Reviewed by Heath on 5/12/95.

Ultramar

ENVIRONMENTAL PROTECTION
95 MAR 21 AM 8:08

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

Telecopy: 209-584-6113 Credit & Wholesale
209-583-3330 Administrative
209-583-3302 Information Services
209-583-3358 Accounting

March 8, 1995

Ms. Juliet Shin
Hazardous Materials Program
Department of Environmental Health
Alameda County Health Care Services
80 Swan Way, Room 200
Oakland, CA 94612

SUBJECT: BEACON STATION NO. 721, 44 LEWELLING BLVD., SAN LORENZO, CALIFORNIA

Dear Ms. Shin:

Enclosed is a copy of the ground-water monitoring report for the fourth quarter 1994 for the above-referenced Ultramar facility. Also included is a copy of the Quarterly Status Report which describes the work completed this quarter and the work anticipated to be completed next quarter.

Please call if you have any questions regarding this project.

Sincerely,

ULTRAMAR INC.

Terrence A. Fox
Senior Project Manager
Marketing Environmental Department

Enclosures

cc w/encl: Mr. Steven Ritchie, San Francisco Bay Region, RWQCB

Ultramar

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

Telecopy: 209-584-6113 Credit & Wholesale
209-583-3330 Administrative
209-583-3302 Information Services
209-583-3358 Accounting

ENVIRONMENTAL PROJECT QUARTERLY STATUS REPORT

DATE REPORT SUBMITTED: March 8, 1995
QUARTER ENDING: December 31, 1994

SERVICE STATION NO.: 721
ADDRESS: 44 Lewelling Blvd., San Lorenzo, CA
COUNTY: Alameda

ULTRAMAR CONTACT: Terrence A. Fox **TEL. NO:** 209-583-5545

BACKGROUND:

In April 1987, three underground gasoline storage tanks were excavated and removed. Samples collected from beneath the former tanks indicated that hydrocarbons were present in the soil. In May 1987, three monitoring wells (MW-1 through MW-3) were installed by Conoco. Hydrocarbons were detected in soil and ground-water samples collected from the wells. In December 1988, four additional wells (MW-4 through MW-7) were installed. Dissolved-phase hydrocarbons were detected in the new wells. In September 1989, two additional wells (MW-8 and MW-9) were installed. The site has been on a monitoring program since May 1987.

In July 1990, the site was purchased by Ultramar Inc. from Conoco. The monitoring program has continued. Submitted work plan for additional assessment on March 14, 1991.

In October 1991, drilled two additional offsite wells (MW-10 and MW-11) southwest of the site and one onsite recovery well (RW-1). In November 1991, performed ground-water pump test and vapor extraction test.

In April 1992, Ultramar submitted an Interim Remediation Plan. The plan was approved in June 1992.

In March 1993, installed the subsurface piping for the remediation system. Completed installation of ground-water remediation system in April 1993. Began operation in June 1993.

In April 1993, the ground-water extraction system began operation. In March 1994, the vapor extraction system began operation.

Obtained the Permit to Operate for the vapor extraction system on June 8, 1994.

SUMMARY OF THIS QUARTER'S ACTIVITIES:

Performed quarterly monitoring on December 14, 1994.

Continued to operate the remediation system.

RESULT OF QUARTERLY MONITORING:

Monitoring data indicates that measurable free product was not detected in any well this quarter. Benzene concentrations remained not detected in wells MW-4, MW-5, MW-6, MW-8, MW-9, and MW-11. The benzene concentration increased in MW-1 from 1,700 ppb to 4,400 ppb, in MW-2 from not detected to 7.2 ppb, and in MW-3 from 7,400 ppb to 17,000 ppb. Benzene concentrations decreased in MW-7 from 21 ppb to 19 ppb, in MW-10 from 2.2 ppb to not detected, and in RW-1 from 54 ppb to 6.8 ppb.

As of December 14, 1994, approximately 1,515,272 gallons of ground water have been removed, treated, and discharged. Approximately 5,600 pounds of hydrocarbons have been removed the vapor extraction system.

PROPOSED ACTIVITY OR WORK FOR NEXT QUARTER:

ACTIVITY	ESTIMATED COMPLETION DATE
Continue quarterly ground-water monitoring.	Ongoing
Continue operation of remediation system.	Ongoing

Delta
Environmental
Consultants, Inc.

3330 Data Drive
Suite 100
Rancho Cordova, CA 95670
916/638-2085
FAX: 916/638-8385

February 13, 1995

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

Subject: *Quarterly Ground Water Monitoring Report, Fourth Quarter 1994, and Status of Remediation System through December 1994*
Beacon Station No. 721
44 Lewelling Boulevard
San Lorenzo, California
Delta Project No. D093-936

Dear Mr. Fox:

Delta Environmental Consultants, Inc. (Delta), has been authorized by Ultramar Inc. to conduct quarterly monitoring and perform remedial actions at the above-referenced site. The monitoring is intended to evaluate the distribution of dissolved petroleum hydrocarbon constituents in ground water in the vicinity of the subject site and evaluate the effectiveness of the remediation system currently in operation. This letter report summarizes the results of ground water monitoring and sampling activities performed at the site on December 14, 1994, and the remediation system status through December 1994. The site location is shown in Figure 1 and site features are illustrated in Figure 2.

Quarterly ground water monitoring conducted on December 14, 1994, included measurement of depth to water in six on-site monitoring wells (MW-1 through MW-6), five off-site monitoring wells (MW-7 through MW-11), and one on-site ground water recovery well (RW-1), subjective analyses of water samples to evaluate the presence of free petroleum product or product sheen in the monitoring wells, and collection of ground water samples for chemical analysis. Methods used in the performance of these tasks are described in Enclosure A.

Water Table Elevation Measurements, Flow Direction, and Hydraulic Gradient

Depth to ground water in the monitoring wells was measured on December 14, 1994. Depth to ground water ranged from 15.75 (MW-7) to 19.50 (RW-1) feet below the top of well casings. Cumulative ground water table measurements recorded at the site are compiled in Table 1. Based on the December 14, 1994, ground water table measurements, the direction of ground water flow was toward recovery well RW-1. A water table contour map prepared from the December 14, 1994, data is included as Figure 3.

Free Petroleum Product or Product Sheen

The presence of separate phase petroleum product or product sheen in the monitoring wells was evaluated using procedures described in Enclosure A. On December 14, 1994 site visit, no liquid-phase hydrocarbons were observed; however, product sheen was observed in monitoring wells MW-1 and MW-3.

Ground Water Analytical Results

Ground water samples were collected from monitoring wells MW-1 through MW-11, and ground water recovery well RW-1 on December 14, 1994. Sampling procedures are described in Enclosure A, and copies of the sampling information data sheets are included in Enclosure B.

The ground water samples were submitted to West Laboratory of Davis, California, for analysis of benzene, toluene, ethylbenzene, total xylenes, and total petroleum hydrocarbons as gasoline. Benzene was not detected in monitoring wells MW-4, MW-5, MW-6, MW-8, MW-9, MW-10, and MW-11. Detectable benzene concentrations ranged from 6.8 parts per billion (ppb) (RW-1) to 17,000 ppb (MW-3). A comparison of the December 1994 analytical results with the September 1994 results indicate that the benzene concentrations decreased in MW-7 (21 to 19 ppb), MW-10 (2.2 to < 1.3 ppb), and RW-1 (54 to 6.8 ppb), and increased in MW-1 (1,700 to 4,400), MW-2 (< 0.5 to 7.2), and MW-3 (7,400 to 17,000 ppb). Cumulative results of the chemical analyses are summarized in Table 2, and copies of the certified analytical reports for the December 1994 sampling event are included in Enclosure C. A benzene isoconcentration contour map is included as Figure 4.

Status of Remediation System

Delta has performed operation and maintenance of the ground water remediation system at the site since April 1993. The system pumps ground water from recovery well RW-1 and is designed to remove petroleum hydrocarbon constituents through treatment in an air stripper. Treated ground water is discharged to the sanitary sewer associated with the Oro Loma Sanitary District.

The ground water system ran continuously throughout the fourth quarter 1994. During this time, the system treated and discharged to the sanitary sewer 91,026 gallons of water. The volume of ground water treated by the remediation system through December 14, 1994, is 1,515,272 gallons as shown in Table 3.

The soil vapor extraction (SVE) system was started in March 1994. The permit to operate the SVE system was issued on June 8, 1994, by the Bay Area Air Quality Management District. To date, the SVE system has removed approximately 5,600 pounds of petroleum hydrocarbons.

Remediation System Analytical Results

Remediation system samples were collected on December 14, 1994, at the sewer discharge location. Results of the chemical analysis are summarized in Table 4.

Remarks\Signatures

The interpretations contained in this report represent our professional opinions, and are based in part, on information supplied by the client. These opinions are based on currently available information and are arrived at in accordance with currently accepted hydrogeologic and engineering practices at this time and location. Other than this, no warranty is implied or intended.

It is recommended that copies of this letter report be forwarded to:

Mr. Steven Ritchie
California Regional Water Quality Control Board,
Region 2
2101 Webster Street
Oakland, California 94612

Ms. Juliet Shin
Alameda County Environmental
Health Dept.
470 27th Street, Room 322
Oakland, California 94612

If you have any questions, please call Todd M. Galati at (916) 638-2085.

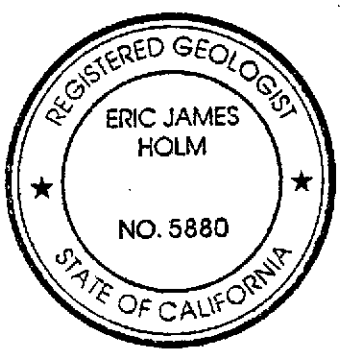
Sincerely,

DELTA ENVIRONMENTAL CONSULTANTS, INC.

Paul V. Zianno
Project Hydrogeologist

Todd M. Galati
Project Manager

Eric J. Holm, R.G.
California Registered Geologist No. 5880



PVZ (LRP530.TA)
Enclosures

TABLE 1

GROUND WATER ELEVATIONS

Beacon Station No. 721
44 Lewelling Boulevard
San Lorenzo, California

Monitoring Well	Date	Top of Riser Elevation (ft)*	Depth to Water (ft)	Ground Water Elevation (ft)	Physical Observation of Free Product or Sheen
MW-1	02/18/92	43.67	16.42	27.25	
	05/14/92		17.28	26.39	
	08/27/92		19.48	24.19	
	11/19/92		20.57	23.10	
	02/03/93		15.91	27.76	
	06/23/93		16.21	27.46	No free product or sheen
	09/22/93		17.85	25.82	No free product or sheen
	01/24/94		17.91	25.76	
	04/07/94		16.94	26.73	No free product or sheen
	06/07/94		17.20	26.47	No free product or sheen
	09/28/94		18.73	24.94	No free product or sheen
	12/14/94		17.56	26.11	Product sheen
MW-2	02/18/92	43.09	16.65	26.44	
	05/14/92		16.64	26.45	
	08/27/92		16.61	26.28	
	11/19/92		19.91	23.18	
	02/03/93		15.23	27.86	
	06/23/93		15.55	27.54	No free product or sheen
	09/22/93		17.22	25.87	No free product or sheen
	01/24/94		17.20	25.89	
	04/07/94		16.26	26.83	No free product or sheen
	06/07/94		16.46	26.63	No free product or sheen
	09/28/94		18.06	25.03	No free product or sheen
	12/14/94		16.86	26.23	No free product or sheen
MW-3	02/18/92	43.10	16.89	26.21	
	05/14/92		16.60	26.50	
	08/27/92		18.96	24.14	
	11/18/92		20.38	23.01	
	02/03/93		15.43	27.67	
	06/23/93		15.67	27.43	Product sheen
	09/22/93		17.20	25.90	No free product or sheen
	01/24/94		17.35	25.75	
	04/07/94		14.48	28.62	No free product or sheen
	06/07/94		13.37	29.73	Product sheen
	09/28/94		18.05	25.05	No free product or sheen
	12/14/94		16.92	26.18	Product sheen

TABLE 1-Continued

GROUND WATER ELEVATIONS

Beacon Station No. 721
44 Lewelling Boulevard
San Lorenzo, California

Monitoring Well	Date	Top of Riser Elevation (ft)[a]	Depth to Water (ft)	Ground Water Elevation (ft)	Physical Observation of Free Product or Sheen
MW-4	02/18/92	44.66	18.51	26.15	
	05/14/92		18.22	26.44	
	08/27/92		20.47	24.19	
	11/19/92		21.58	23.08	
	02/03/93		16.98	27.68	
	06/23/93		17.23	27.43	No free product or sheen
	09/22/93		18.83	25.83	No free product or sheen
	01/24/94		18.86	25.80	
	04/07/94		17.90	26.76	No free product or sheen
	06/07/94		18.08	26.58	No free product or sheen
	09/28/94		19.70	24.96	No free product or sheen
	12/14/94		18.55	26.11	No free product or sheen
MW-5	02/18/92	43.79	17.37	26.42	
	05/14/92		17.29	26.50	
	08/27/92		22.18	21.61	
	11/19/92		20.68	23.11	
	02/03/93		15.91	27.88	
	06/23/93		16.24	27.55	No free product or sheen
	09/22/93		17.93	25.86	No free product or sheen
	01/24/94		17.82	25.97	
	04/07/94		16.91	26.88	No free product or sheen
	06/07/94		17.10	26.69	No free product or sheen
	09/28/94		18.73	25.06	No free product or sheen
	12/14/94		17.53	26.26	No free product or sheen
MW-6	02/18/92	42.47	15.87	26.60	
	05/14/92		16.04	26.43	
	08/27/92		18.17	24.30	
	11/19/92		19.30	23.17	
	02/03/93		14.60	27.87	
	06/23/93		15.00	27.47	No free product or sheen
	09/22/93		16.66	25.81	No free product or sheen
	01/24/94		16.52	25.95	
	04/07/94		15.70	26.77	No free product or sheen
	06/07/94		15.88	26.59	No free product or sheen
	09/28/94		17.51	24.96	No free product or sheen
	12/14/94		16.27	26.20	No free product or sheen

TABLE 1-Continued

GROUND WATER ELEVATIONS

Beacon Station No. 721
44 Lewelling Boulevard
San Lorenzo, California

Monitoring Well	Date	Top of Riser Elevation (ft)*	Depth to Water (ft)	Ground Water Elevation (ft)	Physical Observation of Free Product or Sheen
MW-7	02/18/92	41.54	15.51	26.03	
	05/14/92		15.41	26.13	
	08/27/92		17.45	24.09	
	11/19/92		18.54	23.00	
	02/03/93		14.10	27.44	
	06/23/93		14.33	27.21	No free product or sheen
	09/22/93		15.92	25.62	No free product or sheen
	01/24/94		16.07	25.47	
	04/07/94		15.10	26.44	
	06/07/94		15.16	26.38	No free product or sheen
	09/28/94		16.82	24.72	No free product or sheen
	12/14/94		15.75	25.79	No free product or sheen
MW-8	02/18/92	42.26	16.57	25.69	
	05/14/92		16.24	26.02	
	08/27/92		18.28	23.98	
	11/19/92		19.32	22.94	
	02/03/93		14.87	27.39	
	06/23/93		15.18	27.08	No free product or sheen
	09/22/93		18.79	23.47	No free product or sheen
	01/24/94		17.06	25.20	
	04/07/94		15.95	26.31	No free product or sheen
	06/07/94		15.10	27.16	No free product or sheen
	09/28/94		17.63	24.63	No free product or sheen
	12/14/94		16.66	25.60	No free product or sheen
MW-9	02/18/92	44.94	18.87	26.07	
	05/14/92		18.55	26.39	
	08/27/92		20.80	24.14	
	11/19/92		21.90	23.04	
	02/03/93		17.25	27.69	
	06/23/93		17.61	27.33	No free product or sheen
	09/22/93		19.18	25.76	No free product or sheen
	01/24/94		19.17	25.77	
	04/07/94		18.23	26.71	No free product or sheen
	06/07/94		18.40	26.54	No free product or sheen
	09/28/94		20.01	24.93	No free product or sheen
	12/14/94		18.88	26.06	No free product or sheen

TABLE 1-Continued

GROUND WATER ELEVATIONS

Beacon Station No. 721
44 Lewelling Boulevard
San Lorenzo, California

Monitoring Well	Date	Top of Riser Elevation (ft)[a]	Depth to Water (ft)	Ground Water Elevation (ft)	Physical Observation of Free Product or Sheen
MW-10	02/18/92	42.34	16.63	25.71	
	05/14/92		15.25	27.09	
	08/27/92		18.35	23.99	
	11/19/92		19.43	22.91	
	02/03/93		15.01	27.33	
	06/23/93		15.30	27.04	No free product or sheen
	09/22/93		16.90	25.44	No free product or sheen
	01/24/94		NM[b]	NM	
	04/07/94		15.97	26.37	No free product or sheen
	06/07/94		16.04	26.30	No free product or sheen
	09/28/94		17.69	24.65	No free product or sheen
	12/14/94		16.65	25.69	No free product or sheen
MW-11	02/18/92	45.00	17.00	28.00	
	05/14/92		19.02	25.98	
	08/27/92		21.13	23.87	
	11/19/92		17.91	27.09	
	02/03/92		17.91	27.09	
	06/23/93		18.14	26.86	No free product or sheen
	09/22/93		19.63	25.37	No free product or sheen
	01/24/94		19.79	25.21	
	04/07/94		18.78	26.22	No free product or sheen
	06/07/94		18.88	26.12	No free product or sheen
	09/28/94		20.45	24.55	No free product or sheen
	12/14/94		19.45	25.55	No free product or sheen

TABLE 1-Continued

GROUND WATER ELEVATIONS

Beacon Station No. 721
44 Lewelling Boulevard
San Lorenzo, California

Monitoring Well	Date	Top of Riser Elevation (ft)[a]	Depth to Water (ft)	Ground Water Elevation (ft)	Physical Observation of Free Product or Sheen
RW-1	05/14/92	43.17	16.88	26.29	
	08/27/92		19.05	24.12	
	11/19/92		21.11	22.07	
	02/03/92		15.48	27.69	
	06/23/93		28.25	14.92	No free product or sheen
	09/22/93		17.83	25.34	No free product or sheen
	01/24/94		24.00	19.17	
	04/07/94		16.05	27.12	No free product or sheen
	06/07/94		16.00	27.17	No free product or sheen
	09/28/94		18.35	24.82	No free product or sheen
	12/14/94		19.50	23.67	No free product or sheen

[a] All top of riser elevations surveyed by Aegis Environmental, and are assumed relative to mean sea level.
[b] Not Measured.

Note: Aegis Environmental, Inc., collected data prior to 06/23/93.

TABLE 2

GROUND WATER SAMPLE ANALYTICAL RESULTS

Concentrations in parts per billion (ppb)

Beacon Station No. 721
44 Lewelling Boulevard
San Lorenzo, California

Monitoring Well	Date Sampled	Benzene	Toluene	Ethylbenzene	Xylenes	TPH[a] as gasoline
MW-1	02/18/92	---	---	---	---	---
	05/15/92	2,000	47	1,200	400	41,000
	08/28/92	3,800	54	850	970	110,000
	11/19/92	200	<5.0	90	140	3,600
	02/03/93	180	22	79	130	3,000
	06/23/93	2,400	74	650	510	12,000
	09/22/93	3,000	290	1,100	1,200	23,000
	01/24/94	2,400	280	1,100	1,700	18,000
	04/07/94	4,200	820	1,600	2,100	20,000
	06/07/94	1,800	510	1,100	1,600	26,000
	09/28/94	1,700	210	970	870	18,000
	12/14/94	4,400	2,400	2,300	4,300	31,000
MW-2	02/18/92	<0.5	<0.5	1.9	<0.5	1,600
	05/14/92	1.2	1.0	1.3	<0.5	740
	08/27/92	6.5	1.1	0.6	<0.5	1,400
	11/19/92	<0.5	<0.5	2.7	<0.5	360
	02/03/93	1.2	1.6	4.5	6.4	590
	06/23/93	<0.5	<0.5	0.52	0.50	160
	09/22/93	<0.5	0.59	1.2	0.59	290
	01/24/94	<0.5	<0.5	0.68	<0.5	330
	04/07/94	<0.5	<0.5	<0.5	4.4	490
	06/07/94	<0.5	<0.5	1.5	<0.5	550
	09/28/94	<0.5	<0.5	<0.5	<0.5	190
	12/14/94	7.2	0.84	<0.5	<0.5	1,400
MW-3	02/18/92	---	---	---	---	---
	05/15/92	6,300	5,900	1,700	6,100	160,000
	08/28/92	25,000	40,000	6,700	44,000	1,300,000
	11/19/92	---	---	---	---	---
	02/03/93	7,200	11,000	2,900	13,000	82,000
	06/23/93	3,200	5,300	2,500	9,100	61,000
	09/22/93	12,000	14,000	3,900	18,000	94,000
	01/24/94	14,000	17,000	4,200	14,000	110,000
	04/07/94	6,500	1,800	1,700	4,100	28,000
	06/07/94	6,400	2,300	1,500	3,500	27,000
	09/28/94	7,400	4,300	1,500	4,600	40,000
	12/14/94	17,000	21,000	3,900	22,000	140,000

TABLE 2-Continued

ANALYTICAL RESULTS OF GROUND WATER SAMPLES
Concentrations in parts per billion (ppb)

Beacon Station No. 721
44 Lewelling Boulevard
San Lorenzo, California

Monitoring Well	Date Sampled	Benzene	Toluene	Ethylbenzene	Xylenes	TPH[a] as gasoline
MW-4	02/18/92	<0.5	<0.5	12	21	5,100
	05/14/92	<0.5	5.6	1.8	2.2	4,600
	08/28/92	6.6	1.3	1.6	3.1	1,700
	11/19/92	<0.5	<0.5	<0.5	<0.5	400
	02/03/93	<0.5	<0.5	<0.5	<0.5	1,100
	06/23/93	<0.5	<0.5	<0.5	<0.5	120
	09/22/93	<0.5	<0.5	<0.5	<0.5	110
	01/24/94	<0.5	<0.5	<0.5	<0.5	260
	04/07/94	<0.5	<0.5	<0.5	<0.5	430
	06/07/94	<0.5	<0.5	<0.5	<0.5	150
	09/28/94	<0.5	<0.5	<0.5	<0.5	75
	12/14/94	<0.5	<0.5	<0.5	<0.5	160
MW-5	02/18/92	<0.5	<0.5	<0.5	<0.5	<50
	05/14/92	<0.5	<0.05	<0.5	<0.5	<50
	08/27/92	<0.5	<0.5	<0.5	<0.5	<50
	11/19/92	<0.5	<0.5	<0.5	<0.5	<50
	02/03/93	3.0	2.7	8.0	9.9	55
	06/23/93	<0.5	<0.5	<0.5	<0.5	<50
	09/22/93	0.66	1.1	<0.5	0.6	<50
	01/24/94	<0.5	<0.5	<0.5	<0.5	<50
	04/07/94	<0.5	<0.5	<0.5	<0.5	<50
	06/07/94	<0.5	<0.5	<0.5	<0.5	<50
	09/28/94	<0.5	<0.5	<0.5	<0.5	<50
	12/14/94	<0.5	<0.5	<0.5	<0.5	<50
MW-6	02/18/92	4.8	<0.5	<0.5	<0.5	370
	05/14/92	<0.5	<0.5	<0.5	<0.5	120
	08/27/92	1.2	<0.5	<0.5	<0.5	<50
	11/19/92	1.3	<0.5	1.0	1.1	66
	02/03/93	1.9	2.6	23	12	100
	06/23/93	<0.5	<0.5	<0.5	<0.5	<50
	09/22/93	2.2	3.8	0.53	2.7	81
	01/24/94	<0.5	<0.5	<0.5	<0.5	98
	04/07/94	0.71	<0.5	<0.5	<0.5	150
	06/07/94	<0.5	<0.5	<0.5	<0.5	180
	09/28/94	<0.5	<0.5	<0.5	<0.5	100
	12/14/94	<0.5	<0.5	<0.5	<0.5	140

TABLE 2-Continued

ANALYTICAL RESULTS OF GROUND WATER SAMPLES
Concentrations in parts per billion (ppb)

Beacon Station No. 721
44 Lewelling Boulevard
San Lorenzo, California

Monitoring Well	Date Sampled	Benzene	Toluene	Ethylbenzene	Xylenes	TPH[a] as gasoline
MW-7	02/18/92	16	<0.5	10	16	670
	05/14/92	44	<0.5	38	88	1,500
	08/27/92	400	5.8	290	1,400	23,000
	11/19/92	29	<0.5	10	53	330
	02/03/93	200	<0.5	110	480	2,000
	06/23/93	20	<0.5	16	16	280
	09/22/93	71	2.2	33	210	860
	01/24/94	61	<1.3	10	160	900
	04/07/94	53	<0.5	7.1	49	630
	06/07/94	55	<0.5	14	24	730
	09/28/94	21	<0.5	2.3	3.1	300
	12/14/94	19	<0.5	3.3	32	430
MW-8	02/18/92	<0.5	<0.5	9.5	<0.5	1,200
	05/14/92	<0.5	<0.5	<0.5	<0.5	130
	08/28/92	<0.5	<0.5	<0.5	<0.5	140
	11/19/92	<0.5	<0.5	2.0	<0.5	320
	02/03/93	<0.5	<0.5	<0.5	<0.5	<50
	06/23/93	<0.5	<0.5	<0.5	<0.5	<50
	09/22/93	<0.5	0.67	<0.5	<0.5	<50
	01/24/94	<0.5	<0.5	<0.5	<0.5	290
	04/07/94	<0.5	<0.5	<0.5	<0.5	<50
	06/07/94	<0.5	<0.5	<0.5	<0.5	<50
	09/28/94	<0.5	<0.5	<0.5	<0.5	<50
	12/14/94	<0.5	<0.5	<0.5	<0.5	<50
MW-9	02/18/92	<0.5	<0.5	<0.5	<0.5	<50
	05/14/92	<0.5	<0.5	<0.5	<0.5	<50
	08/27/92	<0.5	<0.5	<0.5	<0.5	<50
	11/19/92	<0.5	<0.5	<0.5	1.3	<50
	02/03/93	<0.5	<0.5	<0.5	<0.5	<50
	06/23/93	<0.5	<0.5	<0.5	<0.5	<50
	09/22/93	<0.5	<0.5	<0.5	<0.5	<50
	01/24/94	<0.5	<0.5	<0.5	<0.5	<50
	04/07/94	<0.5	<0.5	<0.5	<0.5	<50
	06/07/94	<0.5	<0.5	<0.5	<0.5	<50
	09/28/94	<0.5	<0.5	<0.5	<0.5	<50
	12/14/94	<0.5	<0.5	<0.5	<0.5	<50

TABLE 2-Continued

ANALYTICAL RESULTS OF GROUND WATER SAMPLES
Concentrations in parts per billion (ppb)

Beacon Station No. 721
44 Lewelling Boulevard
San Lorenzo, California

Monitoring Well	Date Sampled	Benzene	Toluene	Ethylbenzene	Xylenes	TPH[a] as gasoline
MW-10	02/18/92	110	57	440	53	18,000
	05/15/92	24	9.8	97	<0.5	8,500
	08/29/92	20	2.8	40	3.5	9,600
	11/19/92	36	21	330	31	5,700
	02/03/93	15	4.6	36	9.6	2,200
	06/23/93	21	24	540	45	8,100
	09/22/93	22	17	350	16	6,200
	01/24/94	NS[b]	NS	NS	NS	NS
	04/07/94	6.4	2.9	150	4.7	4,000
	06/07/94	5.6	<2.5	150	5.7	6,700
	09/28/94	2.2	2.6	110	44	5,700
	12/14/94	<1.3	<1.3	77	27	3,500
MW-11	02/18/92	<0.5	<0.5	<0.5	<0.5	2,400
	05/15/92	<0.5	1.9	1.3	0.7	1,600
	08/27/92	15	2	0.6	1.2	2,100
	11/19/92	<0.5	<0.5	<0.5	<0.5	490
	02/03/93	<0.5	<0.5	0.55	<0.5	500
	06/23/93	<0.5	<0.5	<0.5	<0.5	350
	09/22/93	<0.5	0.65	<0.5	0.71	200
	01/24/94	<0.5	<0.5	<0.5	<0.5	450
	04/07/94	<0.5	<0.5	<0.5	<0.5	500
	06/07/94	<0.5	<0.5	<0.5	0.64	560
	09/28/94	<0.5	<0.5	<0.5	<0.5	600
	12/14/94	<0.5	<0.5	<0.5	<0.5	340

TABLE 2-Continued

ANALYTICAL RESULTS OF GROUND WATER SAMPLES

Concentrations in parts per billion (ppb)

Beacon Station No. 721
44 Lewelling Boulevard
San Lorenzo, California

Monitoring Well	Date Sampled	Benzene	Toluene	Ethylbenzene	Xylenes	TPH[a] as gasoline
RW-1	05/15/92	270	62	29	140	790
	08/29/92	1,300	200	68	810	24,000
	11/19/92	---	---	---	---	---
	02/03/93	71	35	22	110	620
	06/23/93	30	33	9.8	35	220
	09/22/93	800	400	170	910	4,100
	01/24/94	33	6.0	6.9	23	190
	04/07/94	110	57	32	260	1,500
	06/07/94	130	51	45	180	1,700
	09/28/94	54	9.2	12	29	350
	12/14/94	6.8	2.1	1.2	3.4	79

[a] Total petroleum hydrocarbons.
[b] Not Sampled.

Note: Aegis Environmental, Inc., collected data prior to 06/23/93.

TABLE 3

VOLUME OF GROUND WATER TREATED
by Remediation System

Beacon Station No. 721
44 Lewelling Boulevard
San Lorenzo, California

Date	Volume[a] (gallons)
06/21/93	2,120
07/14/93	117,367
08/14/93	210,470
09/22/93	255,241
01/24/94	1,242,108
03/31/94	1,353,840
06/21/94	1,412,980
09/28/94	1,424,246
12/14/94	1,515,272

[a] Cumulative volume of water discharged to sanitary sewer at the indicated date.

TABLE 4

ANALYTICAL RESULTS OF SYSTEM WATER SAMPLES

Concentrations in parts per billion (ppb)

Beacon Station No. 721
44 Lewelling Boulevard
San Lorenzo, California

Sample	Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	TPH[a] as gasoline
Effluent	05/28/93	<0.5	<0.5	<0.5	<0.5	<50
	10/01/93	<0.5	<0.5	<0.5	<0.5	<50
	01/24/94	<0.5	<0.5	<0.5	<0.5	<50
	04/07/94	<0.5	<0.5	<0.5	<0.5	<50
	05/18/94	<0.5	<0.5	<0.5	<0.5	<50
	09/28/94	NS[b]	NS	NS	NS	NS
	12/14/94	<0.5	<0.5	<0.5	<0.5	<50
Influent	12/14/95	<0.5	<0.5	<0.5	<0.5	<50
Mid Carbon	12/14/95	<0.5	<0.5	<0.5	<0.5	<50

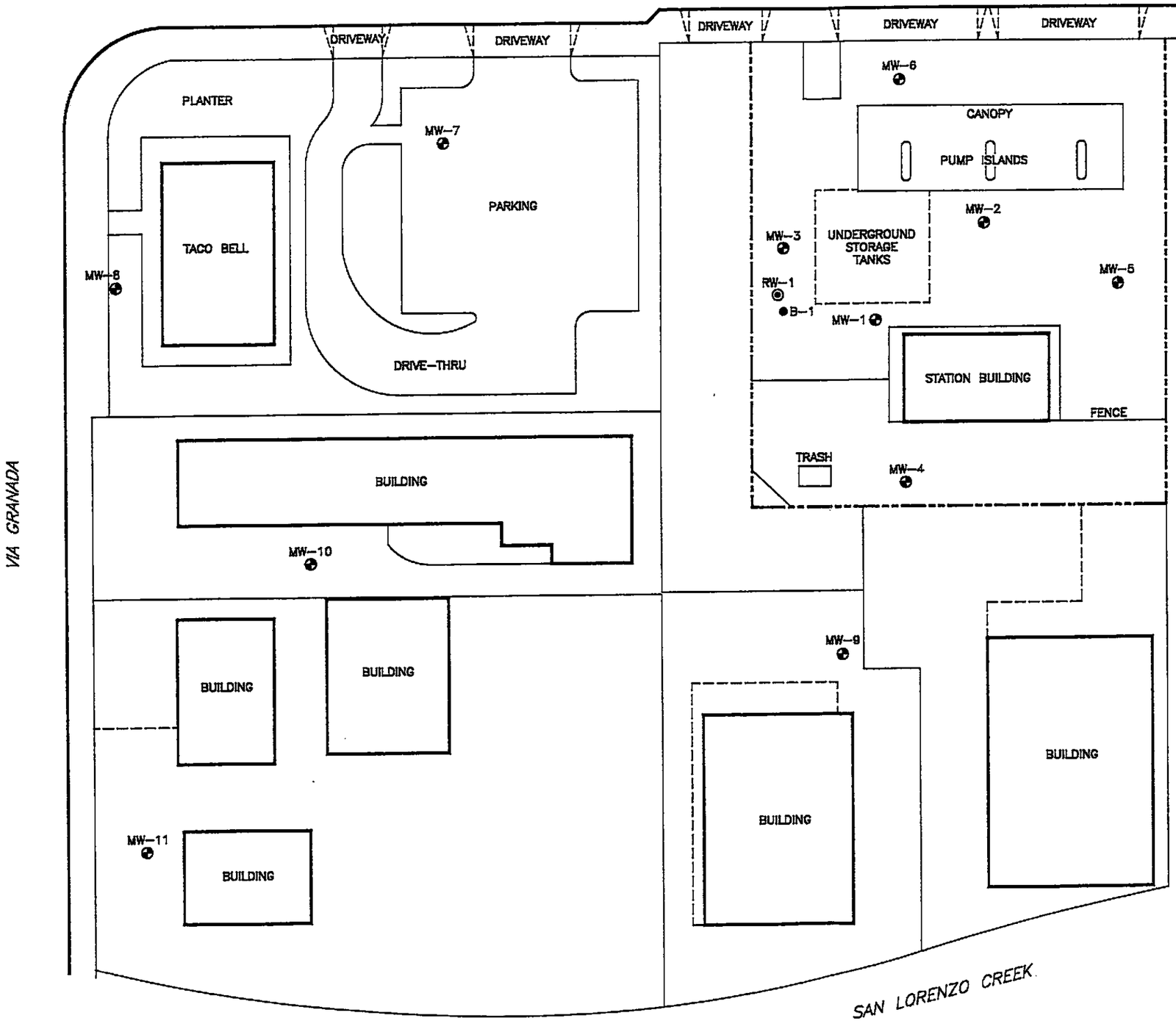
[a] Total petroleum hydrocarbons.
[b] Not sampled.

GENERAL NOTES:
BASE MAP FROM U.S.G.S.
HAYWARD, CA.
7.5 MINUTE TOPOGRAPHIC
PHOTOREVISED 1980

FIGURE 1
SITE LOCATION MAP
BEACON STATION NO. 721
44 LEWELLING BOULEVARD
SAN LORENZO, CA.

PROJECT NO. 40-93-936	DRAWN BY LH, 11/2/92
FILE NO. —	PREPARED BY TMG
REVISION NO. 1	REVIEWED BY

Delta Environmental Consultants, Inc.



North

LEGEND:

- ● B-1 SOIL BORING LOCATION
- ◉ RW-1 RECOVERY WELL LOCATION
- ◍ MW-1 MONITORING WELL LOCATION

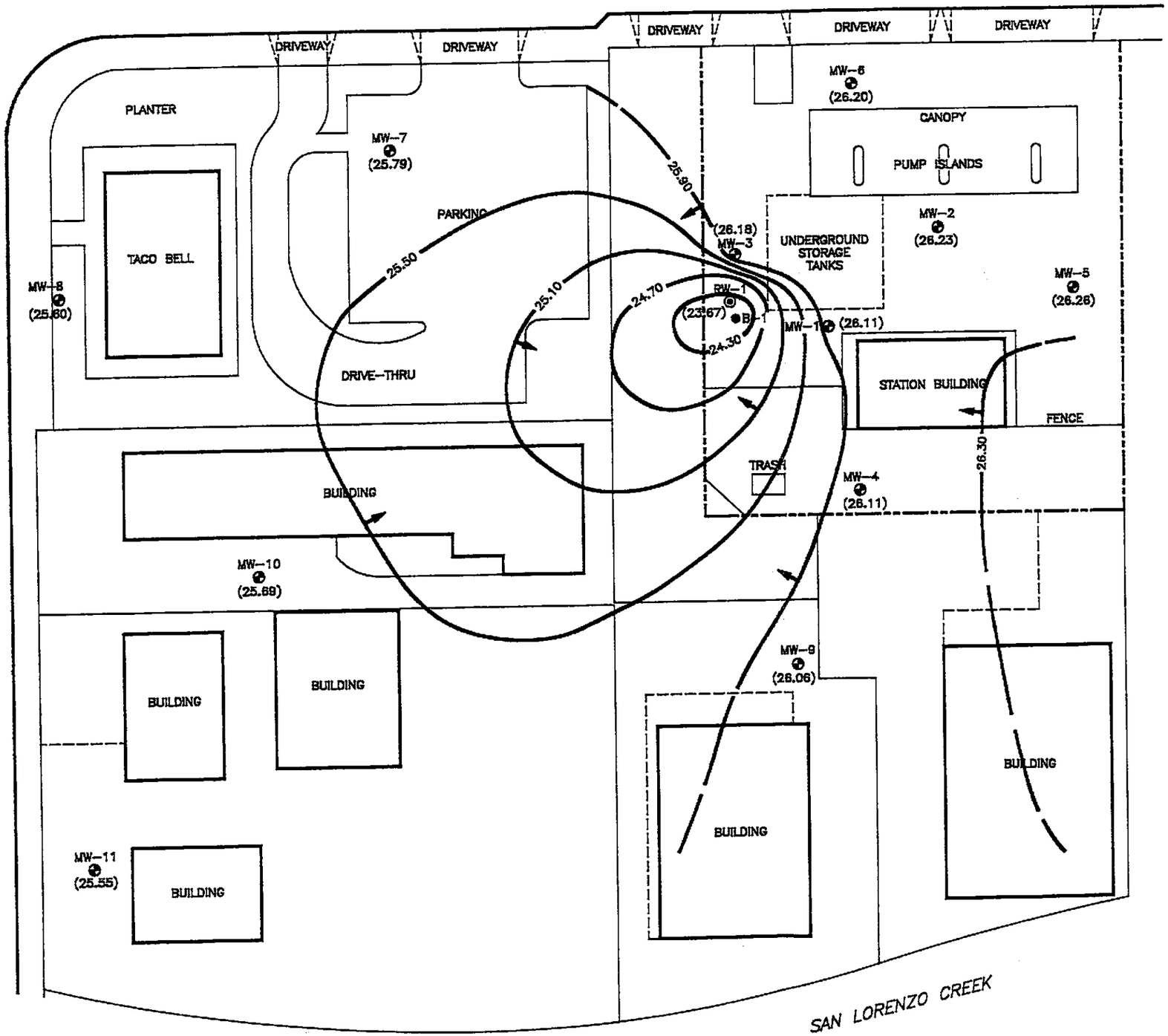
NOTE:
BASE MAP ADAPTED FROM RESNA FIGURE DATED 1/9/92
SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED

0 30 FT
SCALE

FIGURE 2
SITE VICINITY MAP
BEACON STATION NO. 721
44 LEWELLING BOULEVARD
SAN LORENZO, CA.

PROJECT NO. 40-93-936	DRAWN BY LH 8/11/93
FILE NO. 93-936-1	PREPARED BY JRB
REVISION NO. 1	REVIEWED BY JRB 8/11/93

Delta Environmental Consultants, Inc.



North

LEGEND:

- ● B-1 SOIL BORING LOCATION
- ◉ RW-1 RECOVERY WELL LOCATION
- ⊕ MW-1 MONITORING WELL LOCATION
- (26.11) GROUND WATER ELEVATION RELATIVE TO MEAN SEA LEVEL (MSL)
- —25.90— WATER TABLE CONTOUR RELATIVE TO MSL
- ← GROUND WATER FLOW DIRECTION

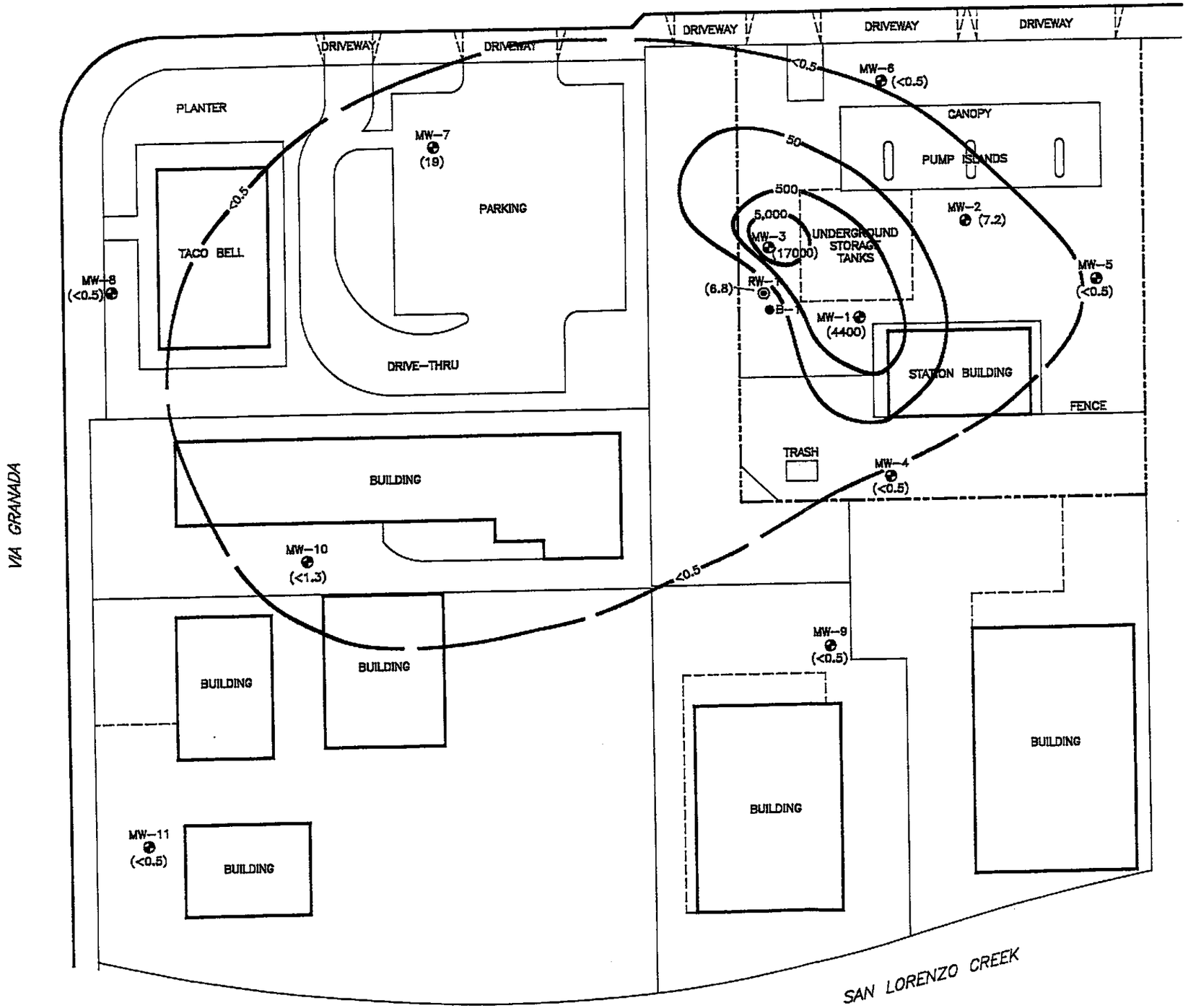
NOTE:
BASE MAP ADAPTED FROM RESNA FIGURE DATED 1/9/92
SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED

0 30 FT
SCALE

FIGURE 3
WATER TABLE CONTOUR MAP – 12/14/94
BEACON STATION NO. 721
44 LEWELLING BOULEVARD
SAN LORENZO, CA.

PROJECT NO. D093-936	DRAWN BY I.H. 2/2/95
FILE NO. 93-936-1	PREPARED BY PVZ
REVISION NO. 2	REVIEWED BY PVZ 2/2/95

Delta Environmental Consultants, Inc.



North

LEGEND:

- ● B-1 SOIL BORING LOCATION
- ◎ RW-1 RECOVERY WELL LOCATION
- ⊕ MW-1 MONITORING WELL LOCATION
- (4400) BENZENE CONCENTRATION IN PARTS PER BILLION (PPB)
- —50— BENZENE ISOCONCENTRATION IN PPB

NOTE:
BASE MAP ADAPTED FROM RESNA FIGURE DATED 1/9/92
SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED

0 30 FT
SCALE

FIGURE 4
BENZENE ISOCONCENTRATION MAP
12/14/94
BEACON STATION NO. 721
44 LEWELLING BOULEVARD
SAN LORENZO, CA.

PROJECT NO. D093-038	DRAWN BY I.H. 2/2/95
FILE NO. 93-038-1	PREPARED BY PVZ
REVISION NO. 2	REVIEWED BY PVZ 2/2/95

Delta Environmental Consultants, Inc.

1.0 GROUND WATER AND FREE-FLOATING PRODUCT DEPTH DETERMINATION

A water/petroleum product interface probe was used to determine free product thickness and ground water depth in each well. If a free floating product layer was not detected by the interface probe, the tip of the probe was subjectively analyzed for product sheen or detectable odor. All measurements and physical observations were then recorded on separate data sheets in the field.

2.0 SUBJECTIVE ANALYSIS OF GROUND WATER

Prior to the purging of ground water monitoring wells, a water sample was collected from the monitoring well for subjective analysis. The sample was retrieved by gently lowering a clean disposable bailer approximately one-half the bailer length past the air/liquid interface. The bailer was then retrieved and the sample contained within the bailer was examined for floating product levels, appearance of a petroleum product sheen, and any detectable petroleum product odor.

3.0 MONITORING WELL PURGING AND SAMPLING

Monitoring wells were purged using a centrifugal pump with new disposable tubing. Monitoring wells were sampled using new disposable bailers. Ground water removed from the wells was stored in 55-gallon barrels at the site. The purge water was treated by the remediation system. After pH, temperature, and purging, ground water levels were allowed to stabilize. Samples were collected in air-tight vials, appropriately labeled and stored on ice from the time of collection through the time of delivery to the laboratory. A chain-of-custody form was completed to ensure sample integrity. Ground water samples were transported to the laboratory and analyzed within the EPA-specified holding times for the requested analyses.

ENCLOSURE B

Field Sampling Data Sheets

DELTA ENVIRONMENTAL CONSULTANTS, INC.

Ground Water Level Data

PROJECT: BEACON 721 DELTA PROJECT NO.: D093-936-4.0015

DATE: 12/14/94 RECORDED BY: MWM / CHILL MEASURING DEVICE: SLOPE

Well No.	Time	Reference Elevation	Depth to G.W.	Elevation	Free Product Thickness	Physical Observations/Comments
MW-1	0916	43.167	12.56			31.20 TOTAL DEPTH
MW-2	0906	43.09	16.86			33.30
MW-3	0909	43.10	16.92	16.92		29.30
MW-4	0911	44.660	18.55	18.55		24.60
MW-5	0907	43.79	17.53			29.20
MW-6	0905	42.47	16.27			28.70
MW-7	0855	41.54	15.75			24.30
MW-8	0856	42.26	16.66			23.20
MW-9	0903	44.94	18.88			23.80
MW-10	0859	42.34	16.65			29.50
MW-11	0900	45.00	19.45			29.50 TOTAL DEPTH
RW-1	0910	43.17	19.50			

* Measured from top of riser unless otherwise noted.

1012/3-89

SAMPLING INFORMATION SHEET

Delta Environmental Consultants, Inc.

ample ID# MW-1 Project Name: Beacon 721 Project No. D093-936

ocation (address) 44 LENELLING BLVD. SAN LORENZO, CA

ate Sampled: 12 / 14 / 94 Time: 1126

Vellhead assembly condition: X Good ____ Fair ____ Poor (If poor, see comments)

quipment Replaced: ____ bolts ____ locks ____ locking cap

Vell Depth 31.20 ft below top of casing Casing diameter 2 inches

epth to water (below top of casing) 17.56 ft. Date: 12 / 14 / 94 Time 0908

Vell Casing Volume Multiplier: 0.16 for 2", 0.65 for 4", 1.47 for 6"

urging method: ____ Submersible pump X Bailer ____ Centrifugal pump ____ Other ____

t least 4 well volumes have been evacuated before sampling.

ining (type: ____). (new or previously used) was used to purge well

mpling method: X Disposable bailer ____ Sampling port

mples collected 2 VOA's - BTEX; TPHg Sample appearance clear

re any sampling problems ____

GROUND WATER EVACUATION/STABILIZATION DATA

Time	Temperature (°F)	pH Units	Conductance (mmhos/cm)	Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)
	NOT TAKEN - RAINING				
					8 GAL

mments: SHEEN ON Purge Water

nsportation (thermal preservation) COOLER & ICE

s completed by: MWM / CHILL Sampled by: CHILL

SAMPLING INFORMATION SHEET

Delta Environmental Consultants, Inc.

mple ID# MW-2 Project Name: BEACON 721 Project No. D093-936

cation (address) 44 LEWELLING BLVD. SAN LORENZO, CA

e Sampled: 12 / 14 / 94 Time: 1049

ellhead assembly condition: X Good ____ Fair ____ Poor (If poor, see comments)

uipment Replaced: ____ bolts ____ locks ____ locking cap

el Depth 33.30 ± below top of casing Casing diameter 2 inches

pth to water (below top of casing) 16.86 ± Date: 12 / 14 / 94 Time 0906

el Casing Volume Multiplier: 0.16 for 2", 0.65 for 4", 1.47 for 6"

ging method: ____ Submersible pump X Bailer ____ Centrifugal pump ____ Other ____

least ____ well volumes have been evacuated before sampling.

ring (type: 4). (new or previously used) was used to purge well

mpling method: X Disposable bailer ____ Sampling pump

mples collected 2 VOA's - BTEX, TPHg Sample appearance clear

e any sampling problems ____

GROUND WATER EVACUATION/STABILIZATION DATA

Time	Temperature (°F)	pH Units	Conductance (mmos/cm)	Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)
	NOT TAKEN - RAINING				
					LOCAL

mments: ____

nsportation (thermal preservation) COOLER & ICE

n completed by: MWM / CHILL Sampled by: CHILL

SAMPLING INFORMATION SHEET

Delta Environmental Consultants, Inc.

Sample ID# MW-3 Project Name: BEACON 721 Project No. D093-936

Location (address) 44 LEWELLING BLVD. SAN LORENZO, CA

Date Sampled: 12 / 14 / 94 Time: 1025

Wellhead assembly condition: X Good ____ Fair ____ Poor (If poor, see comments)

Equipment Replaced: ____ bolts ____ locks ____ locking cap

Well Depth 29.30 ft below top of casing Casing diameter 2 inches

Depth to water (below top of casing) 16.92 ft. Date: 12 / 14 / 94 Time 0909

Well Casing Volume Multiplier: 0.16 for 2", 0.65 for 4", 1.47 for 6"

Purging method: ____ Submersible pump X Bailer ____ Centrifugal pump ____ Other ____

At least 4 well volumes have been evacuated before sampling.

Tubing (type: ____). (new or previously used) was used to purge well

Sampling method: X Disposable bailer ____ Sampling port

Samples collected 2 VOA's - BTEX; TPHg Sample appearance clear

Note any sampling problems ____

GROUND WATER EVACUATION/STABILIZATION DATA

Time	Temperature (°F)	pH Units	Conductance (mmos/cm)	Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)
	NOT TAKEN - RAINING				
					7 GAL

Comments: ODOR - SHEEN

Transportation (thermal preservation) COOLER & ICE

Form completed by: MWM / CHILL Sampled by: MWM

SAMPLING INFORMATION SHEET

Delta Environmental Consultants, Inc.

Sample ID# MW-4 Project Name: BEACON 721 Project No. D093-936

Location (address) 44 LEWELLING BLVD SAN LORENZO, CA

Date Sampled: 12 / 14 / 94 Time: 1118

Wellhead assembly condition: X Good ____ Fair ____ Poor (If poor, see comments)

Equipment Replaced: ____ bolts ____ locks ____ locking cap

Well Depth 24.60 ft below top of casing Casing diameter 2 inches

Depth to water (below top of casing) 18.55 ft. Date: 12 / 14 / 94 Time 0911

Well Casing Volume Multiplier: 0.16 for 2", 0.65 for 4", 1.47 for 6"

Purging method: ____ Submersible pump X Bailer ____ Centrifugal pump ____ Other: ____

At least 4 well volumes have been evacuated before sampling.

Tubing (type: ____). (new or previously used) was used to purge well

Sampling method: X Disposable bailer ____ Sampling pump

Samples collected 2 VOA's - BTEX; TOHg Sample appearance clear

Note any sampling problems ____

GROUND WATER EVACUATION/STABILIZATION DATA

Time	Temperature (°F)	pH Units	Conductance (umhos/cm)	Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)
	NOT TAKEN - RAINING				
					3 GAL

Comments: ____

Transportation (thermal preservation) COOLER & ICE

Form completed by: MWM / CHILL Sampled by: MWM

SAMPLING INFORMATION SHEET

Delta Environmental Consultants, Inc.

Sample ID# MW-5 Project Name: BEACON 721 Project No. D093-936

Location (address) 44 LEWELLING BLVD. SAN LORENZO CA

Date Sampled: 12 / 14 / 94 Time: 1045

Wellhead assembly condition: X Good ____ Fair ____ Poor (If poor, see comments)

Equipment Replaced: ____ bolts ____ locks ____ locking cap

Well Depth 29.20 ft below top of casing Casing diameter 2 inches

Depth to water (below top of casing) 17.53 ft Date: 12 / 14 / 94 Time 0907

Well Casing Volume Multiplier: 0.16 for 2", 0.65 for 4", 1.47 for 6"

Purging method: ____ Submersible pump X Bailer ____ Centrifugal pump ____ Other ____

At least 4 well volumes have been evacuated before sampling.

Tubing (type: ____). (new or previously used) was used to purge well

Sampling method: X Disposable bailer ____ Sampling port

Samples collected 2 VOA's - BTEX; TPHg Sample appearance clear

Were any sampling problems ____

GROUND WATER EVACUATION/STABILIZATION DATA

Time	Temperature (°F)	pH Units	Conductance (mmos/cm)	Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)
	NOT TAKEN - RAINING				
					7 GAL

Comments: ____

Transportation (thermal preservation) COOLER & ICE

Form completed by: MWM / CHILL Sampled by: MWM

SAMPLING INFORMATION SHEET

Delta Environmental Consultants, Inc.

Sample ID# MW-6 Project Name: BEACON 721 Project No. D093-936

Location (address) 44 LEWELLING BLVD. SAN LORENZO, CA

Date Sampled: 12 / 14 / 94 Time: 1026

Wellhead assembly condition: X Good ____ Fair ____ Poor (If poor, see comments)

Equipment Replaced: ____ bolts ____ locks ____ locking cap

Well Depth 28.70 ft below top of casing Casing diameter 2 inches

Depth to water (below top of casing) 16.27 ft. Date: 12 / 14 / 94 Time 0905

Well Casing Volume Multiplier: 0.16 for 2", 0.65 for 4", 1.47 for 6"

Purging method: ____ Submersible pump X Bailer ____ Centrifugal pump ____ Other: ____

At least 4 well volumes have been evacuated before sampling.

Tubing (type: ____). (new or previously used) was used to purge well

Sampling method: X Disposable bailer ____ Sampling port

Samples collected 2 VOA's - BTEX; TPH-g Sample appearance Clear

Note any sampling problems ____

GROUND WATER EVACUATION/STABILIZATION DATA

Time	Temperature (°F)	pH Units	Conductance (umhos/cm)	Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)
	NOT TAKEN - RAINING				
					7 GAL

Comments: ____

Transportation (thermal preservation) COOLER & ICE

Form completed by: MWM / CHILL Sampled by: CHILL

SAMPLING INFORMATION SHEET

Delta Environmental Consultants, Inc.

mple ID# MW-7 Project Name: BEACON 721 Project No. 2093-936

ocation (address) 44 LEWELLING BLVD SAN LORENZO, CA

ate Sampled: 12 / 14 / 94 Time: 1002

/ellhead assembly condition: X Good ____ Fair ____ Poor (If poor, see comments)

quipment Replaced: ____ bolts ____ locks ____ locking cap

Vell Depth 24.30 ft below top of casing Casing diameter 2 inches

epth to water (below top of casing) 15.75 ft. Date: 12 / 14 / 94 Time 0855

Vell Casing Volume Multiplier: 0.16 for 2", 0.65 for 4", 1.47 for 6"

urging method: ____ Submersible pump X Bailer ____ Centrifugal pump ____ Other: ____

t least 4 well volumes have been evacuated before sampling.

tubing (type: ____). (new or previously used) was used to purge well

ampling method: X Disposable bailer ____ Sampling pump

amples collected 2 VOA's - BTEX, TPHg Sample appearance clear

ote any sampling problems ____

GROUND WATER EVACUATION/STABILIZATION DATA

Time	Temperature (°F)	pH Units	Conductance (umhos/cm)	Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)
	NOT TAKEN - RAINING				
					56 GAL

omments: ____

ansportation (thermal preservation) COOLER & ICE

orm completed by: MWM / CHILL Sampled by: MWM

SAMPLING INFORMATION SHEET

Delta Environmental Consultants, Inc.

Sample ID# MW-8 Project Name: BEACON 721 Project No. D093-936

Location (address) 44 LEWELLING BLVD. SAN LORENZO, CA

Date Sampled: 12 / 14 / 94 Time: 1000

Wellhead assembly condition: X Good ____ Fair ____ Poor (If poor, see comments)

Equipment Replaced: ____ bolts ____ locks ____ locking cap

Well Depth 23.20 ft below top of casing Casing diameter ~ 2 inches

Depth to water (below top of casing) 16.66 ft. Date: 12 / 14 / 94 Time 0856

Well Casing Volume Multiplier: 0.16 for 2", 0.65 for 4", 1.47 for 6"

Purging method: ____ Submersible pump X Bailer ____ Centrifugal pump ____ Other ____

At least 4 well volumes have been evacuated before sampling.

Tubing (type: ____). (new or previously used) was used to purge well

Sampling method: X Disposable bailer ____ Sampling port

Samples collected 2 VOA's - BTEX; TPHg Sample appearance Clear

Were any sampling problems

GROUND WATER EVACUATION/STABILIZATION DATA

Time	Temperature (°F)	pH Units	Conductance (umhos/cm)	Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)
	NOT TAKEN - RAINING				
					4 GAL

Comments:

Transportation (thermal preservation) COOLER & ICE

Form completed by: MWM / CHILL Sampled by: CHILL

SAMPLING INFORMATION SHEET

Delta Environmental Consultants, Inc.

Sample ID# MW-9 Project Name: BEACON 721 Project No. D093-936

Location (address) 44 LEWELLING BLVD. SAN LORENZO, CA

Date Sampled: 12 / 14 / 94 Time: 1108

Wellhead assembly condition: X Good ____ Fair ____ Poor (If poor, see comments)

Equipment Replaced: ____ bolts ____ locks ____ locking cap

Well Depth 23.80 ft below top of casing Casing diameter 2 inches

Depth to water (below top of casing) 10.88 ft Date: 12 / 14 / 94 Time 0903

Well Casing Volume Multiplier: 0.16 for 2", 0.65 for 4", 1.47 for 6"

Purging method: ____ Submersible pump X Bailer ____ Centrifugal pump ____ Other: ____

At least 4 well volumes have been evacuated before sampling.

Tubing (type: ____). (new or previously used) was used to purge well

Sampling method: X Disposable bailer ____ Sampling port

Samples collected 2 VOA's - BTEX, TPHg Sample appearance Clear

Note any sampling problems ____

GROUND WATER EVACUATION/STABILIZATION DATA

Time	Temperature (°F)	pH Units	Conductance (mmos/cm)	Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)
	NOT TAKEN - RAINING				
					3 GAL

Comments: ____

Transportation (thermal preservation) COOLER & ICE

Form completed by: MWM / CHILL Sampled by: MWM

SAMPLING INFORMATION SHEET

Delta Environmental Consultants, Inc.

Sample ID# MW-10 Project Name: BEACON 721 Project No. D093-936

Location (address) 44 LEWELLING BLVD SAN LORENZO CA

Date Sampled: 12/14/94 Time: _____

Wellhead assembly condition: X Good _____ Fair _____ Poor (If poor, see comments)

Equipment Replaced: _____ bolts _____ locks _____ locking cap

Well Depth 29.50 ft below top of casing Casing diameter 2 inches

Depth to water (below top of casing) 16.65 ft. Date: 12/14/94 Time 0942

Well Casing Volume Multiplier: 0.16 for 2", 0.65 for 4", 1.47 for 6"

Purging method: _____ Submersible pump X Bailer _____ Centrifugal pump _____ Other _____

At least 4 well volumes have been evacuated before sampling.

Tubing (type: _____). (new or previously used) was used to purge well.

Sampling method: X Disposable bailer _____ Sampling port

Samples collected 2 VOA's - BTEX;TPH$_g$ Sample appearance Clear

Note any sampling problems _____

GROUND WATER EVACUATION/STABILIZATION DATA

Time	Temperature (°F)	pE Units	Conductance (mmos/cm)	Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)
	NOT TAKEN - RAINING				
					8 GAL

Comments: _____

Transportation (thermal preservation) COOLER & ICE

Form completed by: MWM/CHILL Sampled by: CHILL

SAMPLING INFORMATION SHEET

Delta Environmental Consultants, Inc.

Sample ID# MW-11 Project Name: BEACON 721 Project No. D093-936

Location (address) 44 LEWELLING BLVD. SAN LORENZO CA

Date Sampled: 12 / 14 / 94 Time: 0936

Wellhead assembly condition: X Good ____ Fair ____ Poor (If poor, see comments)

Equipment Replaced: ____ bolts ____ locks ____ locking cap

Well Depth 29.50 ft below top of casing Casing diameter 2 inches

Depth to water (below top of casing) 19.45 ft. Date: 12 / 14 / 94 Time 0900

Well Casing Volume Multiplier: 0.16 for 2", 0.65 for 4", 1.47 for 6"

Purging method: ____ Submersible pump X Bailer ____ Centrifugal pump ____ Other ____

At least 4 well volumes have been evacuated before sampling.

Tubing (type: ____). (new or previously used) was used to purge well

Sampling method: X Disposable bailer ____ Sampling port

Samples collected 2 VOA's - BTEX ; TPH-g Sample appearance Clear

Note any sampling problems ____

GROUND WATER EVACUATION/STABILIZATION DATA

Time	Temperature (°F)	pH Units	Conductance (umhos/cm)	Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)
	NOT TAKEN - RAINING				
					6 GAL

Comments: ____

Transportation (thermal preservation) COOLER & ICE

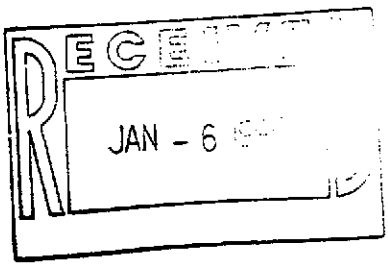
Form completed by: MWM/CHIL Sampled by: MWM

ENCLOSURE C

Ground Water Sample Laboratory Reports

WEST LABORATORY

December 21, 1994
Sample Log 10963



Todd Galati
Delta Environmental Consultants, Inc.
3330 Data Drive
Rancho Cordova, CA 95670

Subject: Analytical Results for 15 Water Samples
Identified as: Project # D093-936 (Beacon 721)
Received: 12/15/94

Dear Mr. Galati:

Analysis of the sample(s) referenced above has been completed. This report is written to confirm results communicated on December 21, 1994 and describes procedures used to analyze the samples.

Sample(s) were received in 40-milliliter glass vials sealed with TFE lined septae and plastic screw-caps. Each sample was transported and received under documented chain of custody and stored at 4 degrees C until analysis was performed.

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:

M. Sarkhosh

Mitra Sarkhosh
Senior Chemist

WEST LABORATORY

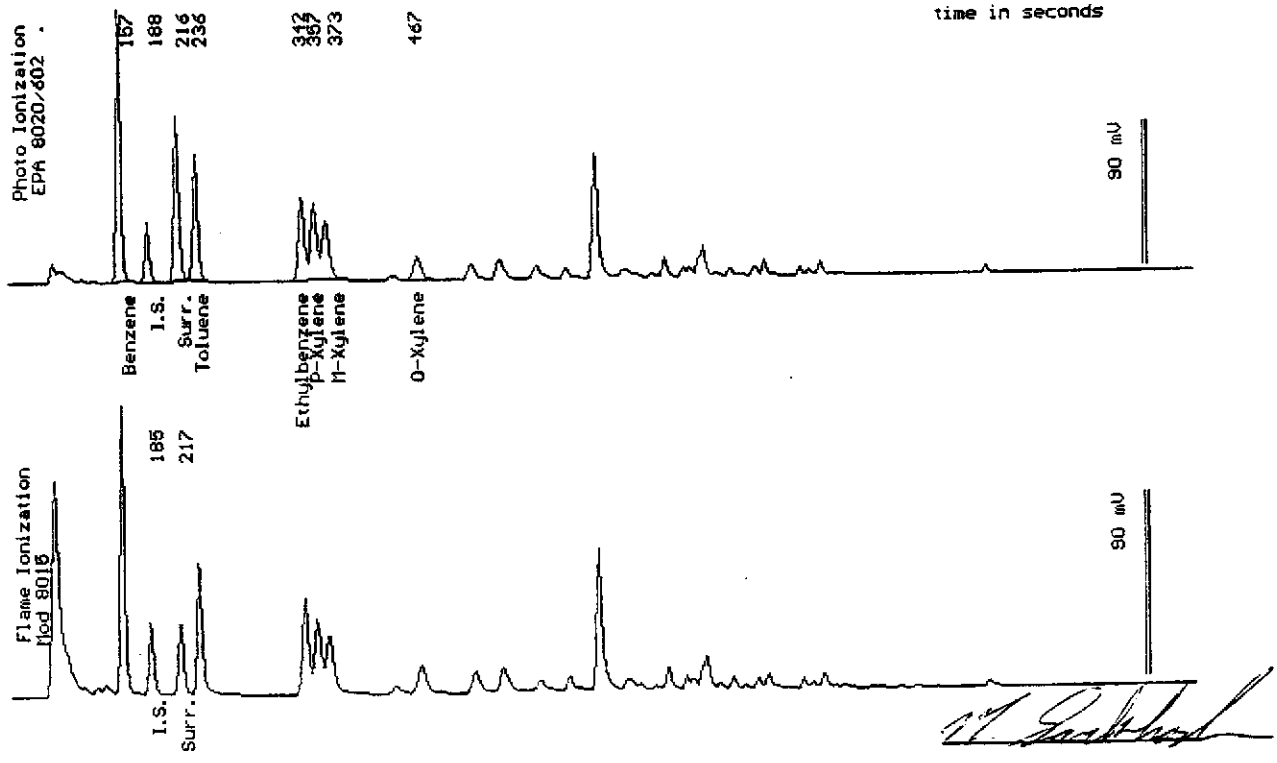
Sample Log 10963

10963-1

Sample: **MW-1**

From : Project # D093-936 (Beacon 721)
Sampled : 12/14/94
Dilution : 1:50 QC Batch : 4109H
Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Benzene	(25)	4400
Toluene	(25)	2400
Ethylbenzene	(25)	2300
Total Xylenes	(25)	4300
TPH as Gasoline	(2500)	31000
Surrogate Recovery		102 %



Date Analyzed: 12-17-94
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

WEST LABORATORY

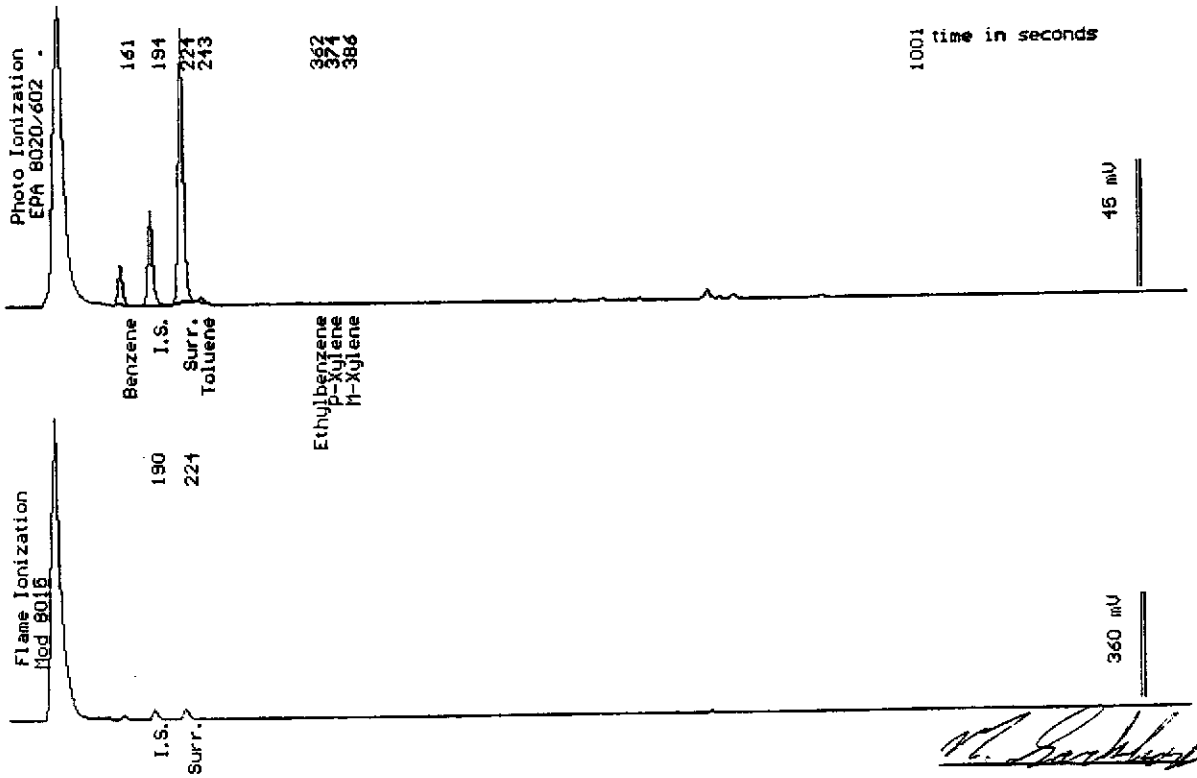
Sample Log 10963

10963-2

Sample: **MW-2**

From : Project # D093-936 (Beacon 721)
Sampled : 12/14/94
Dilution : 1:1 QC Batch : 4109H
Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Benzene	(.50)	7.2
Toluene	(.50)	.84
Ethylbenzene	(.50)	<.50
Total Xylenes	(.50)	<.50
TPH as Gasoline	(50)	1400
Surrogate Recovery		99 %



Date Analyzed: 12-17-94
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

WEST LABORATORY

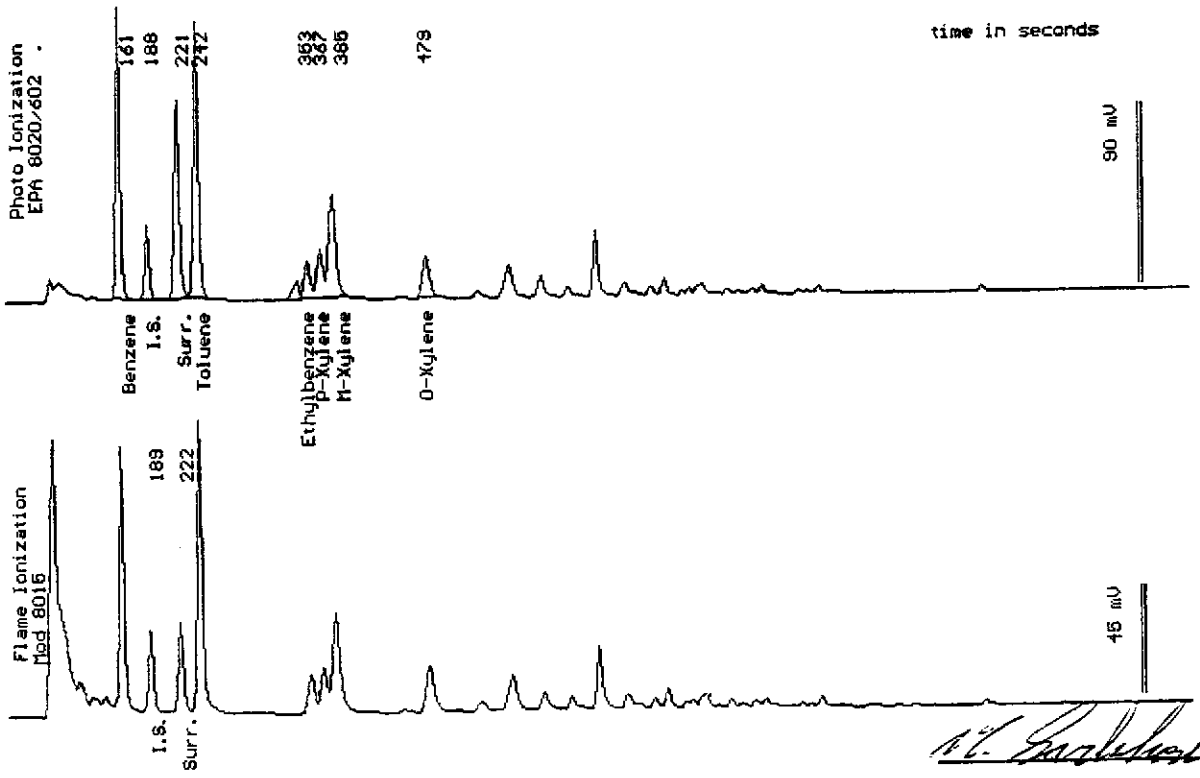
Sample Log 10963

10963-3

Sample: **MW-3**

From : Project # D093-936 (Beacon 721)
Sampled : 12/14/94
Dilution : 1:250 QC Batch : 4109H
Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Benzene	(130)	17000
Toluene	(130)	21000
Ethylbenzene	(130)	3900
Total Xylenes	(130)	22000
TPH as Gasoline	(13000)	140000
Surrogate Recovery		100 %



Date Analyzed: 12-17-94
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

WEST LABORATORY

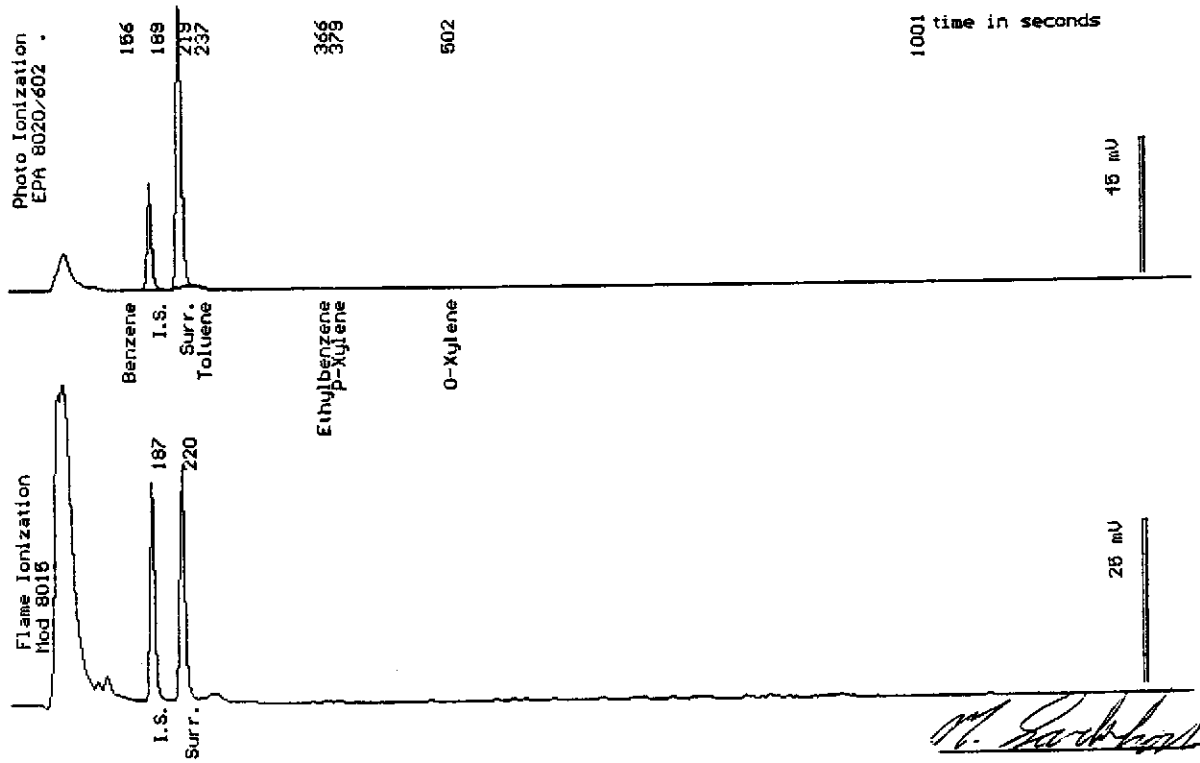
Sample Log 10963

10963-4

Sample: **MW-4**

From : Project # D093-936 (Beacon 721)
Sampled : 12/14/94
Dilution : 1:1 QC Batch : 4109H
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)	160	
Surrogate Recovery		106	%



Date Analyzed: 12-17-94
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

WEST LABORATORY

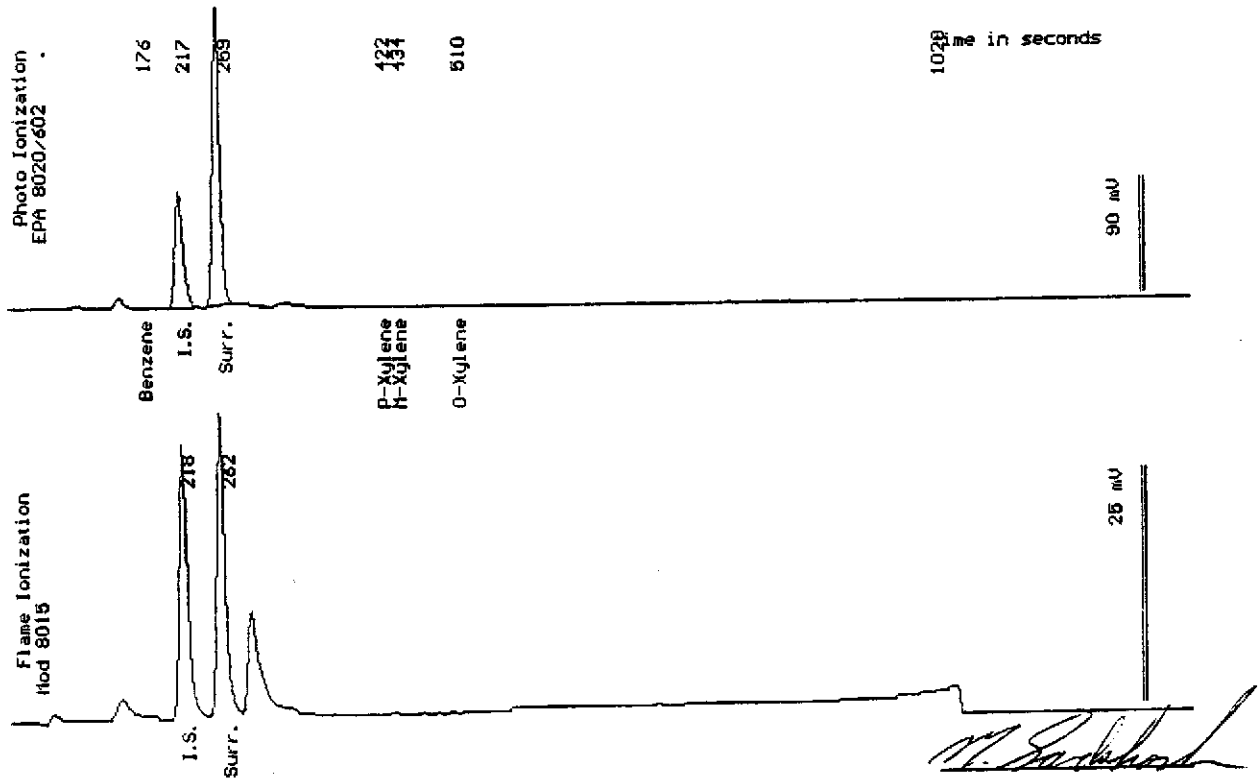
Sample Log 10963

10963-5

Sample: **MW-5**

From : Project # D093-936 (Beacon 721)
Sampled : 12/14/94
Dilution : 1:1 QC Batch : 2110K
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		88 %



Date Analyzed: 12-17-94
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

WEST LABORATORY

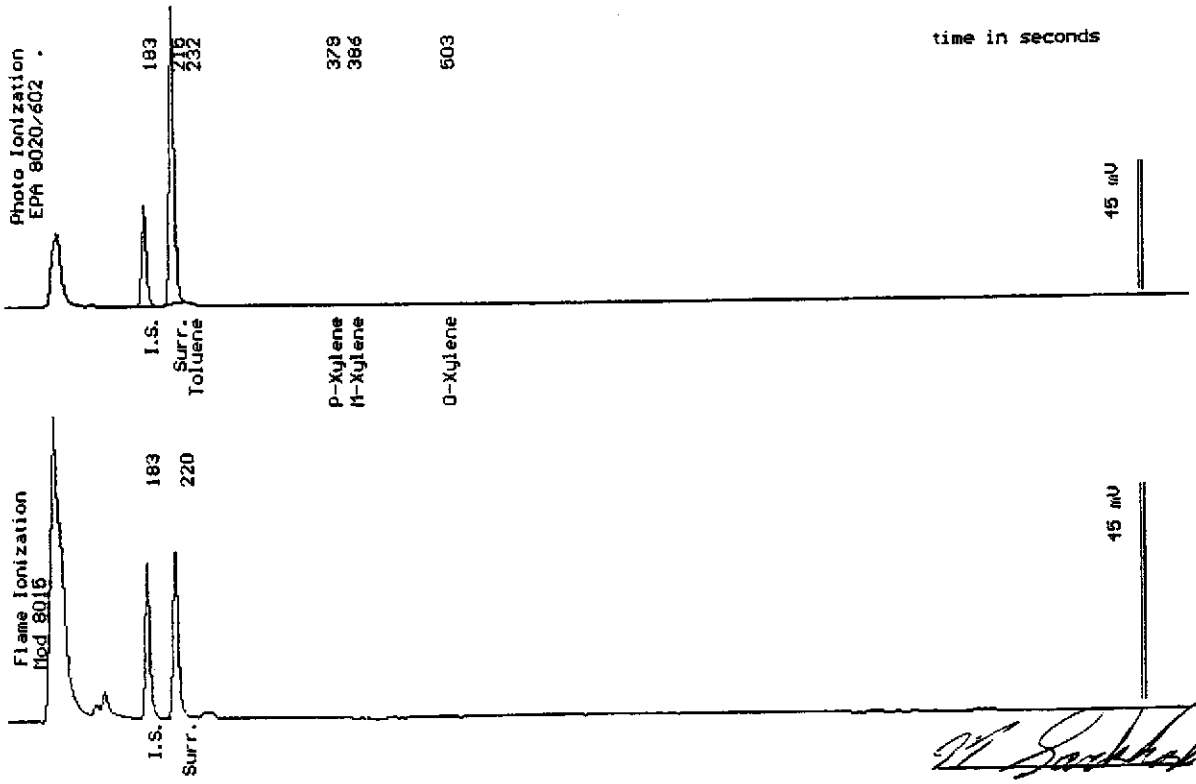
Sample Log 10963

10963-6

Sample: **MW-6**

From : Project # D093-936 (Beacon 721)
Sampled : 12/14/94
Dilution : 1:1 QC Batch : 4109H
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		99 %



Date Analyzed: 12-17-94
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

WEST LABORATORY

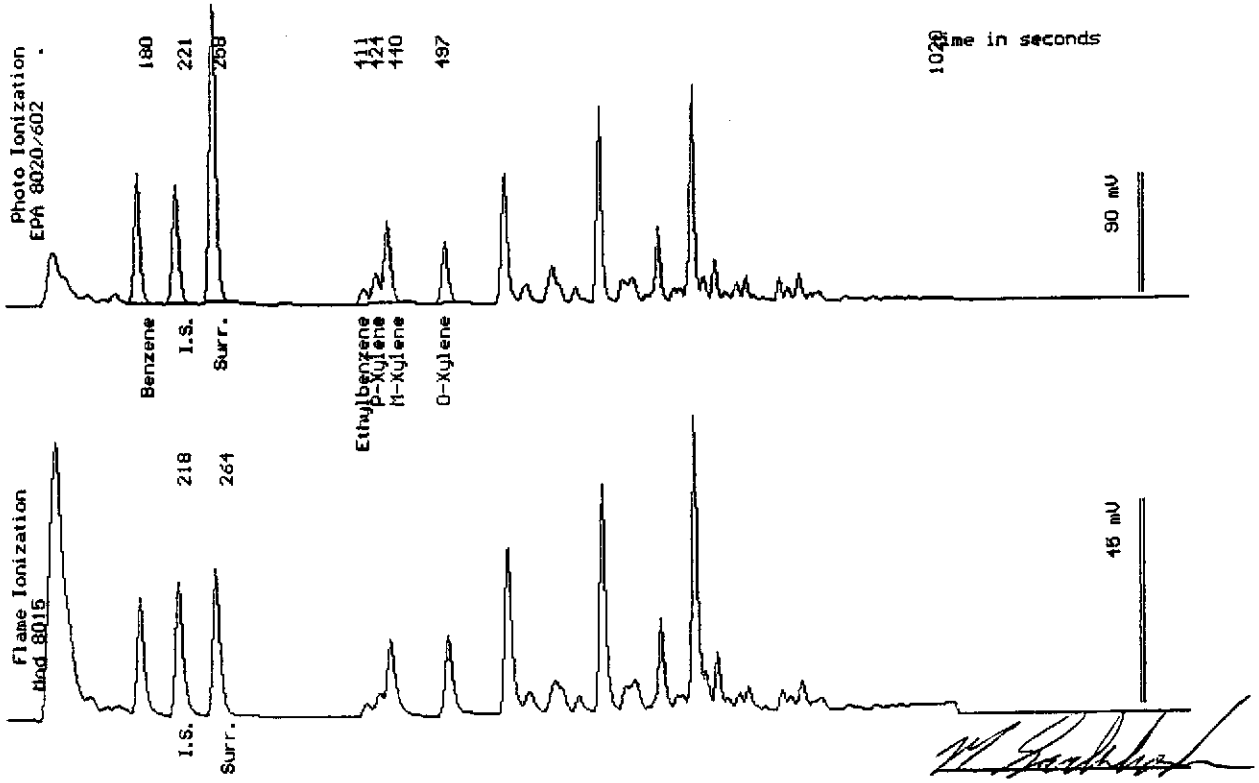
Sample Log 10963

10963-7

Sample: **MW-7**

From : Project # D093-936 (Beacon 721)
Sampled : 12/14/94
Dilution : 1:1 QC Batch : 2110K
Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Benzene	(.50)	19
Toluene	(.50)	<.50
Ethylbenzene	(.50)	3.3
Total Xylenes	(.50)	32
TPH as Gasoline	(50)	430
Surrogate Recovery		97 %



Date Analyzed: 12-17-94
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

WEST LABORATORY

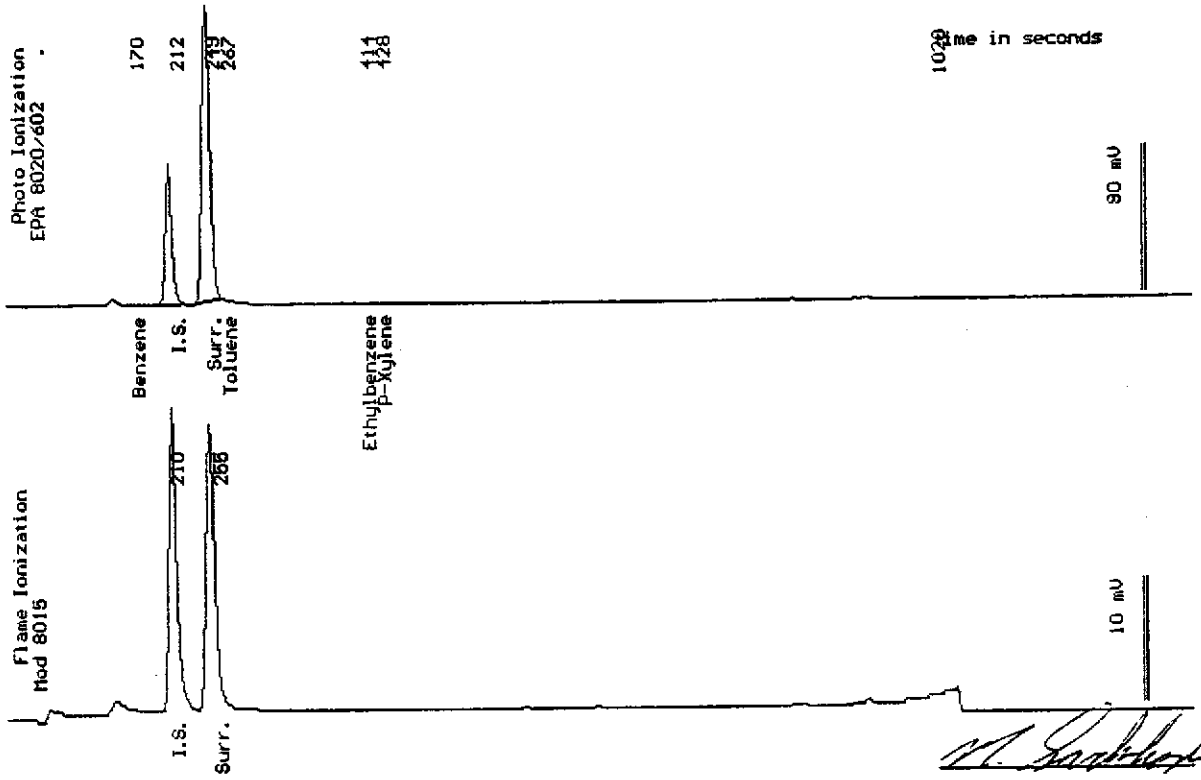
Sample Log 10963

10963-8

Sample: **MW-8**

From : Project # D093-936 (Beacon 721)
Sampled : 12/14/94
Dilution : 1:1 QC Batch : 2110K
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		100 %



Date Analyzed: 12-17-94
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

WEST LABORATORY

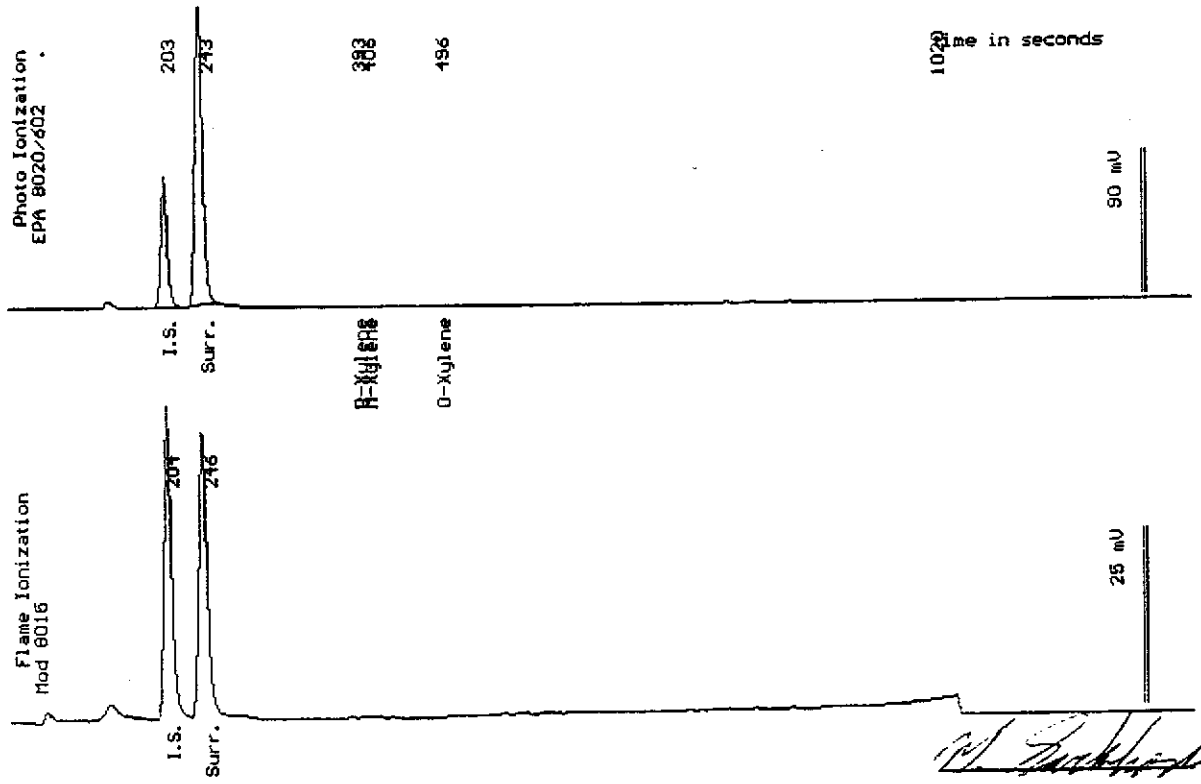
Sample Log 10963

10963-9

Sample: **MW-9**

From : Project # D093-936 (Beacon 721)
Sampled : 12/14/94
Dilution : 1:1 QC Batch : 2110N
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		103 %



Date Analyzed: 12-20-94
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

WEST LABORATORY

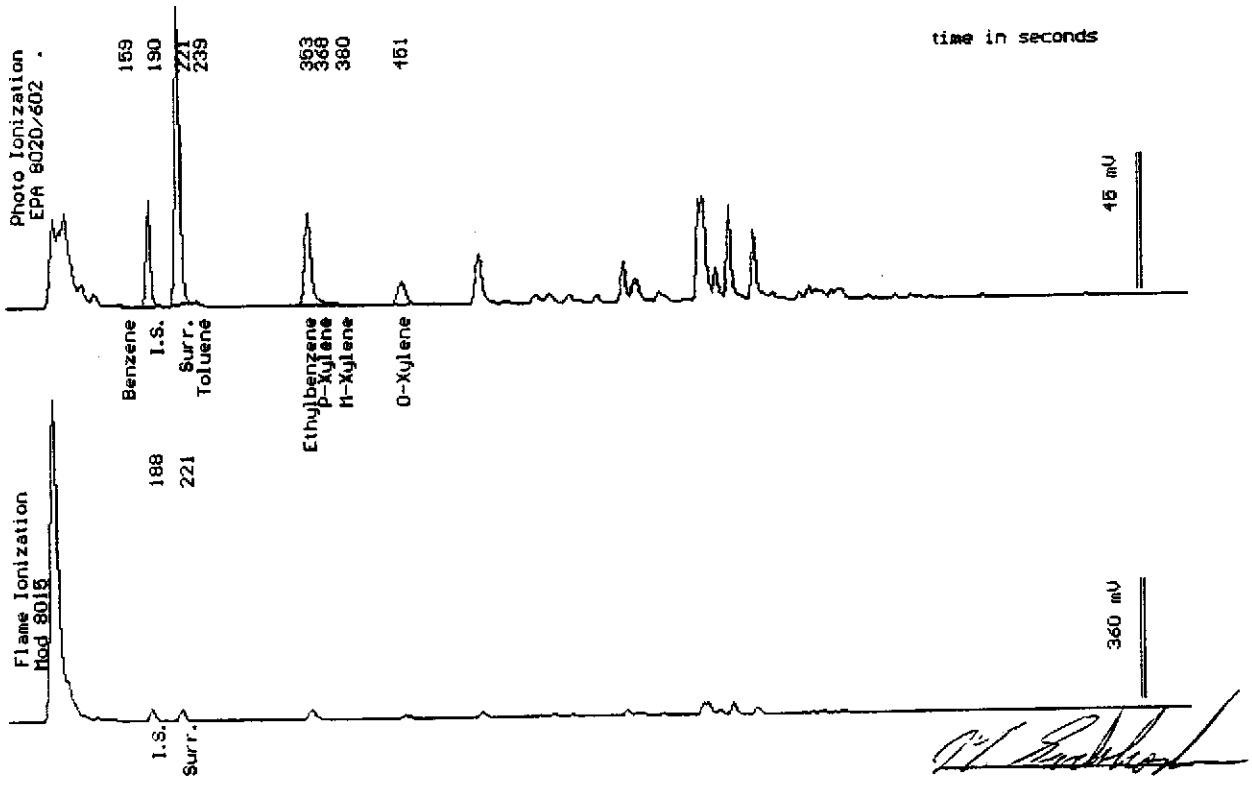
Sample Log 10963

10963-10

Sample: **MW-10**

From : Project # D093-936 (Beacon 721)
Sampled : 12/14/94
Dilution : 1:3 QC Batch : 4109H
Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Benzene	(1.3)	<1.3
Toluene	(1.3)	<1.3
Ethylbenzene	(1.3)	77
Total Xylenes	(1.3)	27
TPH as Gasoline	(130)	3500
Surrogate Recovery		103 %



Date Analyzed: 12-17-94
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

WEST LABORATORY

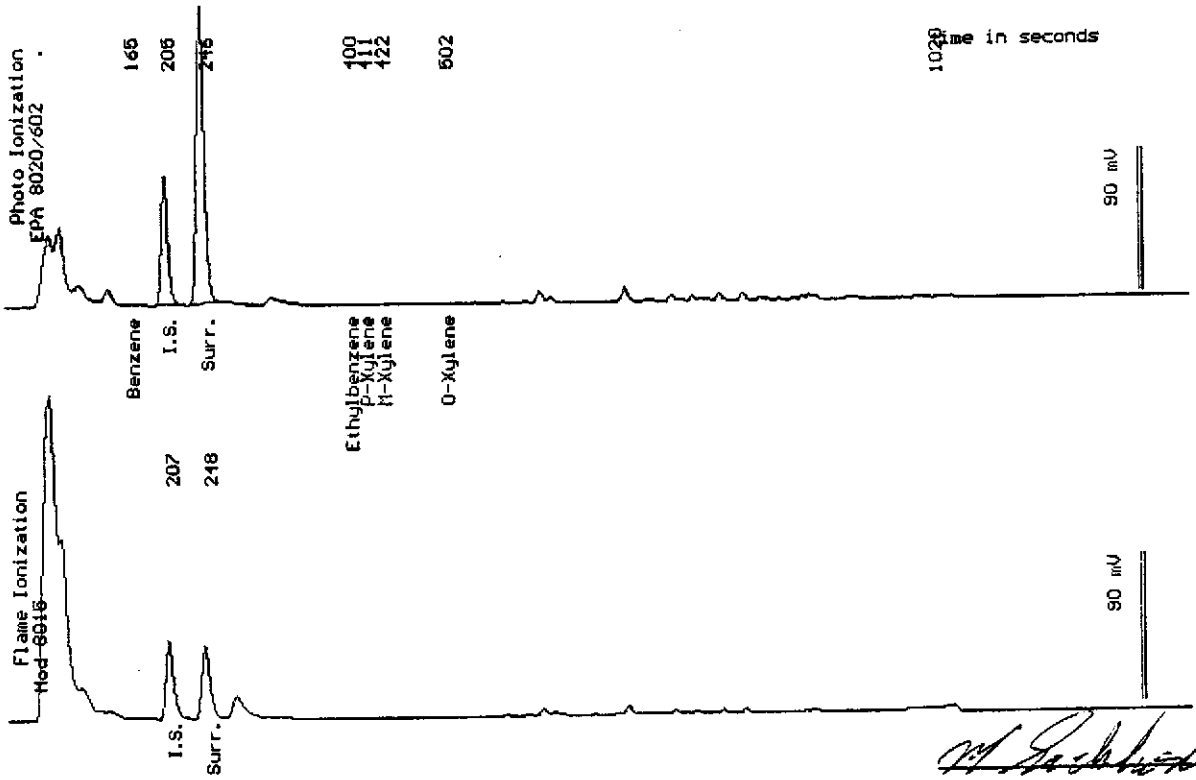
Sample Log 10963

10963-11

Sample: **MW-11**

From : Project # D093-936 (Beacon 721)
Sampled : 12/14/94
Dilution : 1:1 QC Batch : 2110L
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)	340	
Surrogate Recovery		102	%



Date Analyzed: 12-20-94
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

WEST LABORATORY

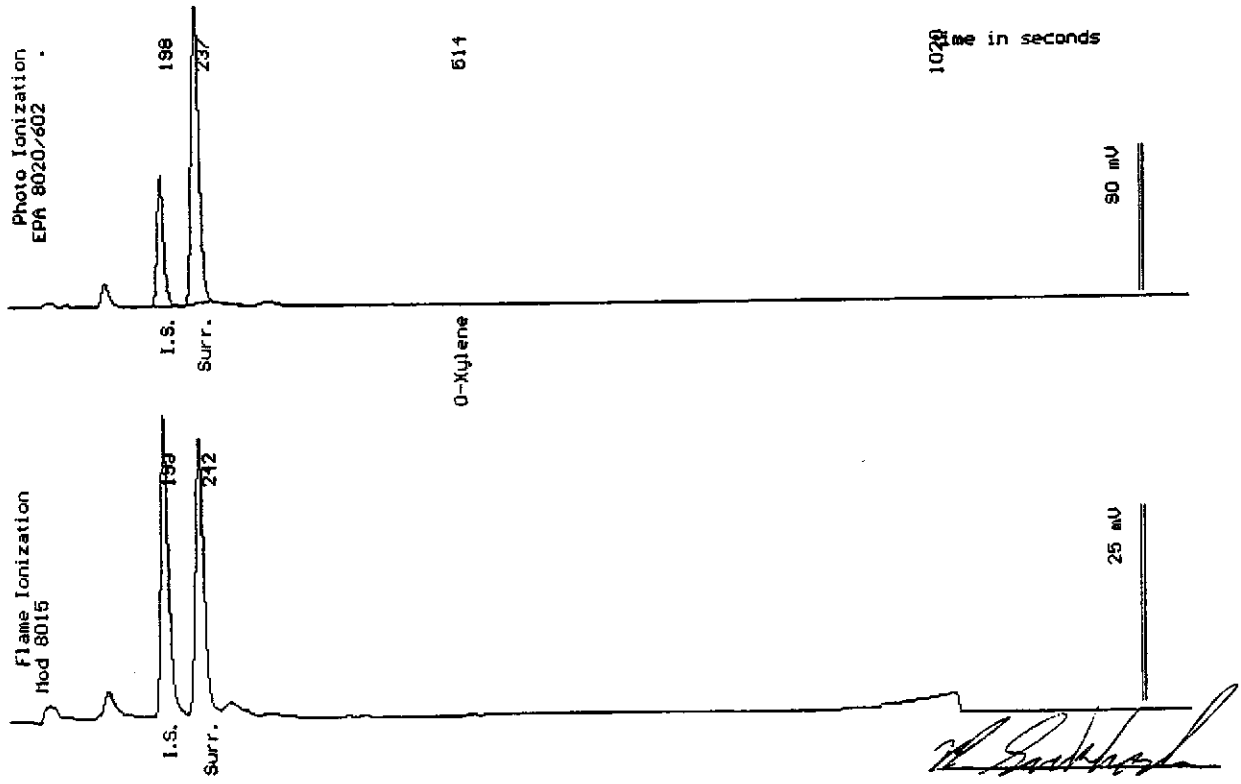
Sample Log 10963

10963-12

Sample: Influent GAC

From : Project # D093-936 (Beacon 721)
Sampled : 12/14/94
Dilution : 1:1 QC Batch : 2110L
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: 12-20-94
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

WEST LABORATORY

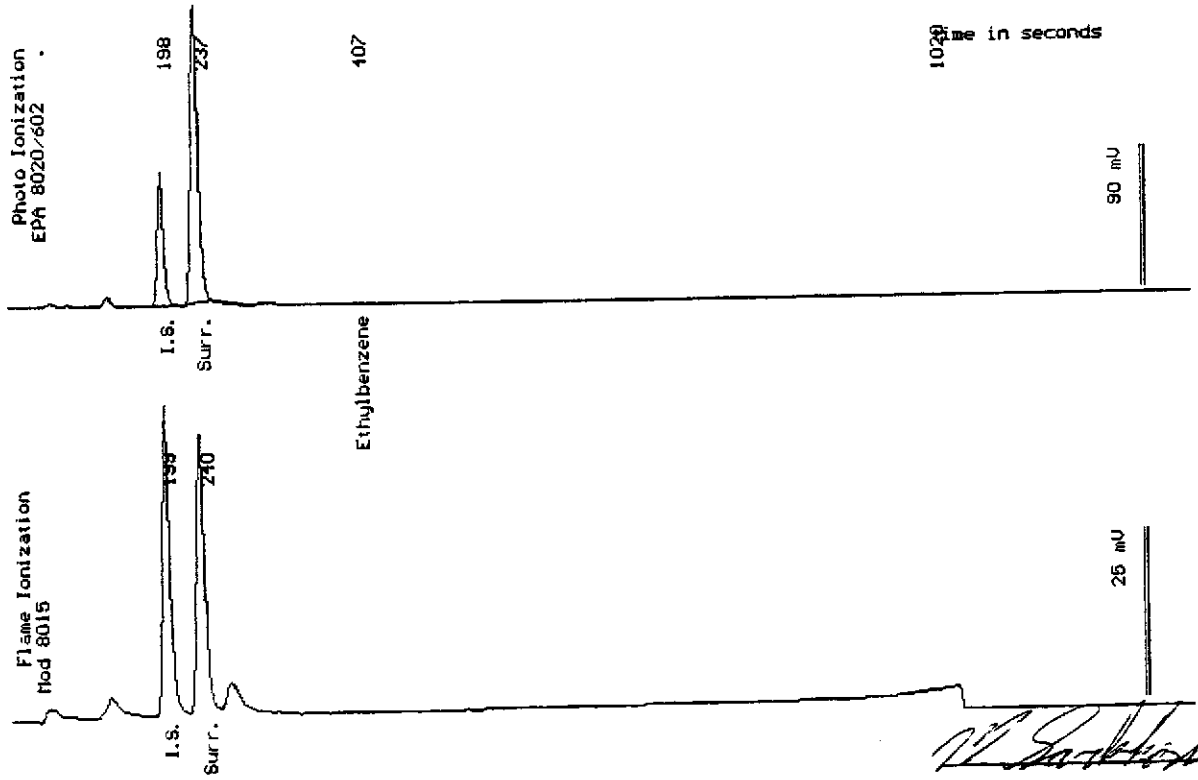
Sample Log 10963

10963-13

Sample: **GAC Mid**

From : Project # D093-936 (Beacon 721)
Sampled : 12/14/94
Dilution : 1:1 QC Batch : 2110L
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: 12-20-94
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

WEST LABORATORY

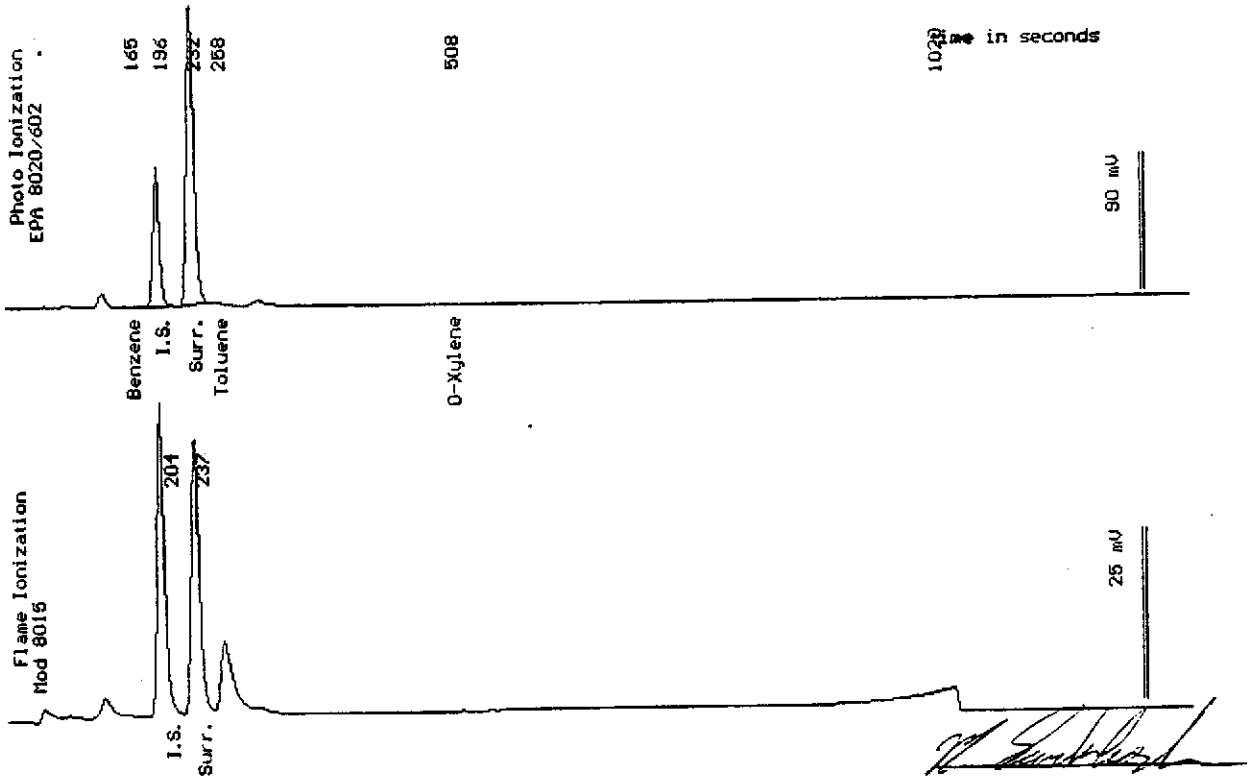
Sample Log 10963

10963-14

Sample: GAC Effluent

From : Project # D093-936 (Beacon 721)
Sampled : 12/14/94
Dilution : 1:1 QC Batch : 2110L
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		103 %



Date Analyzed: 12-20-94
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

WEST LABORATORY

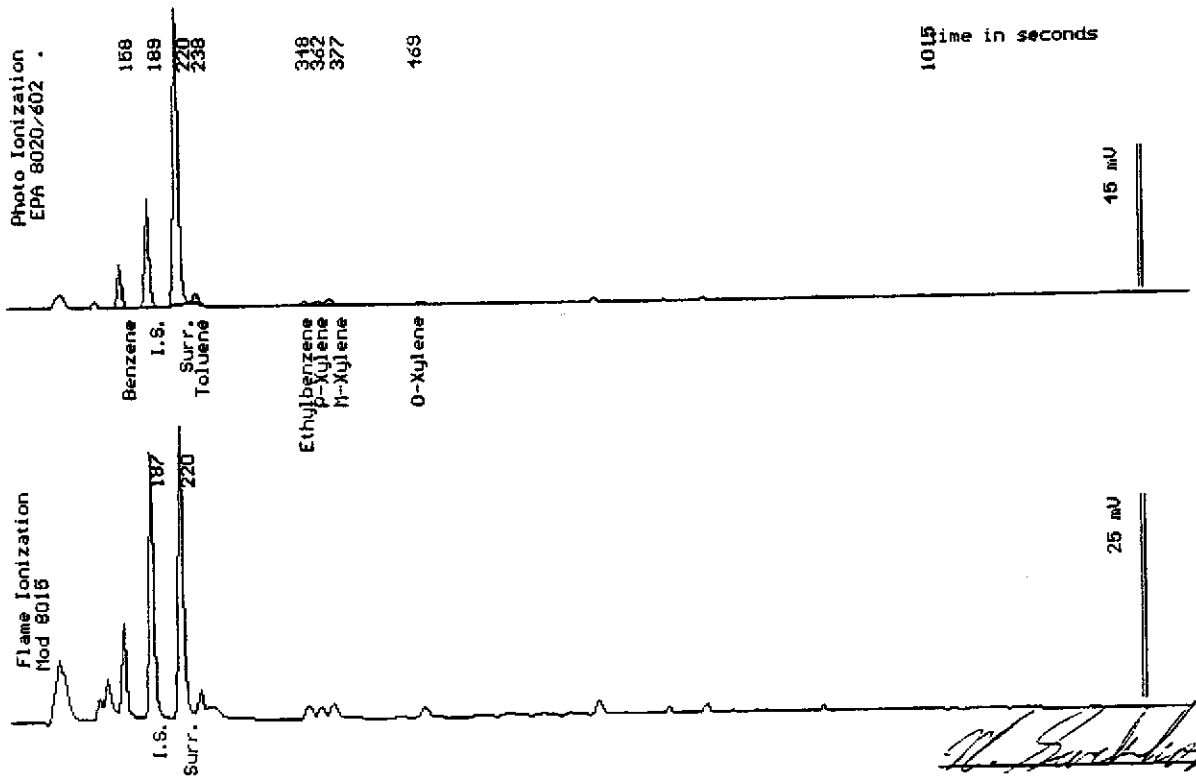
Sample Log 10963

10963-15

Sample: RW-1

From : Project # D093-936 (Beacon 721)
Sampled : 12/14/94
Dilution : 1:1 QC Batch : 4109K
Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L	
Benzene	(.50)	6.8	
Toluene	(.50)	2.1	
Ethylbenzene	(.50)	1.2	
Total Xylenes	(.50)	3.4	
TPH as Gasoline	(50)	79	
Surrogate Recovery		104	%



Date Analyzed: 12-20-94
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

Anlab
ANALYTICAL LABORATORY
1910 S STREET SACRAMENTO, CALIFORNIA 95814 • 916-447-2946 • FAX 916-447-8321

December 27, 1994

Western Environmental Science
& Technology
1046 Olive Drive, Suite 3
Davis, CA 95616
Attn: Les Biddle

P.O. #: 10963
Project #: D093-936

Anlab I.D. AD31426
SAMPLE DESCRIPTION: GAC EFFLUENT
Sample collection date: 12/14/94
Lab submittal date: 12/15/94
Turn-Around-Time: TYPE 10

Client Code: 315
Matrix: W
Time: 11:36
Time: 10:43
Sample Disposal: LAB

TEST PARAMETER	UNITS	TEST RESULT	DETECTION LIMIT
COD by EPA 410.4	mg/l	ND	3
Tot. Suspended Solids, EPA 160.2	mg/l	ND	3

ND = Not Detected

Date analyzed: 12/21-22/94

Report Approved By: Patty Buckalew
ELAP ID #: 1468

:jbc

ANLAB QA/QC REPORT AD31426

This report is applicable only to the sample received by the laboratory. The liability of the laboratory is limited to the amount paid for this report. This report is for the exclusive use of the client to whom it is addressed and upon the condition that the client assumes all liability for the further distribution of the report or its contents.

LCS = LAB CONTROL SAMPLE
% Dup RPD: X=SAMPLE OR MATRIX SPIKE RESULT Y=DUPLICATE OR MATRIX SPIKE DUP RESULT ((ABS(X-Y))/((X+Y))/2)*100

Analysis/Analyte	MDL	Units	QA Sample Number	QA Sample Result	LCS % Rec	Spike Result	Matrix Duplicate or MSD Result	QA/QC Summary		Analyst Initials
								% Spike Rec	% Dup RPD	
Tot. Suspended Solids, EPA 160.2	3	mg/l	AD31407	690	98		680		1.4	KG
COD by EPA 410.4	3	mg/l	AD31283	3.9	92	24.1	24.1	96	0	KM

Ultramar Inc.

CHAIN OF CUSTODY REPORT

BEACON

Beacon Station No.	Sampler (Print Name)	Date	Form No.
721	MARTIN W. MORGAN/CHRIS HILL	12-14-94	1 of 2
Project No.	**Sampler (Signature)**		
D093-936			
Project Location	**Affiliation**		
SAN LORENZO, CA	Delta		

Sample No./Identification	Date	Time	Lab No.	BTEX	TPH (gasoline)	TPH (diesel)	No. of Containers
MW-1	12/14/94	1126		X	X		2
MW-2		1049		X	X		2
MW-3		1025		X	X		2
MW-4		1118		X	X		2
MW-5		1045		X	X		2
MW-6		1026		X	X		2
MW-7		1002		X	X		2
MW-8		1000		X	X		2

ANALYSES

WEST LABS
916 753-9500

Standard turn

REMARKS

RECEIVED
DATE 12/15 TIME 0925
TEMP 09°C
INITIAL
WEST LAB

Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
Delta	12/15/94	0800		12/15/94	0800
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
	12/15/94	850		12/15/94	18:50
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
	12/15/94	925		12/15/94	0925

Report to: Jack Galati

Phone: 916 638 2085 FAX: 8385

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

32-6003 1/90

Ultramar Inc.

CHAIN OF CUSTODY REPORT

BEACON

Beacon Station No.	Sampler (Print Name)	Date	Form No. 2 of 2
721	Martin W. Morgan / CHRIS HILL	12.14.94	
Project No.	**Sampler (Signature)**		
D093-936			
Project Location	**Affiliation**		
San Lorenzo, CA	Delta		

Sample No./Identification	Date	Time	Lab No.	BTEX	TPH (gasoline)	TPH (diesel)	COD	TSS	No. of Containers
MW-9	12.14.94	1108		X	X				2
MW-10		0942		X	X				2
MW-11		0936		X	X				2
Influent GAC		1138		X	X				2
GAC MID		1137		X	X				2
GAC Effluent		1136		X	X		X	X	5
RW-1		1100		X	X				2

ANALYSES

REMARKS

West Labs
916 753 9500

Standard turn

Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
Martin W. Morgan / Delta	12/15/94	0800	Stephanie Sermon / Delta	12/15/94	0800
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
Stephanie Sermon / Delta	12/15/94	850		12/15/94	8:50
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
	12/15/94	925		12/15/94	0925

Report To: Todd Gallatin

Phone: 916 638 2085 FAX: 8385

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