

Rogers Environmental Services

ENVIRONMENTAL
PROTECTION
96 DEC 12 PM 3:03

December 3, 1996

3682

REF: 1004-4Q.96

Mr. Barney Chan
Environmental Health
Alameda County
1131 Harbor Bay Pkwy
Alameda, CA 94502-6577

**SUBJECT: REPORT OF QUARTERLY MONITORING AT 1234 40TH AVE.,
OAKLAND, CA**

Dear Barney:

I have enclosed a copy of the Quarterly Monitoring report prepared for the Motor Partners site, 1234 40th Ave., Oakland, California. The groundwater sampling results are presented for the fourth quarterly monitoring period in 1996.

If you have any questions or comments regarding the report, please give me a call.

Sincerely,



Gary Rogers, Ph.D.

cc: Bill Owens

ENVIRONMENTAL
PROTECTION

QUARTERLY MONITORING REPORT PH 3: 08
4th Quarter, 1996

PROJECT SITE:

MOTOR PARTNERS
1234 40TH AVE., OAKLAND, CALIFORNIA
StID #3682

PREPARED FOR:

Mr. Bill Owens
2221 Olympic Blvd.
Walnut Creek, CA 94595
510-935-3840

SUBMITTED TO:

Mr. Barney Chan
Environmental Health
Alameda County
1131 Harbor Bay Pkwy
Alameda, CA 94502-6577

PREPARED BY:

Gary Rogers, Ph.D.
2657 Bailey Ct.
Fremont, CA 94536
(510) 791-7157

PROJECT NO. 1004.95

December 3, 1996

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INTRODUCTION

PROJECT DESCRIPTION

This report discusses the results of quarterly sampling for the fourth quarter in 1996 at the Motor Partners site, 1234 40th Ave., Oakland, California.

SITE LOCATION AND DESCRIPTION

The project site is known as Motor Partners, 1234 40th Avenue, Oakland, California (Figure 1), located in a commercial/light industrial area. The elevation of the site is approximately 25 feet above mean sea level.

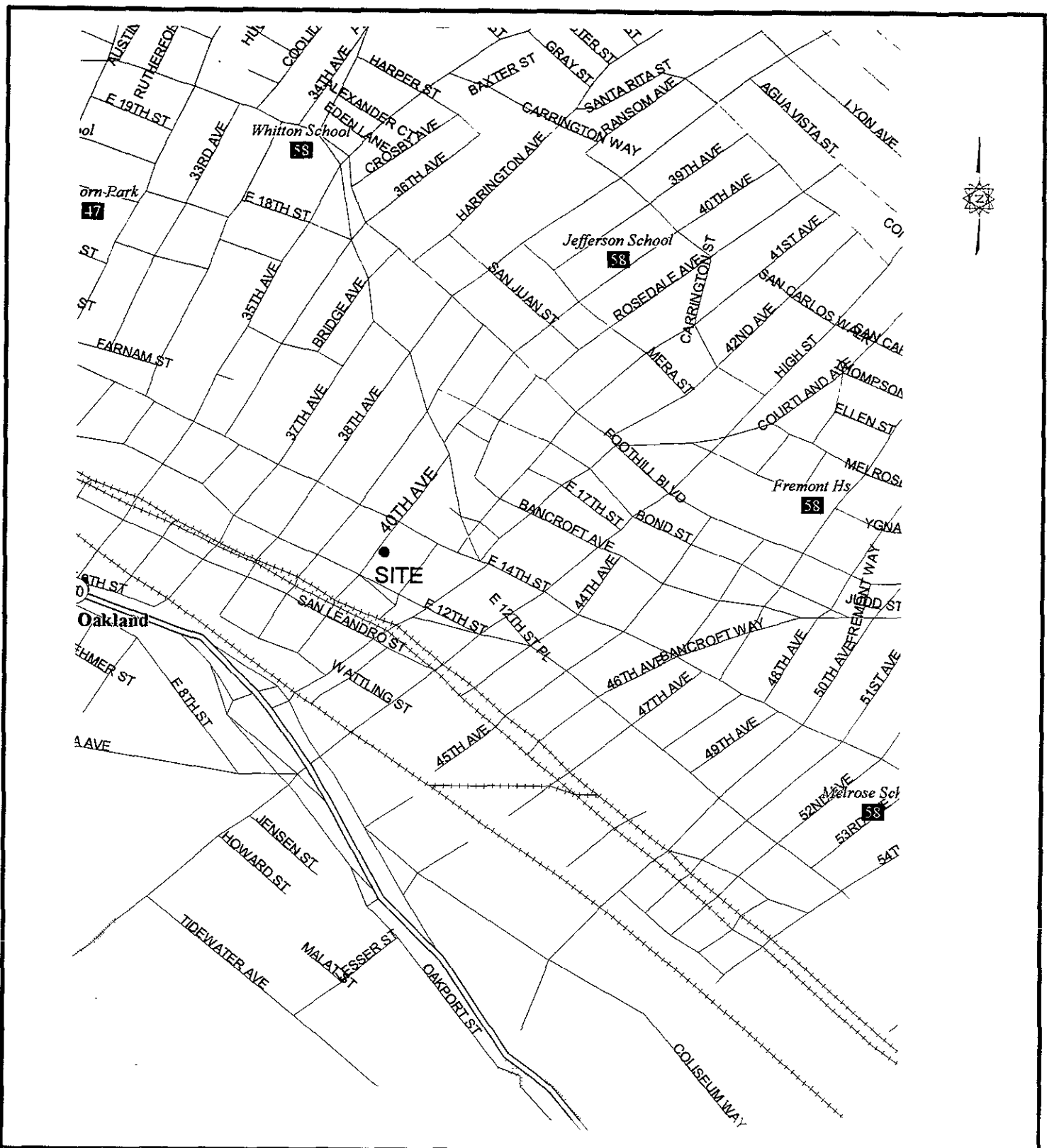
Motor Partners is located at 1234 40th Avenue near Nimitz Highway (880) in the Fruitvale District of Oakland, California (Figure 1). The BART rail tracks are about 500 feet west of the site and San Leandro Bay is less than one mile to the southwest.

Motor Partners utilized the site for auto repair shops. Two underground storage tanks were maintained outside the 1234 40th Avenue building. A 1,000-gallon underground gasoline tank and a 500-gallon underground waste oil tank were located below the sidewalk (Figure 2). No reliable records exist to determine if inventory was lost.

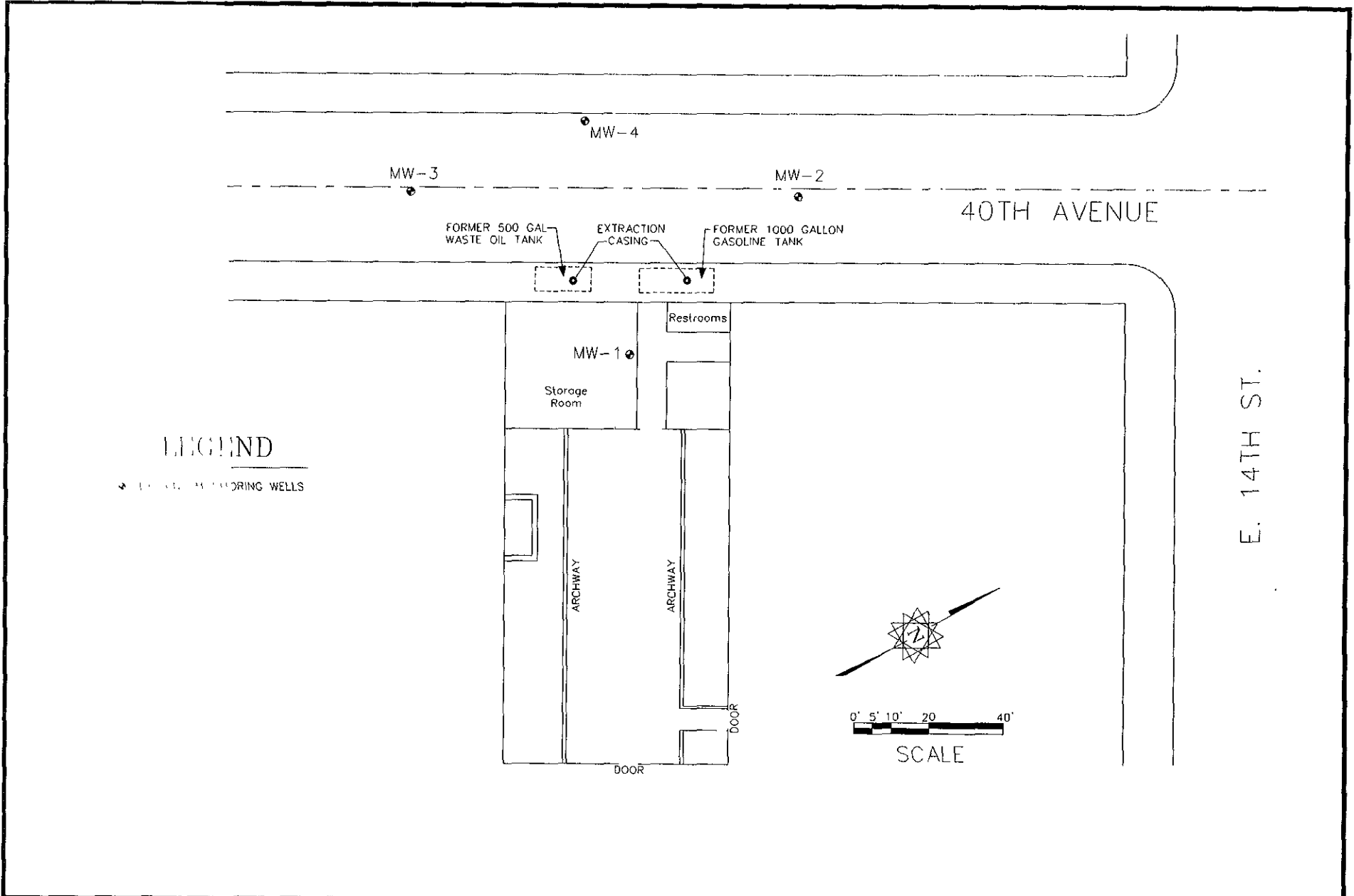
Previous Subsurface Investigations

On Oct. 12, 1990, Semco, Inc. of Modesto, California removed both the 1,000-gallon gasoline tank and the 500-gallon waste oil tank. The concentration of total petroleum hydrocarbons in the gasoline range (TPH-G) below the 1,000-gallon tank was 1,600 mg/Kg. The TPH-G and TPH-D concentrations below the 500-gallon tank were 570 mg/Kg and 650 mg/Kg, respectively. There was no record of groundwater in the excavations. The excavations were backfilled to grade with original spoils.

In January, 1994, SEMCO re-excavated the area to remove contaminated soil, and dispose of the contaminated backfill. During the course of over excavation, it was noted that contamination extended beneath the building and into the street. Utilities prevented further excavation. The over excavation was halted and samples taken from the sidewalls of each excavation. An extraction well casing was installed in each excavation. Clean imported soil was used to backfill the two areas and the sidewalk was resurfaced with Christy boxes housing the two extraction casings.



GARY ROGERS, FIELD ENVIRONMENTAL CONSULTANT 2157 BAILEY CT. FREMONT, CA 94538 (510) 791-757	DESCRIPTION	Site Location		
	PROJECT LOCATION	Motor Partners 1234 40th Ave Oakland CA		
SCALE	DRAWN DATE	PROJECT NUMBER	FILE NAME	SCALE NUMBER
	1 23 79	1001	1001 30 DW	



GARY ROGERS, PH.D. ENVIRONMENTAL CONSULTANT 2550 HAYES CT BERKELEY, CA 94705 (415) 841-7157	DRAWN BY GLR	PROJECT NUMBER 1004	DESCRIPTION Site Layout	FIGURE 2
	DRAWING DATE 11/29/96	FILE NAME 1004-496 DWG		
	REVISION BY	PROJECT MANAGER GLR	PROJECT LOCATION Motor Partners 1234 40th Ave., Oakland	
	REVISION BY	CHECKED BY		

Sampling conducted on January 11, 1994 indicated levels of TPH-gasoline for the former waste oil tank area between 100 and 700 ppm. Levels of TPH-gasoline for the former gasoline tank area ranged from 150 to 1,200 ppm.

GROWTH Environmental completed soil borings at the property between May and June of 1994. Eleven borings were drilled and three monitoring wells were installed. Both soil and groundwater samples were collected from the borings. Soil and groundwater contamination was found in nearly every boring. Levels of TPH-D up to 2,700 ppm were observed on the west side of the building. A sample from inside the building had a TPH-D level of 520 ppm.

Groundwater samples had highest concentrations near the former tank excavations. The highest level of TPH-G was 64,000 ppb. BTEX compounds were found in groundwater samples from all the borings.

The monitoring wells were sampled on June 17, 1994 and December 7, 1994. Contamination was reported in all three wells. Levels of TPH-G were up to 17,000 ppb and Benzene levels were up to 1,200 ppb in MW-1.

A quarterly monitoring sampling event was completed on November 29, 1995. All of the wells showed increased TPH-G and BTEX levels when compared to the previous sampling event. TPH-G levels were up to 67,000 ppb in MW-1. The groundwater gradient was calculated to be in a southwesterly direction.

Additional geoprobe borings were completed along 40th Avenue between November, 1995 and February, 1996 to determine the extent of contamination.

On February 1, 1996, Bay Area Exploration drilled a soil boring across the street from the former underground storage tank excavations at the Motor Partners site (location shown in Figure 3). A two-inch groundwater monitoring well (MW-4) was installed in the boring. The monitoring well was installed according to State of California Water Resource Control Board standards to a depth of 25 feet below grade surface (bgs) and screened from 5 to 25 feet bgs.

GEOLOGY AND HYDROGEOLOGY

Regional Geology.

The site is located on the East Bay Plain about 1.0 mile west of the Oakland Hills, about 1.0 mile east of the San Francisco Bay, and about 0.5 miles north of San Leandro Bay. The property is bounded on the northeast by 14th Street.

The site rests on Quaternary Deposits of various physical and compositional properties. The predominant formation is the Temescal Formation consisting of contemporaneous alluvial units of different origin, lithology, and physical properties. The material ranges from irregularly bedded clay, silt, sand and gravel to lenses of clay, silt, sand, and gravel with Claremont Chert.

The Hayward Fault is approximately 1.5 miles East of the site and is an active historic Fault. The Hayward Fault is the only active fault in the Oakland East Quadrangle.

Regional Hydrogeology.

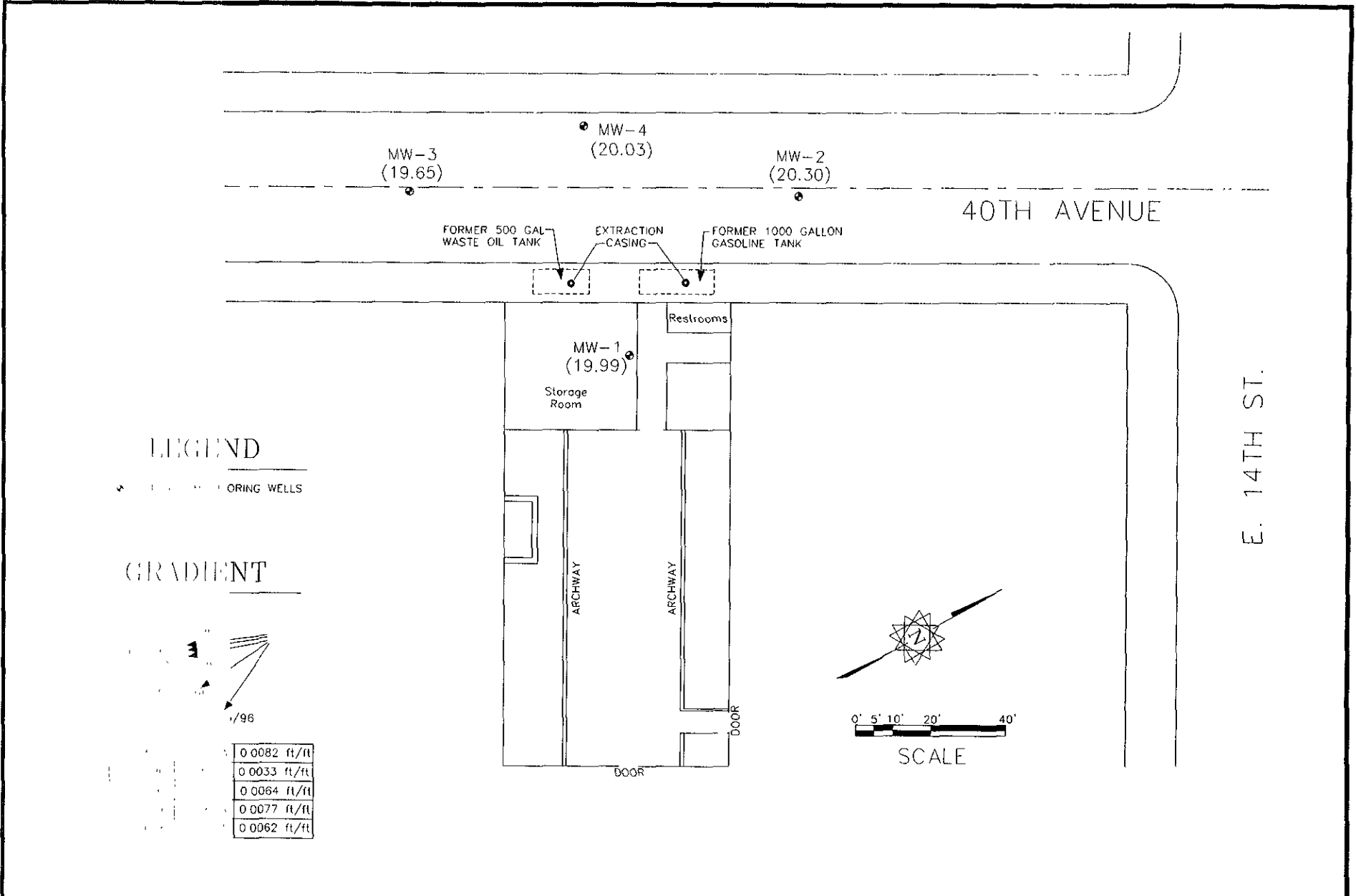
The site is located within the East Bay Plain which makes up the ground water reservoir in the area. The water bearing capacity varies within the area due to the juxtaposed positions of the various types of soils and strata encountered underneath the East Bay Plain.

In General the water bearing capacities of the Younger Alluvium range from moderately permeable to low permeable soils. Below the Younger Alluvium at a depth of approximately 70 feet lies the Older Alluvium, which yields large to small quantities of well water.

Site Geology. The site soils were characterized using the United Soil Classification System (USCS). During on-site subsurface drilling, CEC (GROWTH) encountered up to two feet of baserock (fill) followed by a 4 to 5 foot layer of dark sandy clay (CL). Below the dark clay to a depth between 7 and 15 feet, a grey sandy gravel was found. Below the sandy gravel the soil varied between a clayey sand to a sandy silty clay (SC). The gravels are poorly sorted, angular to rounded clasts ranging in size from 0.2 cm to 3.0 cm.

Site Hydrogeology. The depth of first water ranged from 8 to 10 feet below the ground surface (bgs) in the borings. Groundwater was encountered within the grey clayey sandy gravel layers.

Motor Partners 496 1996 Groundwater Monitoring Report



10/2/96 1091 11/29/96 1091

GARY ROGERS, P.E. ENVIRONMENTAL CONSULTANT 2657 BAILEY CT FREMONT, CA 94771 (510) 791-7157	DRAWN BY GLR	PROJECT NUMBER 1004	DESCRIPTION Groundwater Gradient	FIGURE 3
	DRAWING DATE 11/29/96	FILE NAME 1004-496.DWG		
	REVISION BY	PROJECT MANAGER GLR	PROJECT LOCATION Motor Partners 1234 40th Ave., Oakland	
	REVISION BY	CHECKED BY		

Table 1
Monitoring Well Construction Data for Motor Partners Site
1234 40th Ave., Oakland, California

	MW-1	MW-2	MW-3	MW-4
Date Drilled	6/15/94	6/14/94	6/14/94	2/1/96
Total Depth	22.5 ft.	22.0 ft.	23.0 ft.	23.0 ft.
Bore Diameter	10 inches	10 inches	10 inches	10 inches
Casing Diameter	2 inch	2 inch	2 inch	2 inch
Well Seal Type	Bentonite Pellets	Bentonite Pellets	Bentonite Pellets	Bentonite Pellets
Well Seal Interval	5.0 - 6.0 bgs	5.0 - 6.0 bgs	5.0 - 6.0 bgs	3.0 - 4.0 bgs
Filter Pack Material	2/14 Lonestar Sand	2/14 Lonestar Sand	2/14 Lonestar Sand	2/14 Lonestar Sand
Filter Pack Interval	6.0 - 17.0 bgs	9.0 - 20.0 bgs	6.5 - 20.0 bgs	4.0 - 25.0 bgs
Screen Slot Size	0.020 in.	0.020 in.	0.020 in.	0.010 in.
Screened Interval	7.0 - 17.0 bgs	10.0 - 20.0 bgs	7.0 - 20.0 bgs	5.0 - 25.0 bgs
Well Elevation ¹	28.43 ft.	28.03 ft.	27.41 ft.	27.34 ft.

¹TOC -Top of Casing Elevations for MW-1, MW-2, and MW-3 were surveyed on 11/17/95 to a City of Oakland benchmark at the northwest corner of the block using an elevation of 29.07 feet above mean sea level. The Top of Casing Elevation for MW-4 was surveyed on 2/14/96 to the TOC Elevations for MW-2 and MW-3.

GROUNDWATER MONITORING

GROUNDWATER ELEVATION MEASUREMENTS

The static water level was measured in all four monitoring wells (MW-1, MW-2, MW-3, and MW-4) on November 21, 1996 and the depths were recorded to the nearest 0.01 foot using an electronic water level sounder. All of the results were recorded on Quarterly Monitoring Data Sheets presented in Appendix B.

MONITORING WELL SAMPLING

The monitoring wells were purged by withdrawing a minimum of three casing volumes from each well using a 2" submersible pump. The purging continued until the turbidity was less than 100 NTU and the temperature, electric conductivity, and pH were relatively stable. Samples were collected when the water levels recovered to at least 80% of the original static level.

A groundwater sample was collected with a disposable Teflon bailer and placed in two 40-ml VOA's and one one-liter amber bottle. The samples were labeled and stored on ice until delivered under a chain of custody to the state certified laboratory. Samples from all four wells (MW-1, MW-2, MW-3, and MW-4) were analyzed for total petroleum hydrocarbons as diesel (TPH-D), using EPA methods modified 8015; as gasoline (TPH-G) using EPA methods 8015/5030; and benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA methods 8020.

ANALYTICAL RESULTS

GROUNDWATER HYDRAULIC CONDITIONS

Groundwater Elevation. The groundwater elevation data for the monitoring wells is presented in Table 2. Based on groundwater level measurements collected on November 21, 1996, the depth to groundwater in the wells ranged from 7.3 to 8.4 feet below the top of the casing. The groundwater elevations for the wells were as follows; MW-1 was 19.99 feet above mean sea level (msl), MW-2 was 20.30 feet above msl, MW-3 was 19.65 feet above msl, and MW-4 was 20.03 feet above msl.

Groundwater Flow Direction and Gradient. Groundwater flow direction was calculated using three wells (MW-1, MW-2, and MW-3). Groundwater flow direction trended to the southwest (S 23°W) at a gradient of 0.0062 ft/ft. The flow direction and gradient are shown in Figure 3.

LABORATORY DATA

A summary of the analytical results for the monitoring well sampling is presented in Table 3. Copies of all the analytical data sheets from ChromaLab, Inc. are presented in Appendix A.

Table 2
Groundwater Elevation Results at Motor Partners Site
1234 40th Ave., Oakland, California

	DATE	MW-1	MW-2	MW-3	MW-4	GRADIENT
TOC		28.43 ft	28.03 ft	27.41 ft.	27.34	
SWL	11/29/95	10.13	9.31	9.53		S 21° W
GSE		18.3	18.72	17.88		0.0082 ft/ft
SWL	2/23/96	4.59	3.77	3.56	3.17	S 26° E
GSE		23.84	24.26	23.85	24.17	0.0033 ft/ft
SWL	5/21/96	6.04	5.24	5.29	4.68	S 5° E
GSE		22.39	22.79	22.12	22.66	0.0064 ft/ft
SWL	8/22/96	8.46	7.66	7.88	7.10	S 19° W
GSE		19.97	20.37	19.53	20.24	0.0077 ft/ft
SWL	11/21/96	8.44	7.73	7.76	7.31	S 23° W
GSE		19.99	20.30	19.65	20.03	0.0062 ft/ft

TOC - Top of Casing Elevations for MW-1, MW-2, and MW-3 were surveyed on 11/17/95 to City of Oakland benchmark at northwest corner of block, using an elevation of 29.07 feet above mean sea level. The Top of Casing Elevation for MW-4 was surveyed on 2/14/96 to MW-2 and MW-3.

SWL - Static Water Level (ft)

GSE - Groundwater Surface Elevation (feet relative to mean sea level)

Table 3
Quarterly Groundwater Sampling Results at Motor Partners
1234 40th Ave., Oakland, California

Sample I.D. Number	Date Collected	TPH-D ($\mu\text{g/L}$)	TPH-G ($\mu\text{g/L}$)	Benzene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	Ethyl Benzene ($\mu\text{g/L}$)	Total Xylenes ($\mu\text{g/L}$)
MW-1	6/17/94	2,400	17,000	1,200	220	1,000	2,600
	11/29/95	53,000	67,000	860	180	1,300	3,100
	2/23/96	25,000	16,000	360	ND	370	740
	5/21/96	650	11,000	290	37	600	1,300
	8/22/96	ND	13,000	270	51	540	1,400
	11/21/96	5,500	15,000	810	79	680	1,700
MW-2	6/17/94	370	990	ND	1.3	2.3	4.4
	12/07/94	ND	170	2.1	0.70	0.60	1.7
	11/29/95	200	400	ND	ND	ND	3
	2/23/96	ND	500	ND	ND	ND	ND
	5/21/96	ND	62	ND	ND	ND	1
	8/22/96	ND	120	0.58	0.62	ND	0.62
	11/21/96	89	89	0.60	0.78	ND	ND
California Drinking Water MCL		None Listed	None Listed	1.0	1,000	680	1,750
Reporting Limit		50	50	0.5	0.5	0.5	1.0

Notes: All results in $\mu\text{g/l}$ (ppb)
 ND = Not Detected
 NA = Not Analyzed

Table 3 Continued
Quarterly Groundwater Sampling Results at Motor Partners
1234 40th Ave., Oakland, California

Sample I.D. Number	Date Collected	TPH-D ($\mu\text{g/L}$)	TPH-G ($\mu\text{g/L}$)	Benzene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	Ethyl Benzene ($\mu\text{g/L}$)	Total Xylenes ($\mu\text{g/L}$)
MW-3	6/17/95	2,200	9,500	330	40	100	74
	12/07/94	1,700	7,500	380	42	130	72
	11/29/95	14,000	9,000	300	49	300	16
	2/23/96	14,000	13,000	270	83	260	67
	5/21/96	350	6,600	220	48	160	66
	8/22/96	ND	4,800	120	34	44	44
	11/21/96	3,300	8,700	220	51	150	68
MW-4	2/23/96	3,000	6,000	58	36	6	28
	5/21/96	78	1,200	18	2.5	6.2	12
	8/22/96	ND	400	8.6	3.4	1.8	2.6
	11/21/96	87	170	3.6	1.1	1.7	2.3
California Drinking Water MCL		None Listed	None Listed	1.0	1,000	680	1,750
Reporting Limit		50	50	0.5	0.5	0.5	1.0

Notes: All results in $\mu\text{g/l}$ (ppb)
 ND = Not Detected
 NA = Not Analyzed

SUMMARY AND RECOMMENDATIONS

The four monitoring wells at the Motor Partners site were sampled for the fourth quarter, 1996. The results of the sampling indicate that hydrocarbon contamination is present in groundwater samples from each of the wells. Levels appear to be diminishing in MW-4. Concentrations of hydrocarbons in samples from MW-2, and MW-3 appear to be at similar levels to the previous monitoring period. The levels of hydrocarbons are higher in the water sample from MW-1 compared with the previous sampling event.

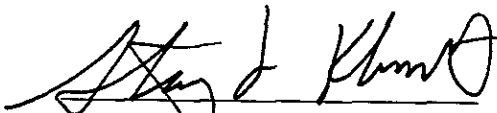
TPH-Gasoline and Benzene contamination exists on the property. The highest concentrations reported from the four wells were from the groundwater sample collected at MW-1 (inside the building). Groundwater flow direction for this sampling period was shown to be in a southwesterly direction.

Phase II investigation activities are on-going at the site. It is recommended that quarterly groundwater sampling be continued.

LIMITATIONS

This report has been prepared in accordance with generally accepted environmental, geological and engineering practices. No warranty, either expressed or implied is made as to the professional advice presented herein. The analysis, conclusions, and recommendations contained in this report are based upon site conditions as they existed at the time of the investigation and they are subject to change.

The conclusions presented in this report are professional opinions based solely upon visual observations of the site and vicinity, and interpretation of available information as described in this report. The scope of services performed in execution of this investigation may not be appropriate to satisfy the needs of other users and any use or reuse of this document or its findings, conclusions or recommendations presented herein is at the sole risk of the said user.



Stanley L. Klemetson Ph.D., P.E.
P.E No. 40087



APPENDIX A

Analytical Results

CHROMALAB, INC.

Environmental Services (SDB)

December 3, 1996

Submission #: 9611269

ROGERS ENVIRONMENTAL SERVICES

Atten: Gary Rogers

Project: MOTOR PARTNERS
Received: November 21, 1996


Project#: 1004.95

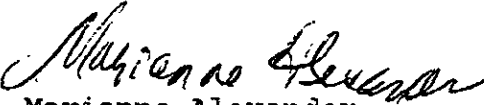
re: 1 sample for Gasoline and BTEX compounds analysis.
Method: EPA 8015M SW846 8020A Nov 1990

Matrix: WATER
Sampled: November 21, 1996 Run#: 4273

Analyzed: December 3, 1996

Spl#	CLIENT SPL ID	Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
108241	MW-1	15000	810	79	680	1700
Reporting Limits		1000	10	10	10	10
Blank Result		N.D.	N.D.	N.D.	N.D.	N.D.
Blank Spike Result (%)		99.2	82.5	80.6	81.1	81.8


Kayvan Kimyai
Chemist


Marianne Alexander
Gas/BTEX Supervisor

CHROMALAB, INC.

Environmental Services (SDB)

December 3, 1996

Submission #: 9611269

ROGERS ENVIRONMENTAL SERVICES

Atten: Gary Rogers

Project: MOTOR PARTNERS
Received: November 21, 1996


Project#: 1004.95


re: 1 sample for Gasoline and BTEX compounds analysis.
Method: EPA 8015M SW846 8020A Nov 1990

Matrix: WATER
Sampled: November 21, 1996 Run#: 4273

Analyzed: December 3, 1996

Spl#	CLIENT SPL ID	Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
108240	MW-3	8700	220	51	150	68
Reporting Limits		1000	10	10	10	10
Blank Result		N.D.	N.D.	N.D.	N.D.	N.D.
Blank Spike Result (%)		99.2	82.5	80.6	81.1	81.8


Kayvan Kimyai
Chemist


Marianne Alexander
Gas/BTEX Supervisor

CHROMALAB, INC.

Environmental Services (SDB)

December 3, 1996

Submission #: 9611269

ROGERS ENVIRONMENTAL SERVICES

Atten: Gary Rogers

Project: MOTOR PARTNERS
Received: November 21, 1996


Project#: 1004.95

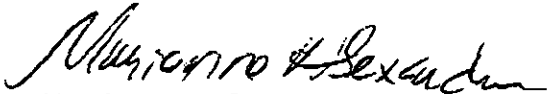
re: 1 sample for Gasoline and BTEX compounds analysis.
Method: EPA 8015M SW846 8020A Nov 1990

Matrix: WATER
Sampled: November 21, 1996 Run#: 4273

Analyzed: December 2, 1996

Spl#	CLIENT SPL ID	Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
108239	MW-2	89	0.60	0.78	N.D.	N.D.
Reporting Limits		50	0.50	0.50	0.50	0.50
Blank Result		N.D.	N.D.	N.D.	N.D.	N.D.
Blank Spike Result (%)		99.2	82.5	80.6	81.1	81.8


Kayvan Kimyai
Chemist


Marianne Alexander
Gas/BTEX Supervisor

CHROMALAB, INC.

Environmental Services (SDB)

December 3, 1996

Submission #: 9611269

ROGERS ENVIRONMENTAL SERVICES

Atten: Gary Rogers

Project: MOTOR PARTNERS
Received: November 21, 1996


Project#: 1004.95


re: 1 sample for Gasoline and BTEX compounds analysis.
Method: EPA 8015M SW846 8020A Nov 1990

Matrix: WATER
Sampled: November 21, 1996 Run#: 4273

Analyzed: December 2, 1996

Spl#	CLIENT SPL ID	Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
108242	MW-4	170	3.6	1.1	1.7	2.3
Reporting Limits		50	0.50	0.50	0.50	0.50
Blank Result		N.D.	N.D.	N.D.	N.D.	N.D.
Blank Spike Result (%)		99.2	82.5	80.6	81.1	81.8


Kayvan Kimyai
Chemist


Marianne Alexander
Gas/BTEX Supervisor

CHROMALAB, INC.

Environmental Services (SDB)

December 2, 1996

Submission #: 9611269

ROGERS ENVIRONMENTAL SERVICES

Atten: Gary Rogers


Project: MOTOR PARTNERS
Received: November 21, 1996


Project#: 1004.95

re: 4 samples for TPH - Diesel analysis.
Method: EPA 3510/8015M

Sampled: November 21, 1996 Matrix: WATER Run#: 4226 Extracted: November 26, 1996
Analyzed: November 27, 1996

Spl#	CLIENT SPL ID	DIESEL (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
108239	MW-2	89	50	N.D.	93.5	1
	Note: Hydrocarbon reported does not match the pattern of our Diesel standard.					
108240	MW-3	3300	50	N.D.	93.5	1
	Note: Hydrocarbon reported does not match the pattern of our Diesel standard. Estimated concentration due to overlapping fuel patterns.					
108241	MW-1	5500	51	N.D.	93.5	1
	Note: Hydrocarbon reported does not match the pattern of our Diesel standard. Estimated concentration due to overlapping fuel patterns.					
108242	MW-4	87	51	N.D.	93.5	1
	Note: Hydrocarbon reported is in the early Diesel range and does not match our Diesel standard.					


Bruce Havlik
Chemist


Alex Tam
Semivolatiles Supervisor

CHROMALAB, INC.

Environmental Services (SDB)

December 2, 1996

Submission #: 9611269

ROGERS ENVIRONMENTAL SERVICES
2657 Bailey Ct.
Fremont, CA 94536

Attn: Gary Rogers

RE: Analysis for project MOTOR PARTNERS, number 1004.95.

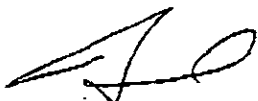
REPORTING INFORMATION

Samples were received cold and in good condition on November 21, 1996. They were refrigerated upon receipt and analyzed as described in the attached report. ChromaLab followed EPA or equivalent methods for all testing reported.

No discrepancies were observed or difficulties encountered with the testing.

Motor oil was found in sample MW-1.

Motor oil was found in sample MW-3.



Bruce Havlik
Chemist



Alex Tam
Semivolatiles Supervisor

APPENDIX B

Quarterly Monitoring Data Sheets

Quarterly Monitoring Data Sheet							
Date: <u>11/21/96</u>				Well Diameter: <u>2 Inches</u> Well ID: <u>MW-1</u>			
Project Location: <u>Motor Partners Site</u>				Well Type: <u>Monitoring Well</u>			
<u>1234 40th Ave., Oakland</u>				Total Depth as Built: <u>19 ft</u>			
Sampler: <u>G. Rogers</u>				Screened Interval: <u>7 ft to 17 ft</u>			
Water Level Data				Purge Calculation (Min 3 Casing Volumes)			
Time Depth Sounded: <u>11:33 AM</u>				gal/ft X ft = gal X 3 = gal			
Measured Depth to Water: <u>8.44 ft</u>				0.163 X 9.9 = 1.61 X 3 = 4.8			
Measured Total Depth: <u>18.3 ft</u>							
Purge Data							
Time	Flowrate (gpm)	Volume (gal)	Temp (°F)	EC (µs/cm)	pH	Turbidity (NTU)	
11:40		0	66.0	650	7.23	>200	
11:43		2	67.3	618	6.86	137	
11:48		4	68.3	634	6.71	50	
11:52		6	68.2	634	6.40	104	
11:56		8	67.9	633	6.44	23	
Observations/Comments:							
Inside Building							
Laboratory Analysis:							
Sample at 12:50 PM							
Water depth - 8.44 ft.							
Analyze for TPH-D, TPH-G and BTEX							
Data for Volume Calculation:							
1 cu. ft. = 7.48 gal = 62.4 lbs (approx)				1 gal = 0.134 cu. ft. = 8.34 lbs (approx)			
2" well = 0.163 gal/linear ft				3" well = 0.367 gal/linear ft			
4" well = 0.653 gal/linear ft				6" well = 1.469 gal/linear ft.			

Quarterly Monitoring Data Sheet

Date: <u>11/21/96</u> Project Location: <u>Motor Partners Site</u> <u>1234 40th Ave., Oakland</u> Sampler: <u>G. Rogers</u>	Well Diameter: <u>2 Inches</u> Well ID: <u>MW-2</u> Well Type: <u>Monitoring Well</u> Total Depth as Built: <u>22 ft</u> Screened Interval: <u>10 ft to 20 ft</u>
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Water Level Data	Purge Calculation (Min 3 Casing Volumes)
Time Depth Sounded: <u>9:45 AM</u>	gal/ft X ft = gal X 3 = gal
Measured Depth to Water: <u>7.73 ft</u>	0.163 X <u>11.8</u> = <u>1.92</u> X 3 = <u>5.8</u>
Measured Total Depth: <u>19.5 ft</u>	

Purge Data							
Time	Flowrate (gpm)	Volume (gal)	Temp (°F)	EC (µs/cm)	pH	Turbidity (NTU)	
9:50		0	69.5	636	8.51	>200	
9:54		2	70.3	665	7.56	85	
9:58		4	70.2	717	7.41	61	
10:01		6	70.5	645	7.38	39	
10:04		8	70.5	644	7.44	24	

Observations/Comments:

Overcast

Laboratory Analysis:

Sample at 12:25 PM
 Water depth - 7.74 ft.
 Analyze for TPH-D, TPH-G and BTEX

Data for Volume Calculation:

1 cu. ft = 7.48 gal = 62.4 lbs (approx)	1 gal = 0.134 cu ft = 8.34 lbs (approx)
2" well = 0.163 gal/linear ft.	3" well = 0.367 gal/linear ft.
4" well = 0.653 gal/linear ft.	6" well = 1.469 gal/linear ft.

Quarterly Monitoring Data Sheet

Date: <u>11/21/96</u> Project Location: <u>Motor Partners Site</u> <u>1234 40th Ave., Oakland</u> Sampler: <u>G. Rogers</u>	Well Diameter: <u>2 Inches</u> Well ID: <u>MW-3</u> Well Type: <u>Monitoring Well</u> Total Depth as Built: <u>23 ft</u> Screened Interval: <u>7 ft to 20 ft</u>
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Water Level Data	Purge Calculation (Min 3 Casing Volumes)
Time Depth Sounded: <u>10:13 AM</u>	gal/ft X ft = gal X 3 = gal
Measured Depth to Water: <u>7.76 ft</u>	
Measured Total Depth: <u>21.7 ft</u>	<u>0.163</u> X <u>13.9</u> = <u>2.3</u> X 3 = <u>6.8</u>

Purge Data

Time	Flowrate (gpm)	Volume (gal)	Temp (°F)	EC (µs/cm)	pH	Turbidity (NTU)
10:30		0	69.3	750	7.01	>200
10:33		2	70.0	745	6.92	179
10:37		4	70.4	758	6.94	54
10:41		6	70.8	772	6.80	23
10:45		8	70.9	769	6.73	16

Observations/Comments:

Overcast

Laboratory Analysis:

Sample at 12:35 PM
 Water depth - 7.78 ft.
 Analyze for TPH-D, TPH-G and BTEX

Data for Volume Calculation:

1 cu ft = 7.48 gal = 62.4 lbs (approx)	1 gal = 0.134 cu ft. = 8.34 lbs (approx)
2" well = 0.163 gal/linear ft.	3" well = 0.367 gal/linear ft
4" well = 0.653 gal/linear ft	6" well = 1.469 gal/linear ft.

Quarterly Monitoring Data Sheet

Date: <u>11/21/96</u> Project Location: <u>Motor Partners Site</u> <u>1234 40th Ave., Oakland</u> Sampler: <u>G. Rogers</u>	Well Diameter: <u>2 Inches</u> Well ID: <u>MW-4</u> Well Type: <u>Monitoring Well</u> Total Depth as Built: <u>25 ft</u> Screened Interval: <u>5 ft to 25 ft</u>
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Water Level Data

Time Depth Sounded: 11:03 AM
 Measured Depth to Water: 7.31 ft.
 Measured Total Depth: 24.6 ft

Purge Calculation (Min 3 Casing Volumes)

gal/ft X ft = gal X 3 = gal
 0.163 X 17.3 = 2.8 X 3 = 8.5

Purge Data

Time	Flowrate (gpm)	Volume (gal)	Temp (°F)	EC (μs/cm)	pH	Turbidity (NTU)
11:12		0	68.7	638	7.72	>200
11:15		2	70.4	646	7.04	>200
11:18		4	70.7	634	6.99	>200
11:20		6	71.2	627	6.90	181
11:23		8	71.1	644	6.93	140

Observations/Comments:

Overcast

Laboratory Analysis:

Sample at 1:00 PM
 Water depth - 7.48 ft.
 Analyze for TPH-D, TPH-G and BTEX

Data for Volume Calculation:

1 cu ft = 7.48 gal = 62.4 lbs (approx)	1 gal = 0.134 cu. ft. = 8.34 lbs (approx)
2" well = 0.163 gal/linear ft.	3" well = 0.367 gal/linear ft.
4" well = 0.653 gal/linear ft.	6" well = 1.469 gal/linear ft.