Aquatic & Environmental Applications

April 4, 2000

REF: 1004-1Q.00

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

SUBJECT: QUARTERLY MONITORING REPORT MOTOR PARTNERS, 1234 40TH AVE., OAKLAND, CA

Dear Barney:

We have enclosed a copy of the Quarterly Monitoring report prepared for the Motor Partners site, 1234 40th Ave., Oakland, California. Groundwater sampling results are presented for the 1st quarterly monitoring event in 2000.

The five monitoring wells and two extraction wells at the site were sampled on March 23, 2000 for the first quarter in 2000. As requested in your letter (dated March 10, 2000), the ORC filter socks were removed and the wells were allowed to equilibrate before the sample event. A total of 10 well volumes were purged from each of the five monitoring wells. The two extraction wells were also sampled to determine if residual contamination exists at the former underground storage tank locations.

Groundwater samples from each of the two extraction wells were "non-detect" for the parameters tested. The analytical results from the five monitoring wells were similar to previous sampling events. It appears that contamination has been eliminated at the source. In addition, the groundwater plume appears to be stable and/or decreasing with time. It is recommended that the site be considered a low risk groundwater site and the site should be considered for closure.

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

Sincerely,

Gary Rogers

Gary Rogers, Ph.D.

cc: Bill Owens

38053 Davy Ct. ❖ Fremont, CA 94536 ❖ 510-791-7157 ❖ E-mail: rogers1@ix.netcom.com

QUARTERLY MONITORING REPORT

1st Quarter, 2000

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.
Aquatic & Environmental Applications
38053 Davy Ct.
Fremont, CA 94536
(510) 791-7157

PROJECT NO. 1004.95

April 4, 2000

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

INTRODUCTION

PROJECT DESCRIPTION

This report discusses the results of quarterly sampling for the first quarter in 2000 at the Motor Partners site, 1234 40th Ave., Oakland, California.

SITE LOCATION AND DESCRIPTION

The project site known as Motor Partners, 1234 40th Avenue, Oakland, California (Figure 1), is located in a commercial/light industrial area. The elevation of the site is approximately 30 feet above mean sea level.

Motor Partners is located 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 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.

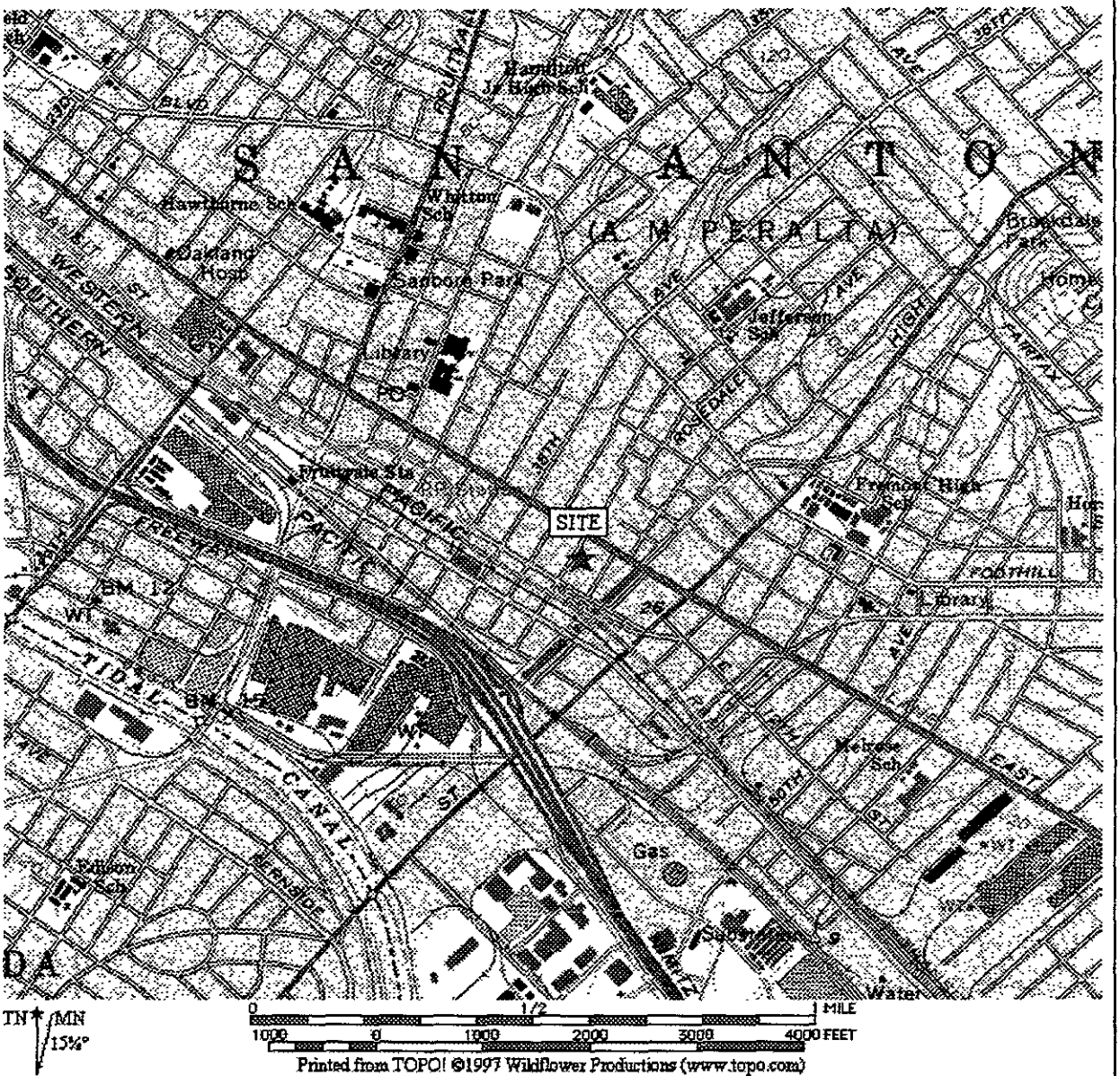
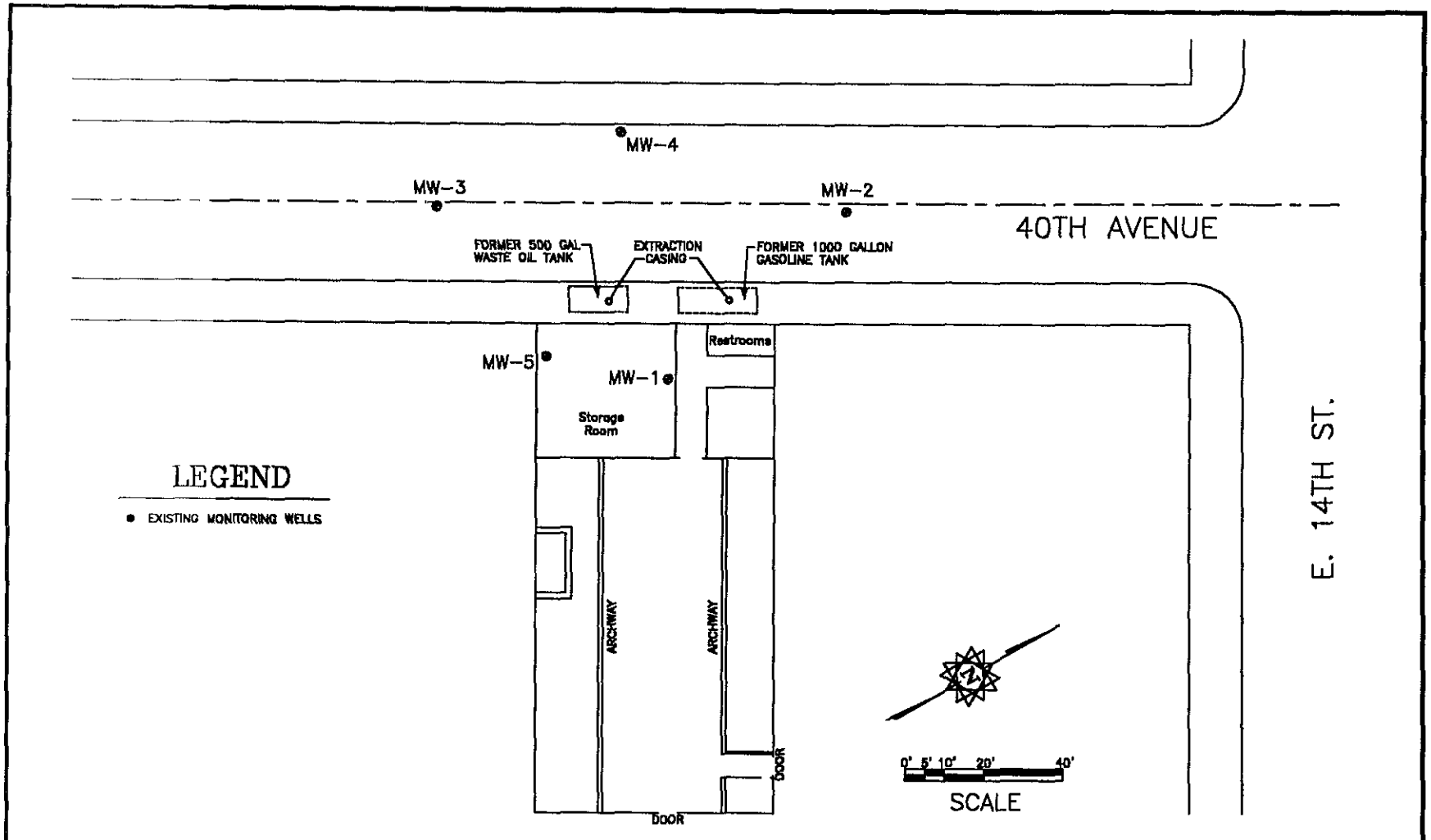


Figure 1. Site Location Map



AQUATIC & ENVIRONMENTAL APPLICATIONS 38053 DAVY CT. FREMONT, CA 94536 (510) 791-7157	DRAWN BY: GLR DRAWING DATE: 3/24/00 REVISION BY: REVISION BY:	PROJECT NUMBER: 1004 FILE NAME: 1004-100.DWG PROJECT MANAGER: GLR CHECKED BY:	DESCRIPTION: Site Layout PROJECT/LOCATION: Motor Partners 1234 40th Ave., Oakland	FIGURE: 2

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.

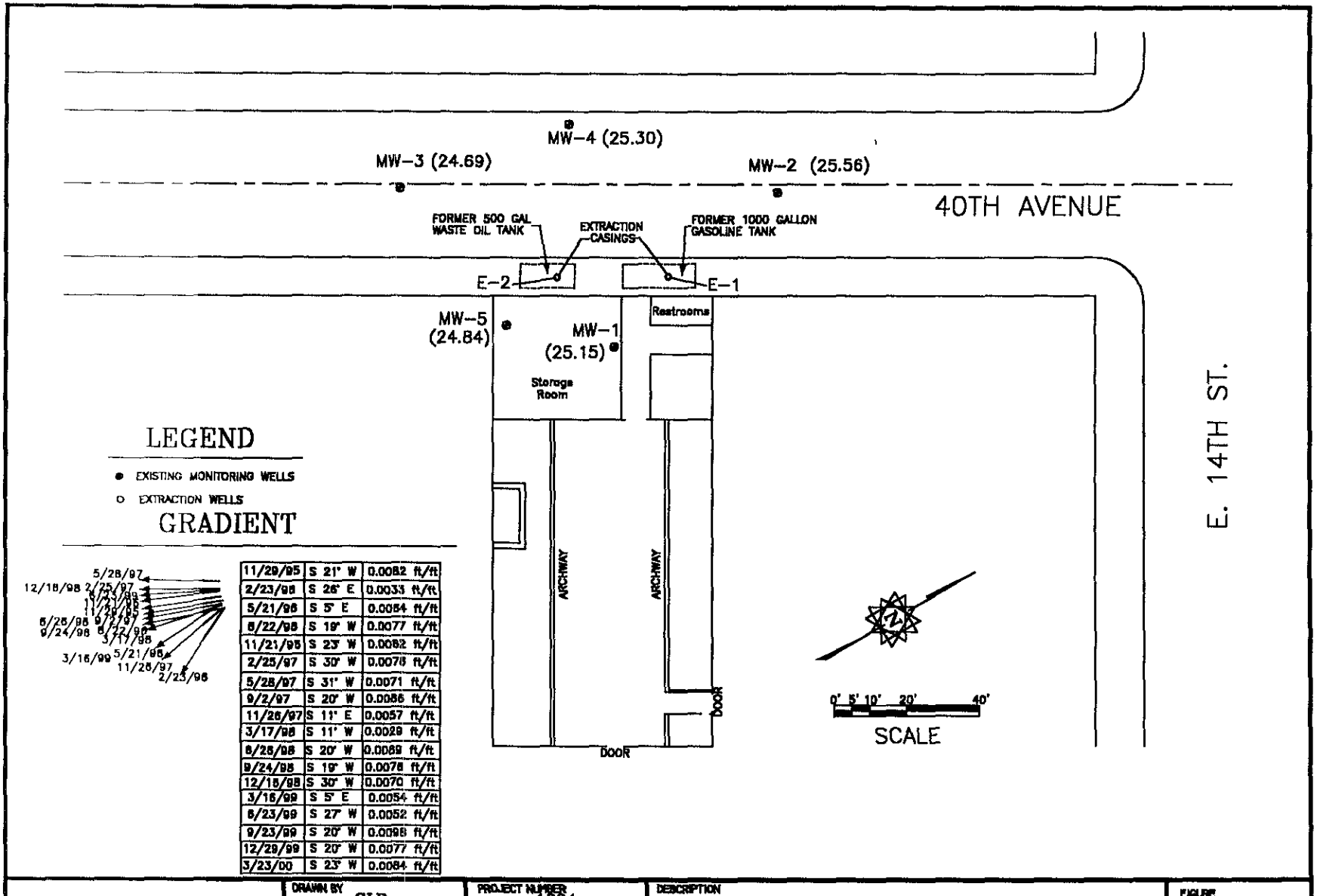
Additional geoprobe borings were completed along 40th Avenue between November, 1995 and February, 1996 to determine the extent of contamination.

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.

On February 11, 1998, HK2, Inc./SEMCO drilled a soil boring inside the building and down gradient from the former underground storage tank excavations (location shown in Figure 3). A two-inch groundwater monitoring well (MW-5) was installed in the boring. The monitoring well was installed to a depth of 21 feet below grade surface (bgs) and screened from 6 to 21 feet bgs.

After purging and sampling the wells on September 24, 1998, Aquatic & Environmental Applications implemented a program of enhanced natural attenuation at the site by installing Oxygen Release Compound (ORC®) filter packs in three of the five wells. Monitoring of microbiological and chemical parameters is on-going at the site.

Motor Partners, 1234 40th Ave., Oakland, CA
Quarterly Monitoring Report



11/29/95	S 21° W	0.0082 ft/ft
2/23/96	S 26° E	0.0033 ft/ft
5/21/96	S 5° E	0.0054 ft/ft
6/22/98	S 19° W	0.0077 ft/ft
11/21/95	S 23° W	0.0082 ft/ft
2/25/97	S 30° W	0.0076 ft/ft
5/28/97	S 31° W	0.0071 ft/ft
9/2/97	S 20° W	0.0086 ft/ft
11/26/97	S 11° E	0.0057 ft/ft
3/17/98	S 11° W	0.0029 ft/ft
6/26/98	S 20° W	0.0069 ft/ft
9/24/98	S 19° W	0.0076 ft/ft
12/18/98	S 30° W	0.0070 ft/ft
3/16/99	S 5° E	0.0054 ft/ft
6/23/99	S 27° W	0.0052 ft/ft
9/23/99	S 20° W	0.0098 ft/ft
12/29/99	S 20° W	0.0077 ft/ft
3/23/00	S 23° W	0.0084 ft/ft

AQUATIC & ENVIRONMENTAL APPLICATIONS
38053 DAVY CT.
FREMONT, CA 94536
(510) 791-7157

DRAWN BY: GLR	PROJECT NUMBER: 1004	DESCRIPTION: Ground Water Gradient	FIGURE: 3
DRAWING DATE: 3/24/00	FILE NAME: 1004-100.DWG		
REVISION BY:	PROJECT MANAGER: GLR	PROJECT/LOCATION: Motor Partners 1234 40th Ave., Oakland	
REVISION BY:	CHECKED BY:		

April 4, 2000
File: 1004-1Q.00

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 nearest cross street is 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.

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

	MW-1	MW-2	MW-3	MW-4	MW-5
Date Drilled	6/15/94	6/14/94	6/14/94	2/1/96	2/11/98
Total Depth	22.5 ft.	22.0 ft.	23.0 ft.	23.0 ft.	21.0 ft.
Bore Diameter	10 inches	10 inches	10 inches	10 inches	6 inches
Casing Diameter	2 inch	2 inch	2 inch	2 inch	2 inch
Well Seal Type	Bentonite Pellets	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	4.0 - 5.0 bgs
Filter Pack Material	2/14 Lonestar Sand	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	5.0 - 21.0 bgs
Screen Slot Size	0.020 in.	0.020 in.	0.020 in.	0.010 in.	0.020 in.
Screened Interval	7.0 - 17.0 bgs	10.0 - 20.0 bgs	7.0 - 20.0 bgs	5.0 - 25.0 bgs	6.0 - 21.0 bgs
Well Elevation[1]	31.44 ft.	31.06 ft.	31.43 ft.	31.37 ft.	31.15 ft.

[1]TOC -Top of Casing Elevations for MW-1, MW-2, MW-3, and MW-4 were surveyed on 8/22/96 by Kier & Wright Civil Engineers & Surveyors, Inc. TOC. Elevation for MW-5 surveyed on 3/20/98 by AEA.

GROUNDWATER MONITORING

GROUNDWATER ELEVATION MEASUREMENTS

The static water level was measured in all five monitoring wells (MW-1, MW-2, MW-3, MW-4 and MW-5) on March 23, 2000 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 ORC filter socks were removed from wells MW-1, MW-3, and MW-5 on March 21, 2000. Prior to sampling, each of the five wells were purged by withdrawing a minimum of ten casing volumes from each well using a submersible pump. Purging continued until the turbidity was less than 100 NTU and the temperature, conductivity, and pH were relatively stable. The turbidity, temperature, electric conductivity, dissolved oxygen and ORP levels were recorded for each well sample.

Groundwater samples were collected using a disposable teflon bailer and placed into 40-ml VOA's, and a 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 five wells (MW-1, MW-2, MW-3, MW-4, and MW-5) were analyzed for total petroleum hydrocarbons as diesel (TPH-D), using EPA methods modified 8015; as gasoline (TPH-G) using EPA methods 8015/5030; benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA methods 8020; and methyl t-butyl ether (MTBE) using EPA method 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 March 23, 2000, the depth to groundwater in the wells ranged from 5.1 to 6.3 feet below the top of the casing. The groundwater elevations for the wells were as follows; MW-1 was 25.15 feet above mean sea level (msl), MW-2 was 25.56 feet above msl, MW-3 was 24.69 feet above msl, MW-4 was 25.30 feet above msl, and MW-5 was 24.84 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 0.0084 ft/ft. The flow direction and gradient are shown in Figure 3.

LABORATORY DATA

A summary of the hydrocarbon analytical results for the quarterly sampling is presented in Table 3. Table 4 presents the results of on-site sampling for dissolved oxygen and redox potential from previous sampling events. In addition, a summary of the other bio-parameters from previous sampling has been presented in Table 5. The additional bio-parameters included the following; nitrate, sulfate, iron, total phosphorus, and ammonia. Copies of all the analytical data sheets from McCampbell Analytical Lab are presented in Appendix A.

TPH-Gasoline and Benzene contamination exists in groundwater on the property with the highest concentrations reported for groundwater samples collected at MW-1, MW-3, and MW-5. Groundwater flow direction for this sampling period was shown to be in a southwesterly direction.

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		31.44 ft	31.06 ft	30.43 ft.	30. 37 ft.	
SWL	11/29/95	10.13	9.31	9.53		S 21° W
GSE		21.31	21.75	20.90		0.0082 ft/ft
SWL	2/23/96	4.59	3.77	3.56	3.17	S 26° E
GSE		26.85	27.29	26.87	27.20	0.0033 ft/ft
SWL	5/21/96	6.04	5.24	5.29	4.68	S 5° E
GSE		25.40	25.82	25.14	25.69	0.0064 ft/ft
SWL	8/22/96	8.46	7.66	7.88	7.10	S 19° W
GSE		22.98	23.40	22.55	23.27	0.0077 ft/ft
SWL	11/21/96	8.44	7.73	7.76	7.31	S 23° W
GSE		23.00	23.33	22.67	23.06	0.0062 ft/ft
SWL	2/25/97	6.53	5.78	5.97	5.06	S 30° W
GSE		24.91	25.28	24.46	25.31	0.0076 ft/ft
SWL	5/28/97	8.08	7.38	7.53	6.94	S 31° W
GSE		23.36	23.68	22.90	23.43	0.0071 ft/ft
SWL	9/2/97	9.08	8.24	9.26	7.84	S 20° W
GSE		22.36	22.82	21.17	22.53	0.0086 ft/ft
SWL	11/26/97	7.98	7.24	7.06	6.64	S 11° E
GSE		23.46	23.82	23.37	23.73	0.0057 ft/ft

TOC - **Top of Casing Elevations for MW-1, MW-2, MW-3, and MW-4** were surveyed on 8/22/96 by Kier & Wright Civil Engineers & Surveyors, Inc.
SWL - Static Water Level (ft)
GSE - Groundwater Surface Elevation (feet relative to mean sea level)

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

	DATE	MW-1	MW-2	MW-3	MW-4	MW-5	GRADIENT
TOC		31.44 ft	31.06 ft	30.43 ft.	30. 37 ft.	31.15 ft.	
SWL	3/17/98	5.84	5.05	5.11	4.52	5.80	S 11° W
GSE		25.60	26.01	25.32	25.85	25.35	0.0029 ft/ft
SWL	6/26/98	7.09	6.24	6.52	5.52	7.07	S 20° W
GSE		24.35	24.82	23.91	24.85	24.08	0.0089 ft/ft
SWL	9/24/98	8.74	7.94	8.13	7.23	8.76	S 19° W
GSE		22.70	23.12	22.30	23.14	22.39	0.0076 ft/ft
SWL	12/16/98	7.11	6.42	6.52	5.92	7.19	S 30° W
GSE		24.33	24.64	23.91	24.45	23.96	0.0070 ft/ft
SWL	3/16/99	5.26	4.54	4.36	4.12	5.14	S 5° E
GSE		26.18	26.52	26.07	26.25	26.01	0.0054 ft/ft
SWL	6/23/99	7.62	6.87	7.06	6.42	7.66	S 27° W
GSE		23.82	24.19	23.37	23.95	23.49	0.0052 ft/ft
SWL	9/23/99	9.30	8.38	8.73	8.08	9.38	S 20° W
GSE		22.14	22.68	21.70	22.29	21.77	0.0098 ft/ft
SWL	12/29/99	9.32	8.51	8.66	8.09	9.27	S 20° W
GSE		22.12	22.55	21.77	22.28	21.88	0.0077 ft/ft
SWL	3/23/00	6.29	5.50	5.74	5.07	6.31	S 23° W
GSE		25.15	25.56	24.69	25.30	24.84	0.0084 ft/ft

TOC - Top of Casing Elevations for MW-1, MW-2, MW-3, and MW-4 were surveyed on 8/22/96 by Kier & Wright Civil Engineers & Surveyors, Inc. Elevation for MW-5 surveyed on 3/20/98 by AEA.
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 (μg/L)	TPH-G (μg/L)	MTBE (μg/L)	Benzene (μg/L)	Toluene (μg/L)	Ethyl Benzene (μg/L)	Total Xylenes (μg/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
	2/25/97	3,900	15,000		430	36	760	1,200
	5/28/97	3,700	7,600		110	15	370	870
	9/2/97	8,200	18,000	ND	1,300	81	1,300	2,800
	11/26/97	14,000	24,000	81	760	75	660	2,100
	3/17/98	5,000	14,000	150	360	120	650	1,200
	6/26/98	1,200	2,500	ND	60	5.6	76	110
	9/24/98	2,200	5,100	310	220	27	300	590
ORC Filter Socks Installed 9/24/98 in MW-1, MW-3, and MW-5								
	12/16/98	450	1,400	ND	57	3.7	42	80
	3/16/99	270	580	ND	11	1.4	8.3	11
	6/23/99	2,600	5,400	ND<10	30	19	190	420
	9/23/99	470	1,100	ND	130	4.1	74	92
	12/29/99	1,100	4,900	ND<10	740	24	550	840
ORC Filter Socks Removed 3/21/00 from MW-1, MW-3, and MW-5								
	3/23/00	6,700	9,500	ND<20	240	18	360	610
California Drinking Water MCL		None Listed	None Listed	None Listed	1.0	1,000	680	1,750
Reporting Limit		50	50	5	0.5	0.5	0.5	1.0

Notes: All results in μg/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 (μg/L)	TPH-G (μg/L)	MTBE (μg/L)	Benzene (μg/L)	Toluene (μg/L)	Ethyl Benzene (μg/L)	Total Xylenes (μg/L)
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
	2/25/97	ND	250		1.2	1.0	ND	ND
	5/28/97	ND	ND		ND	ND	ND	ND
	9/2/97	ND	220	ND	ND	1.2	0.80	1.7
	11/26/97	ND	ND	ND	ND	ND	ND	ND
	3/17/98	ND	ND	ND	ND	ND	ND	ND
	6/26/98	170	260	ND	ND	0.86	ND	0.63
	9/24/98	130	240	ND	0.73	1.2	0.8	0.61
ORC Filter Socks Installed 9/24/98 in MW-1, MW-3, and MW-5								
	12/16/98	ND	ND	ND	ND	ND	ND	ND
	3/16/99	ND	ND	ND	ND	ND	ND	ND
	6/23/99	110	220	ND	0.52	0.88	0.72	ND
	9/23/99	ND	ND	ND	ND	ND	ND	ND
	12/29/99	120	150	ND	ND	ND	ND	ND
ORC Filter Socks Removed 3/21/00 from MW-1, MW-3, and MW-5								
	3/23/00	86	160	ND	ND	ND	ND	ND
California Drinking Water MCL		None Listed	None Listed	None Listed	1 0	1.000	680	1.750
Reporting Limit		50	50	5	0 5	0 5	0 5	1 0

Notes: All results in μg/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 (μg/L)	TPH-G (μg/L)	MTBE (μg/L)	Benzene (μg/L)	Toluene (μg/L)	Ethyl Benzene (μg/L)	Total Xylenes (μg/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
	2/25/97	ND	8,200		260	57	200	72
	5/28/97	1,800	7,000		140	22	44	31
	9/2/97	ND	8,100	65	240	50	170	72
	11/26/97	4,100	5,600	44	140	22	9.6	31
	3/17/98	2,100	10,000	330	270	67	260	96
	6/26/98	2,400	7,600	ND	280	56	160	73
	9/24/98	2,800	6,300	ND	260	65	130	80
ORC Filter Socks Installed 9/24/98 in MW-1, MW-3, and MW-5								
	12/16/98	1,600	4,500	ND	160	22	17	30
	3/16/99	1,900	8,000	ND	370	51	220	110
	6/23/99	2,200	7,400	ND<10	250	47	82	62
	9/23/99	1,500	3,700	ND<130	170	26	51	34
	12/29/99	2,700	4,600	130	300	59	150	87
ORC Filter Socks Removed 3/21/00 from MW-1, MW-3, and MW-5								
	3/23/00	1,700	5,900	ND<160	210	50	140	77
California Drinking Water MCL		None Listed	None Listed	None Listed	1.0	1,000	680	1,750
Reporting Limit		50	50	5	0.5	0.5	0.5	1.0

Notes: All results in μg/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 (μg/L)	TPH-G (μg/L)	MTBE (μg/L)	Benzene (μg/L)	Toluene (μg/L)	Ethyl Benzene (μg/L)	Total Xylenes (μg/L)
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
	2/25/97	ND	120		5.4	0.64	0.93	0.80
	5/28/97	55	150		5.6	0.64	4.4	8.8
	9/2/97	ND	100	ND	3.2	ND	ND	0.7
	11/26/97	ND	240	ND	6.8	ND	1.8	10
	3/17/98	200	300	8.9	4.4	5.1	5.1	20
	6/26/98	66	ND	ND	7.7	0.50	0.84	0.61
	9/24/98	84	66	ND	4.2	0.59	0.63	ND
ORC Filter Socks Installed 9/24/98 in MW-1, MW-3, and MW-5								
	12/16/98	ND	ND	ND	ND	ND	ND	ND
	3/16/99	ND	ND	ND	2.1	ND	ND	ND
	6/23/99	86	190	ND	11	1.1	2.3	1.6
	9/23/99	ND	ND	ND	1.7	ND	ND	ND
	12/29/99	ND	76	ND	3.7	ND	0.54	0.56
ORC Filter Socks Removed 3/21/00 from MW-1, MW-3, and MW-5								
	3/23/00	130	620	ND	59	4.3	8.8	4.1
California Drinking Water MCL		None Listed	None Listed	None Listed	1.0	1,000	680	1,750
Reporting Limit		50	50	5	0.5	0.5	0.5	0.5

Notes: All results in μg/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 (μg/L)	TPH-G (μg/L)	MTBE (μg/L)	Benzene (μg/L)	Toluene (μg/L)	Ethyl Benzene (μg/L)	Total Xylenes (μg/L)
MW-5	3/17/98	22,000	58,000	ND	320	590	790	2,300
	6/26/98	7,000	2,300	ND	54	20	14	41
	9/24/98	2,500	1,600	ND	31	10	6.3	22
ORC Filter Socks Installed 9/24/98 in MW-1, MW-3, and MW-5								
	12/16/98	ND	ND	ND	ND	ND	ND	ND
	3/16/99	ND	180	ND	22	0.52	ND	1.9
	6/23/99	8,400	3,200	ND<50	25	7.3	6.8	25
	9/23/99	470	490	ND<14	16	3.3	2.0	4.9
	12/29/99	2,300	530	ND	9.0	2.7	0.75	3.3
ORC Filter Socks Removed 3/21/00 from MW-1, MW-3, and MW-5								
	3/23/00	1,900	720	ND	19	4.9	3.6	14
California Drinking Water MCL		None Listed	None Listed	None Listed	1.0	1,000	680	1,750
Reporting Limit		50	50	5	0.5	0.5	0.5	0.5

Sample I.D. Number	Date Collected	TPH-D (μg/L)	TPH-G (μg/L)	MTBE (μg/L)	Benzene (μg/L)	Toluene (μg/L)	Ethyl Benzene (μg/L)	Total Xylenes (μg/L)
E-1	3/23/00	ND	ND	ND	ND	ND	ND	ND
E-2	3/23/00	ND	ND	ND	ND	ND	ND	ND
California Drinking Water MCL		None Listed	None Listed	None Listed	1.0	1,000	680	1,750
Reporting Limit		50	50	5	0.5	0.5	0.5	0.5

Notes: All results in μg/l (ppb)
ND = Not Detected
NA = Not Analyzed

Table 4. Dissolved Oxygen and Redox Results
Motor Partners, 1234 40th Ave., Oakland, California

Sample I.D. Number	Date Collected	Dissolved Oxygen (mg/L)	Redox Potential (mv)
MW-1	11/26/97	1.5	56
	3/17/98	0.9	-2.0
	6/26/98	1	-64
	9/24/98	1.1	-49
	12/16/98	1	-44
	3/16/99	3.2	155
	6/23/99	2.2	120
	9/23/99	2.9	34
	12/29/99	3.9	156
MW-2	11/26/97	3	162
	3/17/98	2.7	90
	6/26/98	4.3	144
	9/24/98	4	175
	12/16/98	6.5	205
	3/16/99	2.7	156
	6/23/99	2.1	125
	9/23/99	2.1	168
	12/29/99	3	164
MW-3	11/26/97	2	67
	3/17/98	1.5	18
	6/26/98	1.8	-72
	9/24/98	1.4	-10
	12/16/98	2.1	4
	3/16/99	1.6	-14
	6/23/99	1.5	-32
	9/23/99	1.2	-56
	12/29/99	1.4	-60

Table 4 (Continued)
Dissolved Oxygen and Redox Results
Motor Partners, 1234 40th Ave., Oakland, California

Sample I.D. Number	Date Collected	Dissolved Oxygen (mg/L)	Redox Potential (mv)
MW-4	11/26/97	2.4	114
	3/17/98	1.7	69
	6/26/98	2.8	99
	9/24/98	2.9	78
	12/16/98	9.2	265
	3/16/99	10.5	197
	6/23/99	5.7	175
	9/23/99	6	196
	12/29/99	5.7	190
MW-5	3/17/98	1.5	40
	6/26/98	0.9	-33
	9/24/98	1.3	-9
	12/16/98	4	194
	3/16/99	2.4	144
	6/23/99	1.7	151
	9/23/99	2.9	236
	12/29/99	3	158

Table 5. Results of Additional Bioremediation Parameters
Motor Partners, 1234 40th Ave., Oakland, California

Sample I.D. Number	Date Collected	Ferrous Iron (mg/L)	Ammonia-N (mg/L)	Nitrate-N (mg/L)	Sulfate (mg/L)	Total Phosphorus (mg/L)
MW-1	11/26/97	1.2	<0.05	<0.05	4200	0.06
	3/17/98	2.0	0.22	<0.05	97	0.14
	6/26/98	3.0	ND	ND	2000	ND
	9/24/98	0.25	ND	2	7	0.16
	12/16/98	3.2	ND	ND	17	0.07
	3/16/99	0.21	1.8	ND	36	ND
	6/23/99	2.4	ND	ND	35	ND
	9/23/99	ND	ND	19	21	ND
	12/29/99	1.3	ND	15	25	0.35
MW-2	11/26/97	ND	<0.05	1.1	3100	0.08
	3/17/98	0.21	0.08	11	41	0.13
	6/26/98	0.087	ND	7.2	33	ND
	9/24/98	ND	ND	37	38	0.08
	12/16/98	ND	ND	44	48	0.03
	3/16/99	ND	1.3	41	42	ND
	6/23/99	0.8	ND	41	65	0.11
	9/23/99	ND	ND	55	43	ND
	12/29/99	0.079	ND	36	46	ND
MW-3	11/26/97	2.8	<0.05	<0.05	4100	0.45
	3/17/98	0.31	0.06	<0.05	<2.0	0.17
	6/26/98	3.0	ND	ND	ND	ND
	9/24/98	0.11	ND	ND	ND	0.24
	12/16/98	1.3	ND	ND	9	0.16
	3/16/99	2.5	1.2	ND	ND	0.23
	6/23/99	1.9	ND	ND	34	0.12
	9/23/99	0.46	ND	55	39	0.14
	12/29/99	2.2	ND	ND	3	0.42

Table 5 continued. Results of Additional Bioremediation Parameters
Motor Partners, 1234 40th Ave., Oakland, California

MW-4	11/26/97	ND	<0.05	0.66	4900	0.16
	3/17/98	0.17	0.06	7.4	33	0.07
	6/26/98	0.21	ND	7.1	32	ND
	9/24/98	ND	ND	40	37	0.09
	12/16/98	ND	ND	44	45	0.11
	3/16/99	0.17	ND	40	37	ND
	6/23/99	0.8	ND	46	44	0.23
	9/23/99	ND	ND	55	39	ND
	12/29/99	0.16	ND	43	50	ND
MW-5	3/17/98	0.49	0.06	0.83	40	0.13
	6/26/98	0.26	ND	1.7	22	ND
	9/24/98	ND	ND	5	24	0.29
	12/16/98	ND	ND	17	35	0.06
	3/16/99	ND	4.1	9	18	ND
	6/23/99	0.97	ND	8	48	0.54
	9/23/99	0.11	ND	12	23	ND
	12/29/99	1.2	ND	16	33	0.61

Notes: All results in mg/L (ppm)
ND = Not Detected

Table 6. Results of Microbiological Analyses
Motor Partners, 1234 40th Ave., Oakland, California

Sample I.D. Number	Date Collected	Aerobic Hydrocarbon Degraders (cfu/ml)	Anaerobic Hydrocarbon Degraders (cfu/ml)
MW-1	9/24/98	$<1 \times 10^1$	4.6×10^2
	12/16/98	2.3×10^3	3.8×10^4
	3/16/99	3.3×10^1	8.2×10^2
	6/23/99	1.1×10^4	2.5×10^4
	9/23/99	7.0×10^1	2.2×10^3
MW-2	9/24/98	5.4×10^2	3.4×10^3
	12/16/98	4.0×10^2	3.0×10^3
	3/16/99	8.0×10^1	2.9×10^1
	6/23/99	2.9×10^3	1.4×10^4
	9/23/99	1.1×10^1	4.0×10^1
MW-3	9/24/98	6.5×10^2	4.3×10^3
	12/16/98	6.1×10^2	3.5×10^4
	3/16/99	1.2×10^3	2.6×10^3
	6/23/99	4.4×10^3	9.0×10^3
	9/23/99	1.3×10^3	6.0×10^3
MW-4	9/24/98	3.6×10^1	5.1×10^2
	12/16/98	1.2×10^3	2.0×10^3
	3/16/99	5.5×10^2	2.2×10^3
	6/23/99	1.3×10^3	7.5×10^3
	9/23/99	3.0×10^2	3.5×10^3
MW-5	9/24/98	3.9×10^1	5.1×10^3
	12/16/98	6.2×10^3	1.1×10^4
	3/16/99	2.7×10^2	2.3×10^3
	6/23/99	6.2×10^2	8.5×10^3
	9/23/99	8.0×10^1	1.7×10^3

cfu/ml = colony forming units per milliliter

SUMMARY AND RECOMMENDATIONS

Summary

The five monitoring wells and two extraction wells at Motor Partners (1234 40th Avenue, Oakland, California) were sampled on March 23, 2000 for the first quarter in 2000. This sampling event was completed in response to a letter (dated March 10, 2000) from Mr. Barney Chan, Alameda County Environmental Health Services. As requested, the ORC filter socks were removed from the wells and the wells were allowed to equilibrate before the sample event. A total of 10 well volumes were purged from each of the five monitoring wells prior to sampling. The two extraction wells were also sampled to determine if residual contamination exists at the former underground storage tank locations.

Groundwater samples from each of the two extraction wells were "non-detect" for the parameters tested. The results from the five monitoring wells showed hydrocarbon and/or BTEX contamination in groundwater samples from all of the wells. The levels of contamination were similar to previous sampling events. Groundwater flow direction for this sampling period was shown to be in a southwesterly direction.

Recommendations

It appears that contamination has been eliminated at the source. In addition, the groundwater plume appears to be stable and/or decreasing with time. The groundwater sampling results reported for this sampling event were in the same range as previous sampling events. Therefore, it is recommended that the site be considered a low risk groundwater site and the site should be considered for closure.

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.

APPENDICES

APPENDIX A

Analytical Results

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

Aquatic & Environmental Applications 38053 Davy Court Fremont, CA 94536	Client Project ID: #1004; Motor Partners	Date Sampled: 03/23/00
		Date Received: 03/23/00
	Client Contact: Gary Rogers	Date Extracted: 03/26-03/28/00
	Client P.O:	Date Analyzed: 03/26-03/28/00

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & BTEX*

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g)+	MTBE	Benzene	Toluene	Ethylben-zene	Xylenes	% Recovery Surrogate
33771	E-1	W	ND	ND	ND	ND	ND	ND	102
33772	E-2	W	ND	ND	ND	ND	ND	ND	102
33773	MW-2	W	160,b,j	ND	ND	ND	ND	ND	106
33774	MW-4	W	620,a	ND	59	4.3	8.8	4.1	---#
33775	MW-5	W	720,a,h	ND	19	4.9	3.6	14	109
33776	MW-1	W	9500,a,h	ND<20	240	18	360	610	104
33777	MW-3	W	5900,a	ND<160	210	50	140	77	---#
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	5.0	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP and SPLP extracts in ug/L

cluttered chromatogram; sample peak coelutes with surrogate peak

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant, b) heavier gasoline range compounds are significant(aged gasoline?), c) lighter gasoline range compounds (the most mobile fraction) are significant, d) gasoline range compounds having broad chromatographic peaks are significant, biologically altered gasoline?, e) TPH pattern that does not appear to be derived from gasoline (?), f) one to a few isolated peaks present, g) strongly aged gasoline or diesel range compounds are significant, h) lighter than water immiscible sheen is present, i) liquid sample that contains greater than ~5 vol.% sediment, j) no recognizable pattern

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

Aquatic & Environmental Applications	Client Project ID: #1004; Motor Partners	Date Sampled: 03/23/00
38053 Davy Court		Date Received: 03/23/00
Fremont, CA 94536	Client Contact: Gary Rogers	Date Extracted: 03/23/00
	Client P.O:	Date Analyzed: 03/24/00

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel *

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	TPH(d)+	% Recovery Surrogate
33771	E-1	W	ND	101
33772	E-2	W	ND	99
33773	MW-2	W	86,e	100
33774	MW-4	W	130,e	99
33775	MW-5	W	1900,e,g,h	112
33776	MW-1	W	6700,e,g,h	112
33777	MW-3	W	1700,e	80
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	
		S	1.0 mg/kg	

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP, STLC, SPLP extracts in ug/L

+ cluttered chromatogram resulting in coeluted surrogate and sample peaks, or, surrogate peak is on elevated baseline, or, surrogate has been diminished by dilution of original extract

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant, b) diesel range compounds are significant, no recognizable pattern, c) aged diesel? is significant), d) gasoline range compounds are significant, e) medium boiling point pattern that does not match diesel (stoddard solvent?), f) one to a few isolated peaks present, g) oil range compounds are significant, h) lighter than water immiscible sheen is present, i) liquid sample that contains greater than ~5 vol. % sediment

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 2nd Ave. South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

QC REPORT

Date: 03/24/00-03/25/00 Matrix: Water

Extraction: N/A

Compound	Concentration: ug/L				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 32400				Instrument: GC-3			
Surrogate1	0.000	102.0	104.0	100.00	102	104	1.9
Xylenes	0.000	278.0	299.0	300.00	93	100	7.3
Ethyl Benzene	0.000	93.0	101.0	100.00	93	101	8.2
Toluene	0.000	96.0	106.0	100.00	96	106	9.9
Benzene	0.000	101.0	111.0	100.00	101	111	9.4
MTBE	0.000	108.0	97.0	100.00	108	97	10.7
GAS	0.000	903.2	942.7	1000.00	90	94	4.3
SampleID: 32400				Instrument: GC-2 A			
Surrogate1	0.000	108.0	109.0	100.00	108	109	0.9
TPH (diesel)	0.000	303.0	287.0	300.00	101	96	5.4

$$\text{Recovery} = \frac{(MS - Sample)}{Amount\ Spiked} \times 100$$

$$\text{RPD} = \frac{(MS - MSD)}{(MS - MSD)} \times 200$$

RPD means Relative Percent Deviation

McCAMPBELL ANALYTICAL INC.
110 2nd Ave. South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

QC REPORT

Date: 03/26/00-03/27/00 Matrix: Water

Extraction: N/A

Compound	Concentration: ug/L				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 32600				Instrument: GC-3			
Surrogate1	0.000	103.0	101.0	100.00	103	101	2.0
Xylenes	0.000	297.0	288.0	300.00	99	96	3.1
Ethyl Benzene	0.000	100.0	98.0	100.00	100	98	2.0
Toluene	0.000	102.0	101.0	100.00	102	101	1.0
Benzene	0.000	105.0	105.0	100.00	105	105	0.0
MTBE	0.000	94.0	103.0	100.00	94	103	9.1
GAS	0.000	935.7	919.1	1000.00	94	92	1.8
SampleID: 32800				Instrument: GC-11 A			
Surrogate1	0.000	115.0	111.0	100.00	115	111	3.5
TPH (diesel)	0.000	286.0	263.0	300.00	95	88	8.4

$$\%\,\text{Recovery} = \frac{(MS - Sample)}{Amount\,Spiked} \times 100$$

$$\text{RPD} = \frac{(MS - MSD)}{(MS + MSD)} \times 200$$

RPD means Relative Percent Deviation

19453 area 7.doc

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560
Telephone (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAY

Report To: Gary Rogers Bill To: Same
Company: Aquatic + Environmental Applications
38053 Davy Ct
Fremont, CA 94536
Tele: (510) 791-7157 Fax: (510) 791-7157
Project # 1004 Project Name: Motor Partners
Project Location: 1234 40th Ave, Oakland
Sampler Signature: G Rogers

	SAMPLE ID	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	Soil	Air	Sludge	Other	METHOD PRESERVED Ice	HCl	HNO_3	Other	BTEX & TPH as Gas (602/8020 + 8015)/ MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601 / 8010	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8080	EPA 608 / 8080 PCB's ONLY	EPA 624 / 8240 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI	Other	Comments
✓	E-1		3-23-00	12:30	4	1L + 3VOAs	X									X	X															33771
✓	E-2			12:35	4		X									X	X															33772
(+)	MW-2			12:50	4		X									X	X															33773
(+)	MW-4			1:00	4		X									X	X															33774
(+)	MW-5			1:10	4		X									X	X															33775
(+)	MW-1			1:20	4		X									X	X															33776
✓	MW-3		3-23-00	1:30	4	1L + 3VOAs	X									X	X															33777

Relinquished By	Date:	Time:	Received By:
Gary Rogers	3-23-00	2:45	Maria Venegas
Relinquished By	Date:	Time:	Received By:
Relinquished By	Date:	Time:	Received By:

Remarks:

ICE/T ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT —
PRESERVATION APPROPRIATE ✓
CONTAINERS ✓

VOAS	O&G	METALS	OTHER
✓			

(2)

APPENDIX B

Quarterly Monitoring Data Sheets

Quarterly Monitoring Data Sheet

Date: 3/23/00
Project Location: Motor Partners Site
1234 40th Ave., Oakland
Sampler: G. Rogers

Well Diameter: 2 Inches Well ID: MW-1
Well Type: Monitoring Well
Total Depth as Built: 19 ft
Screened Interval: 7 ft to 17 ft

Water Level Data

Time Depth Sounded: 11:10 AM
Measured Depth to Water: 6.29 ft.
Measured Total Depth: 17.2 ft.

Purge Calculation(Min 3 Casing Volumes)

gal/ft X ft = gal X 10 = gal

0.163 X 10.91 = 1.8 X 10 = 18

Purge Data

Time	Flowrate (gpm)	Volume (gal)	Temp (°F)	EC (μs/cm)	pH	Turbidity (NTU)	
11:13		0	61.3	706	7.07		
11:20		8	61.5	724	7.05		
11:27		16	61.6	702	7.06		
11:30		18	62.0	704	7.06		

Observations/Comments:

Inside Building

Laboratory Analysis:

Sample at 1:20 PM
Water depth - 6.28 ft.
Analyze for TPH-D, TPH-G, BTEX, and MTBE

Data for Volume Calculation:

1 cu. ft. = 7.48 gal = 62.4 lbs (approx)
2" well = 0.163 gal/linear ft
4" well = 0 653 gal/linear ft.

1 gal = 0.134 cu. ft. = 8.34 lbs (approx)
3" well = 0.367 gal/linear ft.
6" well = 1.469 gal/linear ft.

Quarterly Monitoring Data Sheet

Date: 3/23/00	Well Diameter: 2 Inches Well ID: MW-2
Project Location: Motor Partners Site 1234 40th Ave., Oakland	Well Type: Monitoring Well
	Total Depth as Built: 22 ft
Sampler: G. Rogers	Screened Interval: 10 ft to 20 ft

Water Level Data	Purge Calculation(Min 3 Casing Volumes)
Time Depth Sounded: 9:15 AM	gal/ft X ft = gal X 10 = gal
Measured Depth to Water: 5.50 ft.	
Measured Total Depth: 19.6 ft.	0.163 X 14.1 = 2.3 X 10 = 23.0

Purge Data

Time	Flowrate (gpm)	Volume (gal)	Temp (°F)	EC (μs/cm)	pH	Turbidity (NTU)	
9:30		0	62.4	587	7.17		
9:40		8	62.4	627	7.14		
9:50		16	62.8	606	7.13		
10:00		24	62.7	605	7.21		

Observations/Comments:

Partly Cloudy

Laboratory Analysis:

Sample at 12:50 PM
Water depth - 5.49 ft.
Analyze for TPH-D, TPH-G, BTEX and MTBE

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: 3/23/00
Project Location: Motor Partners Site
1234 40th Ave., Oakland
Sampler: G. Rogers

Well Diameter: 2 Inches Well ID: MW-3
Well Type: Monitoring Well
Total Depth as Built: 23 ft
Screened Interval: 7 ft to 20 ft

Water Level Data

Time Depth Sounded: 11:35 AM
Measured Depth to Water: 5.74 ft.
Measured Total Depth: 20.1 ft.

Purge Calculation(Min 3 Casing Volumes)

gal/ft X ft = gal X 10 = gal

0.163 X 14.4 = 2.34 X 10 = 23.4

Purge Data

Time	Flowrate (gpm)	Volume (gal)	Temp (°F)	EC (μs/cm)	pH	Turbidity (NTU)	
11:40		0	61.4	726	7.10		
11:45		8	61.6	723	7.10		
11:50		16	61.8	729	7.10		
12:00		24	61.9	700	7.14		

Observations/Comments:

Partly Cloudy

Laboratory Analysis:

Sample at 1:30 PM
Water depth - 5.72 ft.
Analyze for TPH-D, TPH-G, BTEX and MTBE

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: 3/23/00
Project Location: Motor Partners Site
1234 40th Ave., Oakland
Sampler: G. Rogers

Well Diameter: 2 Inches Well ID: MW-4
Well Type: Monitoring Well
Total Depth as Built: 25 ft
Screened Interval: 5 ft to 25 ft

Water Level Data

Time Depth Sounded: 10:05 AM
Measured Depth to Water: 5.07 ft.
Measured Total Depth: 24.5 ft.

Purge Calculation(Min 3 Casing Volumes)

gal/ft X ft = gal X 10 = gal

0.163 X 19.43 = 3.2 X 10 = 32

Purge Data

Time	Flowrate (gpm)	Volume (gal)	Temp (°F)	EC (μs/cm)	pH	Turbidity (NTU)	
10:08		0	62.4	652	7.41		
10:13		8	62.9	674	7.48		
10:21		16	62.8	684	7.42		
10:26		24	63.0	686	7.38		
10:33		32	62.9	692	7.34		

Observations/Comments:

Partly Cloudy

Laboratory Analysis:

Sample at 1:00 PM
Water depth - 5.06 ft.
Analyze for TPH-D, TPH-G, BTEX and MTBE

Data for Volume Calculation:

1 cu. ft. = 7.48 gal = 62.4 lbs (approx)
2" well = 0.163 gal/linear ft.
4" well = 0.653 gal/linear ft.

1 gal = 0.134 cu. ft. = 8.34 lbs (approx)
3" well = 0.367 gal/linear ft.
6" well = 1.469 gal/linear ft.

Quarterly Monitoring Data Sheet

Date: 3/23/00	Well Diameter: 2 Inches Well ID: MW-5
Project Location: Motor Partners Site 1234 40th Ave., Oakland	Well Type: Monitoring Well
Sampler: G. Rogers	Total Depth as Built: 21 ft
	Screened Interval: 6 ft to 21 ft

Water Level Data	Purge Calculation(Min 3 Casing Volumes)
Time Depth Sounded: 10:45 AM	gal/ft X ft = gal X 10 = gal
Measured Depth to Water: 6.31 ft.	
Measured Total Depth: 19.3 ft.	0.163 X 13.0 = 2.1 X 10 = 21.1

Purge Data

Time	Flowrate (gpm)	Volume (gal)	Temp (°F)	EC (μs/cm)	pH	Turbidity (NTU)	
10:48		0	61.5	622	7.19		
10:54		8	61.7	704	7.17		
11:00		16	61.5	723	7.18		
11:03		22	61.7	727	7.17		

Observations/Comments:

Inside Building

Laboratory Analysis:

Sample at 1:10 PM
Water depth - 6.35 ft.
Analyze for TPH-D, TPH-G, BTEX and MTBE

Data for Volume Calculation:

1 cu. ft. = 7.48 gal = 62.4 lbs (approx)
2" well = 0.163 gal/linear ft.
4" well= 0.653 gal/linear ft.

1 gal = 0.134 cu. ft. = 8.34 lbs (approx)
3" well = 0.367 gal/linear ft.
6" well = 1.469 gal/linear ft.

Quarterly Monitoring Data Sheet

Date: 3/23/00
Project Location: Motor Partners Site
1234 40th Ave., Oakland
Sampler: G. Rogers

Well Diameter: 4 Inches Well ID: E-1
Well Type: Extraction Well
Total Depth as Built: 13.5 ft
Screened Interval: 1 ft to 13.5 ft

Water Level Data

Time Depth Sounded: 12:20 PM
Measured Depth to Water: 5.41 ft.
Measured Total Depth: 13.5 ft.

Purge Calculation(Min 3 Casing Volumes)

gal/ft X ft = gal X 10 = gal

0.163 X ____ = ____ X 10 = ____

Purge Data

Time	Flowrate (gpm)	Volume (gal)	Temp (°F)	EC (μs/cm)	pH	Turbidity (NTU)	

Observations/Comments:

Clear and Sunny

Laboratory Analysis:

Sample at 12:30 PM
Water depth -
Analyze for TPH-D, TPH-G, BTEX and MTBE

Data for Volume Calculation:

1 cu. ft. = 7.48 gal = 62.4 lbs (approx)
2" well = 0.163 gal/linear ft.
4" well= 0.653 gal/linear ft.

1 gal = 0.134 cu. ft. = 8.34 lbs (approx)
3" well = 0.367 gal/linear ft.
6" well = 1.469 gal/linear ft.

Quarterly Monitoring Data Sheet

Date: 3/23/00
Project Location: Motor Partners Site
1234 40th Ave., Oakland
Sampler: G. Rogers

Well Diameter: 4 Inches Well ID: E-2
Well Type: Extraction Well
Total Depth as Built: 13.5 ft
Screened Interval: 1 ft to 13.5 ft

Water Level Data

Time Depth Sounded: 12:25 PM
Measured Depth to Water: 5.30 ft.
Measured Total Depth: 13.4 ft.

Purge Calculation(Min 3 Casing Volumes)

gal/ft X ft = gal X 10 = gal

0.163 X ____ = ____ X 10 = ____

Purge Data

Time	Flowrate (gpm)	Volume (gal)	Temp (°F)	EC (μs/cm)	pH	Turbidity (NTU)	

Observations/Comments:

Clear and Sunny

Laboratory Analysis:

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

Data for Volume Calculation:

1 cu. ft. = 7.48 gal = 62.4 lbs (approx)
2" well = 0.163 gal/linear ft.
4" well= 0.653 gal/linear ft.

1 gal = 0.134 cu. ft. = 8.34 lbs (approx)
3" well = 0.367 gal/linear ft.
6" well = 1.469 gal/linear ft.