Jonas & Associates Inc.

GROUNDWATER MONITORING REPORT
Sampling Round Eight

PACO PUMPS, INC.
9201 San Leandro Street
Oakland, California

March 20, 1995

Report Prepared for:

PACO PUMPS, INC.
9201 San Leandro Street
Oakland, California 94603-1237

GROUNDWATER MONITORING REPORT
Sampling Round Eight
PACO PUMPS, INC.
9201 San Leandro Street, Oakland, California

Jonas and Associates Inc. Job No. PCO-220

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Professional Engineer #C042147

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Sampling Round Eight

PACO PUMPS, INC.
9201 San Leandro Street
Oakland, California
March 20, 1995

1.0 INTRODUCTION

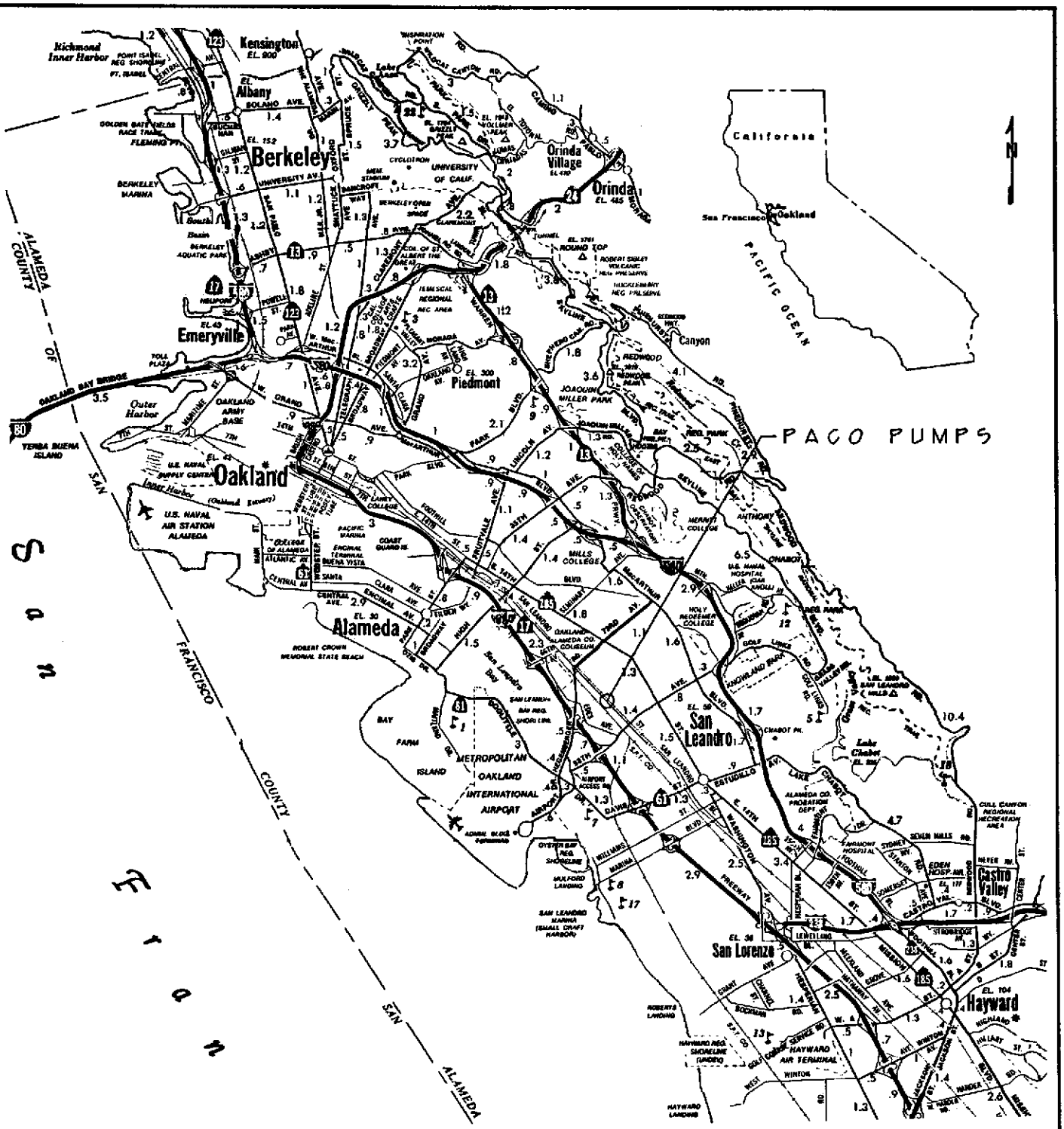
Jonas and Associates Inc. (J&A) has been retained by PACO Pumps Inc. (PACO or PACO Pumps) to perform the groundwater monitoring program at their property located at 9201 San Leandro Street, in Oakland, California 94603-1237. To date, eight groundwater sampling rounds have been performed at this facility. The first seven sampling rounds were presented in previous documents, identified in Section 5.0 References. This report presents the results of the eighth groundwater sampling round, performed on February 8, 1995.

PACO Pumps' environmental representative for this project is Mr. John Lilla {(512) 314-8500}. The lead agency for this project is the Alameda County Health Care Services Agency, Department of Environmental Health, Hazardous Division (Alameda County Health Services). The address of Alameda County Health Services is 1131 Harbor Bay Parkway, 2nd Floor, Alameda, California 94502. The agency representative is Ms. Eva Chu {(510) 567-6762}.

1.1 Site Description

The PACO Pumps facility presented in this report is located at 9201 San Leandro Street, in Oakland, California. Prior to May 1992, PACO Pumps had an active facility at this location. The facility contained a manufacturing, engineering, and storage building, a purchasing and data processing building, a warehouse, a welding shop, employee parking, and outside storage. Apparently, the property also had two underground tanks used for the storage of gasoline. The property is largely secured by a Cyclone fence and gates. PACO Pumps closed this facility and removed its equipment. Currently, this property is leased to a local company which primarily uses it to warehouse glassware. Adjacent to the PACO Pumps property is Saint Vincent DePaul Resale, where a previous investigation by Subsurface Consultants Inc. (1992) identified the presence of various chemicals on their site. Numerous drums were previously stored on the Saint Vincent DePaul's property.

The regional location of the property is presented in Figure 1-1. The facility is located in Township 2 South, Range 3 West, Section 22, Mount Diablo Baseline and Meridian. The land is essentially flat. Prior to moving, PACO Pumps' Environmental Protection Agency identification number for the facility was CAD088772629.



Regional Location

PACO PUMPS

Oakland, California

Prepared by

JONAS AND ASSOCIATES INC.

Drawn by	M.J.	Date: 10-11-1991	Figure 1-1	Drawing Number PC0217-10/91-1-1
	10-11-1991	Scale as shown		

Figure 1-1

Drawing Number PC0217-10/91-1-1

1.2 Scope of Report

This "Groundwater Monitoring Report, Sampling Round Eight" is presented in five sections and three appendices. Section 1, Introduction, provides a brief description of the site and the scope of the report. Section 2, Monitoring Wells and Hydrogeology, presents general well construction details for the five monitoring wells, the results of elevation and location surveys, and a local hydrogeologic cross-section. Section 3, Groundwater Sampling and Analysis, presents Round Eight groundwater sampling procedures and results, along with water level and free product measurements. Section 4, Recommendation, presents some recommendations associated with the work to be performed. Section 5, References, cites various references relevant to this report.

The appendices of the report include groundwater analysis summary tables, chain-of-custody records, and laboratory data sheets.

2.0 MONITORING WELLS AND HYDROGEOLOGY

This section of the report presents a brief history and construction details of the five monitoring wells located at the PACO Pumps' 9201 San Leandro Street facility. In addition, a summary of the location and elevation surveys performed by Kier & Wright is provided. A local hydrogeologic cross-section is also presented using lithologic logs from on-site monitoring well boreholes.

2.1 Monitoring Wells

Five monitoring wells are located at the PACO Pumps' facility. Four of these monitoring wells were drilled and installed during a period from November 3 through November 9, 1992. The J&A February 1993 "First Quarterly Status Report, PACO Pumps, 9201 San Leandro Street" presents the installation details and the rational for locating and sampling each of the monitoring wells. Monitoring well 9MW5 was drilled and installed on August 12, 1994. The installation details and rational for monitoring well 9MW5 are presented in the J&A August 1994 "Groundwater Monitoring Report, Sampling Round Six, PACO Pumps, 9201 San Leandro Street, Oakland, California". All of the monitoring wells are screened at an apparently transmissive fine sand to silty clay found underneath the facility. Figure 2-1 presents the locations of the five monitoring wells, the Round Eight analyses performed at each well, the previous excavation site, suspected former underground storage tank locations, Saint Vincent DePaul, and other on-site structures.

2.1.1 Construction Details

All of the five monitoring wells are constructed in boreholes drilled to depths of 21 feet. One pilot borehole next to the borehole for monitoring well 9MW3 was drilled down to a depth of 30 feet to collect lithologic samples for analyses. Each of five monitoring wells have a fifteen foot well screen set between approximately 5 to 20 feet below ground surface (bgs). The wells have a casing and screen diameter of four inches, placed in an 8½ inch borehole.

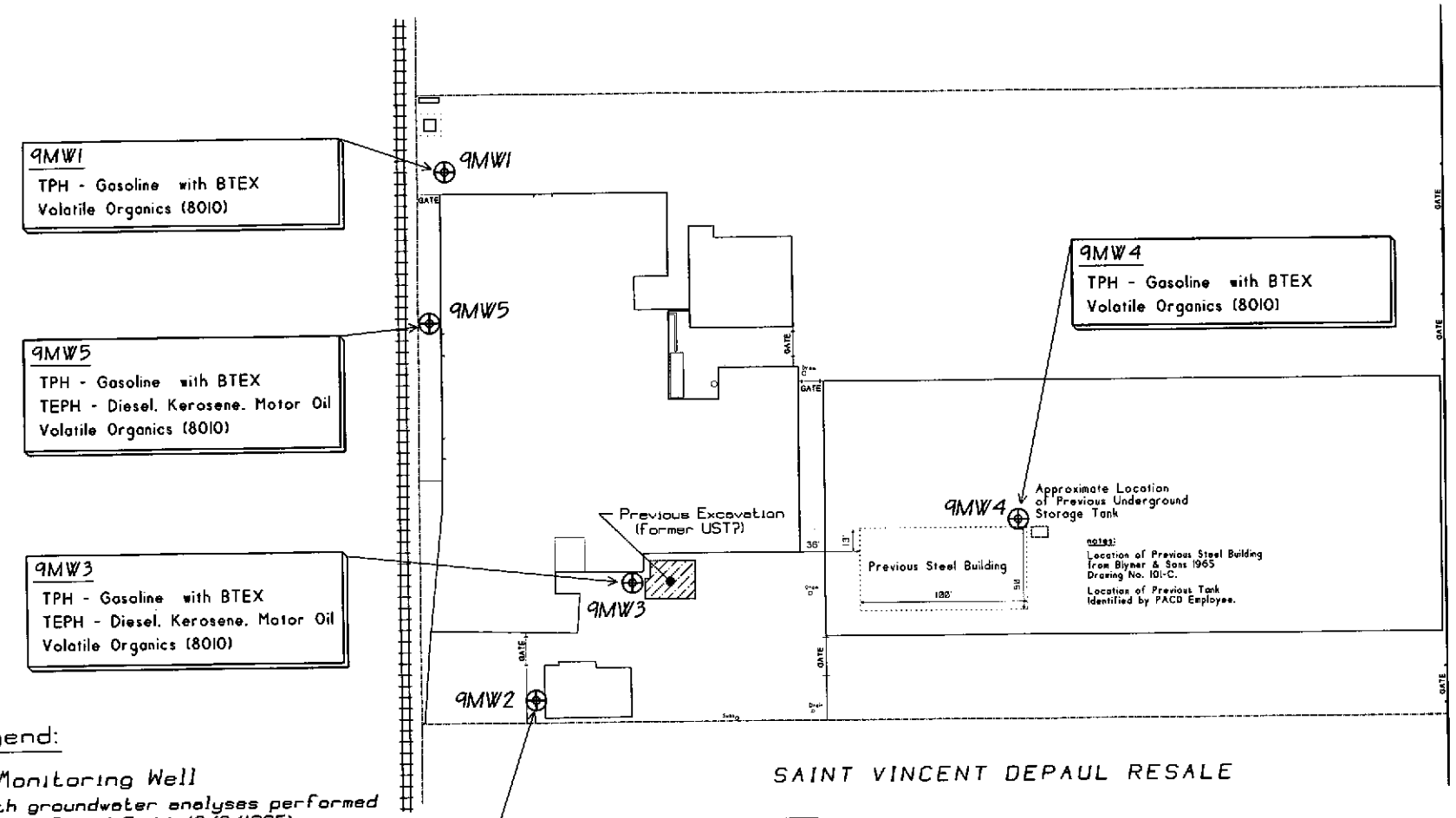
Monitoring well 9MW1 was constructed on November 4, 1992. The well was installed in a western corner of the facility adjacent to the former manufacturing building, and next to a transformer and the Central Pacific Railroad track. The lithology encountered during drilling ranged from an apparent fill, comprised of a silty gravel to a gravelly sand clay, to a sandy clay between 5 and 21 feet bgs. During drilling, first water was encountered at an approximate depth of 16 feet bgs. Measurement of first water is only approximate because of the difficulty in identifying water while drilling with a hollow stem auger. After the screen was installed, the well water level was measured at 9.74 feet bgs on November 15, 1992.

Monitoring well 9MW2 is located adjacent to the former welding shop and next to the Saint Vincent DePaul fenceline. The well was installed on November 3, 1992. The

Drawn by M.J. 2-24-1995

Drawing Number PCO220-2/95:G8F2-1

Figure 2-1



Legend:

⊕ Monitoring Well
With groundwater analyses performed during Round Eight (2/8/1995).

TPH = Total Petroleum Hydrocarbons
TEPH = Total Extractable Petroleum Hydrocarbons
BTEX = Benzene, Toluene, Ethyl Benzene, Total Xylenes
UST = Underground Storage Tank

Well	Date Installed	Total Depth	Casing Diameter	Borehole Diameter	Screen Depth	Sand Pack Depth
9MW1	11-4-1992	21'	4"	8.5"	5.25'-20.25'	4.25'-21'
9MW2	11-3-1992	21'	4"	8.5"	5.25'-20.25'	4.25'-21'
9MW3	11-4-1992	21'	4"	8.5"	5.25'-20.25'	4.25'-21'
9MW4	11-9-1992	21'	4"	8.5"	5.25'-20.25'	4.25'-21'
9MW5	8-12-1994	21'	4"	8.5"	5.25'-20.25'	4.25'-21'

Scale
50 0 50 100 Feet

Monitoring Wells and Round Eight Groundwater Analyses

PACO Pumps Inc.
9201 San Leandro Street
Oakland, California

Prepared by
JONAS & ASSOCIATES INC.

Date: 2-24-1995
Locations Approx.

Figure 2-1

Drawing Number PCO220-2/95:G8F2-1

lithology encountered during drilling was gravelly silty sand, probably a fill material, and a sandy clay located from 4 feet to the bottom of the borehole at 21 feet bgs. First water was not clearly identified. On November 16, 1992 water level in monitoring well 9MW2 was measured at 10.45 feet bgs.

Monitoring well 9MW3 is located adjacent to a previous excavation where a former underground storage tank may have been present. No tank was found, but remnants of a former tank appears to have been identified during the excavation. The tank was reportedly used to store gasoline. Excavation activities and results were documented in the October 16, 1992 "Site Characterization Report and Work Plan, PACO Pumps, 9201 San Leandro Street, Oakland, California". The well was drilled next to the excavation area and constructed on November 4, 1992. During drilling of the borehole for monitoring well 9MW3, the lithology encountered was 2 feet of an apparent fill composed of gravelly silty sand and a sandy clay between 2 and 21 feet bgs. A pilot boring adjacent to 9MW3 also found sandy clay between 20 and 30 feet bgs. First water was not definitively identified. After the construction of monitoring well 9MW3, the well water level was measured at 10.64 bgs.

Monitoring well 9MW4 was constructed on November 9, 1992. The location of the well is apparently near a former UST, which was said to have been located below the floor of the current warehouse. Prior to drilling the borehole for the monitoring well, 1¼ feet of flooring and sub-base was cored with a diamond-studded core barrel. The flooring and sub-base appears to be 6" of concrete, 6" of rock, and 3" of asphalt. Below the flooring and sub-base was a sandy clay down to a depth of 21 feet. During drilling, first water was identified at an approximate depth of 13.5 feet bgs. On November 16, 1992 well water was measured at 9.41 feet bgs.

Monitoring well 9MW5 was constructed on August 12, 1994. The well was installed adjacent to the southwest fenceline of the facility and next to the former manufacturing building and the Central Pacific Railroad track. The lithology encountered during drilling ranged from a gravelly sandy clay to a sandy clay between 2 and 21 feet bgs. During drilling activities, depth to first water was not able to be clearly identified. After the screen was installed, the well water level was measured at 8.22 feet bgs on August 24, 1994.

The following Table 2-1 present a summary of construction details for monitoring wells 9MW1, 9MW2, 9MW3, 9MW4, and 9MW5.

Table 2-1
Monitoring Well Construction Details
PACO PUMPS - 9201 San Leandro Street

Well Number	Date Completed	Casing Diameter	~ Depth in feet bgs					Borehole Diameter
			Screen {0.020"}	Sand Pack {#3 Sand}	Bentonite Seal	Portland Cement[1]	Borehole	
9MW1	11/4/1992	4"	5¼ - 20¼	4¼ - 21	3¾ - 4¼	¼ - 3¾	21	8½"
9MW2	11/3/1992	4"	5¼ - 20¼	4¼ - 21	3¾ - 4¼	¼ - 3¾	21	8½"
9MW3	11/4/1992	4"	5¼ - 20¼	4¼ - 21	3¾ - 4¼	¼ - 3¾	21	8½"
9MW4	11/9/1992	4"	5¼ - 20¼	4¼ - 21	3¾ - 4¼	¼ - 3¾	21	8½"
9MW5	8/12/1994	4"	5¼ - 20¼	4¼ - 21	3¾ - 4¼	¼ - 3¾	21	8½"

notes: [1] = Portland Cement mixed with ~5% bentonite for plasticity.
bgs = below ground surface

2.1.2 Monitoring Well Survey

During August 1993, monitoring wells 9MW1, 9MW2, 9MW3, and 9MW4 were surveyed by Kier & Wright Civil Engineers & Surveyors, Inc.. In September 1994 they surveyed monitoring well 9MW5. The locations of the wells were surveyed using the California State Coordinate System which identifies the well locations using Eastings and Northings, in feet. The monitoring wells were surveyed at a point representing the north side mark on top of the PVC casing. The survey was based on the City of Oakland Benchmark 721, located at 92nd Avenue and G Street. The following Table 2-2 presents the monitoring well survey results.

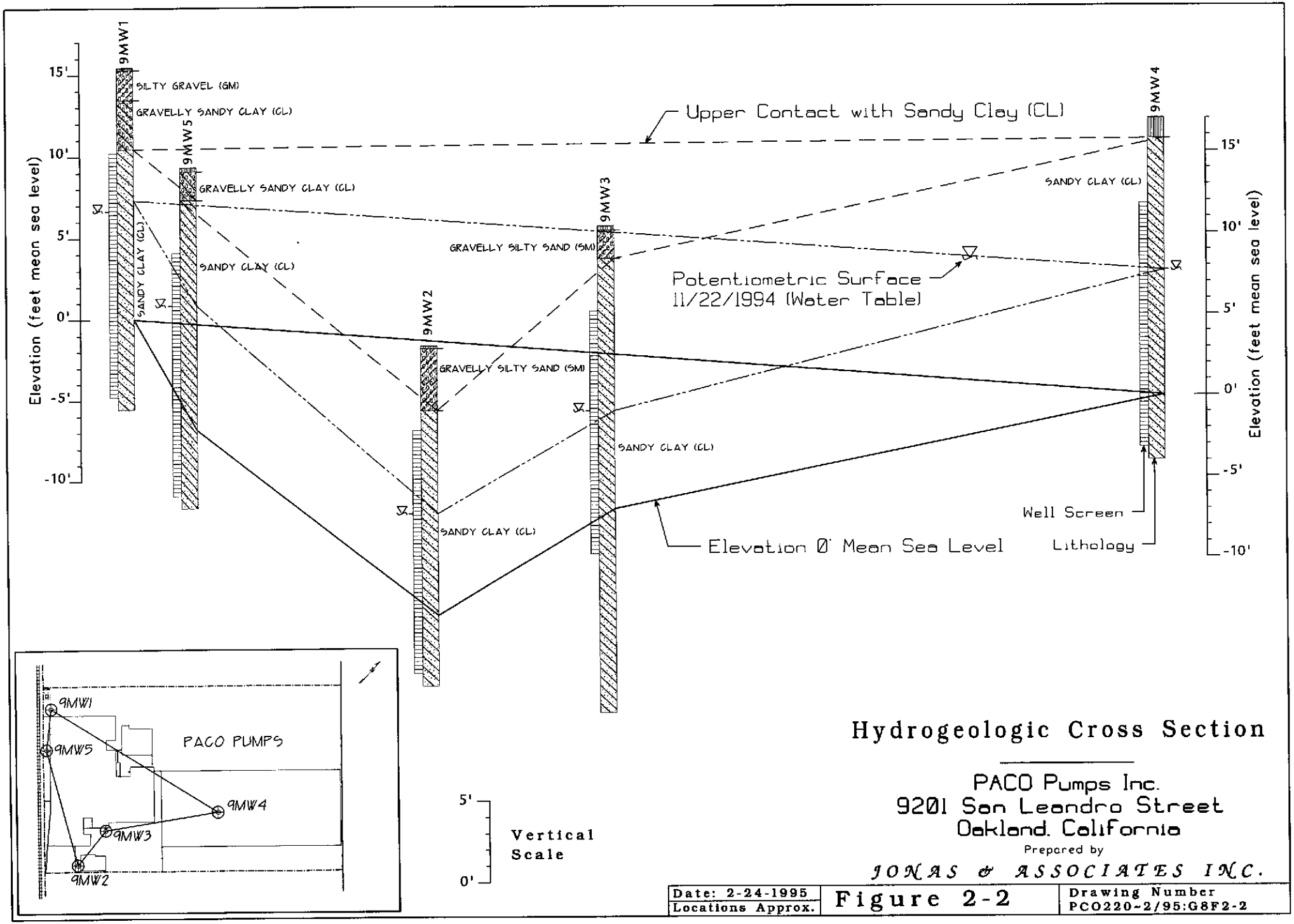
Table 2-2
Monitoring Well Survey Data
PACO PUMPS - 9201 San Leandro Street

Well	Easting	Northing	M.S.L. Elevation
9MW1	1512710.22	456699.01	Top PVC: 15.51'
9MW2	1512968.11	456507.34	Top PVC: 16.83'
9MW3	1512963.22	456602.8	Top PVC: 17.13'
9MW4	1513102.34	456789.38	Top PVC: 17.08'
9MW5	1512763.21	456638.62	Top PVC: 15.93'

Legend - M.S.L.: Mean Sea Level
Top PVC: Top north edge of PVC casing.

2.2 Hydrogeologic Cross Section

Figure 2-2 presents a hydrogeologic cross section using potentiometric and lithologic data associated with the monitoring wells.



Hydrogeologic Cross Section

PACO Pumps Inc.
9201 San Leandro Street
Oakland, California

Prepared by
JONAS & ASSOCIATES INC.

Date: 2-24-1995 Locations Approx.	Figure 2-2	Drawing Number PCO220-2/95:G8F2-2

3.0 ROUND EIGHT GROUNDWATER SAMPLING AND ANALYSIS

Following is a discussion of the procedures and results associated with Round Eight groundwater sampling of monitoring wells 9MW1, 9MW2, 9MW3, 9MW4, and 9MW5. Sampling for this round occurred on February 8, 1995 and represents winter seasonal conditions. Also included are Round Eight water level and free product measurements.

A summary of all laboratory results from samples collected from the on-site monitoring wells is presented in Appendix A. The chain-of-custody record for the February 8, 1995 Round Eight groundwater sampling event is presented in Appendix B. The laboratory data sheets associated with this sampling event are presented in Appendix C.

3.1 Groundwater Sampling Procedures

The eighth round of groundwater sampling was performed on February 8, 1995 and represents winter groundwater conditions. During the sampling event, the general groundwater sampling procedures presented in the "Site Characterization Report and Work Plan" (J&A 1992) for the facility were followed. After samples were collected and labeled, they were placed into ice chests chilled with blue ice for transport to the Chromalab analytical laboratory. A chain-of-custody record was completed and signed by a representative of Jonas & Associates Inc. and upon delivery, by a representative of Chromalab Inc.. The analysis and results of groundwater samples collected during Round Eight are presented in Section 3.2. The following section presents relevant information associated with sampling each of the five monitoring wells.

Sampling Monitoring Well 9MW1

Prior to purging the well, the depth to groundwater in monitoring well 9MW1 was measured at 8.30 feet below the top of the casing. The water level was measured with an electronic water level indicator on a stretch resistant measuring tape. After measuring the depth to groundwater, a clear bailer was placed into the well to collect a water sample for visual observations. No petroleum products were identified floating on groundwater in monitoring well 9MW1. After assessing for the presence of floating product, approximately 25 gallons of groundwater was removed from the well. A well volume was calculated at approximately eight gallons. Temperature and electric conductivity were measured after each five gallons of purging. These parameters appeared to stabilize and were recorded on a groundwater sampling form. Monitoring well 9MW1 appeared to recover relatively rapidly during purging activities. Purged water was collected in dated and labeled 55-gallon drums for temporary storage. After purging the well, groundwater samples were collected with a clean bailer. The Round Eight groundwater samples from monitoring well 9MW1 are identified as GW9-MW1-Q8. Four Volatile Organic Analysis (VOA) containers with HCl preservative were collected for analyses for Total Petroleum Hydrocarbons as Gasoline (TPH-G) (EPA Methods 5030/8015M); Benzene, Toluene, Ethyl Benzene, and Total Xylenes (BTEX) (EPA Method 602); and Volatile Halogenated Organics (EPA Method 8010).

Sampling Monitoring Well 9MW2

Prior to purging, the water level in monitoring well 9MW2 was measured at 8.68 feet below the top of the casing. A clean, clear bailer was then used to collect a sample from the surface of the groundwater. A slight "oily" sheen was noted. The well was then purged of 25 gallons of well water. During completion of the purging activities the temperature and electric conductivity appeared to stabilize. During purging activities, the well appeared to recover relatively rapidly. Four VOA containers with HCl preservative were collected for analyses for TPH-G (EPA Methods 5030/8015M); BTEX (EPA Method 602); and Volatile Halogenated Organics (EPA Method 8010). Two liters were also collected for Total Extractable Petroleum Hydrocarbons as -Diesel, -Kerosene, and -Motor Oil (TEPH-D,-K,-MO) (EPA Methods 3510/8015). The Round Eight groundwater samples from monitoring well 9MW2 are identified as GW9-MW2-Q8.

Sampling Monitoring Well 9MW3

During this sampling event, the water level in monitoring well 9MW3 was measured at 8.90 feet below the top of the casing. A slight "oily" sheen was identified. After approximately 25 gallons were purged from the well, four VOA containers with HCL were collected for analyses of TPH-G (EPA Methods 5030/8015M); BTEX (EPA Method 602); and Volatile Halogenated Organics (EPA Method 8010). Two liters were also collected for analysis of TEPH-D,-K,-MO (EPA Methods 3510/8015). Prior to sampling, temperature and electric conductivity of the purge water appeared to stabilize. During purging activities, recovery of the well was slower than the other monitoring wells. The Round Eight groundwater samples for monitoring well 9MW3 are identified as GW9-MW3-Q8.

Sampling Monitoring Well 9MW4

During this sampling event, the groundwater level in monitoring well 9MW4 was measured at 7.20 feet below the top of the casing. No floating products were identified in this well. The well was purged of approximately 25 gallons. Prior to sampling this well, temperature and electric conductivity of the purge water appeared to stabilize. Recovery of the well during purging was relatively rapid. Four VOA containers with HCl were used to collect groundwater for analysis of TPH-G (EPA Methods 5030/8015M); BTEX (EPA Method 602); and Volatile Halogenated Organics (EPA Method 8010). The Round Eight groundwater samples for monitoring well 9MW4 are identified as GW9-MW4-Q8.

Sampling Monitoring Well 9MW5

Prior to purging the well, the depth to groundwater in monitoring well 9MW5 was measured at 7.92 feet below the top of the casing. The water level was measured with an electronic water level indicator on a stretch resistant measuring tape. After measuring the depth to groundwater, a clear bailer was placed into the well to collect a water sample for visual observations. No petroleum products were identified floating on groundwater in monitoring well 9MW5. After assessing for the presence of floating

product, approximately 25 gallons of groundwater was removed from the well. A well volume was calculated at approximately eight gallons. Temperature and electric conductivity were measured after each five gallons of purging. These parameters appeared to stabilize and were recorded on a groundwater sampling form. Monitoring well 9MW5 appeared to recover relatively rapidly during purging activities. Purged water was collected in dated and labeled 55-gallon drums for temporary storage. After purging the well, groundwater samples were collected with a clean bailer. Four Volatile Organic Analysis (VOA) containers with HCl preservative were collected for analyses for Total Petroleum Hydrocarbons as Gasoline (TPH-G) (EPA Methods 5030/8015M); Benzene, Toluene, Ethyl Benzene, and Total Xylenes (BTEX) (EPA Method 602); and Volatile Halogenated Organics (EPA Method 8010). Two liters were also collected for analysis of TEPH-D,-K,-MO (EPA Methods 3510/8015). The Round Eight groundwater samples from monitoring well 9MW5 are identified as GW9-MW5-Q8.

3.2 Groundwater Sampling Results

This section of the report presents the analytical results for the Round Eight groundwater sampling event. Water level and free product measurements are also presented.

3.2.1 Analytical Results

As stated previously, summary tables, the Round Eight chain-of-custody records and laboratory data sheets are presented in Appendix A, B, and C, respectively. The following Table 3-1 present a summary of the analyses performed and the analytes detected during the Round Eight groundwater sampling event. Figure 3-1 provides a graphical display of the analytical results.

Jonas & Associates Inc.
5/11/95 mg

Table 3-1
February 1995 - Round Eight
Groundwater Sampling Results
PACO PUMPS - 9201 San Leandro Street
Oakland, California

Sample I.D.	Analysis	Detected Analytes	
GW9-MW1-Q8	TEPH as Gasoline (5030/8015M)	none detected	
	BTEX (602)	none detected	
	Volatile Halogenated Organics (8010)	none detected	
GW9-MW2-Q8	TPH as Gasoline (5030/8015M)	Benzene:	0.0045 mg/L
	BTEX (602)	Toluene:	0.0013 mg/L
	Volatile Halogenated Organics (8010)	Total Xylenes:	0.0005 mg/L
	TEPH as Diesel, Kerosene, Motor Oil (3510/8015)	TEPH - Motor Oil:	0.550 mg/L
		1,1-DCA:	0.0007 mg/L
		others not detected	
GW9-MW3-Q8	TPH as Gasoline (5030/8015M)	TPH Gasoline:	2.9 mg/L
	BTEX (602)	Benzene:	0.780 mg/L
	Volatile Halogenated Organics (8010)	Toluene:	0.120 mg/L
	TEPH as Diesel, Kerosene, Motor Oil (3510/8015)	Ethyl Benzene:	0.031 mg/L
		Total Xylenes:	0.033 mg/L
		1,2-DCA:	0.160 mg/L
		others not detected	
GW9-MW4-Q8	TEPH as Gasoline (5030/8015M)	TPH as Gasoline:	0.09 mg/L
	BTEX (602)	Benzene:	0.017 mg/L
	Volatile Halogenated Organics (8010)	Toluene:	0.0013 mg/L
		Ethyl Benzene:	0.0055 mg/L
		Total Xylenes:	0.0030 mg/L
		others not detected	
GW9-MW5-Q8	TPH as Gasoline (5030/8015M)	none detected	
	BTEX (602)	none detected	
	Volatile Halogenated Organics (8010)	none detected	
	TEPH as Diesel, Kerosene, Motor Oil (3510/8015)	none detected[1]	

Legend - TPH: Total Petroleum Hydrocarbons
TEPH: Total Extractable Petroleum Hydrocarbons
BTEX: Benzene, Toluene, Ethyl Benzene, Total Xylenes
1,1-DCA: 1,1-Dichloroethane
1,2-DCA: 1,2-Dichloroethane
1/ As stated by Chromalab "Unknown compounds were found in the Diesel range in the estimated amount of 0.190 mg/L compared with the Diesel Standard."

Drawn by M.J. 2-24-1995 5/11/95 mvl

Drawning Number PCO220-2/95:GF3-1

Figure 3-1

9MW1 (Water Elev.:+7.21')
February 8, 1995 sampling results:

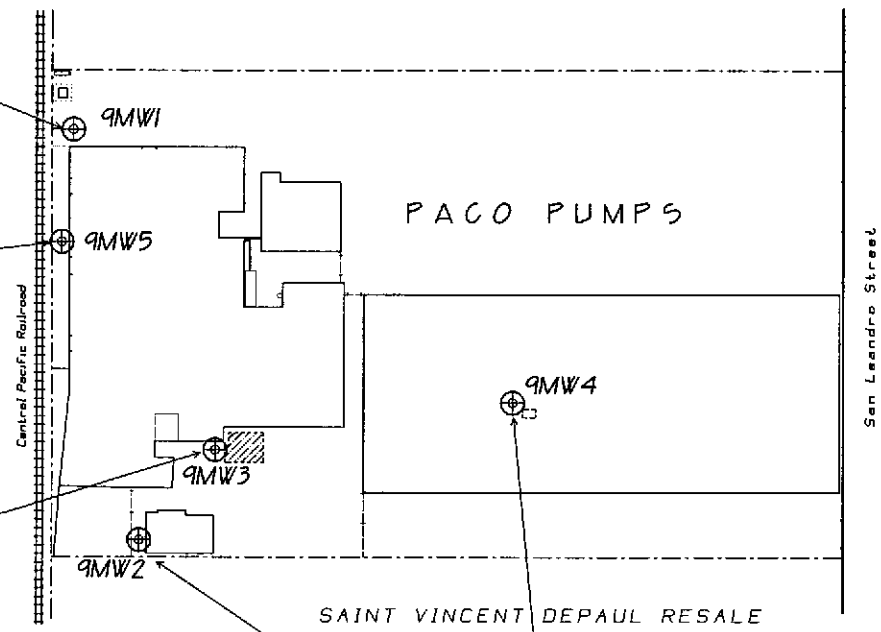
	(mg/L)	
TPH-Gasoline	ND(0.05)	Method 8010 VOCs: none detected
Benzene	ND(0.0005)	
Toluene	ND(0.0005)	
Ethyl Benzene	ND(0.0005)	
Total Xylenes	ND(0.0005)	

9MW5 (Water Elev.:+8.01')
February 8, 1995 sampling results:

	(mg/L)		(mg/L)
TPH-Gasoline	ND(0.05)	TEPH-Diesel	ND(0.050)*
Benzene	ND(0.0005)	TEPH-Kerosene	ND(0.050)
Toluene	ND(0.0005)	TEPH-Motor Oil	ND(0.500)
Ethyl Benzene	ND(0.0005)	Method 8010 Volatile Organics: none detected	
Total Xylenes	ND(0.0005)		

9MW3 (Water Elev.:+8.23')
February 8, 1995 sampling results:

	(mg/L)		(mg/L)
TPH-Gasoline	2.9	TEPH-Diesel	ND(0.050)
Benzene	0.780	TEPH-Kerosene	ND(0.050)
Toluene	0.120	TEPH-Motor Oil	ND(0.500)
Ethyl Benzene	0.031	Detected Method 8010 Volatile Organics:	
Total Xylenes	0.033	1,2-DCA	0.160



9MW2 (Water Elev.:+8.15')
February 8, 1995 sampling results:

	(mg/L)		(mg/L)
TPH-Gasoline	ND(0.05)	TEPH-Diesel	ND(0.050)
Benzene	0.0045	TEPH-Kerosene	ND(0.050)
Toluene	0.0013	TEPH-Motor Oil	0.550
Ethyl Benzene	ND(0.0005)	Detected Method 8010 Volatile Organics:	
Total Xylenes	0.0005	1,1-DCA	0.0007

9MW4 (Water Elev.:+9.88')
February 8, 1995 sampling results:

	(mg/L)		(mg/L)
TPH-Gasoline	0.09	Method 8010 Volatile Organics: none detected	
Benzene	0.017		
Toluene	0.0013		
Ethyl Benzene	0.0055		
Total Xylenes	0.0030		

Legend:

⊕ Monitoring Well

TPH = Total Petroleum Hydrocarbons

TEPH = Total Extractable Petroleum Hydrocarbons

ND(0.05) = Not Detected above laboratory detection limit in parentheses.

DCA = Dichloroethane

* = see notation on laboratory data sheet.

Well	Date Installed	Total Depth	Casing Diameter	Borehole Diameter	Screen Depth	Sand Pack Depth
9MW1	11-4-1992	21'	4"	8.5"	5.25'-20.25'	4.25'-21'
9MW2	11-3-1992	21'	4"	8.5"	5.25'-20.25'	4.25'-21'
9MW3	11-4-1992	21'	4"	8.5"	5.25'-20.25'	4.25'-21'
9MW4	11-9-1992	21'	4"	8.5"	5.25'-20.25'	4.25'-21'
9MW5	8-24-1994	21'	4"	8.5"	5.25'-20.25'	4.25'-21'

Scale
75 0 75 150 Feet

February 8, 1995 Groundwater Sampling Results

PACO Pumps Inc.
9201 San Leandro Street
Oakland, California

Prepared by
JONAS & ASSOCIATES INC.

Date: 2-24-1995
Locations Approx.

Figure 3-1

Drawing Number PCO220-2/95:G8F3-1

3.2.2 Results of Water Level and Free Product Measurements

During each sampling round, water level measurements are recorded and a determination is made with respect to the presence or absence of a floating product or sheen.

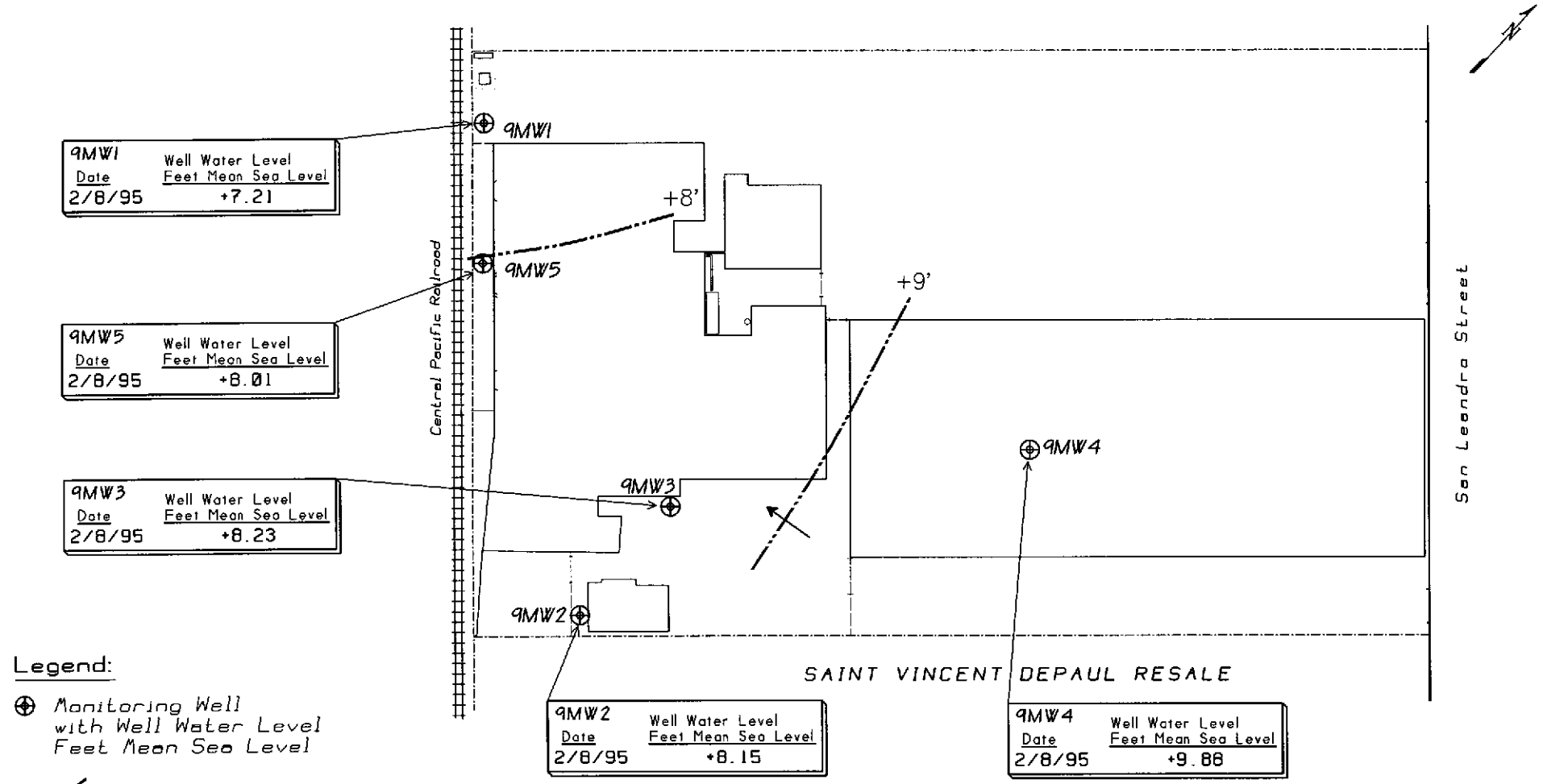
The following Table 3-2 provides a summary of the February 8, 1995 Round Eight groundwater level and free product measurements. Water level elevations, with respect to mean sea level, were calculated using the results of the Kier & Wright surveys.

Table 3-2
Round Eight - February 8, 1995
Groundwater Level and Free Product Measurement
PACO PUMPS - 9201 San Leandro Street
Oakland, California

Date	Well ID	Surveyed Casing Elevation	Water Level from Top of Casing		Pavement vs. Casing Top	Free Product
		M.S.L.	Depth	Elevation M.S.L.		
2/8/1995	9MW1	15.51'	8.30'	7.21'	0.40'	no free product
2/8/1995	9MW2	16.83'	8.68'	8.15'	0.40'	slight "oily" sheen
2/8/1995	9MW3	17.13'	8.90'	8.23'	0.29'	slight "oily" sheen
2/8/1995	9MW4	17.08'	7.20'	9.88'	0.54'	no free product
2/8/1995	9MW5	15.93'	7.92'	8.01'	0.25'	no free product

Notes - » Elevation with respect to mean sea level (M.S.L.) and Kier & Wright survey.

Figures 3-2, graphically presents the results of the well water levels collected during the Round Eight sampling event. As identified in Figure 3-2, based upon groundwater elevation data from monitoring wells 9MW1, 9MW2, 9MW3, 9MW4, and 9MW5, the apparent direction of groundwater flow during February 1995 is in a westerly direction from the Saint Vincent DePaul facility to PACO Pumps' property.



Well	Date Installed	Total Depth	Casing Diameter	Borehole Diameter	Screen Depth	Sand Pack Depth
9MW1	11-4-1992	21'	4"	8.5"	5.25'-20.25'	4.25'-21'
9MW2	11-3-1992	21'	4"	8.5"	5.25'-20.25'	4.25'-21'
9MW3	11-4-1992	21'	4"	8.5"	5.25'-20.25'	4.25'-21'
9MW4	11-9-1992	21'	4"	8.5"	5.25'-20.25'	4.25'-21'
9MW5	8-12-1994	21'	4"	8.5"	5.25'-20.25'	4.25'-21'

Scale
50 0 50 100 Feet

February 1995 - Winter Season Potentiometric/Water Table

PACO Pumps Inc.
9201 San Leandro Street
Oakland, California

Prepared by
JONAS & ASSOCIATES INC.

Date: 2-24-1995
Locations Approx.

Figure 3-2

Drawing Number PCO220-2/95:G8F3-2

Figure 3-2

Drawing Number PCO220-2/95:G8F3-2

4.0 RECOMMENDATIONS

Following are recommendations associated with work to be performed at the site:

- As recommended by Ms. Eva Chu, of Alameda County Health Care Services Agency, PACO Pumps will use an Oxygen Release Compound (ORC) in monitoring well 9MW3 to hopefully enhance local in-situ biodegradation.

5.0 REFERENCES

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Appendix A

Summary Tables of Laboratory Results

Table A/GW1

TPH-GASOLINE & BTEX GROUNDWATER RESULTS
PACO PUMPS - 9201 SAN LEANDRO STREET

Sample I.D.	Sampling Date	Depth (feet)	Matrix	Lab	TPH-Gasoline (5030/8015) (mg/L)	Benzene (602) (mg/L)	Toluene (602) (mg/L)	Ethyl Benzene (602) (mg/L)	Total Xylenes (602) (mg/L)
Monitoring Well 9MW1									
GW9-MW1-Q5	5/26/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.050)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW1-Q6	8/24/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.05)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW1-Q7	11/22/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.05)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW1-Q8	2/8/95	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.05)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
Monitoring Well 9MW2									
GW9-MW2-Q1	11/16/92	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.050)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0015)
GW9-MW2-Q2	3/9/93	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.050)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW2-Q3[1]	7/21/93	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.050)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW2-Q4	1/29/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.050)	ND(0.002)[2]	ND(0.002)[2]	ND(0.002)[2]	ND(0.002)[2]
GW9-MW2-Q5	5/26/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.050)	0.0023	0.0008	ND(0.0005)	ND(0.0005)
GW9-MW2-Q6	8/24/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.05)	0.0061	0.0014	0.0005	0.0006
GW9-MW2-Q7	11/22/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.05)	0.0034	0.0018	ND(0.0005)	0.0005
GW9-MW2-Q8	2/8/95	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.05)	0.0045	0.0013	ND(0.0005)	0.0005
Monitoring Well 9MW3									
GW9-MW3-Q1	11/16/92	5¼'-20¼'$_{screen}$	water	CrLab	40.000	2.900	6.700	0.550	1.700
GW9-MW3-Q2	3/9/93	5¼'-20¼'$_{screen}$	water	CrLab	12.000	1.000	0.300	0.110	0.170
GW9-MW3-Q3[1]	7/21/93	5¼'-20¼'$_{screen}$	water	CrLab	3.400	0.420	0.063	0.036	0.037
GW9-MW3-Q4	1/29/94	5¼'-20¼'$_{screen}$	water	CrLab	5.600	0.910[2]	0.220[2]	0.047[2]	0.036[2]
GW9-MW3-Q5	5/26/94	5¼'-20¼'$_{screen}$	water	CrLab	5.200	0.890	0.180	0.045	0.043
GW9-MW3-Q6	8/24/94	5¼'-20¼'$_{screen}$	water	CrLab	5.2	0.580	0.076	0.029	0.022
GW9-MW3-Q7	11/22/94	5¼'-20¼'$_{screen}$	water	CrLab	2.2	0.670	0.130	0.031	0.028
GW9-MW3-Q8	2/8/95	5¼'-20¼'$_{screen}$	water	CrLab	2.9	0.780	0.120	0.031	0.033

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TPH-GASOLINE & BTEX GROUNDWATER RESULTS
PACO PUMPS - 9201 SAN LEANDRO STREET

Sample I.D.	Sampling Date	Depth (feet)	Matrix	Lab	TPH-Gasoline (5030/8015) (mg/L)	Benzene (602) (mg/L)	Toluene (602) (mg/L)	Ethyl Benzene (602) (mg/L)	Total Xylenes (602) (mg/L)
Monitoring Well 9MW4									
GW9-MW4-Q1	11/16/92	5¼'-20¼'$_{screen}$	water	CrLab	0.560	0.066	0.073	0.016	0.130
GW9-MW41-Q1	11/16/92	5¼'-20¼'$_{screen}$	water	CrLab	0.520	0.063	0.067	0.015	0.140
GW9-MW4-Q2	3/9/93	5¼'-20¼'$_{screen}$	water	CrLab	0.750	0.067	0.012	0.029	0.062
GW9-MW4-Q3	7/21/93	5¼'-20¼'$_{screen}$	water	CrLab	0.250	0.021	0.0042	0.0084	0.011
GW9-MW4-Q4	1/29/94	5¼'-20¼'$_{screen}$	water	CrLab	0.180	0.028	0.0022	0.0062	0.010
GW9-MW4-Q5	5/26/94	5¼'-20¼'$_{screen}$	water	CrLab	0.130	0.014	0.0032	0.0061	0.0047
GW9-MW4-Q6	8/24/94	5¼'-20¼'$_{screen}$	water	CrLab	0.07	0.0067	0.0009	0.0028	0.0026
GW9-MW4-Q7	11/22/94	5¼'-20¼'$_{screen}$	water	CrLab	0.09	0.016	0.0017	0.0056	0.0034
GW9-MW4-Q8	2/8/95	5¼'-20¼'$_{screen}$	water	CrLab	0.09	0.017	0.0013	0.0055	0.0030
Monitoring Well 9MW5									
GW9-MW5-Q6	8/24/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.05)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW5-Q7	11/22/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.05)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW5-Q8	2/8/95	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.05)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)

notes: TPH: Total Petroleum Hydrocarbons BTEX: Benzene, Toluene, Ethyl Benzene, Total Xylenes
[1] = probably corrected, apparently switched. [2] = EPA Method 624
ND(0.1) = Not Detected above the laboratory detection limit in parentheses.

Table A/GW2

TEPH & PCB GROUNDWATER RESULTS
PACO PUMPS - 9201 SAN LEANDRO STREET

Sample I.D.	Sampling Date	Depth (feet)	Matrix	Lab	TEPH-Diesel (3510/8015) (mg/L)	TEPH-Kerosene (3510/8015) (mg/L)	TEPH-Motor Oil (3510/8015) (mg/L)	PCBs (608 mod.) (mg/L)
Monitoring Well 9MW1								
GW9-MW1-Q1	11/15/92	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.050)	ND(0.050)	ND(0.5)	ND(0.05)
GW9-MW1-Q2	3/9/93	5¼'-20¼'$_{screen}$	water	CrLab	0.140	ND(0.050)	ND(0.5)	ND(0.0005)
GW9-MW1-Q3	7/21/93	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.050)	ND(0.050)	ND(0.5)	-
GW9-MW1-Q4	1/29/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.050)	ND(0.050)	ND(0.5)	-
Monitoring Well 9MW2								
GW9-MW2-Q1	11/16/92	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.050)	0.590	9.5	-
GW9-MW2-Q2	3/9/93	5¼'-20¼'$_{screen}$	water	CrLab	0.430	0.210	4.3	-
GW9-MW2-Q3[1]	7/21/93	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.050)	ND(0.050)	0.52	-
GW9-MW2-Q4	1/29/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.050)	ND(0.050)	0.68	-
GW9-MW2-Q5	5/26/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.050)	ND(0.050)	ND(0.5)	-
GW9-MW2-Q6	8/24/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.050)	ND(0.050)	0.6	-
GW9-MW2-Q7	11/22/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.050)	ND(0.050)	1.0	-
GW9-MW2-Q8	2/8/95	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.050)	ND(0.050)	0.550	-
Monitoring Well 9MW3								
GW9-MW3-Q1	11/16/92	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.050)	ND(0.050)	ND(0.5)	-
GW9-MW3-Q2	3/9/93	5¼'-20¼'$_{screen}$	water	CrLab	0.290	ND(0.050)	ND(0.5)	-
GW9-MW3-Q3[1]	7/21/93	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.050)	ND(0.050)	ND(0.5)	-
GW9-MW3-Q4	1/29/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.050)	ND(0.050)	ND(0.5)	-
GW9-MW3-Q5	5/26/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.050)	ND(0.050)	ND(0.5)	-
GW9-MW3-Q6	8/24/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.050)	0.082	ND(0.5)	-
GW9-MW3-Q7	11/22/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.050)[2]	ND(0.050)	ND(0.5)	-
GW9-MW3-Q8	2/8/95	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.050)	ND(0.050)	ND(0.500)	-

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Table A/GW2[con't]

TEPH & PCB GROUNDWATER RESULTS
PACO PUMPS - 9201 SAN LEANDRO STREET

Sample I.D.	Sampling Date	Depth (feet)	Matrix	Lab	TEPH-Diesel (3510/8015) (mg/L)	TEPH-Kerosene (3510/8015) (mg/L)	TEPH-Motor Oil (3510/8015) (mg/L)	PCBs (608 mod.) (mg/L)
Monitoring Well 9MW4								
GW9-MW4-Q1	11/16/92	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.050)	ND(0.050)	ND(0.5)	-
GW9-MW41-Q1	11/16/92	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.050)	ND(0.050)	ND(0.5)	-
GW9-MW4-Q2	3/9/93	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.050)	ND(0.050)	ND(0.5)	-
GW9-MW4-Q3	7/21/93	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.050)	ND(0.050)	ND(0.5)	-
GW9-MW4-Q4	1/29/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.050)	ND(0.050)	ND(0.5)	-
Monitoring Well 9MW5								
GW9-MW5-Q6	8/24/94	5¼'-20¼'$_{screen}$	water	CrLab	0.130	ND(0.050)	ND(0.5)	-
GW9-MW5-Q7	11/22/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.050)[3]	ND(0.050)	ND(0.5)	-
GW9-MW5-Q8	2/8/95	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.050)[4]	ND(0.050)	ND(0.500)	-

notes: TEPH: Total Extractable Petroleum Hydrocarbons PCBs: Polychlorinated Biphenyls
ND(0.004) = Not Detected above the laboratory detection limit in parentheses.
[1] = probably corrected, apparently switched.
[2] = ChromaLab "Unknown compounds were found in the Diesel range in the estimated amount of 0.083 mg/L compared with the Diesel Standard".
[3] = ChromaLab "Unknown compounds were found in the Diesel range in the estimated amount of 0.120 mg/L compared with the Diesel Standard".
[4] = ChromaLab "Unknown compounds were found in the Diesel range in the estimated amount of 0.190 mg/L compared with the Diesel Standard".

Table A/GW3

VOLATILE ORGANIC COMPOUND GROUNDWATER RESULTS
PACO PUMPS - 9201 SAN LEANDRO STREET
{mg/L}

Sample I.D.	Sampling Date	Depth (feet)	Matrix	Lab	Acetone	Benzene	Bromodichloro-methane	Bromoform	Bromo-methane	Carbon Tetrachloride	Chloro-benzene	Chloro-ethane	2-Chloroethyl Vinyl Ether	Chloroform	Chloro-methane
Monttoring Well 9MW1															
GW9-MW1-Q5	5/26/94	5¼'-20¼'$_{screen}$	water	CrLab	-	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW1-Q6	8/24/94	5¼'-20¼'$_{screen}$	water	CrLab	-	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW1-Q7	11/22/94	5¼'-20¼'$_{screen}$	water	CrLab	-	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW1-Q8	2/8/95	5¼'-20¼'$_{screen}$	water	CrLab	-	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
Monttoring Well 9MW2															
GW9-MW2-Q1	11/15/92	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)
GW9-MW2-Q2	3/9/93	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)
GW9-MW2-Q4	1/29/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.005)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)
GW9-MW2-Q5	5/26/94	5¼'-20¼'$_{screen}$	water	CrLab	-	0.0023	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW2-Q6	8/24/94	5¼'-20¼'$_{screen}$	water	CrLab	-	0.0061	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW2-Q7	11/22/94	5¼'-20¼'$_{screen}$	water	CrLab	-	0.0034	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW2-Q8	2/8/95	5¼'-20¼'$_{screen}$	water	CrLab	-	0.0045	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
Monttoring Well 9MW3															
GW9-MW3-Q3[1]	7/21/93	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.002)	0.450	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)
GW9-MW3-Q4	1/29/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.002)	0.910	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)
GW9-MW3-Q5	5/26/94	5¼'-20¼'$_{screen}$	water	CrLab	-	0.890	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW3-Q6	8/24/94	5¼'-20¼'$_{screen}$	water	CrLab	-	0.580	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW3-Q7	11/22/94	5¼'-20¼'$_{screen}$	water	CrLab	-	0.670	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW3-Q8	2/8/95	5¼'-20¼'$_{screen}$	water	CrLab	-	0.780	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
Monttoring Well 9MW4															
GW9-MW4-Q5	5/26/94	5¼'-20¼'$_{screen}$	water	CrLab	-	0.014	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW4-Q6	8/24/94	5¼'-20¼'$_{screen}$	water	CrLab	-	0.0067	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW4-Q7	11/22/94	5¼'-20¼'$_{screen}$	water	CrLab	-	0.016	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW4-Q8	2/8/95	5¼'-20¼'$_{screen}$	water	CrLab	-	0.017	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
Monttoring Well 9MW5															
GW9-MW5-Q6	8/24/94	5¼'-20¼'$_{screen}$	water	CrLab	-	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW5-Q7	11/22/94	5¼'-20¼'$_{screen}$	water	CrLab	-	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW5-Q8	2/8/95	5¼'-20¼'$_{screen}$	water	CrLab	-	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)

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Table A/GW3con't

VOLATILE ORGANIC COMPOUND GROUNDWATER RESULTS
PACO PUMPS - 9201 SAN LEANDRO STREET
{mg/L}

Sample I.D.	Sampling Date	Depth (feet)	Matrix	Lab	Dibromo-chloromethane	1,2-Di-bromoethane	1,2-Dichloro-benzene	1,3-Dichloro-benzene	1,4-Dichloro-benzene	1,1-Dichloro-ethane	1,2-Dichloro-ethane	1,1-Dichloro-ethene	cis 1,2-Dichloroethene	trans 1,2-Dichloroethene	1,2-Dichloro-propane
Monitoring Well 9MW1															
GW9-MW1-Q5	5/26/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW1-Q6	8/24/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	-	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW1-Q7	11/22/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	-	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW1-Q8	2/8/95	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	-	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
Monitoring Well 9MW2															
GW9-MW2-Q1	11/15/92	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.002)	-	ND(0.002)	ND(0.002)	ND(0.002)	0.0026	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)
GW9-MW2-Q2	3/9/93	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.002)	-	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)
GW9-MW2-Q4	1/29/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.002)	-	-	-	-	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)
GW9-MW2-Q5	5/26/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	0.0016	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW2-Q6	8/24/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	-	ND(0.0005)	ND(0.0005)	ND(0.0005)	0.0010	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW2-Q7	11/22/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	-	ND(0.0005)	ND(0.0005)	ND(0.0005)	0.0005	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW2-Q8	2/8/95	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	-	ND(0.0005)	ND(0.0005)	ND(0.0005)	0.0007	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
Monitoring Well 9MW3															
GW9-MW3-Q3[1]	7/21/93	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.002)	-	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	0.330	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)
GW9-MW3-Q4	1/29/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.002)	-	-	-	-	ND(0.002)	0.180	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)
GW9-MW3-Q5	5/26/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	0.250	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW3-Q6	8/24/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	-	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	0.190	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW3-Q7	11/22/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	-	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	0.160	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW3-Q8	2/8/95	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	-	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	0.160	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
Monitoring Well 9MW4															
GW9-MW4-Q5	5/26/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	0.0025	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW4-Q6	8/24/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	-	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW4-Q7	11/22/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	-	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW4-Q8	2/8/95	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	-	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
Monitoring Well 9MW5															
GW9-MW5-Q6	8/24/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	-	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW5-Q7	11/22/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	-	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
GW9-MW5-Q8	2/8/95	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	-	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)

con't on following page

DHS - MCL

0.5 ug/kg

Table A/GW3con't

VOLATILE ORGANIC COMPOUND GROUNDWATER RESULTS
PACO PUMPS - 9201 SAN LEANDRO STREET
{mg/L}

Sample I.D.	Sampling Date	Depth (feet)	Matrix	Lab	cis-1,3-Di-chloropropene	trans-1,3-Di-chloropropene	Ethyl-Benzene	Freon 113	2-Hexanone	Methyl Ethyl Ketone	Methyl Isobutyl Ketone	Methylene Chloride	Styrene	1,1,2,2-Tetra-chloroethane	Tetra-chloroethene
Monitoring Well 9MW1															
GW9-MW1-Q5	5/26/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-	-	-	ND(0.005)	-	ND(0.0005)	ND(0.0005)
GW9-MW1-Q6	8/24/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	ND(0.0005)	ND(0.0005)	-	-	-	-	ND(0.005)	-	ND(0.0005)	ND(0.0005)
GW9-MW1-Q7	11/22/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	ND(0.0005)	ND(0.0005)	-	-	-	-	ND(0.005)	-	ND(0.0005)	ND(0.0005)
GW9-MW1-Q8	2/8/95	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	ND(0.0005)	ND(0.0005)	-	-	-	-	ND(0.005)	-	ND(0.0005)	ND(0.0005)
Monitoring Well 9MW2															
GW9-MW2-Q1	11/15/92	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.002)	ND(0.002)	ND(0.002)	-	-	ND(0.002)	ND(0.002)	ND(0.002)	-	ND(0.002)	ND(0.002)
GW9-MW2-Q2	3/9/93	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.002)	ND(0.002)	ND(0.002)	-	-	ND(0.002)	ND(0.002)	ND(0.002)	-	ND(0.002)	ND(0.002)
GW9-MW2-Q4	1/29/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.002)	ND(0.002)	ND(0.002)	-	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.005)	ND(0.002)	ND(0.002)	ND(0.002)
GW9-MW2-Q5	5/26/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-	-	-	ND(0.005)	-	ND(0.0005)	ND(0.0005)
GW9-MW2-Q6	8/24/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	ND(0.0005)	0.0005	-	-	-	-	ND(0.005)	-	ND(0.0005)	ND(0.0005)
GW9-MW2-Q7	11/22/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	ND(0.0005)	ND(0.0005)	-	-	-	-	ND(0.005)	-	ND(0.0005)	ND(0.0005)
GW9-MW2-Q8	2/8/95	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	ND(0.0005)	ND(0.0005)	-	-	-	-	ND(0.005)	-	ND(0.0005)	ND(0.0005)
Monitoring Well 9MW3															
GW9-MW3-Q3[1]	7/21/93	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.002)	ND(0.002)	0.049	-	-	ND(0.002)	ND(0.002)	ND(0.002)	-	ND(0.002)	ND(0.002)
GW9-MW3-Q4	1/29/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.002)	ND(0.002)	0.047	-	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.005)	ND(0.002)	ND(0.002)	ND(0.002)
GW9-MW3-Q5	5/26/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	ND(0.0005)	0.045	ND(0.0005)	-	-	-	ND(0.005)	-	ND(0.0005)	ND(0.0005)
GW9-MW3-Q6	8/24/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	ND(0.0005)	0.029	-	-	-	-	ND(0.005)	-	ND(0.0005)	ND(0.0005)
GW9-MW3-Q7	11/22/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	ND(0.0005)	0.031	-	-	-	-	ND(0.005)	-	ND(0.0005)	ND(0.0005)
GW9-MW3-Q8	2/8/95	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	ND(0.0005)	0.031	-	-	-	-	ND(0.005)	-	ND(0.0005)	ND(0.0005)
Monitoring Well 9MW4															
GW9-MW4-Q5	5/26/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	ND(0.0005)	0.0061	ND(0.0005)	-	-	-	ND(0.005)	-	ND(0.0005)	ND(0.0005)
GW9-MW4-Q6	8/24/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	ND(0.0005)	0.0028	-	-	-	-	ND(0.005)	-	ND(0.0005)	ND(0.0005)
GW9-MW4-Q7	11/22/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	ND(0.0005)	0.0056	-	-	-	-	ND(0.005)	-	ND(0.0005)	ND(0.0005)
GW9-MW4-Q8	2/8/95	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	ND(0.0005)	0.0055	-	-	-	-	ND(0.005)	-	ND(0.0005)	ND(0.0005)
Monitoring Well 9MW5															
GW9-MW5-Q6	8/24/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	ND(0.0005)	ND(0.0005)	-	-	-	-	ND(0.005)	-	ND(0.0005)	ND(0.0005)
GW9-MW5-Q7	11/22/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	ND(0.0005)	ND(0.0005)	-	-	-	-	ND(0.005)	-	ND(0.0005)	ND(0.0005)
GW9-MW5-Q8	2/8/95	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	ND(0.0005)	ND(0.0005)	-	-	-	-	ND(0.005)	-	ND(0.0005)	ND(0.0005)

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Table A/GW3con't

VOLATILE ORGANIC COMPOUND GROUNDWATER RESULTS
PACO PUMPS - 9201 SAN LEANDRO STREET
{mg/L}

Sample I.D.	Sampling Date	Depth (feet)	Matrix	Lab	Toluene	1,1,1-Tri-chloroethane	1,1,2-Tri-chloroethane	Tri-chloroethene	Trichlorofluoro-methane	Trichloro-trifluoroethane	Vinyl Acetate	Vinyl Chloride	Total Xylenes
Monttoring Well 9MW1													
GW9-MW1-Q5	5/26/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-	-	ND(0.0005)	ND(0.0005)
GW9-MW1-Q6	8/24/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-	ND(0.0005)	ND(0.0005)
GW9-MW1-Q7	11/22/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-	ND(0.0005)	ND(0.0005)
GW9-MW1-Q8	2/8/95	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-	ND(0.0005)	ND(0.0005)
Monttoring Well 9MW2													
GW9-MW2-Q1	11/15/92	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	-	-	ND(0.002)	ND(0.002)
GW9-MW2-Q2	3/9/93	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	-	-	ND(0.002)	ND(0.002)
GW9-MW2-Q4	1/29/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	-	ND(0.002)	ND(0.002)	ND(0.002)
GW9-MW2-Q5	5/26/94	5¼'-20¼'$_{screen}$	water	CrLab	0.0008	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-	-	ND(0.0005)	ND(0.0005)
GW9-MW2-Q6	8/24/94	5¼'-20¼'$_{screen}$	water	CrLab	0.0014	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-	ND(0.0005)	0.0006
GW9-MW2-Q7	11/22/94	5¼'-20¼'$_{screen}$	water	CrLab	0.0018	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-	ND(0.0005)	0.0005
GW9-MW2-Q8	2/8/95	5¼'-20¼'$_{screen}$	water	CrLab	0.0013	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-	ND(0.0005)	0.0005
Monttoring Well 9MW3													
GW9-MW3-Q3[1]	7/21/93	5¼'-20¼'$_{screen}$	water	CrLab	0.050	ND(0.002)	ND(0.002)	0.0024	ND(0.002)	-	-	ND(0.002)	0.047
GW9-MW3-Q4	1/29/94	5¼'-20¼'$_{screen}$	water	CrLab	0.220	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	-	ND(0.002)	ND(0.002)	0.036
GW9-MW3-Q5	5/26/94	5¼'-20¼'$_{screen}$	water	CrLab	0.180	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-	-	ND(0.0005)	0.043
GW9-MW3-Q6	8/24/94	5¼'-20¼'$_{screen}$	water	CrLab	0.076	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-	ND(0.0005)	0.022
GW9-MW3-Q7	11/22/94	5¼'-20¼'$_{screen}$	water	CrLab	0.130	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-	ND(0.0005)	0.028
GW9-MW3-Q8	2/8/95	5¼'-20¼'$_{screen}$	water	CrLab	0.120	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-	ND(0.0005)	0.033
Monttoring Well 9MW4													
GW9-MW4-Q5	5/26/94	5¼'-20¼'$_{screen}$	water	CrLab	0.0032	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-	-	ND(0.0005)	0.0047
GW9-MW4-Q6	8/24/94	5¼'-20¼'$_{screen}$	water	CrLab	0.0009	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-	ND(0.0005)	0.0026
GW9-MW4-Q7	11/22/94	5¼'-20¼'$_{screen}$	water	CrLab	0.0017	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-	ND(0.0005)	0.0034
GW9-MW4-Q8	2/8/95	5¼'-20¼'$_{screen}$	water	CrLab	0.0013	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-	ND(0.0005)	0.0030
Monttoring Well 9MW5													
GW9-MW5-Q6	8/24/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-	ND(0.0005)	ND(0.0005)
GW9-MW5-Q7	11/22/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-	ND(0.0005)	ND(0.0005)
GW9-MW5-Q8	2/8/95	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-	ND(0.0005)	ND(0.0005)

notes: CrLab: Chromalab Inc.

[1] = probably corrected, apparently not GW9-MW2-Q3.

ND(0.002) = Not Detected above the laboratory detection limit in parentheses.

Table A/GW4

METALS GROUNDWATER RESULTS
PACO PUMPS - 9201 SAN LEANDRO STREET
{mg/L}

Sample I.D.	Sampling Date	Depth (feet)	Matrix	Lab	Ag Silver	As Arsenic	Ba Barium	Be Beryllium	Cd Cadmium	Co Cobalt	Cr Chromium	Cu Copper	Hg Mercury	Mo Molybdenum	Ni Nickel
Monitoring Well 9MW1															
GW9-MW1-Q1	11/15/92	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.005)	ND(0.005)	0.18	0.002	ND(0.001)	ND(0.01)	ND(0.01)	0.007	ND(0.001)	ND(0.005)	ND(0.020)
GW9-MW1-Q2	3/9/93	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.005)	ND(0.005)	0.19	ND(0.001)	ND(0.001)	ND(0.01)	ND(0.01)	ND(0.005)	0.003	ND(0.005)	ND(0.020)
GW9-MW1-Q3	7/21/93	5¼'-20¼'$_{screen}$	water	CrLab	0.011	ND(0.005)	0.27	ND(0.001)	ND(0.001)	ND(0.01)	ND(0.01)	0.007	ND(0.001)	0.010	ND(0.020)
GW9-MW1-Q4	1/29/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.005)	ND(0.005)	0.12	ND(0.001)	ND(0.001)	ND(0.01)	ND(0.01)	ND(0.005)	ND(0.001)	ND(0.005)	ND(0.02)

Sample I.D.	Sampling Date	Depth (feet)	Matrix	Lab	Pb Lead	Sb Antimony	Se Selenium	Tl Thallium	V Vanadium	Zn Zinc
Monitoring Well 9MW1										
GW9-MW1-Q1	11/15/92	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.010)	ND(0.020)	0.021	ND(0.01)	ND(0.01)	ND(0.005)
GW9-MW1-Q2	3/9/93	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.010)	0.03	0.04	ND(0.01)	ND(0.01)	0.03
GW9-MW1-Q3	7/21/93	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.010)	ND(0.020)	ND(0.01)	ND(0.01)	ND(0.01)	0.015
GW9-MW1-Q4	1/29/94	5¼'-20¼'$_{screen}$	water	CrLab	ND(0.01)	ND(0.02)	0.018	0.12	0.010	ND(0.005)
Monitoring Well 9MW2										
GW9-MW2-Q2	3/9/93	5¼'-20¼'$_{screen}$	water	CrLab			0.08			
GW9-MW2-Q3	7/21/93	5¼'-20¼'$_{screen}$	water	CrLab			ND(0.01)			
GW9-MW2-Q4	1/29/94	5¼'-20¼'$_{screen}$	water	CrLab			0.026			
Monitoring Well 9MW3										
GW9-MW3-Q3	7/21/93	5¼'-20¼'$_{screen}$	water	CrLab			ND(0.01)			
GW9-MW3-Q4	1/29/94	5¼'-20¼'$_{screen}$	water	CrLab			0.025			

notes: CrLab: Chromalab Inc.
ND(0.25) = Not Detected above the laboratory detection limit in parentheses.

Appendix B

Chain-of-Custody Records

CHROMALAB, INC.

1220 Quarry Lane • Pleasanton, California 94566-4756
510/484-1919 • Facsimile 510/484-1096

Environmental Services (SDB) (DOHS 1094)

20439

Chain of Custody

DATE 2-8-95 PAGE 1 OF 1

PROJ. MGR M.L. Jonas/V.G. Wright, P.E.
COMPANY Jonas & Associates Inc.
ADDRESS 2815 Mitchell Drive, Suite 209
Walnut Creek, California 94598

SAMPLERS (SIGNATURE) 2-8-95 (PHONE NO.) (510) 933-5360
Jonas & Associates Inc. (FAX NO.) (510) 933-5362

SUBM #: 9502116
CLIENT: JONAS
DUE: 02/16/95
REF #:20439

ANALYSIS REPORT

SAMPLE ID.	DATE	TIME	MATRIX	PRESERV.	TPH - Gasoline (EPA 5030, 8015)	TPH - Gasoline (5030, 8015) w/BTEX (EPA 602, 8020)	TPH - Diesel, ~~Acid~~ MO,K (EPA 3510/3550, 8015)	PURGEABLE AROMATICS BTEX (EPA 602, 8020)	PURGEABLE HALOCARBONS (EPA ~~601~~, 8010)	VOLATILE ORGANICS (EPA 624, 8240, 524.2)	BASE/NEUTRALS, ACIDS (EPA 625/627, 8270, 525)	TOTAL OIL & GREASE (EPA 5520, B+F, E+F)	PCB (EPA 608, 8080)	PESTICIDES (EPA 608, 8080)	TOTAL RECOVERABLE HYDROCARBONS (EPA 418.1)		LUFT METALS: Cd, Cr, Pb, Zn, Ni	CAM METALS (17)	PRIORITY POLLUTANT METALS (13)	TOTAL LEAD	EXTRACTION (TCLP, STLC)				NUMBER OF CO
	1995																								
GW9-MW1-Q8	2/8	10:00	GW			X			X																4
GW9-MW2-Q8	2/8	11:52	GW			X	X		X																6
GW9-MW3-Q8	2/8	12:08	GW			X	X		X																6
GW9-MW4-Q8	2/8	1:21	GW			X			X																4
GW9-MW5-Q8	2/8	9:25	GW			X	X		X																6
						2 VOA w/HCL	2 Liter		2 VOA w/HCL																	

PROJECT INFORMATION

PROJECT NAME: 9201 PACO PUMPS
PROJECT NUMBER: PCO-220
P.O. #:

SAMPLE RECEIPT

TOTAL NO. OF CONTAINERS	26
HEAD SPACE	
REC'D GOOD CONDITION/COLD	
CONFORMS TO RECORD	

TAT: STANDARD 5-DAY | | | 24 | 48 | 72 | OTHER

SPECIAL INSTRUCTIONS/COMMENTS:
5 day TAT

RELINQUISHED BY 1.	RELINQUISHED BY 2.	RELINQUISHED BY 3.
(SIGNATURE) 10:15 (TIME)	(SIGNATURE) (TIME)	(SIGNATURE) (TIME)
Ellis Ishaya 2-9-95 (PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)
Jonas & Associates Inc. (COMPANY)	(COMPANY)	(COMPANY)
RECEIVED BY 1.	**RECEIVED BY 2.**	**RECEIVED BY (LABORATORY) 3**
(SIGNATURE) 2-9-95 (TIME)	(SIGNATURE) (TIME)	(SIGNATURE) (TIME)
(PRINTED NAME) 1021 (DATE)	(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)
Chromalab (COMPANY)	(COMPANY)	Chromalab, Inc. (LAB)

CHROMALAB, INC.

Environmental Services (SDB)

February 17, 1995 *Submission #:* 9502116

JONAS & ASSOCIATES, INC.

Atten: M.L. Jonas/V.G. Wright,PE

Project: 9201 PACO PUMPS *Project#:* PCO-220
Received: February 9, 1995

re: 5 samples for Gasoline and BTEX analysis.

Matrix: WATER
Sampled: February 8, 1995 *Run#:* 5380 *Analyzed:* February 14, 1995
Method: EPA 5030/8015M/602/8020

Spl #	CLIENT SMPL ID	Gasoline (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
77284	GW9-MW1-Q8	N.D.	N.D.	N.D.	N.D.	N.D.
77285	GW9-MW2-Q8	N.D.	4.5	1.3	N.D.	0.5

Matrix: WATER
Sampled: February 8, 1995 *Run#:* 5398 *Analyzed:* February 15, 1995
Method: EPA 5030/8015M/602/8020

Spl #	CLIENT SMPL ID	Gasoline (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
77286	GW9-MW3-Q8	2.9	780	120	31	33
	Note: BTEX DET. LIMIT=5ug/L,GAS DET.LIMIT=0.15mg/L					
77287	GW9-MW4-Q8	0.09	17	1.3	5.5	3.0
77288	GW9-MW5-Q8	N.D.	N.D.	N.D.	N.D.	N.D.
	Reporting Limits	0.05	0.5	0.5	0.5	0.5
	Blank Result	N.D.	N.D.	N.D.	N.D.	N.D.
	Blank Spike Result (%)	98	93	93	94	101

Jack Kelly
Chemist

Ali Kharrazi
Organic Manager

QC JACK 08:39:16

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

February 16, 1995 *Submission #:* 9502116

JONAS & ASSOCIATES, INC.

Atten: M.L. Jonas/V.G. Wright,PE

Project: 9201 PACO PUMPS *Project#:* PCO-220
Received: February 9, 1995

re: Three samples for TEPH analysis

Matrix: WATER *Extracted:* February 13, 1995
Sampled: February 8, 1995 *Analyzed:* February 14, 1995
Method: 3510/8015

Sample #	Client Sample ID	Kerosene (µg/L)	Diesel (µg/L)	Motor Oil (µg/L)
77285	GW9-MW2-Q8	N.D.	N.D.	550
77286	GW9-MW3-Q8	N.D.	N.D.	N.D.
77288	GW9-MW5-Q8	N.D.	N.D.(a)	N.D.
Blank		N.D.	N.D.	N.D.
Spike Recovery		----	108%	----
Dup Spike Recovery		----	81%	----
Reporting Limit		50	50	500

(a) Unknown compounds were found in the Diesel range in the estimated amount of 190 µg/L compared with the Diesel Standard.

ChromaLab, Inc.

Sirirat Chullakorn
Analytical Chemist

Ali Kharrazi
Organic Manager

at

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

February 16, 1995 *Submission #:* 9502116

JONAS & ASSOCIATES, INC.

Atten: M.L. Jonas/V.G. Wright,PE

Project: 9201 PACO PUMPS *Project#:* PCO-220
Received: February 9, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **GW9-MW1-Q8**
Spl#: 77284 *Matrix:* WATER
Sampled: February 8, 1995 *Run#:* 5413 *Analyzed:* February 13, 1995
Method: EPA 8010

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	101
METHYLENE CHLORIDE	N.D.	5.0	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	N.D.	0.5	N.D.	85
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	108
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Oleg Nemtsov
Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

1220 Quarry Lane • Pleasanton, California 94566-4756
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Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

February 16, 1995 *Submission #:* 9502116

JONAS & ASSOCIATES, INC.

Atten: M.L. Jonas/V.G. Wright,PE

Project: 9201 PACO PUMPS *Project#:* PCO-220
Received: February 9, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **GW9-MW2-Q8**
Spl#: 77285 *Matrix:* WATER
Sampled: February 8, 1995 *Run#:* 5413 *Analyzed:* February 13, 1995
Method: EPA 8010

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	101
METHYLENE CHLORIDE	N.D.	5.0	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHANE	0.7	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	N.D.	0.5	N.D.	85
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	108
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Oleg Nemtsov
Chemist

Ali Khafrazi
Organic Manager

QC OLEG 10:55:35

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

February 16, 1995 *Submission #:* 9502116

JONAS & ASSOCIATES, INC.

Atten: M.L. Jonas/V.G. Wright,PE

Project: 9201 PACO PUMPS *Project#:* PCO-220
Received: February 9, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **GW9-MW3-Q8**
Spl#: 77286 *Matrix:* WATER
Sampled: February 8, 1995 *Run#:* 5413 *Analyzed:* February 13, 1995
Method: EPA 8010

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	101
METHYLENE CHLORIDE	N.D.	5.0	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	160	5	N.D.	--
TRICHLOROETHENE	N.D.	0.5	N.D.	85
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	108
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

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Federal ID #68-0140157

QC OLEG 10:55:35

CHROMALAB, INC.

Environmental Services (SDB)

February 16, 1995 *Submission #:* 9502116

JONAS & ASSOCIATES, INC.

Atten: M.L. Jonas/V.G. Wright,PE

Project: 9201 PACO PUMPS *Project#:* PCO-220
Received: February 9, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **GW9-MW4-Q8**
Spl#: 77287 *Matrix:* WATER
Sampled: February 8, 1995 *Run#:* 5413 *Analyzed:* February 13, 1995
Method: EPA 8010

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	101
METHYLENE CHLORIDE	N.D.	5.0	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	N.D.	0.5	N.D.	85
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	108
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

QC OLEG 10:55:35

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CHROMALAB, INC.

Environmental Services (SDB)

February 16, 1995 *Submission #:* 9502116

JONAS & ASSOCIATES, INC.

Atten: M.L. Jonas/V.G. Wright,PE

Project: 9201 PACO PUMPS *Project#:* PCO-220
Received: February 9, 1995

re: One sample for Volatile Halogenated Organics analysis.

Sample ID: **GW9-MW5-Q8**
Spl#: 77288 *Matrix:* WATER
Sampled: February 8, 1995 *Run#:* 5413 *Analyzed:* February 13, 1995
Method: EPA 8010

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	101
METHYLENE CHLORIDE	N.D.	5.0	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	N.D.	0.5	N.D.	85
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	108
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Oleg Nemtsov
Chemist

Ali Khamrazi
Organic Manager

QC OLEG 10:55:35

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