BP OIL

BP Oil Company
2868 Prospect Park Drive, Suite 360
Rancho Cordova, California 95670-6020
(916) 631-0733

91 FEB -7 AM 11:26

LOP 3878

February 5, 1991

Ms. Cynthia Chapman
Alameda County Department of Health Services
80 Swan Way - Suite 200
Oakland, CA 94612

RE: GROUNDWATER MONITORING REPORT
BP FACILITY #11132
3201 35TH AVENUE
OAKLAND, CA

Dear Ms. Chapman,

Attached please find a report on the quarterly sampling and analysis at the subject facility.

Please contact me at 916/631-6919 if you have any questions or comments.

Respectfully,

Peter J. DeSantis
Environmental Resource Management

PJD:lk

ALTON GEOSCIENCE, INC.

QUARTERLY GROUND WATER MONITORING AND SAMPLING REPORT

for

BP Oil Company Service Station No. 11132
3201 35th Avenue
Oakland, California

January 30, 1991

Prepared by:

Matthew Hopwood
Project Geologist

Reviewed by:

Al Sevilla
R.C.E. 26392
Regional Manager

1000 Burnett Avenue, Suite 140 • Concord, CA 94520 • (415) 682-1582 • Fax 682-8921

QUARTERLY GROUND WATER MONITORING AND SAMPLING REPORT for BP Oil Service Station No. 11132 3201 35th Avenue Oakland, California

INTRODUCTION

This report presents the results and findings of the recent quarterly ground water monitoring and sampling activities performed by Alton Geoscience, Inc. at BP Oil Service Station No. 11132, located at 3201 35th Avenue, Oakland, California.

PROJECT BACKGROUND

On July 30, 1986, Kaprealian Engineering, Inc. (KEI) was retained by Mobil Oil Corporation to install three 2-inch-diameter monitoring wells at this former Mobil Oil service station. Monitoring and sampling of the wells, performed by KEI, indicated detectable levels of total petroleum hydrocarbons (TPH) in both MW-1 and MW-2 at levels up to 210 parts per million (ppm).

BP Oil Company subsequently retained Alton Geoscience in May 1990 to conduct a supplemental investigation. Between May and June, 1990, Alton Geoscience supervised the drilling of five additional soil borings, which were converted into four ground water monitoring wells (MW-4, MW-5, MW-6, and MW-7) and one recovery well (RW-1).

Free-floating product was observed in two of the wells (MW-1 and MW-2) while dissolved-phase petroleum hydrocarbon constituents were detected in ground water samples from two of the wells (MW-3 and MW-5).

A supplemental site investigation was completed in August 1990, however, the extent of the hydrocarbon plume in the ground water at the site was not adequately defined at that time. It was therefore proposed that additional investigation should be conducted to define the nature and extent of hydrocarbons in the ground water and develop appropriate remedial measures.

FIELD PROCEDURES

On November 27, 1990, Alton Geoscience monitored Monitoring Wells MW-1 through MW-7 and sampled MW-2, MW-3, MW-4, MW-5,

and MW-7 in accordance with the requirements of the Alameda County Department of Health Services (ACDHS) and the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB).

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 then collected at this time using a hand bailer and visually inspected for the presence of free product or sheen. The thickness of free-floating product, if present, was measured using a Keck interface probe.

Monitoring Wells MW-3, MW-4, MW-5, and MW-7 were purged, using a bailer, of the required 3 casing volumes or until stabilization of pH, temperature, and conductivity was achieved, prior to sample collection. Ground water samples were then collected for laboratory analyses from Monitoring Wells MW-3, MW-4, MW-5, and MW-7 using a clean Teflon bailer, and then decanted into the appropriate containers for delivery to a California-certified laboratory, following proper sample preservation and chain of custody procedures. Monitoring Well MW-6 could not be purged using a bailer due to an obstruction in the casing. Therefore, MW-6 was purged and sampled on December 26, 1990, using a diaphragm pump. The water sampling field survey forms are included in Appendix A.

Because of the presence of free-floating product in Monitoring Wells MW-1 and MW-2, no samples were collected. However, approximately 2 and 3 gallons of free-product/water mixture were bailed from MW-1 and MW-2, respectively.

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 December 21, 1990 ground water monitoring data, is shown in Figure 2. The general ground water flow direction at the site is to the south with a hydraulic gradient of 0.01 foot per foot. An isoconcentration map of TPH as gasoline (TPH-G) in ground water is shown in Figure 3.

Evaluation of the results of ground water monitoring and sampling, and analysis indicated the following:

- Approximately 0.58 and 0.48 foot of free-floating product was measured in Monitoring Wells MW-1 and MW-2, respectively, while a sheen was observed in RW-1.

- Between the last two sampling events, the concentrations of TPH-G and benzene have increased in the samples from MW-3, MW-5, and MW-6. TPH-G increased from 280 to 690 parts per billion (ppb) in MW-5, 140 to 190 ppb in MW-3, and from nondetectable to 170 ppb in MW-6.

- The concentration of TPH-G in the samples from MW-4 and MW-7 remain nondetectable, except for 0.8 ppb of total xylenes detected in the sample from MW-4.

PROPOSED ACTIVITY

Alton Geoscience, Inc. has applied for encroachment permits from the City of Oakland in order to install additional offsite wells. It is anticipated that these wells will define the lateral extent of hydrocarbon affected ground water at the site. Additionally, free-floating product will be periodically removed from MW-1 and MW-3 as an interim remedial measure.

Table 1: Summary of Results of Water Analysis
BP Oil Company Service Station No. 11132
Project Number: 30-081-01
Concentration in parts per billion (ppb)

WELL ID	DATE OF SAMPLING/ MONITORING	TOC ELEVATION (ft)	DEPTH OF WATER (ft)	FREE PRODUCT (ft)	GROUND WATER ELEVATION (ft)	TPH-G (8015)	B (8020/ 602)	T (8020/ 602)	E 8020/ 602)	X (8020/ 602)	ANALYTICAL LAB
RW-1	07/09/90	168.01	27.93	Sheen	---	---	---	---	---	---	---
RW-1	12/21/90		20.79	Sheen	147.22	---	---	---	---	---	---
	/ /										
MW-1	07/09/90	169.75	21.46	0.22	---	---	---	---	---	---	---
MW-1	12/21/90		22.72	0.58	---	---	---	---	---	---	---
	/ /										
MW-2	07/09/90	168.14	20.24	0.1	---	---	---	---	---	---	---
MW-2	12/21/90		21.46	0.48	---	---	---	---	---	---	---
	/ /										
MW-3	07/09/90	167.17	18.96	0.0	148.21	140	5.3	4.6	2.0	3.8	AI
MW-3	12/21/90		19.72	0.0	147.45	190	100	6.0	0.9	27	SAL
	/ /										
MW-4	07/09/90	170.36	21.30	0.0	149.06	ND<1	ND<5.0	ND<5.0	ND<5.0	ND<5.0	AI
MW-4	12/21/90		22.25	0.0	148.11	ND<50	ND<0.3	ND<0.3	ND<0.3	0.8	SAL
	/ /										
MW-5	07/09/90	165.14	17.97	0.0	147.17	280	200	210	46	290	AI
MW-5	12/21/90		18.93	0.0	146.21	690	300	34	8.4	39	SAL
	/ /										
MW-6	07/09/90	165.40	17.20	0.0	148.20	ND<1	ND<5.0	ND<5.0	ND<5.0	ND<5.0	AI
MW-6	12/21/90		17.88	0.0	147.52	--- *	---	---	---	---	---
MW-6	12/26/90		---	---	---	170	2.6	7.0	4.9	26	SAL
	/ /										
MW-7	07/09/90	167.60	19.70	0.0	147.92	ND<1	ND<5.0	ND<5.0	ND<5.0	ND<5.0	AI
MW-7	12/21/90		20.58	0.0	147.02	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	SAL

EXPLANATION TO ABBREVIATIONS:

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

B : Benzene (EPA method 8020)

T : Tolunen (EPA method 8020)

E : Ethylbenzene (EPA method 8020)

X : Xylenes (EPA method 8020)

TOC : Top of Casing Elevation

--- : Not analyzed

ND< : Not detected above reported detection limit.

NA : Not applicable

ft above msl : Feet above Mean Sea level

SAL : Superior Analytical Laboratory

AI : Anametrix Inc.

Source: U.S.G.S. Map, East Oakland, California Quadrangle

7.5 minute series. 1959. Photorvised 1980.

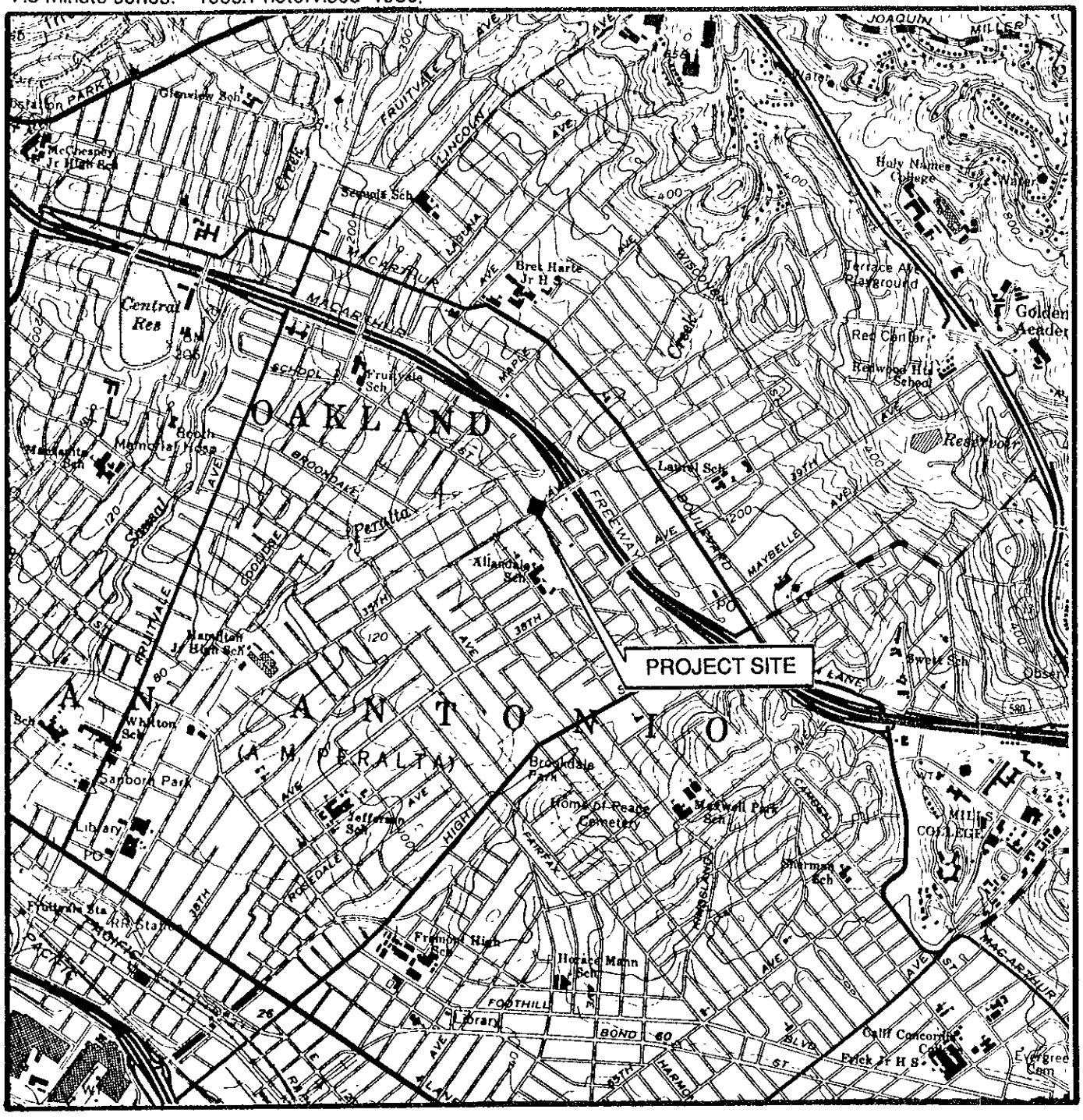


FIGURE 1

SITE VICINITY MAP

0 1000 2000

SCALE IN FEET

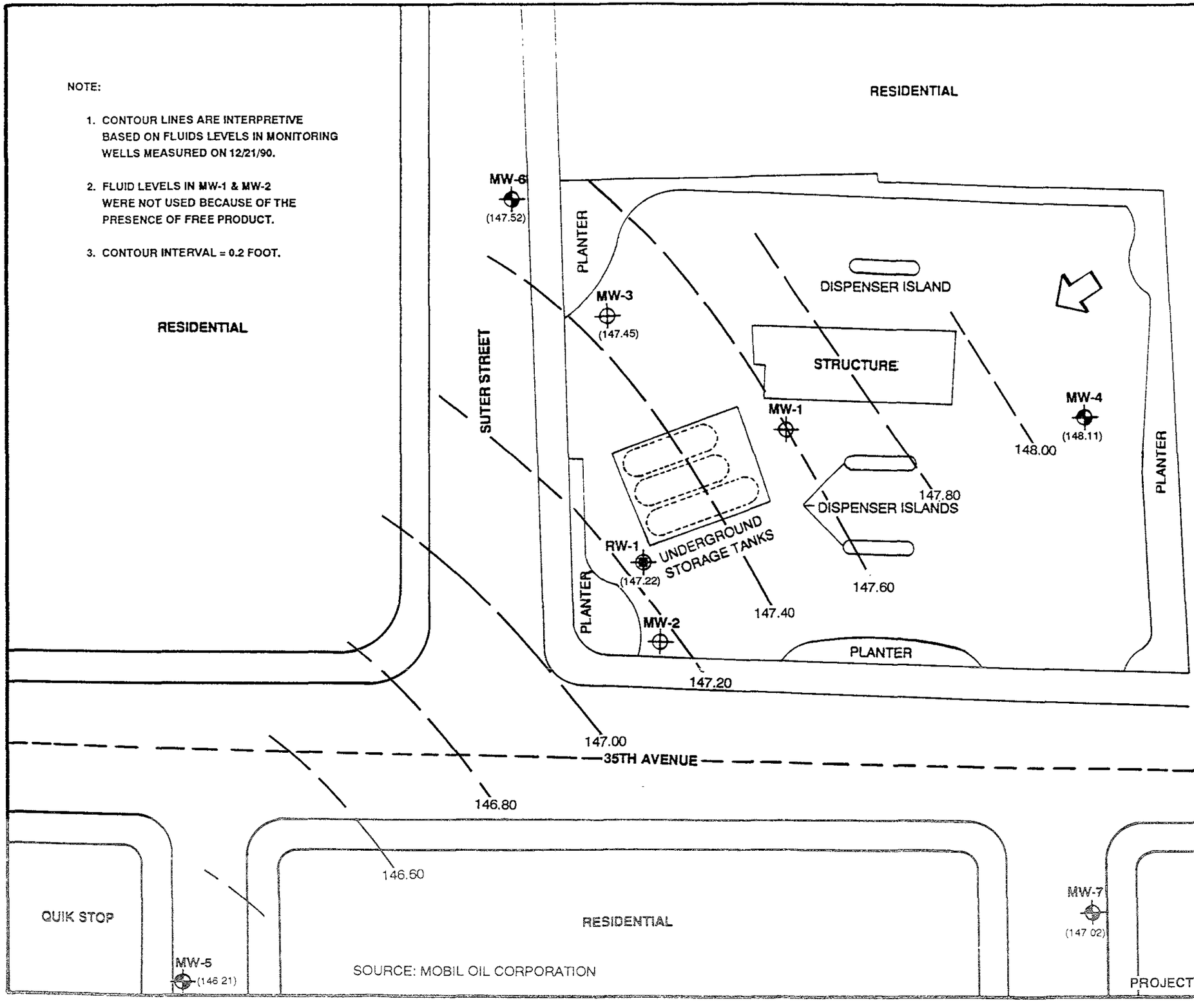
B P SERVICE STATION NO. 11132
3201 35TH AVENUE
OAKLAND, CALIFORNIA

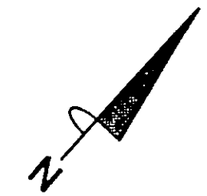
PROJECT NO. 30 - 081

ALTON GEOSCIENCE
1000 Burnett Ave., Ste 140
Concord, CA 94520

NOTE:

1. CONTOUR LINES ARE INTERPRETIVE BASED ON FLUIDS LEVELS IN MONITORING WELLS MEASURED ON 12/21/90.
2. FLUID LEVELS IN MW-1 & MW-2 WERE NOT USED BECAUSE OF THE PRESENCE OF FREE PRODUCT.
3. CONTOUR INTERVAL = 0.2 FOOT.





LEGEND:

- MONITORING WELLS INSTALLED BY ALTON GEOSCIENCE INC.
- MONITORING WELLS INSTALLED BY KAPREALIAN ENGINEERING INC.
- RECOVERY WELL INSTALLED BY ALTON GEOSCIENCE INC.
- (148.11) GROUND WATER ELEVATION.
- 148.00 GROUND WATER ELEVATION CONTOUR.
- GENERAL DIRECTION OF GROUND WATER FLOW.

FIGURE 2: GROUND WATER ELEVATION CONTOUR MAP

B P OIL COMPANY
SERVICE STATION NO. 11132
3201 35th AVENUE
OAKLAND, CALIFORNIA

ALTON GEOSCIENCE
1000 Burnett Ave., Ste. 140
Concord, CA 94520

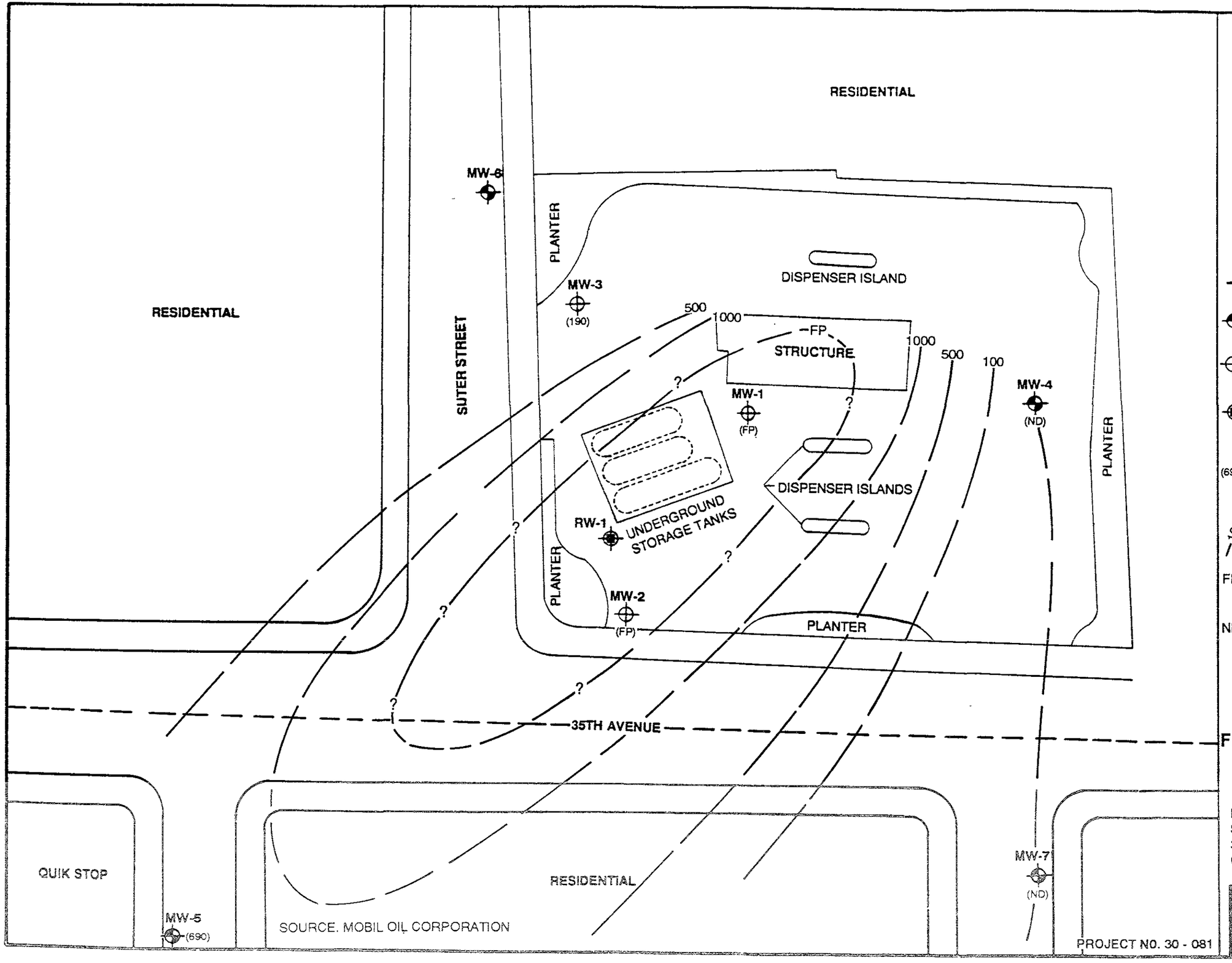


FIGURE 3: TPH - G ISOCONCENTRATION CONTOUR MAP

B P OIL COMPANY
SERVICE STATION NO. 11132
3201 35th AVENUE
OAKLAND, CALIFORNIA

ALTON GEOSCIENCE
1000 Burnett Ave., Ste. 140
Concord, CA 94520

ATTACHMENT A

WATER SAMPLING AND FIELD SURVEY FORMS

DAILY FIELD REPORT

JOB NAME: Quarterly Sampling BP Oakland	PROJECT NO.: 30-081	DATE: 12/26/90
LOCATION: 3201 35th Ave. Oakland, CA	WEATHER: Sunny	DAY: Wednesday
CONTRACTOR:	FOREMAN:	
FIELD TECHNICIAN: Tim Quane	INSPECTION/ TESTING OF Sampling MW-6	

SUMMARY OF OPERATIONS:

11 AM Attempted obtaining a water sample from MW-6 using a 2 foot (2-in. bailer) The bailer would stick in the casing at @ 15.6' from top of casing.

12:30 Returned to the warehouse and rigged together the pump w/ 1 inch hose and returned to BP site in Oakland.

The 1 inch hose worked.

1415 Obtained the samples from MW-6 and returned to Concord.

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

ALTON GEOSCIENCE, INC.
Water Sampling Field Survey

WELL # MW-1 PROJECT# 30-081 LOCATION BP - Oakland DATE 12/21/90

SAMPLING TEAM TQ SAMPLING METHOD: BAILER ✓ PUMP ___

DECONTAMINATION METHOD: TRIPLE RINSE W/TSP AND DEIONIZED WATER ✓
STEAM CLEAN ___

WELL DATA:

DEPTH TO WATER 22.72 ft

TOTAL DEPTH 34.80 ft

HT. WATER COL 12.08 ft

CONVERSION	
diam	gal/ft
(2) in	X0.16
3 in	X0.36
4 in	X0.65
6 in	X1.44

Free Product
Volume of Water Column ____ gal

Volumes to Purge X____ Vol

Total Volume to Purge ____ gal

CHEMICAL DATA:

T (F)	SC/umhos	pH	Time	Comments	Volume (gal)
				Free Product (did not sample)	

ACTUAL VOLUME PURGED /gal

COMMENTS:

ALTON GEOSCIENCE, INC.
Water Sampling Field Survey

WELL # MW-2 PROJECT# 30-081 LOCATION BP Oakland DATE 12/21/90

SAMPLING TEAM TQ SAMPLING METHOD: BAILER V PUMP ___

DECONTAMINATION METHOD: TRIPLE RINSE W/TSP AND DEIONIZED WATER V
STEAM CLEAN ___

WELL DATA:

DEPTH TO WATER 21.46 ft

TOTAL DEPTH 34.39 ft

HT. WATER COL 12.93 ft

CONVERSION	
diam	gal/ft
2 in	X0.16
3 in	X0.36
4 in	X0.65
6 in	X1.44

Volume of Water Column (Free product) ____ gal

Volumes to Purge X____ Vol

Total Volume to Purge ____ gal

CHEMICAL DATA:

T (F)	SC/umhos	pH	Time	Comments	Volume (gal)
				Free Product (did not sample)	

ACTUAL VOLUME PURGED /gal

COMMENTS:

ALTON GEOSCIENCE, INC.
Water Sampling Field Survey

WELL # MW-3 PROJECT# 30-081 LOCATION BP Oakland DATE 12/21/90

SAMPLING TEAM TQ SAMPLING METHOD: BAILER ✓ PUMP ___

DECONTAMINATION METHOD: TRIPLE RINSE W/TSP AND DEIONIZED WATER ✓
STEAM CLEAN ___

WELL DATA:

DEPTH TO WATER 19.72 ft

TOTAL DEPTH 34.52 ft

HT. WATER COL 14.80 ft

CONVERSION	
diam	gal/ft
(2) in	X0.16
3 in	X0.36
4 in	X0.65
6 in	X1.44

Volume of Water Column 2.4 gal

Volumes to Purge X 3 Vol

Total Volume to Purge 7 gal

CHEMICAL DATA:

T (F)	SC/umhos	pH	Time	Comments	Volume (gal)
52.9	5300	4.30	1650	clear No sheen	1
57.8	5770	4.17	1655	slightly silty	1
60.6	5940	4.14	1700	" "	1
60.9	5960	4.12	1705	" "	1
60.6	5920	4.12	1710		1
61.4	6120	4.11	1715		1
61.7	5980	4.11	1720		1
				ACTUAL VOLUME PURGED	≈7 /gal

COMMENTS:

ALTON GEOSCIENCE, INC.
Water Sampling Field Survey

WELL # MW-4 PROJECT# 30-081 LOCATION BP OAKLAND DATE 12/21/90

SAMPLING TEAM TQ SAMPLING METHOD: BAILER ✓ PUMP ___

DECONTAMINATION METHOD: TRIPLE RINSE W/TSP AND DEIONIZED WATER ✓
STEAM CLEAN ___

WELL DATA:

DEPTH TO WATER 22.25 ft

TOTAL DEPTH 38.83 ft

HT. WATER COL 16.58 ft

CONVERSION	
diam	gal/ft
2 in	X0.16
3 in	X0.36
4 in	X0.65
6 in	X1.44

Volume of Water Column 2.6 gal

Volumes to Purge X 3 Vol

Total Volume to Purge *8 gal

CHEMICAL DATA:

T (F)	SC/umhos	pH	Time	Comments	Volume (gal)
52.5	4180	4.49	1615	Silty No Sheen	1.2
58.3	4450	4.37	1620		1.2
59.3	4750	4.32	1625		1.2
59.6	4780	4.29	1630		1.2
60.6	4470	4.28	1635		1.2
60.6	4750	4.26	1640		1.2
59.8	4540	4.24	1645		1.2
				ACTUAL VOLUME PURGED =	8.4 /gal

COMMENTS:

ALTON GEOSCIENCE, INC.
Water Sampling Field Survey

WELL # MW-5 PROJECT# 30-081 LOCATION BP - Oakland DATE 12/21/90

SAMPLING TEAM TQ SAMPLING METHOD: BAILER ✓ PUMP ___

DECONTAMINATION METHOD: TRIPLE RINSE W/TSP AND DEIONIZED WATER ✓
STEAM CLEAN ___

WELL DATA:

DEPTH TO WATER 18.93 ft

TOTAL DEPTH 30.95 ft

HT. WATER COL 12.02 ft

CONVERSION	
diam	gal/ft
(2) in	X0.16
3 in	X0.36
4 in	X0.65
6 in	X1.44

Volume of Water Column 1.9 gal

Volumes to Purge X 3 Vol

Total Volume to Purge 5.8 gal

CHEMICAL DATA:

T (F)	SC/umhos	pH	Time	Comments	Volume (gal)
56.1	6260	5.15	1515	No Sheen - Silty	1
61.4	6780	4.62	1520		1
61.9	6900	4.49	1525		1
62.2	6980	4.40	1530		1
61.6	6880	4.35	1535		1
61.0	6930	4.30	1540		1
62.0	6970	4.26	1545		1
				ACTUAL VOLUME PURGED	≈ 7 /gal

COMMENTS:

ALTON GEOSCIENCE, INC.
Water Sampling Field Survey

WELL # MW-6 PROJECT# 30-091 LOCATION BP Oakland DATE 12/21/90

SAMPLING TEAM TQ SAMPLING METHOD: BAILER ✓ PUMP ___

DECONTAMINATION METHOD: TRIPLE RINSE W/TSP AND DEIONIZED WATER ✓
STEAM CLEAN ___

WELL DATA:

DEPTH TO WATER 7.88 ft

TOTAL DEPTH 34.51 ft

HT. WATER COL 16.63 ft

CONVERSION	
diam	gal/ft
(2) in	X0.16
3 in	X0.36
4 in	X0.65
6 in	X1.44

Volume of Water Column 2.66 gal

Volumes to Purge X 3 Vol

Total Volume to Purge 8 gal

CHEMICAL DATA:

T (F)	SC/umhos	pH	Time	Comments	Volume (gal)
			1300	Couldn't sample - bailer	1.2
			1305	gets stuck in CASING @	1.2
			1310	15.6' from TOC	1.2
			1315		1.2
			1320		1.2
			1325		1.2
			1330		1.2
				ACTUAL VOLUME PURGED	~8.4 /gal

Did not sample MW-6

COMMENTS: Couldn't get bailer down to ground water, bailer would stick in casing. Made an attempt w/ 4' & 2' bailers: Both get stuck @ 15.6' from T.O.C.

ALTON GEOSCIENCE, INC.
Water Sampling Field Survey

WELL # MW-6 PROJECT# 30-081 LOCATION BP Oakland DATE 12/26/90

SAMPLING TEAM Tim Quinn SAMPLING METHOD: BAILER ___ PUMP ✓

DECONTAMINATION METHOD: TRIPLE RINSE W/TSP AND DEIONIZED WATER ✓
STEAM CLEAN ___

WELL DATA:

DEPTH TO WATER — ft

TOTAL DEPTH — ft

HT. WATER COL — ft

CONVERSION	
diam	gal/ft
2 in	X0.16
3 in	X0.36
4 in	X0.65
6 in	X1.44

Volume of Water Column ____ gal

Volumes to Purge X____ Vol

Total Volume to Purge 10 gal *

CHEMICAL DATA:

T (F)	SC/umhos	pH	Time	Comments	Volume (gal)
62.4	4350	4.88	1330	Silty No Sheen	1.4
65.0	3550	5.01	1335		1.4
65.7	3760	4.90	1340		1.4
65.8	3380	4.87	1345		1.4
65.6	3560	4.84	1350		1.4
65.7	3620	4.80	1355		1.4
65.8	3600	4.79	1400		1.4
				ACTUAL VOLUME PURGED	~10 /gal

COMMENTS: Sampled this monitoring well using diaphram pump and 1" hose

* Did not record depth to water. Used measurements from 12/21/90.

ALTON GEOSCIENCE, INC.
Water Sampling Field Survey

WELL # MW-7 PROJECT# 30-081 LOCATION BP Oakland DATE 12/21/90

SAMPLING TEAM TQ SAMPLING METHOD: BAILER ✓ PUMP ___

DECONTAMINATION METHOD: TRIPLE RINSE W/TSP AND DEIONIZED WATER ✓
STEAM CLEAN ___

WELL DATA:

DEPTH TO WATER 20.58 ft

TOTAL DEPTH 34.48 ft

HT. WATER COL 13.90 ft

CONVERSION	
diam	gal/ft
(2) in	X0.16
3 in	X0.36
4 in	X0.65
6 in	X1.44

Volume of Water Column 2.2 gal

Volumes to Purge X 3 Vol

Total Volume to Purge 6.7 gal

CHEMICAL DATA:

T (F)	SC/umhos	pH	Time	Comments	Volume (gal)
52.5	6380	4.37	1540	Clear No Sheen	1
57.7	7200	4.25	1545	↓	1
58.5	6910	4.23	1550	Silty	1
59.1	7560	4.22	1555		1
57.9	7030	4.22	1600		1
59.3	6960	4.22	1605		1
58.2	7200	4.20	1610		1
				ACTUAL VOLUME PURGED	≈ 7 /gal

COMMENTS:

ALTON GEOSCIENCE, INC.
Water Sampling Field Survey

WELL # BW-1 PROJECT# 30-091 LOCATION BP-Oakland DATE 12/21/90

SAMPLING TEAM TQ SAMPLING METHOD: BAILER ✓ PUMP ___

DECONTAMINATION METHOD: TRIPLE RINSE W/TSP AND DEIONIZED WATER ✓
STEAM CLEAN ___

WELL DATA:

DEPTH TO WATER 20.79 ft

TOTAL DEPTH 38.36 ft

HT. WATER COL 17.57 ft

CONVERSION	
diam	gal/ft
2 in	X0.16
3 in	X0.36
4 in	X0.65
(6) in	X1.44

Volume of Water Column 25.3 gal

Volumes to Purge X 1 Vol

Total Volume to Purge ≈25 gal

CHEMICAL DATA:

T (F)	SC/umhos	pH	Time	Comments	Volume (gal)
29.1	7950	4.46	1800	Clear No Sheen	4
32.7	8650	4.13	1805		4
39.3	9120	4.03	1810		4
47.7	9480	3.99	1815	Silty Sheen	4
52.8	8760	3.95	1820		4
52.5	9750	3.94	1825		4
52.4	9500	3.94	1830		4
				ACTUAL VOLUME PURGED	28 /gal

COMMENTS: Air temp < 32°F

ATTACHMENT B

LABORATORY REPORTS AND

CHAIN OF CUSTODY DOCUMENTATION

SUPERIOR ANALYTICAL LABORATORIES, INC.
825 ARNOLD, STE. 114 • MARTINEZ, CALIFORNIA 94553 • (415) 229-1512
DOHS #319
DOHS #220

CERTIFICATE OF ANALYSIS

LABORATORY NO.: 82178
CLIENT: Alton Geoscience
CLIENT JOB NO.: 30-081

DATE RECEIVED: 12/27/90
DATE REPORTED: 01/09/91

ANALYSIS FOR BENZENE, TOLUENE, ETHYL BENZENE & XYLENES
by EPA SW-846 Methods 5030 and 8020

LAB #	Sample Identification	Concentration(ug/L) Benzene	Toluene	Ethyl Benzene	Xylenes
1	MW-3	100	6.0	0.9	27
2	MW-4	ND<0.3	ND<0.3	ND<0.3	0.8
3	MW-5	300	34	8.4	39
4	MW-6	2.6	7.0	4.9	26
5	MW-7	ND<0.3	ND<0.3	ND<0.3	ND<0.3

ug/L - parts per billion (ppb)

Method Detection Limit in Water: 0.3 ug/L

QAQC Summary:

Daily Standard run at 20ug/L: RPD = <15%
MS/MSD Average Recovery = 96%: Duplicate RPD = <8

Richard Srna, Ph.D.

Laboratory Manager

OUTSTANDING QUALITY AND SERVICE

SUPERIOR ANALYTICAL LABORATORIES, INC.
825 ARNOLD, STE. 114 • MARTINEZ, CALIFORNIA 94553 • (415) 229-1512
DOHS #319
DOHS #220

CERTIFICATE OF ANALYSIS

LABORATORY NO.: 82178
CLIENT: Alton Geoscience
CLIENT JOB NO.: 30-081

DATE RECEIVED: 12/27/90
DATE REPORTED: 01/09/91

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS
by Modified EPA SW-846 Method 5030 and 8015

LAB #	Sample Identification	Concentration (mg/L) Gasoline Range
1	MW-3	0.19
2	MW-4	ND<0.05
3	MW-5	0.69
4	MW-6	0.17
5	MW-7	ND<0.05

mg/L - parts per million (ppm)

Method Detection Limit for Gasoline in Water: 0.05 mg/L

QAQC Summary:

Daily Standard run at 2mg/L: RPD Gasoline = <15
MS/MSD Average Recovery = 78%: Duplicate RPD = 3

Richard Srna, Ph.D.

Laboratory Manager

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

CHAIN of CUSTODY RECORD

PAGE 1 of 1

DATE: 12/27/90

RESULTS DUE BY:

PROJECT NUMBER: 30-081

PROJECT NAME AND ADDRESS: BP O.I Quarterly Sampling 3291 35th Ave, Oakland, Ca

PROJECT MANAGER: Matt Hopwood

SAMPLER'S SIGNATURE:

LABORATORY: Superior

REMARKS OR SPECIAL INSTRUCTIONS:

NOTE: PLEASE INDICATE VERBAL REQUESTS FOR ADDITIONAL ANALYSES IN THIS BOX.

SAMPLE NUMBER	SAMPLE DATE/TIME	LOCATION/ DESCRIPTION	SAMPLE MATERIAL	SAMPLE TYPE: GRAB	SAMPLE TYPE: COMP.	NUMBER OF CONTAINERS	SAMPLE PREP. 3510: SOLV. EXTR.	SAMPLE PREP. 3810: HEAD SPACE	SAMPLE PREP. 5030: PURGE & TRAP	SOIL ANALYSIS TPH's / BTEX	SOIL ANALYSIS 418.1: TPHC (IR)	SOIL ANALYSIS 8010: HALOCARBONS	SOIL ANALYSIS 8020: BTXE	SOIL ANALYSIS DHS METHOD: TPHC (GC)	SOIL ANALYSIS 7420: TOTAL Pb	WATER ANALYSIS 418.1: TPHC (IR)	WATER ANALYSIS 601: HALOCARBONS	WATER ANALYSIS 602: BTXE	WATER ANALYSIS DHS METHOD: TPHC (GC)	WATER ANALYSIS 7421: TOTAL Pb
MW-3	12/21/90 1800	MW-3	WATER	X		3				X										
MW-4	12/21/90 1800	MW-4				3				X										
MW-5	12/21/90 1230	MW-5				3				X										
MW-6	12/26/90 1415	MW-6				3				X										
MW-7	12/21/90 1715	MW-7				3				X										
						TOTAL NO. OF CONTAINERS:	15													

RELINQUISHED BY:	RECEIVED BY:	DATE/TIME:	METHOD OF SHIPMENT:
	Federal Express - IT	12/27 0936	
RELINQUISHED BY:	RECEIVED BY:	DATE/TIME:	SHIPPED BY:
RELINQUISHED BY:	RECEIVED BY:	DATE/TIME:	COURIER:

DAILY FIELD REPORT

JOB NAME: QUARTERLY Sampling BP OAKLAND	PROJECT NO.: 30-081	DATE: 12/21/90
LOCATION: 3201 35th Ave Oakland	WEATHER: Sunny/cool	DAY: Friday
CONTRACTOR:	FOREMAN:	
FIELD TECHNICIAN: Tim Q.	INSPECTION/ TESTING OF: QUARTERLY Monitoring	

SUMMARY OF OPERATIONS: 1130 Arrived at site.

Obtained depth to water measurements from each monitoring well.

Free product in MW-1/MW-2

Began purging wells - Started w/mw-6*, MW-5, MW-7, MN-4

1720 Completed purge of wells

1900 Completed sampling MW's -

Bailed @ 3 gallons from mw-2 (of dissolved product)

Bailed @ 5 gallons from MW-1 (dissolved product)

2000 Left for Concord

15.6

Notes: Cut the lock on MW-3 (it wouldn't open)

MW-5: Christy box full of H_2O

* Couldn't get bailer to groundwater because it would stick in casing - Did not sample MW-6. Tried 2 bailers - both stuck.

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