoring wells (Wells WGR-MW2 through WGR-MW4, AMW-1, AMW-4 through AMW-9, MW-6, and MW-7) and two offsite wells (FHS-MW-10 and FHS-MW-11) were measured by Blaine Tech Services, Inc. (Blaine Tech) of San Jose, California, under the direct supervision of PES, prior to sampling on March 31, 1998. Monitoring data was not collected from WGR-MW1 because the vault was inaccessible

after being accidentally paved over with asphalt in June 1996. Well WGR-MW5 has been inaccessible since 1995, when it was covered by the stockpile of excavated soil.

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.

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 AMW-1, AMW-4, AMW-6 through AMW-9, MW-6, MW-7, FHS-MW-10 and FHS-MW-11 on March 31, 1998, by Blaine Tech under the direct supervision of PES.

Prior to well purging and groundwater sampling, Blaine Tech personnel measured dissolved oxygen in water in the well casing in six selected wells. This method of measurement minimally disturbs the groundwater in the well casing and provides the closest approximation to dissolved oxygen content in the adjacent aquifer. 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, turbidity, and oxidation-reduction potential. 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 to ensure that the sample 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 initial use and after sampling at each well. Sampling procedures are documented in the groundwater sampling report prepared by Blaine Tech and included in Appendix A.

Groundwater samples were transported under chain-of-custody protocol to state-certified laboratories as listed below. American Environmental Network (AEN) of Pleasant Hill, California analyzed samples from the 10 wells for halogenated VOCs using EPA Test Method 8010. Samples from six selected wells (AMW-6, AMW-7, AMW-9, MW-6, FHS-MW-10, and FHS-MW-11) were also analyzed for inorganic parameters consisting of: dissolved oxygen, oxidation-reduction potential, sulfate, nitrate, carbon dioxide, methane, and ferrous iron. As described above, Blaine Tech measured dissolved oxygen and oxidation-reduction

potential using field instruments. Quanterra Environmental Services of Sacramento, California analyzed the groundwater samples for sulfate using EPA Test Method 300.0, nitrate by EPA Test Method 353.3/300.0, and carbon dioxide and methane using RSK 175. Environmental Technical Services of Petaluma, California analyzed the samples for ferrous iron using the Phenanthroline Method as described in Standard Methods for Examination of Water and Wastewater, 18th edition (SMEWW 3500-Fe D). The analytical laboratory reports and chain-of-custody records are included in Appendix B.

5.0 GROUNDWATER MONITORING RESULTS

This section presents a summary of water-level measurements and groundwater analyses results from the March 1998 sampling event.

5.1 Water-Level Measurements

During the current groundwater monitoring period, depth-to-water measurements for the shallow groundwater zone ranged from 7.57 feet (AMW-4) to 16.51 feet (WGR-MW2) below the top-of-casing (TOC). Shallow groundwater zone water-level elevations ranged from 42.27 feet MSL (MW-7) to 57.22 feet MSL (AMW-4). Depth-to-water measurements for the deep groundwater zone ranged from 10.95 feet (AMW-8) to 24.01 feet (MW-6) below TOC. Deep groundwater zone water-level elevations ranged from 36.87 feet MSL (FHS-MW-11) to 53.60 feet MSL (AMW-8). Depth-to-water measurements and calculated water-level elevations since 1996 and for the current period are presented in Table 1. A complete tabulation of recent and historical data was presented in the fourth quarter 1997 groundwater monitoring report (PES, 1998b).

Plates 3 and 4 present water-level elevation contours developed from water levels measured on March 31, 1998, for the shallow and the deep groundwater zones, respectively. The contoured water-level elevations indicate that groundwater flow in both the shallow and the deep groundwater zones is generally west to northwest, as observed during previous groundwater monitoring events. The groundwater gradient in the shallow groundwater zone ranges from 0.021 to 0.12 foot per foot (ft/ft). In the deep groundwater zone, the groundwater gradient ranges from 0.069 ft/ft on the Foothill Square Shopping Center to 0.003 ft/ft offsite to the west.

5.2 Groundwater Chemistry

5.2.1 Volatile Organic Compounds

A summary of laboratory chemical analyses results since 1996 and for the current period is presented in Table 2; 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 B. A

complete tabulation of recent and historical data was presented in the fourth quarter 1997 groundwater monitoring report (PES, 1998b).

In the shallow groundwater zone, the highest concentrations of VOCs were detected in Wells AMW-6 and AMW-7, located downgradient of the former dry cleaners. During this monitoring period, PCE was detected at concentrations ranging from 120 to 2,100 micrograms per liter (µg/L) in Wells AMW-4, AMW-6, and AMW-7. 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), and trans-1,2-dichloroethylene (t-1,2-DCE) were also detected in Wells AMW-6 and AMW-7, but generally at much lower concentrations than PCE. No VOCs were detected in the samples from Wells AMW-1 and MW-7.

In the deep groundwater zone, PCE was detected in onsite Wells AMW-9 and MW-6 at concentrations of 100 and 12 µg/L, respectively. In offsite Sentry Well FHS-MW-11, PCE was detected at a concentration of 9.7 µg/L. PCE concentrations in deep wells are presented on Plate 6. No VOCs were detected in onsite Well AMW-8 or in offsite Sentry Well FHS-MW-10.

5.2.2 Inorganic Parameters

A summary of laboratory chemical analyses for inorganic parameters is presented in Table 3. Field measurements of dissolved oxygen and oxidation-reduction potential are included in Blaine Tech's report in Appendix A. The analytical laboratory reports and chain-of-custody forms are presented in Appendix B.

Groundwater samples from shallow zone Wells AMW-6 and AMW-7 were analyzed for inorganic parameters. In general, levels were fairly consistent with those observed during the previous monitoring periods. The results for the oxidation-reduction potential in AMW-6 and AMW-7 samples were one-half to one-third of levels observed in December 1997. In the sample from AMW-7, sulfate was slightly elevated relative to AMW-6, while the dissolved oxygen, ferrous iron, and methane were slightly lower.

Groundwater samples from deep zone Wells AMW-9, MW-6, FHS-MW-10, and FHS-MW-11 were analyzed for inorganic parameters. In general, levels were fairly consistent with those observed during the previous monitoring periods. The dissolved oxygen concentration was somewhat higher in the sample from Well AMW-9 compared to previous monitoring periods. The oxidation-reduction potentials in the four deep wells were lower this period than previous periods. Ferrous iron was lower in Well AMW-9 and higher in MW-6 compared to results for December 1997.

6.0 DISCUSSION

The results of the organic and inorganic groundwater analyses (refer to Tables 1 and 2) indicate that intrinsic (naturally occurring) biodegradation may be occurring at several areas of the site.

At shallow zone Wells AMW-6 and AMW-7, the presence of PCE breakdown products (i.e., TCE, c-1,2-DCE, and t-1,2-DCE) indicate that degradation of the PCE is occurring just downgradient of the former source area.

The low oxidation-reduction potential in the four deep zone wells and elevated ferrous iron levels in deep zone Well MW-6 indicate a reducing environment. In addition, the relatively low concentrations of sulfate and nitrate in these wells suggest ongoing sulfate reduction and denitrification, respectively. This reducing environment may be contributing to declining PCE concentrations in groundwater monitored by the deep zone wells.

At Sentry Well FHS-MW-10, there continues to be no detected PCE in groundwater. The concentration of PCE in Sentry Well FHS-MW-11 is consistent with the prior quarterly sampling events and indicates that the well is appropriately located at the leading edge of the plume.

PES recommends continued quarterly monitoring of VOCs and inorganic constituents in the current monitoring well network. Water-level measurements will continue to be collected at all accessible monitoring wells.

7.0 REFERENCES

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Table 1. Water-Level Elevation Data - 1996 To Present*
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-MW1	4/16/96	PES	65.97	3.88	62.09
(Shallow Zone)	7/17/96	PES	65.97	NM	--
	10/23/96	PES	65.97	NM	--
	9/29/97	PES	65.97	NM	--
	12/16/97	PES	65.97	NM	--
	3/31/98	**PES**	**65.97**	**NM**	--
WGR-MW2	4/16/96	PES	63.18	20.97	42.21
(Shallow Zone)	7/17/96	PES	63.18	22.71	40.47
	10/23/96	PES	63.18	24.90	38.28
	9/29/97	PES	63.18	25.06	38.12
	12/16/97	PES	63.18	23.17	40.01
	3/31/98	**PES**	**63.18**	**16.51**	**46.67**
WGR-MW3	2/28/96	EMCON	58.34	14.90	43.44
(Shallow Zone)	4/16/96	PES	58.34	18.49	39.85
	5/28/96	EMCON	58.34	18.33	40.01
	7/17/96	PES	58.34	20.49	37.85
	8/19/96	EMCON	58.34	21.38	36.96
	10/23/96	PES	58.34	22.10	36.24
	11/21/96	EMCON	58.34	18.70	39.64
	3/26/97	EMCON	58.34	18.98	39.36
	5/20/97	EMCON	58.34	19.70	38.64
	8/18/97	EMCON	57.96**	21.81	36.15
	9/29/97	PES	57.96**	21.72	36.24
	12/16/97	PES	57.96**	16.00	41.96
	3/31/98	**PES**	**57.96****	**15.29**	**42.67**
WGR-MW4	4/16/96	PES	60.02	23.26	36.76
(Deep Zone)	7/17/96	PES	60.02	25.89	34.13
	10/23/96	PES	60.02	28.12	31.90
	9/29/97	PES	60.02	28.16	31.86
	12/16/97	PES	60.02	27.14	32.88
	3/31/98	**PES**	**60.02**	**18.01**	**42.01**
WGR-MW5	4/16/96	PES	68.94	NM	--
(Shallow Zone)	7/17/96	PES	68.94	NM	--
	10/23/96	PES	68.94	NM	--
	9/29/97	PES	68.94	NM	--
	12/16/97	PES	68.94	NM	--
	3/31/98	**PES**	**68.94**	**NM**	--
AMW-1	4/16/96	PES	64.51	21.99	42.52
(Shallow Zone)	7/17/96	PES	64.51	22.65	41.86
	10/23/96	PES	64.51	NM	--
	9/29/97	PES	64.51	24.52	39.99
	12/16/97	PES	64.51	23.00	41.51
	3/31/98	**PES**	**64.51**	**16.39**	**48.12**

Table 1. Water-Level Elevation Data - 1996 To Present*
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)
AMW-2 (Shallow Zone)	Well abandoned during site remediation in 1995.				
AMW-3 (Shallow Zone)	Well abandoned during site remediation in 1995.				
AMW-4 (Shallow Zone)	4/16/96	PES	64.79	11.00	53.79
	7/17/96	PES	64.79	12.42	52.37
	10/23/96	PES	64.79	14.10	50.69
	9/29/97	PES	64.79	13.32	51.47
	12/16/97	PES	64.79	12.18	52.61
	3/31/98	**PES**	**64.79**	**7.57**	**57.22**
AMW-5 (Shallow Zone)	4/16/96	PES	64.97	13.04	51.93
	7/17/96	PES	64.97	14.48	50.49
	10/23/96	PES	64.97	15.34	49.63
	9/29/97	PES	64.97	17.39	47.58
	12/16/97	PES	64.97	17.34	47.63
	3/31/98	**PES**	**64.97**	**14.58**	**50.39**
AMW-6 (Shallow Zone)	4/16/96	PES	65.10	12.10	53.00
	7/17/96	PES	65.10	13.59	51.51
	10/23/96	PES	65.10	15.30	49.80
	9/29/97	PES	65.10	15.43	49.67
	12/16/97	PES	65.10	15.77	49.33
	3/31/98	**PES**	**65.10**	**10.09**	**55.01**
AMW-7 (Shallow Zone)	4/16/96	PES	64.24	14.31	49.93
	7/17/96	PES	64.24	15.02	49.22
	10/23/96	PES	64.24	16.38	47.86
	9/29/97	PES	64.24	16.63	47.61
	12/16/97	PES	64.24	16.22	48.02
	3/31/98	**PES**	**64.24**	**14.57**	**49.67**
AMW-8 (Deep Zone)	4/16/96	PES	64.55	15.06	49.49
	7/17/96	PES	64.55	16.60	47.95
	10/23/96	PES	64.55	18.82	45.73
	9/29/97	PES	64.55	17.69	46.86
	12/16/97	PES	64.55	17.67	46.88
	3/31/98	**PES**	**64.55**	**10.95**	**53.60**
AMW-9 (Deep Zone)	4/16/96	PES	63.48	20.98	42.50
	7/17/96	PES	63.48	22.74	40.74
	10/23/96	PES	63.48	24.85	38.63
	9/29/97	PES	63.48	23.59	39.89
	12/16/97	PES	63.48	23.31	40.17
	3/31/98	**PES**	**63.48**	**17.12**	**46.36**

Table 1. Water-Level Elevation Data - 1996 To Present*
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)
FHS-MW-10	7/25/97	PES	52.37**	26.00	26.37
(Deep Zone)	10/9/97	PES	52.37	27.92	24.45
	1/8/98	PES	52.37	24.43	27.94
	3/31/98	**PES**	**52.37**	**14.68**	**37.69**
FHS-MW-11	7/25/97	PES	54.06**	28.05	26.01
(Deep Zone)	9/29/97	PES	54.06	29.84	24.22
	12/16/97	PES	54.06	27.88	26.18
	3/31/98	**PES**	**54.06**	**17.19**	**36.87**
MW-6	2/28/96	EMCON	61.78	30.18	31.60
(Deep Zone)	4/16/96	PES	61.78	29.40	32.38
	5/28/96	EMCON	61.78	30.29	31.49
	7/17/96	PES	61.78	32.36	29.42
	8/19/96	EMCON	61.78	33.54	28.24
	10/23/96	PES	61.78	35.56	26.22
	11/21/96	EMCON	61.78	35.70	26.08
	3/26/97	EMCON	61.78	30.15	31.63
	5/20/97	EMCON	61.78	32.40	29.38
	8/18/97	EMCON	61.78	35.47	26.31
	9/29/97	PES	61.78	36.27	25.51
	12/16/97	PES	61.78	34.55	27.23
	3/31/98	**PES**	**61.78**	**24.01**	**37.77**
MW-7	2/28/96	EMCON	58.64	16.54	42.10
(Shallow Zone)	4/16/96	PES	58.64	19.26	39.38
	5/28/96	EMCON	58.64	19.29	39.35
	7/17/96	PES	58.64	21.10	37.54
	8/19/96	EMCON	58.64	21.84	36.80
	10/23/96	PES	58.64	24.40	34.24
	11/21/96	EMCON	58.64	19.58	39.06
	3/26/97	EMCON	58.64	19.67	38.97
	5/20/97	EMCON	58.64	20.18	38.46
	8/18/97	EMCON	58.64	22.21	36.43
	9/29/97	PES	58.64	22.19	36.45
	12/16/97	PES	58.64	17.23	41.41
	3/31/98	**PES**	**58.64**	**16.37**	**42.27**

Notes:

* = Water-level measurement and elevation data prior to 1996 were presented in *Quarterly Monitoring Report, Former Young's Cleaners, Foothill Square Shopping Center, Oakland, California (PES, April 13, 1998).*

** = Top of casing elevations were surveyed in November 1997.

feet MSL = Feet above mean sea level.

feet bgs = Feet below ground surface.

NM = Not measured.

PES = PES Environmental, Inc.

EMCON = EMCON Associates.

Table 2. Analytical Results for Groundwater Samples - Organics
1996 To Present*
Former Young's Cleaners
Foothill Square Shopping Center
Oakland, California

Well Number	Date Sampled	Sampled by	PCE (µg/L)	TCE (µg/L)	c-1,2-DCE (µg/L)	t-1,2-DCE (µg/L)	Freon-12 (µg/L)
WGR-MW1	7/17/96	PES	NS	NS	NS	NS	NS
(Shallow Zone)	10/23/96	PES	NS	NS	NS	NS	NS
	9/29/97	PES	NS	NS	NS	NS	NS
	12/16/97	PES	NS	NS	NS	NS	NS
	3/31/98	**PES**	**NS**	**NS**	**NS**	**NS**	**NS**
WGR-MW2	4/16/96	PES	<0.5	<0.5	<0.5	<0.5	<2
(Shallow Zone)	7/17/96	PES	<0.5	<0.5	<0.5	<0.5	<2
	10/23/96	PES	<0.5	<0.5	<0.5	<0.5	<2
	9/29/97	PES	NS	NS	NS	NS	NS
	12/16/97	PES	NS	NS	NS	NS	NS
	3/31/98	**PES**	**NS**	**NS**	**NS**	**NS**	**NS**
WGR-MW3	2/28/96	EMCON	<1	<1	<1	<1	–
(Shallow Zone)	4/16/96	PES	0.6	16.51	<0.5	<0.5	11
	5/28/96	EMCON	<1	<1	<1	<1	–
	7/17/96	PES	<0.5	0.7	<0.5	<0.5	<2
	8/19/96	EMCON	<1	<1	<1	<1	–
	10/23/96	PES	<0.5	<0.5	<0.5	<0.5	<2
	11/21/96	EMCON	<1	<1	<1	<1	–
	3/26/97	EMCON	<1	<1	<1	<1	–
	5/20/97	EMCON	<0.5	<0.5	<0.5	<0.5	–
	8/18/97	EMCON	<5	<5	–	<5	–
	9/29/97	PES	<0.5	<0.5	<0.5	<0.5	<2
	12/16/97	PES	NS	NS	NS	NS	NS
	3/31/98	**PES**	**NS**	**NS**	**NS**	**NS**	**NS**
WGR-MW4	4/16/96	PES	<0.5	<0.5	<0.5	<0.5	<2
(Deep Zone)	7/17/96	PES	<0.5	<0.5	<0.5	<0.5	<2
	10/23/96	PES	<0.5	<0.5	<0.5	<0.5	<2
	9/29/97	PES	<0.5	<0.5	<0.5	<0.5	<2
	12/16/97	PES	NS	NS	NS	NS	NS
	3/31/98	**PES**	**NS**	**NS**	**NS**	**NS**	**NS**
WGR-MW5	7/17/96	PES	NS	NS	NS	NS	NS
(Shallow Zone)	10/23/96	PES	NS	NS	NS	NS	NS
	9/29/97	PES	NS	NS	NS	NS	NS
	12/16/97	PES	NS	NS	NS	NS	NS
	3/31/98	**PES**	**NS**	**NS**	**NS**	**NS**	**NS**
AMW-1	4/16/96	PES	<0.5	<0.5	<0.5	<0.5	<2
(Shallow Zone)	7/17/96	PES	<0.5	<0.5	<0.5	<0.5	<2
	10/23/96	PES	NS	NS	NS	NS	NS
	9/29/97	PES	<0.5	<0.5	<0.5	<0.5	<2
	12/16/97	PES	<0.5	<0.5	<0.5	<0.5	<2
	3/31/98	**PES**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<2**

Table 2. Analytical Results for Groundwater Samples - Organics
1996 To Present*
Former Young's Cleaners
Foothill Square Shopping Center
Oakland, California

Well Number	Date Sampled	Sampled by	PCE (µg/L)	TCE (µg/L)	c-1,2-DCE (µg/L)	t-1,2-DCE (µg/L)	Freon-12 (µg/L)
AMW-2 (Shallow Zone)	Well abandoned during site remediation in 1995.						
AMW-3 (Shallow Zone)	Well abandoned during site remediation in 1995.						
AMW-4 (Shallow Zone)	4/16/96	PES	1,200	10	<10	<10	<40
	7/17/96	PES	860	<10	<10	<10	<40
	10/23/96	PES	22	0.5	<0.5	<0.5	<2
	9/29/97	PES	340	3	<3	<3	<10
	12/16/97	PES	190	<3	<3	<3	<10
	3/31/98	**PES**	**120**	**<3**	**<3**	**<3**	**<10**
AMW-5 (Shallow Zone)	4/16/96	PES	<0.5	<0.5	<0.5	<0.5	<2
	7/17/96	PES	0.6	<0.5	<0.5	<0.5	<2
	10/23/96	PES	0.8	<0.5	<0.5	<0.5	<2
	9/29/97	PES	13	<0.5	<0.5	<0.5	<2
	12/16/97	PES	NS	NS	NS	NS	NS
	3/31/98	**PES**	**NS**	**NS**	**NS**	**NS**	**NS**
AMW-6 (Shallow Zone)	4/16/96	PES	1,900	110	20	<10	<40
	7/17/96	PES	3,300	280	<30	<30	<100
	10/23/96	PES	2,900	140	<30	<30	<100
	9/29/97	PES	4,600	580	220	70	<200
	12/16/97	PES	4,300	510	190	60	<200
	3/31/98	**PES**	**2,100**	**270**	**110**	**<50**	**<200**
AMW-7 (Shallow Zone)	4/16/96	PES	2,300	500	2,200	60	<100
	7/17/96	PES	2,400	530	2,100	<30	<100
	10/23/96	PES	3,400	610	3,100	50	<100
	9/29/97	PES	520	100	330	20	<40
	12/16/97	PES	350	67	180	9	<20
	3/31/98	**PES**	**270**	**50**	**160**	**10**	**<10**
AMW-8 (Deep Zone)	4/16/96	PES	0.8	<0.5	<0.5	<0.5	<2
	7/17/96	PES	1.6	<0.5	<0.5	<0.5	<2
	10/23/96	PES	<0.5	<0.5	<0.5	<0.5	<2
	9/29/97	PES	0.7	<0.5	<0.5	<0.5	<2
	12/16/97	PES	<0.5	<0.5	<0.5	<0.5	<2
	3/31/98	**PES**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<2**
AMW-9 (Deep Zone)	4/16/96	PES	170	4	7	<3	<10
	7/17/96	PES	190	4	<3	<3	<10
	10/23/96	PES	190	<3	<3	<3	<10
	9/29/97	PES	110	<3	<3	<3	<10
	12/16/97	PES	110	<0.5	1.7	<0.5	<2
	3/31/98	**PES**	**100**	**<3**	**<3**	**<3**	**<10**

Table 2. Analytical Results for Groundwater Samples - Organics
1996 To Present*
Former Young's Cleaners
Foothill Square Shopping Center
Oakland, California

Well Number	Date Sampled	Sampled by	PCE (µg/L)	TCE (µg/L)	c-1,2-DCE (µg/L)	t-1,2-DCE (µg/L)	Freon-12 (µg/L)
FHS-MW-10	10/9/97	PES	<0.5	<0.5	<0.5	<0.5	<2
(Deep Zone)	1/8/98	PES	<0.5	<0.5	<0.5	<0.5	<2
	3/31/98	**PES**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<2**
FHS-MW-11	9/29/97	PES	4.0	<0.5	<0.5	<0.5	<2
(Deep Zone)	12/16/97	PES	9.9	<0.5	<0.5	<0.5	<2
	3/31/98	**PES**	**9.7**	**<0.5**	**<0.5**	**<0.5**	**<2**
MW-6	2/28/96	EMCON	960	<20	<20	<20	--
(Deep Zone)	4/16/96	PES	1,400	10	<10	<10	100
	5/28/96	EMCON	970	<20	<20	<20	--
	7/17/96	PES	590	<5	<5	<5	30
	8/19/96	EMCON	820	<20	<20	<20	--
	10/23/96	PES	680	<5	<5	<5	<20
	11/21/96	EMCON	680	<20	<20	<20	--
	3/26/97	EMCON	830	<40	<40	<40	--
	5/20/97	EMCON	270	<5	<5	<5	--
	8/18/97	EMCON	420	<62.5	--	<62.5	--
	9/29/97	PES	670	<10	<10	<10	<40
	12/16/97	PES	500	8	<5	<5	40
	3/31/98	**PES**	**12**	**<0.5**	**<0.5**	**<0.5**	**<2**
MW-7	2/28/96	EMCON	<10	<10	<10	<10	--
(Shallow Zone)	4/16/96	PES	<0.5	<0.5	<0.5	<0.5	8
	5/28/96	EMCON	<10	<10	<10	<10	--
	7/17/96	PES	<0.5	0.6	0.6	<0.5	<2
	8/21/96	EMCON	<1	<1	<1	<1	--
	10/23/96	PES	<0.5	<0.5	0.6	<0.5	<2
	11/21/96	EMCON	<10	<10	<10	<10	--
	3/26/97	EMCON	<20	<20	<20	<20	--
	5/20/97	EMCON	<10	<10	<10	<10	--
	8/18/97	EMCON	<10	<10	<10	<10	--
	9/29/97	PES	<0.5	<0.5	<0.5	<0.5	<2
	12/16/97	PES	0.7	<0.5	<0.5	<0.5	<2
	3/31/98	**PES**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<2**

Notes:

* = Water-level measurement and elevation data prior to 1996 were presented in *Quarterly Monitoring Report, Former Young's Cleaners, Foothill Square Shopping Center, Oakland, California (PES, April 13, 1998).*

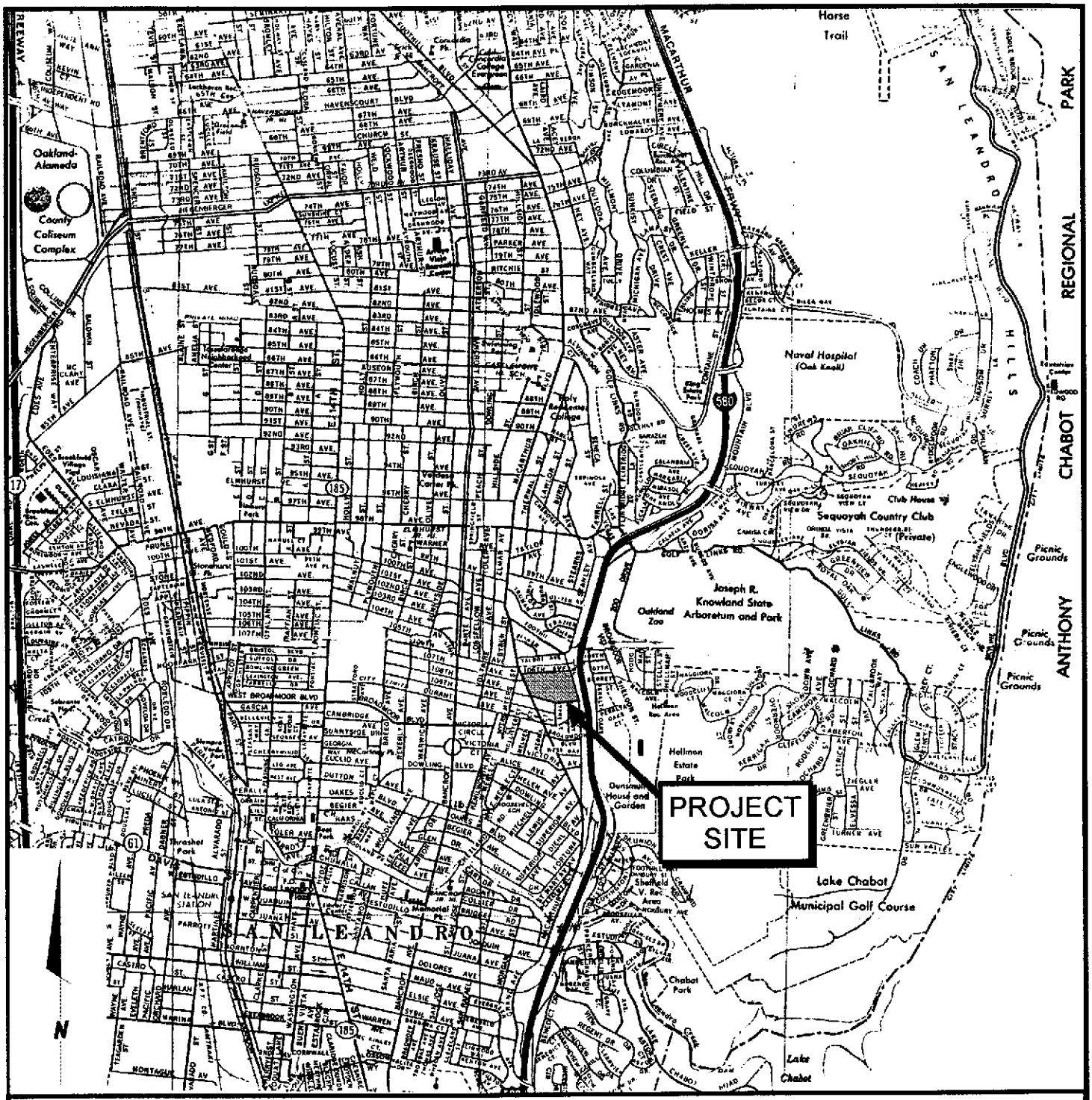
PCE = Tetrachloroethene.
TCE = Trichloroethene.
c-1,2-DCE = cis-1,2-dichloroethene.
t-1,2-DCE = trans-1,2-dichloroethene.
Freon 12 = Dichlorodifluoromethane.
µg/L = Micrograms per liter.

PES = PES Environmental, Inc.
EMCON = EMCON Associates.
<0.5 = Not detected at or above the detection limit indicated.
ND = Not detected, detection limit not reported by EMCON.
NS = Not sampled.
-- = Not analyzed.

Table 3. Analytical Results for Groundwater Samples - Inorganics
Former Young's Cleaners
Foothill Square Shopping Center
Oakland, California

Sample Location	Date Sampled	Sampled By	Dissolved Oxygen (mg/L)	Ox-Redux Potential (mV)	Sulfate (mg/L)	Nitrate (mg/L)	Ferrous Iron (mg/L)	Methane (mg/L)	Carbon Dioxide (mg/L)
AMW-4	9/29/97	PES	0.45	149	54.9	3.8	0.18	0.0029	8.4
(Shallow Zone)	12/16/97	PES	NS	NS	NS	NS	NS	NS	NS
	3/31/98	**PES**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**
AMW-6	9/29/97	PES	0.55	245	45.9	5.3	0.19	<0.0010	11
(Shallow Zone)	12/16/97	PES	0.9	132	47.9	5.7	0.13	0.056	4,899 *
	3/31/98	**PES**	**0.8**	**63**	**49.9**	**6.3**	**0.14**	**0.0055**	**86.956**
AMW-7	9/29/97	PES	0.64	109	92.2	6.1	0.01	<0.0010	33
(Shallow Zone)	12/16/97	PES	0.5	118	89.7	5.7	0.05	0.020	15,000 *
	3/31/98	**PES**	**0.6**	**41**	**80.1**	**4.0**	**0.09**	**0.0026**	**188.771**
AMW-9	9/29/97	PES	0.32	16.51	39.7	3.5	0.90	<0.0010	7.7
(Deep Zone)	12/16/97	PES	0.6	83	27.3	2.7	0.26	0.071	2,211 *
	3/31/98	**PES**	**4.4**	**20**	**40.0**	**4.0**	**0.09**	**<0.0010**	**35.858**
WGR-MW3	9/29/97	PES	0.17	212	28.7	0.054	1.41	0.032	23
(Shallow Zone)	12/16/97	PES	NS	NS	NS	NS	NS	NS	NS
	3/31/98	**PES**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**
FHS-MW-10	10/9/97	PES	1.6	25	44.6	4.3	0.18	<0.0010	27
(Deep Zone)	1/8/98	PES	2.1	134	43.3	4.1	<0.01	<0.00024	3,939 *
	3/31/98	**PES**	**1.6**	**62**	**47.0**	**4.6**	**<0.01**	**<0.0010**	**38.433**
FHS-MW-11	9/29/97	PES	0.89	85	67.1	5.8	0.17	0.0019	0.3
(Deep Zone)	12/16/97	PES	2.2	163	45.3	5.4	0.08	<0.00024	11,000 *
	3/31/98	**PES**	**2.4**	**18**	**31.4**	**6.1**	**0.01**	**<0.0010**	**7.940**
MW-6	9/29/97	PES	1.81	73	37.5	4.3	<0.01	<0.0010	11
(Deep Zone)	12/16/97	PES	0.5	143	37.7	2.8	0.03	<0.00024	3,939 *
	3/31/98	**PES**	**1.0**	**35**	**36.7**	**0.45**	**0.12**	**<0.0010**	**10.874**

Notes:
Ox-Redux = Oxidation-reduction potential.
mg/L = Milligrams per liter.
mV = Millivolts.
NS = Not sampled.
* = Sample analyzed outside of holding time; result considered invalid (see text for explanation).



Ref: Oakland and East Bay Cities Street Map, Alameda County, California

PES Environmental, Inc.
Engineering & Environmental Services

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

PLATE 1

502.0201.006	5020201006v.CDR	WWM	8/98
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE

LARGE MAP REMOVED

APPENDIX A

GROUNDWATER SAMPLING REPORT

BLAINE
TECH SERVICES INC.

1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112
(408) 573-7771 FAX
(408) 573-0555 PHONE

April 10, 1998

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

ATTN: Will Mast

Site:
10700 MacArthur Blvd.
Oakland, California

Date:
March 31, 1998

GROUNDWATER SAMPLING REPORT 980331-K-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, turbidity, dissolved oxygen, oxidation reduction potential and temperature readings were obtained during well evacuation and at the time of sample collection.

STANDARD PRACTICES

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 and middleburg 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. Actuation of the pump is accomplished with compressed air supplied by a single hose. Water is pushed 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.

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 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 (AEN) in Pleasant Hill, California, Quanterra Environmental Services in Sacramento and in City of Industry, California and Environmental Testing Services in Petaluma, California . AEN and Quanterra Environmental Services are certified by the California Department of Health Services as Hazardous Materials Testing Laboratories, and are listed as DOHS HMTL #1172 and #1171, respectively.

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.

Please call if we can be of any further assistance.

Kent Brown

KEB/aa

attachments: table of well monitoring data
chain of custody

TABLE OF WELL MONITORING DATA

Well I.D.	AMW-1			AMW-4			AMW-5	AMW-6			
Date Sampled	03/31/98			03/31/98			03/31/98	03/31/98			
Well Diameter (in.)	2			2			2	2			
Total Well Depth (ft.)	33.88			24.27			30.10	24.91			
Depth To Water (ft.)	16.39			7.57			14.58	10.09			
Free Product (in.)	NONE			NONE			NONE	NONE			
Reason If Not Sampled	--			--			GAUGE ONLY	--			
1 Case Volume (gal.)	2.7			2.7				2.4			
Did Well Dewater?	NO			NO				NO			
Gallons Actually Evacuated	8.25			8.25				7.25			
Purging Device	BAILER			BAILER				BAILER			
Sampling Device	BAILER			BAILER				BAILER			
Time	9:15	9:18	9:22	12:19	12:24	12:29		13:30	13:33	13:36	
Temperature (Fahrenheit)	59.8	62.8	63.2	59.0	58.1	57.7		58.9	61.0	61.3	
pH	7.1	7.2	7.3	8.2	7.9	7.8		7.5	7.3	7.2	
Conductivity (micromhos/cm)	1659	997	931	532	521	512		2214	2370	2403	
Nephelometric Turbidity Units	17	38	45	>200	>200	>200		>200	>200	>200	
Dissolved Oxygen (D.O.) (mg/L)								0.8			
Oxidation Reduction Potential (mV)								63			
BTS Chain of Custody	980331-K1			980331-K1				980331-K1			
BTS Sample I.D.	AMW-1			AMW-4				AMW-6			
DOHS HMTL Laboratory	AEN			AEN				AEN/QUANTERRA/ETS			
Analysis	EPA 8010			EPA 8010				EPA 8010, SULFATE, NITRATE, CARBON DIOXIDE, METHANE & FERROUS IRON			

TABLE OF WELL MONITORING DATA

Well I.D.	AMW-7			AMW-8			AMW-9			FHS-MW-10		
Date Sampled	03/31/98			03/31/98			03/31/98			03/31/98		
Well Diameter (in.)	2			2			2			2		
Total Well Depth (ft.)	24.73			45.61			54.25			51.90		
Depth To Water (ft.)	14.57			10.95			17.12			14.68		
Free Product (in.)	NONE			NONE			NONE			NONE		
Reason If Not Sampled	--			--			--			--		
1 Case Volume (gal.)	1.6			5.6			6.0			6.0		
Did Well Dewater?	NO			NO			NO			NO		
Gallons Actually Evacuated	5.0			17.0			18.0			18.0		
Purging Device	BAILER			MIDDLEBURG			MIDDLEBURG			MIDDLEBURG		
Sampling Device	BAILER			BAILER			BAILER			BAILER		
Time	13:10	13:12	13:14	10:37	10:42	10:49	11:53	12:00	12:06	9:38	9:44	9:50
Temperature (Fahrenheit)	64.0	63.9	64.0	61.2	62.8	63.1	63.0	63.6	64.1	59.7	62.7	63.0
pH	7.0	7.2	7.3	7.5	7.6	7.6	7.4	7.5	7.5	6.9	6.9	7.0
Conductivity (micromhos/cm)	1698	1719	1786	417	362	370	800	609	647	566	545	539
Nephelometric Turbidity Units	>200	>200	>200	>200	>200	>200	>200	>200	>200	>200	86	62
Dissolved Oxygen (D.O.) (mg/L)	0.6						4.4			1.6		
Oxidation Reduction Potential (mV)	41						20			62		
BTS Chain of Custody	980331-K1			980331-K1			980331-K1			980331-K1		
BTS Sample I.D.	AMW-7			AMW-8			AMW-9			FHS-MW-10		
DOHS HMTL Laboratory	AEN/QUANTERRA/ETS			AEN			AEN/QUANTERRA/ETS			AEN/QUANTERRA/ETS		
Analysis	EPA 8010, SULFATE, NITRATE, CARBON DIOXIDE, METHANE & FERROUS IRON			EPA 8010			EPA 8010, SULFATE, NITRATE, CARBON DIOXIDE, METHANE & FERROUS IRON			EPA 8010, SULFATE, NITRATE, CARBON DIOXIDE, METHANE & FERROUS IRON		

TABLE OF WELL MONITORING DATA

Well I.D.	FHS-MW-11			MW-6			MW-7			WGR/MW-2
Date Sampled	03/31/98			03/31/98			03/31/98			03/31/98
Well Diameter (in.)	2			2			2			4
Total Well Depth (ft.)	64.00			48.68			36.55			27.98
Depth To Water (ft.)	17.19			24.01			16.37			16.51
Free Product (in.)	NONE			NONE			NONE			NONE
Reason If Not Sampled	--			--			--			GAUGE ONLY
1 Case Volume (gal.)	7.5			4.0			3.2			
Did Well Dewater?	NO			NO			NO			
Gallons Actually Evacuated	22.5			12.0			9.75			
Purging Device	MIDDLEBURG			MIDDLEBURG			BAILER			
Sampling Device	BAILER			BAILER			BAILER			
Time	11:15	11:23	11:31	12:45	12:50	12:55	10:10	10:14	10:18	
Temperature (Fahrenheit)	62.3	63.2	63.3	61.1	62.3	63.1	57.7	61.2	62.1	
pH	7.2	7.1	7.2	7.2	7.3	7.2	6.5	6.6	6.6	
Conductivity (micromhos/cm)	737	755	761	1714	1678	1707	559	572	591	
Nephelometric Turbidity Units	57	41	31	>200	113	73	35	29	21	
Dissolved Oxygen (D.O.) (mg/L)	2.4			1.0						
Oxidation Reduction Potential (mV)	18			35						
BTS Chain of Custody	980331-K1			980331-K1			980331-K1			
BTS Sample I.D.	FHS-MW-11			MW-6			MW-7			
DOHS HMTL Laboratory	AEN/QUANTERRA/ETS			AEN/QUANTERRA/ETS			AEN			
Analysis	EPA 8010, SULFATE, NITRATE, CARBON DIOXIDE, METHANE & FERROUS IRON			EPA 8010, SULFATE, NITRATE, CARBON DIOXIDE, METHANE & FERROUS IRON			EPA 8010			

TABLE OF WELL MONITORING DATA

Well I.D.	WGR/MW-3	WGR/MW-4
Date Sampled	03/31/98	03/31/98
Well Diameter (in.)	4	4
Total Well Depth (ft.)	26.93	44.97
Depth To Water (ft.)	15.29	18.01
Free Product (in.)	NONE	NONE
Reason If Not Sampled	GAUGE ONLY	GAUGE ONLY
1 Case Volume (gal.)		
Did Well Dewater?		
Gallons Actually Evacuated		
Purging Device		
Sampling Device		
Time		
Temperature (Fahrenheit)		
pH		
Conductivity (micromhos/cm)		
Nephelometric Turbidity Units		
Dissolved Oxygen (D.O.) (mg/L)		
Oxidation Reduction Potential (mV)		
BTS Chain of Custody		
BTS Sample I.D.		
DOHS HMTL Laboratory		
Analysis		

BLAINE TECH SERVICES INC.

1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112
FAX (408) 573-7771
PHONE (408) 573-0555

CHAIN OF CUSTODY 980331-K1

CLIENT PES

SITE FOOTHILL SQUARE

10700 MACARTHUR BLVD

OAKLAND

LAB AEN DHS #

ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND

☐ EPA ☐ RWQCB REGION ____

☐ LIA

☐ OTHER

SPECIAL INSTRUCTIONS

INVOICE & REPORT TO PES

ATTN: WILL MAST

C = COMPOSITE ALL CONTAINERS

SAMPLE I.D.	Date	Time	MATRIX S = SOIL W = H2O	CONTAINERS TOTAL		C	CONDUCT ANALYSIS TO DETECT: EPA 8010	ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
MW-1	3/31/98	927	W	3	3x40		X				
MW-4		1235		3	mix 6288		X				
MW-6		1343		3			X				
MW-7		1220		3			X				
MW-8		1055		3			X				
MW-9		1210		3			X				
MW-6		1320		3			X				
MW-7		1025		3			X				
FIELD BLANK		956		3			X				
TRIP BLANK		1175		3			X				

SAMPLING COMPLETED DATE 3/31/98 TIME

SAMPLING PERFORMED BY Mark Tomlinson

RESULTS NEEDED NO LATER THAN PER CLIENT

RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
	4/1/98	1300		4/1/98	1300

SHIPPED VIA	DATE SENT	TIME SENT	COOLER #

BLAINE TECH SERVICES INC.

1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112
FAX (408) 573-7771
PHONE (408) 573-0555

CHAIN OF CUSTODY
BTS # 980331-K1

CLIENT PES

SITE FOOTHILL SQUARE
10700 MACARTHUR BLVD.
OAKLAND

SAMPLE I.D.	Collect. Time	MATRIX S = SOIL W = H2O	CONTAINERS TOTAL		C = COMPOSITE ALL CONTAINERS	CONDUCT ANALYSIS TO DETECT: EPA 300.0 SULFATE, NITRATE*	By 8015 M	ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
MW-6	3/31/98 1340	W	1	11		X					
MW-7	1320		1	Poly		X					
MW-9	1210		1			X					
MW-6	1300		1			X					
FWS/MW-10	956		1			X					
FWS/MW-11	1115		1			X					

LAB QUANTERRA (WEST SACTO.) DHS #

ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND

☐ EPA ☐ RWQCB REGION
☐ LIA
☐ OTHER

SPECIAL INSTRUCTIONS
INVOICE & REPORT TO
PES
ATTN: WILL MAST

* NITRATE HAS SHORT HOLD TIME

SAMPLING COMPLETED DATE	TIME	SAMPLING PERFORMED BY	RESULTS NEEDED NO LATER THAN
3/31/98	1345	Mark Sandler	PER CLIENT

RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
	4/1/98	1330			
RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME

SHIPPED VIA	DATE SENT	TIME SENT	COOLER #
FED EX ~~AIRBORNE EXPRESS~~	4/1/98	1330	~~# 530743365 3~~

BLAINE TECH SERVICES INC.

1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112
FAX (408) 573-7771
PHONE (408) 573-0555

CHAIN OF CUSTODY 980.771-151

CLIENT PES

SITE Foothill Square
10700 MacArthur Blvd.
Oakland, CA

SAMPLE I.D.	Date	Time	MATRIX S = SOIL W = H2O	CONTAINERS TOTAL		C = COMPOSITE ALL CONTAINERS	CONDUCT ANALYSIS TO DETECT: CARBON DIOXIDE/METHANE BY RSK 175
MW-6	3/31/98	1340	W	3	40 ml		X
MW-7		1335		3	40 ml		X
MW-9		1230		3	40 ml		X
MW-4		1400		3			X
#45/MW-10		956		3			X
#45/MW-11		1425		3			X

LAB QUANTERRA (CITY OF INDUSTRY) DHS #

ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND

- ☐ EPA
- ☐ LIA
- ☐ OTHER
- ☐ RWQCB REGION _____

SPECIAL INSTRUCTIONS

INVOICE & REPORT TO
PES
ATTN: WILL MAST

ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #

SAMPLING COMPLETED DATE 3/31/98 TIME 1345

SAMPLING PERFORMED BY [signature]

RESULTS NEEDED NO LATER THAN PER CLIENT

RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
[signature]	4/1/98	13:40			
RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME

SHIPPED VIA	DATE SENT	TIME SENT	COOLER #	
AIRBORNE EXPRESS	4/1/98	13:40		# 5301433550

BLAINE TECH SERVICES INC.

1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112
FAX (408) 573-7771
PHONE (408) 573-0555

CHAIN OF CUSTODY 980371-K1

CLIENT DES

SITE FOOTHILL SQUARE
10700 MACARTHUR BLVD
OAKLAND

SAMPLE I.D.	Date	Time	MATRIX S = SOIL W = H2O	CONTAINERS TOTAL		C = COMPOSITE ALL CONTAINERS	CONDUCT ANALYSIS TO DETECT: FERROUS IRON * SM 3500D	ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
MW-6	3/31/98	1740	W	1	1L		X				
MW-7		1725		1	ADD'L VOL		X				
MW-9		1210		1			X				
MW-6		1300		1			X				
MW-10		956		1			X				
MW-11		1135		1			X				

LAB ETS DHS #

ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND

- ☐ EPA
- ☐ UA
- ☐ OTHER
- ☐ RWQCB REGION _____

SPECIAL INSTRUCTIONS

INVOICE & REPORT TO PES

ATTN: WILL MAST

* SHORT HOLD TIME

SAMPLING COMPLETED DATE 3/31/98 TIME 1745

SAMPLING PERFORMED BY Mark Sprindler

RESULTS NEEDED NO LATER THAN PER CLIENT

RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
	3/31/98	1930		3-31-98	1930
William MAST	3/31/98	1645		3-31-98	4:45

SHIPPED VIA	DATE SENT	TIME SENT	COOLER #	

002

APPENDIX B

LABORATORY REPORTS
AND
CHAIN-OF-CUSTODY RECORDS

RECEIVED APR 20 1998

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172

AIHA Accreditation: 11134

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

ATTN: WILL MAST
CLIENT PROJ. ID: FOOTHILL SQUARE

C.O.C. NUMBER: 980331-K1

REPORT DATE: 04/10/98

DATE(S) SAMPLED: 03/31/98

DATE RECEIVED: 04/01/98

AEN WORK ORDER: 9804010

PROJECT SUMMARY:

On April 1, 1998, this laboratory received 10 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.

Reviewed by:

PES ENVIRONMENTAL, INC.

SAMPLE ID: AMW-1
AEN LAB NO: 9804010-01
AEN WORK ORDER: 9804010
CLIENT PROJ. ID: FOOTHILL SQUARE

DATE SAMPLED: 03/31/98
DATE RECEIVED: 04/01/98
REPORT DATE: 04/10/98

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix	**EPA 8010**				
Bromodichloromethane	75-27-4	ND	0.5	ug/L	04/07/98
Bromoform	75-25-2	ND	0.5	ug/L	04/07/98
Bromomethane	74-83-9	ND	2	ug/L	04/07/98
Carbon Tetrachloride	56-23-5	ND	0.5	ug/L	04/07/98
Chlorobenzene	108-90-7	ND	0.5	ug/L	04/07/98
Chloroethane	75-00-3	ND	2	ug/L	04/07/98
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5	ug/L	04/07/98
Chloroform	67-66-3	ND	0.5	ug/L	04/07/98
Chloromethane	74-87-3	ND	2	ug/L	04/07/98
Dibromochloromethane	124-48-1	ND	0.5	ug/L	04/07/98
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	04/07/98
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	04/07/98
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	04/07/98
Dichlorodifluoromethane	75-71-8	ND	2	ug/L	04/07/98
1,1-Dichloroethane	75-34-3	ND	0.5	ug/L	04/07/98
1,2-Dichloroethane	107-06-2	ND	0.5	ug/L	04/07/98
1,1-Dichloroethene	75-35-4	ND	0.5	ug/L	04/07/98
cis-1,2-Dichloroethene	156-59-2	ND	0.5	ug/L	04/07/98
trans-1,2-Dichloroethene	156-60-5	ND	0.5	ug/L	04/07/98
1,2-Dichloropropane	78-87-5	ND	0.5	ug/L	04/07/98
cis-1,3-Dichloropropene	10061-01-5	ND	0.5	ug/L	04/07/98
trans-1,3-Dichloropropene	10061-02-6	ND	0.5	ug/L	04/07/98
Methylene Chloride	75-09-2	ND	2	ug/L	04/07/98
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5	ug/L	04/07/98
Tetrachloroethene	127-18-4	ND	0.5	ug/L	04/07/98
1,1,1-Trichloroethane	71-55-6	ND	0.5	ug/L	04/07/98
1,1,2-Trichloroethane	79-00-5	ND	0.5	ug/L	04/07/98
Trichloroethene	79-01-6	ND	0.5	ug/L	04/07/98
Trichlorofluoromethane	75-69-4	ND	2	ug/L	04/07/98
1,1,2-Trichlorotrifluoroethan	76-13-1	ND	0.5	ug/L	04/07/98
Vinyl Chloride	75-01-4	ND	2	ug/L	04/07/98

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: 9804010-02
AEN WORK ORDER: 9804010
CLIENT PROJ. ID: FOOTHILL SQUARE

DATE SAMPLED: 03/31/98
DATE RECEIVED: 04/01/98
REPORT DATE: 04/10/98

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix	**EPA 8010**				
Bromodichloromethane	75-27-4	ND	3	ug/L	04/07/98
Bromoform	75-25-2	ND	3	ug/L	04/07/98
Bromomethane	74-83-9	ND	10	ug/L	04/07/98
Carbon Tetrachloride	56-23-5	ND	3	ug/L	04/07/98
Chlorobenzene	108-90-7	ND	3	ug/L	04/07/98
Chloroethane	75-00-3	ND	10	ug/L	04/07/98
2-Chloroethyl Vinyl Ether	110-75-8	ND	3	ug/L	04/07/98
Chloroform	67-66-3	ND	3	ug/L	04/07/98
Chloromethane	74-87-3	ND	10	ug/L	04/07/98
Dibromochloromethane	124-48-1	ND	3	ug/L	04/07/98
1,2-Dichlorobenzene	95-50-1	ND	3	ug/L	04/07/98
1,3-Dichlorobenzene	541-73-1	ND	3	ug/L	04/07/98
1,4-Dichlorobenzene	106-46-7	ND	3	ug/L	04/07/98
Dichlorodifluoromethane	75-71-8	ND	10	ug/L	04/07/98
1,1-Dichloroethane	75-34-3	ND	3	ug/L	04/07/98
1,2-Dichloroethane	107-06-2	ND	3	ug/L	04/07/98
1,1-Dichloroethene	75-35-4	ND	3	ug/L	04/07/98
cis-1,2-Dichloroethene	156-59-2	ND	3	ug/L	04/07/98
trans-1,2-Dichloroethene	156-60-5	ND	3	ug/L	04/07/98
1,2-Dichloropropane	78-87-5	ND	3	ug/L	04/07/98
cis-1,3-Dichloropropene	10061-01-5	ND	3	ug/L	04/07/98
trans-1,3-Dichloropropene	10061-02-6	ND	3	ug/L	04/07/98
Methylene Chloride	75-09-2	ND	10	ug/L	04/07/98
1,1,2,2-Tetrachloroethane	79-34-5	ND	3	ug/L	04/07/98
Tetrachloroethene	127-18-4	120 *	3	ug/L	04/07/98
1,1,1-Trichloroethane	71-55-6	ND	3	ug/L	04/07/98
1,1,2-Trichloroethane	79-00-5	ND	3	ug/L	04/07/98
Trichloroethene	79-01-6	ND	3	ug/L	04/07/98
Trichlorofluoromethane	75-69-4	ND	10	ug/L	04/07/98
1,1,2-Trichlorotrifluoroethan	76-13-1	ND	3	ug/L	04/07/98
Vinyl Chloride	75-01-4	ND	10	ug/L	04/07/98

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-6
AEN LAB NO: 9804010-03
AEN WORK ORDER: 9804010
CLIENT PROJ. ID: FOOTHILL SQUARE

DATE SAMPLED: 03/31/98
DATE RECEIVED: 04/01/98
REPORT DATE: 04/10/98

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	50	ug/L	04/07/98
Bromoform	75-25-2	ND	50	ug/L	04/07/98
Bromomethane	74-83-9	ND	200	ug/L	04/07/98
Carbon Tetrachloride	56-23-5	ND	50	ug/L	04/07/98
Chlorobenzene	108-90-7	ND	50	ug/L	04/07/98
Chloroethane	75-00-3	ND	200	ug/L	04/07/98
2-Chloroethyl Vinyl Ether	110-75-8	ND	50	ug/L	04/07/98
Chloroform	67-66-3	ND	50	ug/L	04/07/98
Chloromethane	74-87-3	ND	200	ug/L	04/07/98
Dibromochloromethane	124-48-1	ND	50	ug/L	04/07/98
1,2-Dichlorobenzene	95-50-1	ND	50	ug/L	04/07/98
1,3-Dichlorobenzene	541-73-1	ND	50	ug/L	04/07/98
1,4-Dichlorobenzene	106-46-7	ND	50	ug/L	04/07/98
Dichlorodifluoromethane	75-71-8	ND	200	ug/L	04/07/98
1,1-Dichloroethane	75-34-3	ND	50	ug/L	04/07/98
1,2-Dichloroethane	107-06-2	ND	50	ug/L	04/07/98
1,1-Dichloroethene	75-35-4	ND	50	ug/L	04/07/98
cis-1,2-Dichloroethene	156-59-2	110 *	50	ug/L	04/07/98
trans-1,2-Dichloroethene	156-60-5	ND	50	ug/L	04/07/98
1,2-Dichloropropane	78-87-5	ND	50	ug/L	04/07/98
cis-1,3-Dichloropropene	10061-01-5	ND	50	ug/L	04/07/98
trans-1,3-Dichloropropene	10061-02-6	ND	50	ug/L	04/07/98
Methylene Chloride	75-09-2	ND	200	ug/L	04/07/98
1,1,2,2-Tetrachloroethane	79-34-5	ND	50	ug/L	04/07/98
Tetrachloroethene	127-18-4	2,100 *	50	ug/L	04/07/98
1,1,1-Trichloroethane	71-55-6	ND	50	ug/L	04/07/98
1,1,2-Trichloroethane	79-00-5	ND	50	ug/L	04/07/98
Trichloroethene	79-01-6	270 *	50	ug/L	04/07/98
Trichlorofluoromethane	75-69-4	ND	200	ug/L	04/07/98
1,1,2-Trichlorotrifluoroethan	76-13-1	ND	50	ug/L	04/07/98
Vinyl Chloride	75-01-4	ND	200	ug/L	04/07/98

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-7
AEN LAB NO: 9804010-04
AEN WORK ORDER: 9804010
CLIENT PROJ. ID: FOOTHILL SQUARE

DATE SAMPLED: 03/31/98
DATE RECEIVED: 04/01/98
REPORT DATE: 04/10/98

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix	**EPA 8010**				
Bromodichloromethane	75-27-4	ND	3	ug/L	04/07/98
Bromoform	75-25-2	ND	3	ug/L	04/07/98
Bromomethane	74-83-9	ND	10	ug/L	04/07/98
Carbon Tetrachloride	56-23-5	ND	3	ug/L	04/07/98
Chlorobenzene	108-90-7	ND	3	ug/L	04/07/98
Chloroethane	75-00-3	ND	10	ug/L	04/07/98
2-Chloroethyl Vinyl Ether	110-75-8	ND	3	ug/L	04/07/98
Chloroform	67-66-3	ND	3	ug/L	04/07/98
Chloromethane	74-87-3	ND	10	ug/L	04/07/98
Dibromochloromethane	124-48-1	ND	3	ug/L	04/07/98
1,2-Dichlorobenzene	95-50-1	ND	3	ug/L	04/07/98
1,3-Dichlorobenzene	541-73-1	ND	3	ug/L	04/07/98
1,4-Dichlorobenzene	106-46-7	ND	3	ug/L	04/07/98
Dichlorodifluoromethane	75-71-8	ND	10	ug/L	04/07/98
1,1-Dichloroethane	75-34-3	ND	3	ug/L	04/07/98
1,2-Dichloroethane	107-06-2	ND	3	ug/L	04/07/98
1,1-Dichloroethene	75-35-4	ND	3	ug/L	04/07/98
cis-1,2-Dichloroethene	156-59-2	160 *	3	ug/L	04/07/98
trans-1,2-Dichloroethene	156-60-5	10 *	3	ug/L	04/07/98
1,2-Dichloropropane	78-87-5	ND	3	ug/L	04/07/98
cis-1,3-Dichloropropene	10061-01-5	ND	3	ug/L	04/07/98
trans-1,3-Dichloropropene	10061-02-6	ND	3	ug/L	04/07/98
Methylene Chloride	75-09-2	ND	10	ug/L	04/07/98
1,1,2,2-Tetrachloroethane	79-34-5	ND	3	ug/L	04/07/98
Tetrachloroethene	127-18-4	270 *	3	ug/L	04/07/98
1,1,1-Trichloroethane	71-55-6	ND	3	ug/L	04/07/98
1,1,2-Trichloroethane	79-00-5	ND	3	ug/L	04/07/98
Trichloroethene	79-01-6	50 *	3	ug/L	04/07/98
Trichlorofluoromethane	75-69-4	ND	10	ug/L	04/07/98
1,1,2-Trichlorotrifluoroethan	76-13-1	ND	3	ug/L	04/07/98
Vinyl Chloride	75-01-4	ND	10	ug/L	04/07/98

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: 9804010-05
AEN WORK ORDER: 9804010
CLIENT PROJ. ID: FOOTHILL SQUARE

DATE SAMPLED: 03/31/98
DATE RECEIVED: 04/01/98
REPORT DATE: 04/10/98

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix	**EPA 8010**				
Bromodichloromethane	75-27-4	ND	0.5	ug/L	04/07/98
Bromoform	75-25-2	ND	0.5	ug/L	04/07/98
Bromomethane	74-83-9	ND	2	ug/L	04/07/98
Carbon Tetrachloride	56-23-5	ND	0.5	ug/L	04/07/98
Chlorobenzene	108-90-7	ND	0.5	ug/L	04/07/98
Chloroethane	75-00-3	ND	2	ug/L	04/07/98
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5	ug/L	04/07/98
Chloroform	67-66-3	ND	0.5	ug/L	04/07/98
Chloromethane	74-87-3	ND	2	ug/L	04/07/98
Dibromochloromethane	124-48-1	ND	0.5	ug/L	04/07/98
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	04/07/98
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	04/07/98
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	04/07/98
Dichlorodifluoromethane	75-71-8	ND	2	ug/L	04/07/98
1,1-Dichloroethane	75-34-3	ND	0.5	ug/L	04/07/98
1,2-Dichloroethane	107-06-2	ND	0.5	ug/L	04/07/98
1,1-Dichloroethene	75-35-4	ND	0.5	ug/L	04/07/98
cis-1,2-Dichloroethene	156-59-2	ND	0.5	ug/L	04/07/98
trans-1,2-Dichloroethene	156-60-5	ND	0.5	ug/L	04/07/98
1,2-Dichloropropane	78-87-5	ND	0.5	ug/L	04/07/98
cis-1,3-Dichloropropene	10061-01-5	ND	0.5	ug/L	04/07/98
trans-1,3-Dichloropropene	10061-02-6	ND	0.5	ug/L	04/07/98
Methylene Chloride	75-09-2	ND	2	ug/L	04/07/98
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5	ug/L	04/07/98
Tetrachloroethene	127-18-4	ND	0.5	ug/L	04/07/98
1,1,1-Trichloroethane	71-55-6	ND	0.5	ug/L	04/07/98
1,1,2-Trichloroethane	79-00-5	ND	0.5	ug/L	04/07/98
Trichloroethene	79-01-6	ND	0.5	ug/L	04/07/98
Trichlorofluoromethane	75-69-4	ND	2	ug/L	04/07/98
1,1,2-Trichlorotrifluoroethan	76-13-1	ND	0.5	ug/L	04/07/98
Vinyl Chloride	75-01-4	ND	2	ug/L	04/07/98

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: 9804010-06
AEN WORK ORDER: 9804010
CLIENT PROJ. ID: FOOTHILL SQUARE

DATE SAMPLED: 03/31/98
DATE RECEIVED: 04/01/98
REPORT DATE: 04/10/98

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix	**EPA 8010**				
Bromodichloromethane	75-27-4	ND	3	ug/L	04/07/98
Bromoform	75-25-2	ND	3	ug/L	04/07/98
Bromomethane	74-83-9	ND	10	ug/L	04/07/98
Carbon Tetrachloride	56-23-5	ND	3	ug/L	04/07/98
Chlorobenzene	108-90-7	ND	3	ug/L	04/07/98
Chloroethane	75-00-3	ND	10	ug/L	04/07/98
2-Chloroethyl Vinyl Ether	110-75-8	ND	3	ug/L	04/07/98
Chloroform	67-66-3	ND	3	ug/L	04/07/98
Chloromethane	74-87-3	ND	10	ug/L	04/07/98
Dibromochloromethane	124-48-1	ND	3	ug/L	04/07/98
1,2-Dichlorobenzene	95-50-1	ND	3	ug/L	04/07/98
1,3-Dichlorobenzene	541-73-1	ND	3	ug/L	04/07/98
1,4-Dichlorobenzene	106-46-7	ND	3	ug/L	04/07/98
Dichlorodifluoromethane	75-71-8	ND	10	ug/L	04/07/98
1,1-Dichloroethane	75-34-3	ND	3	ug/L	04/07/98
1,2-Dichloroethane	107-06-2	ND	3	ug/L	04/07/98
1,1-Dichloroethene	75-35-4	ND	3	ug/L	04/07/98
cis-1,2-Dichloroethene	156-59-2	ND	3	ug/L	04/07/98
trans-1,2-Dichloroethene	156-60-5	ND	3	ug/L	04/07/98
1,2-Dichloropropane	78-87-5	ND	3	ug/L	04/07/98
cis-1,3-Dichloropropene	10061-01-5	ND	3	ug/L	04/07/98
trans-1,3-Dichloropropene	10061-02-6	ND	3	ug/L	04/07/98
Methylene Chloride	75-09-2	ND	10	ug/L	04/07/98
1,1,2,2-Tetrachloroethane	79-34-5	ND	3	ug/L	04/07/98
Tetrachloroethene	127-18-4	100 *	3	ug/L	04/07/98
1,1,1-Trichloroethane	71-55-6	ND	3	ug/L	04/07/98
1,1,2-Trichloroethane	79-00-5	ND	3	ug/L	04/07/98
Trichloroethene	79-01-6	ND	3	ug/L	04/07/98
Trichlorofluoromethane	75-69-4	ND	10	ug/L	04/07/98
1,1,2-Trichlorotrifluoroethan	76-13-1	ND	3	ug/L	04/07/98
Vinyl Chloride	75-01-4	ND	10	ug/L	04/07/98

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: 9804010-07
AEN WORK ORDER: 9804010
CLIENT PROJ. ID: FOOTHILL SQUARE

DATE SAMPLED: 03/31/98
DATE RECEIVED: 04/01/98
REPORT DATE: 04/10/98

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix	**EPA 8010**				
Bromodichloromethane	75-27-4	ND	0.5	ug/L	04/08/98
Bromoform	75-25-2	ND	0.5	ug/L	04/08/98
Bromomethane	74-83-9	ND	2	ug/L	04/08/98
Carbon Tetrachloride	56-23-5	ND	0.5	ug/L	04/08/98
Chlorobenzene	108-90-7	ND	0.5	ug/L	04/08/98
Chloroethane	75-00-3	ND	2	ug/L	04/08/98
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5	ug/L	04/08/98
Chloroform	67-66-3	ND	0.5	ug/L	04/08/98
Chloromethane	74-87-3	ND	2	ug/L	04/08/98
Dibromochloromethane	124-48-1	ND	0.5	ug/L	04/08/98
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	04/08/98
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	04/08/98
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	04/08/98
Dichlorodifluoromethane	75-71-8	ND	2	ug/L	04/08/98
1,1-Dichloroethane	75-34-3	ND	0.5	ug/L	04/08/98
1,2-Dichloroethane	107-06-2	ND	0.5	ug/L	04/08/98
1,1-Dichloroethene	75-35-4	ND	0.5	ug/L	04/08/98
cis-1,2-Dichloroethene	156-59-2	ND	0.5	ug/L	04/08/98
trans-1,2-Dichloroethene	156-60-5	ND	0.5	ug/L	04/08/98
1,2-Dichloropropane	78-87-5	ND	0.5	ug/L	04/08/98
cis-1,3-Dichloropropene	10061-01-5	ND	0.5	ug/L	04/08/98
trans-1,3-Dichloropropene	10061-02-6	ND	0.5	ug/L	04/08/98
Methylene Chloride	75-09-2	ND	2	ug/L	04/08/98
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5	ug/L	04/08/98
Tetrachloroethene	127-18-4	12 *	0.5	ug/L	04/08/98
1,1,1-Trichloroethane	71-55-6	ND	0.5	ug/L	04/08/98
1,1,2-Trichloroethane	79-00-5	ND	0.5	ug/L	04/08/98
Trichloroethene	79-01-6	ND	0.5	ug/L	04/08/98
Trichlorofluoromethane	75-69-4	ND	2	ug/L	04/08/98
1,1,2-Trichlorotrifluoroethan	76-13-1	ND	0.5	ug/L	04/08/98
Vinyl Chloride	75-01-4	ND	2	ug/L	04/08/98

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: 9804010-08
AEN WORK ORDER: 9804010
CLIENT PROJ. ID: FOOTHILL SQUARE

DATE SAMPLED: 03/31/98
DATE RECEIVED: 04/01/98
REPORT DATE: 04/10/98

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix	**EPA 8010**				
Bromodichloromethane	75-27-4	ND	0.5	ug/L	04/08/98
Bromoform	75-25-2	ND	0.5	ug/L	04/08/98
Bromomethane	74-83-9	ND	2	ug/L	04/08/98
Carbon Tetrachloride	56-23-5	ND	0.5	ug/L	04/08/98
Chlorobenzene	108-90-7	ND	0.5	ug/L	04/08/98
Chloroethane	75-00-3	ND	2	ug/L	04/08/98
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5	ug/L	04/08/98
Chloroform	67-66-3	ND	0.5	ug/L	04/08/98
Chloromethane	74-87-3	ND	2	ug/L	04/08/98
Dibromochloromethane	124-48-1	ND	0.5	ug/L	04/08/98
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	04/08/98
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	04/08/98
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	04/08/98
Dichlorodifluoromethane	75-71-8	ND	2	ug/L	04/08/98
1,1-Dichloroethane	75-34-3	ND	0.5	ug/L	04/08/98
1,2-Dichloroethane	107-06-2	ND	0.5	ug/L	04/08/98
1,1-Dichloroethene	75-35-4	ND	0.5	ug/L	04/08/98
cis-1,2-Dichloroethene	156-59-2	ND	0.5	ug/L	04/08/98
trans-1,2-Dichloroethene	156-60-5	ND	0.5	ug/L	04/08/98
1,2-Dichloropropane	78-87-5	ND	0.5	ug/L	04/08/98
cis-1,3-Dichloropropene	10061-01-5	ND	0.5	ug/L	04/08/98
trans-1,3-Dichloropropene	10061-02-6	ND	0.5	ug/L	04/08/98
Methylene Chloride	75-09-2	ND	2	ug/L	04/08/98
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5	ug/L	04/08/98
Tetrachloroethene	127-18-4	ND	0.5	ug/L	04/08/98
1,1,1-Trichloroethane	71-55-6	ND	0.5	ug/L	04/08/98
1,1,2-Trichloroethane	79-00-5	ND	0.5	ug/L	04/08/98
Trichloroethene	79-01-6	ND	0.5	ug/L	04/08/98
Trichlorofluoromethane	75-69-4	ND	2	ug/L	04/08/98
1,1,2-Trichlorotrifluoroethan	76-13-1	ND	0.5	ug/L	04/08/98
Vinyl Chloride	75-01-4	ND	2	ug/L	04/08/98

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

PES ENVIRONMENTAL, INC.

SAMPLE ID: FHS/MW-10
AEN LAB NO: 9804010-09
AEN WORK ORDER: 9804010
CLIENT PROJ. ID: FOOTHILL SQUARE

DATE SAMPLED: 03/31/98
DATE RECEIVED: 04/01/98
REPORT DATE: 04/10/98

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix	**EPA 8010**				
Bromodichloromethane	75-27-4	ND	0.5	ug/L	04/08/98
Bromoform	75-25-2	ND	0.5	ug/L	04/08/98
Bromomethane	74-83-9	ND	2	ug/L	04/08/98
Carbon Tetrachloride	56-23-5	ND	0.5	ug/L	04/08/98
Chlorobenzene	108-90-7	ND	0.5	ug/L	04/08/98
Chloroethane	75-00-3	ND	2	ug/L	04/08/98
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5	ug/L	04/08/98
Chloroform	67-66-3	ND	0.5	ug/L	04/08/98
Chloromethane	74-87-3	ND	2	ug/L	04/08/98
Dibromochloromethane	124-48-1	ND	0.5	ug/L	04/08/98
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	04/08/98
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	04/08/98
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	04/08/98
Dichlorodifluoromethane	75-71-8	ND	2	ug/L	04/08/98
1,1-Dichloroethane	75-34-3	ND	0.5	ug/L	04/08/98
1,2-Dichloroethane	107-06-2	ND	0.5	ug/L	04/08/98
1,1-Dichloroethene	75-35-4	ND	0.5	ug/L	04/08/98
cis-1,2-Dichloroethene	156-59-2	ND	0.5	ug/L	04/08/98
trans-1,2-Dichloroethene	156-60-5	ND	0.5	ug/L	04/08/98
1,2-Dichloropropane	78-87-5	ND	0.5	ug/L	04/08/98
cis-1,3-Dichloropropene	10061-01-5	ND	0.5	ug/L	04/08/98
trans-1,3-Dichloropropene	10061-02-6	ND	0.5	ug/L	04/08/98
Methylene Chloride	75-09-2	ND	2	ug/L	04/08/98
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5	ug/L	04/08/98
Tetrachloroethene	127-18-4	ND	0.5	ug/L	04/08/98
1,1,1-Trichloroethane	71-55-6	ND	0.5	ug/L	04/08/98
1,1,2-Trichloroethane	79-00-5	ND	0.5	ug/L	04/08/98
Trichloroethene	79-01-6	ND	0.5	ug/L	04/08/98
Trichlorofluoromethane	75-69-4	ND	2	ug/L	04/08/98
1,1,2-Trichlorotrifluoroethan	76-13-1	ND	0.5	ug/L	04/08/98
Vinyl Chloride	75-01-4	ND	2	ug/L	04/08/98

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

PES ENVIRONMENTAL, INC.

SAMPLE ID: FHS/MW-11
AEN LAB NO: 9804010-10
AEN WORK ORDER: 9804010
CLIENT PROJ. ID: FOOTHILL SQUARE

DATE SAMPLED: 03/31/98
DATE RECEIVED: 04/01/98
REPORT DATE: 04/10/98

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix	**EPA 8010**				
Bromodichloromethane	75-27-4	ND	0.5	ug/L	04/08/98
Bromoform	75-25-2	ND	0.5	ug/L	04/08/98
Bromomethane	74-83-9	ND	2	ug/L	04/08/98
Carbon Tetrachloride	56-23-5	ND	0.5	ug/L	04/08/98
Chlorobenzene	108-90-7	ND	0.5	ug/L	04/08/98
Chloroethane	75-00-3	ND	2	ug/L	04/08/98
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5	ug/L	04/08/98
Chloroform	67-66-3	ND	0.5	ug/L	04/08/98
Chloromethane	74-87-3	ND	2	ug/L	04/08/98
Dibromochloromethane	124-48-1	ND	0.5	ug/L	04/08/98
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	04/08/98
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	04/08/98
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	04/08/98
Dichlorodifluoromethane	75-71-8	ND	2	ug/L	04/08/98
1,1-Dichloroethane	75-34-3	ND	0.5	ug/L	04/08/98
1,2-Dichloroethane	107-06-2	ND	0.5	ug/L	04/08/98
1,1-Dichloroethene	75-35-4	ND	0.5	ug/L	04/08/98
cis-1,2-Dichloroethene	156-59-2	ND	0.5	ug/L	04/08/98
trans-1,2-Dichloroethene	156-60-5	ND	0.5	ug/L	04/08/98
1,2-Dichloropropane	78-87-5	ND	0.5	ug/L	04/08/98
cis-1,3-Dichloropropene	10061-01-5	ND	0.5	ug/L	04/08/98
trans-1,3-Dichloropropene	10061-02-6	ND	0.5	ug/L	04/08/98
Methylene Chloride	75-09-2	ND	2	ug/L	04/08/98
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5	ug/L	04/08/98
Tetrachloroethene	127-18-4	9.7 *	0.5	ug/L	04/08/98
1,1,1-Trichloroethane	71-55-6	ND	0.5	ug/L	04/08/98
1,1,2-Trichloroethane	79-00-5	ND	0.5	ug/L	04/08/98
Trichloroethene	79-01-6	ND	0.5	ug/L	04/08/98
Trichlorofluoromethane	75-69-4	ND	2	ug/L	04/08/98
1,1,2-Trichlorotrifluoroethan	76-13-1	ND	0.5	ug/L	04/08/98
Vinyl Chloride	75-01-4	ND	2	ug/L	04/08/98

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

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9804010

CLIENT PROJECT ID: FOOTHILL SQUARE

Quality Control Summary

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

Definitions

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: 9804010
INSTRUMENT: G
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery: Bromochloro-methane	Percent Recovery: 1-Bromo-3-chloro-propane
04/07/98	AMW-1	01	93	95
04/07/98	AMW-4	02	92	94
04/07/98	AMW-6	03	89	93
04/07/98	AMW-7	04	94	96
04/07/98	AMW-8	05	91	96
04/07/98	AMW-9	06	92	100
04/08/98	MW-6	07	79	81
04/08/98	MW-7	08	93	98
04/08/98	FHS/MW-10	09	86	92
04/08/98	FHS/MW-11	10	85	90
QC Limits:			70-130	70-130

DATE ANALYZED: 04/07/98
SAMPLE SPIKED: LCS
INSTRUMENT: G

Laboratory Control Sample Recovery

Analyte	Spike Added (ug/L)	Percent Recovery	RPD	QC Limits: Percent Recovery	QC Limits: RPD
1,1-Dichloroethene	25	88	<1	70-130	20
Trichloroethene	25	99	8	70-130	20
Chlorobenzene	25	97	7	70-130	20

*** END OF REPORT ***

9804010 1554

BLAINE TECH SERVICES INC.

1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112
FAX (408) 573-7771
PHONE (408) 573-0555

CHAIN OF CUSTODY 980331-K1

CLIENT PES

SITE FOOTHILL SQUARE
10700 MACARTHUR BLVD
OAKLAND

LAB AEN DHS #

ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND

☐ EPA ☐ RWQCB REGION _____
☐ LIA
☐ OTHER

SPECIAL INSTRUCTIONS
INVOICE & REPORT TO PES
ATTN: WILL MAST

SAMPLE I.D.	Date	Time	MATRIX S=SOIL W=H2O	CONTAINERS TOTAL		C=COMPOSITE ALL CONTAINERS	CONDUCT ANALYSIS TO DETECT: EPA 8010	ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
AMW-1	3/31/98	927	W	3	3x40		X				1ABC
AMW-4		1235		3	mL VOAs		X				2ABC
AMW-6		1340		3			X				3ABC
AMW-7		1320		3			X				4ABC
AMW-8		1055		3			X				5ABC
AMW-9		1210		3			X				6ABC
MW-6		1300		3			X				7ABC
MW-7		1025		3			X				8ABC
FHS/MW10		950		3			X				9ABC
FHS/MW11		1135		3			X				10ABC

SAMPLING COMPLETED DATE 3/31/98 TIME

SAMPLING PERFORMED BY Mark Spindler

RESULTS NEEDED NO LATER THAN PER CLIENT

RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
	4/1/98	1300		4/1/98	1300
	4/1/98	1400		4-1	1400

SHIPPED VIA	DATE SENT	TIME SENT	COOLER #

Quanterra Incorporated
880 Riverside Parkway
West Sacramento, California 95605

916 373-5600 Telephone
916 372-1059 Fax

Quanterra
Environmental Services

April 22, 1998

QUANTERRA INCORPORATED PROJECT NUMBER: 098390
PO/CONTRACT: 502.0201.006

Will Mast
PES
1682 Novato Boulevard
Novato, CA 94947

Dear Mr. Mast,

This report contains the analytical results for the six samples received under chain of custody by Quanterra Incorporated on April 2, 1998. These samples are associated with your Foothill Square project.

The case narrative is an integral part of this report.

If you have any questions, please feel free to call me at (916)374-4383.

Sincerely,

Calvin Tanaka
Project Manager

Quanterra
Environmental Services

TABLE OF CONTENTS

QUANTERRA INCORPORATED PROJECT NUMBER 098390

Quanterra
Environmental Services

CASE NARRATIVE

QUANTERRA INCORPORATED PROJECT NUMBER 098390

General Comments

The sample containers were received intact and in good condition. Any discrepancies identified upon receipt would have been forwarded to Mr. Will Mast and documented on the enclosed Chain of Custody.

The samples were received with minimal time remaining on the holding time. All of the samples, except FHS/MW-10 (Quanterra Lab ID: 098390-0005) were analyzed within holding time. Sample 098390-0005 was received with one minute remaining and was analyzed as soon as possible. The situation was discussed prior to sample receipt with Mr. Will Mast as it was known that there would not be much time remaining for the analysis of the samples.

There were no other anomalies associated with this project.

Quanterra
Environmental Services

Quanterra - Western Region

Quality Control Definitions

QC Parameter	Definition
QC Batch	A set of up to 20 field samples plus associated laboratory QC samples that are similar in composition (matrix) and that are processed within the same time period with the same reagent and standard lots.
Duplicate Control Sample (DCS)	Consist of a pair of LCSs analyzed within the same QC batch to monitor precision and accuracy independent of sample matrix effects. This QC is performed only if required by client or when insufficient sample is available to perform MS/MSD.
Duplicate Sample (DU)	A second aliquot of an environmental sample, taken from the same sample container when possible, that is processed independently with the first sample aliquot. The results are used to assess the effect of the sample matrix on the precision of the analytical process. The precision estimated using this sample is not necessarily representative of the precision for other samples in the batch.
Laboratory Control Sample (LCS)	A volume of reagent water for aqueous samples or a contaminant-free solid matrix (Ottawa sand) for soil and sediment samples which is spiked with known amounts of representative target analytes and required surrogates. An LCS is carried through the entire analytical process and is used to monitor the accuracy of the analytical process independent of potential matrix effects.
Matrix Spike and Matrix Spike Duplicate (MS/MSD)	A field sample fortified with known quantities of target analytes that are also added to the LCS. Matrix spike duplicate is a second matrix spike sample. MSs/MSDs are carried through the entire analytical process and are used to determine sample matrix effect on accuracy of the measurement system. The accuracy and precision estimated using MS/MSD is only representative of the precision of the sample that was spiked.
Method Blank (MB)	A sample composed of all the reagents (in the same quantities) in reagent water carried through the entire analytical process. The method blank is used to monitor the level of contamination introduced during sample preparation steps.
Surrogate Spike	Organic constituents not expected to be detected in environmental media and are added to every sample and QC at a known concentration. Surrogates are used to determine the efficiency of the sample preparation and the analytical process.

Source: Quanterra® Quality Control Program, Policy QA-003, Rev. 0, 8/19/96.

SAMPLE DESCRIPTION INFORMATION
for
PES

Lab ID	Client ID	Matrix	Sampled Date	Sampled Time	Received Date
098390-0001-SA	AMW-6	AQUEOUS	31 MAR 98	13:40	02 APR 98
098390-0002-SA	AMW-7	AQUEOUS	31 MAR 98	13:20	02 APR 98
098390-0003-SA	AMW-9	AQUEOUS	31 MAR 98	12:10	02 APR 98
098390-0004-SA	MW-6	AQUEOUS	31 MAR 98	13:00	02 APR 98
098390-0005-SA	FHS/MW-10	AQUEOUS	31 MAR 98	09:56	02 APR 98
098390-0006-SA	FHS/MW-11	AQUEOUS	31 MAR 98	11:35	02 APR 98

BLAINE TECH SERVICES INC.

1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112
FAX (408) 573-7771
PHONE (408) 573-0555

CHAIN OF CUSTODY BTS # 980331-K1

CLIENT PES

SITE FOOTHILL SQUARE

10700 MACARTHUR BLVD.

OAKLAND

LAB QUANTERRA (WEST SACTO.) DHS #

ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND

☐ EPA ☐ LIA ☐ OTHER ☐ RWQCB REGION _____

SPECIAL INSTRUCTIONS

INVOICE & REPORT TO
PES
ATTN: WILL MAST

* NITRATE HAS SHORT HOLD TIME

SAMPLE I.D.	Date	Time	MATRIX S = SOIL W = H2O	CONTAINERS TOTAL		C = COMPOSITE ALL CONTAINERS	CONDUCT ANALYSIS TO DETECT: epa 300.0/353.2 SULFATE / NITRATE*	ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
MW1	3/31/98	1140	W	1	1L		X				
MW7		1320		1	Poly		X				
MW9		1210		1	HNO3		X				
MW6		1300		1			X				
FB1/MW10		951		1			X				
FB2/MW11		1135		1			X				
								Rec'd in good Condition. HCO 04/02/98			

SAMPLING COMPLETED DATE 3/31/98 TIME 1345

SAMPLING PERFORMED BY Mark Spindler

RESULTS NEEDED NO LATER THAN PER CLIENT

RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
	4/1/98	1330		040298	0955
RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME

SHIPPED VIA	DATE SENT	TIME SENT	COOLER #	
FED EX ~~AIRBORNE EXPRESS~~	4/1/98	1330		# 803823982123 ~~8301435605~~

Quanterra
Environmental
Services

General Inorganics - Method 300.0

Quanterra
Environmental Services

GENERAL INORGANICS

(Water)

Client Name: PES
Client ID: AMW-6
Lab ID: 098390-0001-SA
Matrix: AQUEOUS
Authorized: 02 APR 98

Sampled: 31 MAR 98
Prepared: See Below

Received: 02 APR 98
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Nitrate (as N)	6.3	mg/L	0.50	300.0	NA	02 APR 98 o
Sulfate	49.9	mg/L	10.0	300.0	NA	02 APR 98 o

Note o : Reporting limit(s) raised due to high level of analyte present in sample.

ND = Not detected
NA = Not applicable

Reported By: Mark Frey

Approved By: Josefina Jones

The cover letter is an integral part of this report.
Rev 230787

Quanterra
Environmental Services

GENERAL INORGANICS

(Water)

Client Name: PES
Client ID: AMW-7
Lab ID: 098390-0002-SA
Matrix: AQUEOUS
Authorized: 02 APR 98

Sampled: 31 MAR 98
Prepared: See Below

Received: 02 APR 98
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Nitrate (as N)	4.0	mg/L	0.10	300.0	NA	02 APR 98 o
Sulfate	80.1	mg/L	10.0	300.0	NA	02 APR 98 o

Note o : Reporting limit(s) raised due to high level of analyte present in sample.

ND = Not detected
NA = Not applicable

Reported By: Mark Frey

Approved By: Josefina Jones

The cover letter is an integral part of this report.
Rev 230787

Quanterra
Environmental Services

GENERAL INORGANICS

(Water)

Client Name: PES
Client ID: AMW-9
Lab ID: 098390-0003-SA
Matrix: AQUEOUS
Authorized: 02 APR 98

Sampled: 31 MAR 98
Prepared: See Below

Received: 02 APR 98
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Nitrate (as N)	4.0	mg/L	0.10	300.0	NA	02 APR 98 o
Sulfate	40.0	mg/L	2.0	300.0	NA	02 APR 98 o

Note o : Reporting limit(s) raised due to high level of analyte present in sample.

ND = Not detected
NA = Not applicable

Reported By: Mark Frey

Approved By: Josefina Jones

The cover letter is an integral part of this report.
Rev 230787

RECEIVED MAY 0 4 1998

Quanterra
Environmental Services

GENERAL INORGANICS

(Water)

Client Name: PES
Client ID: MW-6
Lab ID: 098390-0004-SA
Matrix: AQUEOUS
Authorized: 02 APR 98

Sampled: 31 MAR 98
Prepared: See Below

Received: 02 APR 98
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Nitrate (as N)	0.45	mg/L	0.050	300.0	NA	02 APR 98
Sulfate	36.7	mg/L	5.0	300.0	NA	02 APR 98 o

Note o : Reporting limit(s) raised due to high level of analyte present in sample.

ND = Not detected
NA = Not applicable

Reported By: Mark Frey

Approved By: Josefina Jones

The cover letter is an integral part of this report.
Rev 230787

Quanterra
Environmental Services

GENERAL INORGANICS

(Water)

Client Name: PES
Client ID: FHS/MW-10
Lab ID: 098390-0005-SA
Matrix: AQUEOUS
Authorized: 02 APR 98

Sampled: 31 MAR 98
Prepared: See Below

Received: 02 APR 98
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Nitrate (as N)	4.6	mg/L	0.25	300.0	NA	02 APR 98 o
Sulfate	47.0	mg/L	5.0	300.0	NA	02 APR 98 o

Note o : Reporting limit(s) raised due to high level of analyte present in sample.

ND = Not detected
NA = Not applicable

Reported By: Mark Frey

Approved By: Josefina Jones

The cover letter is an integral part of this report.
Rev 230787

Quanterra
Environmental Services

GENERAL INORGANICS

(Water)

Client Name: PES
Client ID: FHS/MW-11
Lab ID: 098390-0006-SA
Matrix: AQUEOUS
Authorized: 02 APR 98

Sampled: 31 MAR 98
Prepared: See Below

Received: 02 APR 98
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Nitrate (as N)	6.1	mg/L	0.25	300.0	NA	02 APR 98 o
Sulfate	31.4	mg/L	5.0	300.0	NA	02 APR 98 o

Note o : Reporting limit(s) raised due to high level of analyte present in sample.

ND = Not detected
NA = Not applicable

Reported By: Mark Frey

Approved By: Josefina Jones

The cover letter is an integral part of this report.
Rev 230787

Quanterra
Environmental Services

QC LOT ASSIGNMENT REPORT - MS QC
Wet Chemistry Analysis and Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
098390-0001-SA	AQUEOUS	IC-A	-	02 APR 98-A	02 APR 98-AA
098390-0002-SA	AQUEOUS	IC-A	-	02 APR 98-A	02 APR 98-AA
098390-0003-SA	AQUEOUS	IC-A	-	02 APR 98-A	02 APR 98-AA
098390-0004-SA	AQUEOUS	IC-A	-	02 APR 98-A	02 APR 98-AA
098390-0005-SA	AQUEOUS	IC-A	-	02 APR 98-A	02 APR 98-AA
098390-0006-SA	AQUEOUS	IC-A	-	02 APR 98-A	02 APR 98-AA

Quanterra
Environmental Services

METHOD BLANK REPORT
Wet Chemistry Analysis and Preparation
Project: 098390

Test: IC-SCAN-2-A Ion Chromatography Scan, Multiple elements
Method: 300.0
Matrix: AQUEOUS
QC Lot: 02 APR 98-AX QC Run: 02 APR 98-A
Analyzed: 02 APR 98 Time: 09:50

Analyte	Result	Units	Reporting Limit	Qualifier
Nitrate (as N)	ND	mg/L	0.050	

Test: IC-SCAN-2-A Ion Chromatography Scan, Multiple elements
Method: 300.0
Matrix: AQUEOUS
QC Lot: 02 APR 98-AX QC Run: 02 APR 98-A
Analyzed: 02 APR 98 Time: 09:50

Analyte	Result	Units	Reporting Limit	Qualifier
Sulfate	ND	mg/L	1.0	

ND = Not Detected

Quanterra
Environmental Services

LABORATORY CONTROL SAMPLE REPORT
Wet Chemistry Analysis and Preparation
Project: 098390

Category: IC-A Ion Chromatography Inorganics
Test: IC-SCAN-2-A
Matrix: AQUEOUS
QC Lot: 02 APR 98-AX QC Run: 02 APR 98-A
Concentration Units: mg/L

Analyte	Concentration Spiked	Measured	Accuracy(%) LCS	Limits
Fluoride	5.00	5.34	107	90-110
Chloride	10.0	9.90	99	90-110
Nitrite (as N)	1.00	0.989	99	90-110
Bromide	5.00	4.74	95	90-110
Nitrate (as N)	1.00	0.970	97	90-110
Orthophosphate (as P)	2.00	2.07	104	90-110
Sulfate	20.0	19.8	99	90-110

Category: IC-A Ion Chromatography Inorganics
Test: IC-SCAN-2-A
Matrix: AQUEOUS
QC Lot: 02 APR 98-AX QC Run: 02 APR 98-A
Concentration Units: mg/L

Analyte	Concentration Spiked	Measured	Accuracy(%) LCS	Limits
Fluoride	5.00	5.34	107	90-110
Chloride	10.0	9.90	99	90-110
Nitrite (as N)	1.00	0.989	99	90-110
Bromide	5.00	4.74	95	90-110
Nitrate (as N)	1.00	0.970	97	90-110
Orthophosphate (as P)	2.00	2.07	104	90-110
Sulfate	20.0	19.8	99	90-110

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quanterra
Environmental Services

TRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Chemistry Analysis and Preparation
ect: 098390

tegory: IC-A Ion Chromatography Inorganics
: IC-SCAN-2-A Method: 300.0
ix : AQUEOUS
mple : 098346-0002
Run : 02 APR 98-AA
s : mg/L

Analyte	Sample Result		MS Result		MSD Result		Amount Spiked MS	Amount Spiked MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
	---------Concentration---------												
ride	114	o	204	o	206	o	100	100	89	91	0.97	75-125	20
ate (as N)	0.729	o	10.1	o	10.4	o	10.0	10.0	94	97	3.0	75-125	20
ate	119	o	258	o	258	o	150	150	93	93	0.05	75-125	20

Reporting limit(s) raised due to high level of analyte present in sample.

culations are performed before rounding to avoid round-off errors in calculated results.

Quanterra Environmental Services

Quanterra Incorporated
18501 East Gale Avenue #130
City of Industry, California 91748

818 965-1006 Telephone
818 965-1003 Fax

April 16, 1998

PES ENVIRONMENTAL, INC.
1682 Novato Blvd.
Suite 100
Novato, CA 94947
ATTN: Mr. Will Mast

ANALYSIS NO.: 131519-0001/0006-SA
ANALYSIS: Dissolved Gases in Water by GC
DATE SAMPLED: 03/31/98
DATE SAMPLES REC'D: 04/02/98

PROJECT: FOOTHILL SQUARE

Enclosed with this letter is the report on the chemical and physical analyses for the samples from ANALYSIS NO.: 131519-0001/0006-SA as shown above.

The samples were received by Quanterra Incorporated, City of Industry, intact and with the chain-of-custody record attached.

Please note that ND means not detected at the reporting limits expressed.

The preliminary results were faxed to Mr. Will Mast on April 9, 1998.

Report Narrative:

The above analysis was performed in reference to RSKSOP-175. The samples were contained in non-preserved VOA vials and were analyzed for both Carbon dioxide (CO2) and Methane (CH4). Microbes present in the water reacts with CH4 to produce CO2, thereby, increasing the CO2 concentration and decreasing the CH4 concentration.

Maria O. Jones
Project Manager

4/16/98
Date Approved

Quanterra
Environmental Services

SAMPLE DESCRIPTION INFORMATION
for
PES Environmental, Inc.

Lab ID	Client ID	Matrix	Sampled Date	Sampled Time	Received Date
131519-0001-SA	AMW-6	WATER	31 MAR 98	13:40	02 APR 98
131519-0002-SA	AMW-7	WATER	31 MAR 98	13:20	02 APR 98
131519-0003-SA	AMW-9	WATER	31 MAR 98	12:10	02 APR 98
131519-0004-SA	MW-6	WATER	31 MAR 98	13:00	02 APR 98
131519-0005-SA	FH5/MW-10	WATER	31 MAR 98	09:56	02 APR 98
131519-0006-SA	FH5/MW-11	WATER	31 MAR 98	11:35	02 APR 98

Quanterra
Environmental Services

Dissolved Gases in Water by GC

Client Name:	PES Environmental, Inc.		
Client ID:	AMW-6		
LAB ID:	131519-0001-SA		
Matrix:	WATER	Sampled: 31 MAR 98	Received: 02 APR 98
Authorized:	02 APR 98	Prepared: N/A	Analyzed: 08 APR 98
Instrument:	GC-1	Dilution: 16	

Parameter	Result	Qualifier	RL	Units
Carbon dioxide	87		1.7	mg/L

Quanterra
Environmental Services

Dissolved Gases in Water by GC

Client Name:	PES Environmental, Inc.		
Client ID:	AMW-6		
LAB ID:	131519-0001-SA		
Matrix:	WATER	Sampled: 31 MAR 98	Received: 02 APR 98
Authorized:	02 APR 98	Prepared: N/A	Analyzed: 08 APR 98
Instrument:	GC-1	Dilution: 1.0	

Parameter	Result	Qualifier	RL	Units
Methane	0.0055		0.0010	mg/L

Quanterra Environmental Services

Dissolved Gases in Water by GC

Client Name:	PES Environmental, Inc.		
Client ID:	AMW-7		
LAB ID:	131519-0002-SA		
Matrix:	WATER	Sampled: 31 MAR 98	Received: 02 APR 98
Authorized:	02 APR 98	Prepared: N/A	Analyzed: 08 APR 98
Instrument:	GC-1	Dilution: 1.0	

Parameter	Result	Qualifier	RL	Units
Carbon dioxide	190		1.7	mg/L

Quanterra Environmental Services

Dissolved Gases in Water by GC

Client Name:	PES Environmental, Inc.		
Client ID:	AMW-7		
LAB ID:	131519-0002-SA		
Matrix:	WATER	Sampled: 31 MAR 98	Received: 02 APR 98
Authorized:	02 APR 98	Prepared: N/A	Analyzed: 08 APR 98
Instrument:	GC-1	Dilution: 1.0	

Parameter	Result	Qualifier	RL	Units
Methane	0.0026		0.0010	mg/L

Quanterra Environmental Services

Dissolved Gases in Water by GC

Client Name:	PES Environmental, Inc.		
Client ID:	AMW-9		
LAB ID:	131519-0003-SA		
Matrix:	WATER	Sampled: 31 MAR 98	Received: 02 APR 98
Authorized:	02 APR 98	Prepared: N/A	Analyzed: 08 APR 98
Instrument:	GC-1	Dilution: 1.0	

Parameter	Result	Qualifier	RL	Units
Carbon dioxide	36		1.7	mg/L

Quanterra
Environmental Services

Dissolved Gases in Water by GC

Client Name:	PES Environmental, Inc.		
Client ID:	AMW-9		
LAB ID:	131519-0003-SA		
Matrix:	WATER	Sampled: 31 MAR 98	Received: 02 APR 98
Authorized:	02 APR 98	Prepared: N/A	Analyzed: 08 APR 98
Instrument:	GC-1	Dilution: 1.0	

Parameter	Result	Qualifier	RL	Units
Methane	ND		0.0010	mg/L

ND = Not Detected

Quanterra Environmental Services

Dissolved Gases in Water by GC

Client Name:	PES Environmental, Inc.		
Client ID:	MW-6		
LAB ID:	131519-0004-SA		
Matrix:	WATER	Sampled: 31 MAR 98	Received: 02 APR 98
Authorized:	02 APR 98	Prepared: N/A	Analyzed: 08 APR 98
Instrument:	GC-1	Dilution: 1.0	

Parameter	Result	Qualifier	RL	Units
Carbon dioxide	11		1.7	mg/L

Quanterra Environmental Services

Dissolved Gases in Water by GC

Client Name:	PES Environmental, Inc.		
Client ID:	MW-6		
LAB ID:	131519-0004-SA		
Matrix:	WATER	Sampled: 31 MAR 98	Received: 02 APR 98
Authorized:	02 APR 98	Prepared: N/A	Analyzed: 08 APR 98
Instrument:	GC-1	Dilution: 1.0	

Parameter	Result	Qualifier	RL	Units
Methane	ND		0.0010	mg/L

ND = Not Detected

Quanterra Environmental Services

Dissolved Gases in Water by GC

Client Name:	PES Environmental, Inc.		
Client ID:	FH5/MW-10		
LAB ID:	131519-0005-SA		
Matrix:	WATER	Sampled: 31 MAR 98	Received: 02 APR 98
Authorized:	02 APR 98	Prepared: N/A	Analyzed: 08 APR 98
Instrument:	GC-1	Dilution: 1.0	

Parameter	Result	Qualifier	RL	Units
Carbon dioxide	38		1.7	mg/L

Quanterra
Environmental Services

Dissolved Gases in Water by GC

Client Name:	PES Environmental, Inc.		
Client ID:	FH5/MW-10		
LAB ID:	131519-0005-SA		
Matrix:	WATER	Sampled: 31 MAR 98	Received: 02 APR 98
Authorized:	02 APR 98	Prepared: N/A	Analyzed: 08 APR 98
Instrument:	GC-1	Dilution: 1.0	

Parameter	Result	Qualifier	RL	Units
Methane	ND		0.0010	mg/L

ND = Not Detected

Quanterra Environmental Services

Dissolved Gases in Water by GC

Client Name: PES Environmental, Inc.
Client ID: FH5/MW-11
LAB ID: 131519-0006-SA
Matrix: WATER
Authorized: 02 APR 98
Instrument: GC-1

Sampled: 31 MAR 98
Prepared: N/A
Dilution: 1.0

Received: 02 APR 98
Analyzed: 08 APR 98

Parameter	Result	Qualifier	RL	Units
Carbon dioxide	7.9		1.7	mg/L

Quanterra
Environmental Services

Dissolved Gases in Water by GC

Client Name:	PES Environmental, Inc.		
Client ID:	FH5/MW-11		
LAB ID:	131519-0006-SA		
Matrix:	WATER	Sampled: 31 MAR 98	Received: 02 APR 98
Authorized:	02 APR 98	Prepared: N/A	Analyzed: 08 APR 98
Instrument:	GC-1	Dilution: 1.0	

Parameter	Result	Qualifier	RL	Units
Methane	ND		0.0010	mg/L

ND = Not Detected

Quanterra
Environmental Services

QC LOT ASSIGNMENT REPORT - MS QC
Air Toxics

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
131519-0001-SA	AQUEOUS	RSKSOP175G	08 APR 98-A1	08 APR 98-A1	
131519-0002-SA	AQUEOUS	RSKSOP175G	08 APR 98-A1	08 APR 98-A1	
131519-0003-SA	AQUEOUS	RSKSOP175G	08 APR 98-A1	08 APR 98-A1	
131519-0004-SA	AQUEOUS	RSKSOP175G	08 APR 98-A1	08 APR 98-A1	
131519-0005-SA	AQUEOUS	RSKSOP175G	08 APR 98-A1	08 APR 98-A1	
131519-0006-SA	AQUEOUS	RSKSOP175G	08 APR 98-A1	08 APR 98-A1	
131519-0001-SA	AQUEOUS	RSKSOP175G	08 APR 98-A1	08 APR 98-A1	
131519-0002-SA	AQUEOUS	RSKSOP175G	08 APR 98-A1	08 APR 98-A1	
131519-0003-SA	AQUEOUS	RSKSOP175G	08 APR 98-A1	08 APR 98-A1	
131519-0004-SA	AQUEOUS	RSKSOP175G	08 APR 98-A1	08 APR 98-A1	
131519-0005-SA	AQUEOUS	RSKSOP175G	08 APR 98-A1	08 APR 98-A1	
131519-0006-SA	AQUEOUS	RSKSOP175G	08 APR 98-A1	08 APR 98-A1	

Quanterra
Environmental Services

DUPLICATE CONTROL SAMPLE REPORT
Air Toxics
Project: 131519

Category: RSKSOP175G Dissolved Gases in Water by GC
Matrix: AQUEOUS
QC Lot: 08 APR 98-A1 Date Analyzed: 08 APR 98
Concentration Units: mg/L

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	%Recovery DCS1	%Recovery DCS2	RPD	Acceptance Limits Recov.	Acceptance Limits RPD
Methane	0.327	0.231	0.231	71	71	0.0	70-130	20
Carbon dioxide	8.98	8.88	9.05	99	101	1.9	70-130	20

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quanterra
Environmental Services

METHOD BLANK REPORT
Air Toxics
Project: 131519

Test: RSKSOP-175-CO2-G Dissolved Gases in Water by GC
Matrix: AQUEOUS
QC Run: 08 APR 98-A1

Date Analyzed: 08 APR 98

Analyte	Result	Units	Reporting Limit
Carbon dioxide	ND	mg/L	0.17

Test: RSKSOP-175-G Dissolved Gases in Water by GC
Matrix: AQUEOUS
QC Run: 08 APR 98-A1

Date Analyzed: 08 APR 98

Analyte	Result	Units	Reporting Limit
Methane	ND	mg/L	0.0010

ND = Not Detected

BLAINE TECH SERVICES INC.

1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112
FAX (408) 573-7771
PHONE (408) 573-0555

CHAIN OF CUSTODY 980331-K1

CLIENT PES

SITE Foothill Square
10700 MacArthur Blvd.
Oakland, CA

LAB Quanterra (City of Industry)

DHS #

ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND

☐ EPA ☐ LIA ☐ OTHER

31579

SPECIAL INSTRUCTIONS
Invoice & Report to
PES
Attn: Will Mast

SAMPLE I.D.	Date	Time	MATRIX S = SOIL W = H2O	CONTAINERS TOTAL		C = COMPOSITE ALL CONTAINERS	CONDUCT ANALYSIS TO DETECT: Carbon Dioxide / Methane by RSK 175	ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
MW6	3/31/98	1340	W	3	HCl		X				
MW7		1320		3	VOAs		X				
MW9		1240		3	NP		X				
MW8		1300		3			X				
FB5/MW10		956		3			X				
FB5/MW11	↓	1122	↓	3			X				

SAMPLING COMPLETED	DATE	TIME
	3/31/98	1345

SAMPLING PERFORMED BY Mark Spindler

RESULTS NEEDED NO LATER THAN PER CLIENT

RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
	4/1/98	13:40		4/2/98	12:00
RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME

SHIPPED VIA	DATE SENT	TIME SENT	COOLER #
AIRBORNE EXPRESS	4/1/98	13:40	# 530143355O

1343 Redwood Way
Petaluma, CA 94954
(707) 795-9605/FAX 795-9384

Environmental Technical Services

Soil, Water & Air Testing & Monitoring Analytical Labs Technical Support

Serving people and the environment so that both benefit.

WATER ANALYSIS REPORT

To: William Mast
PES Environmental, Inc.
1682 Novato Blvd. Suite 100
Novato, CA 94947

Date: April 6, 1998
Lab #: 98-03-0421 thru 98-03-0426
Received: March 31, 1998
Tech(s): C. Lawrence
Lab Supervisor: D. Jacobson
Lab Director: G.S. Conrad, Ph.D.
Sample ID(s): AMW-6, AMW-7, AMW-9; MW-6; FHS/MW-10 & FHS/MW-11

Sample of: monitor well water
Project ID: FHS

Site Location: Foothill Square Shopping Center; Oakland, California

RESULTS

SAMPLE ID	FERROUS IRON
AMW-6	0.14 mg/l
AMW-7	0.09 mg/l
AMW-9	0.09 mg/l
MW-6	0.12 mg/l
FHS/MW-10	<0.01 mg/l
FHS/MW-11	0.01 mg/l

COMMENTS

These six samples ranged from very low to low in ferrous iron with the AMW and MW samples averaging just slightly above 0.1 ppm, while the two FHS samples were non-detect and barely detected. These levels are all so low that they may or may not correlate to levels of oxidation (redox) and/or microbial activity. But as a first approximation, it does appear as though the AMW and MW groundwaters may be less oxidized and/or have lower iron bacterial activity.

QC DATA - Ferrous Tests 3/20/98

Test	Lab Standard	Result	Percent Recovery
Ferrous Iron*	1.000 mg/l	0.94 mg/l	94.0%

* Ferrous Ammonium Sulfate - $(Fe(NH_4)_2(SO_4)_2 \cdot 6H_2O$

NOTES:
These tests were done according to the Association for Testing Materials (ASTM), and/or conform to standard and accepted protocols as described in Standard Methods for the Examination of Water and Wastewater, 18th ed., ç 1992: Ferrous Iron (Fe^{++}) - Phenanthroline Method (modified SMEWW 3500-Fe D); Redox - ASTM D 1498.

BLAINE TECH SERVICES INC.

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FAX (408) 573-7771
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CHAIN OF CUSTODY 980331-K1

CLIENT DES

SITE FOOTHILL SQUARE
10700 MACARTHUR BLVD
OAKLAND

C = COMPOSITE ALL CONTAINERS

CONDUCT ANALYSIS TO DETECT

LAB ETS DHS #

ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND

☐ EPA ☐ RWQCB REGION ____
☐ LIA
☐ OTHER

SPECIAL INSTRUCTIONS
INVOICE & REPORT TO DES
ATTN: WILL MAST
* SHORT HOLD TIME

SAMPLE I.D.	Date	Time	MATRIX S=SOIL W=H2O	CONTAINERS TOTAL		C	Ferrous Iron * Sm 3500D	ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
MW-6	3/31/98	1340	W	1	1L		X				
MW-7		1320		1	Poly HCl		X				
MW-9		1210		1			X				
MW-6		1300		1			X				
FB-S/MW-10		956		1			X				
FB-S/MW-11		1135		1			X				

SAMPLING COMPLETED DATE 3/31/98 TIME 1345

SAMPLING PERFORMED BY Mark Spindler

RESULTS NEEDED NO LATER THAN PER CLIENT

RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
[signature]	3/31/98	1330	[signature]	3.31.98	1330
William Mast	3/31/98	1645	[signature]	3-31-98	4:48
RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME

SHIPPED VIA	DATE SENT	TIME SENT	COOLER #

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

AUGUST 14, 1998

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