

# ARCADIS GERAGHTY & MILLER



Mr. Barney Chan  
Division of Hazardous Materials  
Department of Environmental Health  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway, Room 250  
Alameda, CA 94502

# 554

ARCADIS Geraghty & Miller, Inc.  
1050 Marina Way South  
Richmond  
California 94804  
Tel 510 233 3200  
Fax 510 233 3204

WESTERN REGION

Subject:  
Results of Quarterly Groundwater Monitoring - November 1997  
Former Penske Truck Leasing Company Facility  
725 Julie Ann Way  
Oakland, California

Richmond, California,  
23 March 1998

Dear Mr. Chan:

Contact:  
Paul V. Hehn

The above referenced report is being forwarded to you at the request of Penske Truck Leasing Co. The report details the results of quarterly groundwater monitoring and sampling for November 1997 at the Former Penske Truck Leasing Facility at 725 Julie Ann Way, Oakland.

Extension:  
(510) 233-3200

If you have any questions, please do not hesitate to call

Sincerely,

ARCADIS Geraghty & Miller, Inc.

Paul Hehn, R.G.  
Project Geologist/Project Manager

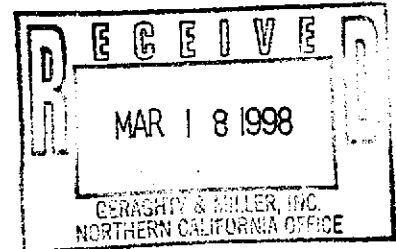
Copies:  
Mr. Richard G. Saut  
Penske Truck Leasing Co.

Files - Project No. RC000019.0010

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COMMUNICATIONS  
DIVISION

**PENSKE**

*Truck Leasing*



Via fax 510-233-3204

March 16, 1998

Mr. Paul Hehn  
Geraghty & Miller, Inc.  
1050 Marina Way South  
Richmond, CA 94804

Re: Quarterly Groundwater Monitoring Report  
Former Penske Truck Leasing Facility  
725 Julie Ann Way  
Oakland, CA

Dear Paul,

I have reviewed and approve the above referenced report. Please forward the appropriate number of copies to the required regulatory agencies. Please provide two copies for my file with a copy of your report transmittal letters to the agencies. If you have questions or need assistance please call my office at 610-775-6010.

Sincerely,

A handwritten signature in cursive script that reads "Richard G. Saut".

Richard G. Saut  
Environmental Project Manager

RGS/csk  
L3031698.rgs

Results of Quarterly Groundwater Monitoring  
November 1997

Former Penske Truck Leasing Facility  
725 Julie Ann Way  
Oakland, California



1050 Marina Way South  
Richmond, CA 94804  
(510) 233-3200

MONITORING REPORT

Prepared March 9, 1998



Mr. Richard G. Saut  
Environmental Project Manager  
Penske Truck Leasing Company, L.P.  
Route 10, Green Hills  
P.O. Box 7635  
Reading, Pennsylvania 19603-7635

ARCADIS Geraghty & Miller, Inc.  
1050 Marina Way South  
Richmond  
California 94804  
Tel 510 233 3200  
Fax 510 233 3204

WESTERN REGION

Subject:  
Results of Quarterly Groundwater Monitoring, November 1997,  
Former Penske Truck Leasing Facility, 725 Julie Ann Way, Oakland, California.

Dear Mr. Saut:

Richmond,  
9 March 1998

This report presents the results of the quarterly groundwater monitoring and sampling activities performed on November 17, 1997, at the former Penske Truck Leasing Co. (Penske) facility referenced above (locations shown in Figure 1). The scope of work for this project was presented to Penske in an ARCADIS Geraghty & Miller, Inc. (ARCADIS Geraghty & Miller) letter dated January 25, 1996. The scope of work for groundwater monitoring and sampling consists of collecting depth-to-water measurements, total-well-depth measurements, and water samples for laboratory analysis from selected wells. The scope of work also includes preparation of quarterly groundwater sampling and monitoring reports based on the data and groundwater samples collected. This quarterly groundwater sampling and monitoring program is related to the containment zone (CZ) concept remedial approach approved by the Alameda County Health Care Services Agency (ACHCSA) and the California Regional Water Quality Control Board - San Francisco Bay Region (RWQCB) in its letter to Penske dated March 25, 1994.

Contact:  
Paul V. Hehn

Extension:  
510 233 3200

## Recent Revisions to the Quarterly Groundwater Sampling

Various telephone conversations and written correspondence have taken place between Penske, the ACHCSA, and ARCADIS Geraghty & Miller about groundwater sampling and monitoring at this site. The ACHCSA stated in a letter to Penske dated October 23, 1996, that the previous compliance concentration for benzene in groundwater, 21 micrograms per liter ( $\mu\text{g/L}$ ), was too low. The ACHCSA referred to a recent study by the RWQCB at the San Francisco Airport in which an estuary compliance concentration for benzene of 71  $\mu\text{g/L}$  was deemed to be a more appropriate concentration for groundwater near estuaries similar to the former Penske site. In a letter to Penske dated December 6, 1996, the ACHCSA agreed that the compliance concentration for benzene in groundwater at this site would be increased from the current 21  $\mu\text{g/L}$  to the ACHCSA-recommended 71  $\mu\text{g/L}$ . The

ACHCSA further agreed that, if the new compliance concentration of 71 µg/L was exceeded in the guard wells (Wells MW-3 or MW-7), the corresponding downgradient compliance wells (Well MW-6 downgradient from Guard Well MW-3, and Well MW-8 downgradient from Guard Well MW-7) would be sampled during the next quarterly sampling event. During the current quarter, Compliance Well MW-8 was sampled.

### Field Procedures

The subject quarterly groundwater monitoring was performed on November 17, 1997. In accordance with the CZ remedial approach monitoring and sampling plan referenced above, monitoring was completed and groundwater samples were collected from Monitoring Wells MW-1 through MW-5, MW-7, and MW-8. The monitoring-well locations are shown in Figure 2.

Prior to sampling, depth-to-water measurements were obtained from all on-site wells. Additionally, the wells were checked for the presence of liquid-phase hydrocarbons. **Liquid-phase hydrocarbons were measured in Wells MW-1 (0.14 foot), MW-4 (0.02 foot), and MW-7 (0.34 foot) during this monitoring event.** Each well sampled was purged of at least four casing volumes of water. At Penske's request, additional purging was performed to remove dissolved-phase petroleum hydrocarbons from the groundwater. The exact volume of water removed during the extra purging is unknown, but exceeded the minimum of four casing volumes. Prior to sampling each well, all equipment that entered the well was washed in a solution of nonphosphate detergent and water and then triple rinsed in deionized water. Purged water was monitored for pH, temperature, and specific conductance. A summary of the field data is presented in Table 1. Following purging, groundwater samples were collected using a new disposable polyethylene bailer for each well. The purged water was removed by a Penske-contracted vacuum truck for proper disposal.

Groundwater samples were put into the appropriate USEPA-approved containers, placed on ice, and transported to American Environmental Network, in Pleasant Hill, California, under appropriate chain-of-custody documentation. The water samples were analyzed for total petroleum hydrocarbons (TPH) as gasoline (USEPA Method 8015, modified); TPH as diesel (USEPA Method 8015, modified); benzene, toluene, ethylbenzene, and total xylenes (BTEX) (USEPA Method 8020); methyl tertiary butyl ether (MTBE) (USEPA Method 8020); and total dissolved solids (TDS) (USEPA Method 160.1).

## Results

### Shallow Groundwater Flow

A summary of the depth-to-water data is presented in Table 1. Depth to water ranged from 5.28 feet (Monitoring Well MW-5) to 6.77 feet (Monitoring Well MW-3) below the ground surface. A contour map based on the groundwater elevation data collected November 17, 1997, is presented in Figure 2. The historic shallow groundwater flow is toward the west; however, there are local variations in flow directions at the facility, as indicated by the groundwater contours from the data collected during November 1997.

The difference in the elevation of the groundwater surface between Wells MW-2 and MW-1 is 0.16 feet, producing a hydraulic gradient (slope of the groundwater surface) of approximately 0.0017 in a southwesterly direction. The groundwater gradient and groundwater contours for the current quarter are consistent with those presented during previous quarters.

### Field Parameters

As in all previous quarterly sampling events at this facility, the specific conductance measurements for the groundwater purged during the sampling continue to be high (Table 1). High concentrations of TDS were detected in the groundwater laboratory samples (Table 2).

### Groundwater Analytical Results

A summary of the groundwater analytical results is presented in Table 2. Copies of the certified laboratory reports and chain-of-custody documentation are included in Attachment 1. TPH as gasoline was detected in the groundwater samples from Monitoring Wells MW-1 (40,000 µg/L), MW-4 (4,400 µg/L), MW-5 (70 µg/L), MW-7 (15,000 µg/L), and MW-8 (250 µg/L). TPH as diesel was detected in the groundwater samples collected from Monitoring Wells MW-1 (950,000 µg/L), MW-2 (1,300 µg/L), MW-4 (57,000 µg/L), MW-5 (1,100 µg/L), MW-7 (18,000,000 µg/L), and MW-8 (520 µg/L). Benzene was detected in the groundwater samples collected from Monitoring Wells MW-1 (240 µg/L), MW-4 (25 µg/L), MW-5 (0.6 µg/L), MW-7 (110 µg/L), and MW-8 (1.4 µg/L). All other BTEX constituent results are presented in Table 2. TDS was detected at concentrations ranging from 340 milligrams per liter (mg/L) in Monitoring Well MW-2 to 7,900 mg/L in Monitoring Well MW-4 (Table 2).

→ 1.8%

Discussion and Compliance with Containment Zone Approach

Benzene was detected at concentrations exceeding the compliance concentration of 71 µg/L in the shallow groundwater sample collected from designated CZ-concept Guard Well MW-7 (110 µg/L). At the request of the ACHCSA, Compliance Well MW-8 was sampled during this quarterly event. The benzene concentration detected in the groundwater sample collected from Compliance Well MW-8 (1.4 µg/L) was below the compliance concentration for benzene.

During this quarterly groundwater sampling event, the concentration of TPH as gasoline increased in the groundwater sample from Well MW-7 (from 3,600 µg/L to 15,000 µg/L). The concentrations of TPH as diesel increased in the groundwater samples from Wells MW-5 (from 1,000 µg/L to 1,100 µg/L) and MW-7 (from 910,000 µg/L to 18,000,000 µg/L). The concentrations of benzene increased in the groundwater samples collected from Wells MW-1 (from 230 µg/L to 240 µg/L), MW-5 (from non-detect [ND] to 0.6 µg/L), and MW-8 (from 0.8 µg/L to 1.4 µg/L).

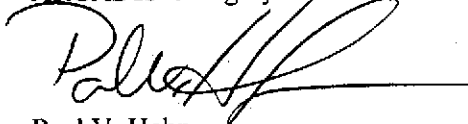
The concentrations of TPH as gasoline decreased in the groundwater samples collected from Wells MW-1 (from 110,000 µg/L to 40,000 µg/L), MW-4 (from 37,000 µg/L to 4,400 µg/L), and MW-8 (from 1,000 µg/L to 250 µg/L). The concentrations of TPH as diesel decreased in the groundwater samples collected from Wells MW-1 (from 2,700,000 µg/L to 950,000 µg/L), MW-2 (from 4,100 µg/L to 1,300 µg/L), MW-4 (from 2,600,000 µg/L to 57,000 µg/L), and MW-8 (from 7,000 µg/L to 520 µg/L). The concentrations of benzene decreased in the groundwater samples collected from Wells MW-3 (from 0.7 µg/L to ND) and MW-4 (from 260 µg/L to 25 µg/L). Significant concentrations of petroleum hydrocarbons continue to be detected in Wells MW-1, MW-4 and MW-7, all of which are located immediately downgradient from the former UST excavation. Significant mass of petroleum hydrocarbons are being purged from the subsurface through the use of the additional purging activities. The high concentrations that continue to be detected from these wells indicate that additional mass of petroleum hydrocarbons remains in the groundwater and probably within the soil downgradient from the former UST excavation.

At the request of Penske, additional groundwater purging will be continued during future quarterly events. The additional purging will help remove additional mass of petroleum hydrocarbons from the groundwater downgradient from the former tank excavation to aid in the remediation of the groundwater at this former facility.

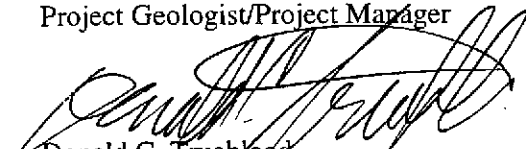
**ARCADIS GERAGHTY & MILLER**

ARCADIS Geraghty & Miller appreciates the opportunity to be of service to Penske.  
If you have any questions regarding this report, please do not hesitate to call us.

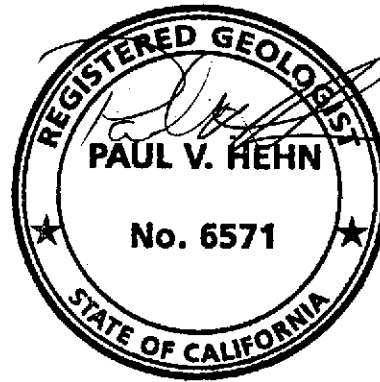
Sincerely,  
ARCADIS Geraghty & Miller, Inc.



Paul V. Hehn  
Project Geologist/Project Manager



Donald C. Trueblood  
Regional Manager



Attachments:   References

- |              |   |
|--------------|---|
| Table 1      | Summary of Field Sampling, Depth-to-Water, and Casing Elevation Data      |
| Table 2      | Summary of Groundwater Analytical Results- Monthly and Quarterly Sampling |
| Figure 1     | Site Location Map   |
| Figure 2     | Shallow Groundwater Contours - November 1997                              |
| Figure 3     | Benzene Concentrations - November 1997                                    |
| Attachment 1 | Copies of Certified Laboratory Reports and Chain-of-Custody Documentation |



References

Alameda County Health Care Services Agency. December 6, 1996. Letter to Penske Truck Leasing Co. on Former Penske Truck Leasing Facility, 725 Julie Ann Way, Oakland, CA 94621.

Geraghty & Miller, Inc. November 15, 1990. Results of Initial Soil and Groundwater Assessment Activities, Former Penske Truck Leasing Co. Facility, 725 Julie Ann Way, Oakland, California.

———. February 7, 1991. Scope of Work and Project Budget Estimate for Groundwater Monitoring Activities for the Period February 1991 through February 1992, Former Penske Truck Leasing Co. Facility, 725 Julie Ann Way, Oakland, California.

———. January 25, 1995. Work Plan and Budget Cost Estimate for Groundwater Sampling Coordination, Quarterly Report Preparation, and Purge Water Disposal Assistance, Former Penske Truck Leasing Co. Facility, 725 Julie Ann Way, Oakland, California.

———. January 25, 1996. Work Plan and Budget Cost Estimate for Groundwater Sampling Coordination, Quarterly Report Preparation, and Purge Water Disposal Assistance, Former Penske Truck Leasing Co. Facility, 725 Julie Ann Way, Oakland, California.

**Table 1: Summary of Field Sampling, Depth-to-Water, and Casing Elevation Data**

Former Penske Truck Leasing Facility,  
725 Julie Ann Way, Oakland, California.

Well	Date	Depth to	Top of Casing	Top of Water	Measured Depth	Calculated	Actual Purge	Field Measurements			Casing
		Water (a)	Elevation	Elevation	of Well (a)	Purge Volume (b)	Volume	pH	Temp.	SC	Diameter
		(feet)	(feet)	(feet)	(feet)	(gallons)	(gallons)		(°F)	(µS/cm)	(inches)
MW-1	2-Oct-90	9.76	5.42	-4.34	37.28	58.56	47	6.71	87.5	5,280	4
	28-Feb-91	8.54		-3.12	33.58	65.00	70	6.30	66.0	9,700	
	25-Mar-91	7.35		-1.93	33.50	71.00	75	6.50	64.0	7,200	
	1-May-91	7.91		-2.49	33.70	67.00	51	6.20	65.0	3,500	
	5-Aug-91	8.63		-3.21	NM	51.00	68	NM	63.6	7,690	
	23-Oct-91	9.00		-3.58	33.77	67.00	67	9.40	64.2	7,470	
	6-Jan-92	8.52		-3.10	33.87	65.00	69	9.40	63.2	6,640	
	20-Jul-92	7.94		-2.52	33.95	65.02	66	7.20	65.7	6,410	
	23-Oct-92	8.62		-3.20	33.57	64.80	60	7.50	69.8	1,930	
	4-Feb-93	6.55	5.43 (c)	-1.12	33.84	70.96	71	8.02	65.0	9,520	
	8-Apr-93	6.37		-0.94	33.80	71.32	65	6.60	66.7	>2,000	
	6-Aug-93	7.39		-1.96	33.88	68.67	69	7.22	68.1	5,890	
	28-Oct-93	7.85		-2.42	33.80	67.48	68	7.00	68.3	5,910	
	1-Feb-94	7.25		-1.82	33.99	69.52	70	7.63	63.2	7,610	
	12-Sep-94	6.75		-1.32	33.95	70.72	70	6.90	75.8	7,950	
	23-Nov-94	6.13		-0.70	33.93	72.28	73	6.10	66.2	>2,000	
	21-Feb-95	6.00		-0.57	34.00	55.44	56	7.36	70	890	
	23-May-95	6.04		-0.61	34.00	54.52	56	7.11	66.2	5,920	
	16-Aug-95	6.03		-0.60	34.00	55.94	56	7.27	69.3	5,510	
	21-Nov-95	6.90		-1.47	34.00	52.85	54	7.19	67.8	5,720	
	13-Feb-96	5.18		0.25	33.87	74.59	>75	7	71.2	6,070	
	13-May-96	6.10		-0.67	NM	72.20 (f)	>73	6.5	76.4	14,370	
	28-Aug-96	6.17		-0.74	33.85	71.96	>72	7	85.5	4,820	
	21-Nov-96	6.09		-0.66	33.92	72.43	>73	6.5	77.8	7,890	
	20-Feb-97	5.41		0.02	33.94	74.17	>75	6.0	66.3	1,900	
	28-May-97	5.98		-0.55	NM	72.69 (f)	>73	8.0	77	9,000	
	19-Sep-97	6.45		-1.02	33.80	71.12	>72	7.4	71.3	5,500	
	<b>17-Nov-97</b>	<b>6.14</b>		<b>-0.71</b>	<b>34.03</b>	<b>72.51</b>	<b>&gt;73</b>	<b>7.12</b>	<b>75</b>	<b>6,690</b>	

**Table 1: Summary of Field Sampling, Depth-to-Water, and Casing Elevation Data**

Former Penske Truck Leasing Facility,  
725 Julie Ann Way, Oakland, California.

Well	Date	Depth to	Top of Casing	Top of Water	Measured Depth	Calculated	Actual Purge	Field Measurements			Casing
		Water (a)	Elevation	Elevation	of Well (a)	Purge Volume (b)	Volume	pH	Temp.	SC	Diameter
		(feet)	(feet)	(feet)	(feet)	(gallons)	(gallons)		(°F)	(µS/cm)	(inches)
MW-2	2-Oct-90	10.38	6.21	-4.17	32.97	48.07	47	6.92	86.4	5,460	4
	28-Feb-91	9.19		-2.98	29.39	53.00	55	6.60	64.0	9,000	
	25-Mar-91	7.95		-1.74	29.39	57.00	70	6.60	63.0	6,400	
	1-May-91	8.58		-2.37	29.60	55.00	50	6.20	64.0	3,000	
	5-Aug-91	9.33		-3.12	NM	40.00	54	NM	65.1	5,680	
	23-Oct-91	9.57		-3.36	29.35	52.00	53	7.60	65.4	7,970	
	6-Jan-92	9.08		-2.87	29.50	53.00	53	9.18	62.8	6,990	
	20-Jul-92	8.60		-2.39	29.45	54.21	55	6.50	65.2	6,690	
	23-Oct-92	9.33		-3.12	29.18	51.60	55	7.20	69.8	1,900	
	4-Feb-93	7.17	6.20 (c)	-0.97	29.37	57.72	55	8.25	64.0	10,310	
	8-Apr-93	6.95		-0.75	29.32	58.16	60	6.90	66.7	>2,000	
	6-Aug-93	8.05		-1.85	29.33	55.33	66.5	7.26	66.4	6,250	
	28-Oct-93	8.50		-2.30	29.43	54.40	55	7.08	71.2	6,780	
	1-Feb-94	7.87		-1.67	29.54	56.32	57	8.35	62.4	8,250	
	12-Sep-94	7.42		-1.22	29.45	57.24	66	(e)	69.9	8,130	
	22-Nov-94	6.75		-0.55	29.50	59.15	60	6.8	67.6	>2,000	
	21-Feb-95	6.20		0.00	30.00	47.12	48	6.97	64	1,050	
	23-May-95	6.10		0.10	30.00	46.60	48	7.18	70.3	7,710	
	16-Aug-95	6.69		-0.49	30.00	46.62	46	7.42	65	6,790	
	21-Nov-95	7.62		-1.42	30.00	43.64	45	7.30	67.6	7,250	
	13-Feb-96	5.81		0.39	29.47	61.51	>62	7	71.8	2,890	
	13-May-96	6.40		-0.20	NM	59.98 (f)	>60	5.5	74.4	860	
	28-Aug-96	7.11		-0.91	29.42	58.00	>58	6	83.5	590	
	21-Nov-96	6.41		-0.21	29.43	59.85	>60	6.5	76.3	4,160	
	20-Feb-97	6.26		-0.06	29.54	60.52	>61	6.5	65.2	1,940	
	28-May-97	6.65		-0.45	NM	59.51 (f)	>60	7.0	73.6	5,540	
	19-Sep-97	6.90		-0.70	29.47	58.68	>59	6.9	69.7	12,630	
17-Nov-97	6.75		-0.55	29.56	59.31	>60	8.08	75.7	710		

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		Water (a)	Elevation	Elevation	of Well (a)	Purge Volume (b)	Volume	pH	Temp.	SC	Diameter
		(feet)	(feet)	(feet)	(feet)	(gallons)	(gallons)		(°F)	(µS/cm)	(inches)
MW-3	2-Oct-90	10.38	6.10	-4.28	37.08	56.82	54	6.89	88.4	639	4
	28-Feb-91	9.45		-3.35	31.61	58.00	60	6.10	66.0	1,020	
	25-Mar-91	7.98		-1.88	31.60	70.00	75	6.40	65.0	8,200	
	1-May-91	8.58		-2.48	33.70	65.00	50	6.40	67.0	4,100	
	5-Aug-91	9.26		-3.16	NM	50.00	67	NM	64.1	6,190	
	23-Oct-91	9.60		-3.50	33.48	66.00	66	7.30	67.3	8,430	
	6-Jan-92	9.08		-2.98	33.66	64.00	64	9.98	61.7	7,010	
	20-Jul-92	8.59		-2.49	33.76	65.44	66	6.80	66.0	7,540	
	23-Oct-92	9.30		-3.20	33.47	63.40	65	7.50	71.6	1,800	
	4-Feb-93	7.19	6.10 (c)	-1.09	33.65	68.79	65	8.29	64.0	10,290	
	8-Apr-93	6.98		-0.88	33.55	69.08	72	6.90	68.2	>2,000	
	6-Aug-93	8.01		-1.91	33.55	66.40	56 (d)	7.43	67.3	6,490	
	28-Oct-93	8.45		-2.35	33.60	65.40	66	7.02	72.0	6,590	
	1-Feb-94	8.03		-1.93	33.74	66.84	67	8.32	63.3	8,400	
	12-Sep-94	7.39		-1.29	33.70	68.40	70	7.73	68.7	8,030	
	22-Nov-94	6.76		-0.66	33.75	70.17	70	6.60	65.8	>2,000	
	21-Feb-95	6.36		-0.26	33.50	53.74	54	6.99	85.4	880	
	23-May-95	6.48		-0.38	33.50	52.69	54	7.25	68.7	6,060	
	16-Aug-95	6.63		-0.53	33.50	53.74	54	7.53	66.1	5,390	
	21-Nov-95	7.51		-1.41	33.50	50.68	52	7.34	67.4	5,730	
	13-Feb-96	5.91		0.19	33.69	72.24	>73	7	71.5	6,790	
	13-May-96	6.36		-0.26	NM	71.06 (f)	>72	6.5	76.7	14,360	
	28-Aug-96	7.15		-1.05	33.52	68.56	>69	8	79.2	2,930	
	21-Nov-96	6.64		-0.54	33.54	69.94	>70	6.5	77.0	7,500	
	20-Feb-97	6.36		-0.26	33.67	71.00	>72	6.5	68.7	4,180	
	28-May-97	6.62		-0.52	NM	70.33 (f)	>71	7.0	74.1	6,580	
	19-Sep-97	6.83		-0.73	33.55	69.48	>70	7.0	70.8	8,570	
	17-Nov-97	6.77		-0.67	33.59	69.73	>70	7.08	75.0	6,580	

**Table 1: Summary of Field Sampling, Depth-to-Water, and Casing Elevation Data**

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725 Julie Ann Way, Oakland, California.

Well	Date	Depth to	Top of Casing	Top of Water	Measured Depth	Calculated	Actual Purge	Field Measurements			Casing
		Water (a)	Elevation	Elevation	of Well (a)	Purge Volume (b)	Volume	pH	Temp.	SC	Diameter
		(feet)	(feet)	(feet)	(feet)	(gallons)	(gallons)		(°F)	(µS/cm)	(inches)
MW-4	4-Feb-93	6.68	5.18 (c)	-1.50	32.70	64.38	60 (d)	NM	63.5	14,100	4
	8-Apr-93	6.21		-1.03	33.04	69.76	70	6.80	69.1	>2,000	
	6-Aug-93	7.20		-2.02	32.92	66.87	60 (d)	7.44	68.9	13,900	
	28-Oct-93	7.64		-2.46	32.98	65.88	66	6.79	72.1	11,940	
	1-Feb-94	7.26		-2.08	33.31	67.72	68	8.65	63.6	18,110	
	12-Sep-94	6.55		-1.37	33.41	69.84	60 (d)	6.03	77.5	16,710	
	23-Nov-94	6.08		-0.90	33.35	70.90	55 (d)	5.60	66.7	>2,000	
	21-Feb-95	5.36		-0.18	33.50	55.71	48 (d)	6.83	80.2	880	
	23-May-95	5.05		0.13	33.50	55.48	59	6.71	66.5	12,090	
	16-Aug-95	5.63		-0.45	33.50	55.74	33 (d)	7.34	69.8	8,670	
	21-Nov-95	6.63		-1.45	33.50	52.39	34 (d)	7.03	68.2	10,380	
	13-Feb-96	5.14		0.04	33.25	73.08	>74	7	75.3	6,090	
	13-May-96	5.75		-0.57	NM	71.50 (f)	>72	7	76.1	>20,000	
	28-Aug-96	6.04		-0.86	33.20	70.61	>71	7.4	83.9	2,600	
	21-Nov-96	7.90		-2.72	33.17	65.70	>66	6.5	75.9	8,940	
	20-Feb-97	5.29		-0.11	33.28	72.77	>73	6.5	66.1	2,110	
	28-May-97	5.66		-0.48	NM	71.81 (f)	>72	7.0	74	6,480	
19-Sep-97	6.00		-0.82	33.31	71.00	>71	7.4	71	4,330		
<b>17-Nov-97</b>	<b>6.06</b>		<b>-0.88</b>	<b>33.35</b>	<b>70.95</b>	<b>&gt;71</b>	<b>6.81</b>	<b>70</b>	<b>11,020</b>		

**Table 1: Summary of Field Sampling, Depth-to-Water, and Casing Elevation Data**

Former Penske Truck Leasing Facility,  
725 Julie Ann Way, Oakland, California.

Well	Date	Depth to	Top of Casing	Top of Water	Measured Depth	Calculated	Actual Purge	Field Measurements			Casing
		Water (a)	Elevation	Elevation	of Well (a)	Purge Volume (b)	Volume	pH	Temp.	SC	Diameter
		(feet)	(feet)	(feet)	(feet)	(gallons)	(gallons)		(°F)	(µS/cm)	(inches)
MW-5	4-Feb-93	8.94	4.71 (c)	-4.23	31.40	61.65	40 (d)	8.43	63.2	16,870	4
	8-Apr-93	5.43		-0.72	31.36	67.42	68	7.20	68.0	>2,000	
	6-Aug-93	6.19		-1.48	31.30	65.29	68	7.47	63.6	5,180	
	28-Oct-93	6.86		-2.15	31.43	62.72	48 (d)	7.12	70.6	4,980	
	1-Feb-94	6.48		-1.77	31.43	64.84	49 (d)	(e)	63.1	6,120	
	12-Sep-94	5.89		-1.18	31.43	66.40	39 (d)	(e)	69.4	5,020	
	22-Nov-94	5.66		-0.95	31.44	67.02	58 (d)	6.80	68.4	>2,000	
	21-Feb-95	4.90		-0.19	31.00	51.68	45 (d)	7.30	82.5	880	
	23-May-95	4.86		-0.15	31.00	50.97	52	7.03	66.5	4,320	
	16-Aug-95	4.97		-0.26	31.00	52.06	36 (d)	7.48	67.5	3,900	
	21-Nov-95	5.82		-1.11	31.00	49.10	32 (d)	7.26	67.0	4,110	
	13-Feb-96	4.86		-0.15	31.41	69.03	>69	7	68.3	5,950	
	13-May-96	5.06		-0.35	NM	68.51 (f)	>69	6.5	71.9	9,830	
	28-Aug-96	5.29		-0.58	31.34	67.73	>68	7.9	79.6	2,590	
	21-Nov-96	5.44		-0.73	31.33	67.31	>67	6.5	76.0	7,260	
	20-Feb-97	4.68		0.03	31.46	69.62	>70	6.5	60.7	1,990	
	28-May-97	5.21		-0.50	NM	68.25 (f)	>69	7.8	70.7	11,500	
	19-Sep-97	5.43		-0.72	31.46	67.68	>68	7.1	67.9	3,920	
	17-Nov-97	5.28		-0.57	31.44	68.02	>69	7.0	73.0	5,180	

**Table 1: Summary of Field Sampling, Depth-to-Water, and Casing Elevation Data**

Former Penske Truck Leasing Facility,  
725 Julie Ann Way, Oakland, California.

Well	Date	Depth to	Top of Casing	Top of Water	Measured Depth	Calculated	Actual Purge	Field Measurements			Casing
		Water (a)	Elevation	Elevation	of Well (a)	Purge Volume (b)	Volume	pH	Temp.	SC	Diameter
		(feet)	(feet)	(feet)	(feet)	(gallons)	(gallons)		(°F)	(µS/cm)	(inches)
MW-6	12-Sep-94	6.56	5.37	-1.19	24.85	47.55	41 (d)	(e)	71.2	12,970	4
	22-Nov-94	6.04		-0.67	24.88	48.98	50	6.70	66.4	>2,000	
	21-Feb-95	NS		NS	NS	NS	NS	NS	NS	NS	
	23-May-95	5.32		0.05	24.70	NS	NS	NS	NS	NS	
	16-Aug-95	5.97		-0.60	24.70	NS	NS	NS	NS	NS	
	21-Nov-95	6.78		-1.41	24.70	NS	NS	NS	NS	NS	
	13-Feb-96	5.14		0.23	24.71	NS	NS	NS	NS	NS	
	13-May-96	5.64		-0.27	NM	NS	NS	NS	NS	NS	
	28-Aug-96	6.15		-0.78	24.67	NS	NS	NS	NS	NS	
	21-Nov-96	5.71		-0.34	24.65	NS	NS	NS	NS	NS	
	20-Feb-97	5.38		-0.01	24.79	NS	NS	NS	NS	NS	
	28-May-97	5.93		-0.56	NM	NS	NS	NS	NS	NS	
	19-Sep-97	6.15		-0.78	24.76	NS	NS	NS	NS	NS	
<b>17-Nov-97</b>	<b>6.06</b>	<b>-0.69</b>	<b>27.71</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>			
MW-7	12-Sep-94	6.16	5.38	-0.78	28.51	58.08	60	6.65	73.5	7,920	4
	23-Nov-94	5.61		-0.23	28.46	59.40	60	6.00	64.6	>2,000	
	21-Feb-95	5.25		0.13	28.30	45.64	46	7.46	69.5	910	
	23-May-95	5.10		0.28	28.30	45.24	46	7.21	65.0	5,740	
	16-Aug-95	5.42		-0.04	28.30	45.76	46	7.36	66.8	5,560	
	21-Nov-95	6.28		-0.90	28.30	42.99	44	7.29	65.9	5,650	
	13-Feb-96	4.64		0.74	28.39	61.75	>62	7	70.1	7,050	
	13-May-96	5.36		0.02	NM	59.88 (f)	>60	6.5	76.6	15,030	
	28-Aug-96	6.20		-0.82	28.30	57.46	>58	7.4	76.4	3,980	
	21-Nov-96	6.12		-0.74	28.30	57.66	>58	6.5	75.2	8,400	
	20-Feb-97	5.70		-0.32	28.46	59.17	>60	6.5	63.9	4,410	
	28-May-97	5.46		-0.08	NM	59.80 (f)	>60	7.5	71.3	9,790	
	19-Sep-97	5.91		-0.53	28.49	58.72	>59	7.3	71.4	4,910	
<b>17-Nov-97</b>	<b>5.59</b>	<b>-0.21</b>	<b>23.39</b>	<b>46.28</b>	<b>&gt;47</b>	<b>6.97</b>	<b>71.0</b>	<b>6,410</b>			

**Table 1: Summary of Field Sampling, Depth-to-Water, and Casing Elevation Data**

Former Penske Truck Leasing Facility,  
725 Julie Ann Way, Oakland, California.

Well	Date	Depth to	Top of Casing	Top of Water	Measured Depth	Calculated	Actual Purge	Field Measurements			Casing
		Water (a)	Elevation	Elevation	of Well (a)	Purge Volume (b)	Volume	pH	Temp.	SC	Diameter
		(feet)	(feet)	(feet)	(feet)	(gallons)	(gallons)		(°F)	(µS/cm)	(inches)
MW-8	12-Sep-94	6.46	5.44	-1.02	25.15	48.56	55	(e)	(e)	11,400	4
	23-Nov-94	6.01		-0.57	25.66	78.60	75	5.60	61.5	>2,000	
	21-Feb-95	NS		NS	NS	NS	NS	NS	NS	NS	
	23-May-95	5.53		-0.09	25.40	NS	NS	NS	NS	NS	
	16-Aug-95	5.68		-0.24	25.40	NS	NS	NS	NS	NS	
	21-Nov-95	6.37		-0.93	25.40	NS	NS	NS	NS	NS	
	13-Feb-96	5.36		0.08	25.54	NS	NS	NS	NS	NS	
	13-May-96	5.62		-0.18	NM	NS	NS	NS	NS	NS	
	28-Aug-96	6.17		-0.73	25.52	NS	NS	NS	NS	NS	
	21-Nov-96	5.74		-0.30	25.45	51.24	>52	6.5	73.6	9,300	
	20-Feb-97	5.10		0.34	25.54	53.14	>54	6.5	61.5	4,950	
	28-May-97	5.68		-0.24	NM	51.63 (f)	>54	7.5	71.2	14,930	
	19-Sep-97	5.95		-0.51	25.41	50.60	>51	7.0	67.8	7,860	
	<b>17-Nov-97</b>	<b>5.91</b>		<b>-0.47</b>	<b>25.59</b>	<b>51.17</b>	<b>&gt;52</b>	<b>7.49</b>	<b>70.2</b>	<b>8,320</b>	

(a) Measured from top of PVC casing.

(b) Based on four casing volumes.

(c) All well elevations resurveyed to site benchmark on February 10, 1993.

(d) Well went dry during purging.

(e) No reading - instrument malfunction.

(f) Purge volume estimated using well depth-to-bottom measurements from previous quarter.

SC Specific Conductance

(µS/cm) Microsiemens per centimeter

NM Not measured

NS Well not sampled or monitored during this quarterly event.

All elevations are measured relative to a site benchmark (elevation 6.62') based on the City of Oakland datum which is 3 feet higher than mean sea level.



**Table 2: Summary of Groundwater Analytical Results - Monthly and Quarterly Sampling**  
Former Penske Truck Leasing Facility,  
725 Julie Ann Way, Oakland, California.

Well	Date	TPH Gasoline (a) (µg/L)	TPH Diesel (a) (µg/L)	Benzene (b) (µg/L)	Toluene (b) (µg/L)	Ethylbenzene (b) (µg/L)	Xylenes (b) (µg/L)	MTBE (b) (µg/L)	Total Dissolved Solids (c) (mg/L)
MW-1	2-Oct-90	170	2,900	20	18	1.9	5.7		--
	28-Feb-91	260	550	43	1	7	1		--
	25-Mar-91	73	160	10	ND(<0.3)	0.5	ND(<0.3)		--
	1-May-91	ND(<50)	(d)	2.2	ND(<0.3)	ND(<0.3)	ND(<0.3)		--
	5-Aug-91	310	330	22	5.5	9.5	23		--
	23-Oct-91	440	1,800	23	21	6.2	35		--
	6-Jan-92	430	1,600	56	8.4	18	22		--
	20-Jul-92	ND(<50)	25,000	0.4	0.8	1	2.1		--
	23-Oct-92	280	6,500	9.3	13	8.2	15		--
	4-Feb-93	68 (f)	320	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)		--
	8-Apr-93	180	7,800	0.5	2.1	0.8	13		--
	6-Aug-93	740	17,000	75	100	25	130		3,500
	28-Oct-93	140	7,600	4.7	1.9	3.2	5.4		3,500
	1-Feb-94	430	10,000	8.2	1.1	3.5	4.8		3,800
	12-Sep-94	230	22,000	0.7	1.7	2.0	3.7		4,000
	23-Nov-94	ND(<50)	1,700	ND(<0.5)	ND(<0.5)	ND(<0.5)	0.6		3,600
	21-Feb-95	ND(<50)	4,200	ND(<0.5)	ND(<0.5)	0.8	0.6		4,200
	23-May-95	ND(<50)	300	ND(<0.5)	ND(<0.5)	2.1	2.0		3,800
	16-Aug-95	ND(<50)	740	ND(<0.5)	ND(<0.5)	1.4	1.4		3,800
	21-Nov-95	ND(<50)	410	ND(<0.5)	ND(<0.5)	0.7	0.8		4,100
	13-Feb-96	ND(<50)	400	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)		3,600
	13-May-96	310 (k)	12,000	13	14	2.4	11		3,500
	28-Aug-96	11,000 (k)	56,000	110	ND(<50)	ND(<50)	ND(<50)		3,300
	21-Nov-96	65 (k)	1,500	3.3	0.51	0.59	0.84		3,400
	20-Feb-97	2,900 (k)	200,000	260	61	42	96		1,400
	28-May-97	2,100	28,000 (o)	230	42	55	110		3,100
	19-Sep-97	110,000	2,700,000	230	140	250	700	ND (<500)	3,200
	<b>17-Nov-97</b>	<b>40,000 (r)</b>	<b>950,000 (r)</b>	<b>240 (r)</b>	<b>190 (r)</b>	<b>270 (r)</b>	<b>880 (r)</b>	<b>ND (&lt;300) (r)</b>	<b>3,400</b>

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Former Penske Truck Leasing Facility,  
725 Julie Ann Way, Oakland, California.

Well	Date	TPH Gasoline (a) (µg/L)	TPH Diesel (a) (µg/L)	Benzene (b) (µg/L)	Toluene (b) (µg/L)	Ethylbenzene (b) (µg/L)	Xylenes (b) (µg/L)	MTBE (b) (µg/L)	Total Dissolved Solids (c) (mg/L)
MW-2	2-Oct-90	ND(<50)	80	0.4	ND(<0.3)	ND(<0.3)	0.5		--
	28-Feb-91	ND(<50)	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)		--
	25-Mar-91	ND(<50)	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)		--
	1-May-91	ND(<50)	(d)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)		--
	5-Aug-91	ND(<50)	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)		--
	23-Oct-91	ND(<50)	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)		--
	6-Jan-92	11,000	1200 (e)	ND(<0.3)	83	82	940		--
	20-Jul-92	73	120	1.7	3.3	1.1	9.6		--
	23-Oct-92	ND(<50)	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	0.5		--
	4-Feb-93	ND(<50)	330 (e)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)		--
	8-Apr-93	150	74 (h)	1	2.1	1	13		--
	6-Aug-93	ND(<50)	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.9)		990
	28-Oct-93	ND(<50)	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.9)		1,500
	1-Feb-94	ND(<50)	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)		2,000
	12-Sep-94	ND(<50)	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)		2,100
	22-Nov-94	ND(<50)	51 (h)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)		2,400
	21-Feb-95	ND(<50)	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)		5,700
	23-May-95	ND(<50)	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)		5,100
	16-Aug-95	ND(<50)	190	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)		5,400
	21-Nov-95	ND(<50)	180	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)		5,800
	13-Feb-96	ND(<50)	1,500	ND(<0.5)	ND(<0.5)	ND(<0.5)	8.7		1,100
	13-May-96	ND(<50)	25,000 (l)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)		150
	28-Aug-96	ND(<50)	680	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)		410
	21-Nov-96	ND(<50)	1,800 (n)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)		720
	20-Feb-97	ND(<50)	1,000 (n)	ND(<0.50)	ND(<0.50)	ND(<0.50)	ND(<0.50)		1,400
	28-May-97	ND(<50)	3,700 (n) (o)	ND(<0.50)	ND(<0.50)	ND(<0.50)	ND(<0.50)		830
	19-Sep-97	ND(<50)	4,100	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<2)	ND(<5)	1,200
	<b>17-Nov-97</b>	<b>ND(&lt;50)</b>	<b>1,300</b>	<b>ND(&lt;0.5)</b>	<b>ND(&lt;0.5)</b>	<b>ND(&lt;0.5)</b>	<b>ND(&lt;2)</b>	<b>ND(&lt;5)</b>	<b>340</b>

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Former Penske Truck Leasing Facility,  
725 Julie Ann Way, Oakland, California.

Well	Date	TPH Gasoline (a) (µg/L)	TPH Diesel (a) (µg/L)	Benzene (b) (µg/L)	Toluene (b) (µg/L)	Ethylbenzene (b) (µg/L)	Xylenes (b) (µg/L)	MTBE (b) (µg/L)	Total Dissolved Solids (c) (mg/L)
MW-3	2-Oct-90	ND(<50)	90	28	3.1	0.6	1.5		--
	28-Feb-91	ND(<50)	ND(<50)	6	ND(<0.3)	ND(<0.3)	ND(<0.3)		--
	25-Mar-91	ND(<50)	ND(<50)	0.6	ND(<0.3)	ND(<0.3)	ND(<0.3)		--
	1-May-91	ND(<50)	(d)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)		--
	5-Aug-91	ND(<50)	ND(<50)	1.7	ND(<0.3)	ND(<0.3)	ND(<0.3)		--
	23-Oct-91	ND(<50)	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)		--
	6-Jan-92	ND(<50)	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)		--
	20-Jul-92	66	ND(<50)	1.1	2.2	0.7	6.4		--
	23-Oct-92	ND(<50)	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)		--
	4-Feb-93	270	ND(<100)(g)	9.8	4.6	4.5	8.7		--
	8-Apr-93	ND(<50)	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.9)		--
	6-Aug-93	ND(<50)	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.9)		3,400
	28-Oct-93	ND(<50)	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.9)		2,700
	1-Feb-94	ND(<50)	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)		3,400
	12-Sep-94	ND(<50)	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)		3,500
	22-Nov-94	ND(<50)	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)		3,400
	21-Feb-95	ND(<50)	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)		4,200
	23-May-95	ND(<50)	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)		4,100
	16-Aug-95	ND(<50)	240	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)		4,100
	21-Nov-95	ND(<50)	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)		4,200
	13-Feb-96	ND(<50)	72	16	ND(<0.5)	ND(<0.5)	0.73		3,400
	13-May-96	ND(<50)	250 (m)	1.7	ND(<0.5)	ND(<0.5)	ND(<0.5)		3,700
	28-Aug-96	ND(<50)	1,200	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)		2,200
	21-Nov-96	ND(<50)	ND(<50)	0.82	ND(<0.5)	ND(<0.5)	ND(<0.5)		3,500
	20-Feb-97	ND(<50)	140 (n)	ND(<0.50)	ND(<0.50)	ND(<0.50)	ND(<0.50)		2,900
	28-May-97	ND(<50)	240 (n) (o)	ND(<0.50)	ND(<0.50)	ND(<0.50)	ND(<0.50)		1,900
	19-Sep-97	ND(<50)	ND(<50)	0.7	ND(<0.5)	ND(<0.5)	ND(<2)	ND(<5)	3,300
	<b>17-Nov-97</b>	<b>ND(&lt;50)</b>	<b>ND(&lt;50)</b>	<b>ND(&lt;0.5)</b>	<b>ND(&lt;0.5)</b>	<b>ND(&lt;0.5)</b>	<b>ND(&lt;2)</b>	<b>ND(&lt;5)</b>	<b>3,400</b>

**Table 2: Summary of Groundwater Analytical Results - Monthly and Quarterly Sampling**  
 Former Penske Truck Leasing Facility,  
 725 Julie Ann Way, Oakland, California.

Well	Date	TPH Gasoline (a) (µg/L)	TPH Diesel (a) (µg/L)	Benzene (b) (µg/L)	Toluene (b) (µg/L)	Ethylbenzene (b) (µg/L)	Xylenes (b) (µg/L)	MTBE (b) (µg/L)	Total Dissolved Solids (c) (mg/L)
MW-4	4-Feb-93	58 (f)	450	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)		--
	8-Apr-93	74	220	19	0.4	ND(<0.3)	ND(<0.9)		--
	6-Aug-93	95	ND(<50)	68	0.9	1.1	ND(<0.9)		5,800
	28-Oct-93	160	600	46	0.7	1.6	1.2		5,200
	1-Feb-94	320	160	290	0.6	6.7	3.2		6,200
	12-Sep-94	390	95	120	3.9	14	14		6,000
	23-Nov-94	100	1,800	9.9	0.7	1.6	3.8		5,600
	21-Feb-95	91	680	23	ND(<0.5)	1.0	ND(<0.5)		7,100
	23-May-95	ND(<50)	270	5.3	ND(<0.5)	ND(<0.5)	ND(<0.5)		8,300
	16-Aug-95	ND(<50)	610	4.1	ND(<0.5)	ND(<0.5)	ND(<0.5)		7,100
	21-Nov-95	ND(<50)	280	1.0	ND(<0.5)	ND(<0.5)	ND(<0.5)		9,800
	13-Feb-96	980 (i)	7,500	570	ND(<0.5)	9.2	13		3,600
	13-May-96	150 (k)	1,200	45	ND(<1.0)	ND(<1.0)	1.5		7,900
	28-Aug-96	70,000 (k)	1,300,000	340	ND(<200)	ND(<200)	ND(<200)		1,800
	21-Nov-96	52,000 (i)	40,000	130	ND(<100)	ND(<100)	ND(<100)		5,400
	20-Feb-97	64,000 (i)	470,000	ND(<100)	ND(<100)	ND(<100)	ND(<100)		1,500
	28-May-97	11,000 (i)	1,000,000 (o)	ND(<100)	ND(<100)	ND(<100)	ND(<100)		1,700
	19-Sep-97	37,000	2,600,000	260	ND(<30)	ND(<30)	ND(<100)	ND(<300)	2,700
	17-Nov-97	4,400 (r)	57,000 (r)	25 (r)	ND(<5) (r)	ND(<5) (r)	ND(<20) (r)	ND(<50) (r)	7,900

**Table 2: Summary of Groundwater Analytical Results - Monthly and Quarterly Sampling**Former Penske Truck Leasing Facility,  
725 Julie Ann Way, Oakland, California.

Well	Date	TPH Gasoline (a) (µg/L)	TPH Diesel (a) (µg/L)	Benzene (b) (µg/L)	Toluene (b) (µg/L)	Ethylbenzene (b) (µg/L)	Xylenes (b) (µg/L)	MTBE (b) (µg/L)	Total Dissolved Solids (c) (mg/L)
MW-5	4-Feb-93	ND(<50)	240	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)		--
	8-Apr-93	ND(<50)	480	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.9)		--
	6-Aug-93	ND(<50)	120	0.8	ND(<0.3)	ND(<0.3)	ND(<0.9)		2,800
	28-Oct-93	ND(<50)	370	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.9)		2,400
	1-Feb-94	ND(<50)	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)		2,500
	12-Sep-94	ND(<50)	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)		2,600
	22-Nov-94	ND(<50)	160	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)		2,600
	21-Feb-95	ND(<50)	170	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)		3,800
	23-May-95	ND(<50)	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)		4,100
	16-Aug-95	ND(<50)	590	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)		2,800
	21-Nov-95	ND(<50)	500	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)		2,800
	13-Feb-96	ND(<50)	830	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)		3,000
	13-May-96	ND(<50)	870	0.59	ND(<0.5)	ND(<0.5)	ND(<0.5)		2,700
	28-Aug-96	ND(<50)	1,000	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)		2,000
	21-Nov-96	ND(<50)	610	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)		2,700
	20-Feb-97	ND(<50)	1,100 (n)	ND(<0.50)	ND(<0.50)	ND(<0.50)	ND(<0.50)		1,300
	28-May-97	60 (i)	560 (p) (o)	ND(<0.50)	ND(<0.50)	ND(<0.50)	ND(<0.50)		2,500
	19-Sep-97	70	1,000	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<2)	ND(<5)	2,400
	17-Nov-97	70	1,100	0.6	0.7	0.5	ND(<2)	5	2,800

**Table 2: Summary of Groundwater Analytical Results - Monthly and Quarterly Sampling**  
 Former Penske Truck Leasing Facility,  
 725 Julie Ann Way, Oakland, California.

Well	Date	TPH Gasoline (a) (µg/L)	TPH Diesel (a) (µg/L)	Benzene (b) (µg/L)	Toluene (b) (µg/L)	Ethylbenzene (b) (µg/L)	Xylenes (b) (µg/L)	MTBE (b) (µg/L)	Total Dissolved Solids (c) (mg/L)
MW-6	12-Sep-94	ND(<50)	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)		560
	22-Nov-94	ND(<50)	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	1.5		1,800
	21-Feb-95	NS	NS	NS	NS	NS	NS		NS
	23-May-95	NS	NS	NS	NS	NS	NS		NS
	16-Aug-95	NS	NS	NS	NS	NS	NS		NS
	21-Nov-95	NS	NS	NS	NS	NS	NS		NS
	13-Feb-96	NS	NS	NS	NS	NS	NS		NS
	13-May-96	NS	NS	NS	NS	NS	NS		NS
	28-Aug-96	NS	NS	NS	NS	NS	NS		NS
	21-Nov-96	NS	NS	NS	NS	NS	NS		NS
	20-Feb-97	NS	NS	NS	NS	NS	NS		NS
	28-May-97	NS	NS	NS	NS	NS	NS		NS
	19-Sep-97	NS	NS	NS	NS	NS	NS	NS	NS
<b>17-Nov-97</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>
MW-7	12-Sep-94	160	620	2.7	1.3	ND(<0.5)	2.1		1,100
	23-Nov-94	ND(<50)	150	2.4	ND(<0.5)	ND(<0.5)	ND(<0.5)		3,600
	21-Feb-95	93	1,400	0.6	0.8	0.8	3.3		4,000
	23-May-95	ND(<50)	360	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)		3,400
	16-Aug-95	53	1,100	0.5	ND(<0.5)	ND(<0.5)	0.5		4,000
	21-Nov-95	87	9,100	1.4	ND(<0.5)	1.0	1.5		4,200
	13-Feb-96	1,800,000 (j)	5,000,000	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)		3,900
	13-May-96	ND(<50,000)	2,300,000	ND(<500)	ND(<500)	ND(<500)	500 (i)		3,500
	28-Aug-96	59,000 (k)	640,000	ND(<200)	ND(<200)	ND(<200)	600		3,100
	21-Nov-96	3,800 (k)	780,000	130	93	33	64		3,400
	20-Feb-97	15,000 (i)	1,500,000	81	51	ND(<50)	ND(<50)		3,300
	28-May-97	390,000 (i)	440,000 (o)	ND(<1000)	ND(<1000)	ND(<1000)	ND(<1000)		3,500
	19-Sep-97	3,600	910,000	110	64	37	ND(<100)	ND(<300)	3,200
<b>17-Nov-97</b>	<b>15,000 (r)</b>	<b>18,000,000 (r)</b>	<b>110 (r)</b>	<b>41 (r)</b>	<b>12 (r)</b>	<b>110 (r)</b>	<b>ND(&lt;50) (r)</b>	<b>3,300</b>	

**Table 2: Summary of Groundwater Analytical Results - Monthly and Quarterly Sampling**Former Penske Truck Leasing Facility,  
725 Julie Ann Way, Oakland, California.

Well	Date	TPH Gasoline (a) (µg/L)	TPH Diesel (a) (µg/L)	Benzene (b) (µg/L)	Toluene (b) (µg/L)	Ethylbenzene (b) (µg/L)	Xylenes (b) (µg/L)	MTBE (b) (µg/L)	Total Dissolved Solids (c) (mg/L)
MW-8	12-Sep-94	170	850	2.7	0.5	ND(<0.5)	2		5,500
	23-Nov-94	ND(<50)	570	1.5	ND(<0.5)	ND(<0.5)	ND(<0.5)		6,300
	21-Feb-95	NS	NS	NS	NS	NS	NS		NS
	23-May-95	NS	NS	NS	NS	NS	NS		NS
	16-Aug-95	NS	NS	NS	NS	NS	NS		NS
	21-Nov-95	NS	NS	NS	NS	NS	NS		NS
	13-Feb-96	NS	NS	NS	NS	NS	NS		NS
	13-May-96	NS	NS	NS	NS	NS	NS		NS
	28-Aug-96	NS	NS	NS	NS	NS	NS		NS
	21-Nov-96	400 (k)	2,200	4.6	37	4.6	68		5,100
	20-Feb-97	340 (k)	2,500	2.1	53	7.1	94		3,800
	28-May-97	480 (k)	200 (q) (o)	2.5	12	ND(<2.5)	76		4,100
	19-Sep-97	1,000	7,000	0.8	5.0	0.5	130	ND(<5)	5,000
	<b>17-Nov-97</b>	<b>250</b>	<b>520</b>	<b>1.4</b>	<b>2.1</b>	<b>0.7</b>	<b>3</b>	<b>ND(&lt;5)</b>	<b>4,600</b>

Notes appear on the following page.

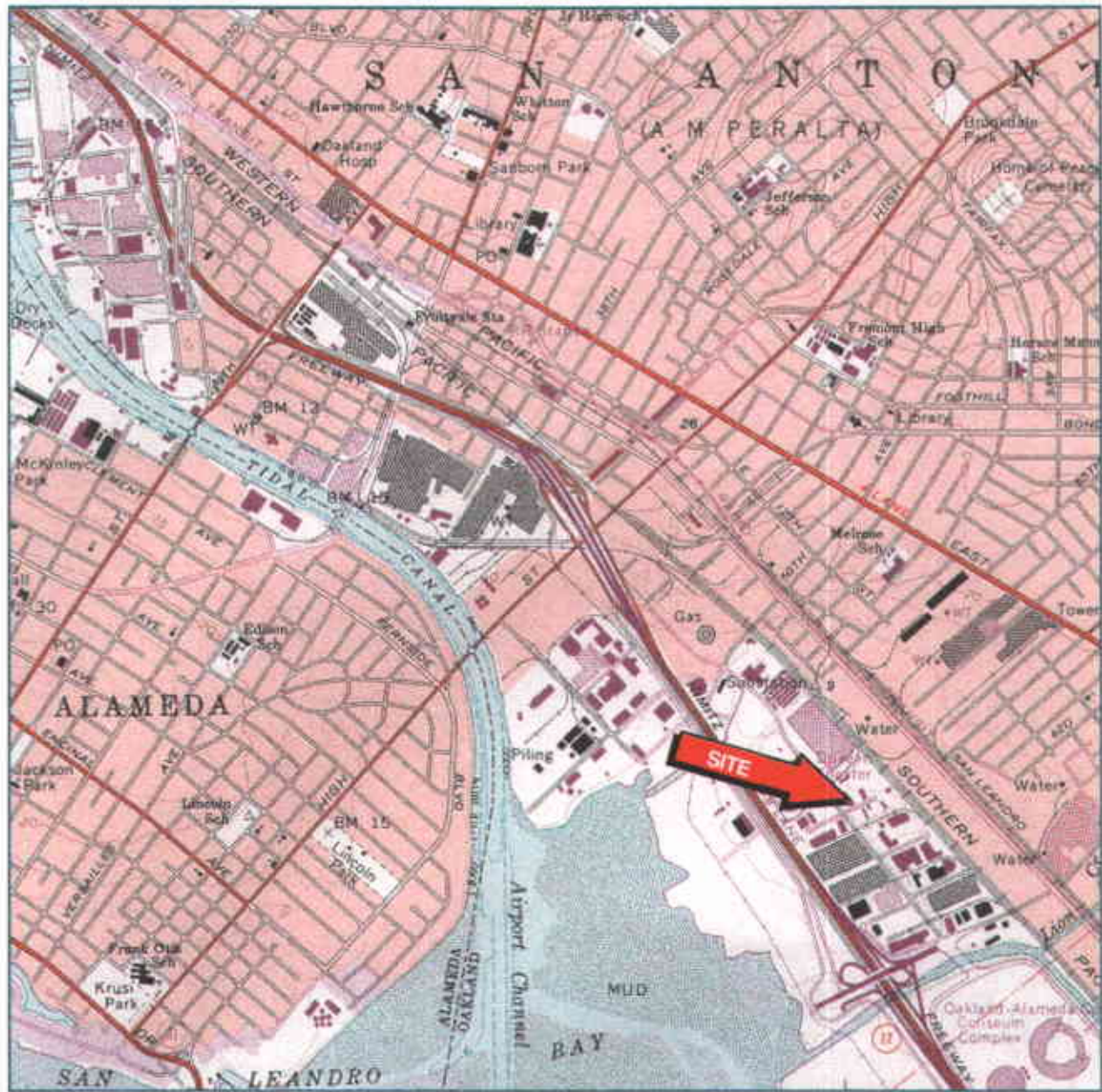
**Table 2: Summary of Groundwater Analytical Results - Monthly and Quarterly Sampling**  
 Former Penske Truck Leasing Facility,  
 725 Julie Ann Way, Oakland, California.

Well	Date	TPH Gasoline (a) (µg/L)	TPH Diesel (a) (µg/L)	Benzene (b) (µg/L)	Toluene (b) (µg/L)	Ethylbenzene (b) (µg/L)	Xylenes (b) (µg/L)	MTBE (b) (µg/L)	Total Dissolved Solids (c) (mg/L)
	(a)	Analyzed by USEPA Method 8015, modified.							
	(b)	Analyzed by USEPA Method 8020.							
	(c)	Analyzed by USEPA Method 160.1.							
	(d)	No results - sample for TPH as diesel not collected.							
	(e)	Diesel range concentration reported. A nonstandard diesel pattern was observed in the chromatogram.							
	(f)	Does not match typical gasoline pattern. Pattern of peaks observed in the chromatograms is indicative of hydrocarbons heavier than gasoline.							
	(g)	Detection limit increased due to insufficient sample amount.							
	(h)	Diesel range concentration reported. The chromatogram shows only a single peak in the diesel range.							
	(i)	Laboratory reports that chromatogram indicates unidentified hydrocarbons >C8.							
	(j)	Laboratory reports that chromatogram indicates unidentified hydrocarbons >C9.							
	(k)	Laboratory reports that chromatogram indicates gasoline and unidentified hydrocarbons >C8.							
	(l)	Laboratory reports that chromatogram indicates diesel and unidentified hydrocarbons >C16.							
	(m)	Laboratory reports that chromatogram indicates diesel and discrete peaks.							
	(n)	Laboratory reports that chromatogram indicates diesel and unidentified hydrocarbons >C20.							
	(o)	Laboratory reports that the laboratory control sample failed for this batch, as well as when it was initially analyzed on 6/3/97. All results should be considered as estimated values. No additional sample was available for re-extraction.							
	(p)	Laboratory reports that chromatogram indicates diesel and unidentified hydrocarbons >C24.							
	(q)	Laboratory reports that chromatogram indicates diesel and unidentified hydrocarbons <C15.							
	(r)	Laboratory reports reporting limits for diesel and gas/BTEX elevated due to high levels of target compound. Samples run at dilution.							
	(s)	Laboratory reports analysis was performed outside of hold time due to improper preservation. Results are estimated.							
	( )	Reported detection limit							
	--	Not analyzed							
	ND	Not detected							
	µg/L	Micrograms per liter							
	mg/L	Milligrams per liter							
	NS	Well not sampled or monitored during this quarterly event.							

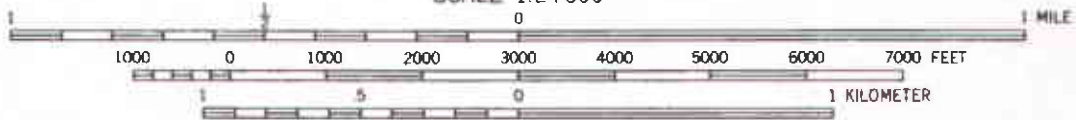
Analysis prior to May 28, 1997 by Sequoia Analytical, Walnut Creek, California.

Analysis after May 28, 1997 by American Environmental Network (AEN), Pleasant Hill, California.





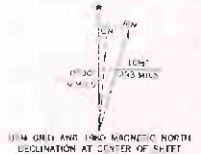
SCALE 1:24 000



CONTOUR INTERVAL 20 FEET



QUADRANGLE LOCATION



15° 30' W  
MAGNETIC NORTH  
DECLINATION AT CENTER OF SHEET

Reference: U.S.G.S. 7-minute Quadrangle, Oakland East, California, revised, Photorevised 1980.

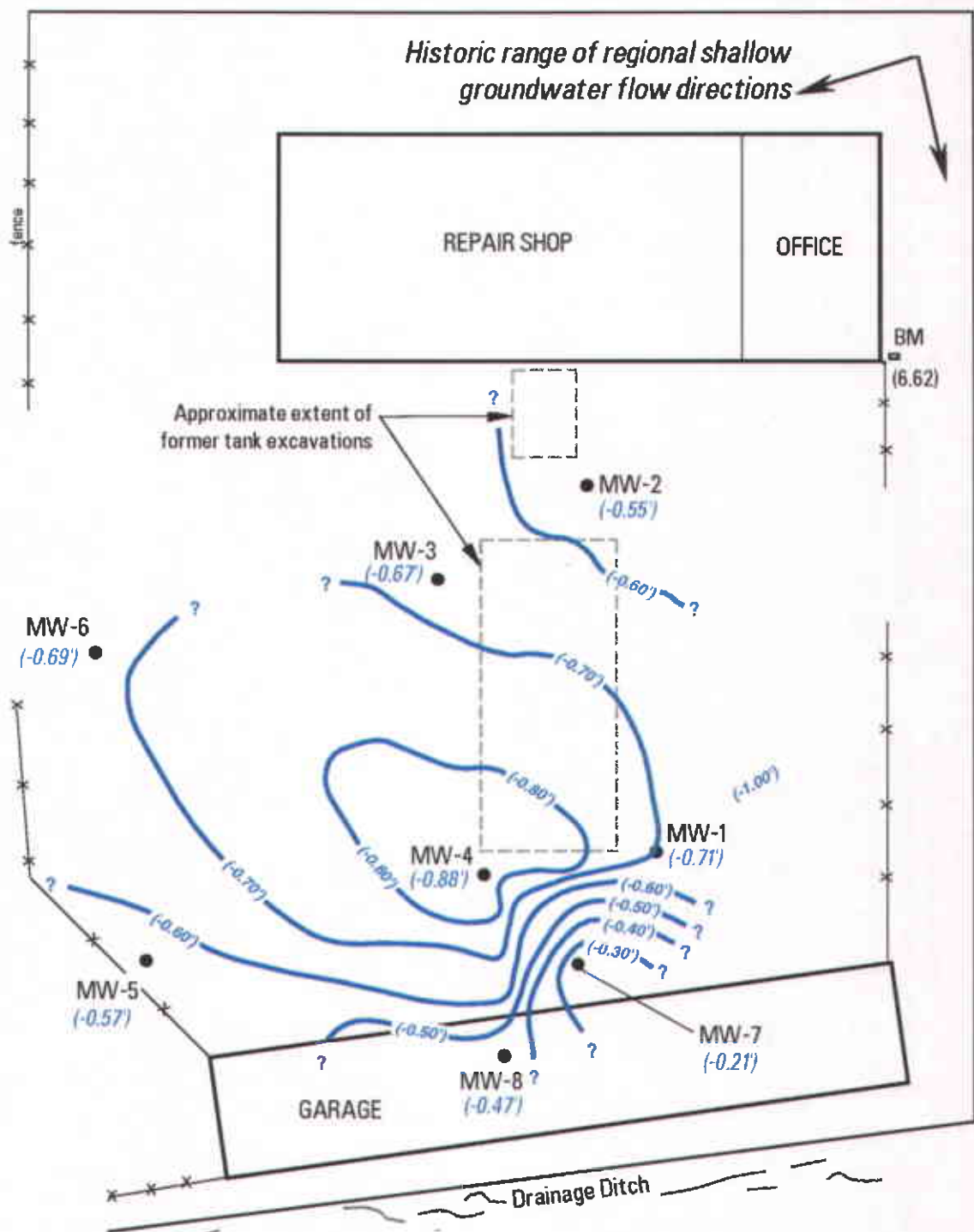
**ARCADIS**  
GERAGHTY & MILLER

**SITE LOCATION MAP**  
Former Penske Truck Leasing Co. Facility  
725 Julie Ann Way  
Oakland, California

RC000019.0000

FIGURE

1



Julie Ann Way

**EXPLANATION**

- MW-1 ● Approximate location of existing groundwater monitoring wells.
- BM Survey Bench Mark (based on City of Oakland datum which is 3 feet lower than Mean Sea Level).

- (-0.71') Groundwater elevation (feet) relative to benchmark, measured November 17, 1997.
- (-0.30') — ? Groundwater elevation contour (feet); dashed where inferred (contour interval equals 0.10 feet) queried where unknown.



**SHALLOW GROUNDWATER CONTOURS  
November 1997**

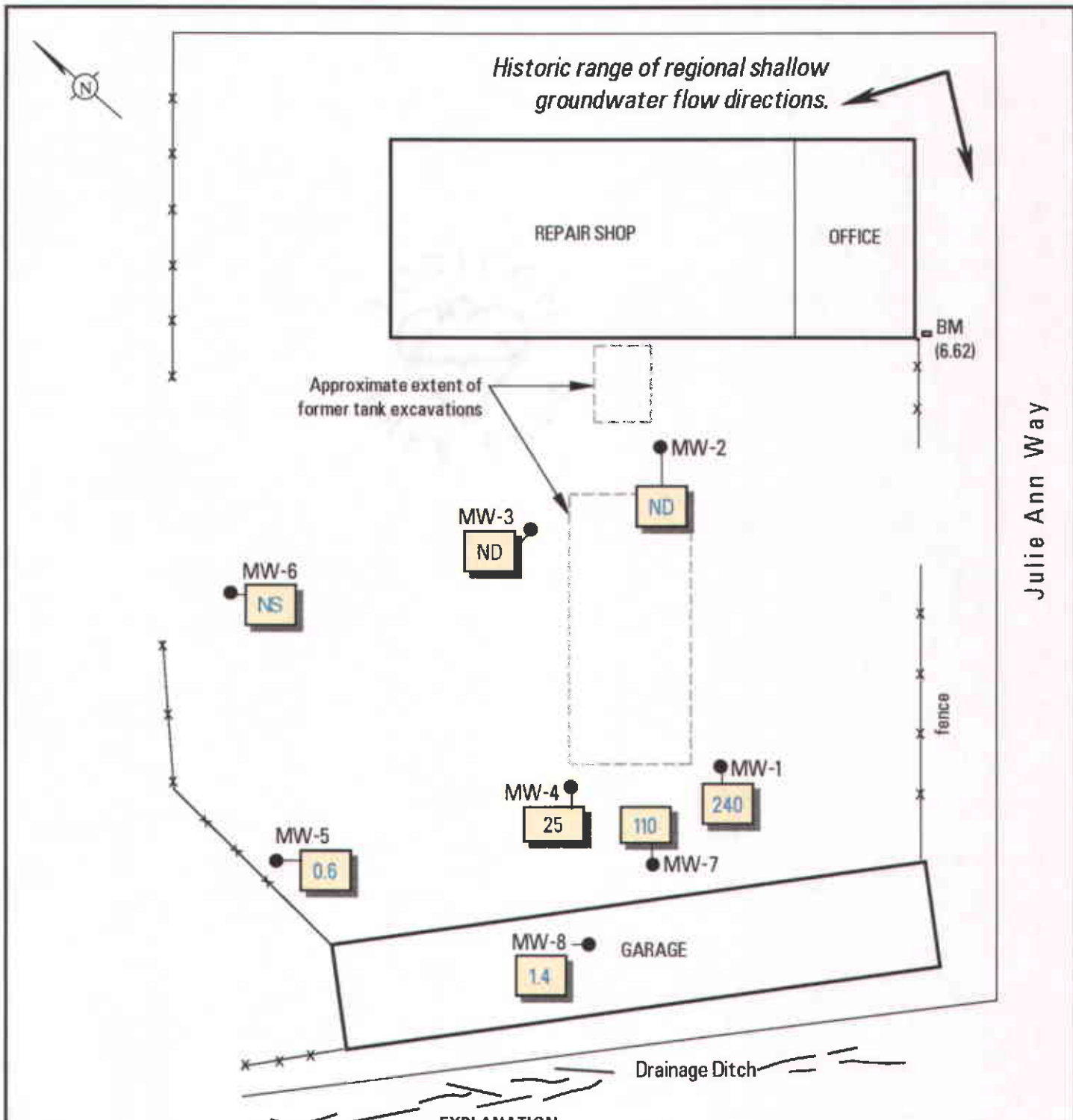
Former Penske Truck Leasing Co.  
725 Julie Ann Way, Oakland, California

RC000019.0010

FIGURE

2





- EXPLANATION**
- MW-1 ● Approximate location of existing groundwater monitoring wells.
  - BM Survey Bench Mark (based on City of Oakland datum which is 3 feet lower than Mean Sea Level).
  - ND Not Detected-below laboratory detection limits listed in Table 2.
  - 240 Benzene concentrations (in  $\mu\text{g/L}$ ) from groundwater samples collected November 17, 1997.
  - NS Well not sampled or monitored during this quarterly event.
- Scale feet

**ARCADIS** GERAGHTY & MILLER

**ATTACHMENT 1**

**COPIES OF CERTIFIED LABORATORY REPORTS  
AND CHAIN-OF-CUSTODY DOCUMENTATION**

# American Environmental Network

## Certificate of Analysis

DOHS Certification: 1172

AIHA Accreditation: 11134

PAGE 1

GERAGHTY & MILLER, INC.  
1050 MARINA WAY SOUTH  
RICHMOND, CA 94804

ATTN: RICK SPENCER  
CLIENT PROJ. ID: RC0019.010  
CLIENT PROJ. NAME: PENSKE

REPORT DATE: 12/09/97

DATE(S) SAMPLED: 11/17/97

DATE RECEIVED: 11/18/97

AEN WORK ORDER: 9711254


### PROJECT SUMMARY:

On November 18, 1997, this laboratory received 7 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.

  
Larry Klein  
Laboratory Director

## GERAGHTY &amp; MILLER, INC.

SAMPLE ID: MW-1  
 AEN LAB NO: 9711254-01  
 AEN WORK ORDER: 9711254  
 CLIENT PROJ. ID: RC0019.010

DATE SAMPLED: 11/17/97  
 DATE RECEIVED: 11/18/97  
 REPORT DATE: 12/09/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	240 *	30	ug/L	11/27/97
Toluene	108-88-3	190 *	30	ug/L	11/27/97
Ethylbenzene	100-41-4	270 *	30	ug/L	11/27/97
Xylenes, Total	1330-20-7	880 *	100	ug/L	11/27/97
Purgeable HCs as Gasoline	5030/GCFID	40 *	3	mg/L	11/27/97
Methyl t-Butyl Ether	1634-04-4	ND	300	ug/L	11/27/97
Total Dissolved Solids	EPA 160.1	3,400 *	10	mg/L	11/21/97
#Extraction for TPH	EPA 3510	-		Extrn Date	11/21/97
TPH as Diesel	GC-FID	950 *	10	mg/L	11/28/97

Reporting limits for diesel and gas/BTEX elevated due to high levels of target compounds. Samples run at dilution.

ND = Not detected at or above the reporting limit

\* = Value at or above reporting limit

## GERAGHTY &amp; MILLER, INC.

SAMPLE ID: MW-2  
 AEN LAB NO: 9711254-02  
 AEN WORK ORDER: 9711254  
 CLIENT PROJ. ID: RC0019.010

DATE SAMPLED: 11/17/97  
 DATE RECEIVED: 11/18/97  
 REPORT DATE: 12/09/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	0.5 ug/L		11/29/97
Toluene	108-88-3	ND	0.5 ug/L		11/29/97
Ethylbenzene	100-41-4	ND	0.5 ug/L		11/29/97
Xylenes, Total	1330-20-7	ND	2 ug/L		11/29/97
Purgeable HCs as Gasoline	5030/GCFID	ND	0.05 mg/L		11/29/97
Methyl t-Butyl Ether	1634-04-4	ND	5 ug/L		11/29/97
Total Dissolved Solids	EPA 160.1	340 *	10 mg/L		11/21/97
#Extraction for TPH	EPA 3510	-		Extrn Date	11/21/97
TPH as Diesel	GC-FID	1.3 *	0.05 mg/L		11/25/97

ND = Not detected at or above the reporting limit

\* = Value at or above reporting limit

## GERAGHTY &amp; MILLER, INC.

SAMPLE ID: MW-3  
 AEN LAB NO: 9711254-03  
 AEN WORK ORDER: 9711254  
 CLIENT PROJ. ID: RC0019.010

DATE SAMPLED: 11/17/97  
 DATE RECEIVED: 11/18/97  
 REPORT DATE: 12/09/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	0.5	ug/L	11/27/97
Toluene	108-88-3	ND	0.5	ug/L	11/27/97
Ethylbenzene	100-41-4	ND	0.5	ug/L	11/27/97
Xylenes, Total	1330-20-7	ND	2	ug/L	11/27/97
Purgeable HCs as Gasoline	5030/GCFID	ND	0.05	mg/L	11/27/97
Methyl t-Butyl Ether	1634-04-4	ND	5	ug/L	11/27/97
Total Dissolved Solids	EPA 160.1	3,400 *	10	mg/L	11/21/97
#Extraction for TPH	EPA 3510	-		Extrn Date	11/21/97
TPH as Diesel	GC-FID	ND	0.05	mg/L	11/25/97

ND = Not detected at or above the reporting limit

\* = Value at or above reporting limit



## GERAGHTY &amp; MILLER, INC.

SAMPLE ID: MW-4  
 AEN LAB NO: 9711254-04  
 AEN WORK ORDER: 9711254  
 CLIENT PROJ. ID: RC0019.010

DATE SAMPLED: 11/17/97  
 DATE RECEIVED: 11/18/97  
 REPORT DATE: 12/09/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	25 *	5 ug/L		11/29/97
Toluene	108-88-3	ND	5 ug/L		11/29/97
Ethylbenzene	100-41-4	ND	5 ug/L		11/29/97
Xylenes, Total	1330-20-7	ND	20 ug/L		11/29/97
Purgeable HCs as Gasoline	5030/GCFID	4.4 *	0.5 mg/L		11/29/97
Methyl t-Butyl Ether	1634-04-4	ND	50 ug/L		11/29/97
Total Dissolved Solids	EPA 160.1	7.900 *	10 mg/L		11/21/97
#Extraction for TPH	EPA 3510	-	Extrn Date		11/26/97
TPH as Diesel	GC-FID	57 *	1 mg/L		11/28/97

Reporting limits for diesel and gas/BTEX elevated due to high levels of target compounds. Samples run at dilution.

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

GERAGHTY & MILLER, INC.

SAMPLE ID: MW-5  
 AEN LAB NO: 9711254.05  
 AEN WORK ORDER: 9711254  
 CLIENT PROJ. ID: RC0019.010

DATE SAMPLED: 11/17/97  
 DATE RECEIVED: 11/18/97  
 REPORT DATE: 12/09/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	0.6 *	0.5	ug/L	11/27/97
Toluene	108-88-3	0.7 *	0.5	ug/L	11/27/97
Ethylbenzene	100-41-4	0.5 *	0.5	ug/L	11/27/97
Xylenes, Total	1330-20-7	ND	2	ug/L	11/27/97
Purgeable HCs as Gasoline	5030/GCFID	0.07 *	0.05	mg/L	11/27/97
Methyl t-Butyl Ether	1634-04-4	5 *	5	ug/L	11/27/97
Total Dissolved Solids	EPA 160.1	2,800 *	10	mg/L	11/21/97
#Extraction for TPH	EPA 3510	-		Extrn Date	11/26/97
TPH as Diesel	GC-FID	1.1 *	0.05	mg/L	11/28/97

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

## GERAGHTY &amp; MILLER, INC.

SAMPLE ID: MW-7  
 AEN LAB NO: 9711254-06  
 AEN WORK ORDER: 9711254  
 CLIENT PROJ. ID: RC0019.010

DATE SAMPLED: 11/17/97  
 DATE RECEIVED: 11/18/97  
 REPORT DATE: 12/09/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	110 *	5 ug/L		11/27/97
Toluene	108-88-3	41 *	5 ug/L		11/27/97
Ethylbenzene	100-41-4	12 *	5 ug/L		11/27/97
Xylenes, Total	1330-20-7	110 *	20 ug/L		11/27/97
Purgeable HCs as Gasoline	5030/GCFID	15 *	0.5 mg/L		11/27/97
Methyl t-Butyl Ether	1634-04-4	ND	50 ug/L		11/27/97
Total Dissolved Solids	EPA 160.1	3,300 *	10 mg/L		11/21/97
#Extraction for TPH	EPA 3510	-	Extrn Date		11/26/97
TPH as Diesel	GC-FID	18,000 *	300 mg/L		11/28/97

Reporting limits for diesel and gas/BTEX elevated due to high levels of target compounds. Samples run at dilution.

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

GERAGHTY & MILLER, INC.

SAMPLE ID: MW-8  
 AEN LAB NO: 9711254.07  
 AEN WORK ORDER: 9711254  
 CLIENT PROJ. ID: RC0019.010

DATE SAMPLED: 11/17/97  
 DATE RECEIVED: 11/18/97  
 REPORT DATE: 12/09/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	1.4 *	0.5	ug/L	11/27/97
Toluene	108-88-3	2.1 *	0.5	ug/L	11/27/97
Ethylbenzene	100-41-4	0.7 *	0.5	ug/L	11/27/97
Xylenes, Total	1330-20-7	3 *	2	ug/L	11/27/97
Purgeable HCs as Gasoline	5030/GCFID	0.25 *	0.05	mg/L	11/27/97
Methyl t-Butyl Ether	1634-04-4	ND	5	ug/L	11/27/97
Total Dissolved Solids	EPA 160.1	4,600 *	10	mg/L	11/21/97
#Extraction for TPH	EPA 3510	-		Extrn Date	11/26/97
TPH as Diesel	GC-FID	0.52 *	0.05	mg/L	11/28/97

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

AEN (CALIFORNIA)  
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9711254  
CLIENT PROJECT ID: RC0019.010

Quality Control and Project Summary

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

Definitions

Laboratory Control Sample (LCS)/Method Spikes(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 analyses.

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 behaviour, 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 instrument performance.

D: Surrogates diluted out.

I: Interference.

!: Indicates result outside of established laboratory QC limits.

WORK ORDER: 9711254

QUALITY CONTROL REPORT

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ANALYSIS: TPH as Diesel

MATRIX: Water

METHOD BLANK SAMPLES

SAMPLE TYPE: Blank-Method/Media blank		LAB ID: BLNK-1121-1		INSTR RUN: GC C\971121000000/1/				
INSTRUMENT: HP 5890		PREPARED: 11/21/97		BATCH ID: DSCW112197-1				
UNITS: mg/L		ANALYZED: 11/23/97		DILUTION: 1.000000				
METHOD: GC-FID								
ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%)	RPD (%)	RPD LIMIT (%)
Diesel	ND		0.05			LOW HIGH		
Motor Oil	ND		0.2					
n-Pentacosane (surr)	98.1			100	98.1	65 125		

SAMPLE TYPE: Blank-Method/Media blank		LAB ID: BLNK-1126-1		INSTR RUN: GC C\971126000000/1/				
INSTRUMENT: HP 5890		PREPARED: 11/26/97		BATCH ID: DSCW112697-1				
UNITS: mg/L		ANALYZED: 11/27/97		DILUTION: 1.000000				
METHOD: GC-FID								
ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%)	RPD (%)	RPD LIMIT (%)
Diesel	ND		0.05			LOW HIGH		
Motor Oil	ND		0.2					
n-Pentacosane (surr)	90.5			100	90.5	65 125		

LABORATORY CONTROL SAMPLES

SAMPLE TYPE: Laboratory Control Spike		LAB ID: LCDW-1121-1		INSTR RUN: GC C\971121000000/3/1				
INSTRUMENT: HP 5890		PREPARED: 11/21/97		BATCH ID: DSCW112197-1				
UNITS: mg/L		ANALYZED: 11/23/97		DILUTION: 1.000000				
METHOD: GC-FID								
ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%)	RPD (%)	RPD LIMIT (%)
Diesel	1.73	ND	0.05	2.00	86.5	60 110		
n-Pentacosane (surr)	95.6	98.1		100	95.6	65 125		

SAMPLE TYPE: Laboratory Control Spike		LAB ID: LCSW-1121-1		INSTR RUN: GC C\971121000000/2/1				
INSTRUMENT: HP 5890		PREPARED: 11/21/97		BATCH ID: DSCW112197-1				
UNITS: mg/L		ANALYZED: 11/23/97		DILUTION: 1.000000				
METHOD: GC-FID								
ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%)	RPD (%)	RPD LIMIT (%)
Diesel	1.70	ND	0.05	2.00	85.0	60 110		
n-Pentacosane (surr)	99.1	98.1		100	99.1	65 125		

SAMPLE TYPE: Laboratory Control Spike		LAB ID: LCDW-1126-1		INSTR RUN: GC C\971126000000/3/1				
INSTRUMENT: HP 5890		PREPARED: 11/26/97		BATCH ID: DSCW112697-1				
UNITS: mg/L		ANALYZED: 11/27/97		DILUTION: 1.000000				
METHOD: GC-FID								
ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%)	RPD (%)	RPD LIMIT (%)
Diesel	2.04	ND	0.05	2.00	102	60 110		
n-Pentacosane (surr)	87.9	90.5		100	87.9	65 125		

SAMPLE TYPE: Laboratory Control Spike		LAB ID: LCSW-1126-1		INSTR RUN: GC C\971126000000/2/1				
INSTRUMENT: HP 5890		PREPARED: 11/26/97		BATCH ID: DSCW112697-1				
UNITS: mg/L		ANALYZED: 11/27/97		DILUTION: 1.000000				
METHOD: GC-FID								
ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%)	RPD (%)	RPD LIMIT (%)
Diesel	1.97	ND	0.05	2.00	98.5	60 110		
n-Pentacosane (surr)	87.2	90.5		100	87.2	65 125		

WORK ORDER: 9711254

QUALITY CONTROL REPORT

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ANALYSIS: TPH as Diesel

MATRIX: Water

LABORATORY CONTROL DUPLICATES

SAMPLE TYPE: Laboratory Control Sample Duplicate      LAB ID: LCRW-1121-1      INSTR RUN: GC C\971121000000/4/2  
 INSTRUMENT: HP 5890      PREPARED: 11/21/97      BATCH ID: DSCW112197-1  
 UNITS: mg/L      ANALYZED: 11/23/97      DILUTION: 1.000000  
 METHOD: GC-FID

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%)		RPD (%)	RPD LIMIT (%)
						LOW	HIGH		
Diesel	1.73	1.70	0.05	2030				1.75	15
Motor Oil	ND	ND	0.2	200				0	
n-Pentacosane (surr)	95.6	99.1			3.60	65	125		

SAMPLE TYPE: Laboratory Control Sample Duplicate      LAB ID: LCRW-1126-1      INSTR RUN: GC C\971126000000/4/2  
 INSTRUMENT: HP 5890      PREPARED: 11/26/97      BATCH ID: DSCW112697-1  
 UNITS: mg/L      ANALYZED: 11/27/97      DILUTION: 1.000000  
 METHOD: GC-FID

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%)		RPD (%)	RPD LIMIT (%)
						LOW	HIGH		
Diesel	2.04	1.97	0.05	2030				3.49	15
Motor Oil	ND	ND	0.2	200				0	
n-Pentacosane (surr)	87.9	87.2			0.800	65	125		

SAMPLE SURROGATES

SAMPLE TYPE: Sample-Client      LAB ID: 9711254-01D      INSTR RUN: GC C\971121000000/19/  
 INSTRUMENT: HP 5890      PREPARED: 11/21/97      BATCH ID: DSCW112197-1  
 UNITS: mg/L      ANALYZED: 11/28/97      DILUTION: 1.000000  
 METHOD: GC-FID

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%)		RPD (%)	RPD LIMIT (%)
						LOW	HIGH		
n-Pentacosane (surr)	D			100	0!	65	125		

SAMPLE TYPE: Sample-Client      LAB ID: 9711254-02D      INSTR RUN: GC C\971121000000/20/  
 INSTRUMENT: HP 5890      PREPARED: 11/21/97      BATCH ID: DSCW112197-1  
 UNITS: mg/L      ANALYZED: 11/25/97      DILUTION: 1.000000  
 METHOD: GC-FID

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%)		RPD (%)	RPD LIMIT (%)
						LOW	HIGH		
n-Pentacosane (surr)	106.2			100	106	65	125		

SAMPLE TYPE: Sample-Client      LAB ID: 9711254-03D      INSTR RUN: GC C\971121000000/21/  
 INSTRUMENT: HP 5890      PREPARED: 11/21/97      BATCH ID: DSCW112197-1  
 UNITS: mg/L      ANALYZED: 11/25/97      DILUTION: 1.000000  
 METHOD: GC-FID

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%)		RPD (%)	RPD LIMIT (%)
						LOW	HIGH		
n-Pentacosane (surr)	102.6			100	103	65	125		

SAMPLE TYPE: Sample-Client      LAB ID: 9711254-04D      INSTR RUN: GC C\971126000000/5/  
 INSTRUMENT: HP 5890      PREPARED: 11/26/97      BATCH ID: DSCW112697-1  
 UNITS: mg/L      ANALYZED: 11/28/97      DILUTION: 1.000000  
 METHOD: GC-FID

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%)		RPD (%)	RPD LIMIT (%)
						LOW	HIGH		
n-Pentacosane (surr)	D			100	0!	65	125		

SAMPLE TYPE: Sample-Client      LAB ID: 9711254-05D      INSTR RUN: GC C\971126000000/6/  
 INSTRUMENT: HP 5890      PREPARED: 11/26/97      BATCH ID: DSCW112697-1  
 UNITS: mg/L      ANALYZED: 11/28/97      DILUTION: 1.000000  
 METHOD: GC-FID

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%)		RPD (%)	RPD LIMIT (%)
						LOW	HIGH		
n-Pentacosane (surr)	102.5			100	103	65	125		

WORK ORDER: 9711254

QUALITY CONTROL REPORT

PAGE QR-4

ANALYSIS: TPH as Diesel

MATRIX: Water

SAMPLE SURROGATES

SAMPLE TYPE: Sample-Client		LAB ID: 9711254-06D		INSTR RUN: GC C\971126000000/7/	
INSTRUMENT: HP 5890		PREPARED: 11/26/97		BATCH ID: DSQL112697-1	
UNITS: mg/L		ANALYZED: 11/28/97		DILUTION: 1.000000	
METHOD: GC-FID					

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%)	RPD (%)	RPD LIMIT (%)
						LOW HIGH		
n-Pentacosane (surr)	D			100	0 !	65 125		

SAMPLE TYPE: Sample-Client		LAB ID: 9711254-07D		INSTR RUN: GC C\971126000000/8/	
INSTRUMENT: HP 5890		PREPARED: 11/26/97		BATCH ID: DSQL112697-1	
UNITS: mg/L		ANALYZED: 11/28/97		DILUTION: 1.000000	
METHOD: GC-FID					

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%)	RPD (%)	RPD LIMIT (%)
						LOW HIGH		
n-Pentacosane (surr)	100.8			100	101	65 125		



QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9711254  
 INSTRUMENT: H  
 MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery	
			Fluorobenzene	
11/27/97	MW-1	01	94	
11/27/97	MW-2	02	94	
11/27/97	MW-3	03	92	
11/29/97	MW-4	04	98	
11/27/97	MW-5	05	93	
11/27/97	MW-7	06	94	
11/27/97	MW-8	07	93	

QC Limits: 70-130

DATE ANALYZED: 11/29/97  
 SAMPLE SPIKED: LCS  
 INSTRUMENT: H

Laoratory Control Sample Recovery

Analyte	Spike Added (ug/L)	Percent Recovery	RPD	QC Limits	
				Percent Recovery	RPD
Benzene	100	86	9	70-130	20
Toluene	100	95	10	70-130	20
Ethylbenzene	100	100	10	70-130	20
Total Xylenes	300	99	14	70-130	20

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

\*\*\* END OF REPORT \*\*\*

9711259

Project Number RC 0019.010  
Project Location PENSKE / OAKLAND  
Laboratory AEX  
Sampler(s)/Affiliation RLS

SAMPLE BOTTLE / CONTAINER DESCRIPTION

SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	SAMPLE BOTTLE / CONTAINER DESCRIPTION							TOTAL	
MW-1	L	AS	1A-E	TPH-C/10E/117BE	TPH-D	TPH-E	TPH-F	TPH-G	TPH-H	TPH-I	TPH-J	6
MW-2	L	AS	2A-E									6
MW-3	L	AS	3A-E									6
MW-4	L	AS	4A-E									6
MW-5	L	AS	5A-E									6
MW-7	L	AS	6A-E									6
MW-8	L	AS	7A-E									6
TP-LB	L	AS										1

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers 43

Relinquished by: <u>Richardson</u>	Organization: <u>Geraghty &amp; Miller</u>	Date: <u>11/18/97</u> Time: <u>17:10</u>	Seal Intact? <u>Yes</u>
Received by: <u>Paul Blum</u>	Organization: <u>AEX</u>	Date: <u>11/18/97</u> Time: <u>17:11</u>	Seal Intact? <u>Yes</u>
Relinquished by: _____	Organization: _____	Date: <u>1/1</u> Time: <u>1</u>	Seal Intact? <u>Yes</u>
Received by: _____	Organization: _____	Date: <u>1/1</u> Time: <u>1</u>	Seal Intact? <u>Yes</u>

Special Instructions/Remarks: \_\_\_\_\_