El Dorado Environmental, Inc.

2221 Goldorado Trail, El Dorado, California 95623

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

August 21, 1998

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

Subject:

Second Quarter 1998 Ground Water Monitoring Report

Beacon Station #604

1619 West First Street, Livermore, California

Dear Mr. Fox:

El Dorado Environmental, Inc. (EDE) has prepared this report to document the results of quarterly ground water monitoring conducted on May 29, 1998, at the subject site (Figure 1). Field work, conducted by Doulos Environmental (Doulos), included measurements of depth to ground water, subjective analysis of ground water in wells for the presence or absence of free petroleum product and collection of ground water samples. Doulos reports that all field activities were conducted in accordance with field procedures described in Attachment A.

GROUND WATER ELEVATIONS

Prior to well sampling, Doulos measured the depth to ground water in each well at the site. Ground water elevation data collected at the site since June 1993 are compiled in Table 1. Copies of Doulos' field data sheets are contained in Attachment B. Current depth to ground water measurements indicate a direction of ground water flow toward the west-northwest (Figure 2) at a gradient of approximately 0.02 foot per foot. Ground water elevations beneath the site have decreased an average of 1.70 feet since the previous monitoring event.

GROUND WATER SAMPLING AND ANALYSIS

Ground water samples were collected from five monitoring wells at the site. Each sample collected was analyzed for concentrations of dissolved:

- Benzene, toluene, ethylbenzene, and total xylenes (BTEX), by EPA Method 602
- Total petroleum hydrocarbons as gasoline (TPHg), by modified EPA Method 8015
- Methyl-Tertiary-Butyl Ether (MTBE) by EPA Method 602

Analytical results since June 1993 are compiled in Table 2; copies of certified analytical reports for ground water samples collected during the current monitoring event are contained in Attachment C. Benzene was not present at detectable concentrations in the ground water sample collected from monitoring well MW-1. Dissolved benzene concentrations increased in the ground water samples collected from monitoring wells MW-2, MW-5, MW-6, and MW-7 compared to the most recent sampling event. Figure 3 illustrates the current interpreted distribution of dissolved benzene in ground water underlying the site.

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

Ms. Eva Chu Department of Environmental Health Alameda County Health Care Services 80 Swan Way, Room 20 Oakland, California 94612

Mr. Cecil Fox
California Regional Water Quality Control
Board, San Francisco Bay Region
2101 Webster Street, Room 500
Oakland, California 94612

The interpretations and/or conclusions contained in this report represent our professional opinions. These opinions are based on currently available information. Other than this, no warranty is implied nor intended. This report has been prepared solely for the use of Ultramar Inc. Any reliance upon or use of this report by third parties will be at such parties' sole risk.

If you have any comments or questions, please contact the undersigned at (530) 626-3898.

Regards,

EL DORADO ENVIRONMENTAL, INC.

Dale A. van Dam, R.G.

Sale a. za Ja

Hydrogeologist

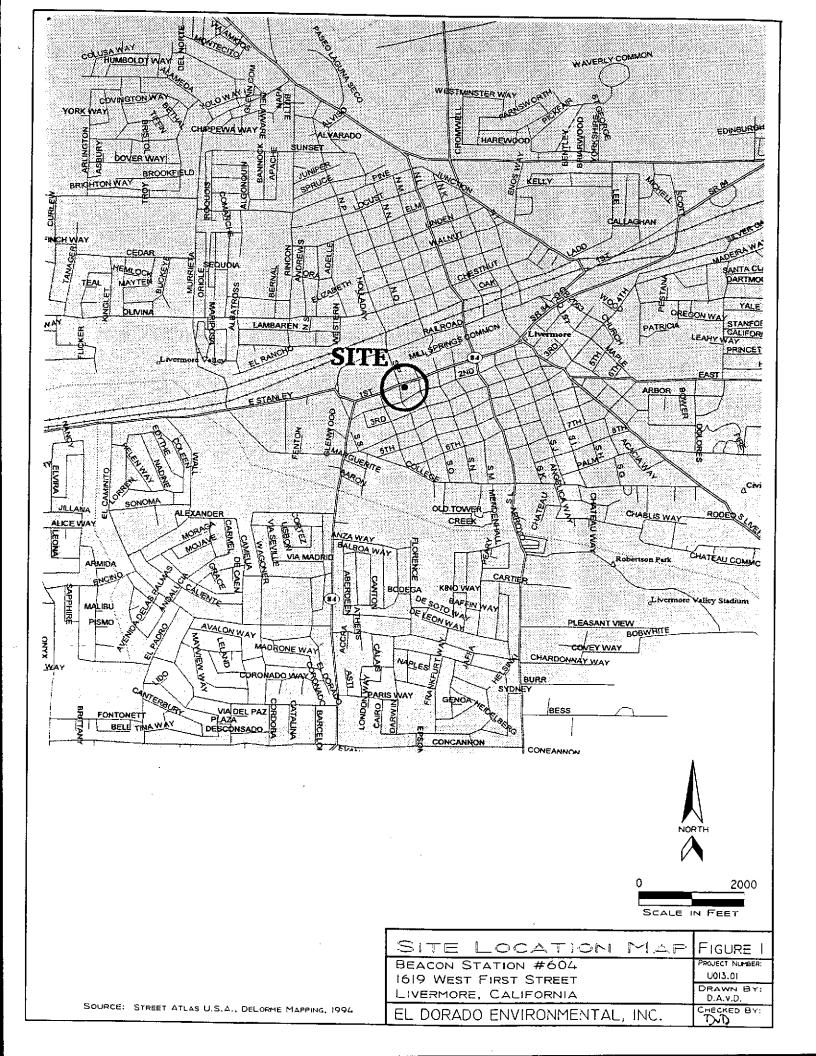
DAvD/davd

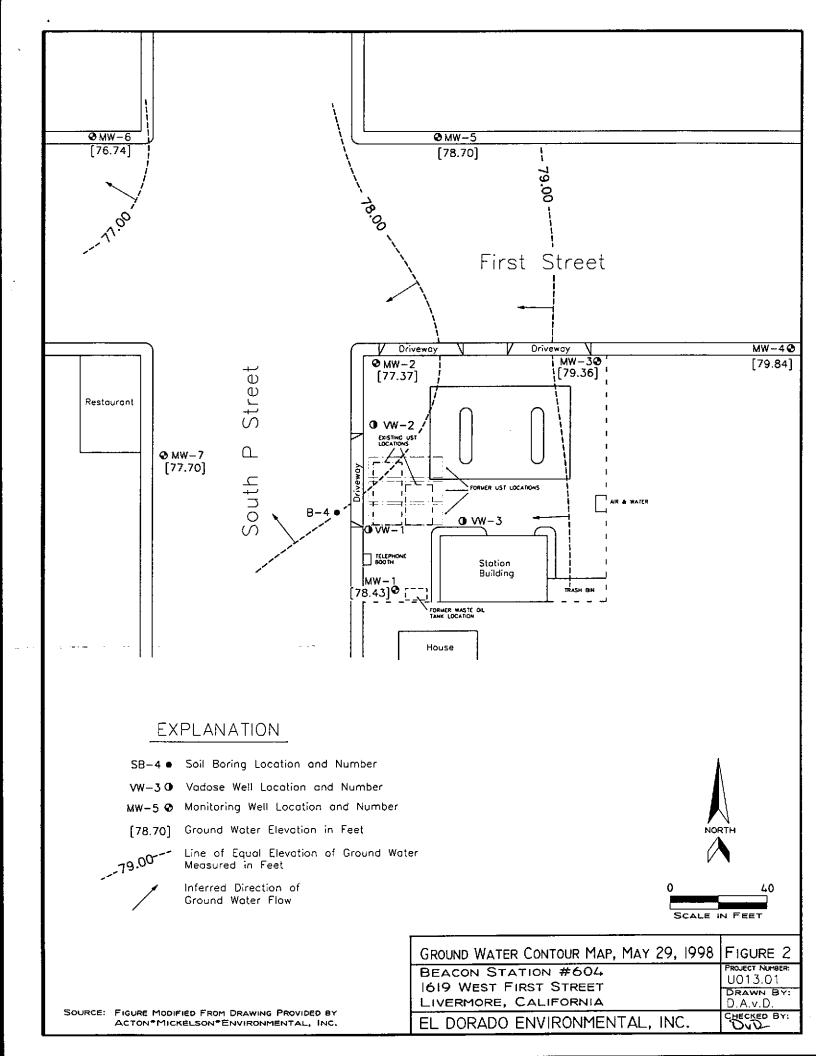
Attachments

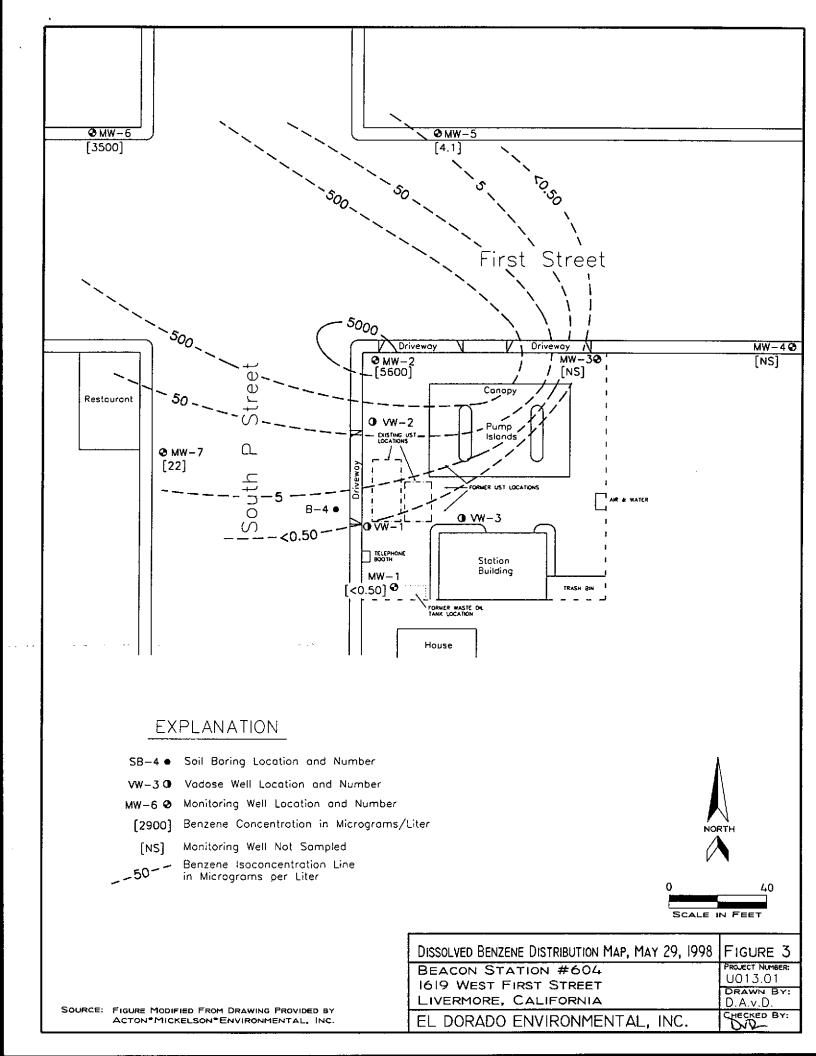


FIGURES:	FIGURE 1 SITE LOCATION MAP
	FIGURE 2 GROUND WATER CONTOUR MAP MAY 29, 1998
	FIGURE 3 DISSOLVED BENZENE DISTRIBUTION MAP MAY 29, 1998
TABLES:	TABLE 1 GROUND WATER ELEVATION DATA
	TABLE 2 GROUND WATER ANALYTICAL RESULTS
ATTACHMENTS:	A
	B DOULOS ENVIRONMENTAL FIELD DATA SHEETS
	C LABORATORY REPORT AND CHAIN-OF-CUSTODY FORM

l .







Monitoring Top of Riser (feet) Depth to Top/Bottom of Screened Interval (feet) Date Depth to Water (feet) Depth to Water (feet) Date Date	T		I	T	·	
06/22/93 38.46 61.54 No Product	H ~	 Top/Bottom of Screened Interval			Elevation	-
U3/29/98 21.57 /8.43 No Product		7 i i.	06/01/93 06/22/93 10/06/93 01/13/94 03/30/94 04/25/94 08/12/94 12/14/94 02/10/95 06/15/95 09/26/95 12/15/95 03/21/96 06/13/96 09/16/96 12/02/96 03/07/97 06/12/97 09/29/97 12/01/97	37.50 38.46 42.22 34.52 31.93 33.49 41.03 38.63 30.80 25.46 31.05 28.11 17.67 22.86 30.04 26.74 20.84 28.71 33.91 34.88	62.50 61.54 57.78 65.48 68.07 66.51 58.97 61.37 69.20 74.54 68.95 71.89 82.33 77.14 69.96 73.26 79.16 71.29 66.09 65.12	No Product

Monitoring	Top of Riser	Depth to Top/Bottom of Screened Interval	Monitoring	Depth to Water	Ground Water Elevation	Physical
Well	(feet)	(feet)	Date	(feet)	(feet)	Observation
MW-2	98.68	34/54	06/01/93 06/22/93 10/06/93 01/13/94 03/30/94 04/25/94 08/12/94 12/14/94 02/10/95 06/15/95 09/26/95 12/15/95 03/21/96 06/13/96 09/16/96 12/02/96 03/07/97 06/12/97 09/29/97 12/01/97 03/19/98	38.02 39.07 43.72 35.85 32.82 34.76 44.33 40.00 32.16 25.93 32.42 29.41 17.47 23.69 31.24 26.90 21.33 29.94 34.22 35.94 20.34	60.66 59.61 54.96 62.83 65.86 63.92 54.35 58.68 66.52 72.75 66.26 69.27 81.21 74.99 67.44 71.78 77.35 68.74 64.46 64.06 79.66	No Product
			05/29/98	22.63	77.37	No Product

		Depth to Top/Bottom of			Ground Water	
Monitoring	Top of Riser	Screened Interval	Monitoring	Depth to Water	Elevation	Physical
Well	(feet)	(feet)	Date	(feet)	(feet)	Observation
	(1113	(2000)	2 4.14	(1901)	(1001)	O DODE TALLON
MW-3	97.08	33/53	06/01/93	36.18	60.90	No Product
1			06/22/93	37.11	59.97	No Product
			10/06/93	41.15	55.93	No Product
			01/13/94	33.95	63.13	No Product
			03/30/94	30.97	66.11	No Product
#			04/25/94	32.46	. 64.62	No Product
			08/12/94	41.72	55.36	No Product
			12/14/94	37.62	59.46	No Product
			02/10/95	29.96	67.12	No Product
			06/15/95	23.66	73.42	No Product
			09/26/95	29.62	67.46	No Product
			12/15/95	27.10	69.98	No Product
			03/21/96	15.85	81.23	No Product
			06/13/96	21.31	75.77	No Product
			09/16/96	28.62	68.46	No Product
			12/02/96	25.55	71.53	No Product
			03/07/97	19.77	77.31	No Product
			06/12/97	27.67	69.41	No Product
			09/29/97	29.60	67.48	No Product
			12/01/97	33.37	66.63	No Product
			03/19/98	18.76 /	81.24	No Product
			05/29/98	20.64	79.36	No Product

Monitoring Well	Top of Riser	Depth to Top/Bottom of Screened Interval (feet)	Monitoring Date	Depth to Water (feet)	Ground Water Elevation (feet)	Physical Observation
MW-4	99.35	27/47	03/30/94 04/25/94 08/12/94 12/14/94 02/10/95 06/15/95 09/26/95 12/15/95 03/21/96 06/13/96 09/16/96 12/02/96 03/07/97 06/12/97 09/29/97 12/01/97 03/19/98 05/29/98	31.56 32.73 41.61 38.11 30.50 23.63 29.70 27.56 15.63 21.07 28.99 26.04 19.69 28.04 29.91 33.88 18.67 20.16	67.79 66.62 57.74 61.24 68.85 75.72 69.65 71.79 83.72 78.28 68.09 71.04 77.39 69.04 67.17 66.12 81.33 79.84	No Product
MW-5	98.37	27/47	03/30/94 04/25/94 08/12/94 12/14/94 02/10/95 06/15/95 09/26/95 12/15/95 03/21/96 06/13/96 09/16/96 12/02/96 03/07/97 09/29/97 12/01/97 03/19/98 05/29/98	32.07 33.65 42.73 38.89 31.44 24.99 30.20 28.56 16.82 22.61 29.78 26.51 21.91 31.74 34.05 20.93 21.30	66.30 64.72 55.64 59.48 66.93 73.38 68.17 69.81 81.55 75.76 68.59 71.86 76.46 66.63 65.95 79.07 78.70	No Product

Beacon Station #604 1619 West First Street, Livermore, California

Monitoring	Top of Riser	Depth to Top/Bottom of Screened Interval	Monitoring	Depth to Water	Ground Water Elevation	Physical
Well	(feet)	(feet)	Date	(feet)	(feet)	Observation
MW-6	97.62	28/48	03/30/94	33.38	64.24	No Product
	2.102	20, 10	04/25/94	35.49	62.13	No Product
			08/12/94	45.14	52.48	No Product
			12/14/94	40.99	56.63	No Product
			02/10/95	33.34	64.28	No Product
			06/15/95	26.88	70.74	No Product
			09/26/95	33.55	64.07	No Product
			12/15/95	30.32	67.30	No Product
			03/21/96	18.89	78.73	No Product
			06/13/96	24.62	73.00	No Product
			09/16/96	32.64	65.73	No Product
			12/02/96	27.42	70.95	No Product
			03/07/97	22.13	76.24	No Product
		•	06/12/97	31.02	67.35	No Product
			09/29/97	35.77	62.60	No Product
			12/01/97	37.14	62.86	No Product
			03/19/98	21.10	78.90	No Product
		-	05/29/98	23.26	76.74	No Product
					-	
MW-7	98.03	27/47	03/30/94	31.98	66.05	No Product
			04/25/94	33.56	64.47	No Product
			08/12/94	43.35	54.68	No Product
			12/14/94	39.34	58.69	No Product
			02/10/95	32.11	65.92	No Product
		W. 4. 8	06/15/95	25.51	72.52	No Product
			09/26/95	31.43	66.60	No Product
			12/15/95	28.97	69.06	No Product
			03/21/96	17.36	80.67	No Product
		;	06/13/96	23.47	74.56	No Product
			09/16/96	31.35	66.68	No Product
			12/02/96	27.11	70.92	No Product
			03/07/97	21.33	76.70	No Product
:			06/12/97	29.90	68.13	No Product
			09/29/97	34.37	63.66	No Product
			12/01/97	36.46	63.54	No Product
			03/19/98	20.33	79.67	No Product
			05/29/98	22.30	77.70	No Product
:						

Note: Monitoring well casing elevations were surveyed relative to an arbitrary bench mark at the top of the casing of monitoring well MW-1 with an assumed elevation of 100.00 feet.

Beacon Station #604 1619 West First Street, Livermore, California Concentrations in micrograms per Liter

Monitoring Well	Monitoring Date	MTBE (1)	Benzene	Toluene	Ethylbenzene	Xylenes	Total Petroleum Hydrocarbons as Gasoline
MW-1	06/01/93		2200	400	<50	4900	27000
	06/22/93		8000	10000	260	10000	87000
	10/06/93	İ	4700	6500	740	5300	40000
	01/13/94		1300	950	110	850	9400
	04/25/94		1500	1800	290	1700	11000
	08/12/94		550	330	260	1400	11000
	12/14/94		1000	1200	320	1500	11000
	02/10/95	ĺ	1200	1500	280	1500	9300
	06/15/95		5.6	< 0.50	< 0.50	< 0.50	140
ŀ	09/26/95		140	< 0.50	< 0.50	43	410
	12/15/95	1 [250	<1.3	<1.3	87	740
	03/21/96	 	0.52	< 0.50	< 0.50	0.51	< 50
	06/13/96	<5.0	< 0.50	< 0.50	< 0.50	< 0.50	240*
	09/16/96	<5.0	70	< 0.50	1.0	5.1	720
	12/02/96	<5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 50
	03/07/97	<5.0	6.7	< 0.50	1.2	1.8	600
	06/12/97	<50	180	800	410	1800	18000
	09/29/97	< 5.0	120	1.5	< 0.50	12	350
1	12/01/97	< 5.0	7.0	< 0.50	< 0.50	< 0.50	< 50
	03/19/98	<5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 50
	05/29/98	<5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 50
MW-2	06/01/93		20000	21000	3300	18000	170000
	06/22/93	[19000	22000	3500	18000	160000
	10/06/93		17000	17000	3000	15000	110000
	01/13/94		20000	19000	2300	14000	93000
	04/25/94	li	9600	7300	840	7800	41000
	08/12/94		11000	11000	2300	11000	59000
	12/14/94		13000	13000	2200	12000	63000
	02/10/95		12000	12000	2200	11000	63000
	06/15/95		11000	12000	1900	11000	61000
	09/26/95	1	9400	11000	2300	12000	61000
	12/15/95		8000	8300	2200	12000	48000
	03/21/96		8000	7700	2400	12000	48000
	06/13/96	<250	7300	8800	1900	12000	33000
	09/16/96	<250	510	640	180	1300	8600
Ì	12/02/96	<130	4400	4000	1300	6100	29000
	03/07/97	<250	1800	1100	270	2000	13000
1	06/12/97	< 500	7800	6600	2300	11000	68000
	09/29/97	<250	1500	97	740	1800	15000
	12/01/97	<250	900	37	860	2400	13000
	03/19/98	< 250	5000	3600	2000	8300	42000
į.	05/29/98	<250	5600	4700	2400	11000	68000

Beacon Station #604 1619 West First Street, Livermore, California Concentrations in micrograms per Liter

Monitoring Well	Monitoring Date	MTBE (1)	Benzene	Toluene	Ethylbenzene	Xylenes	Total Petroleum Hydrocarbons as Gasoline
MW-3	06/01/93 06/22/93 10/06/93 01/13/94 04/25/94 08/12/94 12/14/94 02/10/95 06/15/95 09/26/95 12/15/95 03/21/96 06/13/96 09/16/96 12/02/96 03/07/97 06/12/97 09/29/97 12/01/97 03/19/98 05/29/98	NS NS NS NS NS NS NS	4.6 8.2 57 2.6 0.75 7.3 <0.50 1.4 <0.50 <0.50 <0.50 NS NS NS NS NS NS NS NS	<0.50 <0.50 110 0.67 3.2 14 <0.50 <0.50 <0.50 <0.50 <0.50 NS NS NS NS NS NS NS NS	<0.50 <0.50 24 0.78 0.50 2.6 <0.50 <0.50 <0.50 <0.50 NS	1.9 0.72 120 4.2 3.6 13 <0.50 1.8 <0.50 <0.50 <0.50 NS	270 160 740 83 60 310 75 96 <50 <50 NS
MW-4	03/30/94 04/25/94 08/12/94 12/14/94 02/10/95 06/15/95 09/26/95 12/15/95 03/21/96 06/13/96 09/16/96 12/02/96 03/07/97 06/12/97 09/29/97 12/01/97 03/19/98 05/29/98	NS NS NS NS NS NS NS	4.2 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 NS NS NS NS NS NS NS NS	15 1.8 <0.50 <0.50 <0.50 <0.50 <0.50 NS NS NS NS NS NS	2.5 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 NS NS NS NS NS NS NS NS NS	26 2.1 <0.50 <0.50 <0.50 <0.50 <0.50 NS	120 65 < 50 < 50 < 50 < 50 < 50 NS NS NS NS NS NS NS

Beacon Station #604 1619 West First Street, Livermore, California Concentrations in micrograms per Liter

Monitoring Well	Monitoring Date	MTBE (1)	Benzene	Toluene	Ethylbenzene	Xylenes	Total Petroleum Hydrocarbons as Gasoline
				20	- 12	160	7500
MW-5	03/30/94	1	1300	20	<13	740	6500
	04/25/94	l l	1100	41	130	98	4000
	08/12/94		420	2.9	41	13	4800
ļ	12/14/94		660	<2.5	33 23	19	5200
	02/10/95	1	490	<13		< 0.50	460
	06/15/95		< 0.50	< 0.50	<0.50	< 0.50	1400
	09/26/95		61	< 0.50	3.1		2100
	12/15/95		77	1.5	10	1.5	930
	03/21/96		35	2.0	2.0	18.00	610
	06/13/96	<5.0	38	0.72	1.9	2.0	380
	09/16/96	<5.0	29	< 0.50	0.95	< 0.50	
	12/02/96	< 5.0	1.1	0.64	< 0.50	< 0.50	200
	03/07/97	< 5.0	74	< 0.50	0.58	1.50	520
	06/12/97	< 5.0	5.3	< 0.50	< 0.50	< 0.50	140
	09/29/97	< 5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 50
	12/01/97	<5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 50
	03/19/98	< 5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 50
	05/29/98	<5.0	4.1	<0.50	<0.50	0.52	540
MW-6	03/30/94		21000	8600	1700	12000	63000
M W -O	04/25/94		22000	12000	2300	16000	77000
	08/12/94		12000	8100	2200	16000	65000
	12/14/94		18000	9500	2200	14000	65000
			21000	8400	2000	14000	63000
	02/10/95		20000	11000	2100	15000	75000
	06/15/95	I	15000	9600	1700	12000	62000
	09/26/95		15000	9000	2300	15000	61000
	12/15/95	İ	18000	9800	2400	16000	65000
	03/21/96	1250	8600	3300	2200	12000	29000
	06/13/96	<250	6400	1800	2100	11000	42000
	09/16/96	<250		1100	970	8300	28000
	12/02/96	< 500	3000	190	520	2300	12000
	03/07/97	<250	2000	470	1600	6200	37000
	06/12/97	<100	3900		1600	5200	34000
	09/29/97	<100	3500	370	1200	2200	20000
	12/01/97	< 100	2100	< 10	1	3400	24000
	03/19/98	< 100	2900	460	1100 1800	5200	38000
	05/29/98	< 100	3500	700	1000	7200]

Beacon Station #604 1619 West First Street, Livermore, California Concentrations in micrograms per Liter

Monitoring Well	Monitoring Date	MTBE (1)	Benzene	Toluene	Ethylbenzene	Xylenes	Total Petroleum Hydrocarbons as Gasoline
MW-7	03/30/94	:	7200	2400	1600	11000	43000
	04/25/94		3900	1000	940	6900	30000
	08/12/94		3800	1400	1300	7500	30000
	12/14/94		3600	1200	900	6400	31000
	02/10/95		4000	900	890	5100	27000
	06/15/95		920	680	740	4100	17000
	09/26/95		200	150	170	810	7000
	12/15/95		350	170	540	1900	11000
	03/21/96	1	320	100	730	2500	12000
	06/13/96	< 50	98	19	370	620	5900
	09/16/96	<25	140	43	440	590	7800
	12/02/96	< 50	87	29	290	430	6300
	03/07/97	<25	35	19	360	470	4500
	06/12/97	<5.0	29	5.2	170	48	3900
	09/29/97	<25	56	9	340	190	6100
	12/01/97	<25	24	< 2.5	400	250	6500
1	03/19/98	<25	20	< 2.5	73	79	2000
	05/29/98	<25	22	7.3	290	350	5700

NS = Well Not Sampled on This Date.

* = Product is not typical gasoline.

MTBE (1) = Methyl-Tertiary-Butyl Ether.

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 TeflonTM 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 #604, 1619 West First	Street	Date: 5-29-98	
-	Livermore, CA	Project No.:	94-604-01	

Recorded by: Hal Hansen

2100		ied by:	·	****	lalisell				
Well	No		Well Elev. TOC	Depth to Gr. Water	Measured Total Depth	Gr. Water Elevation	Depth to Product	Product Thickness	Comments
mu	/	3:34	ı	21.57	54.16				slight of a no sheen
Mw.	2	3:37		92.63	53.77				1th leum odor no show
MU.	3	3:40		20.64	51.53				
MW-	4	3:44		20.16	46.67				
MW	ۍ ۲	3:24	,	21.30	46.33				Actablem old no share
mu.	6	3:28		23.26	47. 53				digets adoc so sheen
1411	بر ۲	3:31	ŗ	22.30	46.60				slight odor no sheen
									/
				1			·		

Notes:

Cl	ient: _	Ultramaı		Sa	ampling Date	e:	5-29-96	<u>\$</u>
;	Site:	Beacon #6	504	<u>. </u>			95-604-01	
				<u>eet</u> We	ll Designat	ion:	MM-	
•		Livermore	, CA					
Is there Is top of Is well Height of Well con 12" BK_General	e stand of casi cap se of well ver typ 1 condit	ing water ing cut level aled and level casing rive: 8" UV 2" DWP cion of wel	vel? locked? iser (in in	nches): "UY	NO YE NO YE NO YE 12" EMCO 5" CNI_ xcellent	othe	f no, see f no, see 8" BK_ er Fair F	remarks remarks
		` <u></u>	4" PVC D	TITEL	ler			oump .ler oump
· Saı	npled w	ith: Disp	posable ba	iler: X	Teflon b	ailer		
					6"			•
Initial Time: Depth of	Measur 3:37 f well: o water	- 54.16 : <u>21.57</u>	Rec Time: Depth to	water:	1.47 <u>surement</u> A Cal e: <u>4:06</u>	culate Actua	ed purge:	NA
	Time	Temp.	E.C.	рН	Turbidi	ty	Volume	
- - - -			1		<i>A</i>			-
-		 _		,			10	7
L			100	ar	Lock: _	1100	Epolice.	بالر —
Equipment 2" Los	nt repl cking (cking (cking (ap: ap:	neck all th		Note cond	7/32 l	of replace Allenhead: 9/16 Bolt: ead (DWP):	
Signatu	re: _	96010	W					

DOU	LOS ENV	IRONMENTAL	COMPANY			INFORMATION SHEE	Ť
С	lient: _	Ultrama	<u>- </u>	Sa	mpling Date:		
	Site:_	Beacon #6	504		Project No.:		
		1619 West	First Stre	eet Wel	1 Designation:	MW- 9	
		Livermore					
Is top Is wel Height Well c 12" BK Genera	of cas: l cap se of well over typ l condit	ing cut leve aled and leve aled and leve and lev	vel? locked? iser (in in 12 12" CNI llhead asse	nches): "UV	NO YES 12" EMCO Ot ccellent 6000	8" BK her D Fair Poor	
Purgin	g Equip	ment:	2" dispos 2" PVC ba 4" PVC ba	sable bail ailer ailer	erSt De Ce Teflon baile	abmersible pump edicated bailer entrifugal pump er:	
Purge Initia Time:	Well I		0.16 Rect Time:	4"	6" 8" 1.47 2		-
		MA	Sami	oling time	: 4:11		
Start C	Time	Temp.	E.C.	pН	Turbidity	Volume	
		/			<i>/</i>)		
	L	t <u></u>		<u> </u>		Well to the the	

Note condition of replaced item (Check all that apply)
Lock #3753:__ Equipment replaced: 7/32 Allenhead:____ 2" Locking Cap:___ 9/16 Bolt:_ Lock-Dolphin:_ 4" Locking Cap:__ Pinned Allenhead (DWP): 6" Locking Cap:

Lock:

Remarks:

Signature:

Sample appearance:

Signature:

Cl	ient: .	Ultramar		Sa	mpling Da	te: _ 5	-29-98	<u> </u>
	Site:	Beacon #6	04					
		1619 West	First Stre	<u>et</u> Wel	l Designa	tion:_	MM- 2	<u> </u>
,	_	Livermore,	CA					
Is ther Is top Is well Height Well co 12" BK General	e stand of cas cap so of well over typ condi	ding water ing cut lev ealed and l l casing ri pe: 8" UV_ 12" DWP tion of wel	in well borel? ocked? ser (in in 12' 12'' CNI lhead asse	nches): "UV36 embly: Ex	NO NO NO NO NO NO NO NO NO NO NO NO NO N	COOthe	f no, see f no, see 8" BK_ er Fair	remarks remarks
Purging	Fquip	ment:	_2" dispos _2" PVC ba _4" PVC ba	able bail ailer ailer	er	Subi Ded: Cen	mersible p icated bai trifugal p	oump ller oump
, Sa	mpled v	with: Disp	osable bai	ller: <u> </u>	Teflon	bailer		
<u>Initial</u> Time: Depth of Depth t	Measu 3:29 of well to wate	rement - 46.33 r: 21.30	Rech Time: Depth to	water:	MAC	alculato Actu	ed purge:	<i>AA</i>
Start p		1					Volume	7
	Time	Temp.		p	<i>H - - - - - - - - - -</i>			
Client: Ultramar Site: Beacon #604								
2" Lo 4" Lo 6" Lo	ocking ocking ocking	Cap: Cap:	Lock-I	(#3753: <u>_</u>	<u> </u>	7/32	Allenhead: 9/16 Bolt:	
Kemai								
Signati	ıre:	West.	Hara	~		·		·

וויסת	OS ENVI	CRONMENTAL	COMPANY				FORMATION S	
		Ultramar		Sa	mpling Da	te:	-29-98	
		Beacon #6					95-604-01	
			First Stre	<u>eet</u> Wel			мw- 6	
	- 	Livermore						
Is then Is top Is well Height	re stand of cas: l cap se of well	ding water ing cut levealed and l l casing ri	IN METT DO	nches):	NO O	If	me:h ove TOC Belo no, see re no, see re 8" BK Fair Poo	marks marks
Purgin	g Equip	ment:	2" dispos 2" PVC ba 4" PVC ba	sable bail ailer ailer	ler	Subm Dedi Cent	nersible pum cated baile crifugal pum	ip er ip
, s			posable ba					
	Well	Diameter:	2"	4"				•
Initia Time:_	1 Measu: 3:28	ltiplier: rement : 47.53 r: 23.26	Recl	harge Meas WH water:	NA Ca	lculate Actua	gal/ft. ed purge:	VH
		NA	Sam	pling time	3:51	<u>_</u>		
	Time	Temp.			Turbid		Volume	
					7			
			C			n d	1 the him	
s	ample a	ppearance:	<u>(le</u>	00	Lock:		/	
2" L 4" L	ocking	Cap: Cap:		nat apply) k #3753: Dolphin:		7/32 1	of replaced Allenhead: 9/16 Bolt: ead (DWP):_	
Rema	rks: _							

Signature:

DOULOS ENVIR	ONMENTAL	COMPANY		SAMPLING .	INFORMATION SHEET
Client:	<u> </u>		Sa	mpling Date:	5-29-98
	Beacon #6			Project No.:	
1	619 West	First Stre	et Wel	l Designation:	MW- 7
<u>L</u>	ivermore,	CA			
Is there stand! Is top of casin Is well cap sea Height of well Well cover type 12" BK 12 General conditi	ng water g cut lev led and l casing ri : 8" UV_ " DWP_ on of wel	rel? cocked? ser (in in 12 12 CN)	nches): "UV36 embly: Ex	NO YES NO YES 12" EMCO Ot: Cellent & COOO	
Purging Equipme	nt:	_2" dispos _2" PVC ba _4" PVC ba	sable bail ailer ailer	lerSu De Ce	bmersible pump dicated bailer ntrifugal pump
				Teflon baile	
Well Di	ameter:	2"	4"	6" 8"	
Purge Vol. Mult <u>Initial Measure</u> <u>Time: 3:31</u> Depth of well: Depth to water:	ment 46.60	Rech Time: Depth to	57		.61 gal/ft. ted purge:
Start purge:	NA	Sam	oling time	: 4:00	
Time	Temp.	E.C.	рН	Turbidity	Volume
		n			
		T	,	Lock: DCL	Chan
Sample app	earance:	1 60	ar_	Lock:	11
Equipment repla 2" Locking Ca 4" Locking Ca 6" Locking Ca	p:	Loci	at apply) c #3753: Dolphin:	7/32	on of replaced item Allenhead: 9/16 Bolt: head (DWP):
Remarks:		·			

Signature:

ATTACHMENT C

LABORATORY REPORT AND CHAIN-OF-CUSTODY FORM



Date: 06/10/98

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

Subject: 5 Water Samples
Project Name: Beacon 604
Project Number: 94-604-01

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 530-297-4800.

Sincerely,



Date: 06/10/98

Project Name : Beacon 604

Project Number: 94-604-01

Sample: MW-1

Matrix: Water

Sample Date :05/29/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/ L	EPA 8020	06/06/98
Toluene	< 0.50	0.50	ug/L	EPA 8020	06/06/98
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8020	06/06/98
Total Xylenes	< 0.50	0.50	ug/L	EPA 8020	06/06/98
Methyl-t-butyl ether	< 5.0	5.0	ug/L	EPA 8020	06/06/98
TPH as Gasoline	< 50	50	ug/L	M EPA 8015	06/06/98
aaa-Trifluorotoluene (8020 Surrogate)	102		% Recovery	EPA 8020	06/06/98
aaa-Trifluorotoluene (Gasoline Surrogate)	94.6		% Recovery	M EPA 8015	06/06/98

Sample: MW-2

Matrix: Water

Sample Date :05/29/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	5600	25	ug/L	EPA 8020	06/08/98
Toluene	4700	25	ug/L	EPA 8020	06/08/98
Ethylbenzene	2400	25	ug/L	EPA 8020	06/08/98
Total Xylenes	11000	25	ug/L	EPA 8020	06/08/98
Methyl-t-butyl ether	< 250	250	ug/L	EPA 8020	06/08/98
TPH as Gasoline	68000	2500	ug/L	M EPA 8015	06/08/98
aaa-Trifluorotoluene (8020 Surrogate)	102		% Recovery	EPA 8020	06/08/98
aaa-Trifluorotoluene (Gasoline Surrogate)	103		% Recovery	M EPA 8015	06/08/98

720 Olive Drive, Suite D Davis, CA 95616 916-297-4800



Date: 06/10/98

Project Name :

Beacon 604

Project Number: 94-604-01

Sample: MW-5

Matrix: Water

Sample Date :05/29/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	4.1	0.50	ug/L	EPA 8260B	06/09/98
Toluene	< 0.50	0.50	ug/L	EPA 8260B	06/09/98
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	06/09/98
Total Xylenes	0.52	0.50	ug/L	EPA 8260B	06/09/98
Methyl-t-butyl ether	< 5.0	5.0	ug/L	EPA 8260B	06/09/98
TPH as Gasoline	540	50	ug/L	EPA 8260B	06/09/98
Toluene - d8 (Surr)	106		% Recovery	EPA 8260B	06/09/98
4-Bromofluorobenzene (Surr)	102		% Recovery	EPA 8260B	06/09/98

Sample: MW-6

Matrix: Water

Sample Date :05/29/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	3500	10	ug/L	EPA 8020	06/08/98
Toluene	700	10	ug/L	EPA 8020	06/08/98
Ethylbenzene	1800	10	ug/L	EPA 8020	06/08/98
Total Xylenes	5200	10	ug/L	EPA 8020	06/08/98
Methyl-t-butyl ether	< 100	100	ug/L	EPA 8020	06/08/98
TPH as Gasoline	38000	1000	ug/L	M EPA 8015	06/08/98
aaa-Trifluorotoluene (8020 Surrogate)	102		% Recovery	EPA 8020	06/08/98
aaa-Trifluorotoluene (Gasoline Surrogate)	112		% Recovery	M EPA 8015	06/08/98

Approved By: Joel Kiff

720 Olive Drive, Suite D Davis, CA 95616 916-297-4800



Date: 06/10/98

Project Name : Beacon 604

Project Number: 94-604-01

Sample: MW-7

Matrix: Water

Sample Date :05/29/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	22	2.5	ug/L	EPA 8020	06/08/98
Toluene	7.3	2.5	ug/L	EPA 8020	06/08/98
Ethylbenzene	290	2.5	ug/L	EPA 8020	06/08/98
Total Xylenes	350	2.5	ug/L	EPA 8020	06/08/98
Methyl-t-butyl ether	< 25	25	ug/L	EPA 8020	06/08/98
TPH as Gasoline	5700	250	ug/L	M EPA 8015	06/08/98
aaa-Trifluorotoluene (8020 Surrogate)	104		% Recovery	EPA 8020	06/08/98
aaa-Trifluorotoluene (Gasoline Surrogate)	116		% Recovery	M EPA 8015	06/08/98

Approved By: Joe Kiff

720 Olive Drive, Suite D Davis, CA 95616 916-297-4800



Uitramar inc.CHAIN OF CUSTODY REPORT

11691

BEACON

Beacon Station No.	Sampler (Print	Name)				NIAL VO	Date Form No. 5-29.98 of				•
604	Ha / Sampler (Signa	Har	1560		\prod^{n}	NALTS)ES			-	
Project No.									ft.	anda.	1
94-604-0)	Hal	Affiliation Doulos Ent.						of Containers	TX	17	
Project Location	Affiliation				Solir			onta	·		
Livermore	Dou	los	env.	×	ag y			o O			
Sample No./Identification	Date	Tir	ne Lab No	<u>, E</u>	TPH (gasoline)		\perp	No.	REMA	ARKS	
MW-/	5-19.98	40	6 -6	/ /				2			
MW-2		411	- 02	2							
MW-5		350) -63)				$\perp \parallel$	··		
MW-6		35	4 -0	/				-			
M W-7	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	400	5 -0:	5 V	<u> </u>			1			
								_		<u> </u>	
	Data	T:	Dooblad by (Sia		Hilio	100				Date	Time
Relinquished by: (Signature/Affiliation) Walklanden Dowlor En	Date	Time	Received by: (Sig	nature//	Anma					Date	111110
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Sig	nature/	Affilia	tion)				Date	Time
Della mish and how (Signature/Affiliation)	Date	Time	Received by: (Sig	inature//	Δffilia	tion\				Date	Time
Relinquished by: (Signature/Affiliation)	Date	11110	hustin							1/2/98	
Report To: Dale won Dan		L	Billyto: ULTR. 525 W	AMAR IN est Third d, CA 9	VC. d Str	eet Te	ny	. <i>F</i>	of.		
WHITE: Return to Client with Report	YELLOW: Lab	oratory (Copy PINK:	Originate	or Co	ру				32-8	003 1/90