

Mobil Oil Corporation

added to file 8-5-94 by JE

3225 GALLOWS ROAD
FAIRFAX, VIRGINIA 22037-0001

January 7, 1992

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

FORMER MOBIL STATION #10-ESA
100 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

92 JAN 10 11:53

Dear Mr. Smith:

Enclosed for your information and review is the Quarterly Groundwater Sampling Report, prepared by Alton Geoscience, for the subject location.

The analytical results for BTEX and TPH-G contaminants indicate a decrease in MW-1. BTEX constituents in MW-2 and MW-3 have remained below detection limits.

Should you have any questions, please do not hesitate to call me at 1-800-227-0707 extension 5316.

Sincerely,

Michele A. Fear
Michele A. Fear
Environmental Monitoring
Analyst

Attachment

cc: Mr. Eddy So w/attachment
California Water Quality Control Board
San Francisco Bay Region
2101 Webster Street - Oakland, CA 94533-6376

Mr. Peter DeSantis w/attachment
BP Oil Company
2868 Prospect Park, Suite 360 - Rancho Cordova, CA 95620

D. J. Hill - Mobil Field Engineering Supervisor w/o attachment
S. E. Malone - Mobil Monitoring Analyst Supervisor w/o attachment



Environmental
Awareness

**QUARTERLY GROUND WATER
MONITORING AND SAMPLING REPORT**

for

**Former Mobil Service Station 10-E6A
100 MacArthur Boulevard
Oakland, California**

Project No. 30-0063-02

Prepared By:

**Alton Geoscience
1000 Burnett Avenue, Suite 140
Concord, California**

January 3, 1992

**QUARTERLY GROUND WATER
MONITORING AND SAMPLING REPORT**

**Former Mobil Service Station 10-E6A
100 MacArthur Boulevard
Oakland, California**

January 3, 1992

INTRODUCTION

This report presents the results and findings of the November 1991 quarterly ground water monitoring and sampling activities performed by Alton Geoscience at former Mobil Service Station 10-E6A, 100 MacArthur Boulevard, Oakland, California. A site vicinity map is shown in Figure 1.

PROJECT ACTIVITIES

In September 1988, a 280-gallon waste oil tank was removed. Sheen was observed on the ground water in the tank cavity and total oil and grease (TOG) were detected in a soil sample collected from the tank backfill material. Based on these findings, the Alameda County Department of Environmental Health (ACDEH) requested that a site assessment be performed.

Mobil Oil Corporation retained Alton Geoscience to complete a site investigation to assess the lateral and vertical extent of hydrocarbon-affected soil and/or ground water at the site. The site investigation included three soil borings and the installation of three ground water monitoring wells (MW-1, MW-2, and MW-3). Soil samples collected from the borings did not contain total petroleum hydrocarbons as gasoline (TPH-G), TOG, or halogenated volatile organic compounds (HVOCs) above analytical detection limits. A ground water sample collected from Monitoring Well MW-1 detected concentrations of benzene, toluene, and 1,2 dichloroethane. Ground water samples from MW-2 contained concentrations of benzene (for details, refer to the Alton Geoscience report dated December 20, 1989). Based on the findings of this investigation, a quarterly ground water monitoring and sampling program was initiated.

FIELD PROCEDURES

On November 13, 1991, Alton Geoscience monitored and sampled MW-1, MW-2, and MW-3.

Ground water samples were analyzed for total petroleum hydrocarbons as gasoline (TPH-G), and benzene, toluene, ethylbenzene, and total xylenes (BTEX). Ground water samples obtained from MW-1 were also analyzed for total petroleum hydrocarbons as diesel (TPH-D), total oil and grease (TOG), and halogenated volatile organic compounds (HVOCs).

The ground water monitoring and sampling procedures are presented in Appendix A. The water sampling field survey forms presenting the field measurements and observations are presented in Appendix B.

DISCUSSION OF RESULTS

The results of the ground water monitoring and laboratory analysis of water samples are summarized in Table 1. The official laboratory reports and Chain of Custody Records are presented in Appendix C.

A ground water elevation contour map, based on the November 13, 1991, ground water monitoring data is shown in Figure 2. The concentrations of petroleum hydrocarbon constituents detected in ground water samples is shown in Figure 3.

Field observations and laboratory analysis of ground water samples indicate the following:

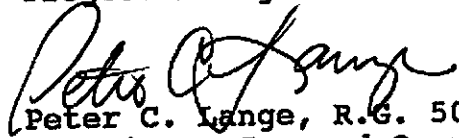
- The average depth to ground water was 15.5 feet below grade and the general ground water gradient onsite was 0.06 foot/foot to the south.
- Measurable or trace free product was not observed in ground water during this or previous monitoring events.
- Concentrations of TPH-G were detected in samples from MW-1 (60 ppb) and MW-2 (38 ppb). Benzene concentrations were detected from MW-1 (0.68 ppb) and MW-2 (0.32 ppb).
- The only halogenated volatile organic compound detected from MW-1 was 1,2 dichloroethane (1.0 ppb).

- TOG and toluene, ethylbenzene, and total xylenes were not detected.

ALTON GEOSCIENCE



Tim Quane
Project Manager



Peter C. Lange, R.G. 5089
Associate, Concord Operations

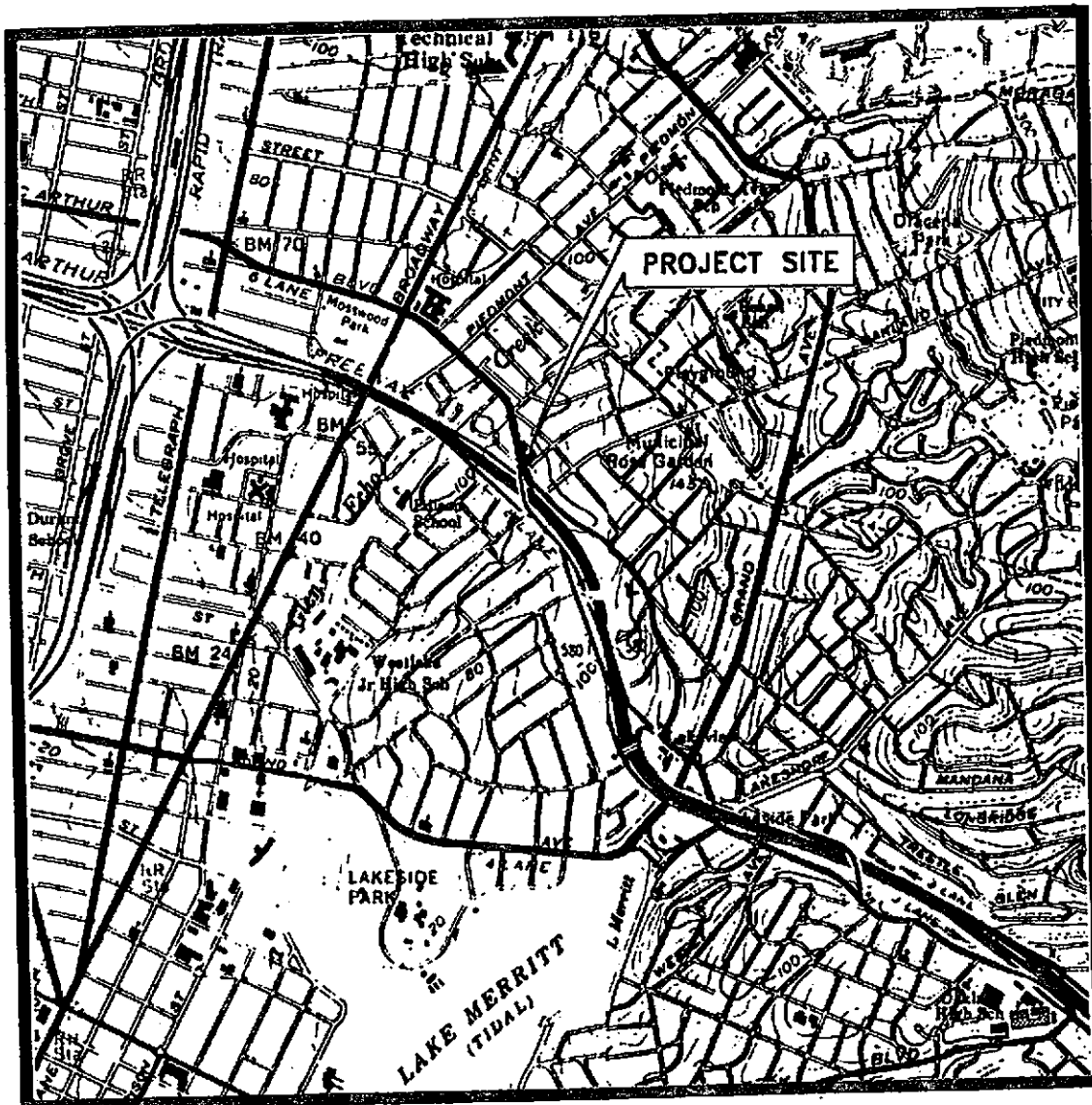


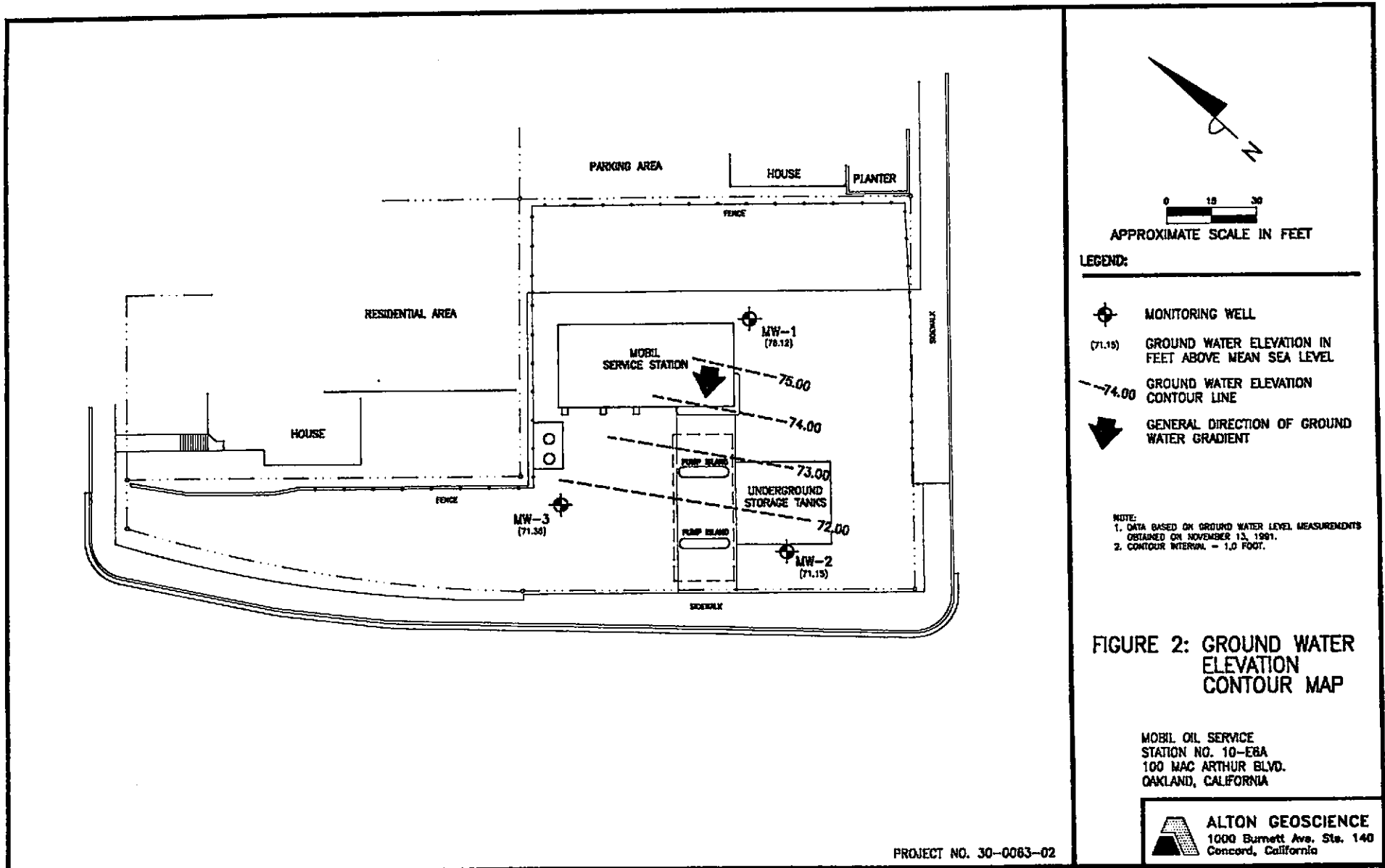
FIGURE 1: SITE VICINITY MAP

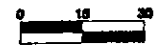
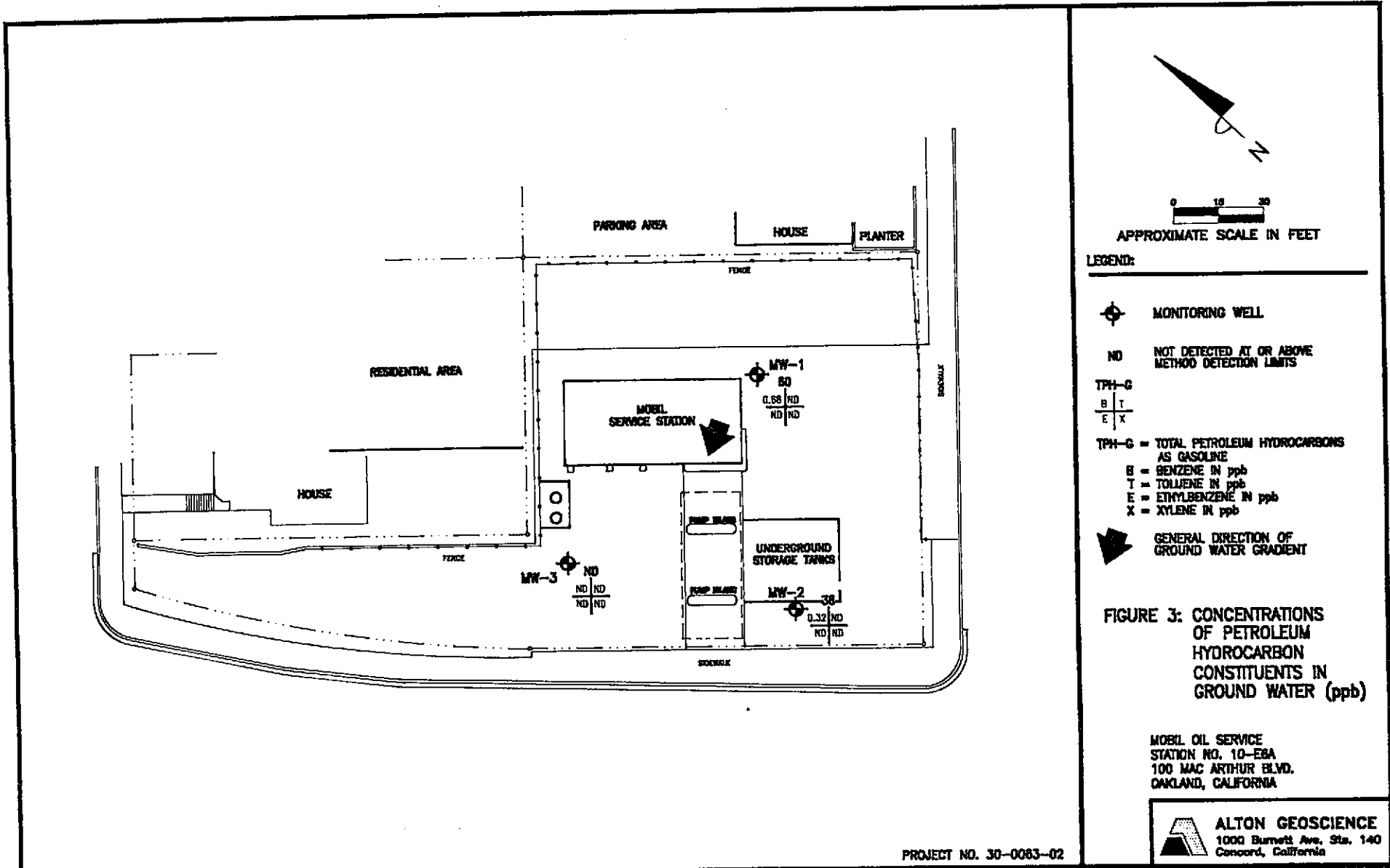
SOURCE: U.S.G.S. OAKLAND
 QUADRANGLES, CALIFORNIA
 7.5 MINUTE SERIES (TOPOGRAPHIC)

MOBIL OIL CORPORATION
 SERVICE STATION NO. E6A
 100 MACARTHUR BOULEVARD
 OAKLAND, CALIFORNIA



ALTON GEOSCIENCE
 1000 Burnett Ave. Ste. 140
 Concord, California





APPROXIMATE SCALE IN FEET

LEGEND:



MONITORING WELL

ND

NOT DETECTED AT OR ABOVE METHOD DETECTION LIMITS

TPH-G

B	T
E	X

TPH-G = TOTAL PETROLEUM HYDROCARBONS AS GASOLINE

- B = BENZENE IN ppb
- T = TOLUENE IN ppb
- E = ETHYLBENZENE IN ppb
- X = XYLENE IN ppb



GENERAL DIRECTION OF GROUND WATER GRADIENT

FIGURE 3: CONCENTRATIONS OF PETROLEUM HYDROCARBON CONSTITUENTS IN GROUND WATER (ppb)

MOBIL OIL SERVICE
STATION NO. 10-EGA
100 MAC ARTHUR BLVD.
OAKLAND, CALIFORNIA



ALTON GEOSCIENCE
1000 Burnett Ave. Ste. 140
Concord, California

Table 1
 Summary of Results of Ground Water Sampling
 Mobil Station No. 10E6A
 100 MacArthur Boulevard
 Oakland, California
 Project No. 30-0063

Concentrations in parts per billion (ppb)

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION	DEPTH TO WATER	GROUND WATER ELEVATION	TPH-G	TPH-D	HVOC	TOG	B	T	E	X	LAB
MW-1	11/04/89	90.20	13.21	76.99	ND<500	ND<50	0.9*	ND<5000	3.4	0.6	ND<0.3	ND<0.3	SAL
MW-1	11/11/89	90.20	13.32	76.88	---	---	---	---	---	---	---	---	NA
MW-1	04/03/90	90.20	12.46	77.74	820	---	---	---	64	1.9	23	34	AI
MW-1	07/30/90	90.20	12.92	77.28	190	ND<50	ND**	ND<5000	11	ND<5.0	ND<5.0	ND<5.0	AI
MW-1	11/20/90	90.20	14.08	76.12	50	79	4.0*	ND<5000	2.4	ND<0.3	ND<0.3	ND<0.3	SAL
MW-1	03/01/91	90.20	13.61	76.59	ND<100	ND<1000	ND**	14000	0.9	ND<0.3	ND<0.3	0.3	SAL
MW-1	08/19/91	90.20	15.74	74.46	370	ND<50	1.4*	ND<5000	35	0.73	6.4	5.6	SA
MW-1	11/13/91	90.20	14.08	76.12	60	ND<50	1.0*	ND<5000	0.68	ND<0.3	ND<0.3	ND<0.3	SA
MW-2	11/04/89	87.91	15.84	72.07	ND<500	---	---	---	6.5	ND<0.3	ND<0.3	ND<0.3	SAL
MW-2	11/11/89	87.91	14.75	73.16	---	---	---	---	---	---	---	---	NA
MW-2	04/03/90	87.91	15.25	72.66	ND<100	---	---	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	AI
MW-2	07/30/90	87.91	15.59	72.32	61	---	---	---	6.5	ND<0.5	ND<0.5	ND<0.5	AI
MW-2	11/20/90	87.91	17.81	70.10	ND<50	---	---	---	0.3	ND<0.3	ND<0.3	ND<0.3	SAL
MW-2	03/01/91	87.91	17.11	70.80	ND<100	---	4.0*	---	0.4	ND<0.3	ND<0.3	ND<0.3	SAL
MW-2	08/19/91	87.91	17.97	69.94	ND<30	---	---	---	ND<0.3	ND<0.3	ND<0.3	ND<0.3	SA
MW-2	11/13/91	87.91	16.76	71.15	38	---	---	---	0.32	ND<0.3	ND<0.3	ND<0.3	SA
MW-3	11/04/89	87.02	15.40	71.62	ND<500	---	---	---	ND<0.3	ND<0.3	ND<0.3	ND<0.3	SAL
MW-3	11/11/89	87.02	14.10	72.92	---	---	---	---	---	---	---	---	NA
MW-3	04/03/90	87.02	13.9	73.12	ND<100	---	---	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	AI
MW-3	07/30/90	87.02	13.77	73.25	ND<50	---	---	ND<5000	ND<0.5	ND<0.5	ND<0.5	ND<0.5	AI
MW-3	11/20/90	87.02	14.67	72.35	ND<50	---	---	---	0.3	0.8	0.4	1.5	SAL
MW-3	03/01/91	87.02	15.22	71.80	ND<100	---	ND**	---	0.4	ND<0.3	ND<0.3	ND<0.3	SAL
MW-3	08/19/91	87.02	13.15	73.87	ND<30	---	---	---	ND<0.3	ND<0.3	ND<0.3	ND<0.3	SA
MW-3	11/13/91	87.02	15.66	71.36	ND<30	---	---	---	ND<0.3	ND<0.3	ND<0.3	ND<0.3	SA

TOG :Total Oil and Grease
 B :Benzene
 T :Toluene
 E :Ethylbenzene
 X :Xylenes
 * :1,2-Dichlorethane
 ** :Detection limits vary with compound
 Note :Depth to water level measured from top of well casing in feet.

--- :Not analyzed
 ND< :Not detected at method detection limit shown
 NA :Not applicable
 SAL :Superior Analytical Laboratroy
 AI :Anamatrix Inc.
 SA :Sequoia Analytical Laboratory

APPENDIX A
FIELD PROCEDURES

**ALTON GEOSCIENCE FIELD PROCEDURES
FOR
GROUND WATER SAMPLING**

Ground water monitoring and sampling were performed in accordance with the requirements and procedures of the Regional Water Quality Control Board, San Francisco Bay Region (RWQCB). Prior to purging and sampling each well, total well depth and depth to ground water were measured from a reference mark at the top of each well casing using an electronic sounder.

Prior to sample collection, each well was purged of three well casing volumes of water. Ground water was collected using a disposable bailer, observed for the presence of free product, and transferred to the appropriate clean sample containers for delivery to a California-certified laboratory. Purged ground water was stored onsite in DOT-approved, 55-gallon drums for proper disposal.

APPENDIX B
WATER SAMPLING FIELD SURVEY FORMS

FIELD MONITORING DATA SHEET

JOB NUMBER/TASK# 30-0063-02 / 0202 TECHNICIAN Patricia Gionta

JOB LOCATION 100 McArthur Blvd Oakland DATE 11-13-91
Former Mobile Station # 10 E6A

WELL#	GRADE TOC	HOLD	CUT	LEVEL	COMMENTS (Notes, Conditions, etc.)
		DEPTH TO WATER	DEPTH TO PRODUCT	PRODUCT THICKNESS (FEET)	
MW3		15.66			Total Depth 32.05
MW2		16.76			32.36
MW1		14.08			32.42

ALTON GEOSCIENCE, INC.
Well Development and
Water Sampling Field Survey

Project # 30-0063-02 Site: 100 McArthur Blvd Date: 11-13-91
Oakland, CA Form #10E Lot

Well: MW1 Sampling Team: Patricia Gigante

Well Development Method: _____

Sampling Method: Disposable Bailer

Describe Equipment Decontamination Before Sampling: Alconox w
Triple Rinse DI Water Final Rinse

Well Development/Well Sampling Data

Total Well Depth: 32.42 feet Time: _____ Water level Before Pumping: 14.08

Water Column	Casing Diameter	Volume	Factor	Volume to Purge
<u>18.34</u> feet x 0.16	<u>2-inch</u> <u>4-inch</u> <u>0.65</u>	<u>11.92</u>	<u>x 3</u>	<u>35.76</u>

Depth Purging From: _____ feet. Time Purging Begins: 1:35

Notes on Initial Discharge: clear

Time	Volume	pH	Conductivity	T	Notes
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Time Field Parameter Measurement Begins: _____

	Rep #1	Rep #2	Rep #3	Rep #4
pH	_____	_____	_____	_____
Conductivity	_____	_____	_____	_____
Temperature (F)	_____	_____	_____	_____

Presample Collection Gallons Purged: _____

Time Sample Collection Begins: _____

Time Sample Collection Ends: 2:45

Total Gallons Purged: _____

Comments: _____

ALTON GEOSCIENCE, INC.
Well Development and
Water Sampling Field Survey

Project # 20-201302 Site: 100 McArthur Blvd Date: 11-13-91
Oakland from Mobil #10E6A

Well: MW2 Sampling Team: Patricia Goyette

Well Development Method: _____

Sampling Method: Disposable Bailer

Describe Equipment Decontamination Before Sampling: Alconox W
Triple Rinse, DI water final rinse

Well Development/Well Sampling Data

Total Well Depth: 32.36 feet Time: _____ Water level Before Pumping: 16.76

Water Column	Casing Diameter	Volume	Factor	Volume to Purge
<u>15.6</u> feet	<u>2-inch</u> <u>4-inch</u> <u>0.65</u>	<u>10.14</u>	<u>x 3</u>	<u>30.42</u>

Depth Purging From: _____ feet. Time Purging Begins: 12:40

Notes on Initial Discharge: Clear

Time	Volume	pH	Conductivity	T	Notes
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Time Field Parameter Measurement Begins: _____

	Rep #1	Rep #2	Rep #3	Rep #4
pH	_____	_____	_____	_____
Conductivity	_____	_____	_____	_____
Temperature (F)	_____	_____	_____	_____

Presample Collection Gallons Purged: _____

Time Sample Collection Begins: _____

Time Sample Collection Ends: 1:30

Total Gallons Purged: _____

Comments: _____

ALTON GEOSCIENCE, INC.
Well Development and
Water Sampling Field Survey

Project # 30-0063 Site: 100 McArthur Blvd Date: 11-13-91
Oakland CA Formal Mobil #10E6A
Well: MW3 Sampling Team: Patricia Gigante

Well Development Method: _____

Sampling Method: Disposable Bailer

Describe Equipment Decontamination Before Sampling: Alconox w

Well Development/Well Sampling Data

Total Well Depth: 32.05 feet Time: 11:30 Water level Before Pumping: 15.66

Water Column	Casing Diameter	4-inch Volume	Factor	Volume to Purge
<u>16.39</u> feet x 0.16	<u>0.65</u>	<u>10.65</u>	<u>x 3</u>	<u>31.96</u>

Depth Purging From: _____ feet. Time Purging Begins: 11:30

Notes on Initial Discharge: Clear to cloudy

Time	Volume	pH	Conductivity	T	Notes
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Time Field Parameter Measurement Begins: _____

	Rep #1	Rep #2	Rep #3	Rep #4
pH	_____	_____	_____	_____
Conductivity	_____	_____	_____	_____
Temperature (F)	_____	_____	_____	_____

Presample Collection Gallons Purged: _____

Time Sample Collection Begins: 12:15

Time Sample Collection Ends: _____

Total Gallons Purged: _____

Comments: 15 gallons purged

APPENDIX C
OFFICIAL LABORATORY REPORTS
AND
CHAIN OF CUSTODY RECORD



SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

Alton Geoscience	Client Project ID: Mobil#10E6A/100 McArthur Blvd., Oakland	Sampled: Nov 13, 1991
1000 Burnett Avenue, Suite 140	Matrix Descript: Water	Received: Nov 13, 1991
Concord, CA 94520	Analysis Method: EPA 5030/8015/8020	Analyzed: Nov 15, 1991
Attention: Tim Quane	First Sample #: 111-0607	Reported: Nov 20, 1991

TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

Sample Number	Sample Description	Low/Medium B.P.	Benzene	Toluene	Ethyl	Xylenes
		Hydrocarbons			Benzene	
		$\mu\text{g/L}$ (ppb)	$\mu\text{g/L}$ (ppb)	$\mu\text{g/L}$ (ppb)	$\mu\text{g/L}$ (ppb)	$\mu\text{g/L}$ (ppb)
111-0607	MW 3	N.D.	N.D.	N.D.	N.D.	N.D.
111-0608	MW 2	38	0.32	N.D.	N.D.	N.D.
111-0609	MW 1	30	0.68	N.D.	N.D.	N.D.

Detection Limits:	30	0.30	0.30	0.30	0.30
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Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL



Julia R. Malerstein
Project Manager



SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

Alton Geoscience 1000 Burnett Avenue, Suite 140 Concord, CA 94520 Attention: Tim Quane	Client Project ID: Mobil#10E6A/100 McArthur Blvd., Oakland Matrix Descript: Water Analysis Method: EPA 3510/8015 First Sample #: 111-0609	Sampled: Nov 13, 1991 Received: Nov 13, 1991 Extracted: Nov 15, 1991 Analyzed: Nov 18, 1991 Reported: Nov 20, 1991
---	--	--

TOTAL PETROLEUM FUEL HYDROCARBONS (EPA 8015)

Sample Number	Sample Description	High B.P. Hydrocarbons $\mu\text{g/L}$ (ppb)
111-0609	MW 1	N.D.

Detection Limits:

50

High Boiling Point Hydrocarbons are quantitated against a diesel fuel standard.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL


Julia R. Malerstein
Project Manager



SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

Alton Geoscience
1000 Burnett Avenue, Suite 140
Concord, CA 94520
Attention: Tim Quane

Client Project ID: Mobil#10E6A/100 McArthur Blvd., Oakland
Sample Descript: Water, MW 1
Analysis Method: EPA 5030/8010
Lab Number: 111-0609

Sampled: Nov 13, 1991
Received: Nov 13, 1991
Analyzed: Nov 20, 1991
Reported: Nov 21, 1991

HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/L	Sample Results µg/L
Bromodichloromethane.....	0.50	N.D.
Bromoform.....	1.0	N.D.
Bromomethane.....	1.0	N.D.
Carbon tetrachloride.....	0.50	N.D.
Chlorobenzene.....	0.50	N.D.
Chloroethane.....	1.0	N.D.
2-Chloroethylvinyl ether.....	1.0	N.D.
Chloroform.....	0.50	N.D.
Chloromethane.....	1.0	N.D.
Dibromochloromethane.....	0.50	N.D.
1,2-Dichlorobenzene.....	0.50	N.D.
1,3-Dichlorobenzene.....	0.50	N.D.
1,4-Dichlorobenzene.....	0.50	N.D.
1,1-Dichloroethane.....	0.50	N.D.
1,2-Dichloroethane.....	0.50	N.D.
1,1-Dichloroethane.....	0.50	N.D.
cis-1,2-Dichloroethene.....	0.50	N.D.
trans-1,2-Dichloroethene.....	0.50	N.D.
1,2-Dichloropropane.....	0.50	N.D.
cis-1,3-Dichloropropene.....	1.0	N.D.
trans-1,3-Dichloropropene.....	1.0	N.D.
Methylene chloride.....	2.0	N.D.
1,1,2,2-Tetrachloroethane.....	0.50	N.D.
Tetrachloroethene.....	0.50	N.D.
1,1,1-Trichloroethane.....	0.50	N.D.
1,1,2-Trichloroethane.....	0.50	N.D.
Trichloroethene.....	0.50	N.D.
Trichlorofluoromethane.....	1.0	N.D.
Vinyl chloride.....	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Julia R. Malerstein
Project Manager



SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

Alton Geoscience
1000 Burnett Avenue, Suite 140
Concord, CA 94520
Attention: Tim Quane

Client Project ID: Mobil# 10E6A/100 McArthur Blvd., Oakland
Matrix Descript: Water
Analysis Method: SM 5520 B&F (Gravimetric)
First Sample #: 111-0609

Sampled: Nov 13, 1991
Received: Nov 13, 1991
Extracted: Nov 14, 1991
Analyzed: Nov 15, 1991
Reported: Nov 21, 1991

TOTAL RECOVERABLE PETROLEUM OIL

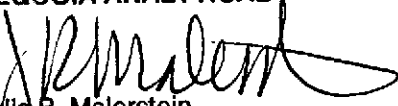
Sample Number	Sample Description	Oil & Grease mg/L (ppm)
111-0609	MW 1	N.D.

Detection Limits:

5.0

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL


Julia R. Malerstein
Project Manager



SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

Alton Geoscience
1000 Burnett Avenue, Suite 140
Concord, CA 94520
Attention: Tim Quane

Client Project ID: Mobil#10E6A/100 McArthur Blvd., Oakland

QC Sample Group: 1110607-9

Reported: Nov 20, 1991

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-Benzene	Xylenes	Diesel	Oil and Grease
Method:	EPA 8015/8020	EPA 8015/8020	EPA 8015/8020	EPA 8015/8020	EPA8015	SM5520
Analyst:	R.H./J.F.	R.H./J.F.	R.H./J.F.	R.H./J.F.	A. Tuzon	D. Newcomb
Reporting Units:	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L
Date Analyzed:	Nov 15, 1991	Nov 15, 1991	Nov 15, 1991	Nov 15, 1991	Nov 18, 1991	Nov 15, 1991
QC Sample #:	Matrix Blank	Matrix Blank	Matrix Blank	Matrix Blank	BLK111591	Matrix Blank
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	20	20	20	60	300	100
Conc. Matrix Spike:	17	16	16	53	250	93
Matrix Spike % Recovery:	85	80	80	88	83	93
Conc. Matrix Spike Dup.:	16	15	15	52	230	92
Matrix Spike Duplicate % Recovery:	80	75	75	87	77	92
Relative % Difference:	6.0	6.4	6.4	1.2	9.7	1.0

Laboratory blank contained the following analytes: None Detected

SEQUOIA ANALYTICAL

J. Malerstein
Julia R. Malerstein
Project Manager

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$



SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

Alton Geoscience
1000 Burnett Avenue, Suite 140
Concord, CA 94520
Attention: Tim Quane

Client Project ID: Mobil#10E6A/100 McArthur Blvd., Oakland
Method (units): EPA 8010 (µg/L purged)
Analyst(s): M. Nguyen
QC Sample #: BLK111991

Q.C. Sample Dates

Analyzed: Nov 19, 1991
Reported: Nov 20, 1991

QUALITY CONTROL DATA REPORT

Analyte	Sample Conc.	Spike Conc. Added	Conc. Matrix Spike	Matrix Spike % Recovery	Conc. Matrix Spike Duplicate	Matrix Spike Duplicate % Recovery	Relative % Difference
1,1-Dichloroethene	N.D.	10	11	110	12	120	8.7
Trichloroethene	N.D.	10	7.2	72	10	100	33
Benzene	N.D.	10	10	100	9.8	98	2.0
Toluene	N.D.	10	9.1	91	8.9	89	2.2
Chlorobenzene	N.D.	10	8.8	88	11	110	22

SEQUOIA ANALYTICAL

Julia R. Malerstein
Julia R. Malerstein
Project Manager

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

Bill Mobil direct

Facility Number Former Mobil Station #10 E6A
 Facility Address 100 McArthur Blvd. Oakland CA
 Consultant Project Number 30-0063-02
 Consultant Name Alton Geoscience
 Address 1000 Burnett Ave - Concord CA
 Project Contact (Name) Tim Quane
 (Phone) 682-1582 (Fax Number)

Contact (Name) Michela Franz
 (Phone) _____
 Laboratory Name Segnoia Analytical
 Laboratory Release Number _____
 Samples Collected by (Name) Patricia Gigante
 Collection Date 11-13-91
 Signature Patricia Gigante

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iod (Yes or No)	Analytes To Be Performed											Remarks					
								BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd, Cr, Pb, Zn, Ni (ICAP or AA)	HVOC	TPH-D	TOC SM 5520		B&F				
MW3		3	W	G	12:15	HCL	yes	X															1110607 AC	
MW2		3	W	G	1:30	HCL	yes	X																608 AC
MW1		9	W	G	2:45	HCL	yes	X									X	X	X					609 AI

Relinquished By (Signature) <u>Patricia Gigante</u>	Organization <u>Alton Geosci</u>	Date/Time <u>11/13/91 4:50</u>	Received By (Signature)	Organization	Date/Time	Turn Around Time (Circle Choice) 24 Hrs. 48 Hrs. <u>5 Days</u> 10 Days As Contracted
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature) <u>Renee [Signature]</u>	Organization	Date/Time <u>11/13/91 10:50</u>	

COC-3.DWG/03.01/ACH