### **Ultramar**

**Ultramar, Inc.** P.O. Box 466 525 W. Third Street Hanford, CA 93232-0466 (209) 582-0241 Telecopy:

209-585-5685 Credit 209-583-3330 Administrative 209-583-3302 Information Services 209-583-3358 Accounting

### ENVIRONMENTAL PROJECT QUARTERLY STATUS REPORT

DATE REPORT SUBMITTED: July 22, 1997

QUARTER ENDING: June 30, 1997

**SERVICE STATION NO.: 720** 

ADDRESS: 1088 Marina Blvd., San Leandro, CA

**COUNTY:** Alameda

**ULTRAMAR CONTACT:** Terrence A. Fox

TEL. NO: 209-583-5545

#### **BACKGROUND:**

In January 1987, three underground gasoline storage tanks and one waste oil tank were excavated and removed from two tank cavities. Samples collected from beneath the former tanks indicated that hydrocarbons were present in the soil. In March 1987, five monitoring wells (MW-1 through MW-5) were installed by Conoco. Hydrocarbons were detected in soil and ground-water samples collected from the wells with the highest concentrations being detected in the area of MW-4. In July 1987, four soil borings were drilled in the vicinity of MW-4 to further characterize the soil contamination in that area. TPH concentrations above 100 ppm were detected in each boring. The site has been on a monitoring program since June 1987.

In July 1990, the site was purchased by Ultramar Inc. from Conoco. The monitoring program has continued.

In August 1991, perform shallow ground water study as screening tool to locate wells.

In October 1991, installed three additional wells to further define the extent of the dissolved hydrocarbon plume.

In October 1993, performed a ground-water pump test, a vapor extraction test, and a air sparging test.

In May 1994, submitted Problem Assessment Report/Remedial Action Plan.

In December 1994, installed one additional monitoring well, six air sparging points, and one vapor extraction well.



Beacon Station 720 Quarterly Status Report Page 2

#### **SUMMARY OF THIS QUARTER'S ACTIVITIES:**

Performed quarterly monitoring on June 12, 1997.

In June 1997, began operation of vapor extraction system.

**RESULT OF QUARTERLY MONITORING:** 

Monitoring data indicates that the benzene concentration remained not detected in MW-6 and MW-7. The benzene concentration decreased in MW-1 from 42 ppb to 33 ppb and in MW-3 from 0.73 ppb to not detected. Benzene concentrations increased in MW-2 from 430 ppb to 610 ppb, in MW-4 from 91 ppb to 4,600 ppb, in MW-5 from 6,800 ppb to 7,500 ppb, in MW-8 from 840 ppb to 1,000 ppb, and in MW-9 from 1,300 ppb to 2,500 ppb.

Approximately 339 pounds of hydrocarbons have been removed by the vapor extraction system.

#### **PROPOSED ACTIVITY OR WORK FOR NEXT QUARTER:**

**ACTIVITY** 

Continue quarterly monitoring program.

Start up air sparging and ground water extraction systems.

**ESTIMATED COMPLETION DATE** 

July 3, 1997

2221 Goldorado Trail, El Dorado, California 95623

(916) 626-3898 Fax (916) 626-3899

July 18, 1997

Mr. Terrence Fox Senior Project Manager Ultramar Inc. 525 West Third Street Hanford, California 93230

Subject:

Second Quarter 1997 Ground Water Monitoring Report

Beacon Station #720

1088 Marina Boulevard, San Leandro, California

Dear Mr. Fox:

El Dorado Environmental, Inc. (EDE) has prepared this report to document the results of quarterly ground water monitoring conducted on June 12, 1997 at the subject site (Figure 1). The monitoring, conducted by Doulos Environmental (Doulos), included measurements of depth to ground water, subjective analysis for the presence or absence of free product, ground water purging and collection of ground water samples. Doulos reports that all field activities were conducted in accordance with the Ultramar Field Procedures described in Attachment A.

#### **GROUND WATER ELEVATIONS**

Prior to purging, Doulos collected depth to ground water measurements. Copies of Doulos' field data sheets are contained in Attachment B. Ground water elevation data collected since March 1992 are summarized in Table 1. Historical ground water elevation data are presented in Attachment C. On the basis of the current measurements, ground water flows generally toward the southwest (Figure 2). The gradient of ground water flow is less than 0.01 foot per foot. Ground water elevations decreased an average of 0.65 feet compared to the last monitoring event.

#### **GROUND WATER SAMPLING AND ANALYSES**

Ground water samples were collected from nine monitoring wells. All samples were analyzed for concentrations of:

- TPH, as gasoline, by modified EPA Method 8015.
- BTEX by EPA Method 602.
- MTBE by EPA Method 602.

Analytical results collected since March 1992 are summarized in Table 2. Historical analytical data are presented in Attachment D. Figure 3 illustrates the inferred distribution of benzene in ground water based on the current data. The laboratory report and chain-of-custody form for the current sampling event are contained in Attachment E. Benzene was not present at detectable concentrations in ground water samples collected from monitoring wells MW-3, MW-6 and MW-7. Concentrations of benzene decreased in the ground water sample collected from monitoring well MW-1 and increased in the samples collected from monitoring wells MW-2, MW-4, MW-5, MW-8, and MW-9 compared to prior sampling.

A copy of this quarterly monitoring report should be forwarded to:

Mr. Rafat Shahid Division of Hazardous Materials Alameda County Health Care Services 80 Swan Way, Room 200 Oakland, California 94621 The interpretations and/or conclusions that may be contained within this report represent our professional opinions. These opinions are based on currently available information. Other than this, no warranty is implied or intended. This report has been prepared solely for the use of Ultramar Inc. Any reliance on this report by third parties will be at such parties' sole risk.

If you have any questions or comments, please contact us at (916) 626-3898.

Regards,

EL DORADO ENVIRONMENTAL, INC.

Dale a. con Jam

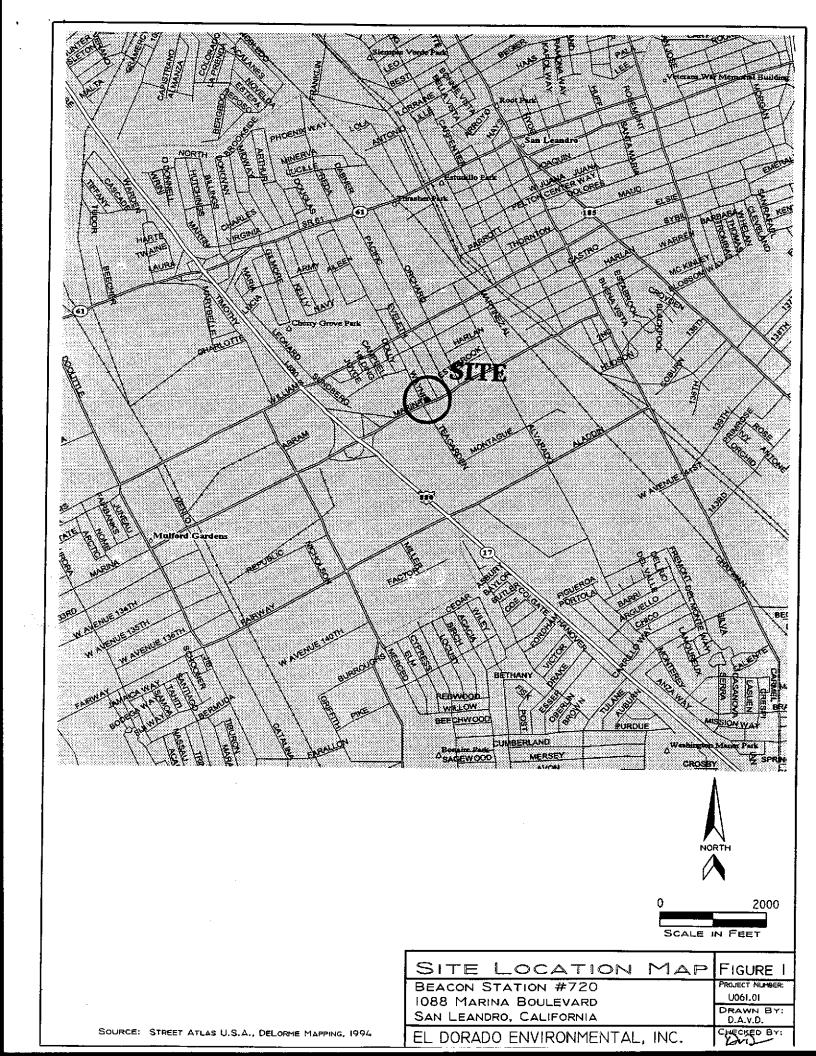
Dale A. van Dam, R.G. Hydrogeologist

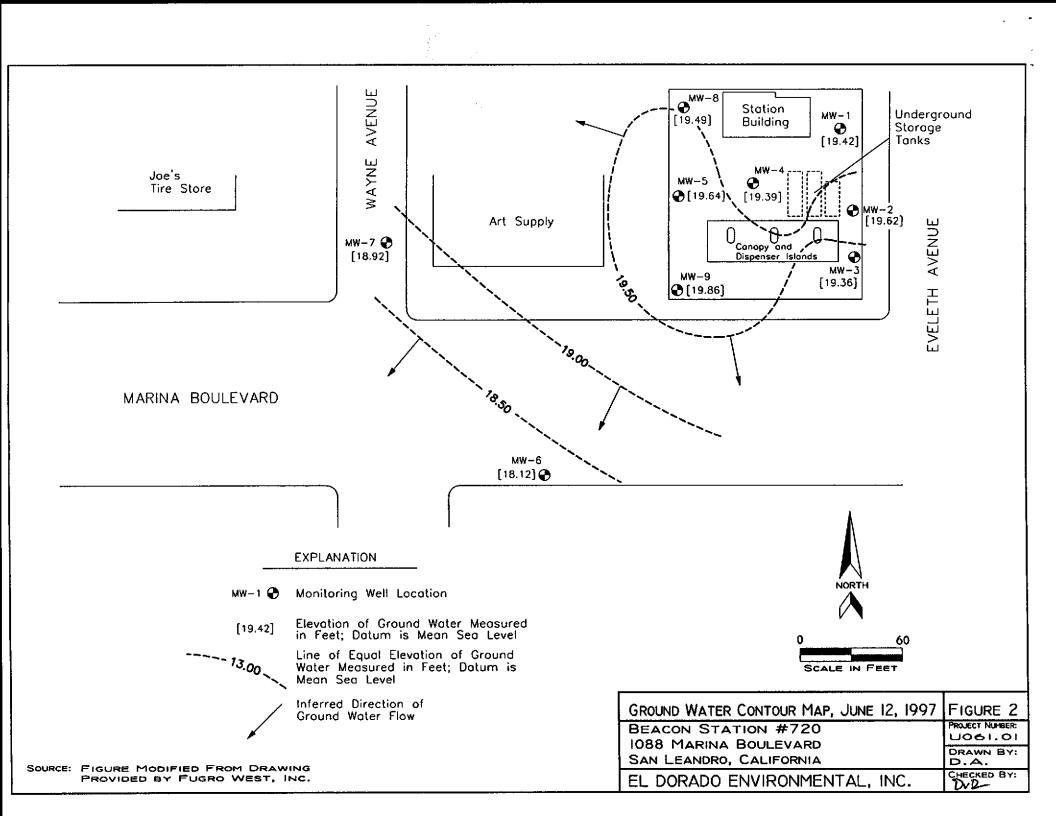
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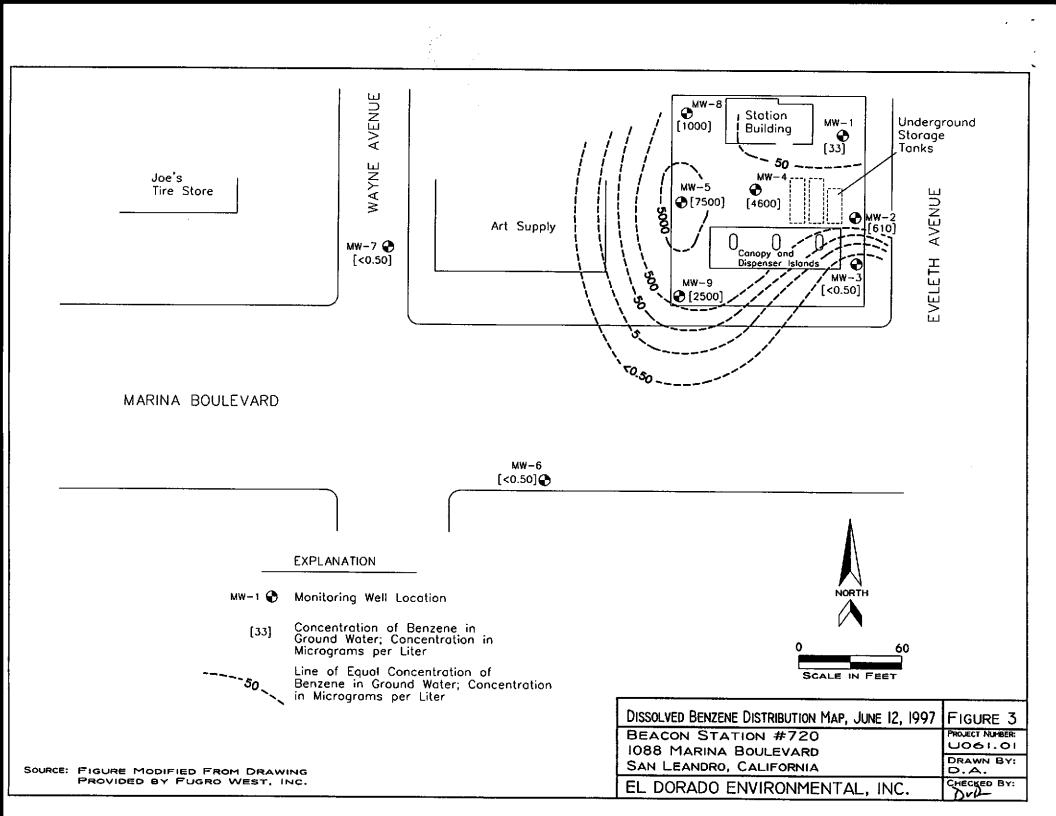
Attachments



FIGURES:	FIGURE 1 SITE LOCATION MAP	
	FIGURE 2 GROUND WATER CONTOUR MAP JUNE 12, 1997	
	FIGURE 3 DISSOLVED BENZENE DISTRIBUTION MAP JUNE 12, 1997	
TABLES:	TABLE 1 GROUND WATER ELEVATION DATA	
	TABLE 2 GROUND WATER ANALYTICAL RESULTS	
ATTACHMENTS:	A	
	B DOULOS ENVIRONMENTAL FIELD DATA SHEETS	
	C HISTORICAL GROUND WATER ELEVATION DATA	
	D HISTORICAL GROUND WATER ANALYTICAL DATA	
	E LABORATORY REPORT AND CHAIN-OF-CUSTODY FORM	







#### TABLE 1 **GROUND WATER ELEVATION DATA BEACON STATION #720** 1088 MARINA BOULEVARD, SAN LEANDRO, CALIFORNIA

(Measurements in feet)

Monitoring Well	Date	Reference Elevation (top of casing) <sup>1</sup>	Depth to Ground Water <sup>1</sup>	Ground Water Elevation <sup>2</sup>	Well Depth	Comments
MW-1	03/30/92	33.10	13.58	19.52		
	07/01/92		14.80	18.30	l	
ĺ	09/30/92		16.12	16.98		
	11/19/92		16.34	16.76	27.76	
	02/03/93		12.61	20.49	27.72	
	05/25/93		13.12	19.98	27.70	
	09/22/93		14.18	18.92	27.73	
	12/21/93		14.36	18.74	27.70	
	03/18/94		13.64	19.46	27.67	
	06/15/94	J	14.30	18.80	27.69	Ì
	09/14/94		15.18	17.92	27.66	
	12/19/94		13.79	19.31	27.70	
	12/21/95		13.86	19.24	<del> </del>	
	03/07/95		12.74	20.36	29.51	
	06/08/95		12.95	20.15	29.54	ì
	09/22/95		13.94	19.16	29.54	
	12/27/95		13.57	19.53	29.92	
	03/26/96		12.13	20.97	29.90	
	06/13/96		13.10	20.00	17.02	
	09/10/96		14.08	19.02	17.03	
	12/05/96		13.41	19.69	17.05	
	03/10/97		12.70	20.40	17.04	
	06/12/97		13.68	19.42	17.04	
MW-2	03/30/92	32.80	13.32	19.48		
	07/01/92		14.42	18.38		
	09/30/92		15.78	17.02		
	11/19/92		15.99	16.81	24,56	
	02/03/93		12.31	20.49	25.37	
	05/25/93		12.97	19.83	25.31	
	09/22/93		14.32	18.48	25.34	
	12/21/93		14.52	18.28	25.31	
	03/18/94		13.45	19.35	25.49	
	06/15/94		14.07	18.73	25.50	
	09/14/94		14.96	17.84	25.50	
	12/19/94		13.64	19.16	25.52	
	12/21/95		13.71	19,09		
	03/07/95		12.54	20.26	25.87	
	06/08/95		12.81	19.99	25.86	
	09/22/95		13.66	19.14	25.80	
	12/27/95		13.42	19.38	25.83	
	03/26/96		12.05	20.75	25.83	
:	06/13/96		12.79	20.01	26.39	
	09/10/96		13.73	19.07	26.43	
	12/05/96		13.29	19.51	26.45	
	03/10/97		12.42	20.38	26.48	
	06/12/97		13.18	19.62	26.50	

NOTES:

Measurement and reference elevation taken from notch/mark on top north side of well casing. Elevation referenced to mean sea level.

Measurement from top of casing to bottom of well.

2 Well Depth

Not measured. Well paved over

#### TABLE 1 **GROUND WATER ELEVATION DATA BEACON STATION #720** 1088 MARINA BOULEVARD, SAN LEANDRO, CALIFORNIA

(Measurements in feet)

Monitoring Well	Date	Reference Elevation (top of casing) <sup>1</sup>	Depth to Ground Water <sup>i</sup>	Ground Water Elevation <sup>1</sup>	Well Depth	Comments
MW-3	03/30/92	32.30	12.96	19.34		
	07/01/92	52.30	14.00	18.30	·	
	09/30/92		15.36	16.94		
	11/19/92		15.57	16.73	24.45	
	02/03/93		11.96	20.34	24.54	
	05/25/93		14.12	18.18	24.50	
	09/22/93	İ	13.88	18.42	24.50	
	12/21/93		14.12	18.18	24.50	
	03/18/94		13.04	19.26	24.57	
	06/15/94		13.65	18.65	24.78	
	09/14/94		14.54	17.76	24.59	
	12/19/94		13.28	19.02	24.71	
1	12/21/95		13.30	19.00		
	03/07/95		12.26	20.04	26.03	
	06/08/95		12.42	19.88	26.02	
	09/22/95		13.25	19.05	26.00	
	12/27/95		13.04	19.26	26.00	
	03/26/96		11.62	20.68	26.01	
i	06/13/96		12.61	19.69	28.45	
	09/10/96		13.49	18.81	28.42	
	12/05/96		13.07	19.23	28.42	
	03/10/97		12.23	20.07	28,41	
	06/12/97		12.94	19.36	28.44	
MW-4	03/30/92	32.90	13.60	19.30	_	
	07/01/92	32.70	15.72	17.18		
	09/30/92		16.04	16.86	***	
	11/19/92		16.21	16.69	26.92	
	02/03/93		12.70	20.20	27.00	
	05/25/93		12.97	19.93	26.88	
	09/22/93		14.51	18.39	26.90	
	12/21/93		14.75	18.15	26.90	
	03/18/94		13.68	19,22	27.24	
	06/15/94		14.37	18.53	28.54	
	09/14/94		15.23	17.67	27.25	
	12/19/94		13.93	18.97	28.61	
	12/21/95		13.99	18.91		
	03/07/95		12.86	20.04	28.64	
	06/08/95		13.10	19.80	28.68	
	09/22/95		13.98	18.92	28.71	
	12/27/95		13.74	19.16	28.71	
	03/26/96		12.30	20.60	28.70	
!	06/13/96		13.18	19.72	27.86	
	09/10/96		14.22	18.68	27.40	
	12/05/96		13.65	19.25	27.40	
	03/10/97		12.79	20.11	27,42	
	06/12/97		13.51	19.39	27.40	

NOTES:

Well Depth =

Measurement and reference elevation taken from notch/mark on top north side of well casing. Elevation referenced to mean sea level. Measurement from top of casing to bottom of well. Not measured.

Well paved over.

#### TABLE 1 GROUND WATER ELEVATION DATA **BEACON STATION #720**

### 1088 MARINA BOULEVARD, SAN LEANDRO, CALIFORNIA

(Measurements in feet)

Monitoring Well	Date	Reference Elevation (top of casing) <sup>t</sup>	Depth to Ground Water <sup>I</sup>	Ground Water Elevation <sup>2</sup>	Well Depth	Comments
MW-5	03/30/92	32.70	13.48	19.22		
WW-3	07/01/92	32.70	14.58	18.12		
	09/30/92		15.82	16.88		
	11/19/92		16.00	16.70	27,56	
	02/03/93		12.40	20.30	27.61	
	05/25/93		13.01	19.69	27.61	
	09/22/93		14.37	18.33	27.64	
	12/21/93		14.58	18.12	27.01	
	03/18/94		13.53	19.17	28.70	
	06/15/94		14.18	18.52	28.74	
	09/14/94		15.07	17.63	28.70	
	12/19/94		13.74	18.96	28.76	
	12/21/95		13.84	18.86		
	03/07/95		12.73	19.97	28.88	
	06/08/95		12.99	19.71	28.87	
	09/22/95		13.83	18.87	28.85	
	12/27/95		13.59	19.11	28.85	
	03/26/96		12.20	20.50	28.84	
	06/13/96		12.98	19.72	28.84	
	09/10/96		13.96	18.74	28.87	
	12/05/96		13.36	19.34	28.87	
	03/10/97		12.74	19.96	28.86	
	06/12/97		13.06	19.64	28.83	
MW-6	03/30/92	30.40	12.62	17.78		
14144-0	07/01/92	30.40	12.70	17.70	<b></b> .	
	09/30/92		13.40	17.00		
	11/19/92		13.59	16.81	15.10	
	02/03/93		12.43	17.97	15.01	
	05/25/93					*
	10/11/93		12.82	17.58	15.10	
	12/21/93		13.06	17.34	15.10	
	03/18/94		12.16	18,24	15.16	
]	06/15/94		12.59	17.81	15.17	
1	09/14/94		12.86	17.54	14.97	
1	12/19/94		12.48	17.92	15.19	
	12/21/95		11.61	18.79		
ŀ	03/07/95		12.37	18.03	14.98	
	06/08/95		11.14	19.26	15.00	
	09/22/95		12.44	17.96	15.00	
	12/27/95		12.21	18.19	14.98	
	03/26/96		12.26	18.14	14.97	
	06/13/96		12.55	17.85	14.98	
	09/10/96	i	12.31	18.09	15.01	
	12/05/96		12.22	18.18	15.00	!
	03/10/97		12.19	18.21	15.01	
	06/12/97		12.28	18.12	14.97	<u></u>

NOTES:

Measurement and reference elevation taken from notch/mark on top north side of well casing.

Elevation referenced to mean sea level.

Measurement from top of casing to bottom of well.

Not measured. 2 = Well Depth =

Well paved over.

#### TABLE 1 **GROUND WATER ELEVATION DATA BEACON STATION #720**

### 1088 MARINA BOULEVARD, SAN LEANDRO, CALIFORNIA

(Measurements in feet)

Well         Date         (top of casing)¹         Ground Water¹         E           MW-7         03/30/92         31.20         12.34         15.54         15.54         16.44         11/19/92         14.64         14.80         14.80         11.36 <th>18.86 15.66 16.56 16.40 2 19.84 2</th> <th>Well Comments</th>	18.86 15.66 16.56 16.40 2 19.84 2	Well Comments
Well         Date         (top of casing)¹         Ground Water¹         E           MW-7         03/30/92	18.86 15.66 16.56 16.40 19.84	Comments
MW-7 03/30/92 31.20 12.34 07/01/92 15.54 09/30/92 14.64 11/19/92 14.80 02/03/93 11.36 05/25/93 09/22/93 13.18	18.86 15.66 16.56 16.40 2 19.84 2	
07/01/92 09/30/92 11/19/92 02/03/93 05/25/93 09/22/93 15.54 14.64 14.80 11.36 11.36 11.36	15.66 16.56 16.40 2 19.84 2	
07/01/92 09/30/92 11/19/92 02/03/93 05/25/93 09/22/93 15.54 14.64 14.80 11.36  13.18	15.66 16.56 16.40 2 19.84 2	
09/30/92 14.64 11/19/92 14.80 02/03/93 11.36 05/25/93 09/22/93 13.18	16.56 16.40 2 19.84 2	
11/19/92 02/03/93 05/25/93 09/22/93 13.18	16.40 2 19.84 2	
02/03/93 05/25/93 09/22/93 13.18	19.84 2	'N 161
05/25/93 09/22/93 13.18		5.02
	1	- *
13/31/02   ' '	18,02	5.01
	17.78 2	5.02
03/18/94 12.36		5.13
		5.21
		5.13
		5.23
	18.82 19.64 2	5.22
		5.20 5.20
		5.23
		5.23
l		5.21
06/13/96 11.76	19.44 2	5.20
	18.49 2	4.56
		4.56
		4.53
06/12/97 12.28	18.92 2	4.52
	19.14	
	18.06	<del></del>
	16.80	<del></del>
		9.75
		9.88
	1	9.86 4.52
		9.86
1		9.87
		0.07
		9.87
	18.99 30	0.05
	18.91	
		0.94
		2.93
		0.95 0.92
		9.73 9.73
		7.92
		7.95
12/05/96 14.05		7.96
03/10/97 13.40	20.40 27	7.98
06/12/97 14.31	19.49 27	7.95
MW-9 12/21/95 32.56 13.76	18.80	
03/07/95 12.79 1		.71
06/08/95	19.60 24	.70
		.72
		.71
		.70
		.53
1		.58 .60
		.60 .66
I I I I		.66

NOTES:

Measurement and reference elevation taken from notch/mark on top north side of well casing. Elevation referenced to mean sea level. Measurement from top of casing to bottom of well.

Well Depth

Not measured. Well paved over.

#### TABLE 2 **GROUND WATER ANALYTICAL RESULTS BEACON STATION #720**

### 1088 MARINA BOULEVARD, SAN LEANDRO, CALIFORNIA

(All results in micrograms per Liter)

Monitoring Well	Date Collected	Total Petroleum Hydrocarbons		A	Aromatic Volatile C	Organics	
		Gasoline	MTBE <sup>1</sup>	Benzene	Toluene	Ethyl- benzene	Total Xylenes
MW-1	03/30/92	27,000		630	550	540	1,900
	07/01/92	55,000		840	1,000	830	3,600
	09/30/92	6,400	1	150	95	120	470
	11/19/92	1,300		90	11	50	87
	02/03/93	53,000		750	560	950	5,700
}	05/25/93	9,400		200	86	470	1,500
Ì	09/22/93	41,000		1,000	510	850	1,100
	12/21/93	41,000	1	1,000	490	2,700	13,000
	03/18/94	9,500	f	320	160	830	2,900
	06/15/94	8,000		310	80	990	2,300
	09/14/94	3,600		130	31	390	630
	12/19/94	17,000		350	150	1,500	5,200
	03/07/95	12,000		180	62	1,200	3,200
	06/08/95	6,300	1	76	8.0	560	860
ŀ	09/22/95	12,000		140	55	1,500	2,500
	12/27/95	3,900		60	13	480	870
	03/26/96	6,400		42	4.9	560	600
	06/13/96	9,600	<50	86	39	1,100	1,700
	09/10/96	16,000	<50	65 25	35	1,500	2,700
ļ	12/05/96	6,400	<25	25	11	570	930
1	03/10/9 <b>7</b> 06/12/9 <b>7</b>	15,000 16,000	<50 <100	42 33	<5.0 34	1,400 1,100	1,500 1,700
	00/12/97	10,000	<100	33	34	1,100	1,700
MW-2	03/30/92	52,000		2,300	1,700	940	3,300
	07/01/92	130,000		3,500	2,900	1,900	7,900
	09/30/92	24,000		890	350	500	1,700
	11/19/92	32,000		1,900	1,700	870	3,400
	02/03/93	64,000		1,900	2,200	860	4,100
	05/25/93	34,000		3,300	1,500	1,300	5,900
	09/22/93	8,000		640	150	270	2,000
	12/21/93	18,000		1,500	410	1,300	5,000
	03/18/94	14,000		1,600	790	1,100	3,700
	06/15/94	13,000		1,600	580	1,200	4,100
ļ	09/14/94	20,000		1,600	560	1,800	6,400
ļ	12/19/94	19,000		1,700	750	1,600	5,800
ŀ	03/07/95	17,000		1,900	980	1,300	5,100
	06/08/95 09/22/95	19,000		2,100 840	740 170	1,500	4,900
	12/27/95	12,000 16,000		1,100	540	1,100	3,400 5,100
	03/26/96	11,000		930	520	1,400 970	5,100
J	03/26/96 06/13/96	11,000	1,200	1,800	1,400	1,500	3,000 4,500
	09/10/96	19,000	1,100	1,600	600	1,600	4,300 5,000
j	12/05/96	12,000	180	650	180	1,000	2,800
	03/10/97	6,800	69	430	95	590	1,800
	06/12/97	20,000	100	610	140	1,500	4,300

NOTES:

Below indicated detection limit. Reported as "nondetect" by previous consultant. Not sampled.

#### TABLE 2 **GROUND WATER ANALYTICAL RESULTS BEACON STATION #720**

#### 1088 MARINA BOULEVARD, SAN LEANDRO, CALIFORNIA (All results in micrograms per Liter)

Monitoring Well	Date Collected	Total Petroleum Hydrocarbons		A	romatic Volatile (	Organics	
		Gasoline	MTBE <sup>t</sup>	Benzene	Toluene	Ethyl- benzene	Total Xylenes
MW-3	03/30/92	21,000		560	50	630	980
	07/01/92	13,000		150	20	22	300
	09/30/92	4,500		53	2.6	84	96
	11/19/92	4,700		73	6.2	140	120
	02/03/93	23,000		220	40	430	740
	05/25/93	9,900		120	26	370	520
	09/22/93	10,000		370	71	320	640
	12/21/93	7,800	ļ	130	8.5	430	380
	03/18/94	3,100		22	1.3	78	41
	06/15/94	1,700	İ	8.6	1.4	22	15
	09/14/94	1,400		3.8	<1.3	13	18
	12/19/94	3,800		70	1.7	140	110
	03/07/95	2,200		9.4	<1.3	30	21
	06/08/95	1,700		5.8	<1.3	2.3	14
	09/22/95	1,200		<1.3	<1.3	1.3	<1.3
	12/27/95	1,300		2.4	<1.3	3.3	3.6
	03/26/96	1,200		4.3	<1.3	4.2	2.0
	06/13/96	1,300	28	5.1	<0.50	21	6.5
	09/10/96	810	<5.0	1.4	4.8	1.6	2.1
	12/05/96	590	<5.0	<0.50	3.2	0.79	0.52
	03/10/97	650	<5.0	0.73	3.8	2.4	1.6
	06/12/97	710	<5.0	<0.50	3.5	2.9	3.6
MW-4	03/30/92	76,000		8,000	4,400	730	2,500
	07/01/92	95,000		6,900	2,200	70	880
	09/30/92	58,000		7,100	1,500	650	2,700
	11/19/92	33,000		5,500	840	400	1,400
	02/03/93	130,000		8,200	6,700	940	4,400
	05/25/93	63,000		16,000	6,600	1,700	8,100
	09/22/93	23,000		6,900	940	150	3,000
	12/21/93	28,000		6,900	1,900	1,100	5,500
ļ	03/18/94	58,000		17,000	6,300	2,500	10,000
	06/15/94	59,000		20,000	4,900	2,500	9,100
	09/14/94	73,000		22,000	6,800	2,700	10,000
	12/19/94	67,000		20,000	8,300	2,300	9,100
]	03/07/95	57,000		19,000	7,900	2,200	8,700
	06/08/95	61,000		17,000	6,300	2,700	9,000
	09/22/95	37,000		12,000	2,200	1,400	3,500
	12/27/95	39,000		12,000	6,000	1,800	5,800
	03/26/96	31,000	0.5	9,600	3,700	2,300 1.8	6,200 2.7
	06/13/96	240	89	64	0.93		
	09/10/96	91,000	2,900	13,000	20,000	3,200 580	16,000
1	12/05/96	16,000	1,200	3, <del>7</del> 00 91	3,100 <0.50	<0.50	2,800 0.80
ł	03/10/97	630	530			1,200	5.500
	06/12/97	36,000	1,100	4,600	5,300	1,200	3.300

NOTES:

< ND NS

Below indicated detection limit. Reported as "nondetect" by previous consultant. Not sampled.

# TABLE 2 GROUND WATER ANALYTICAL RESULTS BEACON STATION #720 1088 MARINA BOULEVARD, SAN LEANDRO, CALIFORNIA

(All results in micrograms per Liter)

Monitoring Well	Date Collected	Total Petroleum Hydrocarbons		,	Aromatic Volatile (	Organics	
		Gasoline	MTBE	Benzene	Toluene	Ethyl- benzene	Total Xylenes
MW-5	03/30/92	29,000		2,600	980	390	1,100
	07/01/92	52,000		2,400	1,000	5,200	2,000
	09/30/92	32,000		1,800	780	370	1,700
	11/19/92	7,800		1,000	280	120	370
	02/03/93	74,000		3,500	3,000	780	3,200
	05/25/93	57,000		7,900	4,700	1,900	7,800
	09/22/93	52,000	1	7,600	2,400	1,200	8,800
	12/21/93	23,000		3,600	1,200	970	3,600
	03/18/94	47,000		8,200	5,000	1,400	6,100
ľ	06/15/94	28,000		7,900	4,000	1,200	5,200
	09/14/94	32,000		8,000	5,100	1,400	5,600
ļ	12/19/94	29,000		7,000	3,400	1,200	5,200
i	03/07/95	36,000	1	9,800	5,800	1,800	7,800
	06/08/95	33,000		7,700	3,800	1,500	6,200
	09/22/95	39,000	<b>!</b>	9,500	3,800	1,900	7,000
i	12/27/95	42,000	<b>†</b>	9,700	5,000	2,200	8,800
	03/26/96	37,000		9,800	4,900	2,300	8,800
ŀ	06/13/96	18,000	1,400	5,500	2,200	1,500	5,300
	09/10/96	22,000	860	5,600	1,400	1,100	3,500
ļ	12/05/96	24,000	650	5,100	2,500	1,400	4,700
	03/10/97	28,000	760	6,800	2,700	1,300	5, <b>7</b> 00
	06/12/97	49,000	700	7,500	3,200	2,300	9,200
MW-6	03/30/92	73		2.1	1.1	ND	0.6
	07/01/92	ND		ND	ND	ND	ND
	09/30/92	ND		0.73	ND	ND	0.58
ľ	11/19/92	96		1.5	<0.5	<0.5	0.9
	02/03/93	73		0.6	<0.5	<0.5	<0.5
	05/25/93	NS		NS	NS	NS	NS
	10/11/93	<50		<0.5	<0.5	<0.5	<0.5
i	12/21/93	<50		<0.5	<0.5	<0.5	<0.5
1	03/18/94	<50		<0.5	<0.5	<0.5	<0.5
	06/15/94 09/14/94	<50 <50		<0.5	<0.5	<0.5	<0.5
-	12/19/94	<50		<0.5 <0.5	<0.5	<0.5	<0.5
	03/07/95	<50		<0.5 <0.5	<0.5 <0.5	<0.5	<0.5
	06/08/95	<50		<0.5 <0.5	<0.5 <0.5	<0.5	<0.5
1	09/22/95	<50 <50		<0.50	<0.50	<0.5 <0.50	<0.5
ĺ	12/27/95	<50 <50		<0.50	<0.50	<0.50 <0.50	<0.50
	03/26/96	<50 <50		<0.50	<0.50		< 0.50
1	06/13/96	<50 <50	<5.0	<0.50	<0.50	<0.50	<0.50
	09/10/96	<50 <50	<5.0 <5.0	<0.50	<0.50 <0.50	<0.50	< 0.50
ļ	12/05/96	<50 <50	<5.0 <5.0	<0.50 <0.50	<0.50 <0.50	<0.50	<0.50
-	03/10/97	<50 <50	<5.0 <5.0	<0.50	<0.50 <0.50	<0.50	<0.50
i	06/12/97	<50 <50	<5.0 <5.0	<0.50	<0.50	<0.50 <0.50	<0.50 <0.50

NOTES:

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Below indicated detection limit.

ND =

Reported as "nondetect" by previous consultant.

Not sampled.

#### TABLE 2 GROUND WATER ANALYTICAL RESULTS **BEACON STATION #720**

#### 1088 MARINA BOULEVARD, SAN LEANDRO, CALIFORNIA

(All results in micrograms per Liter)

Monitoring Well	Date Collected	Total Petroleum Hydrocarbons		A	romatic Volatile C	Organics	
		Gasoline	MTBE'	Benzene	Toluene	Ethyl- benzene	Total Xylenes
MW-7	03/30/92	ND		ND	ND	ND	ND
	07/01/92	ND		ND	ND	ND	ND
	09/30/92	ND		ND	ND	ND	ND
	11/19/92	<50		<0.5	<0.5	<0.5	<0.5
	02/03/93	<50		<0.5	<0.5	<0.5	<0.5
	05/25/93	NS		NS	NS 0.00	NS 10.5	NS
	09/22/93 12/21/93	<50 <50		0.51 <0.5	0.82 <0.5	<0.5 <0.5	0.81 <0.5
	03/18/94	<50 <50		<0.5	<0.5	<0.5	<0.5
	06/15/94	<50		<0.5	<0.5	<0.5	<0.5
	09/14/94	<50		<0.5	<0.5	<0.5	<0.5
	12/19/94	<50		<0.5	<0.5	<0.5	<0.5
	03/07/95	<50		<0.5	<0.5	<0.5	<0.5
	06/08/95	<50		<0.5	<0.5	<0.5	<0.5
	09/22/95	<50 -50		<0.50	<0.50	<0.50	<0.50
	12/27/95	<50		<0.50	<0.50 <0.50	<0.50 <0.50	<0.50 <0.50
	03/26/96 06/13/96	<50 <50	<5.0	<0.50 <0.50	<0.50	<0.50 <0.50	<0.50 <0.50
	09/10/96	<50 <50	<5.0	<0.50	<0.50 <0.50	<0.50	<0.50
1	12/05/96	<50	<5.0	<0.50	<0.50	<0.50	<0.50
	03/07/97	<50	<5.0	<0.50	<0.50	<0.50	<0.50
	06/12/97	<50	<5.0	<0.50	<0.50	<0.50	<0.50
MW-8	02/20/02	1 000		1.700	880	970	1,000
MW-8	03/30/92 07/01/92	3,000 72,000		1,700 1,800	550	520	1,900 2,200
1	09/30/92	12,000		680	140	140	560
	11/19/92	9,600		530	310	130	560
	02/03/93	44,000		1,500	1,300	490	2,300
	05/25/93	7,400		580	160	170	480
	09/22/93	2,400		490	45	37	140
	12/21/93	1,400	!	240	7.5	<2.5	82
	03/18/94	8,600		1,600 980	680 380	470 260	1,900 1,200
	06/15/94 09/14/94	4,800 6,600		1,200	280	330	1,100
•	12/19/94	8,400		1,800	390	500	2,000
	03/07/95	7,400		1,400	370	440	2,000
	06/08/95	6,000		790	220	290	1,400
1	09/22/95	4,100		750	93	230	860
l	12/27/95	5,400		860	140	350	1,400
1	03/26/96	1,700	42	180	27	100	370
	06/13/96 09/10/96	2,400 7,000	42 <50	500 1,300	67 100	220 410	850 1,600
	12/05/96	7,000 6,300	<50 <50	1,300	78	410	1,600
	03/07/97	6,500	<130	840	67	330	1,500
	06/12/97	7,500	<50	1,000	79	390	1,400
						(00	2 000
MW-9	12/20/94 03/07/95	16,000		2,500	1,400	690 320	2,800
	03/07/95 06/08/95	5,200 4,900		1,600 1,000	250 98	320 300	520 200
	09/22/95	4,000		1,100	82	190	200
	12/27/95	2,800		960	100	200	250
	03/26/96	1,600		380	44	96	110
	06/13/96	1,800	750	540	<b>7</b> 1	140	081
	09/10/96	2,400	810	860	70	190	210
	12/05/96	5,500	960	2,100	420	380	720
	03/07/97	4,200	720	1,300	170	260	440
L	06/12/97	11,000	1,000	2,500	490	560	1,300

NOTES:

Below indicated detection limit. Reported as "nondetect" by previous consultant. Not sampled.

< = ND = NS =

## ATTACHMENT A ULTRAMAR FIELD PROCEDURES

#### ATTACHMENT A - ULTRAMAR FIELD PROCEDURES

The following section describes procedures used by field personnel in the performance of ground water sampling at Ultramar Inc. sites.

#### Ground Water Level and Total Depth Determination

A water level indicator is lowered down the well and a measurement of the depth to water from an established reference point on the casing is taken. The indicator probe is used to sound the bottom of the well and a measurement of the total depth of the well is taken. Both the water level and total depth measurements are taken to the nearest 0.01-foot.

#### Visual Analysis of Ground Water

Prior to purging and sampling ground water monitoring wells, a water sample is collected from each well for subjective analysis. The visual analysis involves gently lowering a clean, disposable, polyethylene bailer to approximately one-half the bailer length past the water table interface. The bailer is then retrieved, and the sample contained within the bailer is examined for floating product or the appearance of a petroleum product sheen. If measurable free product is noted in the bailer, a water/product interface probe is used to determine the thickness of the free product to the nearest 0.01-foot. The thickness of free product is determined by subtracting the depth to product from the depth to water.

#### Monitoring Well Purging and Sampling

Monitoring wells are purged by removing approximately four casing volumes of water from the well using a clean disposable bailer or electrical submersible purge pump. Purge volumes are calculated prior to purging. During purging, the temperature, pH, and electric conductivity of the purge water are monitored. The well is considered to be sufficiently purged when: The four casing volumes have been removed; the temperature, pH, and conductivity values have stabilized to within 10% of the initial readings; and the ground water being removed is relatively free of suspended solids. After purging, ground water levels are allowed to stabilize to within 80% of the initial water level reading. A water sample is then collected from each well with a clean, disposable polyethylene bailer. If the well is bailed or pumped dry prior to removing the minimum volume of water, the ground water is allowed to recharge. If the well has recharged to within 80% of the initial depth to water reading within two hours, the well will continue to be purged until the minimum volume of water has been removed. If the well has not recharged to at least 80% of the initial depth to water reading within two hours, the well is considered to contain formational water and a ground water sample is collected. Ground water removed from the well is stored in 55-gallon drums at the site and labeled pending disposal.

In wells where free product is detected, the wells will be bailed to remove the free product. An estimate of the volume of product and water well be recorded. If the free product thickness is reduced to the point where a measurable thickness is no longer present in the well, a ground water sample will be collected. If free product persists throughout the purging process, a final free product thickness measurement will be taken and a ground water sample will not be collected.

Ground water samples are stored in 40-milliliter vials so that air passage through the sample is minimized (to prevent volatilization of the sample). The vial is tilted and filled slowly until an upward convex meniscus forms over the mouth of the vial. The Teflon<sup>rst</sup> side of the septum (in cap) is then placed against the meniscus, and the cap is screwed on tightly. The sample is then inverted and the bottle is tapped lightly to check for air bubbles. If an air bubble is present in the vial, the cap is removed and more sample is transferred from the bailer. The vial is then resealed and rechecked for air bubbles. The sample is then appropriately labeled and stored on ice from the time of collection through the time of delivery to the laboratory. The Chain-of-Custody form is completed to ensure sample integrity. Ground water samples are transported to a state-certified laboratory and analyzed within the U.S. Environmental Protection Agency-specified hold times for the specified analytes.

## ATTACHMENT B DOULOS ENVIRONMENTAL FIELD DATA SHEETS

## DOULOS ENVIRONMENTAL COMPANY GROUNDWATER/LIQUID LEVEL DATA (measurements in feet)

Project Address:	Beacon 720 Date: 6-12-97	
	1088 Marina Blod, San Jeandro, Caproject No.: 94-720-01	
Recorded by:	Hal Hansen	_

Well No	Time	Well Elev. TOC	Depth to Gr. Water	Measured Total Depth	Gr. Water Elevation	Depth to Product	Product Thickness	Comments
MW-1	727		13.68	17.04				she Aradrana Lac
MW-2	731		13.18	1650				Petrolemodo nontres.
MW-3	724		12.94	18.44				slight ado and show
MW-4	742		13.51	27.40				Petrolen ada monther under bacuum
MW-5	739		13.06	28.83				retrolem ada proofer
MW-6	717		12.28	1497				noodor mostes
MW-7	714		12.28	24.52				noodo mookee
MW8	711		14.31	27.95				noedor moshi
MW-9	735		12.70	24.66	,			under vacuum olightadion montum
								·
	<del> </del>	<u> </u>						
-								
Notes:	l							

Signature: Mullian

DAMPLING INFORMATION SHEET

C	Client:_	Ultramar			Sampling Date:	6-12-97	<del>,</del>
	Site:_	Reacon 7	20			.: <u>94-720-c</u>	) [
				 	ell Designatio		
		fan feard			<b>,</b>		
Is the Is top Is well Height Well of 12" BK	ere stan of cas l cap s of wel cover ty	טעס יינו	in well bevel? locked? siser (in i	nches): 2" UV	no <b>Kes</b> no <b>Kes</b>	Other 11 on a	remarks
			2" PVC k 4" PVC k	ailer ailer		Submersible Dedicated ba Centrifugal	iler
					6"		
Initia Time:_ Depth Depth	1 Measu 7/7 of well to wate		Time: Depth to	harge Mea 9-  water:_/	1.47 <u>surement</u> Calcu <u>2,75</u> A	_	4
	Time	Temp.	E.C.	рН	Turbidity	Volume	
	845	70.3	1482	772		,	1
	846	69.5	/3 62	756		- 1	7
	846	69.1	1304	748		- 3	
	851	68.9	1259	740		- 4	
S	ample ap	ppearance:	clam		Lock: _d	olphin	
2" Lo 4" Lo	ocking ( ocking (	laced: (Ch Cap: Cap:	_ Lock- _ Lock-	k #3753:		ion of replac 32 Allenhead: 9/16 Bolt: enhead (DWP):	
Remai	cks: _						
Signatu	ıre:	Hul:	Hanse.				

## ATTACHMENT C HISTORICAL GROUND WATER ELEVATION DATA

TABLE 1
GROUNDWATER ELEVATIONS
Page 1 of 5

Date Sampled	Depth to Groundwater (Feet)	Groundwater Elevation (Feet)	
Groundwater Monitoring Well MW-1:	Elevation of	Top of Casing = 29.89 feet	
June 23, 1987	14.79	15.10	
July 06, 1987	14.93	14.96	
August 06, 1987	14.22	15.67	
November 04, 1987	15.74	14.15	
February 02, 1988	13.99	15.90	
May 02, 1988	14.99	14.90	
November 21, 1988	13.03	16.86	
February 14, 1989	15.86	14.03	
May 02, 1989	14.77	15.12	
August 10, 1989	16.35	13.54	
November 08, 1989	16.46	13.43	
February 20, 1990	15.58	14.31	
May 18, 1990	16.40	13.49	
September 15, 1990	16.83	13.06	
November 26, 1990	17.16	12.73	
February 07, 1991	16.43	13.46	
May 14, 1991	14.93	14.96	
August 16, 1991	16.35	13.54	
Groundwater Monitoring Well MW-1:	andwater Monitoring Well MW-1: New Elevation of Top of Casing = 33.10 f		
December 24, 1991	17.20	15.90	
March 30, 1992	13.58	19.52	
Groundwater Monitoring Well MW-2:	Elevation of	Elevation of Top of Casing = 29.57 feet	
June 23, 1987	14.51	15.06	

TABLE 1
GROUNDWATER ELEVATIONS
Page 2 of 5

Date Sampled	Depth to Groundwater (Feet)	Groundwater Elevation (Feet)
July 06, 1987	14.63	14.94
August 06, 1987	14.95	14.62
November 04, 1987	15.45	14.12
February 02, 1988	13.74	15.83
May 02, 1988	14.63	14.94
November 21, 1988	12.99	16.58
February 14, 1989	15.66	13.91
May 02, 1989	14.56	15.01
August 10, 1989	16.22	13.35
November 08, 1989	16.19	13.38
February 20, 1990	15.34	14.23
May 18, 1990	16.20	13.37
September 15, 1990	16.42	13.05
November 26, 1990	16.83	12.74
February 07, 1991	16.13	13.44
May 14, 1991	14.62	14.95
August 16, 1991	16.00	13.57
Groundwater Monitoring Well MW-2:	New Elevation of	Top of Casing = 32.80 feet
December 24, 1991	16.90	15.90
March 30, 1992	13.32	19.48
Groundwater Monitoring Well MW-3:	Elevation of	Top of Casing = 29.13 feet
June 23, 1987	14.13	15.00
July 06, 1987	14.24	14.89
August 06, 1987	14.52	14.61
November 04, 19887	15.09	14.04
February 02, 1988	13.37	15.76

TABLE 1
GROUNDWATER ELEVATIONS
Page 3 of 5

Date Sampled	Depth to Groundwater (Feet)	Groundwater Elevation (Feet)
May 02, 1988	14.22	14.91
November 21, 1988	13,01	16,12
February 14, 1989	15.22	13.91
May 02, 1989	14.16	14.97
August 10, 1989	15.61	13.52
November 08, 1989	15.75	13.38
February 20, 1990	14.95	14.18
May 18, 1990	15.79	13.34
September 15, 1990	16.07	13.06
November 26, 1990	16,36	12.77
February 07, 1991	15.74	13.39
May 14, 1991	14.19	14.94
August 16, 1991	15.55	13.58
Groundwater Monitoring Well MW-3:	New Elevation	of Top of Casing = 32.30 feet
December 24, 1991	16.40	15.90
March 30, 1992	12.96	19.34
Groundwater Monitoring Well MW-4:	Elevation	of Top of Casing = 29.72 feet
June 23, 1987	14.77	14.95
July 06, 1987	14.91	14.81
August 06, 1987	15.19	14.53
November 04, 1987	15.72	14.00
February 02, 1088	14.03	15.69
May 02, 1988	14.89	14.83
November 21, 1988	12.88	16.84
February 14, 1989	15.83	13.89
May 02, 1989	14.75	14.97

TABLE 1
GROUNDWATER ELEVATIONS
Page 4 of 5

Date Sampled	Depth to Groundwater (Feet)	Groundwater Elevation (Feet)	
August 10, 1989	16.30	13.42	
November 08, 1989	16.29	13.43	
February 20, 1990	15.62	14.10	
May 18, 1990	16.34	13.38	
September 15, 1990	16.79	12.93	
November 26, 1990	17.08	12.64	
February 07, 1991	16.37	13.35	
May 14, 1991	14.87	14.85	
August 16, 1991	16.25	13.47	
Groundwater Monitoring Well MW-4:	New Elevation of Top of Casing = 32.90 feet		
December 24, 1991	17.10	15.80	
March 30, 1992	13.60	19.30	
Groundwater Monitoring Well MW-5:	Elevation o	f Top of Casing = 29.55 feet	
June 23, 1987	14.63	14.92	
July 06, 1987	14.79	14.76	
August 06, 1987	15.07	14.48	
November 04, 1987	15.61	13.94	
February 02, 1988	13.84	15.71	
May 02, 1988	14.77	14.78	
November 21, 1988	12.84	16.71	
February 14, 1989	15.72	13.83	
May 02, 1989	14.68	14.87	
August 10, 1989	16.03	13.52	
November 08, 1989	16.33	13.22	
February 20, 1990	15.44	14.11	

#### TABLE 1

#### GROUNDWATER ELEVATIONS Page 5 of 5

Date Sampled	Depth to Groundwater (Feet)	Groundwater Elevation (Feet)
May 18, 1990	16.22	13.33
September 15, 1990	16.65	12.90
November 26, 1990	16.95	12.60
February 07, 1991	16.20	13.35
May 14, 1991	14.72	14.38
August 16, 1991	16.10	13.45
Groundwater Monitoring Well MW-5:	New Elevation of Top of Casing = 32.70 feet	
December 24, 1991	16.92	15.78
March 30, 1992	13.48	19.22
Groundwater Monitoring Well MW-6:	Elevation o	of Top of Casing = 30.40 feet
December 24, 1991	14.12	16.28
March 30, 1992	12.62	17.78
Groundwater Monitoring Weil MW-7:	Elevation of Top of Casing = 31.20 feet	
December 24, 1991	15.70	15.50
March 30, 1992	12.34	18.86
Groundwater Monitoring Well MW-8:	Elevation of Top of Casing = 33.80 feet	
December 24, 1991	18.00	15.80
March 30, 1992	14.66	19.14

Notes: 2)

- All elevations surveyed to an arbitrary datum
- 3)
- 4)
- Elevations and depths are given in feet
  Groundwater Technology, Inc., made measurements until February 1989
  Du Pont Environmental Services collected samples from February 1989 through February 1991
  Environmental Geotechnical Consultants, Inc., made measurements beginning in May 1991 5)

## ATTACHMENT D HISTORICAL GROUND WATER ANALYTICAL DATA

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
Page 1 of 5

Well No.	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Xylenes (μg/L)	TPH-G (µg/L)	Comments
MW-1	Apr. 16, 1987	2,313	3,770	664.1	3,331	17,276	
	June 23, 1987	1,887	2,141	466.7	1,652	26,027	
	July 06, 1987	778.2	943.7	133.2	422.1	3,938	
	Aug. 06, 1987	1,270	1,576	288.7	873.7	6,079	
	Nov. 04, 1987	1,700	4,000	720	2,200	15,000	
	Feb. 02, 1988	1,500	1,700	230	740	14,000	
	May 02, 1988	3,500	700	4,900	2,700	33,000	
	Nov. 21, 1988	2,200	560	2,800	2,200	15,000	
	Feb. 14, 1989	1,700	1,700	340	1,500	12,000	Odor
	May 02, 1989	1,500	2,400	510	2,400	18,000	Odor, Slight Sheen
	Aug. 10, 1989	1,400	1,500	360	1,600	10,000	Odor
	Nov. 08, 1989	920	470	190	360	7,200	Odor
	Feb. 20, 1990	810	540	270	800	3,300	
	May 18, 1990	1,900	500	560	1,600	5,600	
	Sep. 15, 1990	320	110	150	520	5,200	Odor
	Nov. 26, 1990	370	59	150	370	3,000	Odor
-	Feb. 07, 1991	750	570	480	1,800	14,000	
	May 14, 1991	1,000	1,400	600	2,500	41,000	
· ·	Aug. 16, 1991	310	210	150	480	4,000	Odor
	Dec. 24, 1991	530	95	310	680	11,000	Moderate Odor
	Mar. 30, 1992	630	550	540	1,900	27,000	Odor
MW-2	Apr. 16, 1987	3,131	4,239	1,067	4,608	17,920	
	June 23, 1987	2,188	2,622	1,047	4,699	49,354	
. •	July 06, 1987	1,575	1,729	457	1,702	8,676	
	Aug. 06, 1987	2,623	3,722	702	2,882	14,376	
	Nov. 04, 1987	2,200	4,100	900	3,500	19,000	

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
Page 2 of 5

Well No. /	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Xylenes (μg/L)	TPH-G (µg/L)	- Comments
MW-2	Feb. 02, 1988	6,200	6,500	- 1,000	4,000	54,000	
	May 02, 1988	6,800	1,300	7,100	5,400	53,000	
	Nov. 21, 1988						Free product
	Feb. 14, 1989	6,900	4,300	1,100	5,200	48,000	Film of free product
	May 02, 1989	6,100	8,800	2,100	16,000	111,000	Odor, sheen
	Aug. 10, 1989	4,200	2,900	1,000	5,800	39,000	Odor, sheen
	Nov. 08, 1989	3,700	1,500	740	2,200	45,000	Odor, heavy sheen
	Feb. 20, 1990	5,000	8,200	1,600	11,000	60,000	
	May 18, 1990	6,200	1,900	1,300	610	19,000	
	Sep. 15, 1990	1,400	820	660	3,000	27,000	Odor, sheen
	Nov. 26, 1990	1,100	880	700	3,800	28,000	Odor, sheen
	Feb. 07, 1991	2,100	1,900	1,300	6,200	63,000	Odor, sheen
	May 14, 1991	2,200	2,700	1,100	5,900	100,000	Moderate odor Slight sheen
	Aug. 16, 1991	1800	950	990	3900	32,000	Slight odor, sheen
	Dec. 24, 1991	1,100	550	750	2,700	30,000	Odor, sheen
	Mar. 30, 1992	2,300	1,700	940	3,300	52,000	Odor, sheen
MW-3	Apr. 16, 1987	1,371	2,438	472.3	2,617	9,967	
	June 23, 1987	646.2	822.9	320.9	1,280	16,824	
	July 06, 1987	340.3	384.2	116.5	420.2	3,395	
	Aug. 06, 1987	441.9	436.3	118.2	417.3	3,107	
	Nov. 04, 1987	320	280	74	250	2,600	·
	Feb. 02, 1988	2,200	2,300	500	2,300	44,000	
	May 02, 1988	1,600	450	840	1,700	14,000	
	Nov. 21, 1988	1,200	220	560	810	8,100	
	Feb. 14, 1989	1,500	220	220	500	5,500	Odor

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
Page 3 of 5

Well No.	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Xylenes (μg/L)	ТРН-G (µg/L)	Comments
	Aug. 10, 1989	750	10	190	210	2,700	Odor
	Nov. 08, 1989	370	90	ND	58	2,400	Odor
	Feb. 20, 1990	1,200	810	77	460	3,700	
<del></del>	May 18, 1990	980	ПN	330	250	2,300	
	Sep. 15, 1990	240	36	150	230	4,700	Odor
<u> </u>	Nov. 26, 1990	170	8.4	86	120	1,400	Odor
	Feb. 07, 1991	220	20	120	230	2,900	
	May 14, 1991	370	39	220	820	15,000	
	Aug. 16, 1991	480	50	360	680	7,200	Slight Odor
	Dec. 24, 1991	150	20	100	140	4,900	Slight Odor
	Mar. 30, 1992	560	50	630	980	21,000	Odor
MW-4	Apr. 16, 1987	5,896	3,797	893.9	4,106	19,309	
	June 23, 1987	4,030	1,842	850.0	3,254	31,429	
	July 06, 1987	2,710	1,247	308.2	1,312	8,117	
	Aug. 06, 1987	3,992	1,589	447.9	1,611	10,464	
	Nov. 04, 1987	9,500	17,000	2,800	11,000	55,000	
	Feb. 02, 1988	11,000	7,400	1,400	6,200	47,000	
	May 02, 1988	9,200	1,300	6,100	6,400	58,000	
	Nov. 21, 1988	5,700	1,600	3,100	7,600	48,000	
	Feb. 14, 1989	8,700	2,500	900	3,800	29,000	Odor & sheen
	May 02, 1989	4,800	5,600	1,800	8,800	69,000	Odor, slight sheen
	Aug. 10, 1989	15,000	6,600	1,800	12,000	67,000	Odor, slight sheen
	Nov. 08, 1989	11,000	3,200	1,100	4,400	71,000	Odor, slight sheen
	Feb. 20, 1990	8,100	4,500	930	3,500	19,000	
	May 18, 1990	45,000	12,000	5,000	27,000	100,000	
	Sep. 15, 1990	4,200	1,200	740	3,000	38,000	

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
Page 4 of 5

Well No.	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Xylenes (μg/L)	TPH-G (µg/L)	Comments
MW-4	Nov. 26, 1990	2,800	650	810	2,600	19,000	Odor
	Feb. 07, 1991	4,600	1,100	1,600	4,600	41,000	Odor, sheen
	May 14, 1991	7,300	830	3,900	3,600	100,000	Slight odor, sheen
	Aug. 16, 1991	8,000	2,500	1,100	4,000	45,000	Strong odor, sheen
	Dec. 24, 1991	6,000	1,200	1,100	3,700	79,000	Odor, sheen
·	Mar. 30, 1992	8,000	4,400	730	2,500	76,000	Odor, sheen
MW-5	Apr. 16 1987	2,267	921.2	3,277	4,536	17,733	
	June 23, 1987	2,239	516.8	953.9	1,587	19,555	
	July 06, 1987	1,335	313.7	799.2	923.9	5,631	
	Aug. 06, 1987	1,890	881.2	576.8	93,4	6,450	
	Nov. 04, 1987	1,300	500	270	640	4,600	
	Feb. 02, 1988	3,100	1,500	550	1,400	24,000	
	May 02, 1988	4,400	490	1,200	1,500	17,000	
	Nov. 21, 1988	5,600	590	870	2,200	19,000	
# <b>-</b>	Feb. 14, 1989	4,300	810	410	1,300	13,000	Odor
	May 02, 1989	2,900	1,500	690	3,200	24,000	Odor, slight sheen
	Aug. 10, 1989	6,700	2,300	860	4,700	36,000	Odor, slight sheen
	Nov. 08, 1989	5,300	860	460	600	30,000	Odor
	Feb. 20, 1990	1,700	220	120	370	3,400	
	May 18, 1990	18,000	2,000	1,500	5,600	24,000	
	Sep. 15, 1990	2,600	2,200	1,000	4,900	42,000	Odor, sheen
<del></del>	Nov. 26, 1990	1,900	280	260	800	8,500	Odar, sheen

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
Page 5 of 5

Well No.	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Xylenes (µg/L)	TPH-G (µg/L)	Comments
	Feb. 07, 1991	1,500	1,200	610	2,700	24,000	Odor
	May 14, 1991	3,800	4,400	1,400	6,400	120,000	Odor, sheen
	Aug. 16, 1991	4,200	1,900	760	2,900	29,000	Moderate odor, sheen
	Dec. 24, 1991	3,900	1,500	880	3,200	63,000	Odor, sheen
	Mar. 30, 1992	2,600	980	390	1,100	29,000	Odor, sheen
MW-6	Dec. 24, 1991	ND	ND	ND	ND	79	,
	Mar. 30, 1992	2.1	1.1	סא	0.6	73	
MW-7	Dec. 24, 1991	DN	DN	DN	ND	ND	
	Mar. 30, 1992	ND	ND	ND	ND	ND	_
MW-8	Dec. 24, 1991	1,700	2,400	1,200	6,100	81,000	Odor, sheen
	Mar. 30, 1992	1,700	880	970	1,900	3,000	Odor, sheen

Notes:

- 1) TPH-G = Total Petroleum Hydrocarbons as gasoline
- 2) Odor refers to petroleum hydrocarbon odor
- 3) All results are presented in parts per billion
- 4) Groundwater Technology, Inc., collected samples prior to February 1989
- 5) Du Pont Environmental Services collected samples from February 1989 through February 1991
- 6) Environmental Geotechnical Consultants, Inc. collected samples beginning in May 1991
- 7) ND = Non Detect
- 8) See analytical results for detection limits (Appendix B)

#### ATTACHMENT E

### LABORATORY REPORT AND CHAIN-OF-CUSTODY FORM



Date: 06/17/97

Dale van Dam El Dorado Environmental 2221 Goldorado Trail El Dorado, CA 95623

Subject: Analysis of 9 Water Samples

Project Name: Beacon 720 Project Number: 94-720-01

Location: San Leandro

Dear Mr. van Dam,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed.

Kiff Analytical is certified by the State of California (# 2236). If you have any questions regarding procedures or results, please call me at 916-297-4800.

Sincerely,



Date: 06/17/97

Project Name: Beacon 720

Project Number: 94-720-01

Sample: MW-1

Matrix: Water

Sample Date :06/12/97

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	33	10	ug/L	EPA 8020	06/15/97
Toluene	34	10	ug/L	EPA 8020	06/15/97
Ethylbenzene	1100	10	ug/L	EPA 8020	06/15/97
Total Xylenes	1700	10	ug/L	EPA 8020	06/15/97
Methyl-t-butyl ether	< 100	100	ug/L	EPA 8020	06/15/97
TPH as Gasoline	16000	1000	ug/L	M EPA 8015	06/15/97
aaa-Trifluorotoluene (8020 Surrogate)	103		% Recovery	EPA 8020	06/15/97
aaa-Trifluorotoluene (Gasoline Surrogate)	111		% Recovery	M EPA 8015	06/15/97

Sample: MW-2

Matrix: Water

Sample Date :06/12/97

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	610	5.0	ug/L	EPA 8020	06/16/97
Toluene	140	5.0	ug/L	EPA 8020	06/16/97
Ethylbenzene	1500	5.0	ug/L	EPA 8020	06/16/97
Total Xylenes	4300	5.0	ug/L	EPA 8020	06/16/97
Methyl-t-butyl ether	100	50	ug/L	EPA 8020	06/16/97
TPH as Gasoline	20000	500	ug/L	M EPA 8015	06/16/97
aaa-Trifluorotoluene (8020 Surrogate)	102		% Recovery	EPA 8020	06/16/97
aaa-Trifluorotoluene (Gasoline Surrogate)	117		% Recovery	M EPA 8015	06/16/97

Approved By: Joel Kiff



Date: 06/17/97

Project Name : Beacon 720 Project Number: 94-720-01

Sample: MW-3

Matrix: Water

Sample Date :06/12/97

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8020	06/16/97
Toluene	3.5	0.50	ug/L	EPA 8020	06/16/97
Ethylbenzene	2.9	0.50	ug/L	EPA 8020	06/16/97
Total Xylenes	3.6	0.50	ug/L	EPA 8020	06/16/97
Methyl-t-butyl ether	< 5.0	5.0	ug/L	EPA 8020	06/16/97
TPH as Gasoline	710	50	ug/L	M EPA 8015	06/16/97
aaa-Trifluorotoluene (8020 Surrogate)	91.0		% Recovery	EPA 8020	06/16/97
aaa-Trifluorotoluene (Gasoline Surrogate)	127		% Recovery	M EPA 8015	06/16/97

Sample: MW-4

Matrix: Water

Sample Date :06/12/97

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	4600	10	ug/L	EPA 8020	06/15/97
Toluene	5300	10	ug/L	EPA 8020	06/15/97
Ethylbenzene	1200	10	ug/L	EPA 8020	06/15/97
Total Xylenes	5500	10	ug/L	EPA 8020	06/15/97
Methyl-t-butyl ether	1100	100	ug/L	EPA 8020	06/15/97
TPH as Gasoline	36000	1000	ug/L	M EPA 8015	06/15/97
aaa-Trifluorotoluene (8020 Surrogate)	96.8		% Recovery	EPA 8020	06/15/97
aaa-Trifluorotoluene (Gasoline Surrogate)	109		% Recovery	M EPA 8015	06/15/97

Approved By: Jøel Kiff



Date: 06/17/97

Project Name:

Beacon 720

Project Number: 94-720-01

Sample: MW-5

Matrix: Water

Sample Date :06/12/97

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	7500	25	ug/L	EPA 8020	06/17/97
Toluene	3200	25	ug/L	EPA 8020	06/17/97
Ethylbenzene	2300	25	ug/L	EPA 8020	06/17/97
Total Xylenes	9200	25	ug/L	EPA 8020	06/17/97
Methyl-t-butyl ether	700	250	ug/L	EPA 8020	06/17/97
TPH as Gasoline	49000	2500	ug/L	M EPA 8015	06/17/97
aaa-Trifluorotoluene (8020 Surrogate)	102		% Recovery	EPA 8020	06/17/97
aaa-Trifluorotoluene (Gasoline Surrogate)	109		% Recovery	M EPA 8015	06/17/97

Sample: MW-6

Matrix: Water

Sample Date :06/12/97

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8020	06/15/97
Toluene	< 0.50	0.50	ug/L	EPA 8020	06/15/97
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8020	06/15/97
Total Xylenes	< 0.50	0.50	ug/L	EPA 8020	06/15/97
Methyl-t-butyl ether	< 5.0	5.0	ug/L	EPA 8020	06/15/97
TPH as Gasoline	< 50	50	ug/L	M EPA 8015	06/15/97
aaa-Trifluorotoluene (8020 Surrogate)	103		% Recovery	EPA 8020	06/15/97
aaa-Trifluorotoluene (Gasoline Surrogate)	90.8		% Recovery	M EPA 8015	06/15/97

Approved By: Joel Kiff



Date: 06/17/97

Project Name: B

Beacon 720

Project Number: 94-720-01

Sample: MW-7

Matrix: Water

Sample Date :06/12/97

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8020	06/15/97
Toluene	< 0.50	0.50	ug/L	EPA 8020	06/15/97
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8020	06/15/97
Total Xylenes	< 0.50	0.50	ug/L	EPA 8020	06/15/97
Methyl-t-butyl ether	< 5.0	5.0	ug/L	EPA 8020	06/15/97
TPH as Gasoline	< 50	50	ug/L	M EPA 8015	06/15/97
aaa-Trifluorotoluene (8020 Surrogate)	104		% Recovery	EPA 8020	06/15/97
aaa-Trifluorotoluene (Gasoline Surrogate)	90.7		% Recovery	M EPA 8015	06/15/97

Sample: MW-8

Matrix: Water

Sample Date :06/12/97

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	1000	5.0	ug/L	EPA 8020	06/16/97
Toluene	79	5.0	ug/L	EPA 8020	06/16/97
Ethylbenzene	390	5.0	ug/L	EPA 8020	06/16/97
Total Xylenes	1400	5.0	ug/L	EPA 8020	06/16/97
Methyl-t-butyl ether	< 50	50	ug/L	EPA 8020	06/16/97
TPH as Gasoline	7500	500	ug/L	M EPA 8015	06/16/97
aaa-Trifluorotoluene (8020 Surrogate)	101		% Recovery	EPA 8020	06/16/97
aaa-Trifluorotoluene (Gasoline Surrogate)	107		% Recovery	M EPA 8015	06/16/97

Approved By:

Joe Kiff



Date: 06/17/97

Project Name: Beacon 720

Project Number: 94-720-01

Sample: MW-9

Matrix: Water

Sample Date :06/12/97

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	2500	5.0	ug/L	EPA 8020	06/15/97
Toluene	490	5.0	ug/L	EPA 8020	06/15/97
Ethylbenzene	560	5.0	ug/L	EPA 8020	06/15/97
Total Xylenes	1300	5.0	ug/L	EPA 8020	06/15/97
Methyl-t-butyl ether	1000	50	ug/L	EPA 8020	06/15/97
TPH as Gasoline	11000	500	ug/L	M EPA 8015	06/15/97
aaa-Trifluorotoluene (8020 Surrogate)	101		% Recovery	EPA 8020	06/15/97
aaa-Trifluorotoluene (Gasoline Surrogate)	109		% Recovery	M EPA 8015	06/15/97

Approved By: Joel Kiff



### **Uttramar Inc.** CHAIN OF CUSTODY REPORT 10/38

BEACON

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# Ultramar Inc. CHAIN OF CUSTODY REPORT 10138

BEACON

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