



BP OIL

NO
IAT
PH 3:49

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

September 28, 1994

Alameda County Health Care Services Agency
Attention Ms. Eva Chu
80 Swan Way, Room 200
Oakland, CA 94621

120 days to receive QMP

570 2095

RE: BP Oil Site No. 11120
6400 Dublin Boulevard
Dublin, CA

Dear Ms. Chu:

Enclosed please find a report entitled Groundwater Monitoring and Sampling Report, dated August 3, 1994. Based upon the results of our previous monitoring efforts, we believe that it is appropriate to modify our sampling plan and sample monitoring wells MW-1, MW-2, MW-5, and MW-6 on a semi-annual basis. We will continue to gauge water levels in these wells on a quarterly basis. We trust that this will be acceptable, and will proceed as indicated absent contrary direction from the County.

OK to do - send list

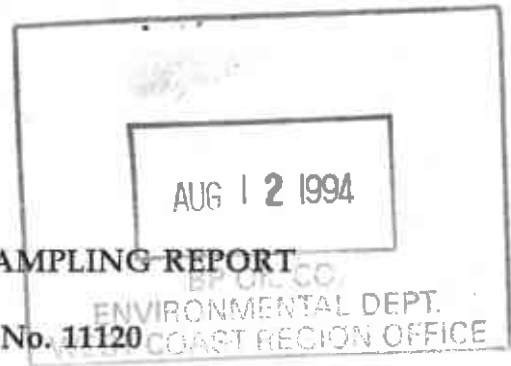
Please give me a call in the event that you have any questions or concerns regarding this approach. I can be reached at (206) 251-0689.

Sincerely,

Scott T. Hooton
Environmental Resources Management

attachment

cc: California Regional Water Quality Control Board, Attention Mr. E. So, 2101
Webster Street, Ste. 500, Oakland, CA 94612 (w/attachment)
B. Nagle - Alisto
site file



GROUNDWATER MONITORING AND SAMPLING REPORT

**BP Oil Company Service Station No. 11120
6400 Dublin Boulevard
Dublin, California**

Project No. 10-170-01-004

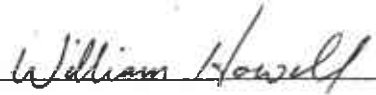
Prepared for:


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

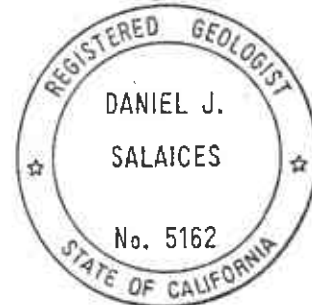
Prepared by:

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

August 3, 1994


**William Howell
Project Manager**


**Dan Salaices
Registered Geologist**



GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11120
6400 Dublin Boulevard
Dublin, California

Project No. 10-170-01-004

August 3, 1994

INTRODUCTION

This report presents the results and findings of the June 9, 1994 groundwater monitoring and sampling conducted by Alisto Engineering Group at BP Oil Company Service Station No. 11120, 6400 Dublin Boulevard, Dublin, 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. 11120
 6400 DUBLIN BOULEVARD, DUBLIN, CALIFORNIA

ALISTO PROJECT NO. 10-170

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	TPH-D (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TOG (ppb)	HVOC (ppb)	DO (ppm)	LAB
MW-1	10/27/92	328.96	8.19	320.77	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000	ND	--	PACE
MW-1	04/09/93	328.96	4.79	324.17	ND<50	100	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	PACE
MW-1	08/25/93	328.96	6.85	322.11	ND<50	70	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	PACE
MW-1	11/22/93	328.96	7.38	321.58	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	PACE
MW-1	03/07/94	328.96	5.89	323.07	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	4.3	PACE
MW-1	06/09/94	328.96	6.42	322.54	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	8.8	PACE
MW-2	10/27/92	328.50	7.64	320.86	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	PACE
MW-2	04/09/93	328.50	4.12	324.38	ND<50	80	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	PACE
MW-2	08/25/93	328.50	6.31	322.19	ND<50	70	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	PACE
MW-2	11/22/93	328.50	7.12	321.38	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	PACE
MW-2	03/07/94	328.50	5.60	322.90	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	4.3	PACE
MW-2	06/09/94	328.50	5.91	322.59	ND<50	70	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	8.2	PACE
MW-3	10/27/92	329.36	8.43	320.93	210	ND<50	3	0.7	0.9	30	--	--	--	PACE
MW-3	04/09/93	329.36	4.90	324.46	400	260	6.1	ND<0.5	ND<0.5	ND<0.5	--	--	--	PACE
MW-3	08/25/93	329.36	7.13	322.23	2000	440	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	PACE
MW-3	11/22/93	329.36	7.60	321.76	1800	360	ND<2.5	ND<2.5	ND<2.5	ND<2.5	--	--	--	PACE
MW-3	03/07/94	329.36	6.08	323.28	1300	5000	22	4.0	2.2	3.8	--	--	3.7	PACE
MW-3	06/09/94	329.36	6.51	322.85	8500	2600	25	8.3	0.5	15	--	--	7.2	PACE
QC-1 (c)	06/09/94	--	--	--	8800	--	23	6.3	0.5	10	--	--	--	PACE
MW-4	10/27/92	329.45	8.61	320.84	2300	190	23	54	50	320	--	--	--	PACE
MW-4	04/09/93	329.45	5.25	324.20	1800	500	78	3.5	68	1.0	--	--	--	PACE
MW-4	08/25/88	329.45	7.32	322.13	1800	380	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	PACE
QC-1 (c)	08/25/93	--	--	--	1600	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	PACE
MW-4	11/22/93	329.45	7.83	321.62	610	260	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	PACE
QC-1 (c)	11/22/93	--	--	--	1700	--	ND<2.5	ND<2.5	ND<2.5	ND<2.5	--	--	--	PACE
MW-4	03/07/94	329.45	6.29	323.16	710	1400	0.5	0.8	ND<0.5	ND<0.5	--	--	3.8	PACE
QC-1 (c)	03/07/94	--	--	--	1600	--	ND<0.5	ND<0.5	1.4	0.6	--	--	--	PACE
MW-4	06/09/94	329.45	6.76	322.69	6400	1800	ND<10	ND<10	ND<10	ND<10	--	--	7.5	PACE
MW-5	04/09/93	329.60	5.18	324.42	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	PACE
MW-5	08/25/93	329.60	7.28	322.32	ND<50	70	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	PACE
MW-5	11/22/93	329.60	7.82	321.78	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	PACE
MW-5	03/07/94	329.60	6.27	323.33	ND<50	120	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	5.7	PACE
MW-5	06/09/94	329.60	6.73	322.87	ND<50	70	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	7.7	PACE

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
 BP OIL COMPANY SERVICE STATION NO. 11120
 6400 DUBLIN BOULEVARD, DUBLIN, CALIFORNIA

ALISTO PROJECT NO. 10-170

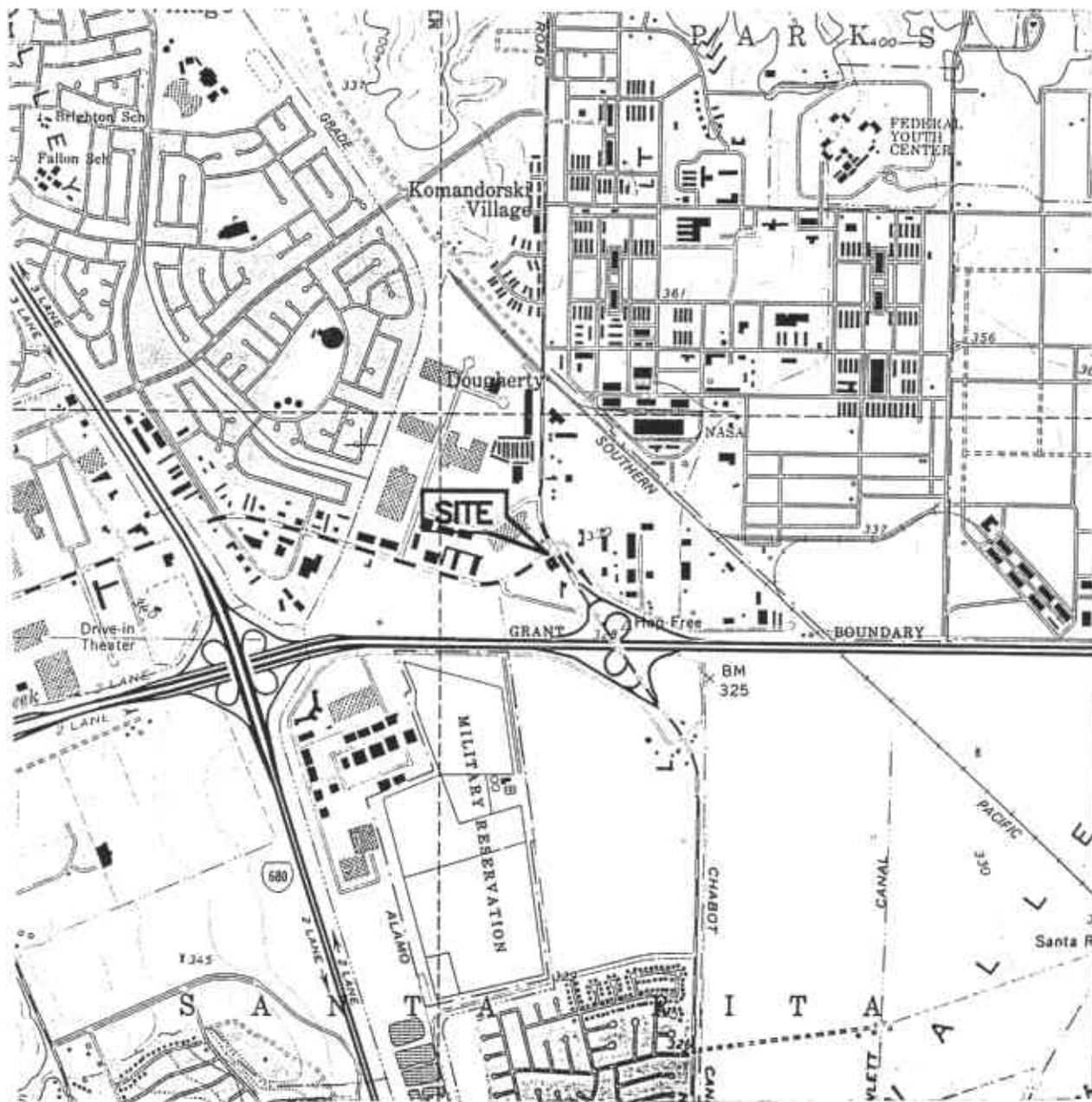
WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	TPH-D (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TOG (ppb)	HVOC (ppb)	DO (ppm)	LAB
MW-6	04/09/93	329.55	5.37	324.18	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	PACE
MW-6	08/25/93	329.55	7.42	322.13	ND<50	170	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	PACE
MW-6	11/22/93	329.55	7.93	321.62	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	PACE
MW-6	03/07/94	329.55	6.25	323.30	ND<50	90 (d)	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	4.2	PACE
MW-6	06/09/94	329.55	6.85	322.70	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	7.0	PACE
MW-7	04/09/93	329.49	5.36	324.13	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	PACE
MW-7	08/25/93	329.49	7.44	322.05	ND<50	150	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	PACE
MW-7	11/22/93	329.49	7.92	321.57	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	PACE
MW-7	03/07/94	329.49	6.20	323.29	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	3.7	PACE
MW-7	06/09/94	329.49	6.89	322.60	ND<50	70	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	6.8	PACE
QC-2 (e)	08/25/93	--	--	--	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	PACE
QC-2 (e)	11/22/93	--	--	--	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	PACE
QC-2 (e)	03/07/94	--	--	--	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	PACE
QC-2 (e)	06/09/94	--	--	--	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	PACE

ABBREVIATIONS:

TPH-G Total petroleum hydrocarbons as gasoline
 TPH-D Total petroleum hydrocarbons as diesel
 B Benzene
 T Toluene
 E Ethylbenzene
 X Total xylenes
 TOG Total oil and grease
 HVOC Halogenated volatile organic compounds
 DO Dissolved oxygen
 ppb Parts per billion
 ppm Parts per million
 ND Not detected above reported detection limit
 --- Not analyzed/applicable/measured
 PACE Pace, Inc.

NOTES:

(a) Top of casing elevations surveyed to an arbitrary datum.
 (b) Groundwater elevations relative to an arbitrary datum.
 (c) Blind duplicate.
 (d) Sample pattern does not match the diesel standard pattern.
 (e) Travel blank.



SOURCE:
USGS MAP, DUBLIN QUADRANGLE,
CALIFORNIA, 7.5 MINUTE SERIES, 1961,
PHOTOREVISED 1980.

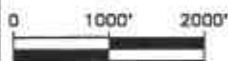


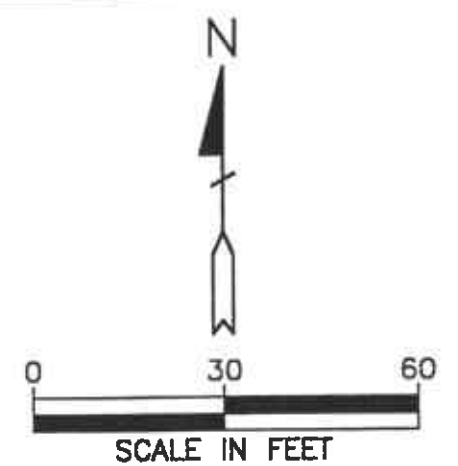
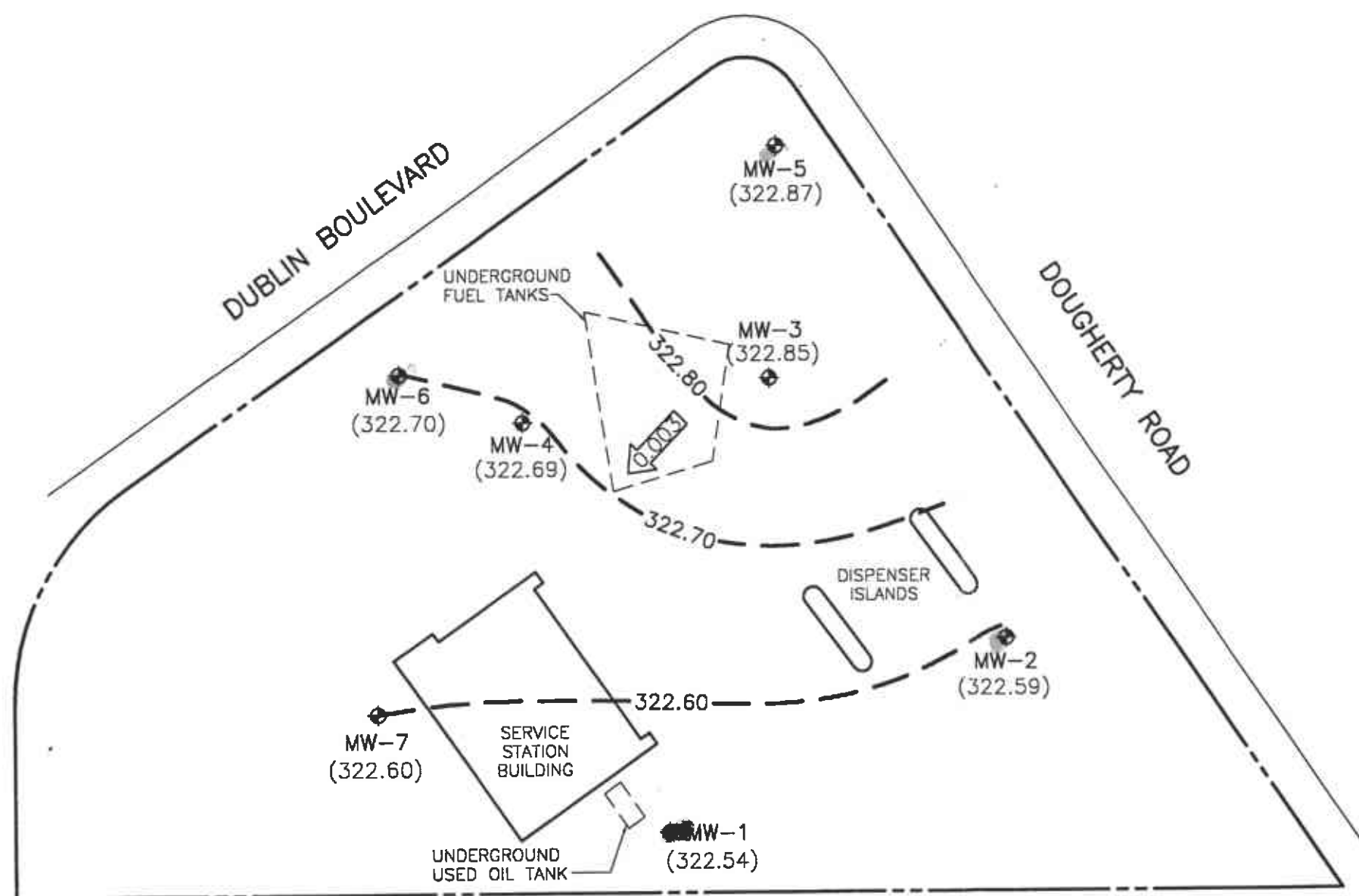
FIGURE 1

SITE VICINITY MAP

BP OIL SERVICE STATION NO. 11120
6400 DUBLIN BOULEVARD
DUBLIN, CALIFORNIA
PROJECT NO. 10-170

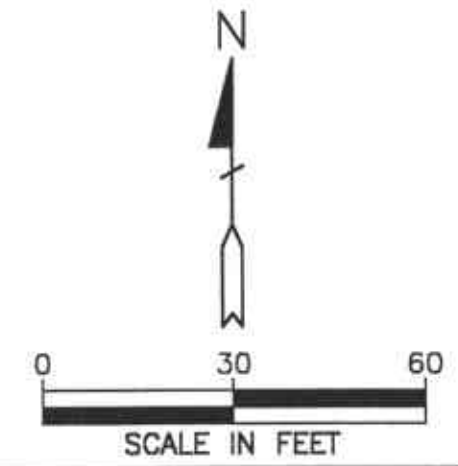
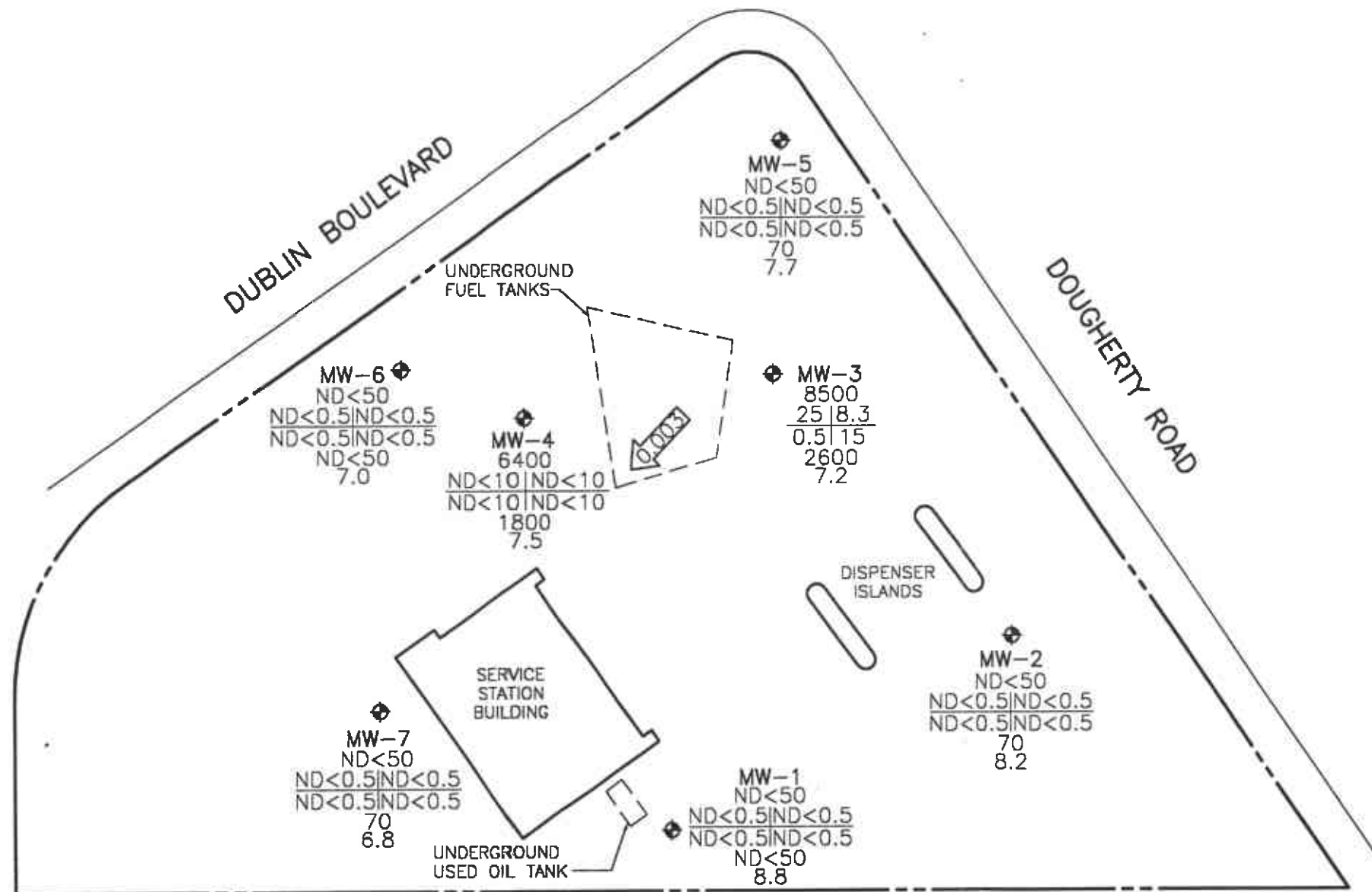


ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA



- LEGEND**
- ◆ GROUNDWATER MONITORING WELL
 - (322.87) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
 - 322.80 - GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL - 0.10 FOOT)
 - ← 0.003 CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 2
POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP
JUNE 9, 1994
 BP OIL SERVICE STATION NO. 11120
 6400 DUBLIN BOULEVARD
 DUBLIN, CALIFORNIA
 PROJECT NO. 10-170



LEGEND

- ◆ GROUNDWATER MONITORING WELL
- TPH-G CONCENTRATION OF CONSTITUENTS IN PARTS PER BILLION, EXCEPT DISSOLVED OXYGEN, WHICH IS IN PARTS PER MILLION
- B | T
- E | X
- TPH-D
- DO
- TPH-G TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
- B BENZENE
- T TOLUENE
- E ETHYLBENZENE
- X TOTAL XYLENES
- TPH-D TOTAL PETROLEUM HYDROCARBONS AS DIESEL
- DO DISSOLVED OXYGEN
- ND NOT DETECTED ABOVE REPORTED DETECTION LIMIT
- ←0.003 CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 3
CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER
JUNE 9, 1994
 BP OIL SERVICE STATION NO. 11120
 6400 DUBLIN BOULEVARD
 DUBLIN, CALIFORNIA
 PROJECT NO. 10-170

APPENDIX A
WATER SAMPLING FIELD SURVEY FORMS

ALISTO ENGINEERING GROUP GROUNDWATER MONITORING

Client: BP
 Alisto Project No: 10-170-1-4
 Service Station No: 1120

Date: 6/9/94
 Field Personnel: DC
 Site Address: Dublin, CA

FIELD ACTIVITY:

- Groundwater Monitoring
- Groundwater Sampling
- Well Development

QUALITY CONTROL SAMPLES:

- QC-1 Sample Duplicate (Well ID)
- QC-2 Trip Blank
- QC-3 Rinsate Blank

Sample I.D	Well ID	Well Diam	Order Measured/Sampled	Total Depth	Depth to Water	Depth to Product	Product Thickness	Comments <u>Time monitored</u>	
<u>S-1</u>	MW6	4"	1	19.25	6.85			1055	
<u>S-2</u>	MW5	2"	2	21.35	6.73			1057	
<u>S-3</u>	MW2	↓	3	18.25	5.91			1100	
<u>S-4</u>	MW1		4	18.20	6.42			1102	
<u>S-5</u>	MW7		5	20.25	6.89			1107	
<u>S-6</u>	MW4		6	18.15	6.76			1111	
<u>S-7</u>	MW3		7	18.61	6.51			needs to be upgraded	

1115

Notes:

* QC-1 will be S-8
 * QC-2 will be S-9

ALISTO ENGINEERING GROUP

Groundwater Development and Sampling Form

Client: BP
 Alisto Project No: 10-170-14
 Service Station No: 11120

Date: 6/9/94
 Field Personnel: DC
 Address: Dublin CA

Well ID: M46 Field Activity: Well Development Well Sampling Product Bailing

Casing Diameter:

- 2 Inch (0.16 Gal/foot)
- 3 Inch (0.37 Gal/foot)
- 4 Inch (0.65 Gal/foot)
- 4.5 Inch (0.83 Gal/foot)
- 6 Inch (1.47 Gal/foot)

Purge Method:

- Pump (dispos. Poly Tubing)
- Disposable Bailers
- Other
- 1.66 PVC Standard Bailer
- 3.50 PVC Standard Bailer

Well Data:

- Depth to Product
- Product Thickness
- Depth to Water

Sampling Method:

- Disposable Bailer
- Pump

Decontamination Method:

- Triple Rinse (Liquinox)
- Steam Cleaned

S-1 sample F.D

Calculated Purge Volume

$$\frac{12.5 \text{ ft} \times 0.65 \text{ Gal/ft}}{1} = 12.5 \text{ ft} \times 0.65 \text{ Gal/ft} = 8.06 \text{ Gal} \times 3 = 24.18$$

Total Depth of Well Depth to Water Water Column Conversion Factor Casing Vol Vols to Purge Total Volume

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos/cm)	Purge Vol (Gal)	Comments/Turbidity	Analysis Required	Container Type	Preserv
1155	78.3	7.71	2.97	9	clear	TPH-G/BTEX	VOA	HCL
1203	76.4	7.89	2.75	18	↓	TPH-Diesel	Amber Liter	Solvent Rinsed
1209	73.5	8.2	2.74	24.5	↓	EPA 601	VOA	
						TOC 5520BF	Amber Liter	H ₂ O ₂

Sampled 1210

*DO begin → 7.0
 end → 7.0*

ALISTO ENGINEERING GROUP

Groundwater Development and Sampling Form

Client: BR
 Alisto Project No: 10-170-1-4
 Service Station No: 11120

Date: 6/9/94
 Field Personnel: DC
 Address: Dubuque

Well ID: MWS Field Activity: Well Development Well Sampling Product Bailing

Casing Diameter:

- 2 Inch (0.16 Gal/foot)
 3 Inch (0.37 Gal/foot)
 4 Inch (0.65 Gal/foot)
 4.5 Inch (0.83 Gal/foot)
 6 Inch (1.47 Gal/foot)

Purge Method:

- Pump (dispos. Poly Tubing)
 Disposable Bailers
 Other
 1.56 PVC Standard Bailer
 3.50 PVC Standard Bailer

Well Data:

- 9 Depth to Product
9 Product Thickness
6.73 Depth to Water

Sampling Method:

- Disposable Bailer
 Pump

Decontamination Method:

- Triple Rinse (Liquinox)
 Steam Cleaned

S-2 Sample I.D.

Calculated Purge Volume
 $\frac{21.35 - 6.73}{21.35 - 6.73} = \frac{14.62 \text{ ft} \times 1.6 \text{ Gal/Ft}}{2.34 \text{ Gal}} \times 3 = 7.02$
 Total Depth of Well Depth to Water Water Column Conversion Factor Casing Vol Vols to Purge Total Volume

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos/cm)	Purge Vol (Gal)	Comments/Turbidity	Analysis Required	Container Type	Preserv.
1230	75.7	8.11	2.33	2.5	Clear	TPH-G/BTEX	VOA	HCL
1232	75.8	8.02	2.28	5	↓	TPH-Diesel	Amber Liter	Solvent Rinsed
1236	74.8	8.38	2.41	7.25	↓	EPA 601	-VOA	
1237	74.5	8.31	2.48	7.75	↓	TOC 5520BF	Amber Liter	H ₂ SO ₄

DO begin → 5.8
 end → 7.7

Sampled 1240

ALISTO ENGINEERING GROUP

Groundwater Development and Sampling Form

Client: BP
 Alisto Project No: 10-170-14
 Service Station No: 11120

Date: 6/9/94
 Field Personnel: DC
 Address: Dublin CA

Well ID: MW2 Field Activity: Well Development Well Sampling Product Bailing

Casing Diameter:

- 2 Inch (0.16 Gal/foot)
 3 Inch (0.37 Gal/foot)
 4 Inch (0.65 Gal/foot)
 4.5 Inch (0.83 Gal/foot)
 6 Inch (1.47 Gal/foot)

Purge Method:

- Pump (dispos. Poly Tubing)
 Disposable Bailers
 Other
 1.66 PVC Standard Bailer
 3.50 PVC Standard Bailer

Well Data:

- Depth to Product
 Product Thickness
5.91 Depth to Water

S-3 Sample I.D.

Sampling Method:

- Disposable Bailer
 Pump

Decontamination Method:

- Triple Rinse (Liquinox)
 Steam Cleaned

Calculated Purge Volume

$$\frac{18.25}{18.25} - \frac{5.91}{5.91} = 12.34 \text{ ft} \times .46 \text{ Gal/Ft} = 1.97 \text{ Gal} \times 3 = 5.92$$

Total Depth of Well Depth to Water Water Column Conversion Factor Casing Vol Vols to Purge Total Volume

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos/cm)	Purge Vol (Gal)	Comments/Turbidity	Analysis Required	Container Type	Preserv.
1257	80.9	8.26	10.71	2	clear	TPH-G/BTEX	VOA	HCL
1301	79.5	8.63	10.73	4	↓	TPH-Diesel	Amber Liter	Solvent Rinsed
1305	77.6	8.96	10.79	10	↓	EPA 601	VOA	
						TOC 5520BF	Amber Liter	H ₂ O ₂

Time Sampled 1310

DO begin end. 8.2 8.2

ALISTO ENGINEERING GROUP

Groundwater Development and Sampling Form

Client BP
 Alisto Project No: 10-170-1-4
 Service Station No: 11120

Date: 6/9/94
 Field Personnel: DC
 Address: Dublin CA

Well ID: MW1 Field Activity: Well Development / Well Sampling / Product Bailing

Casing Diameter: Purge Method: Well Data:

2 Inch (0.16 Gal/foot) Pump (dispos. Poly Tubing) Φ Depth to Product
 3 Inch (0.37 Gal/foot) Disposable Bailers Φ Product Thickness
 4 Inch (0.65 Gal/foot) Other 6.42 Depth to Water
 4.5 Inch (0.83 Gal/foot) 1.56 PVC Standard Bailer
 6 Inch (1.47 Gal/foot) 3.50 PVC Standard Bailer

5-4 sample I.D

Sampling Method: Decontamination Method:

Disposable Bailer Triple Rinse (Liquinox)
 Pump Steam Cleaned

Calculated Purge Volume
 $\frac{18.20 - 6.42}{11.78 \text{ ft} \times 1.16 \text{ Gal/Ft}} = 1.89 \text{ Gal} \times 3 = 5.65$

Total Depth of Well Depth to Water Water Column Conversion Factor Casing Vol Vols to Purge Total Volume

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos/cm)	Purge Vol (Gal)	Comments/Turbidity	Analysis Required	Conc. Type	Preserv
1330	80.6	8.60	2.93	2	Clear	TPH-G/STEX	VOA	HCL
1333	77.4	8.27	2.86	4	↓	TPH-Diesel	Amber Liter	Solvent Rinsed
1336	76.3	8.46	2.94	5.75		EPA 601	VOA	
						TCG 55206F	Amber Liter	H ₂ O ₂

Time Sampled 1340

DO begin → 11.9
 end → 8.8

ALISTO ENGINEERING GROUP

Groundwater Development and Sampling Form

Client: BP
 Alisto Project No: 10-170-1-4
 Service Station No: 11120

Date: 6/19/94
 Field Personnel: DC
 Address: Dublin GA

Well ID: MW7 Field Activity: Well Development Well Sampling Product Bailing

Casing Diameter:
 2 Inch (0.16 Gal/foot)
 3 Inch (0.37 Gal/foot)
 4 Inch (0.65 Gal/foot)
 4.5 Inch (0.83 Gal/foot)
 6 Inch (1.47 Gal/foot)

Purge Method:
 Pump (dispos. Poly Tubing)
 Disposable Bailers
 Other
 1.66 PVC Standard Bailer
 3.50 PVC Standard Bailer

Well Data:
 Depth to Product
 Product Thickness
 6.79 Depth to Water

Sampling Method:
 Disposable Bailer
 Pump

Decontamination Method:
 Triple Rinse (Liquinox)
 Steam Cleaned

5-5 Sample I.D.

Calculated Purge Volume

$$\frac{20.25 - 6.89}{1336 \text{ ft} \times .16 \text{ Gal/Ft}} = 2.14 \text{ Gal} \times \frac{3}{1} = 6.41$$

Total Depth of Well Depth to Water Water Column Conversion Factor Casing Vol Vols to Purge Total Volume

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos/cm)	Purge Vol (Gal)	Comments/Turbidity	Analysis Required	Container Type	Preserv
1410	76.7	7.52	3.70	2	Clear	TPH-G/STEX	VOA	HCL
1415	74.6	8.04	3.50	4	↓	TPH-Diesel	Amber Liter	Solvent Rinsed
1418	75.1	7.77	3.53	6.5	↓	EPA 801	VOA	
						TCG 55208F	Amber Liter	H ₂ SO ₄

Time Sampled 1455

*DO begin → 6.3
 end → 6.8*

ALISTO ENGINEERING GROUP

Groundwater Development and Sampling Form

Client: BP
 Alisto Project No: 10-170-1-4
 Service Station No: 1120

Date: 6/19/94
 Field Personnel: DC
 Address: Dublin, CA

Well ID: MW4 Field Activity: Well Development Well Sampling Product Bailing

Casing Diameter:

- 2 Inch (0.16 Gal/foot)
- 3 Inch (0.37 Gal/foot)
- 4 Inch (0.63 Gal/foot)
- 4.5 Inch (0.83 Gal/foot)
- 6 Inch (1.47 Gal/foot)

Purge Method:

- Pump (dispos. Poly Tubing)
- Disposable Bailers
- Other
- 1.66 PVC Standard Bailer
- 3.50 PVC Standard Bailer

Well Data:

- Depth to Product
- Product Thickness
- 6.76 Depth to Water

Sampling Method:

- Disposable Bailer
- Pump

Decontamination Method:

- Triple Rinse (Liquinox)
- Steam Cleaned

S-6 Sample I.D.

Calculated Purge Volume

$$\frac{18.15 - 6.76}{18.15} = 11.39 \text{ ft} \times 0.16 \text{ Gal/Ft} = 1.82 \text{ Gal} \times 3 = 5.47$$

Total Depth of Well Depth to Water Water Column Conversion Factor Casing Vol Vols to Purge Total Volume

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos /cm)	Purge Vol (Gal)	Comments/ Turbidity	Analysis Required	Contai ner Type	Preserv
1435	76.9	7.77	3.92	2	Clear	TPH- G/BTEX	VOA	HCL
1440	74.9	7.78	3.35	4	↓	TPH- Diesel	Amber Liter	Solvent Rinsed
1445	74.4	7.89	3.30	5.5		EPA 601	VOA	
						TCG 5520BF	Amber Liter	H ₂ SO ₄

Time Sample : 1450

*Do begin one 6.9
7.5*

ALISTO ENGINEERING GROUP

Groundwater Development and Sampling Form

Client: BP
 Alisto Project No: 10-170-1-4
 Service Station No: 11120

Date: 6/19/94
 Field Personnel: DC
 Address: Dublin CA

Well ID: MW3 Field Activity: Well Development Well Sampling Product Bailing

Casing Diameter:

- 2 Inch (0.16 Gal/foot)
- 3 Inch (0.37 Gal/foot)
- 4 Inch (0.65 Gal/foot)
- 4.5 Inch (0.83 Gal/foot)
- 6 Inch (1.47 Gal/foot)

Purge Method:

- Pump (dispos. Poly Tubing)
- Disposable Bailer
- Other
- 1.66 PVC Standard Bailer
- 3.50 PVC Standard Bailer

Well Data:

- Depth to Product
- Product Thickness
- 6.51 Depth to Water

Sampling Method:

- Disposable Bailer
- Pump

Decontamination Method:

- Triple Rinse (Liquinox)
- Steam Cleaned

S -> sample J.D

Calculated Purge Volume

$$\frac{18.61}{10.61} - \frac{6.51}{6.51} = \frac{12.10 \text{ ft} \times 0.16 \text{ Gal/ft}}{\text{Water Column}} = \frac{1.94 \text{ Gal}}{\text{Conversion}} \times \frac{3}{\text{Casing Vol}} = \frac{5.81}{\text{Total Volume}}$$

Total Depth of Well Depth to Water Water Column Conversion Factor Casing Vol Vols to Purge Total Volume

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos /cm)	Purge Vol (Gal)	Comments/Turbidity	Analysis Required	Container Type	Preserv
1509	77.3	7.97	2.44	2	Use	TPH-G/BTEX	VOA	HCL
1511	74.9	7.65	2.50	4		TPH-Diesel	Amber Liter	Solvent Rinsed
1515	74.6	7.65	2.63	6	↓	EPA 601	VOA	
						TCG 5520BF	Amber Liter	H ₂ SO ₄

* QC-1 S-8 Time Sampled 1520
 * QC-2 S-9 Time Sampled 1620 (made up to total time 1620)

DO begin 7.0
 end - 7.2

APPENDIX B

LABORATORY REPORT AND CHAIN OF CUSTODY RECORD



REPORT OF LABORATORY ANALYSIS

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

June 20, 1994
 PACE Project Number: 440610506

Attn: Mr. Bill Howell

Client Reference: BP Site #11120/10-170-1-4

PACE Sample Number: 70 0338638
 Date Collected: 06/09/94
 Date Received: 06/10/94
 Client Sample ID: S-1

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>DATE ANALYZED</u>
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ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

TOTAL FUEL HYDROCARBONS, (LIGHT):			-	06/16/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	06/16/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	06/16/94
Benzene	ug/L	0.5	ND	06/16/94
Toluene	ug/L	0.5	ND	06/16/94
Ethylbenzene	ug/L	0.5	ND	06/16/94
Xylenes, Total	ug/L	0.5	ND	06/16/94

EXTRACTABLE FUELS EPA 3510/8015

Extractable Fuels, as Diesel	mg/L	0.05	ND	06/14/94
Date Extracted			06/13/94	

REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
 Page 2

June 20, 1994
 PACE Project Number: 440610506

Client Reference: BP Site #11120/10-170-1-4

PACE Sample Number: 70 0338654
 Date Collected: 06/09/94
 Date Received: 06/10/94
 Client Sample ID: S-2

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>DATE ANALYZED</u>
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ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

TOTAL FUEL HYDROCARBONS, (LIGHT):			-	06/16/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	06/16/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	06/16/94
Benzene	ug/L	0.5	ND	06/16/94
Toluene	ug/L	0.5	ND	06/16/94
Ethylbenzene	ug/L	0.5	ND	06/16/94
Xylenes, Total	ug/L	0.5	ND	06/16/94

EXTRACTABLE FUELS EPA 3510/8015

Extractable Fuels, as Diesel	mg/L	0.05	0.07	06/14/94
Date Extracted			06/13/94	

REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
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June 20, 1994
 PACE Project Number: 440610506

Client Reference: BP Site #11120/10-170-1-4

PACE Sample Number: 70 0338662
 Date Collected: 06/09/94
 Date Received: 06/10/94
 Client Sample ID: S-3

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>DATE ANALYZED</u>
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ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

TOTAL FUEL HYDROCARBONS, (LIGHT):			-	06/16/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	06/16/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	06/16/94
Benzene	ug/L	0.5	ND	06/16/94
Toluene	ug/L	0.5	ND	06/16/94
Ethylbenzene	ug/L	0.5	ND	06/16/94
Xylenes, Total	ug/L	0.5	ND	06/16/94

EXTRACTABLE FUELS EPA 3510/8015

Extractable Fuels, as Diesel	mg/L	0.05	0.07	06/14/94
Date Extracted			06/13/94	

Mr. Bill Howell
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June 20, 1994
 PACE Project Number: 440610506

Client Reference: BP Site #11120/10-170-1-4

PACE Sample Number:			70 0338670	
Date Collected:			06/09/94	
Date Received:			06/10/94	
Client Sample ID:			S-4	
<u>Parameter</u>	<u>Units</u>	<u>MDL</u>		<u>DATE ANALYZED</u>

ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	06/16/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	06/16/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	06/16/94
Benzene	ug/L	0.5	ND	06/16/94
Toluene	ug/L	0.5	ND	06/16/94
Ethylbenzene	ug/L	0.5	ND	06/16/94
Xylenes, Total	ug/L	0.5	ND	06/16/94
EXTRACTABLE FUELS EPA 3510/8015				
Extractable Fuels, as Diesel	mg/L	0.05	ND	06/14/94
Date Extracted			06/13/94	

REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
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June 20, 1994
 PACE Project Number: 440610506

Client Reference: BP Site #11120/10-170-1-4

PACE Sample Number: 70 0338689
 Date Collected: 06/09/94
 Date Received: 06/10/94
 Client Sample ID: S-5

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>DATE ANALYZED</u>
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ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

TOTAL FUEL HYDROCARBONS, (LIGHT):			-	06/16/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	06/16/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	06/16/94
Benzene	ug/L	0.5	ND	06/16/94
Toluene	ug/L	0.5	ND	06/16/94
Ethylbenzene	ug/L	0.5	ND	06/16/94
Xylenes, Total	ug/L	0.5	ND	06/16/94

EXTRACTABLE FUELS EPA 3510/8015

Extractable Fuels, as Diesel	mg/L	0.05	0.07	06/14/94
Date Extracted			06/13/94	

REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
 Page 6

June 20, 1994
 PACE Project Number: 440610506

Client Reference: BP Site #11120/10-170-1-4

PACE Sample Number: 70 0338697
 Date Collected: 06/09/94
 Date Received: 06/10/94
 Client Sample ID: S-6

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>DATE ANALYZED</u>
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ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

TOTAL FUEL HYDROCARBONS, (LIGHT):			-	06/17/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	1000	6400	06/17/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	06/17/94
Benzene	ug/L	10	ND	06/17/94
Toluene	ug/L	10	ND	06/17/94
Ethylbenzene	ug/L	10	ND	06/17/94
Xylenes, Total	ug/L	10	ND	06/17/94

EXTRACTABLE FUELS EPA 3510/8015

Extractable Fuels, as Diesel	mg/L	0.05	1.8	06/14/94
Date Extracted			06/13/94	

Mr. Bill Howell
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June 20, 1994
 PACE Project Number: 440610506

Client Reference: BP Site #11120/10-170-1-4

PACE Sample Number:
 Date Collected:
 Date Received:
 Client Sample ID:
 Parameter

70 0338700
 06/09/94
 06/10/94
 S-7

Units MDL DATE ANALYZED

ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

TOTAL FUEL HYDROCARBONS, (LIGHT):			-	06/16/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	500	8500	06/16/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	06/16/94
Benzene	ug/L	0.5	25	06/16/94
Toluene	ug/L	0.5	8.3	06/16/94
Ethylbenzene	ug/L	0.5	0.5	06/16/94
Xylenes, Total	ug/L	0.5	15	06/16/94
EXTRACTABLE FUELS EPA 3510/8015				
Extractable Fuels, as Diesel	mg/L	0.05	2.6	06/14/94
Date Extracted			06/13/94	

Mr. Bill Howell
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June 20, 1994
 PACE Project Number: 440610506

Client Reference: BP Site #11120/10-170-1-4

PACE Sample Number: 70 0338719
 Date Collected: 06/09/94
 Date Received: 06/10/94
 Client Sample ID: S-8

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>DATE ANALYZED</u>
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ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

TOTAL FUEL HYDROCARBONS, (LIGHT):			-	06/16/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	8800	06/16/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	06/16/94
Benzene	ug/L	0.5	23	06/16/94
Toluene	ug/L	0.5	6.3	06/16/94
Ethylbenzene	ug/L	0.5	0.5	06/16/94
Xylenes, Total	ug/L	0.5	10	06/16/94

Mr. Bill Howell
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June 20, 1994
 PACE Project Number: 440610506

Client Reference: BP Site #11120/10-170-1-4

PACE Sample Number: 70 0338727
 Date Collected: 06/09/94
 Date Received: 06/10/94
 Client Sample ID: S-9

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>DATE ANALYZED</u>
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ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

TOTAL FUEL HYDROCARBONS, (LIGHT):			-	06/16/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	06/16/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	06/16/94
Benzene	ug/L	0.5	ND	06/16/94
Toluene	ug/L	0.5	ND	06/16/94
Ethylbenzene	ug/L	0.5	ND	06/16/94
Xylenes, Total	ug/L	0.5	ND	06/16/94

These data have been reviewed and are approved for release.



Darrell C. Cain
 Regional Director

Mr. Bill Howell
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FOOTNOTES
for pages 1 through 9

June 20, 1994
PACE Project Number: 440610506

Client Reference: BP Site #11120/10-170-1-4

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

REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
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QUALITY CONTROL DATA

June 20, 1994
 PACE Project Number: 440610506

Client Reference: BP Site #11120/10-170-1-4

EXTRACTABLE FUELS EPA 3510/8015

Batch: 70 31298

Samples: 70 0338638, 70 0338654, 70 0338662, 70 0338670, 70 0338689
 70 0338697, 70 0338700

METHOD BLANK AND SAMPLE DUPLICATE:

Parameter	Units	MDL	Method Blank	700338131	Duplicate of 70 0338131	RPD
Extractable Fuels, as Diesel	mg/L	0.05	ND	0.10	0.07	35%
n-Pentacosane (Surrogate Recovery)	%			85	100	16%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Extractable Fuels, as Diesel	mg/L	0.05	1.00	74%	76%	3%

Mr. Bill Howell
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QUALITY CONTROL DATA

June 20, 1994
 PACE Project Number: 440610506

Client Reference: BP Site #11120/10-170-1-4

PURGEABLE FUELS AND AROMATICS

Batch: 70 31335
 Samples: 70 0338670

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
Xylene (total)	ug/L	0.5	ND

SPIKE AND SPIKE DUPLICATE:

Parameter	Units	MDL	700337704	Spike	Spike Recv	Spike Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	1000	102%	114%	11%

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	101%	102%	1%

Mr. Bill Howell
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QUALITY CONTROL DATA

June 20, 1994
 PACE Project Number: 440610506

Client Reference: BP Site #11120/10-170-1-4

PURGEABLE FUELS AND AROMATICS

Batch: 70 31345
 Samples: 70 0338638

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
Methyl tert-Butyl Ether (MTBE)	ug/L	5.0	ND
Xylene (total)	ug/L	0.5	ND

SPIKE AND SPIKE DUPLICATE:

Parameter	Units	MDL	700338999	Spike	Spike Recv	Spike Dupl Recv	RPD
Benzene	ug/L	0.5	ND	100	104%	101%	3%
Toluene	ug/L	0.5	ND	100	106%	102%	4%
Ethylbenzene	ug/L	0.5	ND	100	106%	103%	3%
Methyl tert-Butyl Ether (MTBE)	ug/L	5.0	ND	100	105%	111%	6%
Xylene (total)	ug/L	0.5	0.6	300	102%	99%	3%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Benzene	ug/L	0.5	100	98%	99%	1%
Toluene-	ug/L	0.5	100	100%	101%	1%
Ethylbenzene	ug/L	0.5	100	99%	101%	2%
Methyl tert-Butyl Ether (MTBE)	ug/L	5.0	100	107%	103%	4%
Xylene (total)	ug/L	0.5	300	96%	98%	2%

Mr. Bill Howell
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QUALITY CONTROL DATA

June 20, 1994
 PACE Project Number: 440610506

Client Reference: BP Site #11120/10-170-1-4

PURGEABLE FUELS AND AROMATICS

Batch: 70 31346

Samples: 70 0338654, 70 0338662, 70 0338727

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	700338654 S-2	Spike	Spike Recv	Spike Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	1000	93%	98%	5%

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	98%	97%	1%

REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
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QUALITY CONTROL DATA

June 20, 1994
 PACE Project Number: 440610506

Client Reference: BP Site #11120/10-170-1-4

PURGEABLE FUELS AND AROMATICS

Batch: 70 31354
 Samples: 70 0338689, 70 0338700, 70 0338719

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
Xylene (total)	ug/L	0.5	ND

SPIKE AND SPIKE DUPLICATE:

Parameter	Units	MDL	700337704	Spike	Spike Recv	Spike Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	1000	102%	114%	11%

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	101%	102%	1%

Mr. Bill Howell
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QUALITY CONTROL DATA

June 20, 1994
 PACE Project Number: 440610506

Client Reference: BP Site #11120/10-170-1-4

PURGEABLE FUELS AND AROMATICS

Batch: 70 31371
 Samples: 70 0338697

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	700338654 S-2	Spike	Spike Recv	Spike Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	1000	93%	98%	5%

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	98%	97%	1%

Mr. Bill Howell
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FOOTNOTES
for pages 11 through 16

June 20, 1994
PACE Project Number: 440610506

Client Reference: BP Site #11120/10-170-1-4

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



440610.506

CHAIN OF CUSTODY

No 053017

Page 1 of 1

CONSULTANT'S NAME <i>Alisto Engineering Group</i>		ADDRESS <i>1777 OAKLAND BLVD SK 200 WAREHOUSING CK CA</i>		CITY <i>CA</i>	STATE <i>CA</i>	ZIP CODE <i>94596</i>
BP SITE NUMBER <i>11120</i>	BP CORNER ADDRESS/CITY <i>Dublin CA</i>			CONSULTANT PROJECT NUMBER <i>10-170-1-4</i>		
CONSULTANT PROJECT MANAGER <i>Bill Howell</i>		PHONE NUMBER <i>(510) 295-1650</i>	FAX NUMBER <i>(510) 295 1823</i>		CONSULTANT CONTRACT NUMBER <i>6047650</i>	
BP CONTACT <i>Sue Houston</i>	BP ADDRESS <i>Renton, WA</i>		PHONE NUMBER	FAX NO.		
LAB CONTACT <i>Pace</i>	LABORATORY ADDRESS <i>Novato CA</i>		PHONE NUMBER <i>(415) 883 6100</i>	FAX NO. <i>415 883 2673</i>		
SAMPLED BY (Please Print Name) <i>DAVID COSACK</i>		SAMPLED BY (Signature) <i>[Signature]</i>		SHIPMENT DATE		SHIPMENT METHOD <i>Courier</i>

TAT: 24 Hours 48 Hours 1 Week Standard 2 Weeks

ANALYSIS REQUIRED

AIRBILL NUMBER

SAMPLE DESCRIPTION	COLLECTION DATE <i>6/9/94</i>	MATRIX SOIL/WATER <i>6/9/94</i>	CONTAINERS		PRESERVATIVE	HCL	42	COMMENTS
			NO.	TYPE (VOL.)	LAB SAMPLE #	TPH GAS Box	TPH Diesel	
S-1			4		33863.8	X	X	
S-2			↓		33865.4	↓	↓	
S-3			↓		33866.2	↓	↓	
S-4			↓		33867.0	↓	↓	
S-5			↓		33868.9	↓	↓	
S-6			↓		33869.7	↓	↓	
S-7			↓		33870.0	↓	↓	
S-8			3		33871.9	X		
S-9			2		33872.7	X		

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	ADDITIONAL COMMENTS
<i>[Signature]</i>	<i>6/10/94</i>	<i>1337</i>	<i>Donald Johanski Pace</i>	<i>6/10/94</i>	<i>1337</i>	<i>9/12; W3</i>
<i>Donald Johanski Pace</i>	<i>6/10/94</i>	<i>1540</i>	<i>[Signature]</i>	<i>6/10/94</i>	<i>1540</i>	