HAZMAT

94 SEP 29 AM 9:29

BP OIL

BP Oil Company
Environmental Resources Management
Building 13, Suite N
295 SW 41st Street
Renton, Washington 98055-4931
(206) 251-0667

75 hung to get QMR

September 26, 1994

Alameda County Health Care Services Agency
Division of Hazardous Materials
Attention Ms. Juliet Shin
80 Swan Way, Room 200
Oakland, CA 94621

(1) Do MTBE annually. It was detected in RW-1 (390 ppb), MW-(224ppb) and MW-2 (23 ppb) on June 8, 1993

(2) RW-1 well log missing

RE: **BP Oil Site No. 11266**
1541 Park Street
Alameda, CA

Dear Ms. Shin:

Attached please find a report entitled <u>Groundwater Monitoring and Sampling Report</u>, dated September 2, 1994. This report describes a recent groundwater monitoring event that took place on July 7, 1994.

In response to the concern that you raised in your July 20, 1994 letter, please note that the reported concentrations from monitoring well MW-1 now appear to be more consistent with the aggregate trend, which has historically trended downward in all wells with the exception of recovery well RW-1, where concentrations have generally increased. Your letter expressed the concern that the May 3, 1994 analytical results from MW-1 showed an extreme or substantial rise in concentrations, and also expressed an interest in hearing an explanation for hearing an explanation for such behavior from an experienced, certified consultant.

BP believes that the May 3, 1994 result represents an isolated occurrence, and that a definitive explanation or conclusion can not be offered given the information available. BP also believes that it is not appropriate to offer speculation to the County given the data available. I should point out, however, that we routinely observe order-of-magnitude fluctuations in groundwater concentration data associated with our monitoring activities.

Might it be a continuous ~~source~~ or new source?

By copy of this letter to Alisto Engineering Group, please confirm that Ms. Shin is being copied on monthly discharge reports to the local sanitary sewer authority.

Please give me a call in the event you wish to discuss this matter further. I can be reached at (206) 251-0689.

Sincerely,

Scott T. Hooton
Environmental Resources Management

attachment

cc: site file
P. Beaver - Alisto
B. Nagle - Alisto
Mr. E. So - CRWQCB - SFBR, 2101 Webster Street, STE 500, Oakland, CA 94612 (w/attachment)

GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11266
1541 Park Street
Alameda, California

Project No. 10-050-04-001

Prepared for:

BP Oil Company
Environmental Resources Management
295 S.W. 41st Street
Building 13, Suite N
Renton, Washington

Prepared by:

Alisto Engineering Group
1777 Oakland Boulevard, Suite 200
Walnut Creek, California

September 2, 1994

William Howell
Project Manager

Daniel Salaices
Registered Geologist

REGISTERED GEOLOGIST
DANIEL J.
SALAICES
No. 5162
STATE OF CALIFORNIA

GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11266
1541 Park Street
Alameda, California

Project No. 10-050-04-001

September 2, 1994

INTRODUCTION

This report presents the results and findings of the July 7, 1994 groundwater monitoring and sampling conducted by Alisto Engineering Group at BP Oil Company Service Station No. 11266, 1541 Park Street, Alameda, California. A site vicinity map is shown in Figure 1.

FIELD PROCEDURES

Field activities were performed in accordance with the procedures and guidelines of the Alameda County Health Care Services Agency and the California Regional Water Quality Control Board, San Francisco Bay Region.

Before purging and sampling, the groundwater level in each well was measured from a permanent mark on top of the casing to the nearest 0.01 foot using an electronic sounder. The depth to groundwater and top of casing elevation data were used to calculate the groundwater elevation in each well in reference to mean sea level. The survey data and groundwater elevation measurements collected to date are presented in Table 1.

Before sample collection, each well was purged of 3 casing volumes, while recording field readings of pH, temperature, and electrical conductivity. Groundwater samples were collected for laboratory analysis by lowering a bottom-fill, disposable bailer to just below the water level in the well. The samples were transferred from the bailer into laboratory-supplied containers. The water sampling field survey forms are presented in Appendix A.

SAMPLING AND ANALYTICAL RESULTS

The results of monitoring and laboratory analysis of the groundwater samples for this and previous quarters are summarized in Table 1. The potentiometric groundwater elevations as interpreted from the results of this monitoring event are shown in Figure 2. The results of groundwater analysis are shown in Figure 3. The laboratory report and chain of custody record are presented in Appendix B.

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
BP OIL COMPANY SERVICE STATION NO. 11266
1541 PARK STREET, ALAMEDA, CALIFORNIA

ALISTO PROJECT NO. 10-050

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	DO (ppm)	LAB
MW-1	03/04/88	19.19	---	---	95000	2000	5900	1100	10000	---	---
MW-1	03/29/89	19.19	---	---	25000	930	2600	24	3100	---	---
MW-1	11/28/89	19.19	---	---	15000	280	880	340	1200	---	---
MW-1	02/13/91	19.19	---	---	25000	680	2700	1100	3200	---	---
MW-1	01/08/92	19.19	---	---	10000	260	1100	570	2000	---	---
MW-1	03/30/92	19.19	8.15	11.04	5800	290	570	500	1100	---	PACE
MW-1	07/02/92	19.19	9.38	9.81	2500	170	60	310	300	---	ANA
MW-1	07/22/92	19.19	9.62	9.57	---	---	---	---	---	---	---
MW-1	10/02/92	19.19	9.98	9.21	4000	86	190	270	350	---	ANA
QC-1 (c)	10/02/92	---	---	---	3600	89	180	270	340	---	ANA
MW-1	12/14/92	19.19	9.90	9.29	6800	75	540	200	670	---	ANA
QC-1 (c)	12/14/92	---	---	---	5900	68	480	190	600	---	ANA
MW-1	03/24/93	19.19	8.52	10.67	6400	150	310	370	710	---	PACE
MW-1	06/17/93	19.19	9.37	9.82	3800	110	160	310	480	---	PACE
MW-1	09/29/93	19.19	10.80	8.39	1100	22	16	54	110	---	PACE
MW-1	12/28/93	19.19	9.27	9.92	1800	26	110	77	300	---	PACE
MW-1	03/29/94	19.19	8.77	10.42	22000	990	560	970	2000	3.1	PACE
MW-1	07/07/94	19.19	9.18	10.01	18000	67	32	250	140	---	PACE
MW-2	03/04/88	19.32	---	---	ND	ND	ND	ND	ND	---	---
MW-2	03/29/89	19.32	---	---	ND	1.1	0.78	ND	1.7	---	---
MW-2	11/28/89	19.32	---	---	170	ND	ND	ND	ND	---	---
MW-2	02/13/91	19.32	---	---	150	1.4	ND	ND	0.9	---	---
MW-2	01/08/92	19.32	---	---	ND	1.4	ND	ND	1.1	---	---
MW-2	03/30/92	19.32	9.03	10.29	91	0.7	ND	ND	ND	---	PACE
MW-2	07/02/92	19.32	9.96	9.36	150	3.1	0.6	0.6	1.1	---	ANA
MW-2	07/22/92	19.32	10.12	9.20	---	---	---	---	---	---	---
MW-2	10/02/92	19.32	10.42	8.90	56	ND<0.5	0.8	0.8	1.2	---	ANA
MW-2	12/14/92	19.32	10.77	8.55	210	1.5	ND<0.5	0.9	2.7	---	ANA
MW-2	03/24/93	19.32	9.33	9.99	94	0.8	ND<0.5	ND<0.5	0.9	---	PACE
QC-1 (c)	03/24/93	---	---	---	150	1.8	0.6	1.3	1.3	---	PACE
MW-2	06/17/93	19.32	9.91	9.41	ND<50	ND<0.5	ND<0.5	ND<0.5	0.7	---	PACE
MW-2	09/29/93	19.32	11.39	7.93	68	ND<0.5	0.9	0.7	1.9	---	PACE
MW-2	12/28/93	19.32	9.75	9.57	260	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
QC-1 (c)	12/28/93	---	---	---	240	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
MW-2	03/29/94	19.32	9.39	9.93	150	ND<0.5	ND<0.5	ND<0.5	ND<0.5	4.9	PACE
QC-1 (c)	03/29/94	---	---	---	140	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
MW-2	07/07/94	19.32	9.68	9.64	1100	0.6	1.7	0.6	3.2	---	PACE

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1541 PARK STREET, ALAMEDA, CALIFORNIA

ALISTO PROJECT NO. 10-050

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	DO (ppm)	LAB
MW-3	03/04/88	19.99	---	---	ND	ND	ND	ND	ND	---	---
MW-3	03/29/89	19.99	---	---	ND	ND	ND	ND	ND	---	---
MW-3	11/28/89	19.99	---	---	ND	ND	ND	ND	ND	---	---
MW-3	02/13/91	19.99	---	---	ND	ND	ND	ND	ND	---	---
MW-3	01/08/92	19.99	---	---	ND	ND	ND	ND	ND	---	---
MW-3	03/30/92	19.99	9.71	10.28	ND	ND	ND	ND	ND	---	PACE
MW-3	07/02/92	19.99	10.52	9.47	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	ANA
MW-3	07/22/92	19.99	10.62	9.37	---	---	---	---	---	---	---
MW-3	10/02/92	19.99	10.86	9.13	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	ANA
MW-3	12/14/92	19.99	10.53	9.46	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	ANA
MW-3	03/24/93	19.99	9.06	10.93	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
MW-3	06/17/93	19.99	10.44	9.55	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
MW-3	09/29/93	19.99	11.06	8.93	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
MW-3	12/28/93	19.99	9.43	10.56	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
MW-3	03/29/94	19.99	10.01	9.98	---	---	---	---	ND<0.5	---	---
MW-3	07/07/94	19.99	10.14	9.85	ND<50	ND<0.5	0.7	ND<0.5	ND<0.5	---	PACE
QC-1 (c)	07/07/94	---	---	---	ND<50	ND<0.5	0.7	ND<0.5	ND<0.5	---	PACE
MW-4	03/04/88	20.17	---	---	ND	ND	ND	ND	ND	---	---
MW-4	03/29/89	20.17	---	---	ND	ND	ND	ND	ND	---	---
MW-4	11/28/89	20.17	---	---	430	6.2	0.6	12	3.3	---	---
MW-4	02/13/91	20.17	---	---	ND	ND	ND	ND	ND	---	---
MW-4	01/08/92	20.17	---	---	ND	ND	ND	ND	ND	---	---
MW-4	03/30/92	20.17	8.73	11.44	ND	ND	ND	ND	ND	---	PACE
MW-4	07/02/92	20.17	10.04	10.13	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	ANA
MW-4	07/22/92	20.17	10.26	9.91	---	---	---	---	---	---	---
MW-4	10/02/92	20.17	10.63	9.54	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	ANA
MW-4	12/14/92	20.17	10.02	10.15	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	ANA
MW-4	03/24/93	20.17	9.08	11.09	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
MW-4	06/17/93	20.17	10.03	10.14	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
MW-4	09/29/93	20.17	10.96	9.21	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
MW-4	12/28/93	20.17	9.33	10.84	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
MW-4	03/29/94	20.17	9.42	10.75	---	---	---	---	---	---	---
MW-4	07/07/94	20.17	9.82	10.35	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE

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MW-5	03/04/88	19.41	---	---	ND	ND	ND	ND	ND	---	---
MW-5	03/29/89	19.41	---	---	ND	ND	ND	ND	ND	---	---
MW-5	11/28/89	19.41	---	---	ND	ND	ND	ND	ND	---	---
MW-5	02/13/91	19.41	---	---	ND	ND	ND	ND	ND	---	---
MW-5	01/08/92	19.41	---	---	ND	ND	ND	ND	ND	---	---
MW-5	03/30/92	19.41	7.85	11.56	ND	ND	ND	ND	ND	---	PACE
MW-5	07/02/92	19.41	9.27	10.14	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	ANA
MW-5	07/22/92	19.41	9.55	9.86	---	---	---	---	---	---	---
MW-5	10/02/92	19.41	9.97	9.44	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	ANA
MW-5	12/14/92	19.41	9.14	10.27	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	ANA
MW-5	03/24/93	19.41	8.17	11.24	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
MW-5	06/17/93	19.41	8.29	11.12	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
QC-1 (c)	06/17/93	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
MW-5	09/29/93	19.41	10.31	9.10	ND<50	ND<0.5	ND<0.5	ND<0.5	0.6	---	PACE
MW-5	12/28/93	19.41	8.91	10.50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
MW-5	03/29/94	19.41	8.50	10.91	---	---	---	---	---	---	---
MW-5	07/07/94	19.41	8.99	10.42	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
MW-6	03/04/88	19.40	---	---	ND	ND	ND	ND	ND	---	---
MW-6	03/29/89	19.40	---	---	ND	ND	ND	ND	ND	---	---
MW-6	11/28/89	19.40	---	---	ND	ND	ND	ND	ND	---	---
MW-6	02/13/91	19.40	---	---	ND	ND	ND	ND	ND	---	---
MW-6	01/08/92	19.40	---	---	ND	ND	ND	ND	ND	---	---
MW-6	03/30/92	19.40	8.86	10.54	ND	ND	ND	ND	ND	---	PACE
MW-6	07/02/92	19.40	9.94	9.46	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	ANA
MW-6	07/22/92	19.40	10.10	9.30	---	---	---	---	---	---	---
MW-6	10/02/92	19.40	10.48	8.92	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	ANA
MW-6	12/14/92	19.40	10.76	8.64	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	ANA
MW-6	03/24/93	19.40	9.19	10.21	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
MW-6	06/17/93	19.40	9.91	9.49	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
MW-6	09/29/93	19.40	11.49	7.91	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
MW-6	12/28/93	19.40	9.88	9.52	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
MW-6	03/29/94	19.40	9.36	10.04	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	5.0	PACE
MW-6	07/07/94	19.40	9.75	9.65	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
BP OIL COMPANY SERVICE STATION NO. 11266
1541 PARK STREET, ALAMEDA, CALIFORNIA

ALISTO PROJECT NO. 10-050

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	DO (ppm)	LAB
RW-1	07/22/92	---	9.66	---	13000	1000	3400	380	2800	---	ANA
RW-1	10/02/92	---	10.28	---	---	---	---	---	---	---	---
RW-1	12/14/92	---	23.28	---	---	---	---	---	---	---	---
RW-1	03/24/93	---	8.93	---	660	21	25	8.3	100	---	PACE
RW-1	06/17/93	---	9.66	---	890	13	1.0	15	100	---	PACE
RW-1	09/29/93	19.27	23.40	-4.13	1200	26	27	11	150	---	PACE
QC-1 (c)	09/29/93	---	---	---	1200	26	28	11	160	---	PACE
RW-1	12/28/93	19.27	9.76	9.51	3500	300	220	180	480	---	PACE
RW-1	03/29/94	19.27	8.93	10.34	12000	640	1700	450	2200	6.3	PACE
RW-1	07/07/94	19.27	9.45	9.82	7600	530	1100	380	1800	---	PACE
QC-2 (d)	10/02/92	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	ANA
QC-2 (d)	12/14/92	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	ANA
QC-2 (d)	03/24/93	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
QC-2 (d)	06/17/93	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
QC-2 (d)	09/29/93	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
QC-2 (d)	12/28/93	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
QC-2 (d)	03/29/94	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
QC-2 (d)	07/07/94	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE

ABBREVIATIONS:

TPH-G	Total petroleum hydrocarbons as gasoline
B	Benzene
T	Toluene
E	Ethylbenzene
X	Total xylenes
DO	Dissolved Oxygen
ppb	Parts per billion
ppm	Parts per million
---	Not measured/available/analyzed
ND	Not detected above reported detection limit
PACE	Pace, Inc.
ANA	Anametrix, Inc.

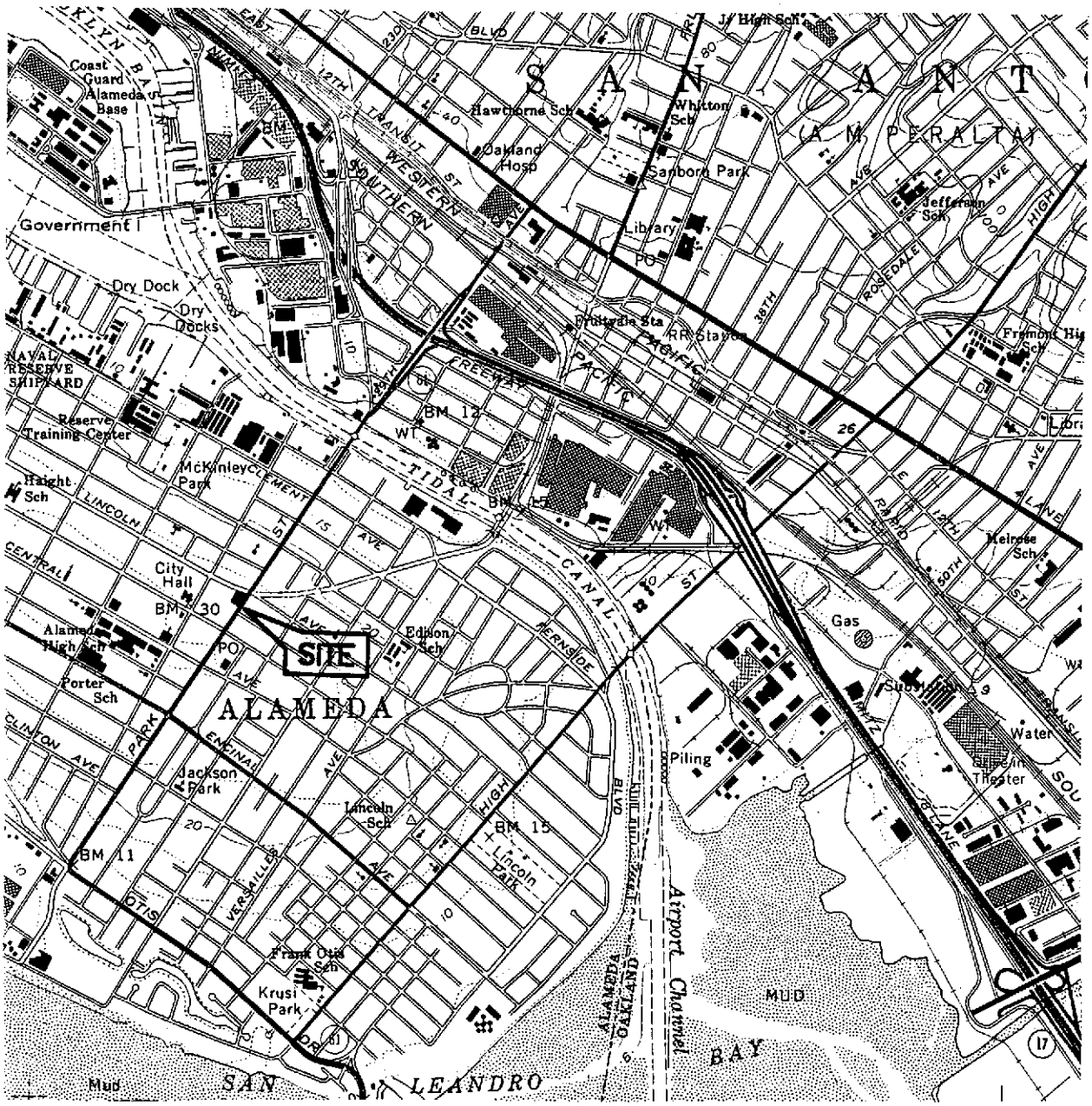
NOTES:

(a) Casing elevations surveyed to nearest 0.01 foot above mean sea level, with an assigned elevation of 22.82 feet (City datum).

(b) Groundwater elevations in feet above mean sea level.

(c) Blind duplicate.

(d) Travel blank.



SOURCE:
USGS MAP, OAKLAND EAST QUADRANGLE, CALIFORNIA. 7.5 MINUTE SERIES. 1959. PHOTOREVISED 1980.

N

0 1000' 2000'

FIGURE 1

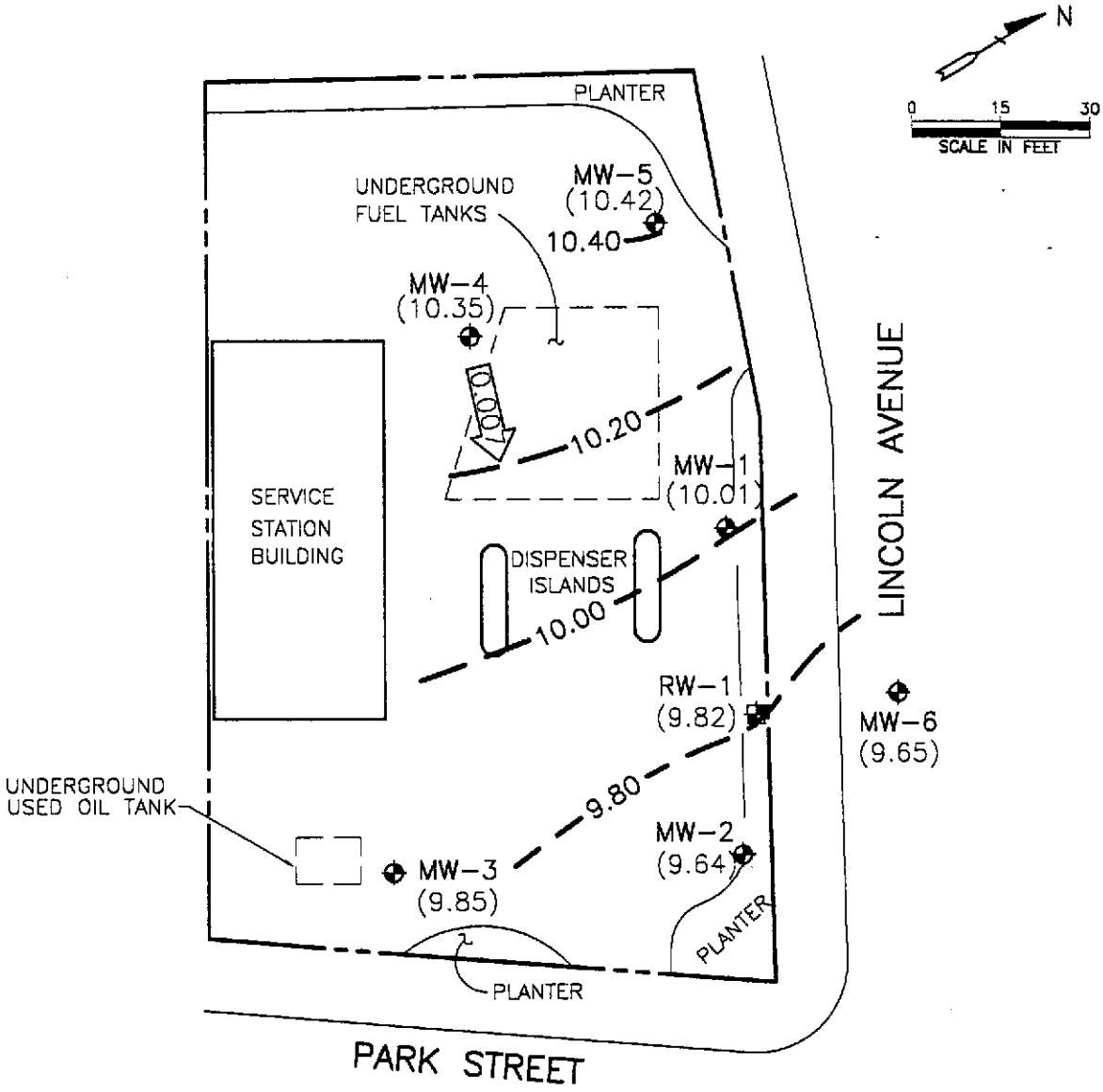
SITE VICINITY MAP

BP OIL SERVICE STATION NO. 11266
1541 PARK STREET
ALAMEDA, CALIFORNIA

PROJECT NO. 10-050

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10050B—DWG 8-4-93 KH 1=1



LEGEND

- ◆ GROUNDWATER MONITORING WELL
- ■ GROUNDWATER RECOVERY WELL
- (9.64) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 9.80 GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL–0.20 FOOT)
- 0.007 CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 2

POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP

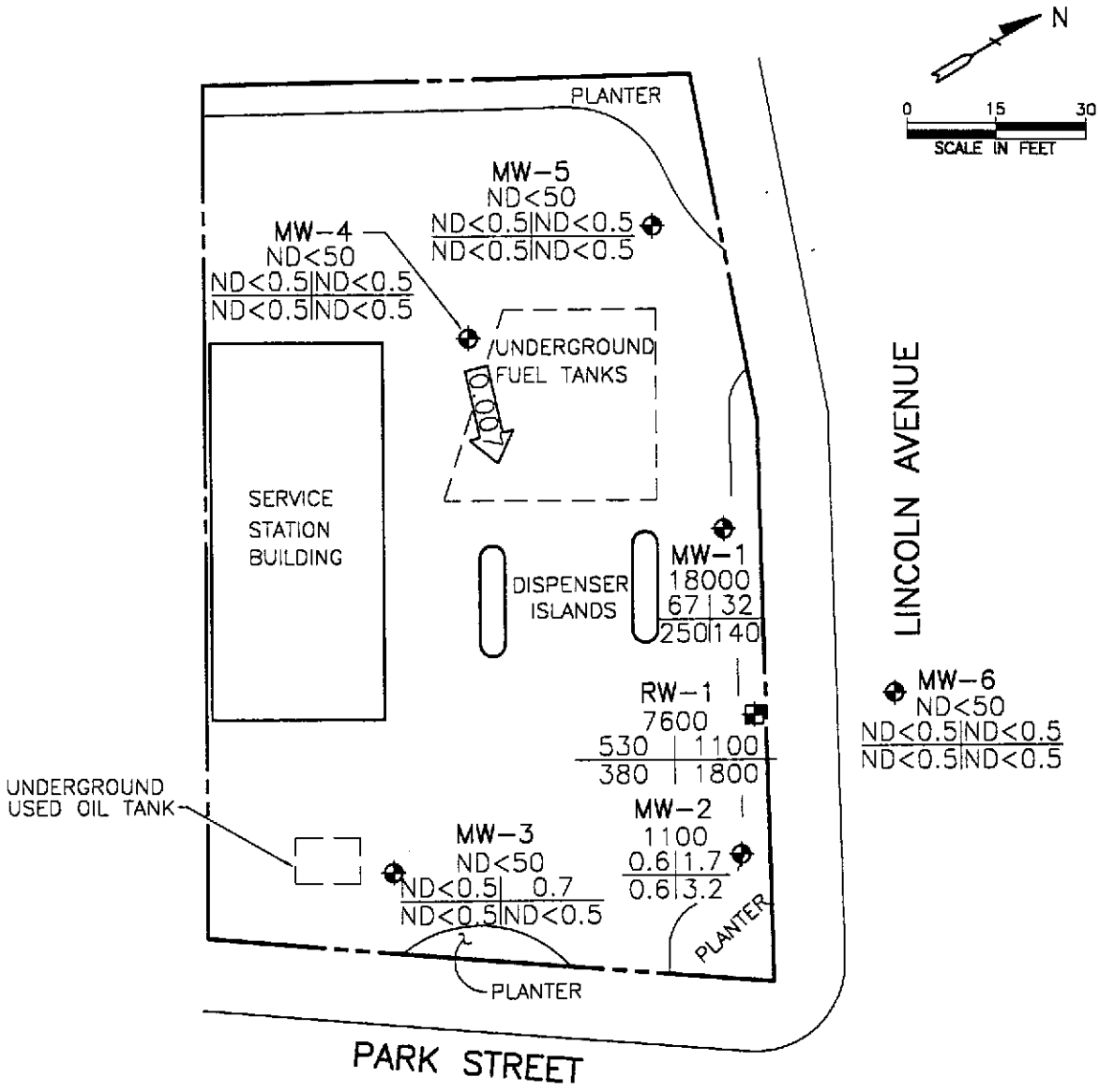
JULY 7, 1994

BP OIL SERVICE STATION NO. 11266
1541 PARK STREET
ALAMEDA, CALIFORNIA

PROJECT NO. 10–050

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10050D-K.DWG 8-10-94 RKW 1=30



LEGEND

⊕	GROUNDWATER MONITORING WELL
■	GROUNDWATER RECOVERY WELL
TPH-G / B | T / E | X	CONCENTRATION OF CONSTITUENTS IN PARTS PER BILLION
TPH-G	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
B	BENZENE
T	TOLUENE
E	ETHYLBENZENE
X	TOTAL XYLENES
ND	NOT DETECTED ABOVE REPORTED DETECTION LIMIT
◁ 0.007	CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 3

CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER

JULY 7, 1994

BP OIL SERVICE STATION NO. 11266
1541 PARK STREET
ALAMEDA, CALIFORNIA

PROJECT NO. 10-050

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10050E-K.DWG 8-10-94 RKW 1=30

APPENDIX A

WATER SAMPLING FIELD SURVEY FORMS

ALISTO

ENGINEERING GROUP

1777 OAKLAND BLVD, STE 200

WALNUT CREEK CA 94596 (510) 295-1650 FAX 295-1823

Field Report / Sampling Data Sheet

O Groundwater Sampling

Date: 7-7-94 Project No. 10-050-04-001

Day: M T W (h) F Station No. BP11266

Barometric pres. 30.05 in Hg. Temp. 75°F Address 1541 PARK ST.

SAMPLER: DJ Bird ALAMEDA

Well ID	SAMPLE #	WATER, time	Well ID	SAMPLE #	WATER/ time	Well ID	SAMPLE	WATER / time
MW-1	S-6	9.19 / 1220	MW-4	S-2	9.82' / 1206	RW-1	S-4	9.45' / 1212
MW-2	S-5	9.68' / 1215	MW-5	S-1	8.99' / 1200			
MW-3	S-7, S-8	10.14' /	MW-6	S-3	9.75 / 1210			

Well ID	Depth to Water	Diam	Cap/Lock	Depth to prod.	Iridescence
MW-5	8.99'	2"	OR	none	Y (N)

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.

19.92' - 8.99' = 10.93 x .16 = 1.7 x 3 = 5.2

Purge Method: Surface Pump Disp.Tube OWinch ODisp. Bailer(s) OSys Port

Comments:

Gal.	Time	Temp °F	pH	E.C.	D.O.
2	1240	72.7	6.99	790	
4	1243	72.3	6.99	757	
6	1247	72.1	6.97	751	

O EPA 601 ____
X TPH-G/BTEX HCl
O TPH Diesel ____
O TOG 5520 ____
Time/Sample 1247 / S-1

Well ID	Depth to Water	Diam	Cap/Lock	Depth to prod.	Iridescence
MW-4	9.82'	2"	OR	none	Y (N)

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.

19.59 - 9.82' = 9.77 x .16 = 1.5 x 3 = 4.6

Purge Method: Surface Pump Disp.Tube OWinch ODisp. Bailer(s) OSys Port

Comments:

Gal.	Time	Temp °F	pH	E.C.	D.O.
2	1310	72.1	6.99	350	
4	1315	70.7	6.94	339	
6	1319	70.9	6.93	338	

O EPA 601 ____
X TPH-G/BTEX HCl
O TPH Diesel ____
O TOG 5520 ____
Time/Sample 1319 / S-2

Well ID	Depth to Water	Diam	Cap/Lock	Depth to prod.	Iridescence
MW-6	9.75	2"	OR	none	Y (N)

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.

24.24 - 9.75 = 14.49 x .16 = 2.3 x 3 = 6.9

Purge Method: Surface Pump Disp.Tube OWinch ODisp. Bailer(s) OSys Port

Comments:

Gal.	Time	Temp °F	pH	E.C.	D.O.
2	1337	71.7	6.80	319	
4	1343	70.4	6.81	322	
7	1345	70.1	6.81	325	

O EPA 601 ____
X TPH-G/BTEX ____
O TPH Diesel ____
O TOG 5520 ____
Time/ Sample 1345 / S-3

Well ID	Depth to Water	Diam	Cap/Lock	Depth to prod.	Iridescence
RW-1	9.45	6"	OR	none	Y (N)

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.

29.54 - 9.45 = 20.09 x 1.47 = 29.5 x 3 = 88.5

Purge Method: Surface Pump Disp.Tube OWinch ODisp. Bailer(s) OSys Port

Comments:

Gal.	Time	Temp °F	pH	E.C.	D.O.
15	1409	68.4	7.17	2830	
35	1420	68.1	7.14	2910	
50	1430	68.2	7.19	2920	

O EPA 601 ____
X TPH-G/BTEX HCl
O TPH Diesel ____
O TOG 5520 ____
Time /Sample 1430 / S-4

ALISTO

Field Report / Sampling Data Sheet

ENGINEERING
GROUP
1777 OAKLAND BLVD, STE 200
WALNUT CREEK CA 94596 (510) 295-1650 FAX 295-1823

O Groundwater Sampling

Date: 7-7-94 Project No. 10-050-04-001
Day: M T W (Th) F Station No. BP11266
Address 1541 PARK ST.
SAMPLER: DJTSmith ALAMEDA

Well ID: MW-2 | Depth to Water: 9.68 | Diam: 2" | Cap/Lock: ok/NO | Depth to prod.: none | Iridescence: Y (N)
Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
21.88 - 9.68 = 12.2 x .16 x 3 = 5.8 gal
Purge Method: (Surface Pump) ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port
Comments:

Gal.	Time	Temp *F	pH	E.C.	D.O.
2	1450	69.7	6.81	290	
4	1455	68.5	6.86	293	
6	1459	68.6	6.87	295	

O EPA 601___
(X) TPH-G/BTEX H+O
O TPH Diesel___
O TOG 5520 __
Time/ Sample
5-5/1459

Well ID: MW-1 | Depth to Water: 9.18 | Diam: 2" | Cap/Lock: ok | Depth to prod.: none | Iridescence: Y (N)
Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
21.88 - 9.18 x .16 x 3 = 6.0
Purge Method: (Surface Pump) ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port
Comments:

Gal.	Time	Temp *F	pH	E.C.	D.O.
2	1513	69.1	6.75	209	
4	1516	69.2	6.77	275	
6	1520	68.9	6.77	278	

O EPA 601___
(X) TPH-G/BTEX H+O
O TPH Diesel___
O TOG 5520 __
Time/ Sample
1520/5-6

Well ID: MW-3 | Depth to Water: 10.14 | Diam: 2" | Cap/Lock: ok | Depth to prod.: none | Iridescence: Y (N)
Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
19.59 - 10.14 = 9.45 x .16 = 1.51 x 3 = 4.5
Purge Method: (Surface Pump) ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port
Comments: Duplicate From MW-3

Gal.	Time	Temp *F	pH	E.C.	D.O.
1	1544	69.2	6.71	291	
3	1547	68.6	6.77	295	
5	1549	68.7	6.72	296	

O EPA 601___
(X) TPH-G/BTEX H+O
O TPH Diesel___
O TOG 5520 __
Time/ Sample
5-7,8/1549,1555

5-9 trip blank.

APPENDIX B

LABORATORY REPORT AND CHAIN OF CUSTODY RECORD

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

Alisto Engineering Group
1777 Oakland Blvd., Ste. 200
Walnut Creek, CA 94596

July 18, 1994
PACE Project Number: 440708511

Attn: Mr. Bill Howell

Client Reference: BP Site #11266/ 10-050-04-001

PACE Sample Number:			70 0352851	
Date Collected:			07/07/94	
Date Received:			07/08/94	
Client Sample ID:			S-1 1245	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/12/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	07/12/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	07/12/94
Benzene	ug/L	0.5	ND	07/12/94
Toluene	ug/L	0.5	ND	07/12/94
Ethylbenzene	ug/L	0.5	ND	07/12/94
Xylenes, Total	ug/L	0.5	ND	07/12/94

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FAX: 415-883-2673

REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
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July 18, 1994
PACE Project Number: 440708511

Client Reference: BP Site #11266/ 10-050-04-001

PACE Sample Number:			70 0352860	
Date Collected:			07/07/94	
Date Received:			07/08/94	
Client Sample ID:			S-2 1319	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/12/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	07/12/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	07/12/94
Benzene	ug/L	0.5	ND	07/12/94
Toluene	ug/L	0.5	ND	07/12/94
Ethylbenzene	ug/L	0.5	ND	07/12/94
Xylenes, Total	ug/L	0.5	ND	07/12/94

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REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
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July 18, 1994
PACE Project Number: 440708511

Client Reference: BP Site #11266/ 10-050-04-001

PACE Sample Number:			70 0352878	
Date Collected:			07/07/94	
Date Received:			07/08/94	
Client Sample ID:			S-3 1345	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/12/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	07/12/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	07/12/94
Benzene	ug/L	0.5	ND	07/12/94
Toluene	ug/L	0.5	ND	07/12/94
Ethylbenzene	ug/L	0.5	ND	07/12/94
Xylenes, Total	ug/L	0.5	ND	07/12/94

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REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
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July 18, 1994
PACE Project Number: 44070811

Client Reference: BP Site #11266/ 10-050-04-001

PACE Sample Number:			70 0352886	
Date Collected:			07/07/94	
Date Received:			07/08/94	
Client Sample ID:			S-4 1430	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/12/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	250	7600	07/12/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	07/12/94
Benzene	ug/L	2.5	530	07/12/94
Toluene	ug/L	2.5	1100	07/12/94
Ethylbenzene	ug/L	2.5	380	07/12/94
Xylenes, Total	ug/L	2.5	1800	07/12/94

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REPORT OF LABORATORY ANALYSIS

July 18, 1994
PACE Project Number: 440708511

Client Reference: BP Site #11266/ 10-050-04-001

PACE Sample Number:			70 0352894	
Date Collected:			07/07/94	
Date Received:			07/08/94	
Client Sample ID:			S-5 1459	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/13/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	1100	07/13/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	07/13/94
Benzene	ug/L	0.5	0.6	07/13/94
Toluene	ug/L	0.5	1.7	07/13/94
Ethylbenzene	ug/L	0.5	0.6	07/13/94
Xylenes, Total	ug/L	0.5	3.2	07/13/94

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REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
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July 18, 1994
PACE Project Number: 440708511

Client Reference: BP Site #11266/ 10-050-04-001

PACE Sample Number:			70 0352908	
Date Collected:			07/07/94	
Date Received:			07/08/94	
Client Sample ID:			S-6 1520	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/12/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	1200	18000	07/12/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	07/12/94
Benzene	ug/L	5.0	67	07/12/94
Toluene	ug/L	5.0	32	07/12/94
Ethylbenzene	ug/L	5.0	250	07/12/94
Xylenes, Total	ug/L	5.0	140	07/12/94

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REPORT OF LABORATORY ANALYSIS

July 18, 1994
PACE Project Number: 440708511

Client Reference: BP Site #11266/ 10-050-04-001

PACE Sample Number:			70 0352916	
Date Collected:			07/07/94	
Date Received:			07/08/94	
Client Sample ID:			S-7 1615	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/12/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	07/12/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	07/12/94
Benzene	ug/L	0.5	ND	07/12/94
Toluene	ug/L	0.5	0.7	07/12/94
Ethylbenzene	ug/L	0.5	ND	07/12/94
Xylenes, Total	ug/L	0.5	ND	07/12/94

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THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
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July 18, 1994
PACE Project Number: 440708511

Client Reference: BP Site #11266/ 10-050-04-001

PACE Sample Number:			70 0352924	
Date Collected:			07/07/94	
Date Received:			07/08/94	
Client Sample ID:			S-8 1619	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/12/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	07/12/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	07/12/94
Benzene	ug/L	0.5	ND	07/12/94
Toluene	ug/L	0.5	0.7	07/12/94
Ethylbenzene	ug/L	0.5	ND	07/12/94
Xylenes, Total	ug/L	0.5	ND	07/12/94

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Mr. Bill Howell
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July 18, 1994
PACE Project Number: 440708511

Client Reference: BP Site #11266/ 10-050-04-001

PACE Sample Number:			70 0352932	
Date Collected:			07/07/94	
Date Received:			07/08/94	
Client Sample ID:			S-9 1600	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/12/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	07/12/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	07/12/94
Benzene	ug/L	0.5	ND	07/12/94
Toluene	ug/L	0.5	ND	07/12/94
Ethylbenzene	ug/L	0.5	ND	07/12/94
Xylenes, Total	ug/L	0.5	ND	07/12/94

These data have been reviewed and are approved for release.

Darrell C. Cain
Regional Director

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Mr. Bill Howell | FOOTNOTES | July 18, 1994
Page 10 | for pages 1 through 9 | PACE Project Number: 440708511

Client Reference: BP Site #11266/ 10-050-04-001

MDL Method Detection Limit
ND Not detected at or above the MDL.

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REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
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QUALITY CONTROL DATA

July 18, 1994
PACE Project Number: 44070851l

Client Reference: BP Site #11266/ 10-050-04-001

PURGEABLE FUELS AND AROMATICS
Batch: 70 31961
Samples: 70 0352851, 70 0352860, 70 0352878, 70 0352886, 70 0352916
70 0352924, 70 0352932

METHOD BLANK:

Parameter	Units	MDL	Method Blank
TOTAL FUEL HYDROCARBONS, (LIGHT):			-
Purgeable Fuels, as Gasoline (EPA 8015M	ug/L	50	ND
PURGEABLE AROMATICS (BTXE BY EPA 8020M)			-
Benzene	ug/L	0.5	ND
Toluene	ug/L	0.5	ND
Ethylbenzene	ug/L	0.5	ND
Xylenes, Total	ug/L	0.5	ND

SPIKE AND SPIKE DUPLICATE:

Parameter	Units	MDL	700352860 S-2 1319	Spike	Spike Recv	Spike Dupl Recv	RPD
Benzene	ug/L	0.5	ND	100	96%	101%	5%
Toluene	ug/L	0.5	ND	100	96%	97%	1%
Ethylbenzene	ug/L	0.5	ND	100	95%	96%	1%
Xylenes, Total	ug/L	0.5	ND	300	93%	93%	0%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Benzene	ug/L	0.5	100	92%	96%	4%
Toluene	ug/L	0.5	100	92%	95%	3%
Ethylbenzene	ug/L	0.5	100	93%	93%	0%
Xylenes, Total	ug/L	0.5	300	94%	93%	1%

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REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
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QUALITY CONTROL DATA

July 18, 1994
PACE Project Number: 44070811

Client Reference: BP Site #11266/ 10-050-04-001

PURGEABLE FUELS AND AROMATICS
Batch: 70 31998
Samples: 70 0352894, 70 0352908

METHOD BLANK:

Parameter	Units	MDL	Method Blank
TOTAL FUEL HYDROCARBONS, (LIGHT):			-
Purgeable Fuels, as Gasoline (EPA 8015M	ug/L	50	ND
PURGEABLE AROMATICS (BTXE BY EPA 8020M)			-
Benzene	ug/L	0.5	ND
Toluene	ug/L	0.5	ND
Ethylbenzene	ug/L	0.5	ND
Xylenes, Total	ug/L	0.5	ND

SPIKE AND SPIKE DUPLICATE:

Parameter	Units	MDL	700353777	Spike	Spike Recv	Spike Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M	ug/L	50	ND	1000	95%	92%	3%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M	ug/L	50	1000	107%	101%	6%

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Client Reference: BP Site #11266/ 10-050-04-001

MDL	Method Detection Limit
ND	Not detected at or above the MDL.
RPD	Relative Percent Difference

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440708.511

BP

CHAIN OF CUSTODY

No. 00399 Page 1 of 1

CONSULTANT'S NAME	ADDRESS	CITY	STATE	ZIP CODE
ALISTO ENGINEERING	1777 OAKLAND BLVD.,	WALNUT CREEK	CA	

BP SITE NUMBER	BP CORNER ADDRESS/CITY	CONSULTANT PROJECT NUMBER
BP11266	1541 PARK ST. ALAMEDA	10-050-04-001

CONSULTANT PROJECT MANAGER	PHONE NUMBER	FAX NUMBER	CONSULTANT CONTRACT NUMBER
BILL Howell	510 295 1650		

BP CONTACT	BP ADDRESS	PHONE NUMBER	FAX NO.
Scott Hooten			

LAB CONTACT	LABORATORY ADDRESS	PHONE NUMBER	FAX NO.
Jim Oyers			

SAMPLED BY (Please Print Name)	SAMPLED BY (Signature)	SHIPMENT DATE	SHIPMENT METHOD
DAN BIRCH	DJ Birch	7-8-94	Pace Courier

AIRBILL NUMBER

TAT: ☐ 24 Hours ☐ 48 Hours ☐ 1 Week ☐ Standard 2 Weeks

ANALYSIS REQUIRED

SAMPLE DESCRIPTION		COLLECTION DATE / COLLECTION TIME	MATRIX SOIL/WATER	CONTAINERS NO.	TYPE (VOL.)	PRESERVATIVE / LAB SAMPLE #	HCl TPHGAS BTEX	COMMENTS
S-1	1247	7-7-94	W	3	VOA	35285.1	X	
S-2	1319	↓	↓	↓	↓	35286.0	X	
S-3	1345	↓	↓	↓	↓	35287.8	X	
S-4	1430	↓	↓	↓	↓	35288.6	X	
S-5	1459	↓	↓	↓	↓	35289.4	X	
S-6	1520	↓	↓	↓	↓	35290.8	X	
S-7	1549	↓	↓	↓	↓	35291.6	X	
S-8	1555	↓	↓	↓	↓	35292.4	X	
S-9	1600	↓	↓	↓	↓	35293.2	X	

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
DJ Birch	7/8/94	1000	Ed ... Pace	7/8/4	1430
Ed ... Pace	7/8/4	1730	... McWood Pace	7/8/94	1730

ADDITIONAL COMMENTS

9 Both

CLV-16722

Distribution: White - Original (with Data) Yellow - BP Pink - Lab Blue - Consultant Field Staff