G.W.

Mobil Oil Corporation

3800 WEST ALAMEDA AVENUE, SUITE 700
BURBANK, CALIFORNIA 91505-4331

added to file 8-5-94 by JE

90 OCT 18 AM 11:36

October 16, 1990

sampling date: 7/30

Mr. Rafat Shahid
Alameda County
Health Care Services
80 Swan Way, Room 200
Oakland, CA 94621

MOBIL OIL CORPORATION
FORMER S/S 10-E6A
100 MacARTHUR BOULEVARD
OAKLAND, CALIFORNIA
BP S/S 11102 CT

Dear Mr. Shahid:

Enclosed for your review is the Quarterly Ground Water Monitoring and Sampling Report, dated September 27, 1990, for subject location. MW-2, downgradient of the tank field, increased from ND for BTEX.

Additional site characterization will be very difficult due to the limited space. Oakland Avenue is a steep hill and the freeway is across MacArthur Boulevard. We propose to continue the quarterly monitoring and sampling of the wells.

If you have any questions, please feel free to contact me at (818) 953-2519.

Sincerely,

David M. Noe

David M. Noe, P.E.
Groundwater Projects Engineer

DMN:st
enclosure

cc: Mr. Tom Callaghan (w/ enclosure)
RWQCB - S.F. Bay Region
1800 Harrison Street, Room 700
Oakland, CA 94612

Mr. Peter DeSantis (w/ enclosure)
BP Oil Company
2868 Prospect Park Drive, Suite 360
Rancho Cordova, CA 95670-6020

S. Pao - Burbank (w/o)

QUARTERLY GROUND WATER MONITORING AND SAMPLING REPORT

for

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

Project No. 30-063

September 27, 1990

GROUND WATER MONITORING AND SAMPLING REPORT
for
Former Mobil Service Station 10-E6A
100 MacArthur Boulevard
Oakland, California

Alton Geoscience Project No. 30-063

September 27, 1990

INTRODUCTION

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

PROJECT BACKGROUND

During the removal of the 280-gallon waste oil tank in September 1988, a product sheen was discovered on the ground water encountered in the tank cavity. Analysis of a soil sample collected from the tank backfill material showed a concentration of 65,000 parts per million (ppm) of total oil and grease (TOG). Based on this finding, the Alameda County Department of Environmental Health (ACDEH) requested that a site assessment be performed to determine the impact of TOG level on the subsurface soil and/or ground water.

In order to assess the lateral and vertical extent of soil and/or ground water contamination at the site, Mobil Oil Corporation retained Alton Geoscience to conduct a site investigation, drill three soil borings, and install Ground Water Monitoring Wells MW-1, MW-2, and MW-3. Soil and ground water samples were collected during installation of the wells and analyzed for the required hydrocarbon constituents. A report dated December 20, 1989, presenting the findings of the site investigation, was submitted to the appropriate regulatory agencies for review. Based on the findings of this investigation, a quarterly ground water monitoring and sampling program was implemented. This report presents the results of the second quarter ground water monitoring and sampling activities.

FIELD PROCEDURES

On July 30, 1990, Alton Geoscience monitored and sampled Ground Water Monitoring Wells MW-1, MW-2 and MW-3, in accordance with the requirements and procedures of the Regional Water Quality Control Board (RWQCB) and the Alameda County Department of Environmental Health (ACDEH). Prior to

purging and sampling, the ground water level in each well was measured from the top of casing to the nearest 0.01 foot using an electronic sounder. Ground water samples were collected using a hand bailer and visually inspected for the presence of free product or sheen.

Each well was purged of the required casing volumes and until stabilization of pH, temperature, and conductivity was achieved, prior to sample collection. The water sampling field survey forms are included in Appendix A. Ground water samples for laboratory analysis were collected using a clean polyvinyl chloride (PVC) bailer, and then decanted into the appropriate containers for delivery to a state-certified laboratory, following proper sample preservation and chain of custody procedures.

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 B.

A ground water elevation contour map, based on the July 30, 1990 ground water monitoring data, is shown in Figure 2. The ground water flow direction is to the southwest, with a gradient of 0.071 foot/foot, both of which are generally consistent with the results of previous monitoring event.

No free product or sheen was observed in any of the ground water samples. Evaluation of the results of the ground water sampling and analysis indicated the following:

- Comparison of the analytical results for MW-1 for the last two sampling event indicates a decrease in the level of total petroleum hydrocarbon as gasoline (TPH-G), while the levels of total petroleum hydrocarbon as diesel (TPH-D) and total oil and grease (TOG) remain nondetectable.

- The levels of TPH-G and benzene increased in MW-2 between the last two sampling events while the other hydrocarbon constituents have remained nondetectable.

- No detectable levels of TPH-G, benzene, toluene, ethylbenzene, and total xylenes were detected in MW-3 in this sampling event.

Table 1: Summary of Results of Ground Water Sampling
Project Number : 30-063
Concentrations in parts per billion (ppb)

WELL ID	DATE OF SAMPLING/ MONITORING	DEPTH TO WATER	FREE PRODUCT THICKNESS (ft)	GROUND WATER ELEVATION (ft above msl)	TPH-G (8015)	TPH-D (8015)	HVOC (624/ 601)	TOG (503E/ 503D)	B (602/ 624)	T (602/ 624)	E (602/ 624)	X (602/ 624)	ORG-Pb (DHS METHOD)	ANALYTICAL LAB
MW-1	11/04/89	13.21	0.0	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	13.32	0.0	76.88	---	---	---	---	---	---	---	---	---	---
MW-1	04/03/90	12.46	0.0	77.74	820	---	---	---	64	1.9	23	34	---	AI
MW-1	07/30/90	12.92	0.0	77.28	190	ND<50	*	ND<5000	11	ND<5.0	ND<5.0	ND<5.0	---	AI
MW-2	11/04/89	15.84	0.0	72.07	ND<500	---	---	---	6.5	ND<0.3	ND<0.3	ND<0.3	---	SAL
MW-2	11/11/89	14.75	0.0	73.16	---	---	---	---	---	---	---	---	---	---
MW-2	04/03/90	15.25	0.0	72.66	ND<100	---	---	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	AI
MW-2	07/30/90	15.59	0.0	72.32	61	---	---	---	6.5	ND<0.5	ND<0.5	ND<0.5	---	AI
MW-3	11/04/89	15.40	0.0	71.62	ND<500	---	---	---	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	SAL
MW-3	11/11/89	14.10	0.0	72.92	---	---	---	---	---	---	---	---	---	---
MW-3	04/03/90	13.90	0.0	73.12	ND<100	ND<50	ND*	ND<5000	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	AI
MW-3	07/30/90	13.77	0.0	73.65	ND<50	---	---	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	AI

EXPLANATION TO ABBREVIATIONS:

TPH-G : Total Petroleum Hydrocarbons as Gasoline (EPA method 8015 modified)

TPH-D : Total Petroleum Hydrocarbons as Diesel (EPA method 8015 modified)

TOG : Total Oil and Grease (EPA method 503D&503E)

HVOC : Halogenated Volatile Organic Constituents (EPA method 624/601)

B : Benzene (EPA method 602/624)

T : Toluene (EPA method 602/624)

E : Ethylbenzene (EPA method 602/624)

X : Xylenes (EPA method 602/624)

ORG-Pb : Organic lead (EPA method 7420)

--- : Not analyzed

ND< : Not detected at method detection limit shown

NA : Not applicable

ft above msl : Feet above Mean Sea Level

* : Benzene was only HVOC detected above detection limit

SAL : Superior Analytical Laboratory

AI : Anametrix Inc.

SA : Sequoia Analytical

IT : Internology Technology Corp.

GTEL: Environmental Laboratories, Inc.

NOTES:

1. Depth to Water level measured from top of well casing in feet

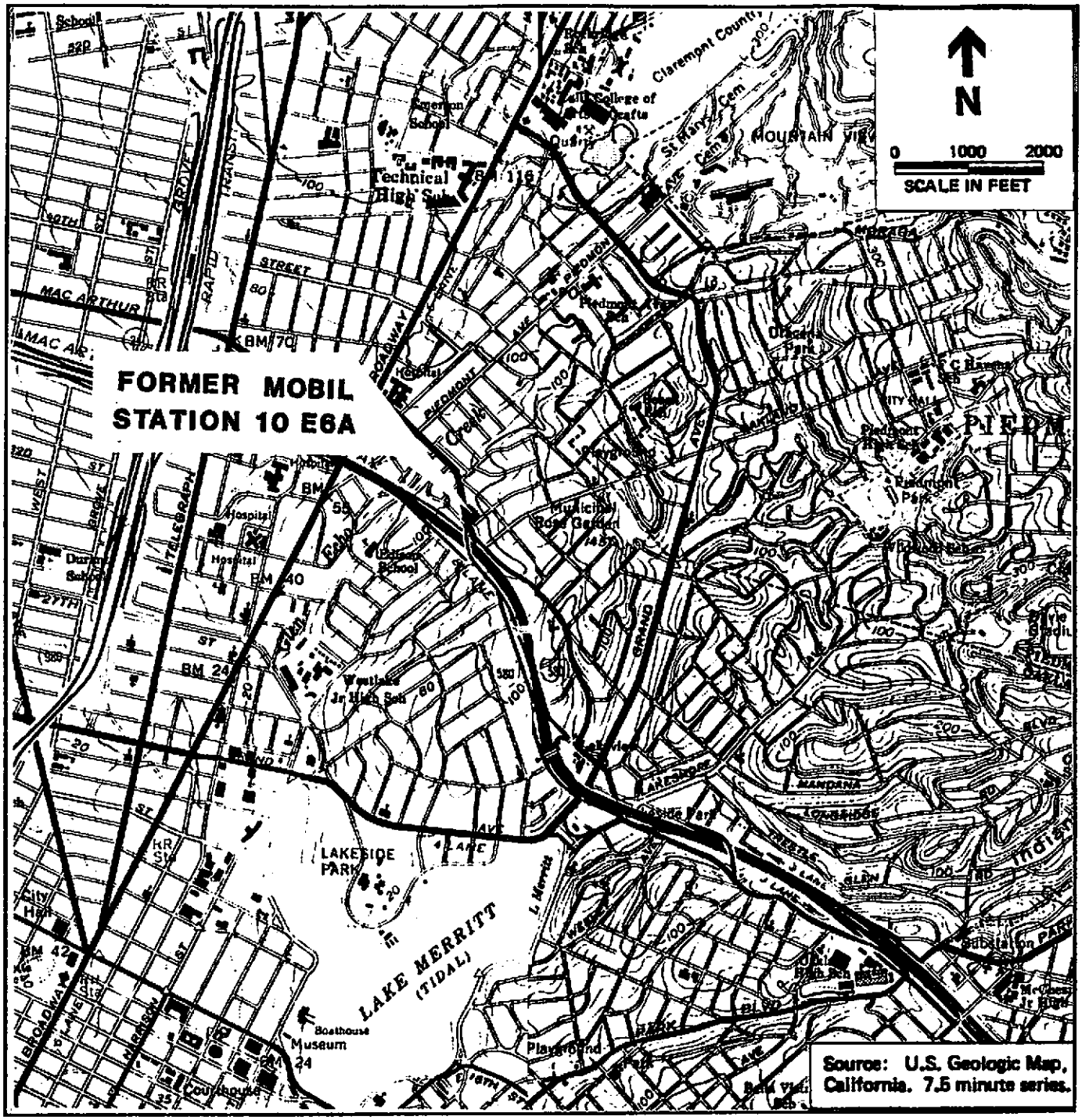


FIGURE 1. VICINITY MAP

PROJECT NO. 30-063

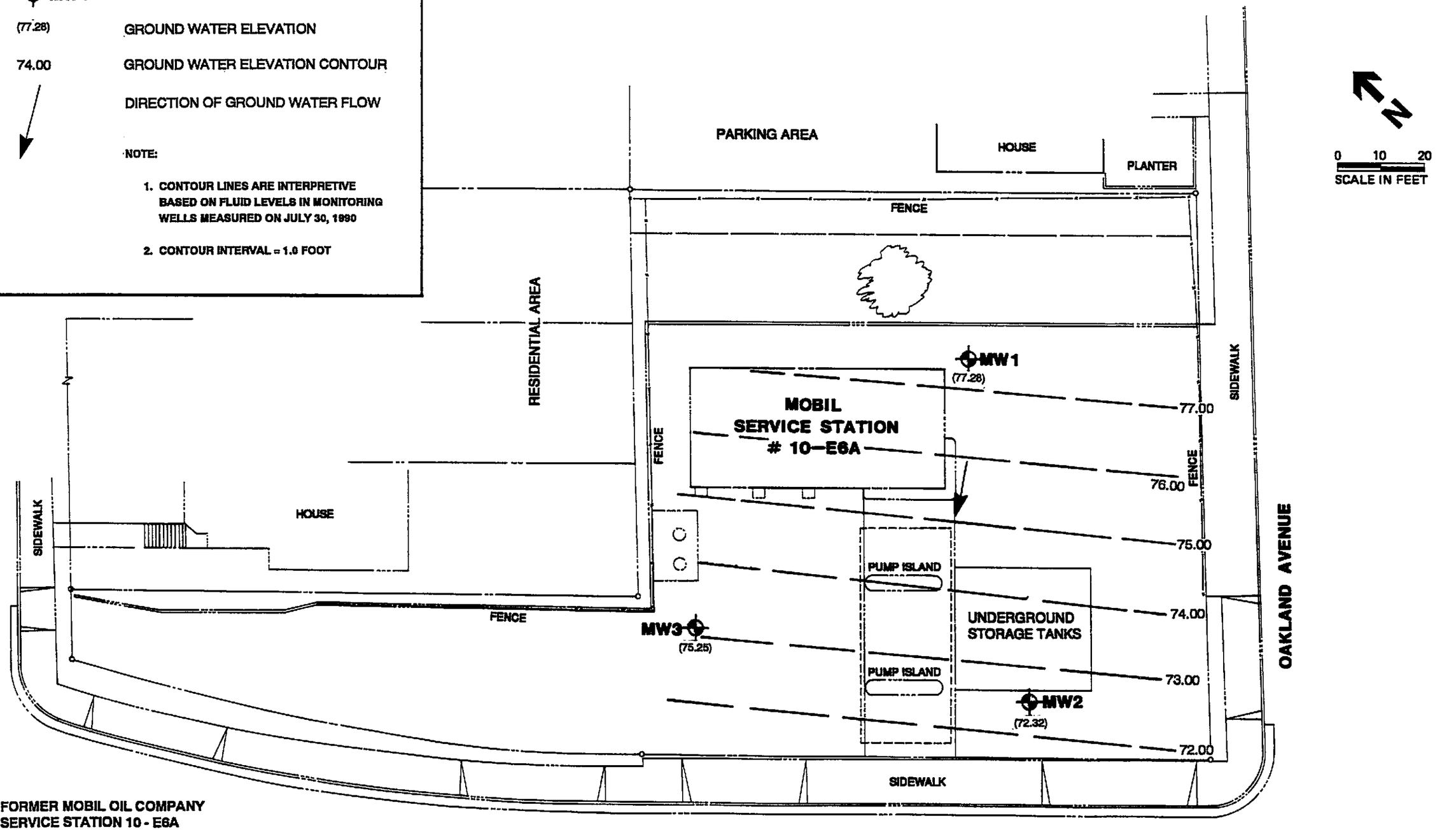
ALTON GEOSCIENCE
1170 Burnett Ave., Ste. S
Concord, CA 94520

LEGEND:

MW1	MONITORING WELL
(77.28)	GROUND WATER ELEVATION
74.00	GROUND WATER ELEVATION CONTOUR
	DIRECTION OF GROUND WATER FLOW

NOTE:

1. CONTOUR LINES ARE INTERPRETIVE BASED ON FLUID LEVELS IN MONITORING WELLS MEASURED ON JULY 30, 1990
2. CONTOUR INTERVAL = 1.0 FOOT



FORMER MOBIL OIL COMPANY
SERVICE STATION 10 - E6A
100 MAC ARTHUR BOULEVARD
OAKLAND, CALIFORNIA

MAC ARTHUR BLVD

PROJECT NO. 30–063

FIGURE 2 : GROUND WATER ELEVATION CONTOUR MAP

APPENDIX A

FIELD SAMPLING FORMS

ALTON GEOSCIENCE, INC
1170 Burnett Ave., Ste. S
Concord, CA 94520

JOB NUMBER 30-063 TECHNICIAN Bennett

JOB LOCATION Mucaothes / Oakhurst Ave DATE 073090

PUMPOUT ☐ YES ☐ NO	DATE OF LAST PUMPOUT:			WEATHER: TIME:		COMMENTS (Notes, conditions, etc.)
	HOLD	CUT	LEVEL			
WELL #	DEPTH TO WATER	DEPTH TO PRODUCT	PROD. THICKNESS (FT)	TOTAL DEPTH	DEPTH TO PUMP	
MW1	12.92			31.80		Four Inch Bore
MW2	15.59			32.16		" " " "
MW3	13.77			32.28		" " " "

Well Development and
Water Sampling Field Survey

Project # 30-063 Site: _____ Date: 073090

Well: MW3 Sampling Team: Bennett

Well Development Method: _____

Sampling Method: Hand Bailer

Describe Equipment Decontamination Before Sampling: _____
Triple Rinse with TSP

Well Development/ Well Sampling Data

Total Well Depth: 32.28 feet Time: _____ Water level Before Pumping: 13.77

Water Column		Casing Diameter 2-inch	4-inch	Volume	Factor	Volume to Purge
18.51	feet x	0.16	(0.65)	12.0	3	36.0

Depth Purging From: ____ feet. Time Purging Begins: _____

Notes on Initial Discharge: clear

Time	Volume	pH	Conductivity	T	Notes
____	6	____	0.78	67.0	clear
____	12	____	0.80	68.0	Same
____	24	____	0.80	68.4	clear
____	37	____	0.91	68.0	Same
____	37	____	0.80	68.0	Same

Time Field Parameter Measurement Begins: _____

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

Presample Collection Gallons Purged: 36.0

Time Sample Collection Begins: 1430

Time Sample Collection Ends: 1430

Total Gallons Purged: 36.0

Comments: _____

ALTON GEOSCIENCE, INC.

Well Development and
Water Sampling Field Survey

Project # 30-063 Site: _____ Date: _____

Well: MW 1 Sampling Team: _____

Well Development Method: _____

Sampling Method: Hand Bailer

Describe Equipment Decontamination Before Sampling: _____

Well Development/ Well Sampling Data

Total Well Depth: 31.80 feet Time: _____ Water level Before Pumping: 12.92

Water Column	Casing Diameter 2-inch	4-inch	Volume	Factor	Volume to Purge
18.00 feet x	0.16	(0.65)	12.3	3	36.9

Depth Purging From: ____ feet. Time Purging Begins: _____

Notes on Initial Discharge: clear

Time	Volume	pH	Conductivity	T	Notes
1015	18		1.02	67.6	clear
1020	21		1.02	67.2	same
1025	24		1.03	67.1	same
1030	30		1.02	67.0	same
1035	37		1.02	67.0	same

Time Field Parameter Measurement Begins: _____

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

Presample Collection Gallons Purged: 50

Time Sample Collection Begins: 1500

Time Sample Collection Ends: 1500

Total Gallons Purged: 50

Comments: _____

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

Project # 30-063 Site: Oakland Date: 07 30 90

Well: MW-D Sampling Team: Bennett

Well Development Method: _____

Sampling Method: Hand Bailor

Describe Equipment Decontamination Before Sampling: _____
Triple Rinse with TSP

Well Development/ Well Sampling Data

Total Well Depth: 32.16 feet Time: _____ Water level Before Pumping: 15.59

Water Column		Casing Diameter 2-inch	4-inch	Volume	Factor	Volume to Purge
16.57	feet x	0.16	0.65	10.8	3	32.4

Depth Purging From: ____ feet. Time Purging Begins: _____

Notes on Initial Discharge: clear

Time	Volume	pH	Conductivity	T	Notes
0850	6	7.00	0.94	66.9	Same
0855	12	7.00	0.98	67.1	clear
0900	18	7.00	0.98	67.0	Same
0930	24	7.00	0.98	67.2	Same
0945	35	7.00	0.98	67.1	Same

Time Field Parameter Measurement Begins: _____

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

Presample Collection Gallons Purged: 35

Time Sample Collection Begins: 1445

Time Sample Collection Ends: 1445

Total Gallons Purged: 35

Comments: _____

APPENDIX B

LABORATORY REPORT AND CHAIN OF CUSTODY DOCUMENTATION

ANAMETRIX INC
Environmental & Analytical Chemistry
1961 Concourse Drive, Suite E. San Jose, CA 95131
(408) 432-8192 • Fax (408) 432-8198

REPORT

MATT BENNETS
ALTON GEOSCIENCE
1000 BURNETT AVE. SUITE 140
CONCORD, CA 94520

Workorder # : 9008015
Date Received : 08/01/90
Project ID : 30-063
Purchase Order: N/A

The following samples were received at Anametrix, Inc. for analysis :

ANAMETRIX ID	CLIENT SAMPLE ID
9008015- 1	MW1
9008015- 2	MW2
9008015- 3	MW3
9008015- 4	RINSATE

This report is paginated for your convenience and ease of review. It contains 13 pages excluding the cover letter. The report is organized into sections. Each section contains all analytical results and quality assurance data related to a specific group or section within Anametrix. The Report Summary that precedes each section will help you determine which group at Anametrix generated the data. The Report Summary will contain the signatures of the department supervisor and a chemist, both of whom reviewed the analytical data. Please refer all questions to the department supervisor that signed the form.

If you have any further questions or comments on this report, please give us a call as soon as possible. Thank you for using Anametrix.

Burt Sutherland
Laboratory Director

08-16-90
Date

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MATT BENNETS
ALTON GEOSCIENCE
1000 BURNETT AVE. SUITE 140
CONCORD, CA 94520

Workorder # : 9008015
Date Received : 08/01/90
Project ID : 30-063
Purchase Order: N/A
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9008015- 1	MW1	H2O	07/30/90	TPHd
9008015- 1	MW1	H2O	07/30/90	TPHg
9008015- 2	MW2	H2O	07/30/90	TPHg/BTEX
9008015- 3	MW3	H2O	07/30/90	TPHg/BTEX
9008015- 4	RINSATE	H2O	07/30/90	TPHg/BTEX

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MATT BENNETS
ALTON GEOSCIENCE
1000 BURNETT AVE. SUITE 140
CONCORD, CA 94520

Workorder # : 9008015
Date Received : 08/01/90
Project ID : 30-063
Purchase Order: N/A
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- No QA/QC problems encountered for samples.

Cheryl Bremer 8/16/90
Department Supervisor Date

Chemist 8/16/90
Date

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 30-063 MW1
Matrix : WATER
Date sampled : 07/30/90
Date anl.TPHg: 08/10/90
Date ext.TPHd: 08/02/90
Date anl.TPHd: 08/11/90

Anametrix I.D. : 9008015-01
Analyst : CB
Supervisor : CB
Date released : 08/16/90
Date ext. TOG : 08/02/90
Date anl. TOG : 08/02/90

CAS #	Compound Name	Detection Limit (ug/l)	Amount Found (ug/l)
	TPH as Gasoline	50	190
	TPH as Diesel	50	ND
	Total Oil & Grease	5000	ND

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following either EPA Method 3510 or 3550.
TOG - Total Oil & Grease is determined by Standard Method 503E.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 30-063 MW2
Matrix : WATER
Date sampled : 07/30/90
Date anl.TPHg: 08/13/90
Date ext.TPHd: N/A
Date anl.TPHd: N/A

Anametrix I.D. : 9008015-02
Analyst : CK
Supervisor : ED
Date released : 08/16/90
Date ext. TOG : N/A
Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ug/l)	Amount Found (ug/l)
71-43-2	Benzene	0.5	6.5
108-88-3	Toluene	0.5	ND
100-41-4	Ethylbenzene	0.5	ND
1330-20-7	Total Xylenes	0.5	ND
	TPH as Gasoline	50	61

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 30-063 MW3
Matrix : WATER
Date sampled : 07/30/90
Date anl.TPHg: 08/10/90
Date ext.TPHd: N/A
Date anl.TPHd: N/A

Anametrix I.D. : 9008015-03
Analyst :
Supervisor :
Date released : 08/16/90
Date ext. TOG : N/A
Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ug/l)	Amount Found (ug/l)
71-43-2	Benzene	0.5	ND
108-88-3	Toluene	0.5	ND
100-41-4	Ethylbenzene	0.5	ND
1330-20-7	Total Xylenes	0.5	ND
	TPH as Gasoline	50	ND

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 30-063 RINSATE
Matrix : WATER
Date sampled : 07/30/90
Date anl.TPHg: 08/10/90
Date ext.TPHd: N/A
Date anl.TPHd: N/A

Anametrix I.D. : 9008015-04
Analyst : CB
Supervisor : CB
Date released : 08/16/90
Date ext. TOG : N/A
Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ug/l)	Amount Found (ug/l)
71-43-2	Benzene	0.5	ND
108-88-3	Toluene	0.5	ND
100-41-4	Ethylbenzene	0.5	ND
1330-20-7	Total Xylenes	0.5	ND
	TPH as Gasoline	50	ND

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

TOTAL EXTRACTABLE HYDROCARBON METHOD SPIKE REPORT
EPA METHOD 3510 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : REAGENT WATER
Matrix : WATER
Date sampled : N/A
Date extracted: 08/02/90
Date analyzed : 08/11/90

Anametrix I.D. : SPK080290
Analyst : CB
Supervisor : CB
Date Released : 08/16/90

COMPOUND	SPIKE AMT. (UG/L)	MS (UG/L)	%REC MS	MSD (UG/L)	%REC MSD	RPD	%REC LIMITS
Diesel	500	500	100%	460	92%	8%	32-93

* Limits established by Anametrix, Inc.

ANAMETRIX REPORT DESCRIPTION
GCMS

Organic Analysis Data Sheets (OADS)

OADS forms contain tabulated results for target compounds. The OADS are grouped by method and, within each method, organized sequentially in order of increasing Anametrix ID number.

Tentatively Identified Compounds (TICs)

TIC forms contain tabulated results for non-target compounds detected in GC/MS analyses. TICs must be requested at the time samples are submitted at Anametrix. TIC forms immediately follow the OADS form for each sample. If TICs are requested but not found, then TIC forms will not be included with the report.

Surrogate Recovery Summary (SRS)

SRS forms contain quality assurance data. An SRS form will be printed for each method, if the method requires surrogate compounds. They will list surrogate percent recoveries for all samples and any method blanks. Any surrogate recovery outside the established limits will be flagged with an "*", and the total number of surrogates outside the limits will be listed in the column labelled "Total Out".

Matrix Spike Recovery Form (MSR)

MSR forms contain quality assurance data. They summarize percent recovery and relative percent difference information for matrix spikes and matrix spike duplicates. This information is a statement of both accuracy and precision. Any percent recovery or relative percent difference outside established limits will be flagged with an "*", and the total number outside the limits will be listed at the bottom of the page. Not all reports will contain an MSR form.

Qualifiers

Anametrix uses several data qualifiers (Q) in it's report forms. These qualifiers give additional information on the compounds reported. They should help a data reviewer to verify the integrity of the analytical results. The following is a list of qualifiers and their meanings:

- U - Indicates that the compound was analyzed for, but was not detected at or above the specified reporting limit.
- B - Indicates that the compound was detected in the associated method blank.
- J - Indicates that the compound was detected at an amount below the specified reporting limit. Consequently, the amount should be considered an approximate value. Tentatively identified compounds will always have a "J" qualifier because they are not included in the instrument calibration.
- E - Indicates that the amount reported exceeded the linear range of the instrument calibration.
- D - Indicates that the compound was detected in an analysis performed at a secondary dilution.
- A - Indicates that the tentatively identified compound is a suspected aldol condensation product. This is common in EPA Method 8270 soil analyses.

Absence of a qualifier indicates that the compound was detected at a concentration at or above the specified reporting limit.

REPORTING CONVENTIONS

- Due to a size limitation in our data processing step, only the first eight (8) characters of your project ID and sample ID will be printed on the report forms. However, the report cover letter and report summary pages display up to twenty (20) characters of your project and sample IDs.
- Amounts reported are gross values, i.e., not corrected for method blank contamination.

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MATT BENNETS
ALTON GEOSCIENCE
1000 BURNETT AVE. SUITE 140
CONCORD, CA 94520

Workorder # : 9008015
Date Received : 08/01/90
Project ID : 30-063
Purchase Order: N/A
Department : GCMS
Sub-Department: GCMS

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9008015- 1	MW1	H2O	07/30/90	8240

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MATT BENNETS
ALTON GEOSCIENCE
1000 BURNETT AVE. SUITE 140
CONCORD, CA 94520

Workorder # : 9008015
Date Received : 08/01/90
Project ID : 30-063
Purchase Order: N/A
Department : GCMS
Sub-Department: GCMS

QA/QC SUMMARY :

- No QA/QC problems.

Laura Marsh 8-15-90
Department Supervisor Date

Jana Wakida 8/8/90
Chemist Date

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 624/8240
ANAMETRIX, INC. (408)432-8192

Project ID : 30-063
Sample ID : MW1
Matrix : WATER
Date Sampled : 7/30/90
Date Analyzed : 8/ 6/90
Instrument ID : F1

Anametrix ID : 9008015-01
Analyst : ω
Supervisor : ω

Dilution Factor : 1.00
Conc. Units : ug/L

CAS NO.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	CHLOROMETHANE	10.	ND	U
75-01-4	VINYL CHLORIDE	10.	ND	U
74-83-9	BROMOMETHANE	10.	ND	U
75-00-3	CHLOROETHANE	10.	ND	U
75-69-4	TRICHLOROFLUOROMETHANE	5.	ND	U
75-35-4	1,1-DICHLOROETHENE	5.	ND	U
76-13-1	TRICHLOROTRIFLUOROETHANE	5.	ND	U
67-64-1	ACETONE	20.	ND	U
75-15-0	CARBON DISULFIDE	5.	ND	U
75-09-2	METHYLENE CHLORIDE	5.	ND	U
156-60-5	TRANS-1,2-DICHLOROETHENE	5.	ND	U
75-34-3	1,1-DICHLOROETHANE	5.	ND	U
78-93-3	2-BUTANONE	20.	ND	U
156-59-2	CIS-1,2-DICHLOROETHENE	5.	ND	U
67-66-3	CHLOROFORM	5.	ND	U
71-55-6	1,1,1-TRICHLOROETHANE	5.	ND	U
56-23-5	CARBON TETRACHLORIDE	5.	ND	U
71-43-2	BENZENE	5.	11.	
107-06-2	1,2-DICHLOROETHANE	5.	ND	U
79-01-6	TRICHLOROETHENE	5.	ND	U
78-87-5	1,2-DICHLOROPROPANE	5.	ND	U
75-27-4	BROMODICHLOROMETHANE	5.	ND	U
110-75-8	2-CHLOROETHYLVINYL ETHER	5.	ND	U
108-05-4	VINYL ACETATE	10.	ND	U
10061-01-5	CIS-1,3-DICHLOROPROPENE	5.	ND	U
108-10-1	4-METHYL-2-PENTANONE	10.	ND	U
108-88-3	TOLUENE	5.	ND	U
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5.	ND	U
79-00-5	1,1,2,-TRICHLOROETHANE	5.	ND	U
127-18-4	TETRACHLOROETHENE	5.	ND	U
591-78-6	2-HEXANONE	10.	ND	U
124-48-1	DIBROMOCHLOROMETHANE	5.	ND	U
108-90-7	CHLOROBENZENE	5.	ND	U
100-41-4	ETHYLBENZENE	5.	ND	U
1330-20-7	XYLENE (TOTAL)	5.	ND	U
100-42-5	STYRENE	5.	ND	U
75-25-2	BROMOFORM	5.	ND	U
79-34-5	1,1,2,2-TETRACHLOROETHANE	5.	ND	U
541-73-1	1,3-DICHLOROBENZENE	5.	ND	U
106-46-7	1,4-DICHLOROBENZENE	5.	ND	U
95-50-1	1,2-DICHLOROBENZENE	5.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 624/8240
ANAMETRIX, INC. (408)432-8192

Project ID :
Sample ID : BLANK
Matrix : WATER
Date Sampled : 0/ 0/ 0
Date Analyzed : 8/ 6/90
Instrument ID : F1

Anametrix ID : 1CB0806V01
Analyst : ww
Supervisor : wh

Dilution Factor : 1.00
Conc. Units : ug/L

CAS NO.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	CHLOROMETHANE	10.	ND	U
75-01-4	VINYL CHLORIDE	10.	ND	U
74-83-9	BROMOMETHANE	10.	ND	U
75-00-3	CHLOROETHANE	10.	ND	U
75-69-4	TRICHLOROFLUOROMETHANE	5.	ND	U
75-35-4	1,1-DICHLOROETHENE	5.	ND	U
76-13-1	TRICHLOROTRIFLUOROETHANE	5.	ND	U
67-64-1	ACETONE	20.	7.	J
75-15-0	CARBON DISULFIDE	5.	ND	U
75-09-2	METHYLENE CHLORIDE	5.	1.	J
156-60-5	TRANS-1,2-DICHLOROETHENE	5.	ND	U
75-34-3	1,1-DICHLOROETHANE	5.	ND	U
78-93-3	2-BUTANONE	20.	ND	U
156-59-2	CIS-1,2-DICHLOROETHENE	5.	ND	U
67-66-3	CHLOROFORM	5.	ND	U
71-55-6	1,1,1-TRICHLOROETHANE	5.	ND	U
56-23-5	CARBON TETRACHLORIDE	5.	ND	U
71-43-2	BENZENE	5.	ND	U
107-06-2	1,2-DICHLOROETHANE	5.	ND	U
79-01-6	TRICHLOROETHENE	5.	ND	U
78-87-5	1,2-DICHLOROPROPANE	5.	ND	U
75-27-4	BROMODICHLOROMETHANE	5.	ND	U
110-75-8	2-CHLOROETHYLVINYL ETHER	5.	ND	U
108-05-4	VINYL ACETATE	10.	ND	U
10061-01-5	CIS-1,3-DICHLOROPROPENE	5.	ND	U
108-10-1	4-METHYL-2-PENTANONE	10.	ND	U
108-88-3	TOLUENE	5.	ND	U
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5.	ND	U
79-00-5	1,1,2,-TRICHLOROETHANE	5.	ND	U
127-18-4	TETRACHLOROETHENE	5.	ND	U
591-78-6	2-HEXANONE	10.	ND	U
124-48-1	DIBROMOCHLOROMETHANE	5.	ND	U
108-90-7	CHLOROBENZENE	5.	ND	U
100-41-4	ETHYLBENZENE	5.	ND	U
1330-20-7	XYLENE (TOTAL)	5.	ND	U
100-42-5	STYRENE	5.	ND	U
75-25-2	BROMOFORM	5.	ND	U
79-34-5	1,1,2,2-TETRACHLOROETHANE	5.	ND	U
541-73-1	1,3-DICHLOROBENZENE	5.	ND	U
106-46-7	1,4-DICHLOROBENZENE	5.	ND	U
95-50-1	1,2-DICHLOROBENZENE	5.	ND	U

SURROGATE RECOVERY SUMMARY -- EPA METHOD 624/8240
ANAMETRIX, INC. (408)432-8192

Project ID : 30-063
Matrix : WATER

Anametrix ID : 9008015
Analyst : CW
Supervisor : MH

	SAMPLE ID	SU1	SU2	SU3	TOTAL OUT
1	BLANK	98	98	100	0
2	MW1	101	98	98	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

	QC LIMITS
SU1 = 1,2-DICHLOROETHANE-D4	(75-113)
SU2 = TOLUENE-D8	(83-118)
SU3 = BROMOFLUOROBENZENE	(82-114)

* Values outside of Anametrix QC limits

9008015 (9) (10/7) (10/12)

ALTON GEOSCIENCE
1000 BURNETT AVE., STE. 140
CONCORD, CA 94520 (415) 682-1582

CHAIN of CUSTODY RECORD

PAGE 1 of 1

DATE: 10/3090 DUE BY: 10 days
LABORATORY: Anametrix

PROJECT NUMBER / MANAGER: 30-063 Mati Hopwood
SAMPLERS SIGNATURE:
PROJECT NAME / ADDRESS: British Petroleum

REMARKS OR SPECIAL INSTRUCTIONS:

	SAMPLE NUMBER	SAMPLE DATE/TIME	LOCATION/ DESCRIPTION	SAMPLE MATRIX	SAMPLE TYPE: GRAB	SAMPLE TYPE: COMP.	TYPE & NUMBER OF CONTAINERS	ANALYSIS: TPH/G	ANALYSIS: BTXE	ANALYSIS: TPH-D	ANALYSIS: TOG	ANALYSIS: 8240	ANALYSIS	ANALYSIS
01	mw1	10/3090 1500	monitoring well	water	X		4 liters 6 40 ml	X		X	X	X		
02	mw2	10/3090 1445		water	X		3-40 ml	X	X					
03	mw3	10/3090 1430		water	X		3-40 ml	X	X					
	~~trip~~	~~10/3090 1445~~		~~water~~	X		~~3-40 ml~~	X	X					
04	Rinsate						3-40 ml	X	X					
	~~Tube~~						~~1 liter~~	X	X					

CHAIN OF CUSTODY

	SIGNATURE	INCLUSIVE DATES/TIMES		SIGNATURE	INCLUSIVE DATES/TIMES	
1.		9/1/90	15:15	4.		9/1/90 16:25
2.		9/1/90	15:15	5.		
				6.		