A Report Documenting the Purging and Sampling of Three Groundwater Monitoring Wells on Two Consecutive Quarters and the Determination of Ground-water Gradient for Six Consecutive Months

at

RON GOODE TOYOTA
1825 PARK AVENUE
ALAMEDA, CALIFORNIA

November 29, 1992

A REPORT DOCUMENTING THE
INVESTIGATION OF CONTAMINATION
IN SOIL BENEATH THE SITE AT:

RON GOODE TOYOTA
1825 PARK STREET
ALAMEDA, CALIFORNIA

prepared by:

Helen Mawhinney

1/6/93

ENVIRONMENTAL TECHNICAL SERVICES
Helen Mawhinney
Senior Environmental Specialist

Roger Greensfelder

1/5/93

Roger Greensfelder PhD
CA. Registered Geologist #3011

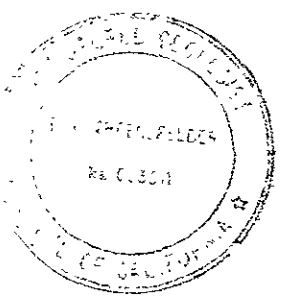


TABLE OF CONTENTS

1.0 INTRODUCTION

The following report documents the sampling of three groundwater monitoring wells and the determination of groundwater gradient at Ron Goode Toyota, 1825 Park Street, Alameda, California.

Groundwater was sampled on two consecutive quarters and groundwater gradient determined for six consecutive months.

The work was performed in response to the discovery of petroleum hydrocarbons beneath the site and has been requested by the Alameda County Environmental Health Department

2.0 SITE DESCRIPTION

The site is located in the City and County of Alameda. The area is primarily commercial and industrial with many auto and nautical related businesses. The site is occupied by Ron Goode Toyota an automobile dealership. A single building houses sales offices, a show room, and an auto repair shop. The topography of the site is relatively level.

3.0 PREVIOUS ENVIRONMENTAL INVESTIGATIONS

On December 27, 1990, a 300-gallon motor oil underground storage tank (UST) and a 550-gallon gasoline UST were excavated and removed from the site. Total petroleum hydrocarbons were detected in soil samples collected from beneath the tanks.

On March 21, 1991 and April 11, 1991, soil borings were advanced and samples collected in an investigation of the contaminant migration in soil.

Three groundwater monitoring wells were installed on November 8, 1991 then developed and sampled on November 13, 1991.

TABLE I INITIAL GROUNDWATER ANALYTICAL RESULTS, 5/30/91

Sample#	TPHg ppb	B ppb	T ppb	E ppb	X ppb	TPHd ppb	TOG ppm
MW-1	ND	ND	ND	ND	ND	ND	4.0
MW-2	ND	ND	ND	ND	ND	ND	3.0
MW-3	ND	ND	ND	ND	ND	ND	1.0

ND = Not detected at the lower detection limit

4.0 SCOPE OF SERVICES

4.1 Groundwater Purging & Sampling

The three existing monitoring wells were purged and sampled on May 30, 1992 and September 11, 1992. All well effluent was contained in Department of Transportation 17-H, 55 gallon drums, pending analysis of water samples. The wells were developed (purged) using a clean stainless steel bailer (1.5" diameter by 3' length) bailer. Subsequent to purging each well was sampled using a clean stainless steel bailer. A separate bailer was dedicated to each well for the sampling event. At consistent intervals throughout sampling groundwater parameters (pH, conductivity, salinity, and temperature) were monitored to evaluate stabilization of the wells.

A water sample was decanted from the sampling bailer into three one-liter amber bottles and three 40-ml volatile organics analysis vials (VOAs) to a positive meniscus eliminating headspace.

The samples were transported to a Certified Hazardous Waste Analytical Laboratory under chain of custody for analysis.

Refer to Appendix B, Monitoring Well Sampling Data Report.

4.2 Groundwater Analysis

Each groundwater sample was analyzed for total petroleum hydrocarbons as diesel (TPHd, using EPA Method 3510 and TPH Luft), total petroleum hydrocarbons as gasoline, benzene, toluene, ethylbenzene and total xylenes (TPHg & BTEX, using EPA Method 5030 and TPH Luft Method 602 for BTEX), and total oil and grease (TOG, using EPA Method 3550/5520).

4.3 Groundwater Analytical Results

TABLE II

GROUNDWATER ANALYTICAL RESULTS - FIRST QUARTER SAMPLING PERFORMED ON MAY 30, 1992

Results for TPHg & BTEX, TPHd, and TOG are reported in ug/L
Results for TOG are reported in mg/L

Sample#	TPHg	B	T	E	X	TPHd	TOG
MW-1	ND	ND	ND	ND	2.7	ND	20 ppm
MW-2	ND	ND	ND	ND	2.0	ND	ND
MW-3	ND	ND	ND	ND	ND	ND	20 ppm

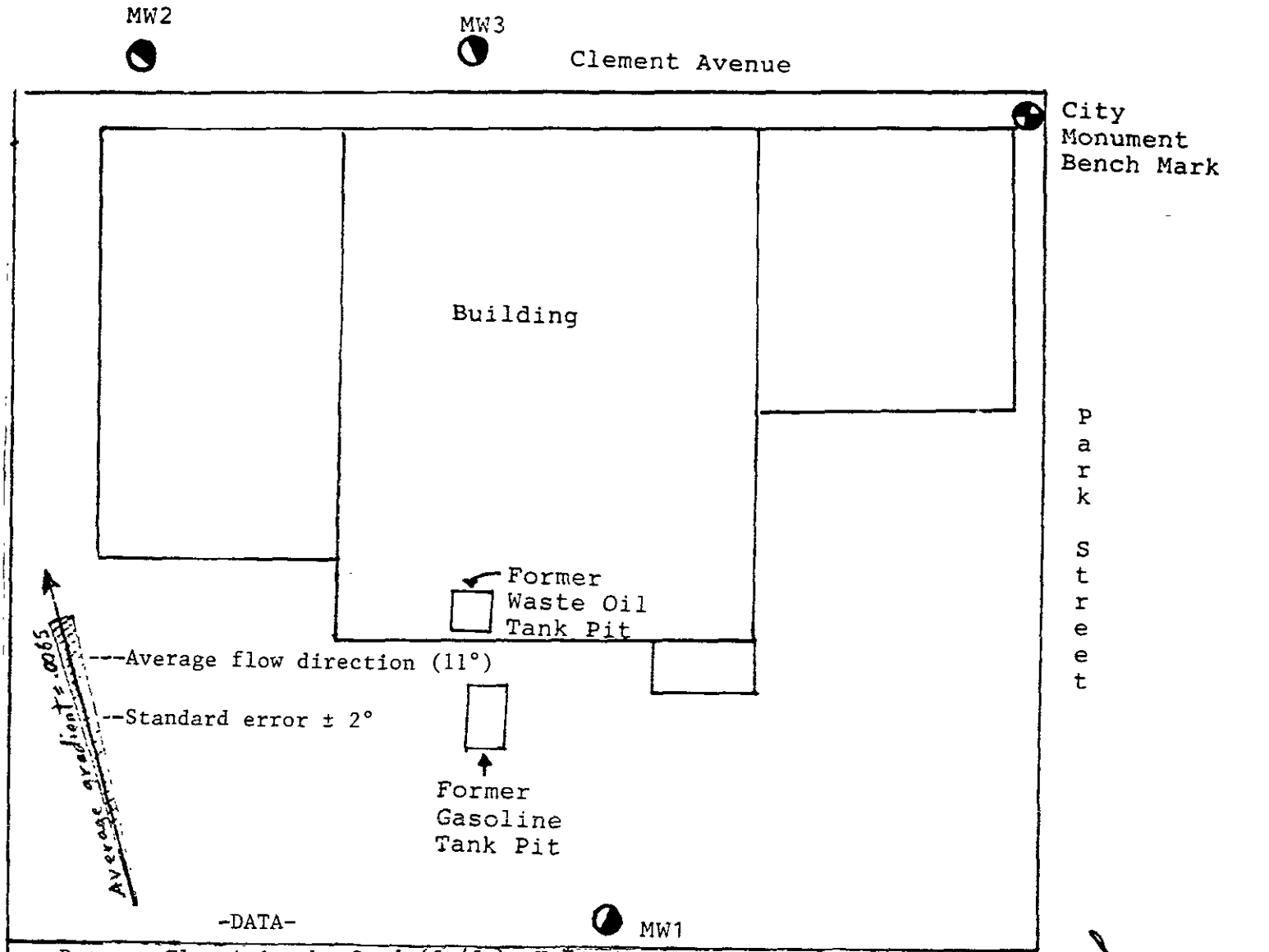
TABLE III

GROUNDWATER ANALYTICAL RESULTS - SECOND QUARTER SAMPLING PERFORMED ON SEPTEMBER 11, 1992

Results for TPHg & BTEX, TPHd, and TOG are reported in ug/L
Results for TOG are reported in mg/L which one is it ppb or ppm?

Sample#	TPHg	B	T	E	X	TPHd	TOG
MW-1	ND	ND	ND	ND	ND	ND	1.1 ppm
MW-2	ND	ND	ND	ND	ND	ND	ND
MW-3	ND	ND	ND	ND	ND	ND	0.4 ppm

4.4 Groundwater Gradient



-DATA-

Date	Flow Azimuth	Grad.(ft/ft)	H_1*(ft)
5-30-92	9°	.0074	5.33
6-28-92	10°	.0075	5.39
7-28-92	12°	.0059	4.36
8-17-92	11°	.0059	4.38
9-11-92	11°	.0059	4.34
10-14-92	14°	.0058	4.18

(* H_1 = Water elevation in MW1)

5.0 REPORT

Please forward a copy of this report to the following regulatory agencies.

California Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, California 94612

Alameda County
Department of Environmental Health
Division of Hazardous Materials
80 Swan Way, Room 200
Oakland, California 94621

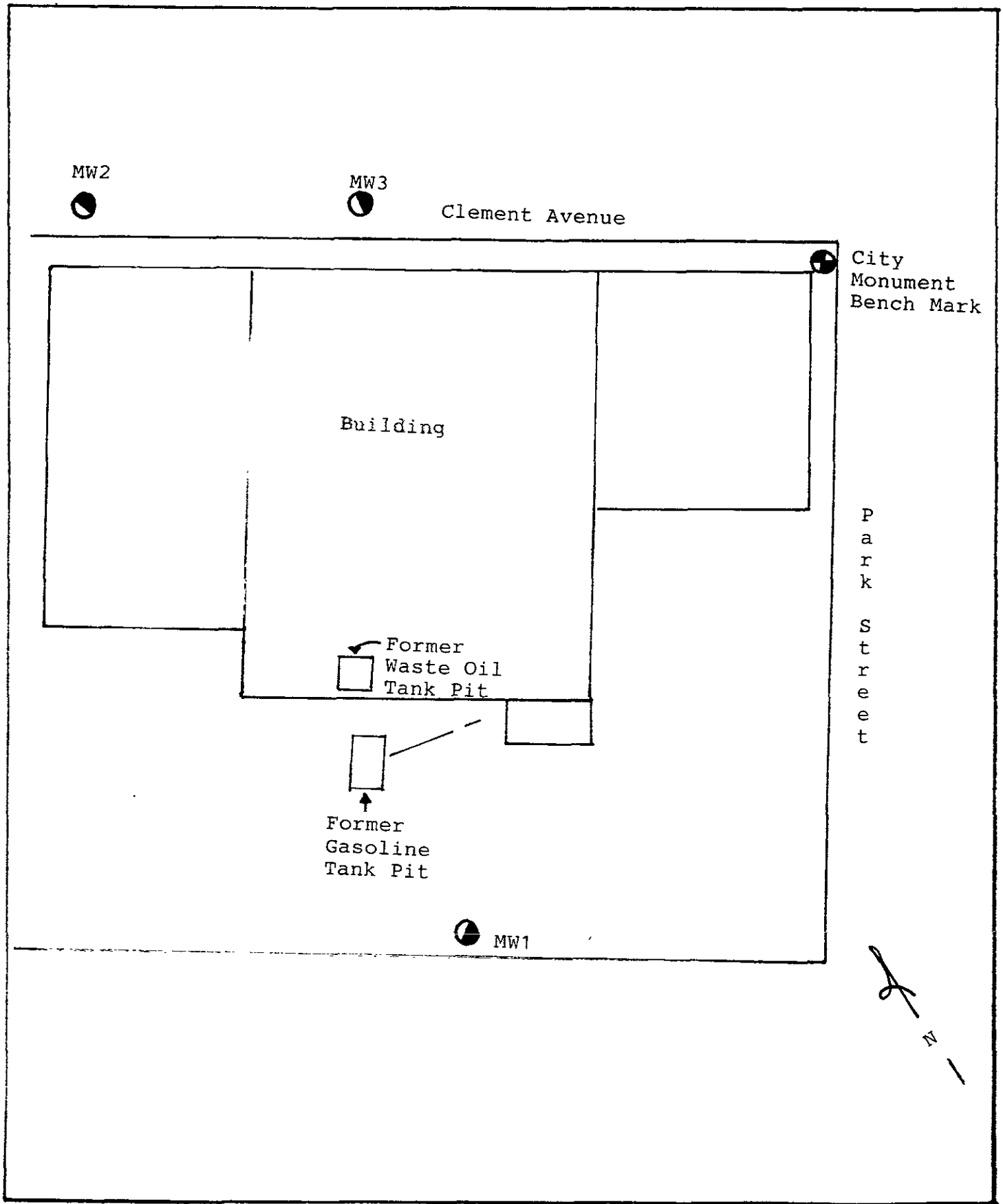
APPENDIX A

Maps

Figure 1. Site Location Map

Figure 2. Monitoring Well And Former Tank Location Map

ENVIRONMENTAL TECHNICAL SERVICES	Site: **RON GOODE TOYOTA** **1825 PARK STREET** **ALAMEDA, CALIFORNIA**	Drawn by: Mawhinney
Figure 1.	Site Location Map	



ENVIRONMENTAL TECHNICAL SERVICES	Site: **RON GOODE TOYOTA** **1825 PARK STREET** **ALAMEDA, CALIFORNIA**	Drawn by: Mawhinney

Figure 2. Monitoring Well Location Map

APPENDIX B

Groundwater Analytical Report
First Quarter, May 30, 1992

MOBILE CHEM LABS INC.

5021 Blum Road, Suite 3 • Martinez, CA 94553
Phone (415) 372-3700 • Fax (415) 372-6955

MWRon Goode\011939

Zaccor Corporation
791 Hamilton Avenue
Menlo Park, CA 94025
Attn: Gary Zaccor
Project Manager

Date Sampled: 05-30-92
Date Received: 06-01-92
Date Reported: 06-03-92

Sample Number	Sample Description
062001	Project # MW Ron Goode Env. Technical Services Ron Goode Toyota/Alameda 1825 Park Avenue MW-1 WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	2.7
Ethylbenzene	0.5	<0.5

QA/QC: Sample blank is none detected
Duplicate Deviation is 7.5%

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS

for Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

5021 Blum Road, Suite 3 • Martinez, CA 94553
Phone (415) 372-3700 • Fax (415) 372-6955

MWRon Goode\011939

Zaccor Corporation
791 Hamilton Avenue
Menlo Park, CA 94025
Attn: Gary Zaccor
Project Manager

Date Sampled: 05-30-92
Date Received: 06-01-92
Date Reported: 06-03-92

Sample Number	Sample Description
062002	Project # MW Ron Goode Env. Technical Services Ron Goode Toyota/Alameda 1825 Park Avenue MW-2 WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	2.0
Ethylbenzene	0.5	<0.5

QA/QC: Sample blank is none detected

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS

Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

5021 Blum Road, Suite 3 • Martinez, CA 94553
Phone (415) 372-3700 • Fax (415) 372-6955

MWRon Goode\011939

Zaccor Corporation
791 Hamilton Avenue
Menlo Park, CA 94025
Attn: Gary Zaccor
Project Manager

Date Sampled: 05-30-92
Date Received: 06-01-92
Date Reported: 06-03-92

Sample Number	Sample Description
062003	Project # MW Ron Goode Env. Technical Services Ron Goode Toyota/Alameda → 1825 Park Avenue MW-3 WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

QA/QC: Sample blank is none detected

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS

Miriam Evans

Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

5021 Blum Road, Suite 3 • Martinez, CA 94553
Phone (415) 372-3700 • Fax (415) 372-6955

MW Ron Goode\011939

Zaccor Corporation
791 Hamilton Avenue
Menlo Park, CA 94025
Attn: Gary Zaccor
Project Manager

Date Sampled: 05-30-92
Date Received: 06-01-92
Date Reported: 06-03-92

Sample Number	Sample Description	Detection Limit ppm	WATER Gravimetric Waste Oil as Petroleum Oil ppm
		Environmental Technical Services Ron Goode Toyota 1825 Park Avenue Alameda, CA	
062001	MW-1	10	20
062002	MW-2	10	<10
062003	MW-3	10	20

QA/QC: Freon Blank is none detected.

Note: Analysis was performed using EPA extraction method 3550 with Trichlorotrifluoroethane as solvent, and gravimetric determination by standard methods 5520
(ppm) = (mg/L)

MOBILE CHEM LABS

Miriam Cueto
for Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

5021 Blum Road, Suite 3 • Martinez, CA 94553
Phone (415) 372-3700 • Fax (415) 372-6955

MWRon Goode\011939

Zaccor Corporation
791 Hamilton Avenue
Menlo Park, CA 94025
Attn: Gary Zaccor
Project Manager

Date Sampled: 05-30-92
Date Received: 06-01-92
Date Reported: 06-03-92

Sample Number	Sample Description	Detection Limit	WATER Total Petroleum Hydrocarbons as Diesel
		ppb	ppb
	Environmental Technical Services Ron Goode Toyota 1825 Park Avenue Alameda, CA		
062001	MW-1	50	<50
062002	MW-2	50	<50
062003	MW-3	50	<50

QA/QC: Sample blank is none detected
Spike Recovery on 062002 is 98.9%
Duplicate Spike Deviation is 7.5%

Note: Analysis was performed using EPA method 3510 and TPH LUFT.
(ppb) = (µg/L)

MOBILE CHEM LABS

Miriam Cueto
for Ronald G. Evans
Lab Director

ENVIRONMENTAL TECHNICAL SERVICES

CHAIN OF CUSTODY RECORD

PROJECT NO.	SITE NAME & ADDRESS
Malinowski	Fairwinds Toyota 1525 Park Avenue Alameda, Ca

WITNESSING AGENCY / INSPECTOR NAME / DATE

ID.NO.	DATE	TIME	SOIL	WATER	SAMPLING LOCATION	TPH (Gasoline) & B, T, X, & E	TPH (Diesel) & ~~B, T, X & E~~	Total Oil & Grease	Halogenated HC's	B, T, X & E	Heavy Metals		REMARKS
MW-1	5/30			✓		✓	✓	✓					3 40 ml vials / 3 liters
MW-2	↓			✓		✓	✓	✓					↓
MW-3	↓			✓		✓	✓	✓					↓

ANALYSES REQUESTED (1)

(1) See attached "Table 2" for specific analysis method.

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Kelvin Manderson	5-30-92 11:40	ETS Refrigerator
ETS Refrigerator	6-1-92 955	David Rehm
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Rec'd for Laboratory by: (Signature)

The following MUST BE completed by the laboratory accepting samples for analysis:

1. Have all samples received for analysis been stored in ice?
2. Will samples remain refrigerated until analyzed?
3. Did any samples received for analysis have head space?
4. Were samples in appropriate containers and properly packaged?

Signature   Title   Date

Rev: 12-88

APPENDIX C

Groundwater Analytical Report
Second Quarter, September 11, 1992

S&W

Soil and Water Environmental Laboratory

Drinking Water
Waste Water ○ Asbestos
Hazardous Waste – Soil
Calderon Testing – Air

14072 W. Park Avenue
Boulder Creek, CA 95006
(408) 338-3053

Laboratory Report

Client
Environmental Tech. Services
1548 Jacob Ave.
San Jose CA 95118

Report Date 10/02/92

Sample Site
Ron Goode Toyota
Alameda, CA

R.G. Toyota

Date Received 09/11/92

Analysis Requested	Procedure	Date Analyzed
Total Hydrocarbons - Gas	EPA 5030	09/15/92
Total Hydrocarbons - Diesel	EPA 3510	
Total Oil & Grease	EPA 503e	
BTEX	EPA 602	

S&W Ref #	Client Ref. #	Matrix/Analysis	Concentration	Detection Limit
2562-ET1-A	MW-1	Water/TPH-G	*	50 ppb
2562-ET1-A	MW-1	Water/TPH-D	*	50 ppb
2562-ET1-A	MW-1	Water/TOG	1.1	5 ppm
2562-ET1-A	MW-1	Water/BTEX		
		Benzene	*	0.5 ppb
		Toluene	*	0.5 ppb
		Ethylbenzene	*	0.5 ppb
		Xylenes	*	0.5 ppb
2562-ET1-B	MW-2	Water/TPH-G	*	50 ppb
2562-ET1-B	MW-2	Water/TPH-D	*	50 ppb
2562-ET1-B	MW-2	Water/TOG	*	5 ppm
2562-ET1-B	MW-2	Water/BTEX		
		Benzene	*	0.5 ppb
		Toluene	*	0.5 ppb
		Ethylbenzene	*	0.5 ppb
		Xylenes	*	0.5 ppb
2562-ET1-C	MW-3	Water/TPH-G	*	50 ppb
2562-ET1-C	MW-3	Water/TPH-D	*	50 ppb
2562-ET1-C	MW-3	Water/TOG	0.4	5 ppm
2562-ET1-C	MW-3	Water/BTEX		
		Benzene	*	0.5 ppb
		Toluene	*	0.5 ppb
		Ethylbenzene	*	0.5 ppb
		Xylenes	*	0.5 ppb

* No detectable amount @ detection limit

Analyst Signature R. A. Lenear

Soil and Water Environmental Laboratory
14072 West Park Avenue
Boulder Creek, CA 95006
(408) 338-3053/4466

CHAIN - OF - CUSTODY

Project Number	Site Name and Address	Type and Number of Containers	Analysis Required							Laboratory ID		Comments
R. G. Toyota	Ron Goode Toyota Alameda, Ca		TPH-G + BTEX	TPH-D + BTEX	TOG					2562-5W1		
Witnessing Agency/Inspector Name and Date										Condition of Samples 1 - Good 2 - See Reverse		
Sample ID	Date / Time / Matrix / Sample Location											
MW-1	9/10/92	2 VOAs 2 Liter	X	X	X						A	
MW-2	↓	↓	X	X	X						B	
MW-3	↓	↓	X	X	X						C	

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Remarks:
Helen Mawhinney	9/10/92 6pm	RTS FRIDGE		
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	COMPANY:
Relinquished by: (Signature) Helen Mawhinney	Date/Time 9/11/92 2:50	Received by Lab: (Signature) D. W. Lemon	Date/Time 9/11/92 2:50	ADDRESS: PHONE: FAX:

APPENDIX D

Monitoring Well Development Report

MONITORING WELL SAMPLING DATA/ MW-1

Project Name:	Well#
RON GOODE TOYOTA	MW-1

Date: May 30, 1992

Name:	Time Began:
Mawhinney	12:45

DEPTH OF WELL(ft.)	DEPTH TO WATER(ft.)	WELL DIAM.
14.76	4.97	2"

Time	Gallons	Salinity	pH	Temp.	Cond.
12:45	1	.03	7.5	17 C	743.0
12:50	3	.03	7.9	18 C	720.0
12:57	5	.03	7.6	16 C	684.0
1:06	7	.04	7.5	16 C	859.0

Volume Evacuated	Purging Equip.	Sampling Equip.
7 gallons	Stainless Steel Bailer	Stainless Steel Bailer

Depth to Water Upon Completion of Sampling

Not measured

Sheen	Floating Product	Sample Color	Odor
no	no	grey	no

Sediment/Foreign Matter: silt

Sample ID#	Analysis	Laboratory
MW-1	TPHg, BTEX, TPHd, TOG	Mobile Chem.

Sample Containers
3/ 40-ml VOAs
2 Liters

MONITORING WELL SAMPLING DATA/ MW-2

Project Name:	Well#
RON GOODE TOYOTA	MW-2

Date: May 30, 1992

Name:	Time Began:
Mawhinney	1:10

DEPTH OF WELL(ft.)	DEPTH TO WATER(ft.)	WELL DIAM.
14.70	3.51	2"

Time	Gallons	Salinity	pH	Temp.	Cond.
1:20	1	.03	7.7	15 C	284.0
1:31	3	.03	7.6	16 C	264.0
1:43	5	.03	7.7	16 C	262.0
1:55	7	.03	7.5	16 C	235.0

Volume Evacuated	Purging Equip.	Sampling Equip.
7 gallons	Stainless Steel Bailer	Stainless Steel Bailer

Depth to Water Upon Completion of Sampling

Not measured

Sheen	Floating Product	Sample Color	Odor
no	no	grey	no

Sediment/Foreign Matter: silt

Sample ID#	Analysis	Laboratory
MW-2	TPHg, BTEX, TPHd, TOG	Mobile Chem

Sample Containers

3/ 40-ml VOAs

2 Liters

MONITORING WELL SAMPLING DATA/ MW-3

Project Name:	Well#
RON GOODE TOYOTA	MW-3

Date:	
May 30, 1992	

Name:	Time Began:
Mawhinney	2:07

DEPTH OF WELL(ft.)	DEPTH TO WATER(ft.)	WELL DIAM.
14.40	3.45	2"

Time	Gallons	Salinity	pH	Temp.	Cond.
2:16	1	.03	7.5	15 C	284.0
2:28	3	.03	7.4	15 C	262.0
2:39	5	.03	7.4	15 C	259.0
2:54	7	.04	7.5	15 C	242.0

Volume Evacuated	Purging Equip.	Sampling Equip.
7 gallons	Stainless Steel Bailer	Stainless Steel Bailer

Depth to Water Upon Completion of Sampling

7.2

Sheen	Floating Product	Sample Color	Odor
no	no	grey	no

Sediment/Foreign Matter: silt

Sample ID#	Analysis	Laboratory
MW-3	TPHg, BTEX, TPHd, TOG	Mobile Chem

Sample Containers
3/ 40-ml VOAs
2 Liters

MONITORING WELL SAMPLING DATA/ MW-1

Project Name:	Well#
RON GOODE TOYOTA	MW-1

Date: September 11, 1992

Name:	Time Began:
Mawhinney	1:12

DEPTH OF WELL(ft.)	DEPTH TO WATER(ft.)	WELL DIAM.
14.78	5.96	2"

Time	Gallons	Salinity	pH	Temp.	Cond.
1:12	1	.03	7.4	24 C	0.89
1:27	3	.03	7.3	24 C	0.86
1:37	5	.04	7.0	23 C	0.78
1:49	7	.04	7.3	23 C	0.85

Volume Evacuated	Purging Equip.	Sampling Equip.
7 gallons	Stainless Steel Bailer	Stainless Steel Bailer

Depth to Water Upon Completion of Sampling

7.42

Sheen	Floating Product	Sample Color	Odor
no	no	grey	no

Sediment/Foreign Matter: silt

Sample ID#	Analysis	Laboratory
MW-1	TPHg, BTEX, TPHd, TOG	S & W Lab.

Sample Containers
3/ 40-ml VOAs
2 Liters

MONITORING WELL SAMPLING DATA/ MW-2

Project Name:	Well#
RON GOODE TOYOTA	MW-2

Date: September 11, 1992

Name:	Time Began:
Mawhinney	1:59

DEPTH OF WELL(ft.)	DEPTH TO WATER(ft.)	WELL DIAM.
14.68	4.21	2"

Time	Gallons	Salinity	pH	Temp.	Cond.
2:07	1	.04	7.6	24 C	0.55
2:20	3	.03	7.2	26 C	0.54
2:36	5	.03	7.3	25 C	0.55
2:49	7	.03	7.5	23 C	0.56

Volume Evacuated	Purging Equip.	Sampling Equip.
7 gallons	Stainless Steel Bailer	Stainless Steel Bailer

Depth to Water Upon Completion of Sampling

6.90

Sheen	Floating Product	Sample Color	Odor
no	no	grey	no

Sediment/Foreign Matter: silt

Sample ID#	Analysis	Laboratory
MW-2	TPHg, BTEX, TPHd, TOG	S & W Lab.

Sample Containers
3/ 40-ml VOAs
2 Liters

MONITORING WELL SAMPLING DATA/ MW-3

Project Name:	Well#
RON GOODE TOYOTA	MW-3

Date: September 11, 1992

Name:	Time Began:
Mawhinney	3:10

DEPTH OF WELL(ft.)	DEPTH TO WATER(ft.)	WELL DIAM.
14.40	4.20	2"

Time	Gallons	Salinity	pH	Temp.	Cond.
3:17	1	.04	7.6	25 C	0.64
3:31	3	.03	7.4	24 C	0.69
3:39	5	.03	7.5	24 C	0.65
4:49	7	.04	7.5	23 C	0.65

Volume Evacuated	Purging Equip.	Sampling Equip.
7 gallons	Stainless Steel Bailer	Stainless Steel Bailer

Depth to Water Upon Completion of Sampling

7.2

Sheen	Floating Product	Sample Color	Odor
no	no	grey	no

Sediment/Foreign Matter: silt

Sample ID#	Analysis	Laboratory
MW-3	TPHg, BTEX, TPHd, TOG	S & W Lab.

Sample Containers
3/ 40-ml VOAs
2 Liters