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

March 14, 1996

Ms. Eva Chu
Department of Environmental Health
Alameda County Health Care Services
1131 Harbor Bay Parkway, Room 250
Alameda, CA 94502-6577

SUBJECT: BEACON STATION NO. 604, 1619 FIRST STREET, LIVERMORE, CALIFORNIA

Dear Ms. Chu:

Enclosed is a copy of the Fourth Quarter 1995 Ground Water Monitoring Report for the above-referenced Ultramar facility. Also included is a copy of the Quarterly Status Report which descrobes the work completed this quarter and the work anticipated to be completed next quarter.

Please call if you have any questions regarding this site.

Sincerely,

ULTRAMAR INC.

Terrence A. Fox
Senior Project Manager
Marketing Environmental Department

cc: Mr. Cecil Fox, San Francisco Bay Region, RWQCB
Mr. Jim Ellis, Ellis Partners Inc., 351 California Street, Suite 1120, San Francisco, CA 94104

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ENVIRONMENTAL PROJECT QUARTERLY STATUS REPORT

DATE REPORT SUBMITTED: March 14, 1996
QUARTER ENDING: December 31, 1995

SERVICE STATION NO.: 604
ADDRESS: 1619 First Street, Livermore, CA
COUNTY: Alameda
ULTRAMAR CONTACT: Terrence A. Fox **TEL. NO:** 209-583-5545

BACKGROUND:

In November 1992, three underground storage tanks were removed. Hydrocarbons were detected and the excavation was extended to a depth of 27 feet in the southwest corner. Hydrocarbons were detected in the sample collected from the base of the overexcavation.

In May and June 1993, three monitoring wells (MW-1 through MW-3), three vapor wells (VW-1 through VW-3), and one boring were drilled. The soil plume has been defined.

The site has been placed on a quarterly monitoring program.

In March 29 and 30, 1994, four additional offsite wells (MW-4 through MW-7) were installed. The ground-water plume is not defined downgradient.

In June 1994, performed assessment on the Livermore Arcade Shopping Center Property by drilling borings and collecting ground-water samples using a Hydropunch tool.

In June 1994, performed vapor extraction and ground-water extraction tests.

In September and October 1995, installed of vapor extraction and airsparging wells.

SUMMARY OF THIS QUARTER'S ACTIVITIES:

Performed quarterly monitoring on December 15, 1995.

RESULT OF QUARTERLY MONITORING:

Monitoring data indicates that the benzene concentration remained not detected in MW-3 and MW-4, and remained 15,000 ppb in MW-6. The benzene concentrations increased in MW-1 from 140 ppb to 250 ppb, in MW-5 from 61 ppb to 77 ppb, and in MW-7 from 200 ppb to 350 ppb. The benzene concentration decreased in MW-2 from 9,400 ppb to 8,000 ppb.

PROPOSED ACTIVITY OR WORK FOR NEXT QUARTER:

ACTIVITY	ESTIMATED COMPLETION DATE
Continue quarterly monitoring program.	
Installation of remediation system.	March 31, 1996

El Dorado Environmental, Inc.

2221 Goldorado Trail, El Dorado, California 95623

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

RECEIVED

MAR 1 4 1996

March 11, 1996

Mr. Terrence A. Fox
Environmental Specialist
Ultramar Inc.
525 West Third Street
Hanford, California 93230

Subject: **Fourth Quarter 1995 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 December 15, 1995 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, well purging, 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 CONDITIONS

Prior to well purging, Doulos collected depth to ground water measurements 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 northwest (Figure 2) at a gradient of approximately 0.01 foot per foot. Ground water elevation beneath the site has increased an average of 2.56 feet since the previous monitoring event.

GROUND WATER SAMPLING AND ANALYSIS

Ground water samples were collected from seven 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

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 ground water samples collected from monitoring wells MW-3 and MW-4. Dissolved benzene concentrations decreased in the ground water sample collected from monitoring well MW-2 compared to the most recent sampling event. Benzene concentrations increased in samples collected from monitoring wells MW-1, MW-5, and MW-7. The benzene concentration remained unchanged in the sample collected from monitoring well MW-6. 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 (916) 626-3898.

Regards,

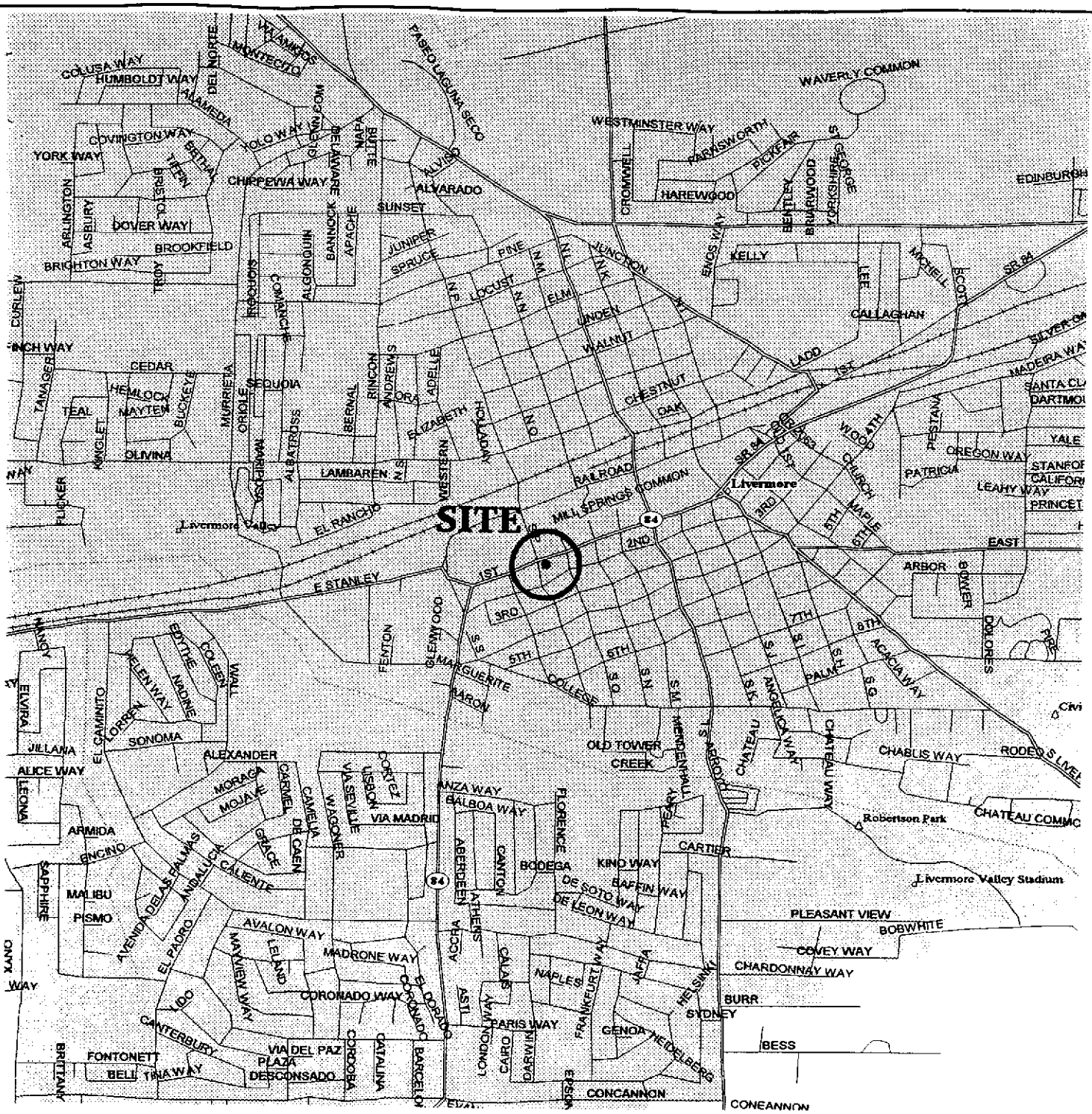
EL DORADO ENVIRONMENTAL, INC.

Dale A. van Dam

Dale A. van Dam, R.G.
Hydrogeologist

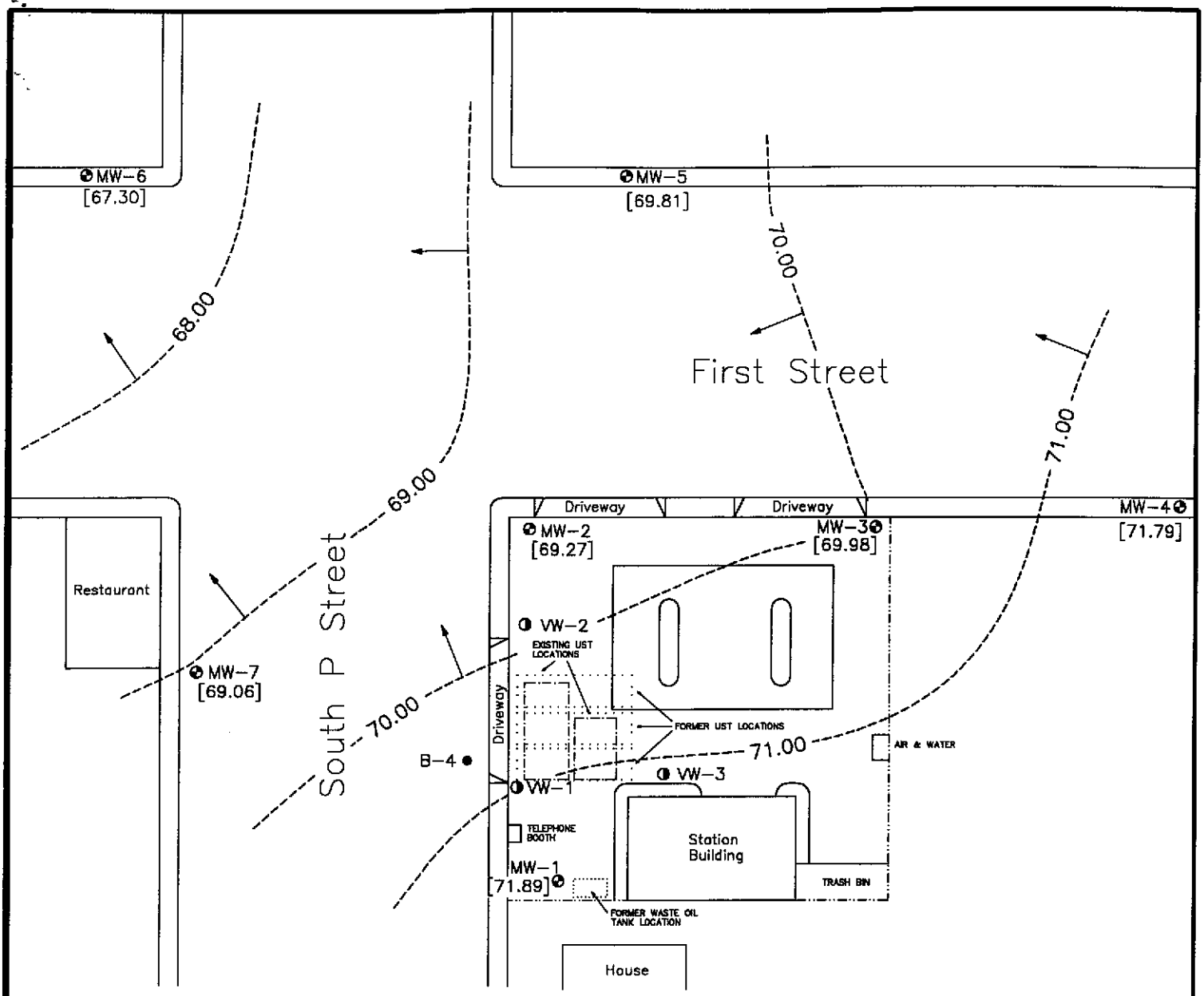
DAvD/davd

Attachments



SOURCE: STREET ATLAS U.S.A., DELORME MAPPING, 1994

SITE LOCATION MAP	FIGURE 1
BEACON STATION #604 1619 WEST FIRST STREET LIVERMORE, CALIFORNIA	PROJECT NUMBER: U013.01
	DRAWN BY: D.A.V.D.
EL DORADO ENVIRONMENTAL, INC.	CHECKED BY: DVD



EXPLANATION

SB-4 ● Soil Boring Location and Number

VW-3 ◑ Vadose Well Location and Number

MW-5 ◒ Monitoring Well Location and Number

[69.81] Ground Water Elevation in Feet

68.50 Line of Equal Elevation of Ground Water Measured in Feet

Inferred Direction of Ground Water Flow

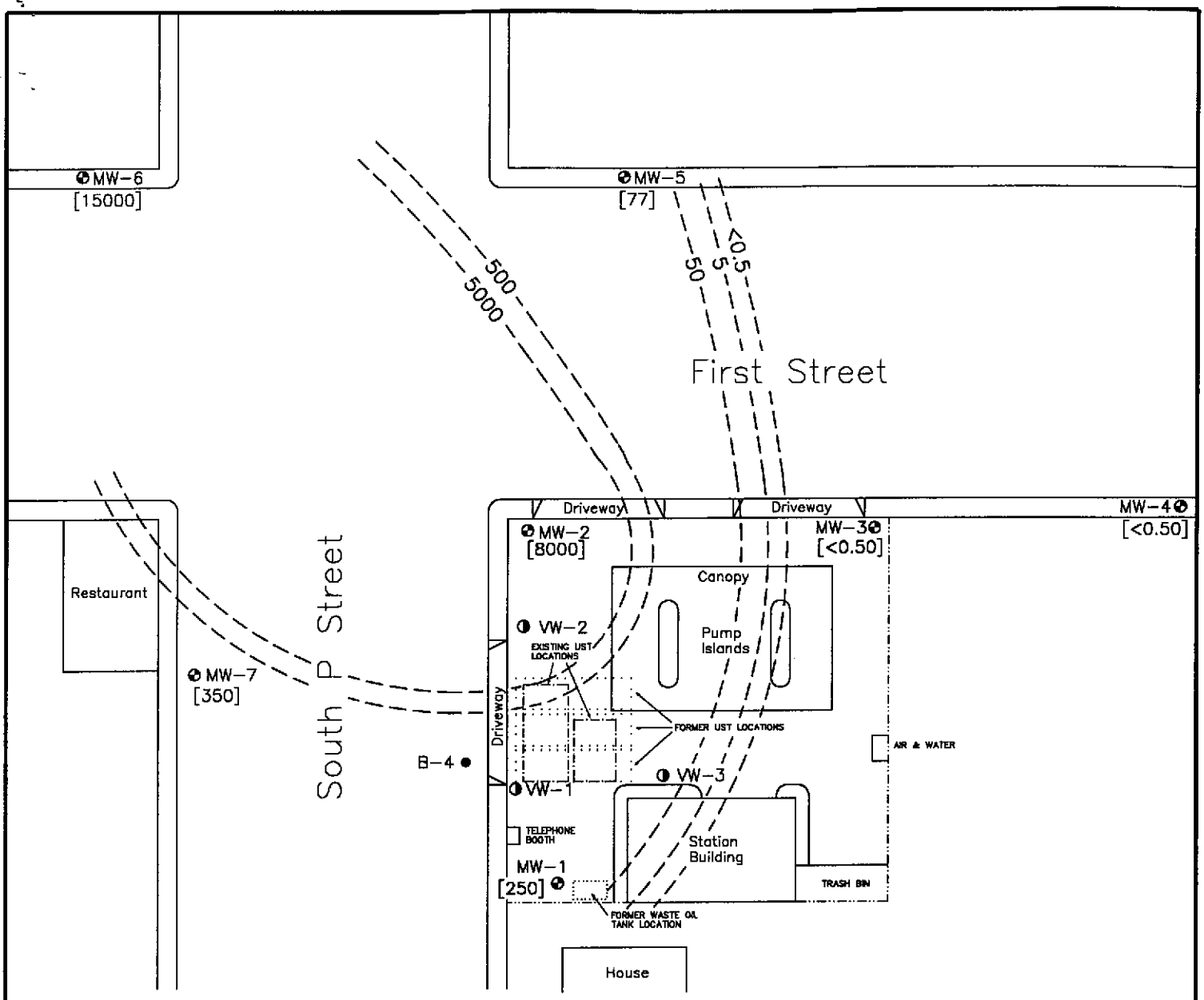
NORTH

0 40

SCALE IN FEET

SOURCE: FIGURE MODIFIED FROM DRAWING PROVIDED BY ACTON*MICKELSON*ENVIRONMENTAL, INC.

GROUND WATER CONTOUR MAP, DECEMBER 15, 1995	FIGURE 2
BEACON STATION #604 1619 WEST FIRST STREET LIVERMORE, CALIFORNIA	PROJECT NUMBER: U013.01 DRAWN BY: D.A.v.D.
EL DORADO ENVIRONMENTAL, INC.	CHECKED BY: DVD



EXPLANATION

SB-4 ● Soil Boring Location and Number

VW-3 ◑ Vadose Well Location and Number

MW-5 ⊘ Monitoring Well Location and Number

[77] Benzene Concentration in **Micrograms/Liter**

50 Benzene Isoconcentration Line in Micrograms per Liter

NORTH

0 40

SCALE IN FEET

SOURCE: FIGURE MODIFIED FROM DRAWING PROVIDED BY ACTON*MICKELSON*ENVIRONMENTAL, INC.

DISSOLVED BENZENE DISTRIBUTION MAP, DECEMBER 15, 1995	FIGURE 3
BEACON STATION #604 1619 WEST FIRST STREET LIVERMORE, CALIFORNIA	PROJECT NUMBER: U013.01 DRAWN BY: D.A.v.D.
EL DORADO ENVIRONMENTAL, INC.	CHECKED BY:

TABLE 1
GROUND WATER ELEVATION DATA

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

Monitoring Well	Top of Riser (feet)	Depth to Top/Bottom of Screened Interval (feet)	Monitoring Date	Depth to Water (feet)	Ground Water Elevation (feet)	Physical Observation
MW-1	100.00	34/54	06/01/93	37.50	62.50	No Product
			06/22/93	38.46	61.54	No Product
			10/06/93	42.22	57.78	No Product
			01/13/94	34.52	65.48	No Product
			03/30/94	31.93	68.07	No Product
			04/25/94	33.49	66.51	No Product
			08/12/94	41.03	58.97	No Product
			12/14/94	38.63	61.37	No Product
			02/10/95	30.80	69.20	No Product
			06/15/95	25.46	74.54	No Product
			09/26/95	31.05	68.95	No Product
			12/15/95	28.11	71.89	No Product
MW-2	98.68	34/54	06/01/93	38.02	60.66	No Product
			06/22/93	39.07	59.61	No Product
			10/06/93	43.72	54.96	No Product
			01/13/94	35.85	62.83	No Product
			03/30/94	32.82	65.86	No Product
			04/25/94	34.76	63.92	No Product
			08/12/94	44.33	54.35	No Product
			12/14/94	40.00	58.68	No Product
			02/10/95	32.16	66.52	No Product
			06/15/95	25.93	72.75	No Product
			09/26/95	32.42	66.26	No Product
			12/15/95	29.41	69.27	No Product
MW-3	97.08	33/53	06/01/93	36.18	60.90	No Product
			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

See notes at end of table

TABLE 1
GROUND WATER ELEVATION DATA

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

Monitoring Well	Top of Riser (feet)	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	31.56	67.79	No Product
			04/25/94	32.73	66.62	No Product
			08/12/94	41.61	57.74	No Product
			12/14/94	38.11	61.24	No Product
			02/10/95	30.50	68.85	No Product
			06/15/95	23.63	75.72	No Product
			09/26/95	29.70	69.65	No Product
			12/15/95	27.56	71.79	No Product
MW-5	98.37	27/47	03/30/94	32.07	66.30	No Product
			04/25/94	33.65	64.72	No Product
			08/12/94	42.73	55.64	No Product
			12/14/94	38.89	59.48	No Product
			02/10/95	31.44	66.93	No Product
			06/15/95	24.99	73.38	No Product
			09/26/95	30.20	68.17	No Product
			12/15/95	28.56	69.81	No Product
MW-6	97.62	28/48	03/30/94	33.38	64.24	No Product
			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

See notes at end of table

TABLE 1
GROUND WATER ELEVATION DATA

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

Monitoring Well	Top of Riser (feet)	Depth to Top/Bottom of Screened Interval (feet)	Monitoring Date	Depth to Water (feet)	Ground Water Elevation (feet)	Physical Observation
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
			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

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.

TABLE 2
GROUND WATER ANALYTICAL RESULTS

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

Monitoring Well	Monitoring Date	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	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	1200	1500	280	1500	9300
	06/15/95	5.6	<0.50	<0.50	<0.50	140
	09/26/95	140	<0.50	<0.50	43	410
	12/15/95	250	<1.3	<1.3	87	740
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	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	9400	11000	2300	12000	61000
	12/15/95	8000	8300	2200	12000	48000
MW-3	06/01/93	4.6	<0.50	<0.50	1.9	270
	06/22/93	8.2	<0.50	<0.50	0.72	160
	10/06/93	57	110	24	120	740
	01/13/94	2.6	0.67	0.78	4.2	83
	04/25/94	0.75	3.2	0.50	3.6	60
	08/12/94	7.3	14	2.6	13	310
	12/14/94	<0.50	<0.50	<0.50	<0.50	75
	02/10/95	1.4	<0.50	<0.50	1.8	96
	06/15/95	<0.50	<0.50	<0.50	<0.50	<50
	09/26/95	<0.50	<0.50	<0.50	<0.50	<50
	12/15/95	<0.50	<0.50	<0.50	<0.50	<50

TABLE 2
GROUND WATER ANALYTICAL RESULTS

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

Monitoring Well	Monitoring Date	Benzene	Toluene	Ethylbenzene	Xylenes	Total Petroleum Hydrocarbons as Gasoline
MW-4	03/30/94	4.2	15	2.5	26	120
	04/25/94	<0.50	1.8	<0.50	2.1	65
	08/12/94	<0.50	<0.50	<0.50	<0.50	<50
	12/14/94	<0.50	<0.50	<0.50	<0.50	<50
	02/10/95	<0.50	<0.50	<0.50	<0.50	<50
	06/15/95	<0.50	<0.50	<0.50	<0.50	<50
	09/26/95	<0.50	<0.50	<0.50	<0.50	<50
	12/15/95	<0.50	<0.50	<0.50	<0.50	<50
MW-5	03/30/94	1300	20	<13	160	7500
	04/25/94	1100	41	130	740	6500
	08/12/94	420	2.9	41	98	4000
	12/14/94	660	<2.5	33	13	4800
	02/10/95	490	<13	23	19	5200
	06/15/95	<0.50	<0.50	<0.50	<0.50	460
	09/26/95	61	<0.50	3.1	<0.50	1400
	12/15/95	77	1.50	10	1.50	2100
MW-6	03/30/94	21000	8600	1700	12000	63000
	04/25/94	22000	12000	2300	16000	77000
	08/12/94	12000	8100	2200	16000	65000
	12/14/94	18000	9500	2200	14000	65000
	02/10/95	21000	8400	2000	14000	63000
	06/15/95	20000	11000	2100	15000	75000
	09/26/95	15000	9600	1700	12000	62000
	12/15/95	15000	9000	2300	15000	61000
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

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 fro 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 #604, 1619 West First Street Date: 12-15-95

Livermore, CA Project No.: 94-604-01

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	710		28.11	54.10				Petroleum odor no sheen
MW-2	714		29.41	53.70				Petroleum odor no sheen
MW-3	718		27.10	52.50				no odor no sheen
MW-4	706		27.56	46.62				no odor no sheen
MW-5	702		26.56	46.07				no odor no sheen
MW-6	654		30.32	47.52				Petroleum odor no sheen
MW-7	658		28.97	46.59				no odor no sheen

Notes:

DOULOS ENVIRONMENTAL COMPANY SAMPLING INFORMATION SHEET

Client: Ultramar Sampling Date: 12-15-95

Site: Beacon #604 Project No.: 95-604-01

1619 West First Street Well Designation: MW-1

Livermore, CA

Is setup of traffic control devices required? (NO) YES time: _____ hours
Is there standing water in well box? NO (YES) Above TOC Below TOC
Is top of casing cut level? NO (YES) If no, see remarks
Is well cap sealed and locked? NO (YES) If no, see remarks
Height of well casing riser (in inches): 6
Well cover type: 8" UV_____ 12" UV_____ 12" EMCO_____ 8" BK_____
12" BK X 12" DWP_____ 12" CNI_____ 36" CNI_____ Other_____
General condition of wellhead assembly: Excellent (Good) Fair Poor

Purging Equipment:
_____2" disposable bailer
_____2" PVC bailer
_____4" PVC bailer
_____Submersible pump
_____Dedicated bailer
X Centrifugal pump

Sampled with: Disposable bailer: X Teflon bailer: _____

Well Diameter: 2"____ 4" X 6"____ 8"____

Purge Vol. Multiplier: 0.16 0.65 1.47 2.61 gal/ft.

Initial Measurement
Time: 710
Depth of well: 54.10
Depth to water: 28.11

Recharge Measurement
Time: 839
Depth to water: 28.20

Calculated purge: 676 gal
Actual purge: 676 gal

Start purge: 820 Sampling time: 840

Time	Temp.	E.C.	pH	Turbidity	Volume
824	694	1830	704	—	1
828	869	1701	698	—	2
833	670	1684	682	—	3
837	674	1631	683	—	4

Sample appearance: clear Lock: dolphin

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

Remarks: _____

Signature: Val Hansen

DOULOS ENVIRONMENTAL COMPANY SAMPLING INFORMATION SHEET

Client: Ultramar Sampling Date: 12-15-95

Site: Beacon #604 Project No.: 95-604-01

1619 West First Street Well Designation: MW-2

Livermore, CA

Is setup of traffic control devices required? NO YES time:_____ hours
Is there standing water in well box? NO YES Above TOC Below TOC
Is top of casing cut level? NO YES If no, see remarks
Is well cap sealed and locked? NO YES If no, see remarks
Height of well casing riser (in inches): 4
Well cover type: 8" UV_____ 12" UV_____ 12" EMCO_____ 8" BK_____
12" BK X 12" DWP_____ 12" CNI_____ 36" CNI_____ Other_____
General condition of wellhead assembly: Excellent Good Fair Poor

Purging Equipment:
_____2" disposable bailer
_____2" PVC bailer
_____4" PVC bailer
_____Submersible pump
_____Dedicated bailer
X Centrifugal pump

Sampled with: Disposable bailer: X Teflon bailer:_____

Well Diameter: 2"____ 4" X 6"____ 8"____

Purge Vol. Multiplier: 0.16 0.65 1.47 2.61 gal/ft.

Initial Measurement
Time: 714
Depth of well: 53.70
Depth to water: 19.41

Recharge Measurement
Time: 942
Depth to water: 29.43

Calculated purge: 63.5 gal
Actual purge: 63.5 gal

Start purge: 918 Sampling time: 943

Time	Temp.	E.C.	pH	Turbidity	Volume
922	70.4	1820	7.02	—	1
927	68.2	1714	6.96	—	2
933	67.3	1682	6.90	—	3
938	66.4	1653	6.84	—	4

Sample appearance: clear Lock: dolphin

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

Remarks: _____

Signature: _____

DOULOS ENVIRONMENTAL COMPANY SAMPLING INFORMATION SHEET

Client: Ultramar Sampling Date: 12/5/95

Site: Beacon #604 Project No.: 95-604-01

1619 West First Street Well Designation: MW-3

Livermore, CA

Is setup of traffic control devices required? NO YES time:_____ hours
Is there standing water in well box? NO YES Above TOC Below TOC
Is top of casing cut level? NO YES If no, see remarks
Is well cap sealed and locked? NO YES If no, see remarks
Height of well casing riser (in inches): _____
Well cover type: 8" UV_____ 12" UV_____ 12" EMCO_____ 8" BK_____
12" BK_____ 12" DWP_____ 12" CNI_____ 36" CNI_____ Other_____
General condition of wellhead assembly: Excellent Good Fair Poor

Purging Equipment: _____2" disposable bailer _____Submersible pump
_____2" PVC bailer _____Dedicated bailer
_____4" PVC bailer _____Centrifugal pump

Sampled with: Disposable bailer:_____ Teflon bailer:_____

Well Diameter: 2"____ 4"____ 6"____ 8"____

Purge Vol. Multiplier: 0.16 0.65 1.47 2.61 gal/ft.

Initial Measurement
Time: 718
Depth of well: 52.50
Depth to water: 27.10

Recharge Measurement
Time: 912
Depth to water: 27.84

Calculated purge: 66 gal
Actual purge: 66 gal

Start purge: 845 Sampling time: 913

Time	Temp.	E.C.	pH	Turbidity	Volume
850	73.4	1384	7.84	—	1
855	70.2	1326	7.52	—	2
902	68.2	1284	7.50	—	3
908	66.0	2??	7.46	—	4

Sample appearance: clear Lock: Dolphin

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

Remarks: _____

Signature: Karl Hansen

DOULOS ENVIRONMENTAL COMPANY SAMPLING INFORMATION SHEET

Client: Ultramar Sampling Date: 12-15-95

Site: Beacon #604 Project No.: 95-604-01

1619 West First Street Well Designation: MW-4

Livermore, CA

Is setup of traffic control devices required? (NO) YES time:_____ hours
Is there standing water in well box? (NO) YES Above TOC Below TOC
Is top of casing cut level? NO (YES) If no, see remarks
Is well cap sealed and locked? NO (YES) If no, see remarks
Height of well casing riser (in inches): 12
Well cover type: 8" UV X 12" UV_____ 12" EMCO_____ 8" BK_____
12" BK_____ 12" DWP_____ 12" CNI_____ 36" CNI_____ Other_____
General condition of wellhead assembly: Excellent (Good) Fair Poor

Purging Equipment:
_____2" disposable bailer
_____2" PVC bailer
_____4" PVC bailer
_____Submersible pump
_____Dedicated bailer
X Centrifugal pump

Sampled with: Disposable bailer: X Teflon bailer:_____

Well Diameter: 2" X 4"____ 6"____ 8"____

Purge Vol. Multiplier: 0.16 0.65 1.47 2.61 gal/ft.

Initial Measurement
Time: 706
Depth of well: 14.62
Depth to water: 2.756

Recharge Measurement
Time: 752
Depth to water: 2.800

Calculated purge: 12.2 gal
Actual purge: 12.2 gal

Start purge: 744 Sampling time: 753

Time	Temp.	E.C.	pH	Turbidity	Volume
745	69.4	1388	7.84	———	1
746	67.3	1337	7.31	———	2
747	67.4	1293	7.26	———	3
748	67.9	1273	7.19	———	4

Sample appearance: clear Lock: dolphin

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

Remarks: _____

Signature: Walt Kanoa

DOULOS ENVIRONMENTAL COMPANY SAMPLING INFORMATION SHEET

Client: Ultramar Sampling Date: 12-15-93

Site: Beacon #604 Project No.: 95-604-01

1619 West First Street Well Designation: MW-5

Livermore, CA

Is setup of traffic control devices required? (NO) YES time: _____ hours
Is there standing water in well box? NO (YES) Above TOC Below TOC
Is top of casing cut level? NO (YES) If no, see remarks
Is well cap sealed and locked? NO (YES) If no, see remarks
Height of well casing riser (in inches): 6
Well cover type: 8" UV X 12" UV _____ 12" EMCO _____ 8" BK _____
12" BK _____ 12" DWP _____ 12" CNI _____ 36" CNI _____ Other _____
General condition of wellhead assembly: Excellent (Good) Fair Poor

Purging Equipment:
_____ 2" disposable bailer
_____ 2" PVC bailer
_____ 4" PVC bailer
_____ Submersible pump
_____ Dedicated bailer
4 Centrifugal pump

Sampled with: Disposable bailer: X Teflon bailer: _____

Well Diameter: 2" X 4" _____ 6" _____ 8" _____

Purge Vol. Multiplier: 0.16 0.65 1.47 2.61 gal/ft.

Initial Measurement
Time: 702
Depth of well: 46.07
Depth to water: 28.56

Recharge Measurement
Time: 757
Depth to water: 28.66

Calculated purge: 11.2 gal
Actual purge: 11.2 gal

Start purge: 750 Sampling time: 758

Time	Temp.	E.C.	pH	Turbidity	Volume
751	69.4	1720	754	—	1
752	68.2	1689	743	—	2
753	68.0	1594	742	—	3
754	68.4	1581	739	—	4

Sample appearance: clear Lock: dolphin

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

Remarks: _____

Signature: Kal Kamei

DOULOS ENVIRONMENTAL COMPANY SAMPLING INFORMATION SHEET

Client: Ultramar Sampling Date: 12-15-95

Site: Beacon #604 Project No.: 95-604-01

1619 West First Street Well Designation: MW-6

Livermore, CA

Is setup of traffic control devices required? (NO) YES time:_____ hours
Is there standing water in well box? NO (YES) Above TOC Below TOC
Is top of casing cut level? NO (YES) If no, see remarks
Is well cap sealed and locked? NO (YES) If no, see remarks
Height of well casing riser (in inches): 3
Well cover type: 8" UV X 12" UV_____ 12" EMCO_____ 8" BK_____
12" BK_____ 12" DWP_____ 12" CNI_____ 36" CNI_____ Other_____
General condition of wellhead assembly: Excellent (Good) Fair Poor

Purging Equipment:
_____2" disposable bailer
_____2" PVC bailer
_____4" PVC bailer
_____Submersible pump
_____Dedicated bailer
X Centrifugal pump

Sampled with: Disposable bailer: X Teflon bailer:_____

Well Diameter: 2" X 4"_____ 6"_____ 8"_____

Purge Vol. Multiplier: 0.16 0.65 1.47 2.61 gal/ft.

Initial Measurement
Time: 654
Depth of well: 47.52
Depth to water: 30.31

Recharge Measurement
Time: 729
Depth to water: 30.54

Calculated purge: 11 gal
Actual purge: 4.7

Start purge: 722 Sampling time: 730

Time	Temp.	E.C.	pH	Turbidity	Volume
723	694	1534	710	~	1
724	680	1520	716	~	2
725	673	1437	709	~	3
726	672	1428	702	~	4

Sample appearance: clear Lock: dolphin

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

Remarks: _____

Signature: Gal Glanser

DOULOS ENVIRONMENTAL COMPANY SAMPLING INFORMATION SHEET

Client: Ultramar Sampling Date: 12-15-95

Site: Beacon #604 Project No.: 95-604-01

1619 West First Street Well Designation: MW- 7

Livermore, CA

Is setup of traffic control devices required? (NO) YES time:_____ hours
Is there standing water in well box? (NO) YES Above TOC Below TOC
Is top of casing cut level? NO (YES) If no, see remarks
Is well cap sealed and locked? NO (YES) If no, see remarks
Height of well casing riser (in inches): _____
Well cover type: 8" UV_____ 12" UV_____ 12" EMCO_____ 8" BK_____
12" BK_____ 12" DWP_____ 12" CNI_____ 36" CNI_____ Other_____
General condition of wellhead assembly: Excellent (Good) Fair Poor

Purging Equipment:
_____2" disposable bailer
_____2" PVC bailer
_____4" PVC bailer
_____Submersible pump
_____Dedicated bailer
X Centrifugal pump

Sampled with: Disposable bailer: X Teflon bailer:_____

Well Diameter: 2" X 4"____ 6"____ 8"____

Purge Vol. Multiplier: 0.16 0.65 1.47 2.61 gal/ft.

Initial Measurement
Time: 658
Depth of well: 46.59
Depth to water: 28.97

Recharge Measurement
Time: 811
Depth to water: 29.34

Calculated purge: 11.3 gal
Actual purge: 11.3 gal

Start purge: 803 Sampling time: 812

Time	Temp.	E.C.	pH	Turbidity	Volume
804	69.4	1840	732	———	1
805	68.3	1722	724	———	2
806	67.3	1638	718	———	3
807	67.0	1621	714	———	4

Sample appearance: clear Lock: dolphin

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

Remarks: _____

Signature: Karl Hansen

ATTACHMENT C

LABORATORY REPORT AND CHAIN-OF-CUSTODY FORM

WEST LABORATORY

January 3, 1996
Sample Log 13606

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

Subject: Analytical Results for 7 Water Samples
Identified as: Beacon 604 (Proj. # 94-604-01)
Received: 12/15/95

Dear Mr. van Dam:

Analysis of the sample(s) referenced above has been completed. This report is written to confirm results communicated on January 3, 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

WEST LABORATORY

January 3, 1996
Sample Log 13606

MTBE (Methyl-t-butyl ether) Results

From : Beacon 604 (Proj. # 94-604-01)
Sampled : 12/15/95
Received : 12/15/95
Matrix : Water

MTBE	(MRL) ug/L	Measured Value ug/L
MW-1	(13)	<13
MW-2	(1300)	<1300
MW-3	(5.0)	<5.0
MW-4	(5.0)	<5.0
MW-5	(5.0)	7.9
MW-6	(1300)	<1300
MW-7	(130)	<130

Approved By:

Joel Kiff
Senior Chemist

WEST LABORATORY

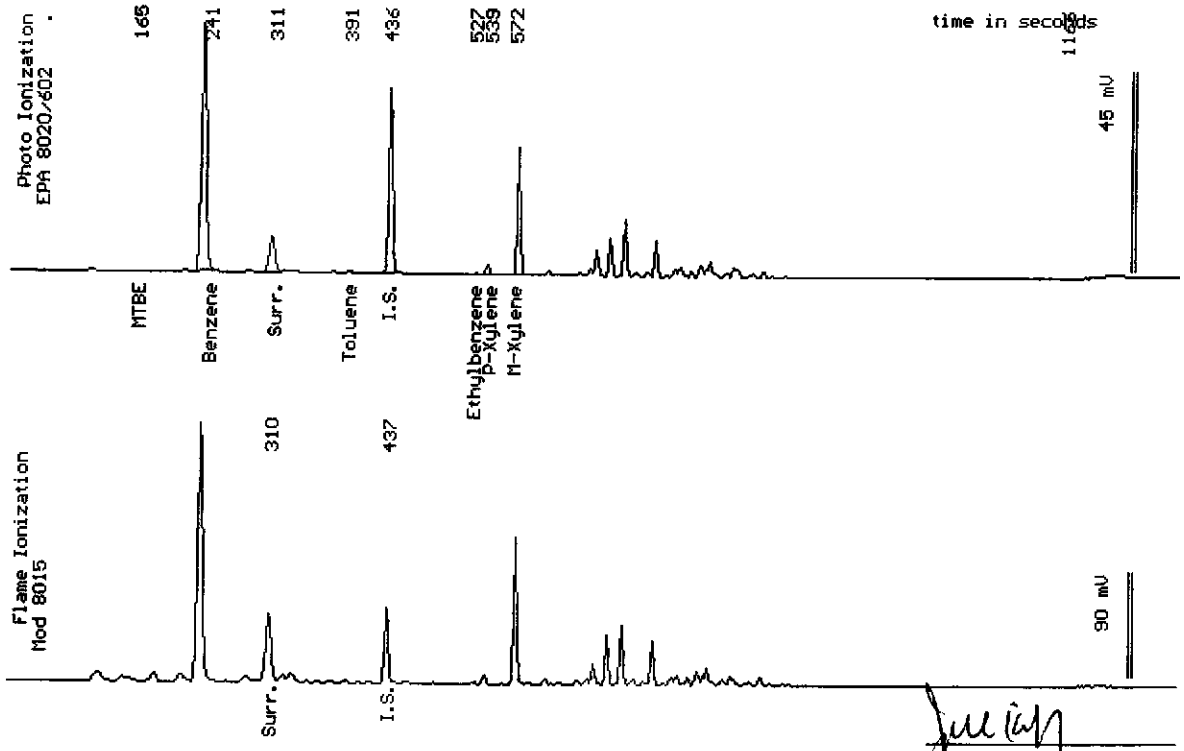
Sample Log 13606

13606-01

Sample: **MW-1**

From : Beacon 604 (Proj. # 94-604-01)
Sampled : 12/15/95
Dilution : 1:3 QC Batch : 2136G
Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Benzene	(1.3)	250
Toluene	(1.3)	<1.3
Ethylbenzene	(1.3)	<1.3
Total Xylenes	(1.3)	87
TPH as Gasoline	(130)	740
Surrogate Recovery		98 %



Date Analyzed: 01-02-96
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Joel Kiff
Senior Chemist

WEST LABORATORY

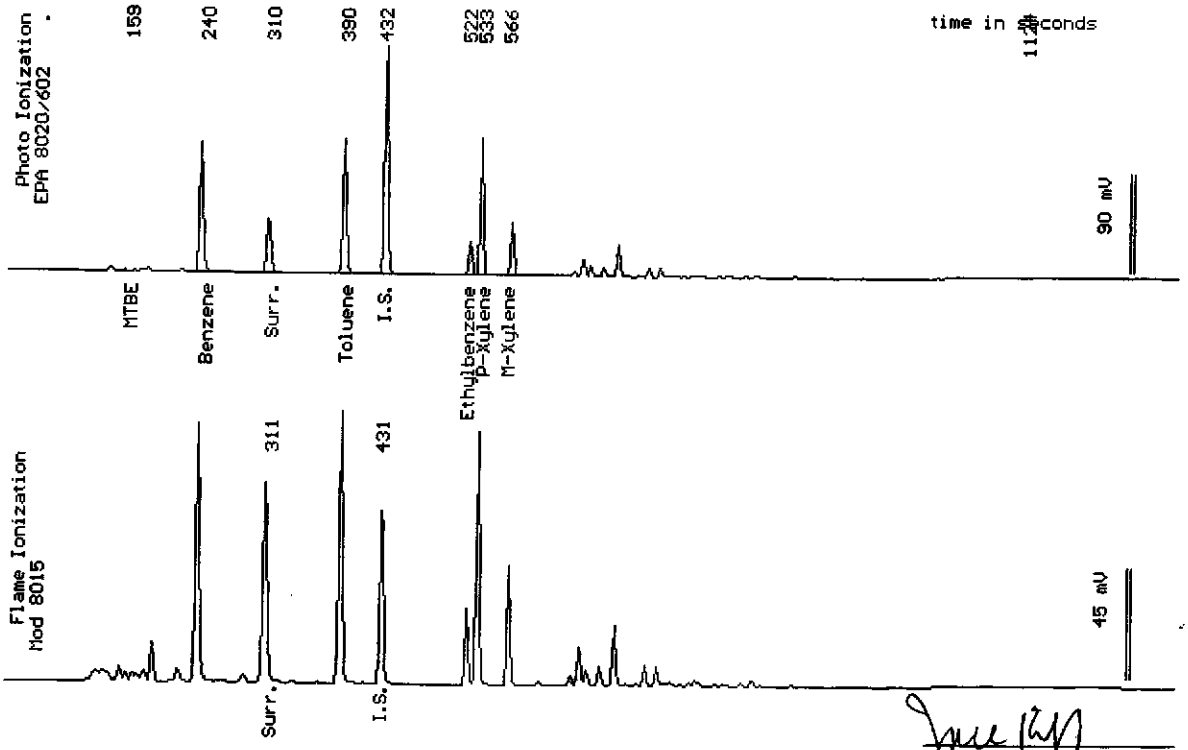
Sample Log 13606

13606-02

Sample: **MW-2**

From : Beacon 604 (Proj. # 94-604-01)
Sampled : 12/15/95
Dilution : 1:250 QC Batch : 2136D
Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Benzene	(130)	8000
Toluene	(130)	8300
Ethylbenzene	(130)	2200
Total Xylenes	(130)	12000
TPH as Gasoline	(13000)	48000
Surrogate Recovery		100 %



Date Analyzed: 12-29-95
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Joel Kiff
Senior Chemist

WEST LABORATORY

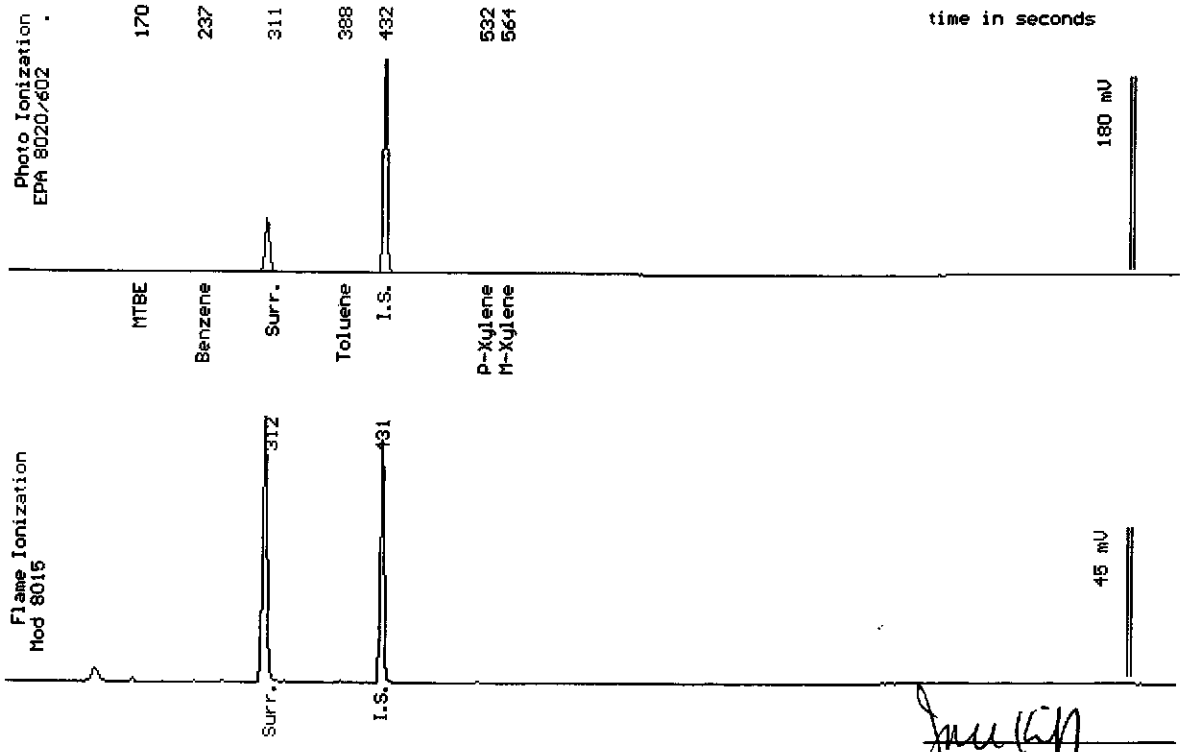
Sample Log 13606

13606-03

Sample: **MW-3**

From : Beacon 604 (Proj. # 94-604-01)
Sampled : 12/15/95
Dilution : 1:1 QC Batch : 2136C
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)	<50
Surrogate Recovery		102 %



Date Analyzed: 12-28-95
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Joel Kiff
Senior Chemist

WEST LABORATORY

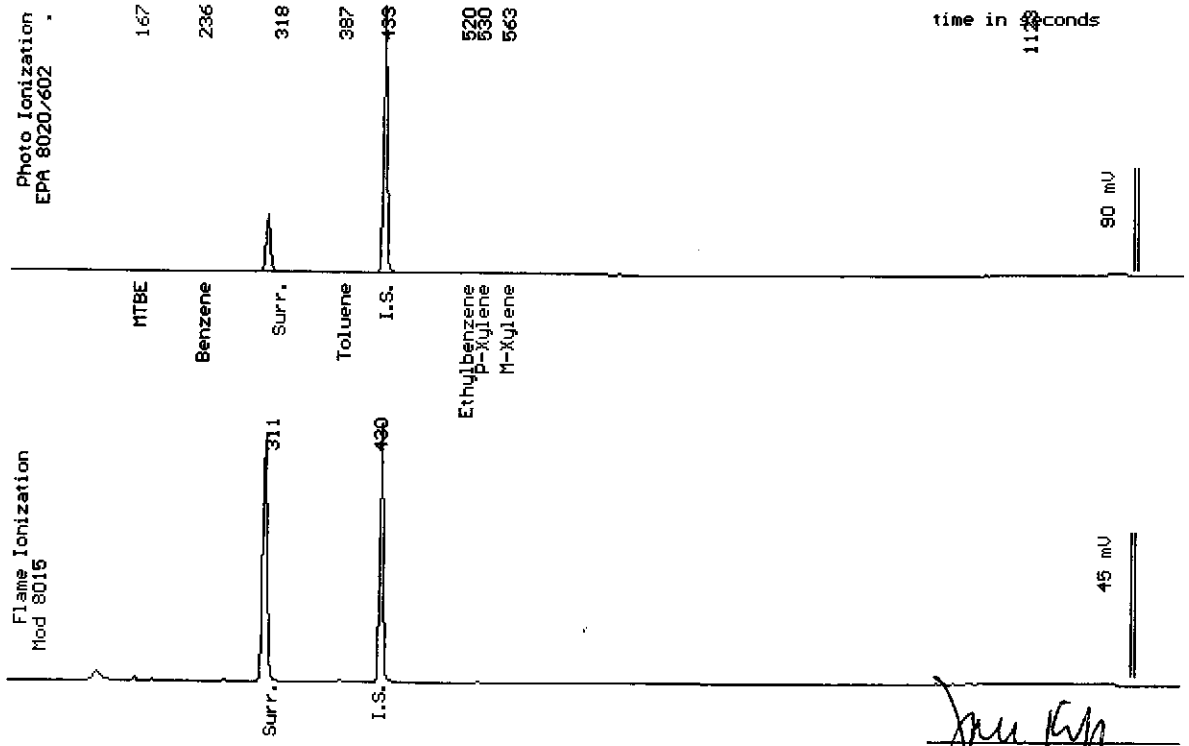
Sample Log 13606

13606-04

Sample: **MW-4**

From : Beacon 604 (Proj. # 94-604-01)
Sampled : 12/15/95
Dilution : 1:1 QC Batch : 2136D
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)	<50
Surrogate Recovery		101 %



Date Analyzed: 12-29-95
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Joel Kiff
Senior Chemist

WEST LABORATORY

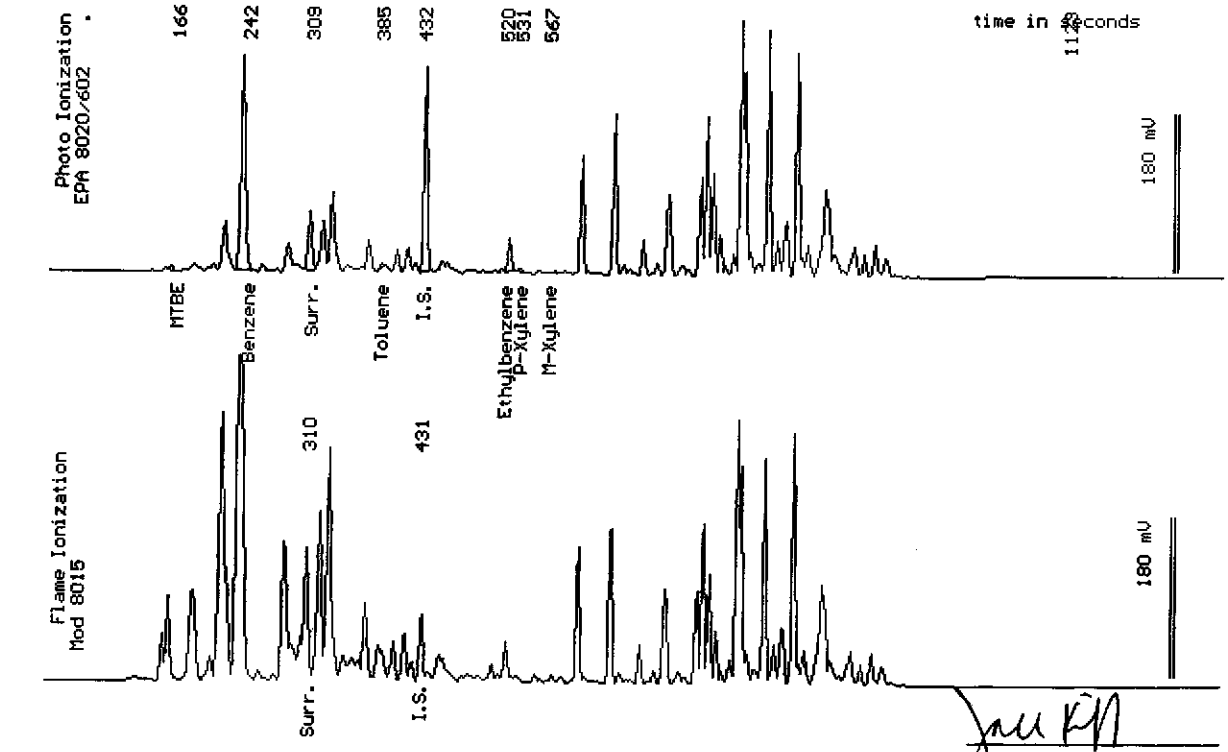
Sample Log 13606

13606-05

Sample: **MW-5**

From : Beacon 604 (Proj. # 94-604-01)
Sampled : 12/15/95
Dilution : 1:1 QC Batch : 2136D
Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Benzene	(.50)	77
Toluene	(.50)	1.5
Ethylbenzene	(.50)	10
Total Xylenes	(.50)	1.5
TPH as Gasoline	(50)	2100
Surrogate Recovery		120 %



Date Analyzed: 12-29-95
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Joel Kiff
Senior Chemist

WEST LABORATORY

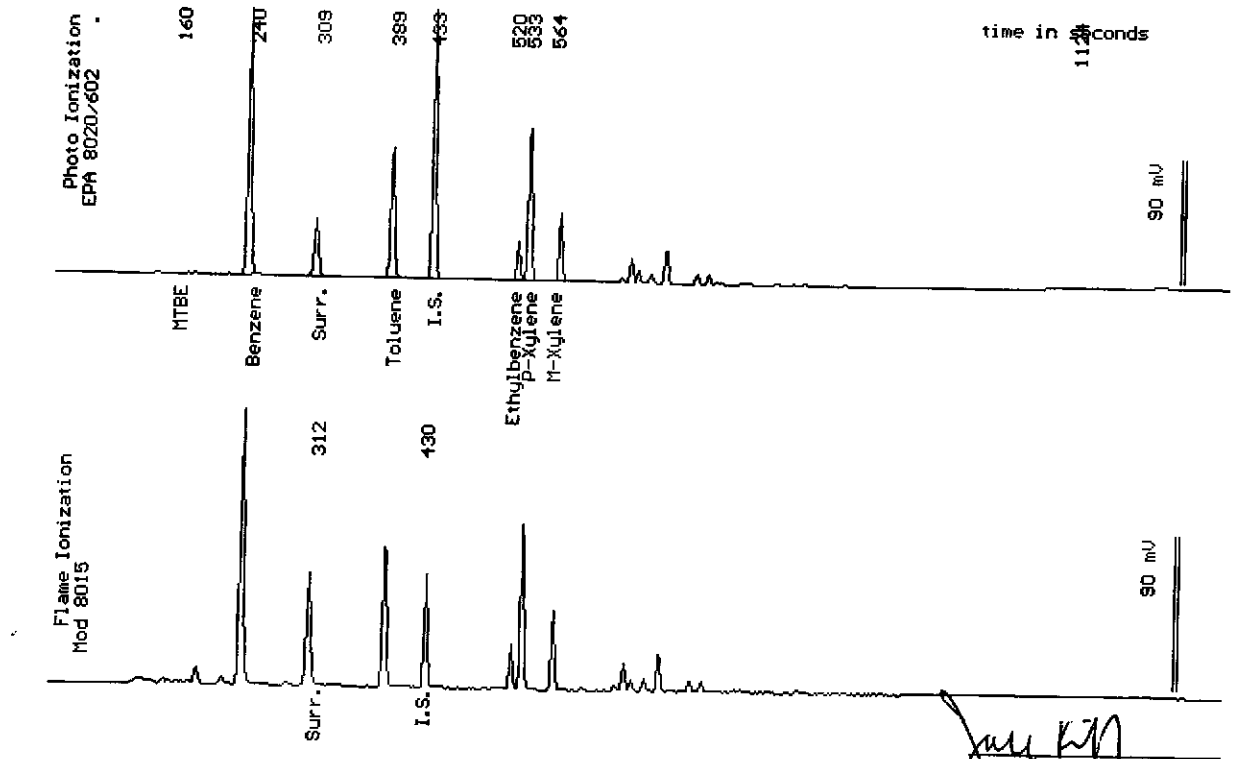
Sample Log 13606

13606-06

Sample: **MW-6**

From : Beacon 604 (Proj. # 94-604-01)
Sampled : 12/15/95
Dilution : 1:250 QC Batch : 2136D
Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Benzene	(130)	15000
Toluene	(130)	9000
Ethylbenzene	(130)	2300
Total Xylenes	(130)	15000
TPH as Gasoline	(13000)	61000
Surrogate Recovery		99 %



Date Analyzed: 12-29-95
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Joel Kiff
Senior Chemist

WEST LABORATORY

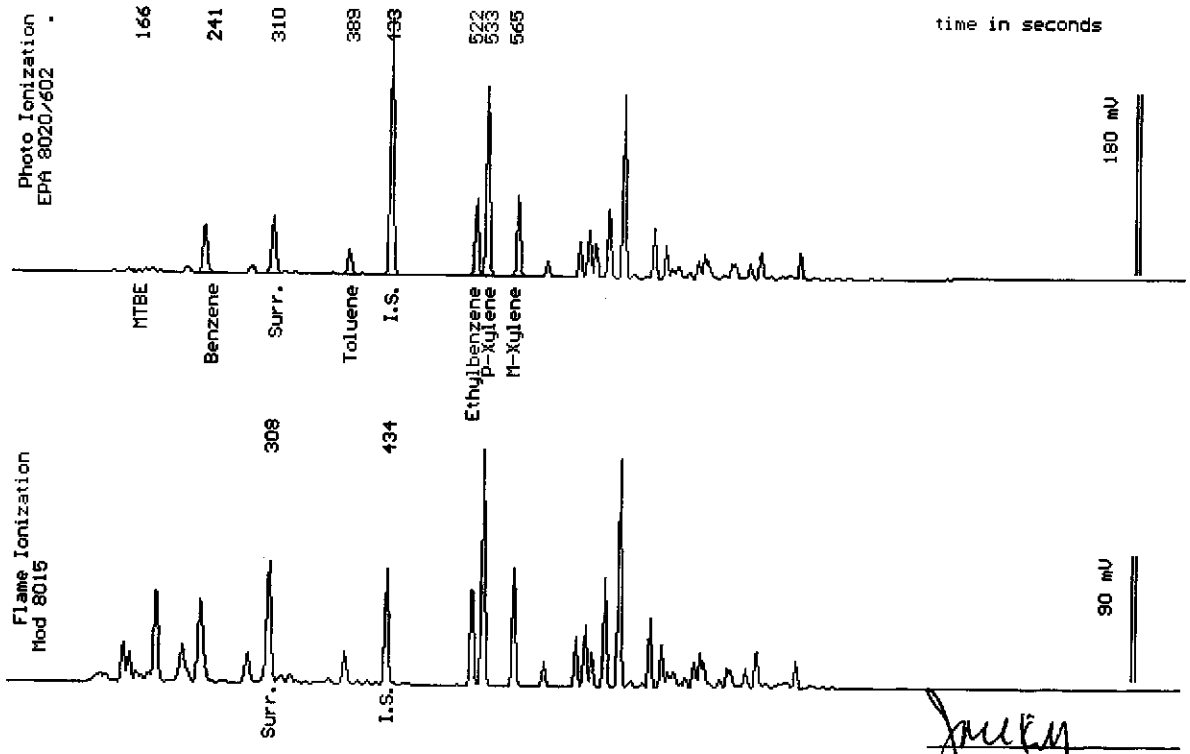
Sample Log 13606

13606-07

Sample: **MW-7**

From : Beacon 604 (Proj. # 94-604-01)
Sampled : 12/15/95
Dilution : 1:25 QC Batch : 2136D
Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Benzene	(13)	350
Toluene	(13)	170
Ethylbenzene	(13)	540
Total Xylenes	(13)	1900
TPH as Gasoline	(1300)	11000
Surrogate Recovery		101 %



Date Analyzed: 12-29-95
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Joel Kiff
Senior Chemist

Ultramar Inc.
CHAIN OF CUSTODY REPORT

BEACON

Beacon Station No.	Sampler (Print Name)	Date	Form No.
604	Hal Hansen	12-15-95	1 of 1
Project No.	**Sampler (Signature)**		
94-604-01	Hal Hansen		
Project Location	**Affiliation**		
Livermore CA	Dames Environmental		

Sample No./Identification	Date	Time	Lab No.	BTEX	TPH (gasoline)	TPH (diesel)	No. of Containers
MW-1	12-15-95	8:40		X	X		2
MW-2	"	9:43					
MW-3	"	9:13					
MW-4	"	7:53					
MW-5	"	7:55					
[illegible]	"	7:30					
MW-7	"	8:12					

ANALYSES

Standard TAT

REMARKS

RECEIVED
DATE 12/15/95 1414
0°
JM

Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
Hal Hansen Dames & Moore	12/15/95	1325	Sid Padena	12/15/95	1325
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
Sid Padena	12/15/95	1414			
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
			John Manty	12/15/95	1414

Report To:
Dale van Dam

Bill to: ULTRAMAR INC.
525 West Third Street
Hanford, CA 93230
Attention: Terry Fox

WHITE: Return to Client with Report YELLOW: Laboratory Copy PINK: Originator Copy

32-8003 1/90