

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

EMVIROR PROTECTION

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209-585-5685 Credit **1**0**13**583-3330 Administrative 209-583-3302 Information Services 209-583-3358 Accounting

February 3, 1997

Mr. Scott Seery Alameda County Health Agency Department of Environmental Health 80 Swan Way, Room 350 Oakland, CA 94621

SUBJECT:

FORMER BEACON STATION NO. 574, 22315 REDWOOD ROAD, CASTRO

VALLEY, CALIFORNIA

Dear Mr. Seery:

Enclosed is a copy of the Fourth Quarter 1996 Groundwater Monitoring Report for the above-referenced Ultramar facility prepared by El Dorado Environmental Inc. Also included with the report is a copy of the Quarterly Status Report describing the work performed this quarter and the work anticipated to be conducted in the next quarter.

Please do not hesitate to call if you have any questions about this project at (209) 583-5571.

Sincerely,

ULTRAMAR INC.

Kenneth R. Earnest Senior Project Manager

Marketing Environmental Department

Enclosure:

Fourth Quarter 1996 Groundwater Monitoring Report

cc w/encl.:

Mr. Rich Hiett, CRWQCB-San Francisco Bay Region



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#### **Ultramar**

ENVIRONMENTAL PROTECTION

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



DATE REPORT SUBMITTED: February 3, 1997 OUARTER ENDING: December 31, 1996

FORMER SERVICE STATION NO.: 574

ADDRESS: 22315 Redwood Road, Castro Valley, CA

COUNTY: Alameda

ULTRAMAR CONTACT: Kenneth R. Earnest

TEL. NO: 209-583-5571

#### BACKGROUND:

On May 5, 1987, five underground storage tanks (two gasoline, two diesel and one waste oil) were excavated and removed from the site. Soil samples were collected from beneath the tanks and analyzed for hydrocarbon constituents. Based on preliminary analytical data related to the collected soil samples, it was determined that elevated levels of gasoline and diesel were present in the soil beneath the former fuel tanks. Soil was overexcavated from beneath the former fuel tanks. Soil samples were collected after the over-excavation and confirmed that the addition excavation was successful.

During March 1991, three ground-water monitoring wells were installed on-site. Laboratory analysis of soil samples obtained from the borings for the installation of the monitoring wells indicated that the soil near the soil/water interface exhibited gasoline range hydrocarbons.

Quarterly monitoring was initiated during the fourth quarter 1991.

Installed five new groundwater monitoring wells in May of 1993. With the installation of these new wells the site is fully defined.

Conducted a soil gas survey/performance test, aquifer pump test and air sparging test during first quarter 1994.

Submitted PAR/RAP during the fourth quarter 1994.

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

Performed second quarter monitoring on December 2, 1996.





Page 2 Former Station #574 Castro Valley, CA

#### **RESULT OF QUARTERLY MONITORING:**

Results indicate that the dissolved petroleum hydrocarbon plume continues to be defined.

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

**ACTIVITY** 

**ESTIMATED COMPLETION DATE** 

First quarter monitoring

March 1997

### El Dorado Environmental, Inc.

2221 Goldorado Trail, El Dorado, California 95623

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

January 31, 1997

Mr. Kenneth Earnest Senior Project Manager Ultramar Inc. 525 West Third Street Hanford, California 93230

Subject:

Fourth Quarter 1996 Ground Water Monitoring Report

Former Beacon Station #574

22315 Redwood Road, Castro Valley, California

Dear Mr. Earnest:

El Dorado Environmental, Inc. (EDE) has prepared this report to document the results of quarterly ground water monitoring conducted on December 2, 1996 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 contained in Attachment C. On the basis of the current measurements, ground water flows toward the southwest (Figure 2) at a gradient of 0.01 foot per foot. Ground water elevations in monitoring wells MW-1 through MW-7 increased an average of 0.47 feet compared to the last monitoring event. The ground water elevation in monitoring well MW-8 decreased 0.01 feet compared to the last monitoring event.

#### GROUND WATER SAMPLING AND ANALYSES

Ground water samples were collected from three monitoring wells (by agreement with Alameda County, ground water samples were not collected from monitoring wells MW-1 through MW-5 and MW-8). All samples were analyzed for concentrations of:

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

Analytical results collected since March 1992 are summarized in Table 2. Historical analytical data are contained in Attachment D. Figure 3 illustrates the inferred distribution of dissolved benzene in ground water based on the current data. The laboratory report and chain-of-custody form for the current sampling event are included in Attachment E. Benzene was not present at detectable concentrations in ground water samples collected from monitoring wells MW-5, MW-6, and MW-7.

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

Mr. Scott Seery
Senior Hazardous Materials Specialist
Alameda County Health Agency
Division of Hazardous Materials
Department of Environmental Health
80 Swan Way, Room 350
Oakland, California 94621

Mr Rich Hiett
California Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, California 94612

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.

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Dale A. van Dam, R.G. Hydrogeologist

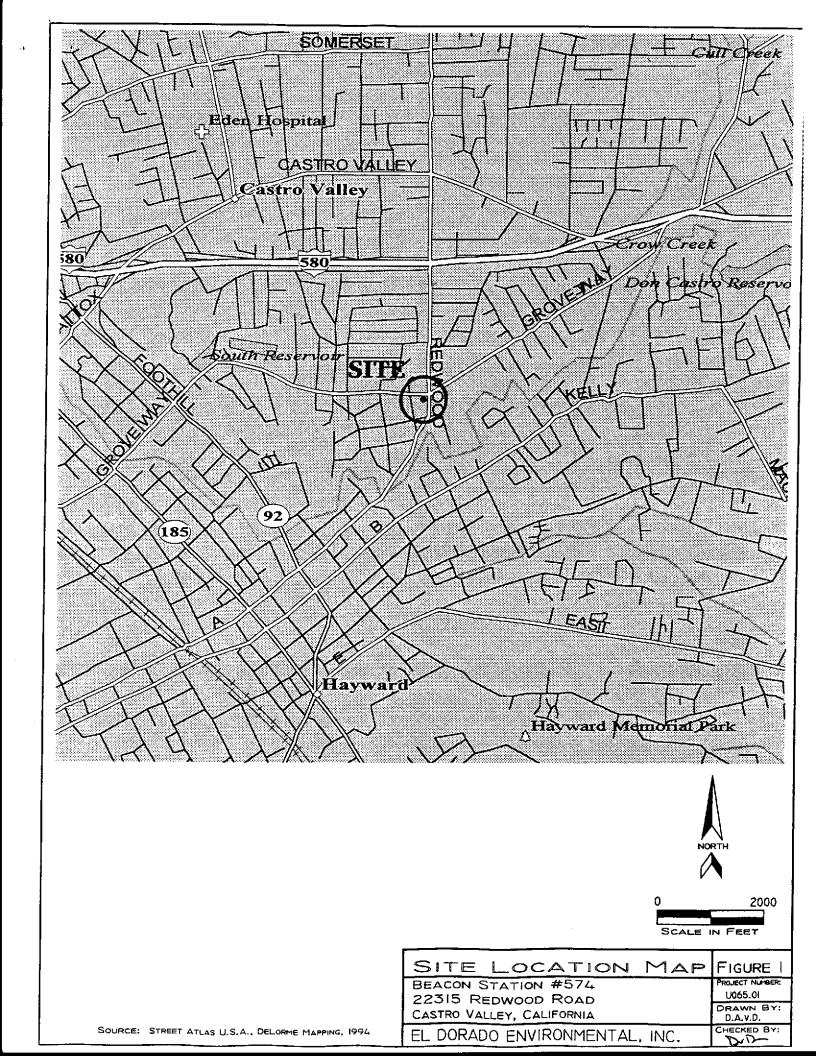
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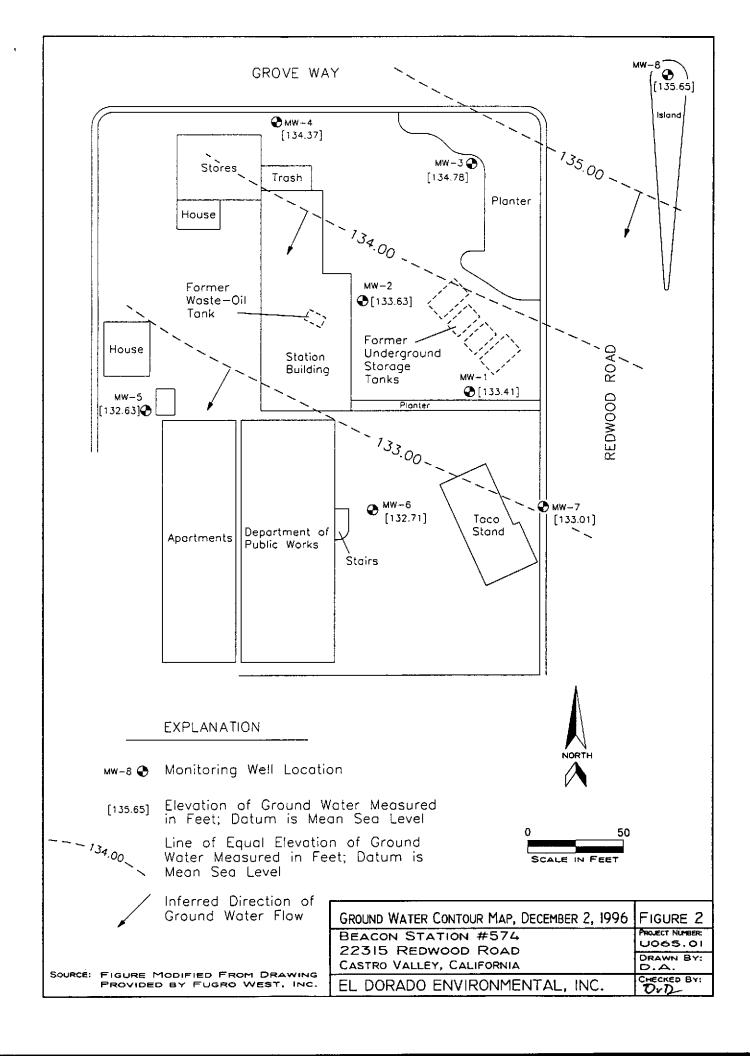
Attachments

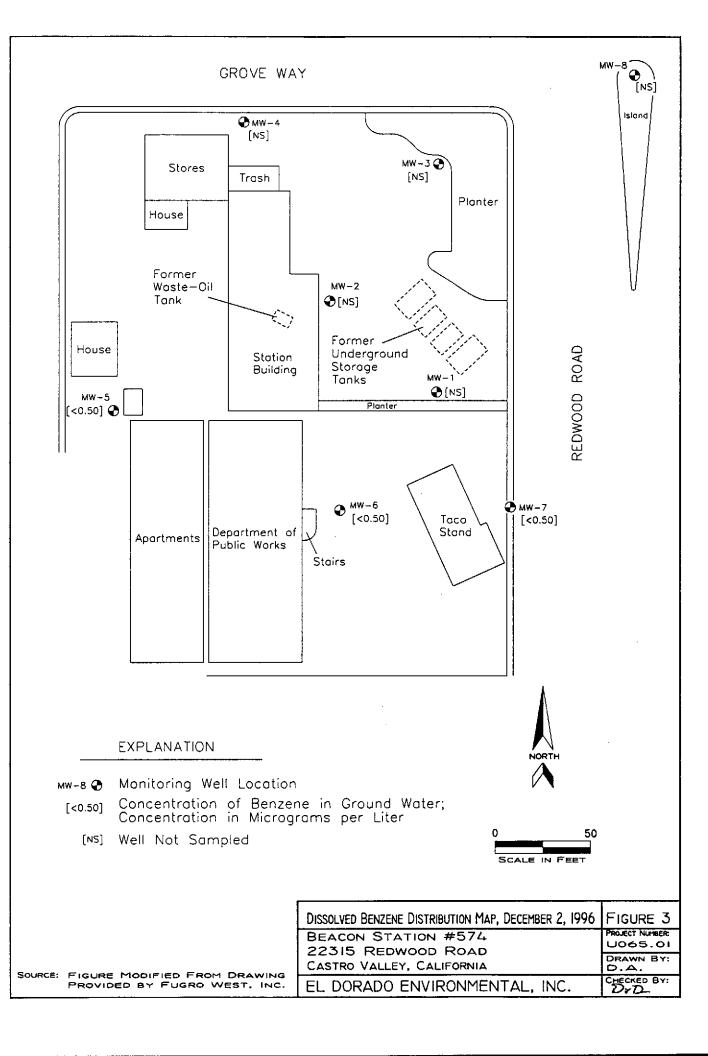


FIGURES:	FIGURE 1 SITE LOCATION MAP
	FIGURE 2 GROUND WATER CONTOUR MAP DECEMBER 2, 1996
	FIGURE 3 DISSOLVED BENZENE DISTRIBUTION MAP DECEMBER 2, 1996
TABLES:	TABLE 1 GROUND WATER ELEVATION DATA
	TABLE 2 GROUND WATER ANALYTICAL RESULTS
ATTACHMENTS:	A
	B DOULOS ENVIRONMENTAL FIELD DATA SHEETS
	C HISTORICAL GROUND WATER ELEVATION DATA
	D HISTORICAL GROUND WATER ANALYTICAL DATA
	E LABORATORY REPORT AND CHAIN-OF-CUSTODY FORM

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#### TABLE 1 GROUND WATER ELEVATION DATA **BEACON STATION #574** 22315 REDWOOD ROAD, CASTRO VALLEY, CALIFORNIA

(Measurements in feet)

Monitoring Well	Date	Reference Elevation (top of casing)	Depth to Ground Water <sup>l</sup>	Ground Water Elevation <sup>2</sup>	Well Depth	Comments
MW-I	03/27/92	156.55	22.43	134.12		
	06/04/92		23.40	133.15		
	09/23/92		24.07	132.48		
	11/12/92		24.16	132.39	29.33	
	02/02/93		21.87	134.68	29.80	
	05/07/93		22.58	133.97	29.84	
	05/18/93		22.66	133.89		
	08/11/93		23.41	133.14	29.81	
	11/05/93		24.09	132.46	29.81	
	03/01/94		22.76	133.79	29.85	
	06/02/94		23.24	133.31	29.85	
	09/09/94		23.93	132.62	29.86	
	12/20/94		22.94	133.61	29.85	
	03/08/95		22,20	134.35	29.71	
	06/14/95		22.65	133.90	29.70	
	09/26/95		23.44	133.11	29.71	
	12/27/95		23.04	133.51	29.72	
	03/26/96		21.39	135.16	29.71	
	06/05/96		22.43	134.12	29.73	
	09/16/96		24.42	132.13	29.74	
	12/02/96		23.14	133.41	29.75	
MW-2	03/27/92	155.17	20.82	134.35		
	06/04/92	133.17	21.81	133.36		
	09/23/92		22.45	132.72		
	11/12/92		22,60	132.57	29.71	
	02/02/93		20.28	134.89	29.73	
	05/07/93		20.97	134.20	29.73	
	05/18/93		21.06	134.11		
	08/11/93		21.85	133.32	29.70	
	11/05/93		22.32	132.85	29.70	
	03/01/94		21.19	133.98	29.68	
	06/02/94		21.59	133.58	29.69	
	09/09/94		22.33	132.84	29.66	
	12/20/94		21.37	133.80	29.65	
	03/08/95		20.60	134.57	29.52	
	06/14/95		21.04	134.13	29.54	
	09/26/95		21.84	133.33	29.53	
	12/27/95		21.44	133.73	29.56	
	03/26/96		19.81	135.36	29.56	
	06/05/96		20.83	134.34	29.59	
	09/16/96		21.93	133.24	29.58	
	12/02/96		21.54	133.63	29.58	

NOTES:

Well Depth

Measurement from top of casing to bottom of well.

Not measured.

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

#### TABLE 1 GROUND WATER ELEVATION DATA **BEACON STATION #574** 22315 REDWOOD ROAD, CASTRO VALLEY, CALIFORNIA

(Measurements in feet)

		Reference				
Monitoring Well	Date	Elevation (top of casing) <sup>t</sup>	Depth to Ground Water <sup>i</sup>	Ground Water Elevation <sup>2</sup>	Well Depth	Comments
MW-3	03/27/92	157.13	21.46	135.67		
	06/04/92	157715	22.34	134,79	***	
	09/23/92		22.84	134.29		
	11/12/92		23.04	134.09	29.55	
	02/02/93		21.03	136.10	29.45	
	05/07/93		21.59	135.54	29.53	
	05/18/93		21.73	135.40		
	08/11/93		22.31	134,82	29.41	
	11/05/93		22.85	134.28	29.41	
	03/01/94		21.97	135.16	29.55	
	06/02/94	;	22.29	134.84	29.56	
	09/09/94		22.91	134.22	29.56	
	12/20/94		22.11	135.02	29.54	
	03/08/95 06/14/95		21.40 21.80	135.73 135.33	29.38 29.36	
	09/26/95		22,38	134.75	29.36 29.37	
	12/27/95		22.07	135.06	29.37	
	03/26/96		20.73	136.40	29.38	
	06/05/96		21.54	135.59	29.40	
	09/16/96		22,37	134.76	29.43	
	12/02/96		22.35	134.78	29.45	
MW-4	05/18/93	151.96	17.55	134.41	***	
	08/11/93		17.50	134.46	28.43	
	11/05/93		15.84	136.12	28.43	
	03/01/94		17.35	134.61	28.11	
	06/02/94		17.68	134.28	28.12	
	09/09/94		18.19	133.77	28.13	
	12/20/94		17.52	134.44	28.10	
	03/08/95		16.82	135.14	27.97	
	06/14/95		17.22	134.74	27.97	
	09/26/95		17.79	134.17	27.91	
	12/27/95 03/26/96		17.47 16.32	134.49 135.64	27.89 27.89	
,	06/05/96		17.10	133.04	27.89	
	09/16/96		17.10	134.11	27.89	
	12/02/96		17.59	134.37	27.88	
MW-5	05/18/93	148.68	15.72	132.96	***	
	08/11/93		16.42	. 132,26	25.43	
	11/05/93		16.92	131.76	25.43	
	03/01/94		15.54	133.14	25.00	
	06/02/94		16.19	132.49	25.00	
	09/09/94		16.87	131.81	25.00	
	12/20/94		15.84	132.84	25.01	
	03/08/95		15.11	133.57	24.85	
	06/14/95		15.69	132.99	24.86	
	09/26/95		16.46	132.22	24.81	
	12/27/95		15.91	132.77	24.80	
	03/26/96		14.31	134.37 133.25	24.81 24.75	
	06/05/96 09/16/96		15.43 16.52	133.25	24.73 24.74	
	12/02/96		16.05	132.63	24.74	

NOTES:

1 2 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.

#### TABLE 1 GROUND WATER ELEVATION DATA **BEACON STATION #574** 22315 REDWOOD ROAD, CASTRO VALLEY, 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>2</sup>	Well Depth	Comments
MW-6	05/18/93	153.96	20.80	133.16		
	08/11/93		21.64	132.32	31.15	
	11/05/93		22.11	131.85	31.15	
	03/01/94		20.80	133.16	29.96	
	06/02/94		21.37	132.59	29.98	
	09/09/94		22.05	131.91	29.96	
	12/20/94		21.06	132.90	29.89	
	03/08/95		20.29	133.67	29.67	
	06/14/95		20.81	133.15	29.65	
	09/26/95		21.62	132.34	29.66	
	12/27/95		21.12	132.84	29.63	
	03/26/96		19.50	134.46	29.60	
	06/05/96		20.56	133.40	29.63	
	09/16/96		21.70	132.26	29.65	
	12/02/96		21.25	132.71	29.66	
MW-7	05/18/93	156.09	22.64	133.45		
101 44 - 7	08/11/93	150.07	23.25	132.84	30.75	
	11/05/93		23.93	132.16	30.75	
	03/01/94		22.72	133.37	30.11	
	06/02/94		23,22	132.87	30.12	
	09/09/94		23.90	132.19	30.12	
	12/20/94		22.98	133.11	30.10	
	03/08/95		22.14	133.95	29.91	
	06/14/95		22.61	133.48	29.91	
	09/26/95		23.43	132.66	29.90	
	12/27/95		23,01	133.08	29.90	
	03/26/96		21.32	134.77	29.87	
	06/05/96		22.37	133.72	29.91	
	09/16/96		23.51	132.58	29.90	
	12/02/96		23.08	133.01	29.91	
MW-8	05/18/93	158.04	21,55	136.49		
141 44 -0	08/11/93	150,04	22,43	135.61	34.82	
	11/05/93		23.00	135.04	34.82	
	03/01/94		22.05	135.99	34.04	
	06/02/94		22.29	135.75	34.04	
	09/09/94		22.99	135.05	34.04	
	12/20/94		22.14	135.90	33.98	
	03/08/95		21.25	136.79	34.48	
	06/14/95		21.70	136.34	34.49	
	09/26/95		22.29	135.75	34.40	
	12/27/95		21.96	136.08	34.43	
	03/26/96		20.48	137.56	34.42	
	06/05/96		21.50	136.54	34.41	
	09/16/96		22.38	135.66	34.43	
	12/02/96		22.39	135.65	34.42	

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.

#### TABLE 2 GROUND WATER ANALYTICAL RESULTS **BEACON STATION #574**

#### 22315 REDWOOD ROAD, CASTRO VALLEY, CALIFORNIA

(All results in micrograms per Liter)

Monitoring Well	Date Collected	Total	Petroleum Hydrod	carbons	Aromatic Volatile Organics			
		Gasoline	Diesel	Motor Oil	Benzene	Toluene	Ethyl- benzene	Total Xylenes
MW-1	03/27/92	5,600	<50	<50	760	900	230	1,100
	06/04/92	2,600	<800	NA	270	57	230	440
	09/23/92	3,400	NA	NA	480	430	110	550
	11/12/92	2,700	NA	NA	5.8	<5.0	140	340
	02/02/93	8.500	NA	NA	760	770	250	1,200
	05/07/93	7,700	NA	NA	970	630	280	1,500
	08/11/93	11,000	NA	NA	1,400	1,000	260	1,600
	11/05/93	36,000	NA	NA.	6,200	4,700	1,400	7,100
	03/01/94	3,800	NA	NA	580	490	110	620
	06/02/94	8,900	NA	NA	1,900	1,200	420	2,100
	09/09/94	4,300	NA	NA	740	290	200	630
	12/20/94	3,900	NA	NA	550	260	150	510
	03/08/95	8,100	NA	NA	1,100	540	250	1,100
	06/14/95	NS	NS	NS	NS	NS	NS	NS
	09/26/95	8,600	NA	NA NA	2,100	550	420	1,300
	12/27/95	NS	NS	NS	NS NS	NS NS	NS	NS NS
	03/26/96	21,000	NA	NA	7,000	2,700	590	7,000
	06/05/96	NS	NS	NS	NS NS	NS	NS	NS NS
	09/16/96	13,000	NA.	NA NA	3,200	770	470	2,900
	12/02/96	NS	NS	NS	NS NS	NS	NS	NS NS
MW-2	03/27/92	18,000	<50	<50	2,400	2,300	870	3,300
	06/04/92	14,000	<5,000	NA	1,900	1,700	580	2,300
	09/23/92	22,000	NA	NA	2,100	1,500	760	2,900
	11/12/92	29,000	NA	NA	2,400	860	540	3,500
	02/02/93	24,000	NA	NA	2,700	1,900	590	2,600
	05/07/93	19,000	NA	NA	1,800	1,300	460	2,600
	08/11/93	23,000	NA	NA	2,300	1,500	550	2,300
	11/05/93	30,000	NA	NA	3,100	2,900	860	3,700
	03/01/94	13,000	NA.	NA NA	1,500	490	350	1,000
1	06/02/94	12,000	NA.	NA NA	2,000	790	460	1,300
l	09/09/94	13,000	NA	NA NA	1,800	660	440	1,000
1	12/20/94	16,000	NA NA	NA	2,300	000,1	650	1,900
	03/08/95	16,000	NA .	NA NA	2,200	1.000	550	2,100
	06/14/95	NS	NS	NS	NS NS	NS	NS NS	NS NS
	09/26/95	18,000	NA NA	NA NA	2,500	1,000	770	2,700
	12/27/95	NS	NS	NS	NS NS	NS NS	NS	NS NS
	03/26/96	33,000	NA NA	NA NA	4,200	2,600	1,000	5,000
	06/05/96	NS	NS	NS	NS	2,000 NS	NS NS	NS NS
	09/16/96	19,000	NA NA	NA NA	2,600	490	560	2,000
j	12/02/96	19,000 NS	NS NS	NS NS	2,600 NS	NS NS	NS NS	2,000 NS

NOTES:

Below indicated detection limit,
 Not sampled
 Not analyzed.
 Product is not typical gasoline.

NS NA

#### TABLE 2 **GROUND WATER ANALYTICAL RESULTS BEACON STATION #574**

#### 22315 REDWOOD ROAD, CASTRO VALLEY, CALIFORNIA

(All results in micrograms per Liter)

Monitoring Well	Date Collected	Total	Petroleum Hydrod	carbons		Aromatic Vol	latile Organics	
		Gasoline	Diesel	Motor Oil	Benzene	Toluene	Ethyl- benzene	Total Xylenes
MW-3	03/27/92	160	<50	<50	9.2	4.8	10	23
	06/04/92	120	<50	NA	7.5	2.7	0.5	15
	09/23/92	220	NA	NA	8.3	4.3	6.2	19
	11/12/92	230	NA	NA	12	5.5	7.7	19
	02/02/93	86	NA	NA	2.4	0.71	2.7	6.2
	05/07/93	140	NA	NA	2.6	1.2	3.9	8,4
	08/11/93	490	NA	NA	15	8.1	14	37
	11/05/93	820	NA	NA	45	24	34	93
	03/01/94	410	NA	NA	7.4	2.7	5.6	10
	06/02/94	440	NA	NA	13	4.9	14	31
	09/09/94	620	NA	NA NA	12	4.8	9.7	20
	12/20/94	770	NA	NA	24	11	16	36
	03/08/95	300	NA	NA	6.1	0.97	4.8	7.5
	06/14/95	NS	NS	NS	NS	NS	NS	NS
	09/26/95	130	NA	NA	4.8	1.6	4.8	9.4
	12/27/95	NS	NS	NS	NS	NS	NS	NS
	03/26/96	<50	NA	NA	<0.50	<0.50	<0.50	<0.50
	06/05/96	NS	NS	NS	NS	NS	NS	NS
	09/16/96	170	NA	NA	10	2.9	4.4	15
	12/02/96	NS	NS	NS	NS	NS	NS	NS
MW-4	05/18/93	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
1	08/11/93	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
	11/05/93	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
1	03/01/94	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
	06/02/94	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
	09/09/94	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
	12/20/94	<50	NA	NA.	<0.5	<0.5	<0.5	<0.5
	03/08/95	NS	NS	NS	NS	NS	NS	NS
	06/14/95	NS	NS	NS	NS	NS	NS	NS
	09/26/95	N\$	NS	NS	NS	NS	NS	NS
	12/27/95	NS	NS	NS	NS	NS	NS	NS
l	03/26/96	NS	NS	NS	NS	NS	NS	NS
	06/05/96	NS	NS	NS	NS 0.50	NS	NS 10.50	NS 10.50
	09/16/96	<50	· NA	NA.	<0.50	<0.50	<0.50	<0.50
	12/02/96	NS	NS	NS	NS	NS	NS	NS
MW-5	05/18/93	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
	08/11/93	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
	11/05/93	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
	03/01/94	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
	06/02/94	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
	09/09/94	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
l	12/20/94	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
	03/08/95	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
	06/14/95	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
	09/26/95	<50	NA	NA	<0.50	<0.50	<0.50	<0.50
	12/27/95	<50	NA	NA	<0.50	<0.50	<0.50	<0.50
	03/26/96	<50	NA	NA	<0.50	<0.50	<0.50	<0.50
	06/05/96	<50	NA	NA NA	<0.50	<0.50	<0.50	<0.50
	09/16/96	<50	NA	NA NA	<0.50	<0.50	<0.50	<0.50
	12/02/96	<50	NA	NA NA	<0.50	<0.50	<0.50	<0.50

NOTES:

Below indicated detection limit.

NS NA Not sampled.

Not analyzed. Product is not typical gasoline.

#### TABLE 2 GROUND WATER ANALYTICAL RESULTS **BEACON STATION #574**

#### 22315 REDWOOD ROAD, CASTRO VALLEY, CALIFORNIA

(All results in micrograms per Liter)

Monitoring Well	Date Collected	Total	Petroleum Hydro	carbons		Aromatic Vo	latile Organics	
		Gasoline	Diesel	Motor Oil	Benzene	Toluene	Ethyl- benzene	Total Xylenes
MW-6	05/18/93	170	NA	NA	<0.5	<0.5	<0.5	<0.5
	08/11/93	78	NA	NA.	<0.5	< 0.5	<0.5	<0.5
	11/05/93	170	NA	NA.	<0.5	<0.5	<0.5	0.65
	03/01/94	210	NA	NA.	<0.5	<0.5	<0.5	<0.5
	06/02/94	190	NA	NA.	<0.5	<0.5	< 0.5	<0.5
	09/09/94	140	NA	NA NA	<0.5	<0.5	<0.5	<0.5
	12/20/94	210	NA	NA	<0.5	<0.5	<0.5	<0.5
-	03/08/95	180*	NA	NA	<0.5	<0.5	<0.5	<0.5
1	06/14/95	220*	NA	NA	<0.5	<0.5	<0.5	<0.5
į	09/26/95	110*	NA	NA.	<0.50	< 0.50	< 0.50	<0.50
	12/27/95	130*	NA	NA	<0.50	< 0.50	<0.50	<0.50
	03/26/96	100*	NA	NA	< 0.50	<0.50	<0.50	<0.50
	06/05/96	100*	NA	NA	<0.50	<0.50	<0.50	<0.50
	09/16/96	170	NA	NA	<0.50	<0.50	<0.50	<0.50
	12/02/96	160	NA	NA	<0.50	<0.50	<0.50	<0.50
MW-7	05/18/93	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
	08/11/93	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
	11/05/93	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
	03/01/94	60	NA	NA	<0.5	<0.5	<0.5	<0.5
	06/02/94	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
	09/09/94	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
	12/20/94	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
	03/08/95	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
i	06/14/95	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
	09/26/95	<50	NA	NA	<0.50	<0.50	<0.50	<0.50
	12/27/95	<50	NA	NA	<0.50	<0.50	<0.50	<0.50
	03/26/96	<50	NA	NA	<0.50	<0.50	<0.50	<0.50
	06/05/96	<50	NA	NA	<0.50	<0.50	<0.50	<0.50
[	09/16/96	<50	NA	NA	<0.50	<0.50	<0.50	<0.50
	12/02/96	140	NA	NA	<0.50	<0.50	<0.50	<0.50
MW-8	05/18/93	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
,,,,,,	08/11/93	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
	11/05/93	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
	03/01/94	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
ļ	06/02/94	<50	NA	NA NA	<0.5	<0.5	<0.5	<0.5
ŀ	09/09/94	<50	NA	NA.	<0.5	<0.5	<0.5	<0.5
	12/20/94	<50	NA	NA	<0.5	<0.5	<0.5	<0.5 <0.5
	03/08/95	NS	NS	NS	NS	NS	NS	NS
	06/14/95	NS	NS	NS	NS	NS	NS	NS
	09/26/95	NS	NS	NS	NS	NS	NS NS	NS
	12/27/95	NS	NS	NS :	NS	NS	NS	NS
	03/26/96	NS	NS	NS	NS	NS	NS	NS
1	06/05/96	NS	NS	NS	NS .	NS NS	NS	NS
	09/16/96	<50	NA	NA NA	<0.50	<0.50	<0.50	<0.50
	12/02/96	NS	NS	NS	NS	NS .	NS	NS

NOTES:

= Below indicated detection limit.

NS NA

Not sampled,
 Not analyzed,
 Product is not typical gasoline.

## 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™ 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 #574, 22315 Redwood Rd.

Date: 12-2-96

Castro Valley, CA

Project No.: 94-574-01

Recorded by:

<u> Hal Hansen</u>

Well No	Time	Well Elev. TOC	Depth to Gr. Water	Measured Total Depth	Gr. Water Elevation	Product Thickness	Comments
MW-1	9:59	رح	23.14	29. 75			Petroleur odor no Run
MW-2	9:55	11	21.54	29.58			1 tolamodor w then
MW-3	9:52	5.	92.35	29.45			letrolem odor no pur I tolamodor no free no odor no men
MW-4	9:35	1	17.59	27.88			
MW-5	9:31	1	16-05	24.76			no odor no shen no odor no shen no odor no shen
MW-6.	9:40	7	21.25	29.66			no odor no Man
mw-7	9:44	,	23.08	29.91			no olor no skan
MW-8	9:49	(	22.39	34.42			

Notes:

DOULOS ENVIRONMEN	TAL COMPANI		DAIT LINE II						
Client: <u>Ultra</u>	nar	Sa	impling Date: 1	2-1-96					
Site: Beacor	ı #574		Project No.:	9 <u>4-574-01</u>					
22315	Redwood Road	We]	ll Designation:_						
	Valley, CA								
Is setup of traffic Is there standing was Is top of casing cut Is well cap sealed a Height of well casing Well cover type: 8' 12" BK 12" DWI General condition of	ater in Well bo : level? and locked?	OX?	NO YES ADO	f no, see remarks f no, see remarks					
Purging Equipment:  2" disposable bailer  2" PVC bailer  4" PVC bailer  Centrifugal pump  Sampled with: Disposal bailer:  Teflon bailer:									
Well Diameter: 2" 4" 6" 8"									
Well Diamete									
Purge Vol. Multiplied Initial Measurement Time: 4:31 Depth of well: 24. Depth to water: 16:4	76 Time: IC Depth to		1.47 2.6 surement Calculate 7.01 Actua						
Start purge: [0:0]	Sam	pling time	: 10:16						
Time Temp	E.C.	рН	Turbidity	Volume					
10:04 58.	1 714	7.43		1					
10:04 57	5 711	7.31		2					
10:05 57.	3 698	7.20		3					
10:06 57.	4 691	7.15		4					
			Lock: Do	elphn					
Sample appeara	ice:			7					
Equipment replaced: 2" Locking Cap: 4" Locking Cap: 6" Locking Cap:	Locl	nat apply) k #3753: Dolphin:	7/32 2	of replaced item Allenhead: 9/16 Bolt: ead (DWP):					
Remarks:			<u> </u>						
		<del></del> .		-					

Signature: Mal H

C	lient:_	Ultramar		Sa	ampling Date:	12-2-6	75
	Site:_	Beacon #5	74		Project No	94-574	-01
		22315 Red	rood Road	We:	ll Designatio	on: <u>MW-</u>	<u> </u>
	_	Castro Va	lley, CA				
Is the	re stand of cas	ding water ing cut lev	in well bo vel? locked?	ox?	NO YES OF COMPANY OF COM	Above Too If no, : If no. :	see remarks see remarks
			2" PVC ba 4" PVC ba	ailer ailer	Ler K Teflon bai	Submersib Dedicated Centrifuga	paller
					6"		
Initia Time: 6 Depth	1 Measu 9:40 of well	ltiplier: rement : 2966 r: 21.25	0.16 Recl Time: 10 Depth to	0.65 narge Meas 0:27 water:9	1.47 surement Calcu	2.61 galated pure	al/ft. ge: <u>5.3</u> ge: <u>5.3</u>
Start 1	purge:_	10:20	Samj	pling time	: 10:29		
	Time	Temp.	E.C.	рH	Turbidity	7 Volu	ne
	10.21	57.0	714	7.80		_ (	
	10:22	57.9	708	7.22		2	
	10:23	58.0	699	7.14			?
	10:24	58.1	698	7.09		4	<u>'</u>
Sa	ample ap	opearance:	_lli	v-	Lock:	Doll	him
2" Lo 4" Lo	ocking (	laced: (Ch Cap: Cap:	Lock	at apply)  ( #3753:  Dolphin:	7/	32 Allenhe 9/16 Bo	placed item ead: olt: VP):
Remai	rks:						
Signati	ure: _	Mal	Man.	ب		·	

C	lient:_	Ultramar		S	ampling Date: //	2-2-96	
	Site:	Beacon #5	74		Project No.:_	94-574-01	
		22315 Red	wood Road	We:	ll Designation:_		
		Castro Val	•				
				•	-32 (SO) VEC +	imo. he	ure
Well c	over ty	pe: 8" UV	12" CN	" UV	ed? NO YES to YES AND YES AND YES IN NO YES IN 12" EMCO	_ 8" BK er	
	g Equip	·		ailer ailer	Ded Cer		) <del>:</del> )
S					Teflon bailer		
	Well I	Diameter:	2"	4"	6" 8"_		
<u>Initia</u> Time:_ Depth (	1 Measur 4:44 of well:	ltiplier: cement - 29.9/ c: 23.08	Dogi	haraa Maa	1.47 2. surement Calculat 3.09 Actu		<u> </u>
Start ]	purge:_	10:32	Sam	pling time	: 10:42		
	Time	Temp.	E.C.	рн	Turbidity	Volume	
	10:33	<i>\$7.  </i>	799	756		1	
	10:34	56.0	794	7.34		2	
	10:35	57.1	791	7.23		3	
	10.36	57.4	785	7.19		4	
•			_	· ·	_		
Sa	ample ar	pearance:	_Cas	w	Lock: DR	yphin	
2" Lo 4" Lo	ocking (	aced: (Ch Cap: Cap: Cap:	Loc	at apply) c #3753: Dolphin:	7/32	Allenhead: 9/16 Bolt:	
Remai	rks:						
Signatı	ıre:	Hul	I dana	_			

# ATTACHMENT C HISTORICAL GROUND WATER ELEVATION DATA

TABLE 2
WATER LEVEL DATA
(measurements in feet)

Monitoring.	Date	Reference: Elevation (top of casing)	Depth to Ground Water	Ground Water Elevation
MW-1	04-01-91	156.55	22.37	134.18
	03-27-92	130.33	22.43	134.12
	06-04-92		23.40	133.15
	09-23-92		24.07	132,48
	11-12-92		24.16	132.39
	02-02-93		21.87	134.68
	05-18 <del>-9</del> 3		22.66	133.89
MW-2	04-01-91	155.17	20.82	134.25
	03-27-92		20.82	134.35
J	06-04-92		21.81	133.36
Ì	09-23-92		22.45	132.72
	11-12-92		22.60	132.57
ļ	02-02-93	· • •	20.28	134.89
	05-18-93		21,06	134.11
MW-3	04-01-91	157.13	21.55	135.58
	03-27-92		21.46	135.67
Ì	06-04-92		22.34	134.79
	09-23-92		22.84	134.29
	11-12-92		23.03	134.09
	02-02-93		21.03	136.10
	05-18-93	<u> </u>	21,73	135,40
MW-4	05-18-93	151.96	17.55	134,41
MW-5	05-18-93	148.68	15.72	132.96
MW-6	05-18-93	153.96	20.80	133.16
MW-7	05-18 <del>-9</del> 3	156.09	22.64	133.45
MW-8	05-18-93	158.04	21.55	136,49

### ATTACHMENT D HISTORICAL GROUND WATER ANALYTICAL DATA

TABLE 3
GROUND WATER ANALYTICAL RESULTS
(concentrations in parts per billion)

ori de governo		Total Pa	troleum Hyo	rocurbons	Arometia Volutila Organica							
Monitoring Well	Date 7 Collected	Zaska		174-174		7213 14015)	Ethylbanzene	Total				
Control of the second	Section of the sectio	ж. Сж. ошъу ()	· DEICH	Monte-one		Service of Personal	4					
MW-1	04-01-91	4,100	<100		140	570	76	460				
	03-27-92	5,600	<50	<50	760	900	230	1,100				
	06-04-92	2,600	<\$00	-	270	57	230	440				
	09-23-92	3,400	•	-	480	430	110	550				
	11-12-92	2,700	•	-	5.8	<5.0	140	340				
	02-02-93	8,500		•	760	770	250	1,200				
!	05-07-93	7,700		•	970	<b>ಟ</b> 0	280	1,500				
MW-2	04-01-91	10,000	<100	-	650	640	150	960				
(4) 14 -2	03-27-92	18.000	<50	<50	2,400	2,300	870	3,300				
	06-04-92	14,000	<5,000		1,900	1,700	580	2,300				
	09-23-92	22,000		_	2,100	1,500	760	2,900				
	11-12-92	29,000	- 1	-	2,400	860	540	3,500				
	02-02-93	24,000	_	_	2,700	1,900	590	2,600				
	05-07-93	19,000	• ]	-	1,800	1,300	460	2,600				
E-WM	04-01-91	3,100	<100	•	41	91	37	420				
	03-27-92	160	<50	<50	9.2	4.8	10	23				
	06-04-92	120	<50	_	7.5	2.7	0.5	15				
	09-23-92	220		-	8.3	4.3	6.2	19				
	11-12-92	230	-	-	12	5.5	7.7	19				
	02-02-93	86			2.4	0.71	2.7	6.2				
	05-07-93	140	-	• •	2.6	1.2	3.9	8.4				
MW-4	05-18-93	<50	•	•	<0.50	< 0.50	<0.50	<0.5				
₩.≾	05-18-93	<10	•	-	<0.50	<0.50	< 0.50	<0.5				
MW-6	05-18-93	170	•	•	. <0.50	< 0.50	<0.50	<0.5				
M₩-7	05-18-93	<50	•	•	<0.50	<0.50	<0.50	<0.5				
.MW-8	05-18-93	<50			<0.50	< 0.50	< 0.50	<b>~0.</b> 2				

Note: Dash (-) indicates that the sample was not analyzed for this constituent.

#### ATTACHMENT E

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



December 12, 1996 Sample Log 16054

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

Subject: Analytical Results for 3 Water Samples

Identified as: Beacon 574 (Proj. # 94-574-01)

Received: 12/04/96

Dear Mr. van Dam:

Analysis of the sample(s) referenced above has been completed. This report is written to confirm results communicated on December 12, 1996 and describes procedures used to analyze the samples.

Sample(s) were analyzed using the following method(s):

"BTEX" (EPA Method 602/Purge-and-Trap)
"TPH as Gasoline" (Modified EPA Method 8015/Purge-and-Trap)

Please refer to the following table(s) for summarized analytical results and contact us at 916-753-9500 if you have questions regarding procedures or results. The chain-of-custody document is enclosed.

Approved by:

Joel Kiff | Senior Chemist



Sample Log 16054

MTBE (Methyl-t-butyl ether) By EPA Method 8020/602

From : Beacon 574 (Proj. # 94-574-01)

Sampled: 12/02/96 Received: 12/04/96

Matrix : Water

MTBE	(MRL) ug/L	Measured Value ug/L				
MW-5	(5.0)	12				
MW-6	(5.0)	160				
MW-7	(5.0)	140				

Approved By:

Joel Kiff Senior Chemist WEST LABORATION

Sample Log 16054

Sample: MW-5

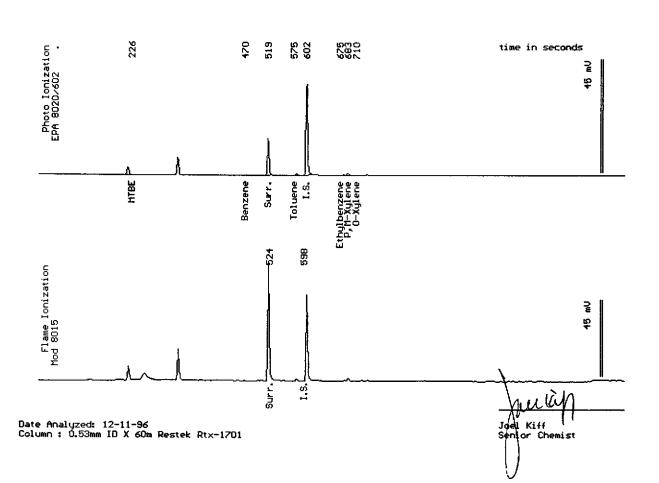
From : Beacon 574 (Proj. # 94-574-01)

Sampled: 12/02/96

Dilution: 1:1 QC Batch: 6179U

Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L						
Benzene Toluene Ethylbenzene Total Xylenes TPH as Gasoline	(.50) (.50) (.50) (.50) (50)	<.50 <.50 <.50 <.50 <50						
Surrogate Recovery	7	104 %						



" MEST LAVIORATION

Sample Log 16054 16054-02

Sample: MW-6

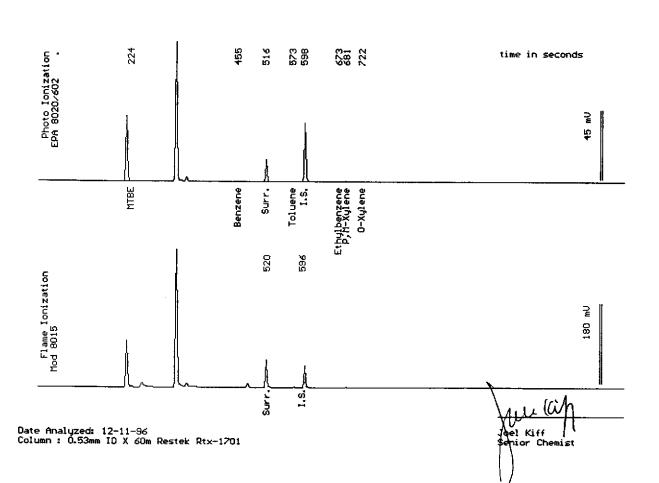
From : Beacon 574 (Proj. # 94-574-01)

Sampled: 12/02/96

Dilution: 1:1 QC Batch: 6179U

Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L						
Benzene Toluene Ethylbenzene Total Xylenes TPH as Gasoline	(.50) (.50) (.50) (.50) (50)	<.50 <.50 <.50 <.50 160						
Surrogate Recovery	,	99 %						





Sample Log 16054 16054-03

Sample: MW-7

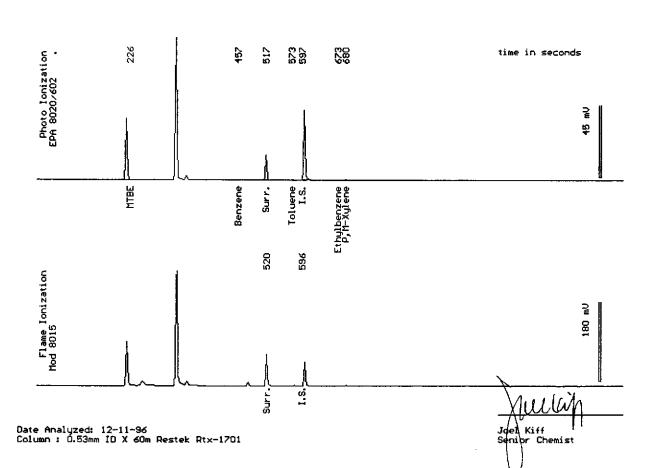
From : Beacon 574 (Proj. # 94-574-01)

Sampled : 12/02/96

Dilution: 1:1 QC Batch: 6179U

Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L						
Benzene	(.50)	<.50						
Toluene	(.50)	<.50						
Ethylbenzene	(.50)	<.50						
Total Xylenes	(.50)	<.50						
TPH as Gasoline	(50)	140						
Surrogate Recovery	102 %							





### **Ultramar Inc.**CHAIN OF CUSTODY REPORT

**BEACON** 

Beacon Station No.	Sampler (Print Name)										Date /1-2-96	Form No	).
574	Hal Hanson						AN	ALYSES	T		12-2-96	/ of /	<del></del>
Project No.	Sampler (Signature)										17.		1
94-574-01	I gold gold and									ers	Stan	and (	
Project Location	Affiliation					ള	<u></u>			Containers	) - 1	1	
94-574-01 Project Location Castro Valley	Affiliation  Danler Env					(gasoline)	PH (diesei)			ο jo	•		
Sample No./Identification	Date		me	1	BTE	Hal	王			No. c	REMARI	(S	
MW-5	12-2-96	1018		16054-01	4	X				2	-		
MW-6		102	-9	05		7							
MW-7	V	104	12	03	1	1				V			
											DATE 12/4/4 TIME 1530.  TEMP 0' INITIAL		530
											TEN	лР0°	
											INITIAL		Carried Street
						1					WEST. L.	<del>\ \ \ \</del>	-1
Relinquished by: (Signature/Affiliation)	Date, 12/4/90	Time		ed by: (Signature			tio	n)			•	Date	Time
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Report To: Dale van Dan			Bill to:	ULTRAMAR 525 West Th Hanford, CA Attention:	ird :	). Str	eet			Į		<u> </u>	
WHITE: Return to Client with Report	YELLOW: Labo	ratory C	ору	PINK: Origina	lor	Co	ру					32-80	03 1/90