

HAZMAT

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June 7, 1994 Project No. RC0019.005

Mr. Barney Chan Division of Hazardous Materials Department of Environmental Health Alameda County Health Care Services Agency 80 Swan Way Oakland, CA 94621

SUBJECT:

Results of Quarterly Groundwater Monitoring, February 1994

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

Dear Mr. Chan:

The above referenced report is being forwarded to you at the request of Penske Truck Leasing Co. The report details the results of the quarterly groundwater monitoring well sampling for February 1994 at the former Penske Truck Leasing Facility at 725 Julie Ann Way, Oakland. The quarterly sampling has been completed in response to the requirements for groundwater sampling contained in the Alameda County Health Care Services, Department of Environmental Health letter to Penske dated October 24, 1989.

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

Sincerely,

GERAGHTY & MILLER, INC.

Paul V. Hehn

Staff Geologist/Project Manager

Attachment:

Results of Quarterly Groundwater Monitoring, February 1994

cc:

Mr. Marc Althen

Penske Truck Leasing Co.

RESULTS OF QUARTERLY
GROUNDWATER MONITORING
FEBRUARY 1994
FORMER PENSKE TRUCK
LEASING CO. FACILITY
725 JULIE ANN WAY
OAKLAND, CALIFORNIA

May 1994

Prepared by

Geraghty & Miller, Inc. 1050 Marina Way South Richmond, CA 94804 (510) 233-3200



May 31, 1994 Project No. RC0019.005

Mr. Marc E. Althen
Director, Environmental Services
Penske Truck Leasing Co.
Route 10, Green Hills
P.O. Box 563
Reading, PA 19603

SUBJECT: Results of Quarterly Groundwater Monitoring, February 1994

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

Dear Mr. Althen:

This report presents the results of the quarterly groundwater monitoring performed on February 1, 1994, at the former Penske Truck Leasing Co. (Penske) facility referenced above (Figure 1). The scope of work for this project was presented to Penske in a Geraghty & Miller, Inc. (Geraghty & Miller) letter dated July 2, 1992. The monitoring program consists of collecting quarterly depth-to-water measurements and water samples from the five monitor wells located at the project site for the period from July 1993 to May 1994.

FIELD PROCEDURES

The quarterly groundwater monitoring was performed on February 1, 1994. Groundwater samples were collected from Monitor Wells MW-1 through MW-5. The monitor-well locations are shown in Figure 2.

Prior to sampling, depth-to-water and total-well-depth measurements were obtained from each well. Additionally, the wells were checked for the presence of liquid-phase hydrocarbons. Liquid-phase hydrocarbons were not observed in any of the wells during this monitoring event. Each well sampled on February 1, 1994, was purged of approximately three to four casing volumes of water using a 1-inch diaphragm pump. All equipment that entered the well was washed in a solution of nonphosphate detergent and water and then triple rinsed in deionized water prior to sampling each well. 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 disposable polyethylene bailer, with a new bailer used

for each well. The purged water was stored in 55-gallon drums and retained onsite for subsequent disposal by Penske.

A trip blank, consisting of a sample vial containing laboratory-grade water, accompanied the sample vials from the laboratory to the site and back to the laboratory, and was also submitted for analysis. The purpose of the trip blank is to assess whether any of the compounds analyzed for may have been imparted to the samples by air in the vicinity of the sample bottles during shipping, by the sample container, by the preservative, or by other exogenous sources.

Groundwater samples were put into the appropriate USEPA-approved containers, placed on ice, and transported to Superior Precision Analytical, Inc., in Martinez, California, along with appropriate chain-of-custody documentation. The water samples were analyzed for total petroleum hydrocarbons (TPH) as gasoline (USEPA Method 8015, modified), for TPH as diesel (USEPA Method 8015, modified), for benzene, toluene, ethylbenzene, and total xylenes (BTEX) (USEPA Method 8020), and for total dissolved solids (USEPA Method 160.0).

RESULTS

SHALLOW GROUNDWATER FLOW

A summary of the depth-to-water data is presented in Table 1. Depth to water ranged from 6.48 feet (Monitor Well MW-5) to 8.03 feet (Monitor Well MW-3) below the ground surface. A contour map based on the groundwater elevation data collected February 1, 1994, is presented in Figure 2.

The difference in the elevation of the groundwater surface between Wells MW-2 and MW-4 is 0.41 feet, producing a hydraulic gradient (slope of the groundwater surface) of approximately 0.0043 foot/foot in a westerly direction.

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 collected from Monitor Wells MW-1 (430 micrograms per liter [μ g/L]) and MW-4 (320 μ g/L). TPH as diesel was detected in the groundwater samples collected from Monitor Wells MW-1 (10,000 μ g/L), and MW-4 (160 μ g/L). Benzene was detected in the groundwater samples collected from Monitor Wells MW-1 (8.2 μ g/L) and MW-4 (290 μ g/L). All other BTEX constituent results are presented in Table 2. TPH as

gasoline and BTEX were not detected in the trip blank. Additional analysis of total dissolved solids in the groundwater samples detected concentrations ranging from 2,000 milligrams per liter (mg/L) from Monitor Well MW-2 to 6,200 mg/L from Monitor Well MW-4 (Table 2).

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). The high specific conductance measurements were verified by correspondingly high concentrations of total dissolved solids detected in the groundwater samples (Table 2).

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,

GERAGHTY & MILLER, INC.

Paul V. Hehn

Staff Geologist/Project Manager

Jeffrey W. Hawkins, R.G.

Senior Scientist

Gary W. Keyes

Principal Engineer/Associate

Richmond, California Office Manager

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Attachments: References

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

Data

Table 2 Summary of Groundwater Analytical Results - Monthly and

Quarterly Sampling

Figure 1 Site Location Map

Shallow Groundwater Contours Figure 2

Copies of Certified Laboratory Reports and Chain-of-Custody Attachment 1

Documentation

REFERENCES

- Geraghty & Miller, Inc. November 15, 1990. Results of Initial Soil and Ground-Water 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 Ground-Water Monitoring Activities for the Period February 1991 through February 1992, Former Penske Truck Leasing Co. Facility, 725 Julie Ann Way, Oakland, California.
- ———. July 2, 1992. Scope of Work and Project Budget Estimate for Ground-Water Monitoring Activities for the Period July 1992 through April 1993, 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.

		Depth to	Top of Casing	Top of Water	Measured Depth	n Calculated	Actual Purge	Field	Measur	ements	Casing
		Water (a)	Elevation	Elevation	of Well (a)	Purge Volume (b)	Volume		Temp.	SC	Diameter
Well	Date	(feet)	(feet)	(feet)	(feet)	(gallons)	(gallons)	pН	(°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	5.42	-3.12	33.58	65.00	70	6.30	66.0	9,700	
	25-Mar-91	7.35	5.42	-1.93	33.50	71.00	75	6.50	64.0	7,200	
	1-May-91	7.91	5.42	-2.49	33.70	67.00	5 1	6.20	65.0	3,500	
	5-Aug-91		5.42	-3.21	NM	51.00	68	NM	63.6	7,690	
	23-Oct-91	9.00	5.42	-3.58	33.77	67.00	67	9.40	64.2	7,470	,
	6-Jan-92		5.42	-3.10	33.87	65.00	69	9.40	63.2	6,640	
	20-Jul-92		5.42	-2.52	33.95	65.02	66	7.20	65.7	6,410	
	23-Oct-92		5.42	-3.20	33.57	64.80	60	7.50	69.8	1,930	
	4-Feb-93		5.43 (c)	-1.12	33.84	70.96	71	8.02	65.0	9,520	
	8-Apr-93		5.43	-0.94	33.80	71.32	65	6.60	66.7	>2,000	
	6-Aug-93		5.43	-1.96	33.88	68.67	69	7.22	68.1	5,890	
	28-Oct-93		5.43	-2.42	33.80	67.48	68	7.00	68.3	5,910	•
	1-Feb-94		5.43	-1.82	33.99	69.52	70	7.63	63.2	7,610	
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		6.21	-2.98	29.39	53.00	55	6.60	64.0	9,000	
	25-Mar-91	and the second second	6.21	-1.74	29.39	57.00	70	6.60	63.0	6,400	
	1-May-91		6.21	-2.37	29.60	55.00	50	6.20	64.0	3,000	
	5-Aug-91		6.21	-3.12	NM	40.00	54	NM	65.1	5,680	
	23-Oct-91		6.21	-3.36	29.35	52.00	53	7.60	65.4	7,970	
	6-Jan-92		6.21	-2.87	29.50	53.00	53	9.18	62.8	6,990	
	20-Jul-92		6.21	-2.39	29.45	54.21	55	6.50	65.2	6,690	
	23-Oct-92		6.21	-3.12	29.18	51.60	55	7.20	69.8	1,900	
	4-Feb-93		6.20 (c)	-0.97	29.37	57.72	55	8.25	64.0	10,310	
	8-Apr-93		6.20	-0.75	29.32	58.16	60	6.90	66.7	>2,000	
	6-Aug-93		6.20	-1.85	29.33	55.33	66.5	7.26	66.4	6,250	
	28-Oct-93		6.20	-2.30	29.43	54.40	55 .	7.08	71.2	6,780	
	1-Feb-94		6.20	-1.67	29.54	56.32	57	8.35	62.4	8,250	

Table 1: Summary of Field Sampling, Depth-to-Water, and Casing Elevation Data Former Penske Truck Leasing Facility, 725 Julie Ann Way, Oakland, California.

•		Depth to	Top of Casing	Top of Water	Measured Depth	Calculated	Actual Purge	Field	Measur	ements	Casing
		Water (a)	Elevation	Elevation		Purge Volume (b)		*************	Temp.	*****	Diameter
Well	Date	(feet)	(feet)	(feet)	(feet)	(gallons)	(gallons)	pН	(°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	6.10	-3.35	31.61	58.00	60	6.10	66.0	1,020	
	25-Mar-91	7.98	6.10	-1.88	31.60	70.00	75	6.40	65.0	8,200	
	1-May-91	8.58	6.10	-2.48	33.70	65.00	50	6.40	67.0	4,100	
	5-Aug-91	9.26	6.10	-3.16	NM	50.00	67	NM	64.1	6,190	
	23-Oct-91	9.60	6.10	-3.50	33.48	66.00	66	7.30	67.3	8,430	
	6-Jan-92	9.08	6.10	-2.98	33.66	64.00	64	9.98	61.7	7,010	
	20-Jul-92	8.59	6.10	-2.49	33.76	65.44	66	6.80	66.0	7,540	
	23-Oct-92	9.30	6.10	-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	6.1Ò ´	-0.88	33.55	69.08	72	6.90	68.2	>2,000	
	6-Aug-93	8.01	6.10	-1.91	33.55	66,40	56 (d)	7.43	67.3	6,490	
	28-Oct-93	8.45	6.10	-2.35	33.60	65.40	66	7.02	72.0	6,590	
	1-Feb-94	8.03	6.10	-1.93	33.74	66.84	67	8.32	63.3	8,400	
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	5. 18	-1.03	33.04	69.76	70	6.80	69.1	>2,000	
	6-Aug-93	7.20	5.18	-2.02	32.92	66.87	60 (d)	7.44	68.9	13,900	
	28-Oct-93	7.64	5.18	-2.46	32.98	65.88	66	6.79	72. 1	11,940	
	1-Feb-94	7.26	5.18	-2.08	33.31	67.72	68	8.65	63.6	18,110	
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	4.71	-0.72	31.36	67.42	6 8 ´	7.20	68.0	>2,000	
	6-Aug-93	6.19	4.71	-1.48	31.30	65.29	68	7.47	63.6	5,180	
	28-Oct-93	6.86	4.71	-2.15	31.43	62.72	48 (d)	7.12	70.6	4,980	
	1-Feb-94	6.48	4.71	-1.77	31.43	64.84	49 (d)	(e)	63.1	6,120	

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

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

	Depth to	Top of Casing	Top of Water	Measured Depth	Calculated	Actual Purge	Field	Measure	ments	Casing
	Water (a)	Elevation	Elevation	of Well (a)	Purge Volume (b)	Volume "		Temp.	SC	Diameter
Well Date	(feet)	(feet)	(feet)	(feet)	(gallons)	(gallons)	pН	(°F)	(µS/cm)	(inches)

- (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.

SC Specific Conductance

(μS/cm) Microsiemens per centimeter

NM Not measured

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.

		TPH	TPH			Ethyl-		Total Dissolved
		Gasoline (a)	Diesel (a)	Benzene (b)	Toluene (b)	benzene (b)	Xylenes (b)	Solids (c)
Well	Date	(μg/L)	(μg/L)	(µg/L)	(µg/L)	(μg/L)	(μg/L)	(mg/L)
MW-1	2-Oct-90	170	2,900	20	18	1.9	5.7	
747 14 - 1	28-Feb-91		550	43	1	7	1	
	25-Mar-91		160	10	ND(<0.3)	0.5	ND(<0.3)	<u>-</u> -
	1-May-91		(d)	2.2	ND(<0.3)	ND(<0.3)	ND(<0.3)	
	5-Aug-91		330	22	5.5	9.5	23	
	23-Oct-91		1,800	23	21	6.2	35	
	6-Jan-92		1,600	56	8.4	18	22	
	20-Jul-92		25,000	0.4	0.8	· 1	2.1	- +
	23-Oct-92		6,500	9.3	13	8.2	15	- -
	4-Feb-93		320	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)	
	8-Apr-93		7,800	0.5	2.1	0.8	13	
	6-Aug-93		17,000	75	100	25	130	3,500
	28-Oct-93		7,600	4.7	1.9	3.2	5.4	3,500
	1-Peb-94		10,000	8.2	1.1	3.5	4.8	3,800
MW-2	2-Oct-90	ND(<50)	80	0.4	ND(<0.3)	ND(<0.3)	0.5	
102 / 1	28-Feb-91	• •	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)	
	25-Mar-91	•	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)	
	1-May-91		(d)	ND(<0.3)	ND(<0.3)		ND(<0.3)	
	5-Aug-91		ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)	
	23-Oct-91		ND(<50)	ND(<0.3)	ND(<0.3)		ND(<0.3)	
	6-Jan-92		1200 (e)	ND(<0.3)	83	82	940	
	20-Jul-92	· ·	120	1.7	3.3	1.1	9.6	
	23-Oct-92		ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	0.5	
	4-Feb-93		330 (e)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)	
	8-Apr-93	• •	74 (h)	1	2.1	1	13.0	
	6-Aug-93		ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.9)	990
	28-Oct-93		ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.9)	1,500
	1-Feb-94		ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	2,000

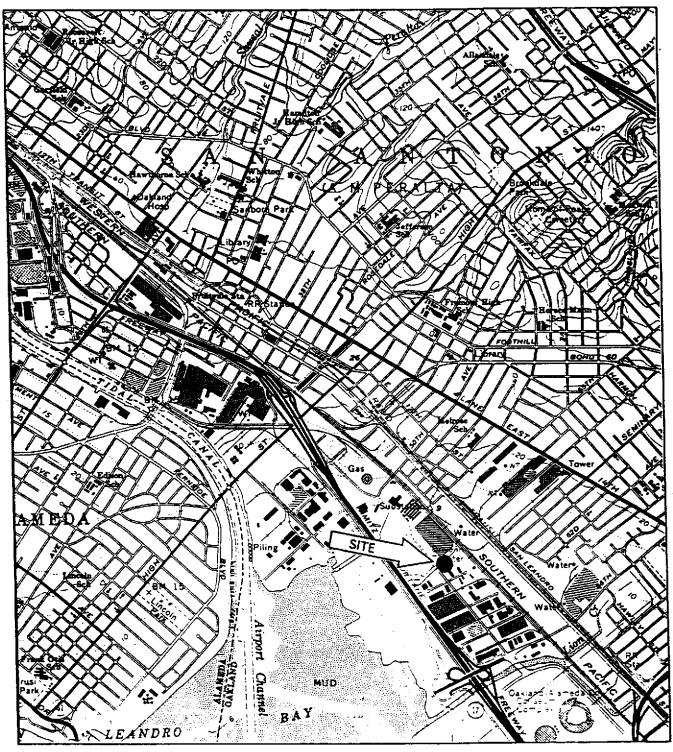
Table 2: Summary of Groundwater Analytical Results - Monthly and Quarterly Sampling Former Penske Truck Leasing Facility, 725 Julie Ann Way, Oakland, California.

		TPH	TPH			Ethyl-		Total Dissolved
		Gasoline (a)	Diesel (a)	Benzene (b)	Toluene (b)	benzene (b)	Xylenes (b)	Solids (c)
Well	Date	(μg/L)	(μg/L)	(μg/L)	(μg/L)	(µg/L)	(μg/L)	(mg/L)
MW-3	2-Oct-90	ND(<50)	90	28	3.1	0.6	1.5	
171 (7 5	28-Feb-91	` '	ND(<50)	6	ND(<0.3)	ND(<0.3)	ND(<0.3)	
	25-Mar-91	(/	ND(<50)	0.6	ND(<0.3)		ND(<0.3)	
	1-May-91	` '	(d)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)	
	5-Aug-91		ND(<50)	1.7	ND(<0.3)	ND(<0.3)	ND(<0.3)	
	23-Oct-91		ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)	
	6-Jan-92	, ,	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)	
	20-Jul-92	• • •	ND(<50)	1.1	2.2	0.7	6.4	
	23-Oct-92		ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)	
	4-Feb-93		ND(<100)(g)	9.8	4.6	4.5	8.7	
	8-Apr-93		ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.9)	
	6-Aug-93		ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.9)	3,400
	28-Oct-93		ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.9)	2,700
	1-Feb-94	, ,	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	3,400
MW-4	4-Feb-93	58 (f)	450	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)	
	8-Арг-93		220	19	0.4	ND(<0.3)	ND(<0.9)	
	6-Aug-93		ND(<50)	68	0.9	1.1	ND(<0.9)	5,800
	28-Oct-93		600	46	0.7	1.6	1.2	5,200
	1-Feb-94	and the second second	160	290	0.6	6.7	3.2	6,200
MW-5	4-Feb-93	ND(<50)	240	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)	
-,-!! D	8-Apr-93	` '	480	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.9)	
	6-Aug-93	, ,	120	0.8	ND(<0.3)	ND(<0.3)	ND(<0.9)	2,800
	28-Oct-93		370	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.9)	2,400
	1-Feb-94	` ,	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	2,500

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

		TPH	TPH			Ethyl-		Total Dissolved
	_	Gasoline (a)	Diesel (a)	Benzene (b)	Toluene (b)	benzene (b)	Xylenes (b)	Solids (c)
Well	Date	(μg/L)	(µg/L)	(μg/L)	(μg/L)	(μg/L)	(μg/L)	(mg/L)
(a)	Analyzed	by USEPA Met	hod 8015, mc	odified.				
(b)	•	by USEPA Met	,					
(c)		by USEPA Met						·
(d)	•	- sample for TF		ot collected.				
(e)		ge concentration		nonstandard di	esel pattern was	s observed in th	ne	
(f)		natch typical ga ive of hydrocarl		. Pattern of pea than gasoline.	ks observed in t	the chromatogr	rams	
(g)				cient sample am	ount.			
(h)				he chromatogran		single peak in	the diesel range	.
)	-	letection limit						
	Not analyz							
4D	Not detect			-			•	
ıg/L	Microgram							
ng/L	Milligrams	s per liter						

Analysis by Superior Analytical Laboratories, Inc., San Francisco and Martinez, California.



Reference: USGS Oakland East, CA 7 1/2 Min. Quad

Scale: 1: 24,000

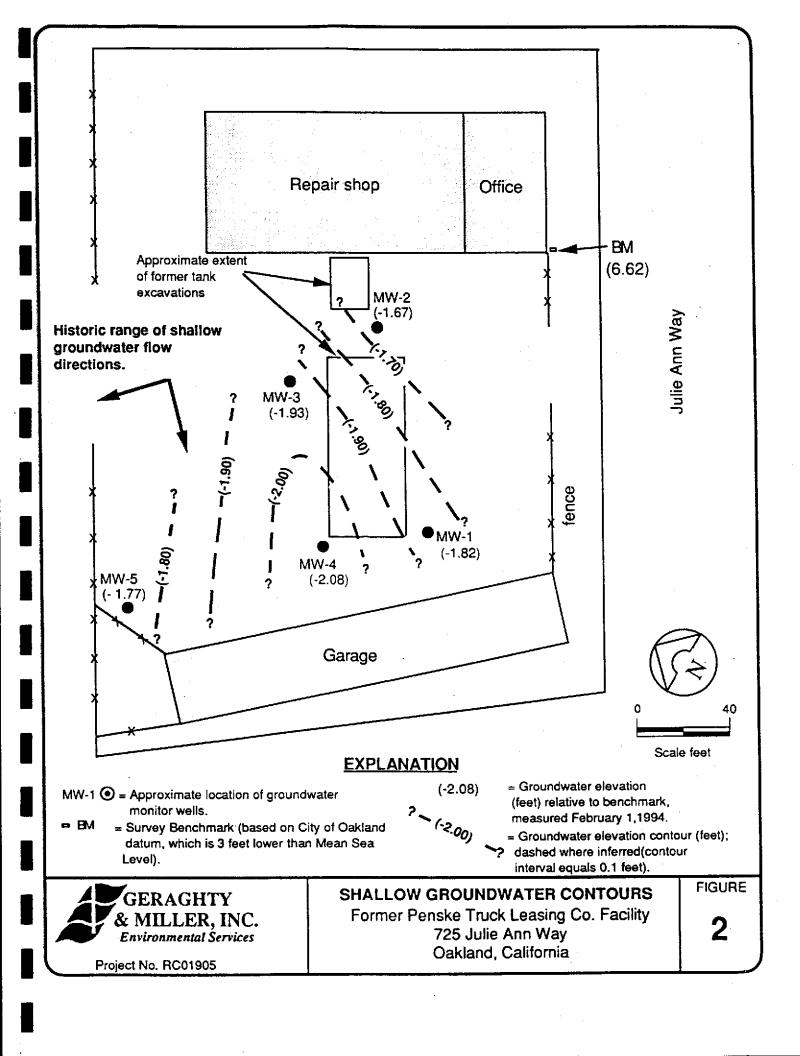




SITE LOCATION MAP

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

1



ATTACHMENT 1 COPIES OF CERTIFIED ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY DOCUMENTATION



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

GERAGHTY & MILLER Attn: PAUL HEHN Project RC0019.005 Reported 02/09/94

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed Matrix
57612- 1	MW-1	02/01/94	02/09/94 Water
57612- 2	MW-2	02/01/94	02/09/94 Water
57612- 3	MW-3	02/01/94	02/09/94 Water
57612- 4	MW-4	02/01/94	02/09/94 Water
57612- 5	MW-5	02/01/94	02/09/94 Water
57612- 6	TB	02/01/94	02/09/94 Water

RESULTS OF ANALYSIS

Laboratory Number: 57612- 1 57612- 2 57612- 3 57612- 4 57612- 5

asoline:	430	ND<50	ND<50	320	ND<50
Benzene:	8.2	ND<0.5	ND<0.5	290	ND<0.5
Toluene:	1.1	ND<0.5	ND<0.5	0.6	ND<0.5
thyl Benzene:	3.5	ND<0.5	ND<0.5	6.7	ND<0.5
Total Xylenes:	4.8	ND<0.5	ND<0.5	3.2	ND<0.5
Diesel:	10000	ND<50	ND<50	160	ND<50
		•			
oncentration:	ug/L	ug/L	ug/L	ug/L	ug/L

Laboratory Number: 57612-6

ND<50
ND<0.5
ND<0.5
ND<0.5
ND<0.5

ug/L

Concentration:

Page 1 of 2



Superior Precision Analytical, Inc.

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CERTIFICATE OF ANALYSIS

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

Page 2 of 2 QA/QC INFORMATION SET: 57612

NA = ANALYSIS NOT REQUESTED

ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT

ug/L = parts per billion (ppb)

OIL AND GREASE ANALYSIS By Standard Methods Method 5520F: Minimum Detection Limit in Water: 5000ug/L

Modified EPA SW-846 Method 8015 for Extractable Hydrocarbons: Minimum Quantitation Limit for Diesel in Water: 50ug/L

EPA SW-846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons: Minimum Quantitation Limit for Gasoline in Water: 50ug/L

EPA SW-846 Method 8020/BTXE

Minimum Quantitation Limit in Water: 0.5ug/L

ANALYTE	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Gasoline:	113/97	15%	75-125
Benzene:	96/94	2%	75-125
Toluene:	103/100	3%	75-125
Ethyl Benzene:	108/104	4%	75-125
Total Xylenes:	110/106	4 %	75-125
Diesel:	94/82	14%	75-125

Senior Chemist Account Manager

Certified Laboratories



Superior Precision Analytical, Inc.

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CERTIFICATE OF ANALYSIS

boratory No.: 57612

dient : GERAGHTY & MILLER Client job No.: RC0019.005

Date received: 02/02/94 Date reported: 02/09/94

TOTAL DISSOLVED SOLIDS BY EPA METHOD 160.1

Lab	Sample ID	Date Sampled	Date Analyzed	Analyte	Conc.	RL	Unit
1 2	MW-1 MW-2 MW-3 MW-4 MW-5	02/01/94 02/01/94 02/01/94 02/01/94 02/01/94	02/09/94 02/09/94 02/09/94 02/09/94 02/09/94	TDS TDS TDS TDS TDS	3800 2000 3400 6200 2500	10 10 10 10	mg/L mg/L mg/L mg/L mg/L
•	METHOD BLANK	02/01/94 Water	02/09/94	TDS	ND	10	mg/L

QAQC Summary: Water TDS

Sample/Duplicate % Recovery = 2478/2394

Duplicate RPD = 3%

mg/L = parts per million (ppm)

D = Not Detected A = Not Applicable

RL = Reporting Limit

Senior Chemist Account Manager

Page 1/1

- Christian Strices	ory Task Order No. 5-76/2	CHAIN-OF-CUSTODY RECORD	7-76/2 Page of
Project Number RC0019.005		SAMPLE BOTTLE / CONTAINER DESCRIPTION)N
Project Location Penske Oaklan	\mathcal{J} / $\sqrt{2}$ /		
Laboratory Superior Analytica	I /n /is /		
Laboratory Superior Analysis		1/83/	
Sampler(s)/Affiliation Geraythy am. 11 G Crowley	er ## STAN	1 2 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Date/Time ' SAMPLE IDENTITY Code Sampled Lab ID	/F / / / /		TOTAL
my,-1 L 2/1 1:10	XXX	X	5
mw-2 12:42			5
mw-3 12:33			5
1:03			5
my-5 1251	1	<u> </u>	5
TR L			
	- Philadelphia and Share produced the Share and Share an	GAL	
	Mense initial	500	
	A () ((c)) (2)	(1)	
	Sometica profes	red.	
	VC N's veille h	inadspece.	
	Co amenis:		
Sample Code: L = Liquid; S = Solid; A = A	Air	Total N	o. of Bottles/ Containers
Relinquished by: May - Cury Received by: 13	Organization: Geraghty Organization: SPASE	Miller Date 2/2/94 Time 10:0 Date - / 2/94 Time 1000	
Relinquished by:	Organization: Organization:	Date / / Time Date / / Time	Seal Intact? Yes No N/A

a district A contract