#554

RESULTS OF QUARTERLY GROUNDWATER MONITORING AUGUST 1995 FORMER PENSKE TRUCK LEASING CO. FACILITY 725 JULIE ANN WAY OAKLAND, CALIFORNIA

October 1995

Prepared by

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

GERAGHTY
& MILLER, INC.
Environmental Services

ENVIRONMENTAL
PROTECTION

95 NOV -9 PM 1:27

November 7, 1995
Project No. RC0019.009

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

SUBJECT: Results of Quarterly Groundwater Monitoring, August 1995
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 August 1995 at the former Penske Truck Leasing Facility at 725 Julie Ann Way, Oakland. Please note that groundwater sampling at this former facility is being completed by Penske's sampling subcontractor, Handex of Colorado, while the quarterly groundwater sampling reports continue to be prepared by Geraghty & Miller, Inc. 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
Project Geologist/Project Manager

Attachment: Results of Quarterly Groundwater Monitoring, August 1995

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

1050 Marina Way South • Richmond, California 94804 • (510) 233-3200 • FAX (510) 233-3204

PENSKE
Truck Leasing

Via Facsimile (510) 233-3204

November 6, 1995

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

Re: Review of Quarterly 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. If you have questions or need assistance, please call my office at (610) 775-6010.

Sincerely,

Richard G. Saut

Richard G. Saut
Environmental Project Manager

RGS:jlr
I5110095.rgs

GERAGHTY
& MILLER, INC.
Environmental Services

October 24, 1995
Project No. RC0019.009

Mr. Richard G. Saut
Manager, Environmental Projects
Penske Truck Leasing Co.
Route 10, Green Hills
P.O. Box 563
Reading, PA 19603

SUBJECT: Results of Quarterly Groundwater Monitoring, August 1995
Former Penske Truck Leasing Facility
725 Julie Ann Way, Oakland, California.

Dear Mr. Saut:

This report presents the results of the quarterly groundwater monitoring performed on August 16, 1995, 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 January 25, 1995. The scope of work includes the coordination of sampling activities for this former facility with Handex of Colorado (Handex), Penske's sampling subcontractor. The scope of work also includes the preparation of quarterly groundwater sampling and monitoring reports based on the data and groundwater samples collected by Handex. This quarterly groundwater sampling and monitoring program is related to the non-attainment zone (NAZ) 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).

FIELD PROCEDURES

The quarterly groundwater monitoring was performed on August 16, 1995, by a representative of Handex. In accordance with the NAZ concept approach monitoring and sampling plan, monitoring was completed and groundwater samples were collected from Monitor Wells MW-1 through MW-5, and MW-7. 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. No liquid-phase hydrocarbons were observed in monitor wells during this monitoring event. Each well sampled was purged of approximately three volumes of water using a 1-inch diaphragm pump unless the well went dry during purging. 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 160.1).

RESULTS

SHALLOW GROUNDWATER FLOW

A summary of the depth-to-water data is presented in Table 1. Depth to water ranged from 4.97 feet (Monitor Well MW-5) to 6.69 feet (Monitor Well MW-2) below the ground surface. A contour map based on the groundwater elevation data collected August 16, 1995, 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 on August 16, 1995.

The difference in the elevation of the groundwater surface between Wells MW-2 and MW-4 is 0.04 feet, producing a hydraulic gradient (slope of the groundwater surface) of approximately 0.0004 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 sample from Monitor Well MW-7 (53 micrograms per liter [µg/L]). The reporting limit for TPH as gasoline is 50 µg/L. TPH as diesel was detected in the groundwater samples collected from Monitor Wells MW-1 (740 µg/L), MW-2 (190 µg/L), MW-3 (240 µg/L), MW-4 (610 µg/L), MW-5 (590 µg/L), and MW-7 (1,100 µg/L). Benzene was detected only in the groundwater samples collected from Monitor Wells MW-4 (4.1 µg/L) and MW-7 (0.5 µg/L). All other BTEX constituent results are presented in Table 2. TPH as gasoline and BTEX were not detected in the trip blank. Analysis of total dissolved solids in the groundwater samples detected concentrations ranging from 2,800 milligrams per liter (mg/L) from Monitor Well MW-5 to 7,100 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). High concentrations of total dissolved solids were detected in the groundwater laboratory samples (Table 2).

COMPLIANCE WITH NON-ATTAINMENT ZONE APPROACH

Concentrations of benzene were not detected in shallow groundwater samples collected from designated NAZ concept guard wells MW-3 and MW-5 for the August 1995 quarterly sampling event. Two other wells (MW-1 and MW-2) were below the detection limit. Guard Wells MW-4 and MW-7 reported concentrations of benzene at 4.1 µg/L and 0.5 µg/L, respectively. All shallow groundwater sample results continue to be far below the compliance

level for benzene (21 µg/L). This compliance level for benzene was agreed to by both the ACHCSA and the RWQCB as part of the NAZ concept approach for this former Penske facility. The compliance levels have been met during this quarterly sampling event.

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
Project Geologist/Project Manager

Jeffrey W. Hawkins, R.G.
Senior Scientist

Gary W. Keyes
Principal Engineer/Associate
Richmond, California Office Manager

REGISTERED GEOLOGIST
JEFFREY W. HAWKINS
No. 4361
Exp. 9/30/97
STATE OF CALIFORNIA

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
Figure 3	Benzene Concentrations
Attachment 1	Copies of Field Data Sheets from Handex of Colorado, Inc.
Attachment 2	Copies of Certified Laboratory Reports and Chain-of-Custody 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.

———. 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.

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 Water (a) (feet)	Top of Casing Elevation (feet)	Top of Water Elevation (feet)	Measured Depth of Well (a) (feet)	Calculated Purge Volume (b (gallons)	Actual Purge Volume (gallons)	Field Measurements pH	Temp. (°F)	SC (µS/cm)	Casing Diameter (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	51	6.20	65.0	3,500	
	5-Aug-91	8.63	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	8.52	5.42	-3.10	33.87	65.00	69	9.40	63.2	6,640	
	20-Jul-92	7.94	5.42	-2.52	33.95	65.02	66	7.20	65.7	6,410	
	23-Oct-92	8.62	5.42	-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	5.43	-0.94	33.80	71.32	65	6.60	66.7	>2,000	
	6-Aug-93	7.39	5.43	-1.96	33.88	68.67	69	7.22	68.1	5,890	
	28-Oct-93	7.85	5.43	-2.42	33.80	67.48	68	7.00	68.3	5,910	
	1-Feb-94	7.25	5.43	-1.82	33.99	69.52	70	7.63	63.2	7,610	
	12-Sep-94	6.75	5.43	-1.32	33.95	70.72	70	6.90	75.8	7,950	
	23-Nov-94	6.13	5.43	-0.70	33.93	72.28	73	6.10	66.2	>2,000	
	21-Feb-95	6.00	5.43	-0.57	34.00	55.44	56	7.36	70	890	
	23-May-95	6.04	5.43	-0.61	34.00	54.52	56	7.11	66.2	5,920	
	16-Aug-95	6.03	5.43	-0.60	34.00	55.94	56	7.27	69.3	5,510	

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 Water (a) (feet)	Top of Casing Elevation (feet)	Top of Water Elevation (feet)	Measured Depth of Well (a) (feet)	Calculated Purge Volume (b (gallons)	Actual Purge Volume (gallons)	Field Measurements pH	Temp. (°F)	SC (µS/cm)	Casing Diameter (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	6.21	-2.98	29.39	53.00	55	6.60	64.0	9,000	
	25-Mar-91	7.95	6.21	-1.74	29.39	57.00	70	6.60	63.0	6,400	
	1-May-91	8.58	6.21	-2.37	29.60	55.00	50	6.20	64.0	3,000	
	5-Aug-91	9.33	6.21	-3.12	NM	40.00	54	NM	65.1	5,680	
	23-Oct-91	9.57	6.21	-3.36	29.35	52.00	53	7.60	65.4	7,970	
	6-Jan-92	9.08	6.21	-2.87	29.50	53.00	53	9.18	62.8	6,990	
	20-Jul-92	8.60	6.21	-2.39	29.45	54.21	55	6.50	65.2	6,690	
	23-Oct-92	9.33	6.21	-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	6.20	-0.75	29.32	58.16	60	6.90	66.7	>2,000	
	6-Aug-93	8.05	6.20	-1.85	29.33	55.33	66.5	7.26	66.4	6,250	
	28-Oct-93	8.50	6.20	-2.30	29.43	54.40	55	7.08	71.2	6,780	
	1-Feb-94	7.87	6.20	-1.67	29.54	56.32	57	8.35	62.4	8,250	
	12-Sep-94	7.42	6.20	-1.22	29.45	57.24	66	(e)	69.9	8,130	
	22-Nov-94	6.75	6.20	-0.55	29.50	59.15	60	6.8	67.6	>2,000	
	21-Feb-95	6.20	6.20	0.00	30.00	47.12	48	6.97	64	1,050	
	23-May-95	6.10	6.20	0.10	30.00	46.60	48	7.18	70.3	7,710	
	16-Aug-95	6.69	6.20	-0.49	30.00	46.62	46	7.42	65	6,790	

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 Water (a) (feet)	Top of Casing Elevation (feet)	Top of Water Elevation (feet)	Measured Depth of Well (a) (feet)	Calculated Purge Volume (b (gallons)	Actual Purge Volume (gallons)	Field Measurements pH	Temp. (°F)	SC (µS/cm)	Casing Diameter (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	6.10	-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	
	12-Sep-94	7.39	6.10	-1.29	33.70	68.40	70	7.73	68.7	8,030	
	22-Nov-94	6.76	6.10	-0.66	33.75	70.17	70	6.60	65.8	>2,000	
	21-Feb-95	6.36	6.10	-0.26	33.50	53.74	54	6.99	85.4	880	
	23-May-95	6.48	6.10	-0.38	33.50	52.69	54	7.25	68.7	6,060	
	16-Aug-95	6.63	6.10	-0.53	33.50	53.74	54	7.53	66.1	5,390	

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 Water (a) (feet)	Top of Casing Elevation (feet)	Top of Water Elevation (feet)	Measured Depth of Well (a) (feet)	Calculated Purge Volume (b (gallons)	Actual Purge Volume (gallons)	Field Measurements pH	Temp. (°F)	SC (µS/cm)	Casing Diameter (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	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	
	12-Sep-94	6.55	5.18	-1.37	33.41	69.84	60 (d)	6.03	77.5	16,710	
	23-Nov-94	6.08	5.18	-0.90	33.35	70.90	55 (d)	5.60	66.7	>2,000	
	21-Feb-95	5.36	5.18	-0.18	33.50	55.71	48 (d)	6.83	80.2	880	
	23-May-95	5.05	5.18	0.13	33.50	55.48	59	6.71	66.5	12,090	
	16-Aug-95	5.63	5.18	-0.45	33.50	55.74 (d)	33	7.34	69.8	8,670	
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	68	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	
	12-Sep-94	5.89	4.71	-1.18	31.43	66.40	39 (d)	(e)	69.4	5,020	
	22-Nov-94	5.66	4.71	-0.95	31.44	67.02	58 (d)	6.80	68.4	>2,000	
	21-Feb-95	4.90	4.71	-0.19	31.00	51.68	45 (d)	7.30	82.5	880	
	23-May-95	4.86	4.71	-0.15	31.00	50.97	52	7.03	66.5	4,320	
	16-Aug-95	4.97	4.71	-0.26	31.00	52.06 (d)	36	7.48	67.5	3,900	
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	5.37	-0.67	24.88	48.98	50	6.70	66.4	>2,000	
	21-Feb-95	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	23-May-95	5.32	5.37	0.05	24.70	NS	NS	NS	NS	NS	
	16-Aug-95	5.97	5.37	-0.60	24.70	NS	NS	NS	NS	NS	

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 Water (a) (feet)	Top of Casing Elevation (feet)	Top of Water Elevation (feet)	Measured Depth of Well (a) (feet)	Calculated Purge Volume (b (gallons)	Actual Purge Volume (gallons)	Field Measurements pH	Temp. (°F)	SC (µS/cm)	Casing Diameter (inches)
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	5.38	-0.23	28.46	59.40	60	6.00	64.6	>2,000	
	21-Feb-95	5.25	5.38	0.13	28.30	45.64	46	7.46	69.5	910	
	23-May-95	5.10	5.38	0.28	28.30	45.24	46	7.21	65.0	5,740	
	16-Aug-95	5.42	5.38	-0.04	28.30	45.76	46	7.36	66.8	5,560	
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	5.44	-0.57	25.66	78.60	75	5.60	61.5	>2,000	
	21-Feb-95	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	23-May-95	5.53	5.44	-0.09	25.40	NS	NS	NS	NS	NS	
	16-Aug-95	5.68	5.44	-0.24	25.40	NS	NS	NS	NS	NS	

(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
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)	Ethyl-benzene (b) (µg/L)	Xylenes (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

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)	Ethyl-benzene (b) (µg/L)	Xylenes (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	13.0	- -
	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

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)	Ethyl-benzene (b) (µg/L)	Xylenes (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

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)	Ethyl-benzene (b) (µg/L)	Xylenes (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	14.0	14.0	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
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

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)	Ethyl-benzene (b) (µg/L)	Xylenes (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
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
MW-8	12-Sep-94	170	850	2.7	0.5	ND(<0.5)	2.0	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
Trip Blank	16-Aug-95	ND(<50)	--	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	--

(a) Analyzed by USEPA Method 8015, modified.
(b) Analyzed by USEPA Method 8020.
(c) Analyzed by USEPA Method 160.1.

(Remarks continued on page 6.)

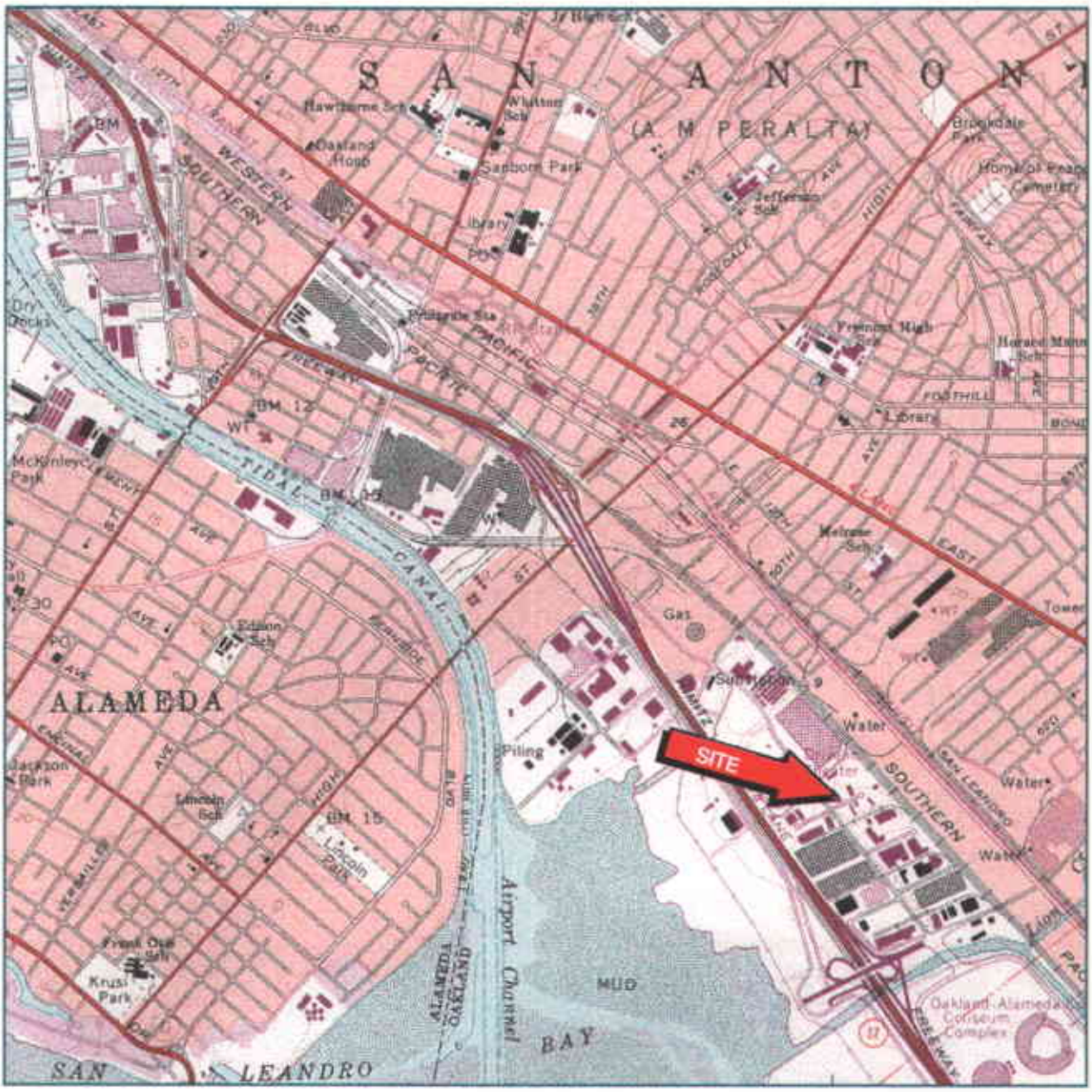
Table 2: Summary of Groundwater Analytical Results - Monthly and Quarterly Sampling
Former Penske Truck Leasing Facility,
725 Julie Ann Way, Oakland, California.

Well	Date	TPH Gasoline (a) (µg/L)	TPH Diesel (a) (µg/L)	Benzene (b) (µg/L)	Toluene (b) (µg/L)	Ethyl-benzene (b) (µg/L)	Xylenes (b) (µg/L)	Total Dissolved Solids (c) (mg/L)

(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.

( ) 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 by Superior Precision Analytical, Inc., Martinez, California.



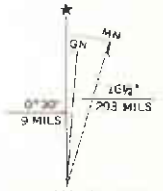
SCALE 1:24000

1 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 5 0 1 KILOMETER

CONTOUR INTERVAL 20 FEET



UTM GRID AND 1980 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

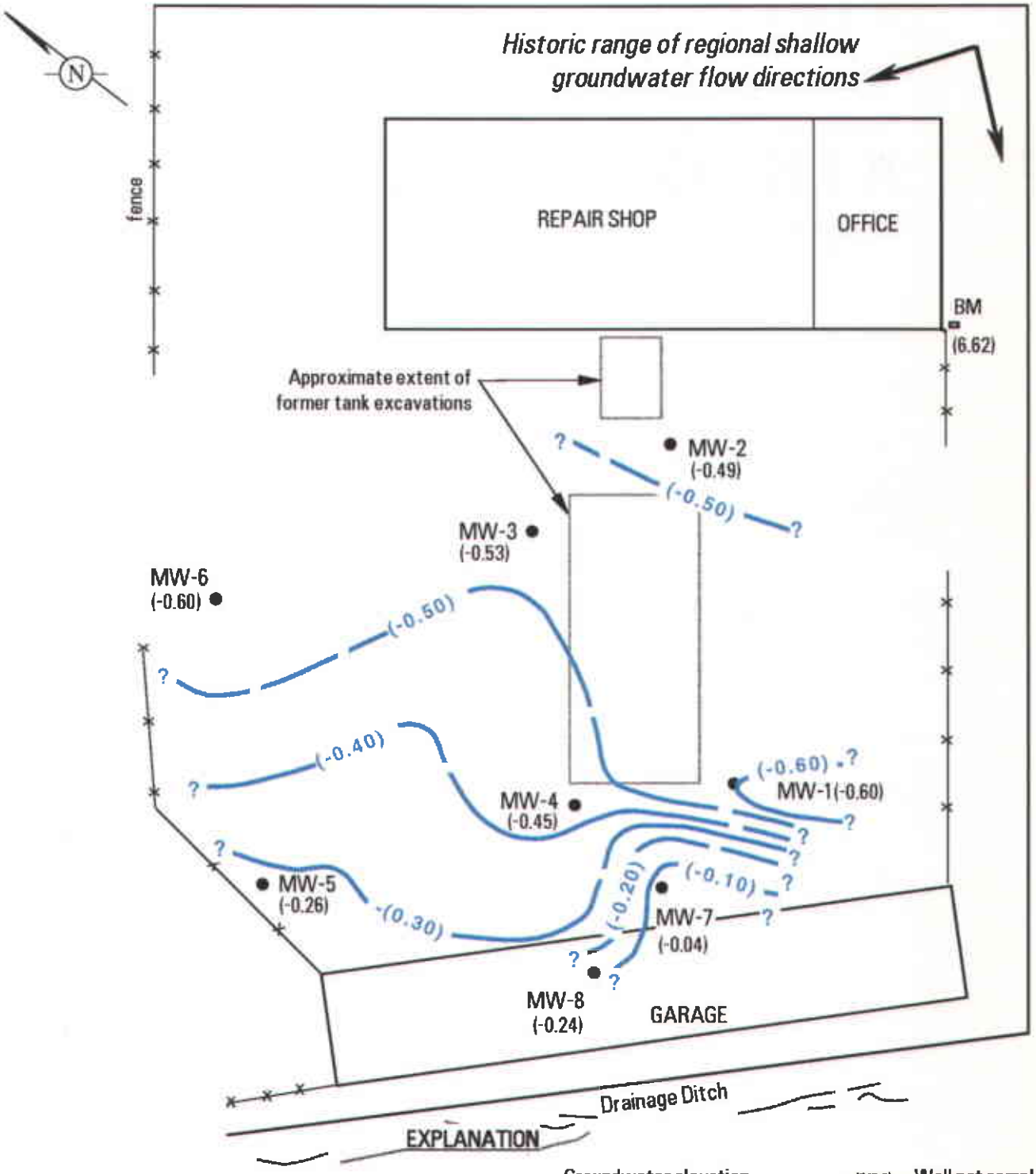
Reference: U.S.G.S. 7-minute Quadrangle, Oakland East, California, revised, Photorevised 1980.

GERAGHTY & MILLER, INC.
Environmental Services
A **Heidemij** Company

Project No. RC0019.000

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

FIGURE
1



MW-1 ● Approximate location of existing groundwater monitor wells.

BM Survey Bench Mark (based on City of Oakland datum which is 3 feet lower than Mean Sea Level).

(-0.04) Groundwater elevation (feet) relative to benchmark, measured August 16, 1995.

(-0.40) ? Groundwater elevation contour (feet); dashed where inferred (contour interval equals 0.2 feet) queried where unknown.

(NM) Well not sampled or monitored during this quarterly event.

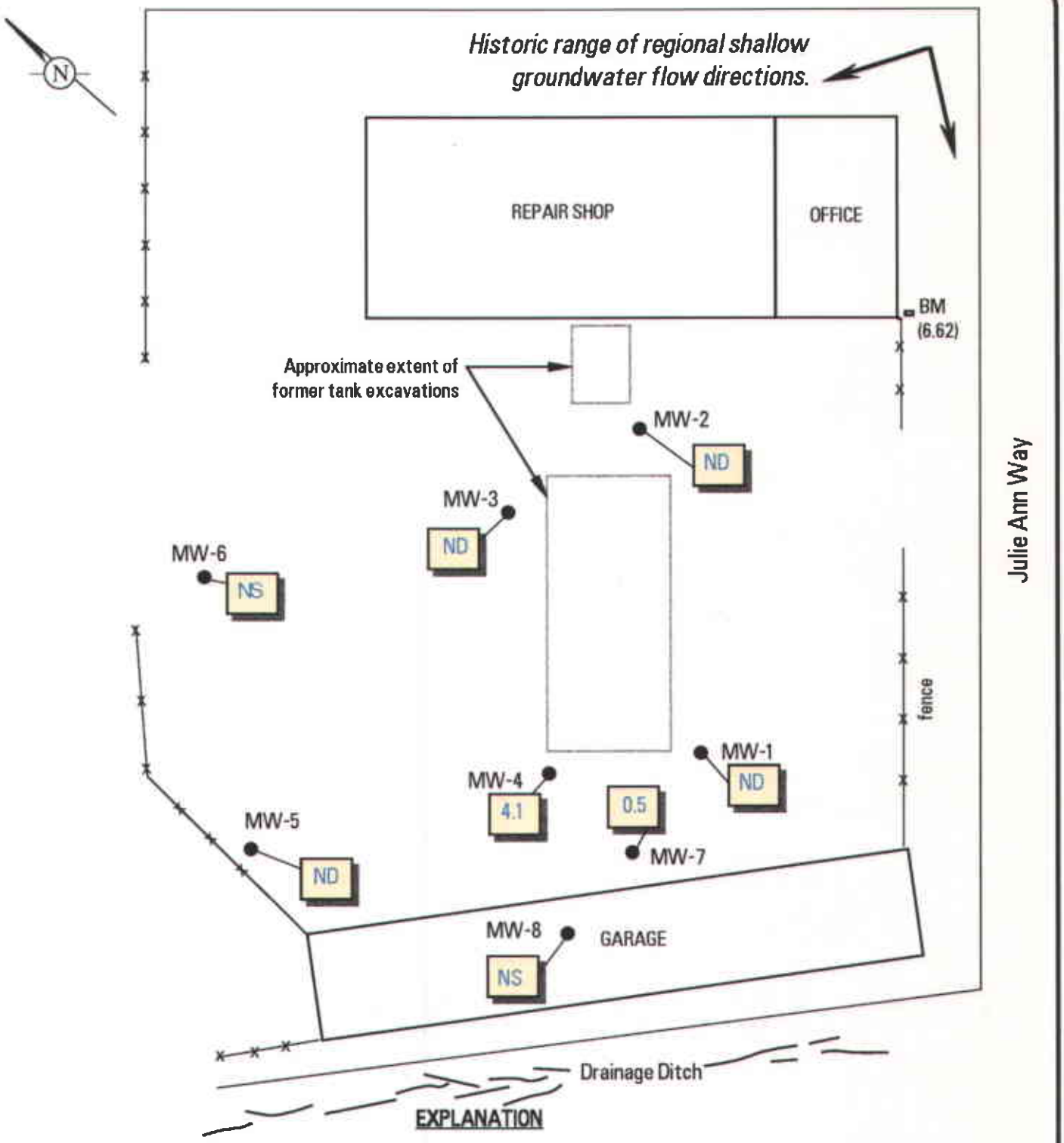
0 40
Scale feet

GERAGHTY & MILLER, INC.
Environmental Services
A Heidemij Company

Project No. RC0019.009

SHALLOW GROUNDWATER CONTOURS
August 1995
Former Penske Truck Leasing Co.
725 Julie Ann Way, Oakland, California

FIGURE
2



GERAGHTY & MILLER, INC.
Environmental Services
A **Heidemij** Company

Project No. RC0019.009

BENZENE CONCENTRATIONS
August 1995
Former Penske Truck Leasing Co.
725 Julie Ann Way, Oakland, California

FIGURE
3

ATTACHMENT 1

COPIES OF FIELD DATA SHEETS FROM

HANDEX OF COLORADO, INC.

WELL GAUGING / SAMPLING LOG

Site / Station No: PENSKE / OAKLAND
Address: 725 JULIE ANN WAY
Sampled By: D.J. RYDER

Date: 8/16/95
Weather: SUNNY ; 65-70°F

Well #	Time	Well Diameter (inches)	Depth to Product (feet)	Depth to Water (feet)	Thickness of free Product (feet)	Well Depth (feet)	Volume Bailed (gal)	X1000 Conductivity (umhos)	Temp. (deg. F)	pH	Remarks Odor / Appearance / Etc.
MW-1	10:15	4	—	6.03	—	34.00	56.00	5.51	69.3	7.27	SLIGHT ODOR / CLEAR
MW-2	7:30	4	—	6.69	—	30.00	46.00	6.79	65.0	7.42	NO ODOR / CLEAR → CLOUDY
MW-3	8:10	4	—	6.63	—	33.50	54.00	5.39	66.1	7.53	NO ODOR / CLEAR
* MW-4	9:30	4	—	5.63	—	33.50	33.00	8.67	69.8	7.34	STRONG ODOR / YELLOWISH → CLEAR → MUDDY
* MW-5	8:45	4	—	4.97	—	31.00	36.00	3.90	67.5	7.48	NO ODOR / CLEAR
MW-6	6:40	4	—	5.97	—	24.70	—	—	—	—	GAUGED ONLY
MW-7	11:00	4	—	5.42	—	28.30	46.00	5.56	66.8	7.36	NO ODOR / CLEAR
MW-8	6:50	4	—	5.68	—	25.40	—	—	—	—	GAUGED ONLY

Hydrocarbon odor? Sheen? Black silt / Brown silt / Clear?

2" wells: feet of water x 1/2 = 3 casing volumes (gal)
4" wells: feet of water x 2 = 3 casing volumes (gal)

Remarks: * MW-4, 5 BAILED DRY BEFORE 3 WELL VOLUMES, ALLOWED TO RECHARGE BEFORE SAMPLING

wl.wk3

CHAIN OF CUSTODY RECORD

HANDEX OF COLORADO

400 Corporate Circle Suite T
Golden, Colorado 80401
Office (303) 271-1050
Fax # (303) 271-0446

PROJECT NO.:	169155.01
CLIENT:	PENSKE TRUCK LEASING CO.
SITE NAME:	PENSKE; OAKLAND, CA.
SITE LOCATION:	725 JULIE ANN WAY

Sampled by: D.J. RUDER

REQUESTED TURN AROUND: 24 HOURS 2-7 DAYS 8-13 DAYS (X) NORMAL (14 DAYS)

SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	SAMPLE TYPE	PRESERVATION METHOD	SAMPLE CONTAINER DESCRIPTION	No. of CONT.	ANALYSES REQUESTED
MW-1	08/16/95	10:15	WATER	HCL	40ml VOA VIAL	3	BTEX 8020, TPH 8015 MOD
MW-1	08/16/95	10:15	WATER	ICE	1L AMBER	1	TPH as diesel 8015 MOD
MW-1	08/16/95	10:15	WATER	ICE	1L AMBER	1	TOTAL DISSOLVED SOLIDS 160.1
MW-2	08/16/95	7:30	WATER	HCL	40ml VOA VIAL	3	BTEX 8020, TPH 8015 MOD
MW-2	08/16/95	7:30	WATER	ICE	1L AMBER	1	TPH as diesel 8015 MOD
MW-2	08/16/95	7:30	WATER	ICE	1L AMBER	1	TOTAL DISSOLVED SOLIDS 160.1
MW-3	08/16/95	8:10	WATER	HCL	40ml VOA VIAL	3	BTEX 8020, TPH 8015 MOD
MW-3	08/16/95	8:10	WATER	ICE	1L AMBER	1	TPH as diesel 8015 MOD
MW-3	08/16/95	8:10	WATER	ICE	1L AMBER	1	TOTAL DISSOLVED SOLIDS 160.1
MW-4	08/16/95	9:30	WATER	HCL	40ml VOA VIAL	3	BTEX 8020, TPH 8015 MOD
MW-4	08/16/95	9:30	WATER	ICE	1L AMBER	1	TPH as diesel 8015 MOD
MW-4	08/16/95	9:30	WATER	ICE	1L AMBER	1	TOTAL DISSOLVED SOLIDS 160.1
MW-5	08/16/95	8:45	WATER	HCL	40ml VOA VIAL	3	BTEX 8020, TPH 8015 MOD

REMARKS:

RELINQUISHED BY: (Signature) DJ Ruder	DATE 8-16-95	COMPANY HANDEX	RECEIVED BY: (Signature)	DATE 8-16-95	COMPANY OFFICE 725 JULIE ANN
	TIME 14:00			TIME 14:00	
RELINQUISHED BY: (Signature)	DATE	COMPANY	RECEIVED BY: (Signature)	DATE 8-16-95	COMPANY COURIER
	TIME			TIME	
RELINQUISHED BY: (Signature)	DATE	COMPANY	RECEIVED BY: (Signature)	DATE	
	TIME			TIME	

CHAIN OF CUSTODY RECORD

HANDEX OF COLORADO

400 Corporate Circle Suite T
Golden, Colorado 80401
Office (303) 271-1050
Fax # (303) 271-0448

PROJECT NO.:	109154.01
CLIENT:	PENSKE TRUCK LEASING CO.
SITE NAME:	PENSKE; OAKLAND, CA.
SITE LOCATION:	725 JULIE ANN WAY

Sampled by: D.J. RUDER

REQUESTED TURN AROUND: 24 HOURS 2-7 DAYS 8-13 DAYS X NORMAL (14 DAYS)

SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	SAMPLE TYPE	PRESERVATION METHOD	SAMPLE CONTAINER DESCRIPTION	No. of CONT.	ANALYSES REQUESTED
MW-5	08/16/95	8:45	WATER	ICE	1L AMBER	1	TPH as diesel 8015 MOD
MW-5	08/16/95	8:45	WATER	ICE	1L AMBER	1	TOTAL DISSOLVED SOLIDS 160.1
MW-7	08/16/95	11:00	WATER	HCL	40ml VOA VIAL	3	BTEX 8020, TPH 8015 MOD
MW-7	08/16/95	11:00	WATER	ICE	1L AMBER	1	TPH as diesel 8015 MOD
MW-7	08/16/95	11:00	WATER	ICE	1L AMBER	1	TOTAL DISSOLVED SOLIDS 160.1
TRIP BLANK	08/16/95	—	WATER	ICE	40ml VOA VIAL	1	BTEX 8020, TPH 8015 MOD

REMARKS:

RELINQUISHED BY: (Signature) DJ Ruder	DATE 8-16-95	COMPANY HANDEX	RECEIVED BY: (Signature)	DATE 8-16-95	COMPANY OFFICE 725 JULIE ANN
	TIME 14:00			TIME 14:00	
RELINQUISHED BY: (Signature)	DATE	COMPANY	RECEIVED BY: (Signature)	DATE 8-16-95	COMPANY COURIER
	TIME			TIME	
RELINQUISHED BY: (Signature)	DATE	COMPANY	RECEIVED BY: (Signature)	DATE	
	TIME			TIME	

(BLNKCOC)

Handex®

HANDEX OF COLORADO, INC., 411 Corporate Circle, Golden, CO 80401 • (303) 271-1050 • FAX (303) 271-0446

FACSIMILE COVER SHEET

Date: 8/17/95 Fax No. (510) 233-3204

PLEASE DELIVER THE ATTACHED DOCUMENTS

TO: Paul Hehn

Company: Geraghty + Miller, Inc

Phone #: (510) 233-3200 Pages Including Cover: 4

From: Craig Hofmeister

Re: Field Data Sheets for Penske Julie Ann Way

Comments:

Should you have questions, or if there was a problem with this transmission, please contact Jana Long at (303) 271-1050.

A SUBSURFACE RECOVERY COMPANY

ATTACHMENT 2

COPIES OF CERTIFIED ANALYTICAL REPORTS

AND CHAIN-OF-CUSTODY DOCUMENTATION

Superior Precision Analytical, Inc.
A member of ESSCON Environmental Support Service Consortium

HANDEX OF COLORADO
411 Corporate Circle
Golden, CO 80401

Date: August 25, 1995

Attn: Craig Hofmeister

Laboratory Number : 82272

Project Number/Name : 109154.01

This report has been reviewed and

approved for release.

Senior Chemist
Account Manager

Superior Precision Analytical, Inc.
A member of ESSCON Environmental Support Service Consortium

HANDEX OF COLORADO
Attn: Craig Hofmeister

Project 109154.01
Reported on August 28, 1995

Total Petroleum Hydrocarbons as Diesel
by EPA SW-846 Method 8015M
Diesel Range quantitated as all compounds from C10-C25

Chronology

Laboratory Number 82272

Sample ID	Sampled	Received	Extract.	Analyzed	QC Batch	LAB #
MW-1	08/16/95	08/16/95	08/22/95	08/25/95	BH252.02	01
MW-2	08/16/95	08/16/95	08/22/95	08/25/95	BH252.02	02
MW-3	08/16/95	08/16/95	08/22/95	08/25/95	BH252.02	03
MW-4	08/16/95	08/16/95	08/22/95	08/25/95	BH252.02	04
MW-5	08/16/95	08/16/95	08/22/95	08/25/95	BH252.02	05
MW-7	08/16/95	08/16/95	08/22/95	08/25/95	BH252.02	06

QC Samples

QC Batch #	QC Sample ID	TypeRef.	Matrix	Extract.	Analyzed
BH252.02-01	Method Blank	MB	Water	08/22/95	08/25/95
BH252.02-02	Laboratory Spike	LS	Water	08/22/95	08/25/95
BH252.02-03	Laboratory Spike Duplicate	LSD	Water	08/22/95	08/25/95

Certified Laboratories

825 Arnold Dr., Suite 114
Martinez, California 94553
(510) 229-1512 / fax (510) 229-1526

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

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2992 / fax (206) 763-8429

Superior Precision Analytical, Inc.
A member of ESSCON Environmental Support Service Consortium

HANDEX OF COLORADO
Attn: Craig Hofmeister

Project 109154.01
Reported on August 28, 1995

Total Petroleum Hydrocarbons as Diesel
by EPA SW-846 Method 8015M
Diesel Range quantitated as all compounds from C10-C28

LAB ID	Sample ID	Matrix	Dil.Factor	Moisture
82272-01	MW-1	Water	1.0	-
82272-02	MW-2	Water	1.0	-
82272-03	MW-3	Water	1.0	-
82272-04	MW-4	Water	1.0	-

R E S U L T S O F A N A L Y S I S

Compound	82272-01 Conc. ug/L	RL	82272-02 Conc. ug/L	RL	82272-03 Conc. ug/L	RL	82272-04 Conc. ug/L	RL
Diesel:	740	50	190	50	240	50	610	50
>> Surrogate Recoveries (%) <<								
Tetracosane	74		81		83		76	

Certified Laboratories

825 Arnold Dr., Suite 114
Martinez, California 94553
(510) 229-1512 / fax (510) 229-1526

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

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2992 / fax (206) 763-8429

Superior Precision Analytical, Inc.
A member of ESSCON Environmental Support Service Consortium

HANDEX OF COLORADO
Attn: Craig Hofmeister

Project 109154.01
Reported on August 28, 1995

Total Petroleum Hydrocarbons as Diesel
by EPA SW-846 Method 8015M
Diesel Range quantitated as all compounds from C10-C25

LAB ID	Sample ID	Matrix	Dil.Factor	Moisture
82272-05	MW-5	Water	1.0	-
82272-06	MW-7	Water	1.0	-

RESULTS OF ANALYSIS

Compound	82272-05 Conc. ug/L	RL	82272-06 Conc. ug/L	RL
Diesel:	590	50	1100	50
>> Surrogate Recoveries (%) <<				
Tetracosane	84		76	

Certified Laboratories

825 Arnold Dr., Suite 114
Martinez, California 94553
(510) 229-1512 / fax (510) 229-1526

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

309 S. Cloverdale St. Suite B-24
Seattle, Washington 98108
(206) 763-2992 / fax (206) 763-8429

Superior Precision Analytical, Inc.
A member of ESSCON Environmental Support Service Consortium

Total Petroleum Hydrocarbons as Diesel
by EPA SW-846 Method 8015M
Diesel Range quantitated as all compounds from C10-C25

Quality Assurance and Control Data

Laboratory Number: 82272
Method Blank(s)

	BH252.02-01	
	Conc.	RL
	ug/L	
Diesel:	ND	50
>> Surrogate Recoveries (%) <<		
Tetracosane	77	

Certified Laboratories

825 Arnold Dr., Suite 114
Martinez, California 94553
(510) 229-1512 / fax (510) 229-1526

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

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2992 / fax (206) 763-8429

Superior Precision Analytical, Inc.
A member of ESSCON Environmental Support Service Consortium

Total Petroleum Hydrocarbons as Diesel
by EPA SW-846 Method 8015M
Diesel Range quantitated as all compounds from C10-C2s

Quality Assurance and Control Data

Laboratory Number: 82272

Compound	Sample conc.	SPK Level	SPK Result	Recovery %	Limits %	RPD %
For Water Matrix (ug/L) BH252.02 02 / 03 - Laboratory Control Spikes						
Diesel:		2000	2600/2400	130/120	50-150	8
>> Surrogate Recoveries (%) <<						
Tetracosane				76/68	50-150	

Definitions:
ND = Not Detected
RL = Reporting Limit
NA = Not Analysed
RPD = Relative Percent Difference
ug/L = parts per billion (ppb)
mg/L = parts per million (ppm)

ug/kg = parts per billion (ppb)
mg/kg = parts per million (ppm)

Certified Laboratories

825 Arnold Dr., Suite 114
Martinez, California 94553
(510) 229-1512 / fax (510) 229-1526

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

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2992 / fax (206) 763-8429

Superior Precision Analytical, Inc.
A member of ESSCON Environmental Support Service Consortium

HANDEX OF COLORADO
411 Corporate Circle
Golden, CO 80401

Date: August 25, 1995

Attn: Craig Hofmeister

Laboratory Number : 82272

Project Number/Name : 109154.01

This report has been reviewed and

approved for release.

Senior Chemist
Account Manager

Superior Precision Analytical, Inc.
A member of ESSCON Environmental Support Service Consortium

HANDEX OF COLORADO
Attn: Craig Hofmeister

Project 109154.01
Reported on August 25, 1995
Revised on August 25, 1995

Gasoline Range Petroleum Hydrocarbons and BTXE
by EPA SW-846 5030/8015M/8020
Gasoline Range quantitated as all compounds from C6-C10

Chronology

Laboratory Number 82272

Sample ID	Sampled	Received	Extract.	Analyzed	QC Batch	LAB #
MW-1	08/16/95	08/16/95	08/18/95	08/18/95	BH181.04	01
MW-2	08/16/95	08/16/95	08/18/95	08/18/95	BH181.04	02
MW-3	08/16/95	08/16/95	08/18/95	08/18/95	BH181.04	03
MW-4	08/16/95	08/16/95	08/18/95	08/18/95	BH181.04	04
MW-5	08/16/95	08/16/95	08/18/95	08/18/95	BH181.04	05
MW-7	08/16/95	08/16/95	08/18/95	08/18/95	BH181.04	06
TRIP BLANK	08/16/95	08/16/95	08/22/95	08/22/95	BH221.04	07

QC Samples

QC Batch #	QC Sample ID	TypeRef.	Matrix	Extract.	Analyzed
BH181.04-02	MW-2	MS 82272-02	Water	08/18/95	08/18/95
BH181.04-03	MW-2	MSD 82272-02	Water	08/18/95	08/18/95
BH181.04-04	Laboratory Spike	LS	Water	08/18/95	08/18/95
BH181.04-05	Method Blank	MB	Water	08/18/95	08/18/95
BH181.04-08	Method Blank	MB	Water	08/18/95	08/18/95
BH221.04-04	RI	MS 82273-06	Water	08/22/95	08/22/95
BH221.04-06	RI	MSD 82273-06	Water	08/22/95	08/22/95

Certified Laboratories

825 Arnold Dr. Suite 114
Martinez, California 94553
(510) 229-1512 / fax (510) 229-1526

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

309 S. Cloverdale St. Suite B-24
Seattle, Washington 98108
(206) 763-2992 / fax (206) 763-8429

Superior Precision Analytical, Inc.
A member of ESSCON Environmental Support Service Consortium

HANDEX OF COLORADO
Attn: Craig Hofmeister

Project 109154.01
Reported on August 25, 1995
Revised on August 25, 1995

Gasoline Range Petroleum Hydrocarbons and BTXE
by EPA SW-846 5030/8015M/8020
Gasoline Range quantitated as all compounds from C6-C10

LAB ID	Sample ID	Matrix	Dil.Factor	Moisture
82272-01	MW-1	Water	1.0	-
82272-02	MW-2	Water	1.0	-
82272-03	MW-3	Water	1.0	-
82272-04	MW-4	Water	1.0	-

R E S U L T S O F A N A L Y S I S

Compound	82272-01 Conc. ug/L	RL	82272-02 Conc. ug/L	RL	82272-03 Conc. ug/L	RL	82272-04 Conc. ug/L	RL
Gasoline_Range	ND	50	ND	50	ND	50	ND	50
Benzene	ND	0.5	ND	0.5	ND	0.5	4.1	0.5
Toluene	ND	0.5	ND	0.5	ND	0.5	ND	0.5
Ethyl Benzene	1.4	0.5	ND	0.5	ND	0.5	ND	0.5
Total Xylenes	1.4	0.5	ND	0.5	ND	0.5	ND	0.5
>> Surrogate Recoveries (%) <<								
Trifluorotoluene (SS)	104		119		102		102	

Certified Laboratories

825 Arnold Dr., Suite 114
Martinez, California 94553
(510) 229-1512 / fax (510) 229-1526

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

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2992 / fax (206) 763-8429

Superior Precision Analytical, Inc.
A member of ESSCON Environmental Support Service Consortium

HANDEX OF COLORADO
Attn: Craig Hofmeister

Project 109154.01
Reported on August 25, 1995
Revised on August 25, 1995

Gasoline Range Petroleum Hydrocarbons and BTXE
by EPA SW-846 5030/8015M/8020
Gasoline Range quantitated as all compounds from C6-C10

LAB ID	Sample ID	Matrix	Dil.Factor	Moisture
82272-05	MW-5	Water	1.0	-
82272-06	MW-7	Water	1.0	-
82272-07	TRIP BLANK	Water	1.0	-

R E S U L T S O F A N A L Y S I S

Compound	82272-05 Conc. ug/L	RL	82272-06 Conc. ug/L	RL	82272-07 Conc. ug/L	RL
Gasoline_Range	ND	50	53	50	ND	50
Benzene	ND	0.5	0.5	0.5	ND	0.5
Toluene	ND	0.5	ND	0.5	ND	0.5
Ethyl Benzene	ND	0.5	ND	0.5	ND	0.5
Total Xylenes	ND	0.5	0.5	0.5	ND	0.5
>> Surrogate Recoveries (%) <<						
Trifluorotoluene (SS)	100		110		103	

Certified Laboratories

925 Arnold Dr., Suite 114
Martinez, California 94553
(510) 229-1512 / fax (510) 229-1526

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

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2992 / fax (206) 763-8429

Superior Precision Analytical, Inc.
A member of ESSCON Environmental Support Service Consortium

Gasoline Range Petroleum Hydrocarbons and BTXE
by EPA SW-846 5030/8015M/8020
Gasoline Range quantitated as all compounds from C6-C10

Quality Assurance and Control Data

Laboratory Number: 82272
Method Blank(s)

	BH181.04-05 Conc. ug/L	RL	BH181.04-08 Conc. ug/L	RL
Gasoline_Range	ND	50	ND	50
Benzene	ND	0.5	ND	0.5
Toluene	ND	0.5	ND	0.5
Ethyl Benzene	ND	0.5	ND	0.5
Total Xylenes	ND	0.5	ND	0.5
>> Surrogate Recoveries (%) <<				
Trifluorotoluene (SS)	103		105	

Certified Laboratories

825 Arnold Dr. Suite 114
Martinez, California 94553
(510) 229-1512 / fax (510) 229-1526

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

309 S Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2992 / fax (206) 763-8429

Superior Precision Analytical, Inc.
A member of ESSCON Environmental Support Service Consortium

Gasoline Range Petroleum Hydrocarbons and BTXE
by EPA SW-846 5030/8015M/8020
Gasoline Range quantitated as all compounds from C6-C10

Quality Assurance and Control Data

Laboratory Number: 82272

Compound	Sample conc.	SPK Level	SPK Result	Recovery %	Limits %	RPD %
For Water Matrix (ug/L)						
BH181.04 04 / - Laboratory Control Spikes						
Gasoline_Range		320	380	119	65-135	
Benzene		20	22	110	65-135	
Toluene		20	22	110	65-135	
Ethyl Benzene		20	22	110	65-135	
Total Xylenes		60	65	108	65-135	
>> Surrogate Recoveries (%) <<						
Trifluorotoluene (SS)				102	50-150	
For Water Matrix (ug/L)						
BH181.04 02 / 03 - Sample Spiked: 82272 - 02						
Gasoline_Range	ND	320	410/420	128/131	65-135	2
Benzene	ND	20	22/22	110/110	65-135	0
Toluene	ND	20	21/22	105/110	65-135	5
Ethyl Benzene	ND	20	22/22	110/110	65-135	0
Total Xylenes	ND	60	64/64	107/107	65-135	0
>> Surrogate Recoveries (%) <<						
Trifluorotoluene (SS)				103/99	50-150	
For Water Matrix (ug/L)						
BH221.04 04 / 06 - Sample Spiked: 82273 - 06						
Gasoline_Range	ND	320	410/390	128/122	65-135	5
Benzene	ND	20	22/21	110/105	65-135	5
Toluene	ND	20	22/22	110/110	65-135	0
Ethyl Benzene	ND	20	22/21	110/105	65-135	5
Total Xylenes	ND	60	64/63	107/105	65-135	2
>> Surrogate Recoveries (%) <<						
Trifluorotoluene (SS)				103/102	50-150	

Superior Precision Analytical, Inc.
A member of ESSCON Environmental Support Service Consortium

Narrative:

Definitions:

ND	= Not Detected		
RL	= Reporting Limit		
NA	= Not Analysed		
RPD	= Relative Percent Difference		
ug/L	= parts per billion (ppb)	ug/kg	= parts per billion (ppb)
mg/L	= parts per million (ppm)	mg/kg	= parts per million (ppm)

Certified Laboratories

825 Arnold Dr., Suite 114
Martinez, California 94553
(510) 229-1512 / fax (510) 229-1526

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

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2992 / fax (206) 763-8429

Superior Precision Analytical, Inc.
A member of ESSCON Environmental Support Service Consortium

CERTIFICATE OF ANALYSIS

Laboratory No.: 82272
Client: HANDEX OF COLORADO
Client Job No.: 109154.01

Date Received: August 16, 1995
Date Reported: August 25, 1995

Total Dissolved Solids by Method 160.1

#	Sample ID	Date Sampled	Date Analyzed	Analyte	Conc.	RL	Unit
01	MW-1	08/16/95	08/22/95	TDS	3800	10	mg/L
02	MW-2	08/16/95	08/22/95	TDS	5400	10	mg/L
03	MW-3	08/16/95	08/22/95	TDS	4100	10	mg/L
04	MW-4	08/16/95	08/22/95	TDS	7100	10	mg/L
05	MW-5	08/16/95	08/22/95	TDS	2800	10	mg/L
06	MW-#7	08/16/95	08/22/95	TDS	4000	10	mg/L
QC	Method Blank	Water	08/22/95	TDS	ND	10	mg/L
QC	DUP - 18MW13-GW01	Water	08/22/95	TDS	756/778	RPD= 3	(<25)

mg/L - parts per million (ppm)
ND = Not Detected
NA = Not Applicable
RL = Reporting Limit

Senior Chemist
Account Manager

Certified Laboratories

825 Arnold Dr., Suite 114
Martinez, California 94553
(510) 229-1512 / fax (510) 229-1526

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

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2992 / fax (206) 763-8429