

Ultramar

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

93 SEP 14 PM 12:52

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

September 8, 1993

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:

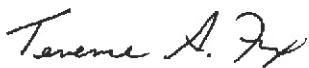
Enclosed is a copy of the ground-water monitoring report for the second quarter 1993 for the above-referenced Ultramar facility. Also included is a copy of the Quarterly Status Report which describes the work completed this quarter and the work anticipated to be completed next quarter.

Ultramar has operated the ground-water remediation system and as of July 14, 1993 the system has removed 117,367 gallons of water. The permit to operate the vapor extraction portion of the remediation system has not been approved yet. It is anticipated that the permit will be approved before the end of September 1993.

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



A Member of the Ultramar Group of Companies

BEACON
#1 Quality and Service

Ultramar

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ENVIRONMENTAL PROJECT QUARTERLY STATUS REPORT

DATE REPORT SUBMITTED: September 8, 1993

QUARTER ENDING: March 31, 1993

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.

SUMMARY OF THIS QUARTER'S ACTIVITIES:

Performed quarterly monitoring on June 23, 1993. Completed installation of ground-water remediation system in June 1993.



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RESULT OF QUARTERLY MONITORING:

Monitoring data indicates that only a sheen of free product was detected in MW-3 this quarter. Free product was not detected in any other well. The benzene concentration decreased in MW-2 from 1.2 ppb to not detected, in MW-3 from 7,200 ppb to 3,200 ppb, in MW-5 from 3 ppb to not detected, in MW-6 from 1.9 ppb to not detected, in MW-7 from 200 ppb to 20 ppb, and in RW-1 from 71 ppb to 30 ppb. Benzene concentrations increased in MW-1 from 180 ppb to 2,400 ppb and in MW-10 from 15 ppb to 21 ppb. Benzene concentrations remained not detected in wells MW-4, MW-8, MW-9, and MW-11.

PROPOSED ACTIVITY OR WORK FOR NEXT QUARTER:

<u>ACTIVITY</u>	<u>ESTIMATED COMPLETION DATE</u>
Continue quarterly ground-water monitoring.	Ongoing
Begin operation of ground-water remediation system.	July 1993
Begin operation once APCD permit approved.	September 30, 1993



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

August 24, 1993

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

Subject: Quarterly Ground Water Monitoring Report, Second Quarter 1993,
and Status of Remediation System, through July 14, 1993
Beacon Station No. 721
44 Lewelling Boulevard
San Lorenzo, California
Delta Project No. 40-93-936

Dear Mr. Fox:

Delta Environmental Consultants, Inc. (Delta), has been authorized by Ultramar Inc. (Ultramar) to conduct quarterly monitoring at the above-mentioned site. The monitoring is intended to evaluate the presence and concentration of 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 June 23, 1993, and the remediation system status through July 14, 1993. The site location is shown in Figure 1, and site features are illustrated in Figure 2.

Quarterly ground water monitoring conducted on June 23, 1993, included measurement of depth to water in six on-site monitoring wells (MW-1, MW-2, MW-3, MW-4, MW-5 and MW-6), five off-site monitoring wells (MW-7, MW-8, MW-9, MW-10 and MW-11), and one 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 June 23, 1993. Depth to ground water ranged from 14.33 (MW-7) to 28.25 (RW-1) feet below the top of well casings. The water table elevation measurements indicate an inferred direction of ground water flow beneath the site towards the southwest. Water table measurements recorded at the site prior to June 23, 1993, are compiled in Enclosure B and water table measurements recorded at the site on June 23, 1993, are compiled in Table 1. A water table contour map prepared from the June 1993 data is included as Figure 3.

Mr. Terrence A. Fox

Ultramar Inc.

August 24, 1993

Page 2

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 June 23, 1993, a product sheen was detected in monitoring well MW-3; the other monitoring wells did not contain free petroleum product or product sheen (Table 1).

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 June 23, 1993. Sampling procedures are described in Enclosure A, and copies of the sampling information data sheets are included in Enclosure C.

The ground water samples were submitted for analysis of benzene, toluene, ethylbenzene, and xylenes (BTEX), and total petroleum hydrocarbons (TPH) as gasoline. Analytical results indicate no detectable TPH as gasoline or BTEX concentrations in monitoring wells MW-5, MW-6, MW-8, and MW-9. Detectable benzene concentrations ranged from 20 ppb (MW-7) to 3,200 ppb (MW-3). Results of the chemical analyses for the June 23, 1993, sampling event are summarized in Table 2, and copies of the certified analytical reports are included in Enclosure D. Analytical results reported prior to the June 1993 sampling event are included in Enclosure E. A benzene isoconcentration contour map is included as Figure 4.

Status of Remediation System

Delta was authorized to perform operation and maintenance of the ground water remediation system at the site in 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 Oro Loma Sanitary District.

The volume of ground water treated by the remediation system through July 14, 1993, is 117,367 gallons, shown in Table 3.

Remediation System Analytical Results

In order to evaluate the effectiveness of the remediation system, water samples were collected from the treatment system at the discharge from the system (effluent). Water samples were collected on May 28, 1993, and were submitted for analysis of BTEX and TPH as gasoline. Analytical results indicate that BTEX and TPH as gasoline concentrations were well below the allowable discharge concentrations for the Oro Loma Sanitary District. Results of the chemical analyses are summarized in Table 4, and copies of the certified analytical reports are included in Enclosure F.

Mr. Terrence A. Fox
Ultramar Inc.
August 24, 1993
Page 3

Future Work

Delta will continue to monitor the operation of the remediation system and will perform monthly sampling of the remediation system effluent. The next quarterly sampling of ground water monitoring wells is scheduled for September 1993.

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 me at (916) 638-2085.

Sincerely,

DELTA ENVIRONMENTAL CONSULTANTS, INC.

Paul V. Zianno

Paul V. Zianno
Hydrogeologist

Todd M. Galati

Todd M. Galati
Project Manager

James R. Brownell

James R. Brownell, R.G.
California Registered Geologist No. 5078



cc\enc: Mr. Jon Black, Delta Environmental Consultants, Inc. - Sacramento

TMG (LRP237.TA)
Enclosures

TABLE 1
GROUND WATER ELEVATIONS

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

<u>Monitoring Well</u>	<u>Date</u>	<u>Top of Riser Elevation (ft)^a</u>	<u>Depth to Water (ft)</u>	<u>Ground Water Elevation (ft)</u>	<u>Physical Observation of Free Product or Sheen</u>
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
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
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
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
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
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

TABLE 1-Continued

GROUND WATER ELEVATIONS

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

<u>Monitoring Well</u>	<u>Date</u>	<u>Top of Riser Elevation (ft)^a</u>	<u>Depth to Water (ft)</u>	<u>Ground Water Elevation (ft)</u>	<u>Physical Observation of Free Product or Sheen</u>
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
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
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
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
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
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

^a All top of riser elevations surveyed by Aegis Environmental.

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

TABLE 2
ANALYTICAL RESULTS OF GROUND WATER SAMPLES
Concentrations in parts per billion (ppb)

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

<u>Monitoring Well</u>	<u>Date Sampled</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Ethylbenzene</u>	<u>Xylenes</u>	<u>TPHg^a</u>
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
		2,400	74	650	510	12,000
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	<0.50	0.52	0.50	160
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					
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
	08/27/92	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	<0.50	<0.50	<0.50	<0.50	
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	<0.50	<0.50	<0.50	<0.50	<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	<0.50	<0.50	<0.50	<0.50	<50

TABLE 2-Continued

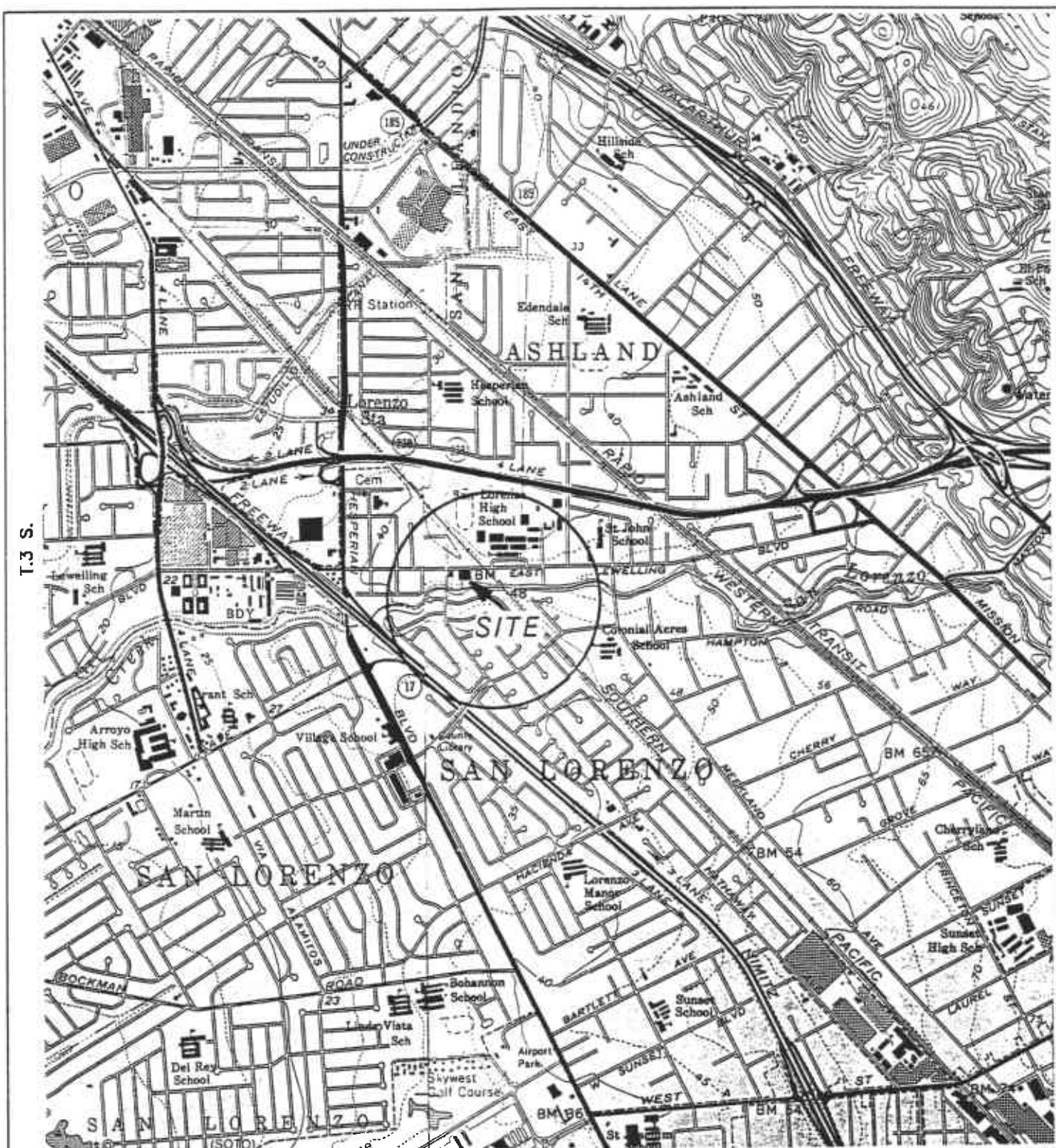
ANALYTICAL RESULTS OF GROUND WATER SAMPLES
 Concentrations in parts per billion (ppb)

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

<u>Monitoring Well</u>	<u>Date Sampled</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Ethylbenzene</u>	<u>Xylenes</u>	<u>TPHg^a</u>
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	[REDACTED]	<0.50	16	16	280
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	<0.50	<0.50	<0.50	<0.50	<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	<0.50	<0.50	<0.50	<0.50	<50
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
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	<0.50	<0.50	<0.50	<0.50	350
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

^a Total petroleum hydrocarbons as gasoline.

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



GENERAL NOTES:

BASE MAP FROM U.S.G.S.
HARWARD, GA

HAYWARD, CA.
7.5 MINUTE TOPOGRAPHIC
PHOTOREVISED 1980



QUADRANGLE LOCATION



SCALE 1 : 24,000

FIGURE 1

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

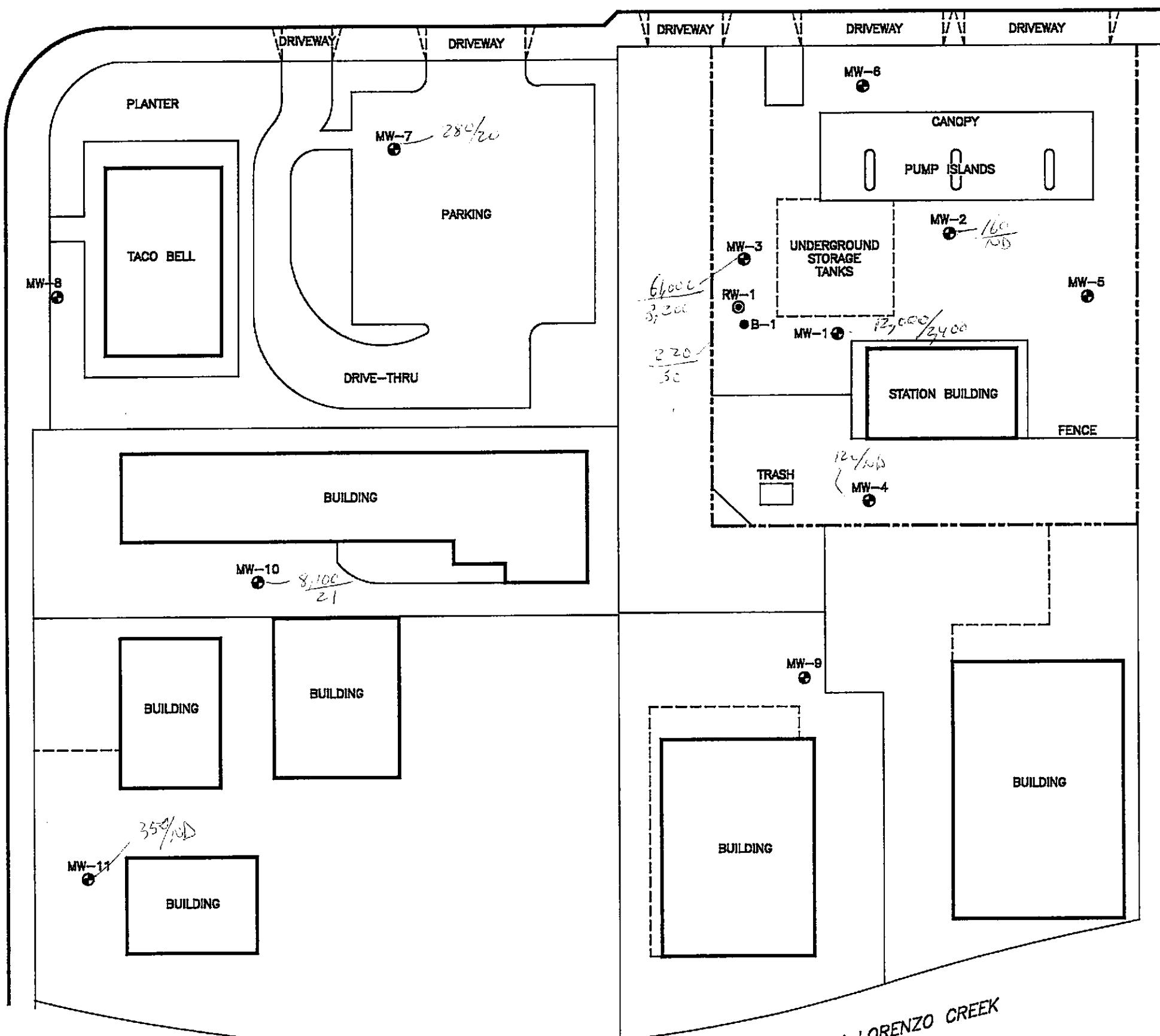
PROJECT NO. 40-93-936	DRAWN BY JH. 11/2/92	 Delta Environmental Consultants, Inc.
FILE NO. _____	PREPARED BY TMC	
REVISION NO. 1	REVIEWED BY <i>[Signature]</i>	



**Delta
Environmental
Consultants, Inc.**

LEWELLING BOULEVARD

VIA GRANADA



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

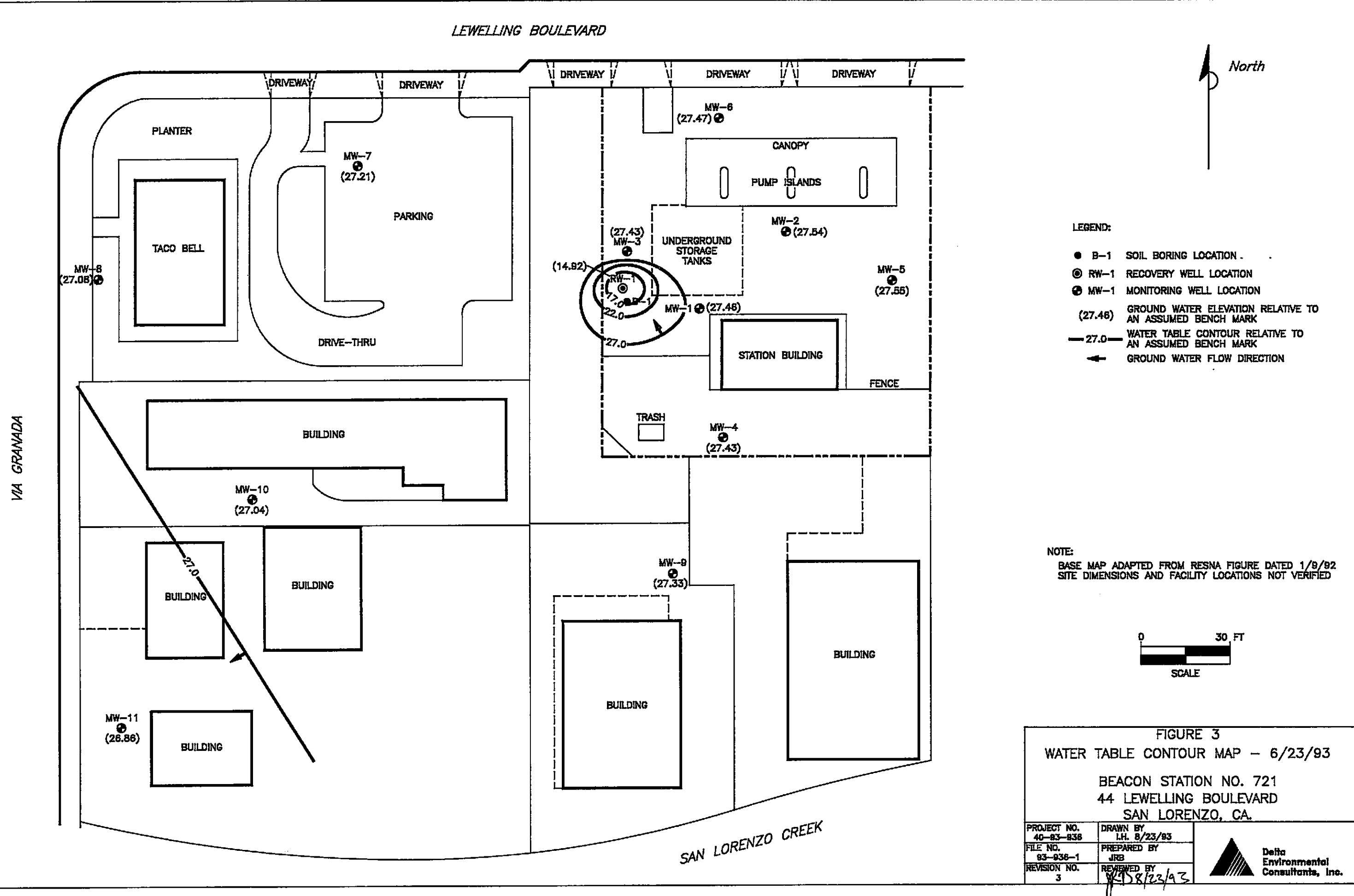


FIGURE 2
SITE VICINITY MAP

BEACON STATION NO. 721
44 LEWELLING BOULEVARD
SAN LORENZO, CA.

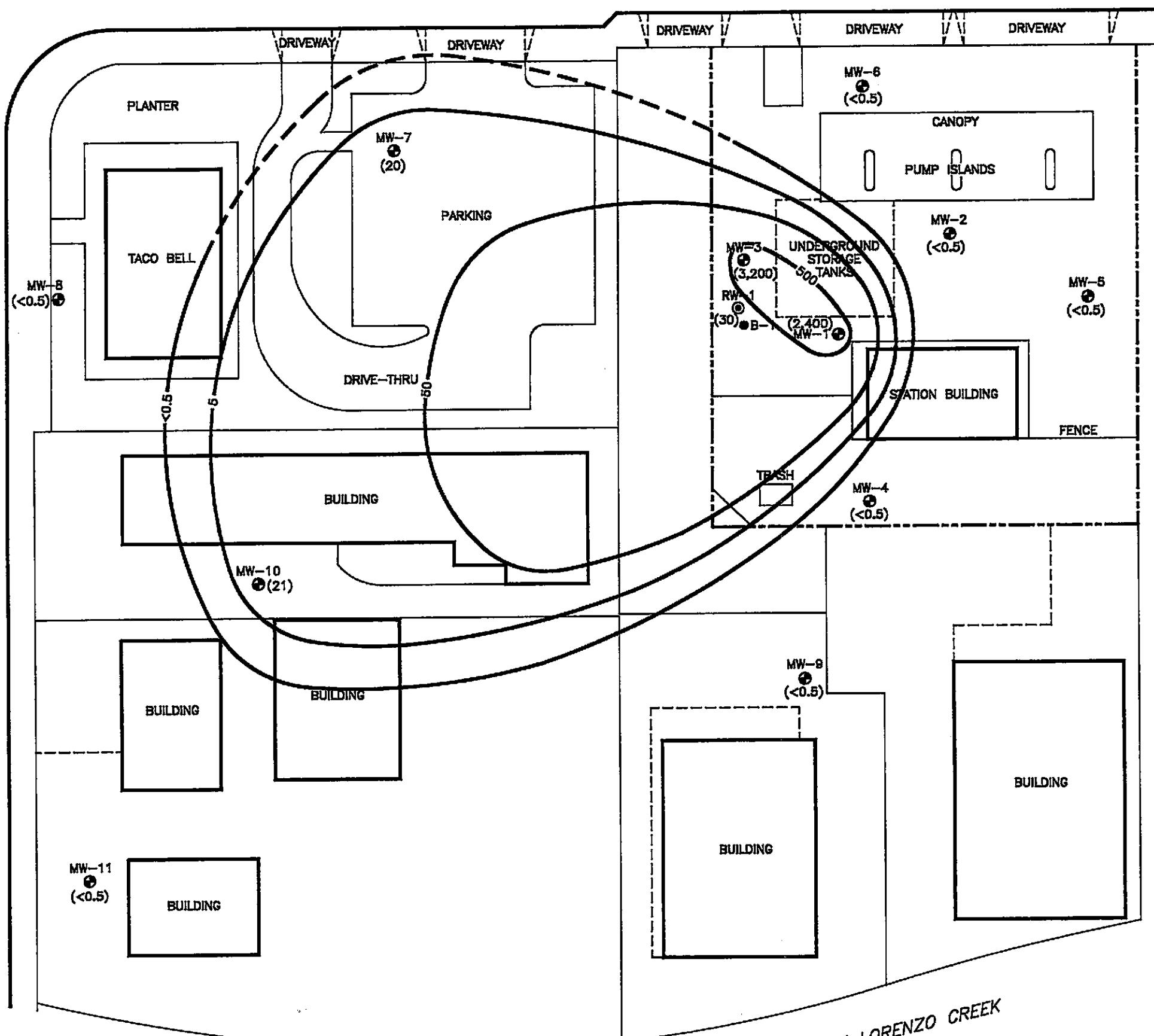
PROJECT NO. 40-93-938	DRAWN BY L.H. 8/11/93
FILE NO. 83-938-1	PREPARED BY JRB
REVISION NO. 1	REVIEWED BY JRB 8/11/93





LEWELLING BOULEVARD

VIA GRANADA



North

LEGEND:

- B-1 SOIL BORING LOCATION
- RW-1 RECOVERY WELL LOCATION
- ⊕ MW-1 MONITORING WELL LOCATION
- (2,400) BENZENE CONCENTRATION IN PARTS PER BILLION
- 50 — BENZENE ISOCONCENTRATION CONTOUR IN PARTS PER BILLION

NOTE:

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



FIGURE 4
BENZENE ISOCONCENTRATION CONTOUR MAP
6/23/93

BEACON STATION NO. 721
44 LEWELLING BOULEVARD
SAN LORENZO, CA.

PROJECT NO. 40-93-936	DRAWN BY L.H. 8/3/83
FILE NO. 93-936-1	PREPARED BY PVZ
REVISION NO. 1	REVIEWED BY RJH 8/11/93



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 DEVELOPMENT, PURGING, AND SAMPLING

Monitoring wells were purged and sampled using new disposable bailers. Ground water removed from the wells was stored in 55-gallon barrels at the site. The barrels were labeled with corresponding monitoring well numbers and date of purging. 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

Ground Water Elevation Summaries Prior to June 1993

TABLE 1
LIQUID LEVEL DATA

BEACON STATION #721
44 LEWELLING BOULEVARD, SAN LORENZO, CALIFORNIA
(Measurements in feet)

Monitoring Well	Date	Reference Elevation (top of casing) ¹	Depth to Groundwater ¹	Groundwater Elevation ²	Depth to Free Product ¹	Free Product Thickness	Well Depth	Comments
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	-	-	30.93	-
	02/03/93		15.91	27.76	-	-	31.11	-
MW-2	02/18/92	43.09	16.65	26.44	-	-	-	-
	05/14/92		16.64	26.45	-	-	-	-
	08/27/92		18.81	24.28	-	-	-	-
	11/19/92		19.91	23.18	-	-	32.18	-
	02/03/93		15.23	27.86	-	-	32.73	-
MW-3	02/18/92	43.10	18.89	26.21	-	-	-	-
	05/14/92		16.60	26.30	-	-	-	-
	08/27/92		18.98	24.12	-	-	-	-
	11/19/92		20.38	23.01*	20.00	0.38	-	-
	02/03/93		15.43	27.67*	15.45	0.02	29.52	Sailed off heavy 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	-	-	24.43	-
	02/03/93		16.98	27.68	-	-	24.53	-
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	-	-	28.80	-
	02/03/93		15.91	27.88	-	-	29.19	-

NOTES: ¹ Measurement and reference elevation taken from notch/mark on top north side of well casing.
 ² Elevation referenced to mean sea level.
 Corrected groundwater elevation = CDTW = DTW - (SP.G x LHT).
 CDTW = Corrected depth to water.
 DTW = Measured depth to water.
 SP.G. = Specific gravity; unweathered gasoline = 0.75, diesel = 0.80.
 LHT = Measured liquid hydrocarbon thickness.
 Not analyzed/not sampled.
 Well Depth = Measurement from top of casing to bottom of well.

TABLE I (CONTINUED)

LIQUID LEVEL DATA

BENSON STATION #721
 44 LEWELLING BOULEVARD, SAN LORENZO, CALIFORNIA
 (Measurements in feet)

Monitoring Well	Date	Reference Elevation (top of casing) ¹	Depth to Groundwater ¹	Groundwater Elevation ²	Depth to Free Product ¹	Free Product Thickness	Well Depth	Comments
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			28.54	
	11/19/92		19.30	23.17			28.64	
	02/03/93		14.60	27.87				
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			24.42	
	11/19/92		18.54	23.00			24.23	
	02/03/93		14.10	27.44				
MW-8	02/18/92	42.26	16.57	25.89				
	05/14/92		16.24	26.02				
	08/27/92		18.28	23.98			23.01	
	11/19/92		19.32	22.94			23.19	
	02/03/93		14.87	27.39				
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			23.61	
	11/19/92		21.90	23.04			23.52	
	02/03/92		17.25	27.69				
MW-10	02/18/92	42.34	16.63	25.71				
	05/14/92		15.25	27.09				
	08/27/92		18.35	23.90			29.61	
	11/19/92		19.43	22.91			29.55	
	02/03/92		15.01	27.33				

NOTES:

- ¹ Measurement and reference elevation taken from notch/mark on top north side of well casing.
- ² Elevation referenced to mean sea level.
- Corrected groundwater elevation = CDTW = DTW - (SP.G x LHT).
- CDTW = Corrected depth to water.
- DTW = Measured depth to water.
- SP.G. = Specific gravity: unweathered gasoline = 0.75, diesel = 0.90.
- LHT = Measured liquid hydrocarbon thickness.
- Not analyzed/not sampled.
- Well Depth = Measurement from top of casing to bottom of well.

TABLE 1 (CONTINUED)

LIQUID LEVEL DATA

BEACON STATION #721
 44 LEWELLING BOULEVARD, SAN LORENZO, CALIFORNIA
 (Measurements in feet)

Monitoring Well	Date	Reference Elevation (top of casing) ¹	Depth to Groundwater ¹	Groundwater Elevation ²	Depth to Free Product ¹	Free Product Thickness	Well Depth	Comments
MW-11	02/18/92	45.00	17.00	26.17	—	—	—	—
	05/14/92		19.02	25.98	—	—	—	—
	08/27/92		21.13	23.87	—	—	—	—
	11/19/92		17.91	22.77	—	—	29.37	—
	02/03/92		—	27.09	—	—	29.42	—
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 ^a	21.10	0.01	—	—
	02/03/92		15.48	27.69	—	—	36.36	—

NOTES:

- Measurement and reference elevation taken from notch/mark on top north side of well casing.
- Elevation referenced to mean sea level.
- Corrected groundwater elevation = CDTW = DTW - (SP.G x LHT).
- CDTW = Corrected depth to water.
- DTW = Measured depth to water.
- SP.G. = Specific gravity; unweathered gasoline = 0.75, diesel = 0.80.
- LHT = Measured liquid hydrocarbon thickness.
- Not analyzed/not sampled.
- Well Depth: Measurement from top of casing to bottom of well.

ENCLOSURE C

Field Sampling Data Sheets

SAMPLING INFORMATION SHEET

Weather Conditions

Cloud Cover: noneTemperature: Hot 85°FWind Speed: 0-3

GENERAL CONDITIONS

Sample ID: MW. 3Project: San Lorenzo Barron # 721

Location:

W.O.: 4092812Sampling Point: M.W. 3Date Sampled: 6/23/93Time: 13:35

Describe Sampling Point:

see site mapWell Depth: 29.3

ft. below MP.

Casing diameter: 2 inchesDepth to water (below MP): 15.67 ft.Date: 6/23/93Time: 08:59

Discharge rate:

GPM = 0.00223 = _____ cts.At least 3 Well volumes have been evacuated before sampling.Sampling Method: Top

Submersible pump

 Ruler

Other _____

Pump intake or baffle set at _____ ft. below MP

Tubing type: disposableLiner (or previously used) was used to collect all samples Yes Noand all field measurements Yes No. Tubing was used only for MW. 3Sample appearance: cloudy

Note any sampling problems:

Note any cleaning performed in the field: SlopeSamples collected: 2 VOA BTEx, TPH_{cgs}

EVACUATION/STABILIZATION TEST DATA

Time	pH Units	Temperature Corrected Conductance (umhos/cm)	Temperature (F)	Water Level (Nearest 0.01 ft.)	Cumulative Volume of Water Removed from Well (gallons)	Pumping Rate (gpm)
	—	—	—	—	0	
				—	4	
				—	5	
				—	7.0	

Bailing start time: 13:25W.L. 15.67Bailing stop time: 13:35W.L. 15.99Comments: heavy odor slight sheen on purge water →
No pH / cond / temp takenTransportation (thermed preservation): Ice & chestForm completed by: JWB TJNSampled by: JWB REC

SAMPLING INFORMATION SHEET

Weather Conditions: Cloud Cover: none Temperature: Hot 75°F
 Wind Speed: 0-3

GENERAL CONDITIONS

Sample ID: MW. 9 Project: SAN Lorenzo Beacon # 721
 Location: W.L. # 4092812
 Sampling Point: M.W. 9 Date Sampled: 6, 23, 93 Time: 09:45
 Describe Sampling Point: see site map

Well Depth: 23.80 ft. below MP Casing diameter: 2 inches
 Depth to water (below MP): 17.61 ft. Date: 6, 23, 93 Time: 08:20
 Discharge rate: 0.000000 cts.
 At least: 3 Well volumes have been evacuated before sampling.
 Sampling Method: Tap Submersible pump: Bailer: Other:
 Pump intake or bailer set at: ft. below MP
 Tubing (type): disposable L never or previously used was used to collect all samples Yes No
 and all field measurements (△ Yes Not) Tubing was used only for: MW. 9
 Sample appearance: clear
 Note any sampling problems: _____
 Note any cleaning performed in the field: None
 Samples collected: 2 VOA BTEX, TPH_{cgs}

EVACUATION/STABILIZATION TEST DATA

Time	pH Units	Temperature Corrected Conductance (mmhos/cm)	Temperature (F)	Water Level (Nearest 0.01 ft.)	Cumulative Volume of Water Removed from Pumping Rate Well (gallons) (gpm)
	—	—	—	—	0
6.99	1254	67	—	1	
6.82	1304	67	—	2	
6.80	1306	68	—	3	

Bailing start time: 09:38

WL: 17.61

Bailing stop time: 09:43

WL: 18.00

Comments: _____

Transportation (thermal preservation): Ice & chest

Form completed by: JWB / TJK Sampled by: JWB / REC

Weather Conditions
Cloud Cover:

SAMPLING INFORMATION SHEET

none

Temperature: Hot 75°F

Wind Speed: 0-3

GENERAL CONDITIONS

Sample ID: MW-8

Project: SAN Lorenzo Beacon #721

Location:

W.A.: 4092812

Sampling Point: M.W. 8

Date Sampled:

6, 23, 93

Time: 09:59

Describe Sampling Point:

See Site Map

Well Depth: 23.20 ft below MP Casing diameter: 2 inches

Depth to water (below MP): 15.18 ft Date: 6, 23, 93 Time: 08:31

Discharge rate: 20m³ x 0.00223 = cts

At least 3 Well volumes have been evacuated before sampling.

Sampling Method: Tap Submersible pump Boiler Other _____

Pump intake or boiler set at ft. below MP

Tubing type: disposable 1 (new or previously used) was used to collect all samples Yes No and all field measurements (Yes Not). Tubing was used only for MW-8

Sample appearance: cloudy

Note any sampling problems:

Note any cleaning performed in the field: Slope

Samples collected: 2 VOA BTEX, TPH(cg)

EVACUATION/STABILIZATION TEST DATA

Time	pH Units	Temperature Corrected Conductance (mhos/cm)	Temperature (F)	Water Level (Nearest 0.01 ft.)	Cumulative Volume of Water Removed from Well (gallons)	Pumping Rate (gpm)
	—	—	—	—	0	
6.94	7.11	66	—	2.0		
6.97	7.16	66	—	3.0		
7.00	7.18	66	—	4.0		

Boiling start time: 09:53

WL: 15.18

Boiling stop time: 09:59

WL: 15.80

Comments: _____

Transportation (thermal preservation): Ice & chest

Form completed by: JWB / TJR

Sampled by: JWB / REC

SAMPLING INFORMATION SHEET

Weather Conditions

Cloud Cover: noneTemperature: Hot 75°FWind Speed: 0-3

GENERAL CONDITIONS

Sample ID: MW-11Project: SAN Lorenzo Beracan #721

Location:

W.L.: 4092.812Sampling Point: M.W. 11

Date Sampled:

6, 23, 93

Time: 10:19Describe Sampling Point: See Site MapWell Depth: 29.50 ft. below MP.Casing diameter: 2 inchesDepth to water (below MP): 18.14 ft.Date: 6, 23, 93Time: 08:24Discharge rate: 0.000000 cts.At least 3 Well volumes have been evacuated before sampling.Sampling Method: Tap Submersible pump Ruler Other

Pump intake or bailed out at _____ ft. below MP

Tubing (type): disposable New (or previously used) was used to collect all samples Yes No
and all field measurements (Yes No) Tubing was used only for MW-11Sample appearance: clear

Note any sampling problems:

Note any cleaning performed in the field: SlopeSamples collected: 2 VOC BTEX, TPH_{cug}

EVACUATION/STABILIZATION TEST DATA

Time	pH Units	Temperature Corrected Conductance (mmhos/cm)	Temperature (°F)	Water Level (Nearest 0.01 ft.)	Cumulative Volume of Water Removed from Pumping Rate Well (gallons) (gpm)
	—	—	—	—	0
6.89	849	65	—	2	
6.89	895	65	—	4	
	6.89	894	65	—	6.0

Bailing start time: 10:07WL: 18.14Bailing stop time: 10:18WL: 18.21

Comments: _____

Transportation (thermal preservation): Ice & chestForm completed by: JWB / TJK Sampled by: JWB / REC

SAMPLING INFORMATION SHEET

Weather Conditions

Cloud Cover: noneTemperature: Hot 75°FWind Speed: 0-3

GENERAL CONDITIONS

Sample ID: MW-10Project: San Lorenzo Beacon #721

Location:

W.L.: 4092812Sampling Point: M.W. 10

Date Sampled:

6/23/93Time: 10:46

Describe Sampling Point:

See Site MapWell Depth: 29.5 ft below MPCasing diameter: 2 inchesDepth to water (below MP): 15.30 ft.Date: 6/23/93Time: 08:50Discharge rate: cm = 0.07774 = ccAt least 3 Well volumes have been evacuated before sampling.Sampling Method: Tee Submersible pump Bailer Other

Pump intake or bailed set at _____ ft. below MP

Tubing type: disposable L (new or previously used) was used to collect all samples Yes No
and all field measurements (A Yes N No) Tubing was used only for MW-10Sample appearance: Clear

Note any sampling problems:

Note any cleaning performed in the field: SlopeSamples collected: 2 VOC BTEX, TPH_{cug}

EVACUATION/STABILIZATION TEST DATA

Time	pH Units	Temperature Corrected Conductance (mmhos/cm)	Temperature (°F)	Water Level (Nearest 0.01 ft.)	Cumulative Volume of Water Removed from Well (gallons)	
					Pumping Rate (gpm)	
	—	—	—	—	—	0
7.05	844	66	—	—	2.5	
6.91	854	66	—	—	5.0	
6.97	875	66	—	—	7.0	

Bailing start time:

10:33WL: 15.30

Bailing stop time:

10:45WL: 15.33Comments: odor from purgewater, no sheenTransportation (thermed preservation): Ice & chestForm completed by: JWB/TJK

Sampled by:

JWB/REC

SAMPLING INFORMATION SHEET

Weather Conditions

Cloud Cover: none

Temperature:

Hot 75°F

Wind Speed:

0-3

GENERAL CONDITIONS

Ssample ID: M.W. 7

Project: SAN Lorenzo Beacon #721

Location:

W.L.: 4092812

Sampling Point: M.W. 7

Date Sampled:

6, 23, 93

Time: 11:15

Describe Sampling Point:

See Site Map

Well Depth: 24.3

ft. below MP:

Casing diameter: 2 inches

Depth to water (below MP):

14.33

ft.

Date: 6, 23, 93

Time: 08:53

Discharge rate:

$Q = 0.00223 \times$

cfs

At least: 3

Well volumes have been evacuated before sampling.

Sampling Method: Tap

Submersible pump

Ruler

Other

Pump intake or baster set at

ft. below MP

Tubing (type): disposable

1 (new or previously used) was used to collect all samples

Yes No

and all field measurements (Yes Not). Tubing was used only for M.W. 7

Sample appearance: clear

Note any sampling problems:

Note any cleaning performed in the field: None

Samples collected: 2 VOA BTEX, TPH_{c5})

EVACUATION/STABILIZATION TEST DATA

Time	pH Units	Temperature Corrected Conductance (mmhos/cm)	Temperature (°F)	Water Level (Nearest 0.01 ft.)	Cumulative Volume of Water Removed from Pumping Rate Well (gallons) (gpm)
	—	—	—	—	0
6.40	1423	68	—	3	
6.44	1337	69	—	4	
6.49	1362	69	—	5.0	

Bailing start time: 11:05

WL: 14.33

Bailing stop time: 11:14

WL: 14.62

Comments:

Transportation (thermed preservation): Ice & chest

Form completed by: JWB/TJK

Sampled by: JWB/REL

SAMPLING INFORMATION SHEET

Weather Conditions

Cloud Cover: noneTemperature: Hot 80°FWind Speed: 0-3

GENERAL CONDITIONS

Sample ID: MW-5Project: SAN LORENZO Bunker #721

Location:

W.L.: 4092812Sampling Point: M.W. 5Date: 6/23/93Time: 11:38Describe Sampling Point: See Site MapWell Depth: 29.20 ft below MP.Casing diameter: 2 inchesDepth to water (below MP): 16.24 ft.Date: 6/23/93Time: 08:35Discharge rate: 0.00023 cts.At least 3 Well volumes have been evacuated before sampling.Sampling Method: Tub Submersible pump Ruler Other

Pump intake or baster set at _____ ft below MP

Tubing type: disposable (never or previously used) was used to collect all samples Yes — No
and all field measurements (Yes — No) Tubing was used only for MW-5Sample appearance: slightly cloudy

Note any sampling problems:

Note any cleaning performed in the field: SlopeSamples collected: 2 VOA BTEX, TPH_{cug}

EVACUATION/STABILIZATION TEST DATA

Time	pH Units	Temperature Corrected Conductance (mmhos/cm)	Temperature (°F)	Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Pumping Rate Well (gallons)
	—	—	—	—	0
7.28	868	68	—	4	
7.29	813	68	—	5	
7.25	879	68	—	6.5	

Bailing start time: 11:27WL: 16.24Bailing stop time: 11:37WL: 16.39

Comments:

Transportation (thermed preservation): Ice & chestForm completed by: JWB / TJKSampled by: JWB / REC

SAMPLING INFORMATION SHEET

Weather Conditions

Cloud Cover: noneTemperature: Hot 80°FWind Speed: 0-3

GENERAL CONDITIONS

Sample ID: MW-6Project: SAN Lorenzo Beacon #721

Location:

W.L.: 4092812Sampling Point: MW-6 Date Sampled: 6/23/93Time: 12:01Describe Sampling Point: See Site MapWell Depth: 28.70 ft. below MP.Casing diameter: 2 inchesDepth to water (below MP): 15.00 ft.Date: 6/23/93Time: 08:39Discharge rate: 200 ± 0.02223 cfs.At least 3 well volumes have been evacuated before sampling.Sampling Method: Tao Submersible pump Bailer Other

Pump intake or bailer set at _____ ft. below MP

Tubing (type: disposable) 1 (new or previously used) was used to collect all samples Yes No
and all field measurements (A Yes N Not). Tubing was used only for MW-6Sample appearance: cloudy

Note any sampling problems:

Note any cleaning performed in the field: SlopeSamples collected: 2 VOC BTEX, TPH_{c/g}

EVACUATION/STABILIZATION TEST DATA

Time	pH Units	Temperature Corrected Conductance (umhos/cm)	Temperature (°F)	Water Level (Nearest 0.01 ft.)	Cumulative Volume of Water Removed from Pumping Rate Well (gallons) (gpm)
	—	—	—	—	0
7.24	9.88	68	—	2.5	
7.18	9.40	68	—	5.0	
7.12	10.80	68	—	7.0	

Bailing start time: 11:48WL: 15.00Bailing stop time: 12:00WL: 15.58

Comments: _____

Transportation (shipped preservation): Ice & chestForm completed by: JWB / TJK Sampled by: JWB / RCL

SAMPLING INFORMATION SHEET

Weather Conditions

Cloud Cover: noneTemperature: Hot 83°FWind Speed: 0-3

GENERAL CONDITIONS

Sample ID: MW-2Project: SAN LORENZO BARRACON #721

Location:

W.L.: 4092.812Sampling Point: M.W. 2

Date Sampled:

6, 23, 93

Time: 12:25Describe Sampling Point: SEE SITE MAPWell Depth: 33.30 ft. below MP.Casing diameter: 2 inchesDepth to water (below MP): 15.55 ft.Date: 6, 23, 93Time: 08:42Discharge rate: 200 ± 0.00005 cfsAt least 3 Well volumes have been evacuated before sampling.Sampling Method: Top Submersible pump Bailer Other _____

Pump Intake or bailed set at _____ ft. below MP

Tubing (type): DISPOSABLE 1 (new or previously used) was used to collect all samples Yes No and all field measurements (1 Yes 0 Not). Tubing was used only for MW. 2Sample appearance: CLEAR

Note any sampling problems: _____

Note any cleaning performed in the field: SlopeSamples collected: 2 VOC BTEX, TPH_c₉)

EVACUATION/STABILIZATION TEST DATA

Time	pH Units	Temperature Corrected Conductance (umhos/cm)	Temperature (°F)	Water Level (Nearest 0.01 ft.)	Cumulative Volume of Water Removed from Pumping Rate Well (gallons)	Pumping Rate (gpm)
	—	—	—	—	0	
	6.88	1571	70	—	5.0	
	6.87	1601	69	—	1.0	
	6.90	1578	70	—	9.0	

Bailing start time: 12:10WL: 15.55Bailing stop time: 12:24WL: 15.92

Comments: _____

Transportation (thermed preservation): Ice & chestForm completed by: JWB / TKL

Sampled by:

JWB / REC

SAMPLING INFORMATION SHEET

Weather Conditions

Cloud Cover: noneTemperature: Hot 85°FWind Speed: 0-3

GENERAL CONDITIONS

Sample ID: MW-4Project: SAN LORENZO BARRACON #721

Location:

W.L.: 40 92 812Sampling Point: M.W. 4Date Sampled: 6, 23, 93Describe Sampling Point: see site mapTime: 12:43Well Depth: 24.60 ft below MPCasing diameter: 2 inchesDepth to water (below MP): 17.23 ftDate: 6, 23, 93Time: 08:47Discharge rate: 0.00223 cfsAt least 3 Well volumes have been evacuated before sampling.Sampling Method: Tee Submersible pump Boiler Other

Pump intake or boiler set at _____ ft below MP

Tubing type: disposable 1 (new or previously used) was used to collect all samples Yes No
and all field measurements (A Yes N Not) Tubing was used only for MW-4Sample appearance: clear

Note any sampling problems:

Note any cleaning performed in the field: SlopeSamples collected: 2 VOA PTEX, TPH_{c/g}

EVACUATION/STABILIZATION TEST DATA

Time	pH Units	Temperature Corrected Conductance (mmhos/cm)	Temperature (°F)	Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)	Pumping Rate (gpm)
	—	—	—	—	0	
7.10	1464	70	—	2		
7.01	1460	69	—	3		
6.98	1469	69	—	4.0		

Bailing start time: 12:36WL: 17.23Bailing stop time: 12:42WL: 17.60

Comments:

Transportation (thermal preservation): Ice & chestForm completed by: JWB/HJMSampled by: JWB/RER

SAMPLING INFORMATION SHEET

Weather Conditions

Cloud Cover: none

Temperature: Hot 85°F

Wind Speed: 0-3

GENERAL CONDITIONS

Sample ID: MW-1

Project: San Lorenzo Beacon #721

Location:

W.L.: 4092.812

Sampling Point: M.W.

Date Sampled:

6/23/93

Time: 13:14

Describe Sampling Point:

See Site Map

Well Depth: 31.2 ft below MP

Casing Diameter: 2 inches

Depth to water (below MP): 16.21 ft

Date: 6/23/93

Time: 08:55

Discharge rate: 0.00223 gpm

At least 3 Well volumes have been evacuated before sampling.

Sampling Method: Tap Submersible pump Boiler Other

Pump intake or boiler set at _____ ft below MP

Tubing type: disposable 1 (new or previously used) was used to collect all samples Yes No
and all field measurements (A Yes B Not) Tubing was used only for MW.

Sample appearance: clear

Note any sampling problems:

Note any cleaning performed in the field: Slope

Samples collected: 2 VOA BTEX, TPH_{c/g}

EVACUATION/STABILIZATION TEST DATA

Time	pH Units	Temperature Corrected Conductance (mmhos/cm)	Temperature (°F)	Water Level (Nearest 0.01 ft.)	Cumulative Volume of Water Removed from Pumping Rate Well (gallons)
	—	—	—	—	0
6.74	1741	73°	—	3.5	
6.91	1355	71	—	5	
6.85	1519	71	—	7.5	

Boiling start time: 12:58 W.L. 6.21'

Boiling stop time: 13:13 W.L. 6.43

Comments: large water has odor, no sheen, used consistent temperatures and pH basis for representative sample

Transportation (thermal preservation): Ice & chest

Form completed by: JWB/TJK

Sampled by: JWB/RD



ANALYTICAL LABORATORY

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

Page: 2 of 2
June 9, 1993
Western Environmental Science
& Technology

Anlab I.D. AC12321

SAMPLE DESCRIPTION: TANK SAMPLE 5 #

Sample collection date: 05/28/93

Lab submittal date: 06/02/93

Turn-Around-Time: RUSH 5

Client Code: 315

Matrix: W

Time: 14:30

Time: 17:33

Sample Disposal: LAB

TEST PARAMETER	UNITS	TEST RESULT	DETECTION LIMIT
Tot. Suspended Solids, EPA 160.2	mg/l	3.5	3.0

ND = Not Detected

* Increased detection limit due to limited sample volume.

Sample labeled Tank Sample 5 was a replacement of Tank Sample 6 submitted on 6/1/93 which was incorrectly preserved.

Report Approved By: Marilyn Fua

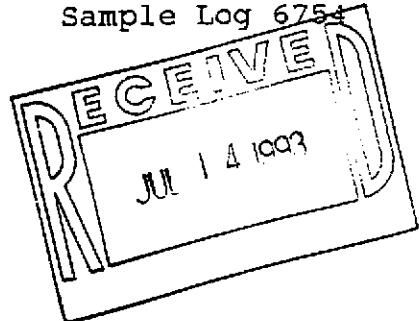
:1mr

ENCLOSURE D

Ground Water Sample Laboratory Reports



July 6, 1993
Sample Log 6754



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

Subject: Analytical Results for 12 Water Samples
Identified as: Project # 40-92-812 (Beacon 721)
Received: 06/24/93

Dear Mr. Galati:

Analysis of the sample(s) referenced above has been completed. This report is written to confirm results communicated on July 6, 1993 and describes procedures used to analyze the samples.

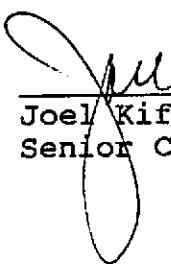
Sample(s) were received in 40-milliliter glass vials sealed with TFE lined septae and plastic screw-caps. Each sample was transported and received under documented chain of custody and stored at 4 degrees C until analysis was performed.

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 916-757-4650 if you have questions regarding procedures or results. The chain-of-custody document is enclosed.

Approved by:



Joel Kiff
Senior Chemist

WEST

Sample Log 6754
6754-1

Sample: MW-9

From : Project # 40-92-812 (Beacon 721)

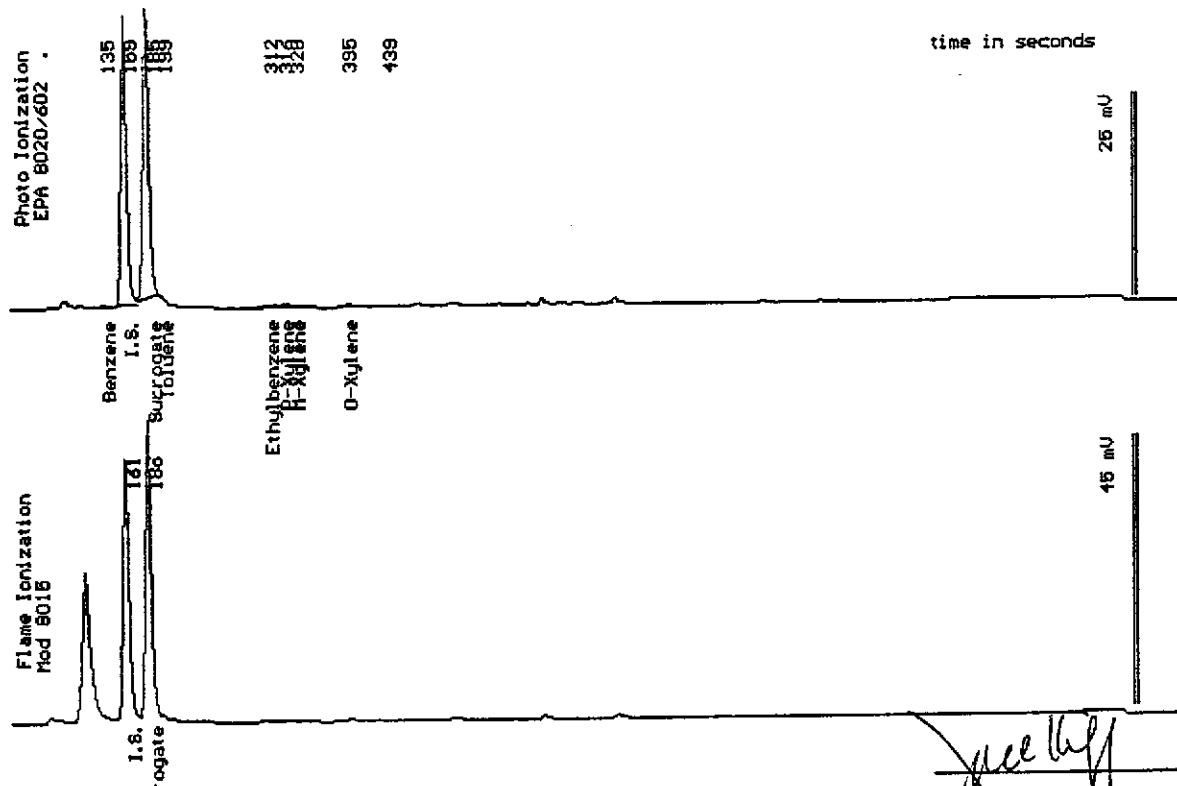
Sampled : 06/23/93

Dilution : 1:1

QC Batch : 4016C

Matrix : Water

Parameter	(MRL) $\mu\text{g/L}$	Measured Value $\mu\text{g/L}$
Benzene	(.50)	<.50
Toluene	(.50)	<.50
Ethylbenzene	(.50)	<.50
Total Xylenes	(.50)	<.50
TPH as Gasoline	(50)	<50
Surrogate Recovery		115 %



Date Analyzed: 05-29-93
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

~~Joel Kiff
Senior Chemist~~



Sample Log 6754
6754-2

Sample: MW-8

From : Project # 40-92-812 (Beacon 721)

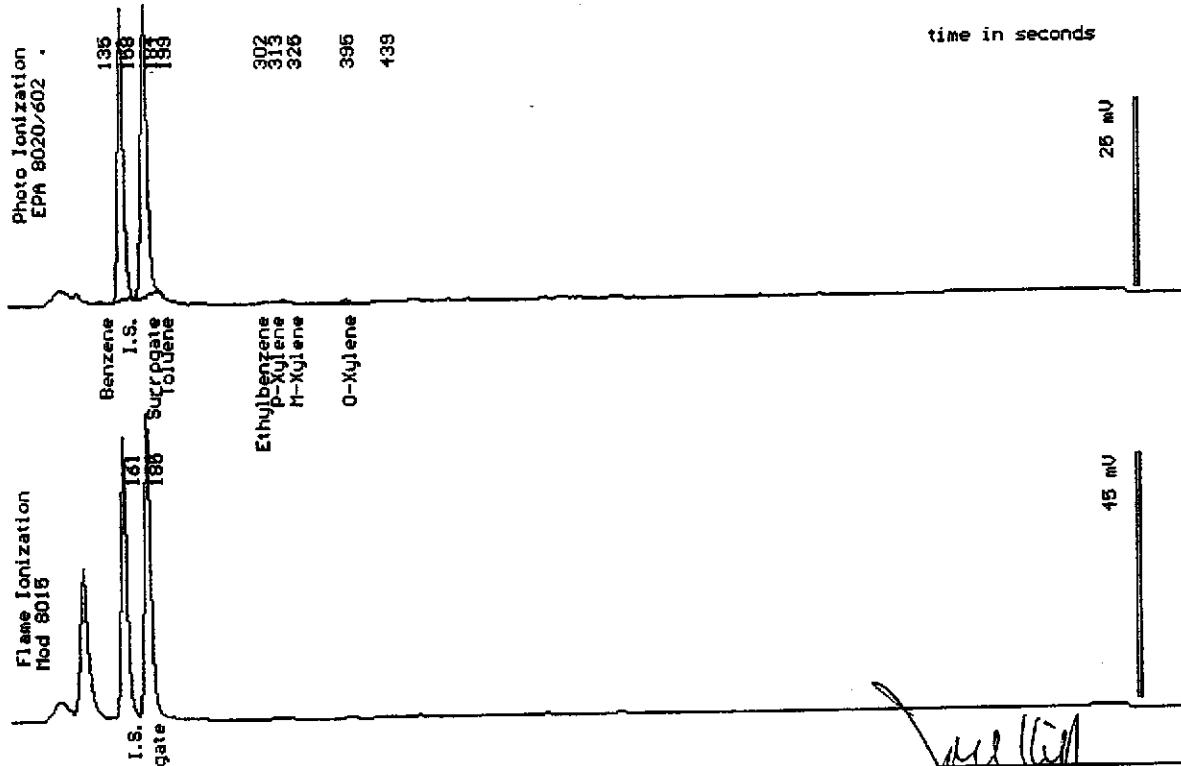
Sampled : 06/23/93

Dilution : 1:1

QC Batch : 4016C

Matrix : Water

Parameter	(MRL) $\mu\text{g/L}$	Measured Value $\mu\text{g/L}$
Benzene	(.50)	<.50
Toluene	(.50)	<.50
Ethylbenzene	(.50)	<.50
Total Xylenes	(.50)	<.50
TPH as Gasoline	(50)	<50
Surrogate Recovery		116 %



Date Analyzed: 06-29-93
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

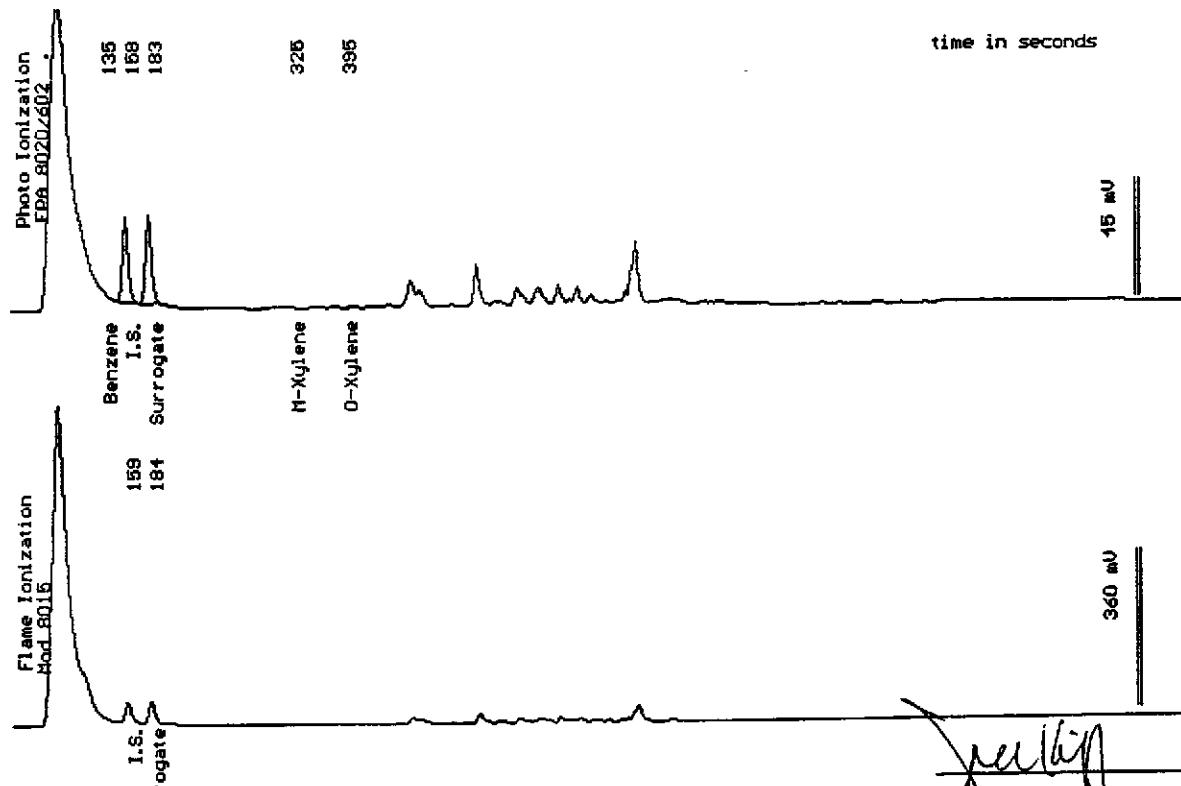


Sample Log 6754
6754-3

Sample: MW-11

From : Project # 40-92-812 (Beacon 721)
Sampled : 06/23/93
Dilution : 1:1 QC Batch : 4016C
Matrix : Water

Parameter	(MRL) $\mu\text{g/L}$	Measured Value $\mu\text{g/L}$
Benzene	(.50)	<.50
Toluene	(.50)	<.50
Ethylbenzene	(.50)	<.50
Total Xylenes	(.50)	<.50
TPH as Gasoline	(50)	350
Surrogate Recovery		111 %



Date Analyzed: 06-29-93
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Joel Kiff
Senior Chemist



Sample Log 6754
6754-4

Sample: MW-10

From : Project # 40-92-812 (Beacon 721)

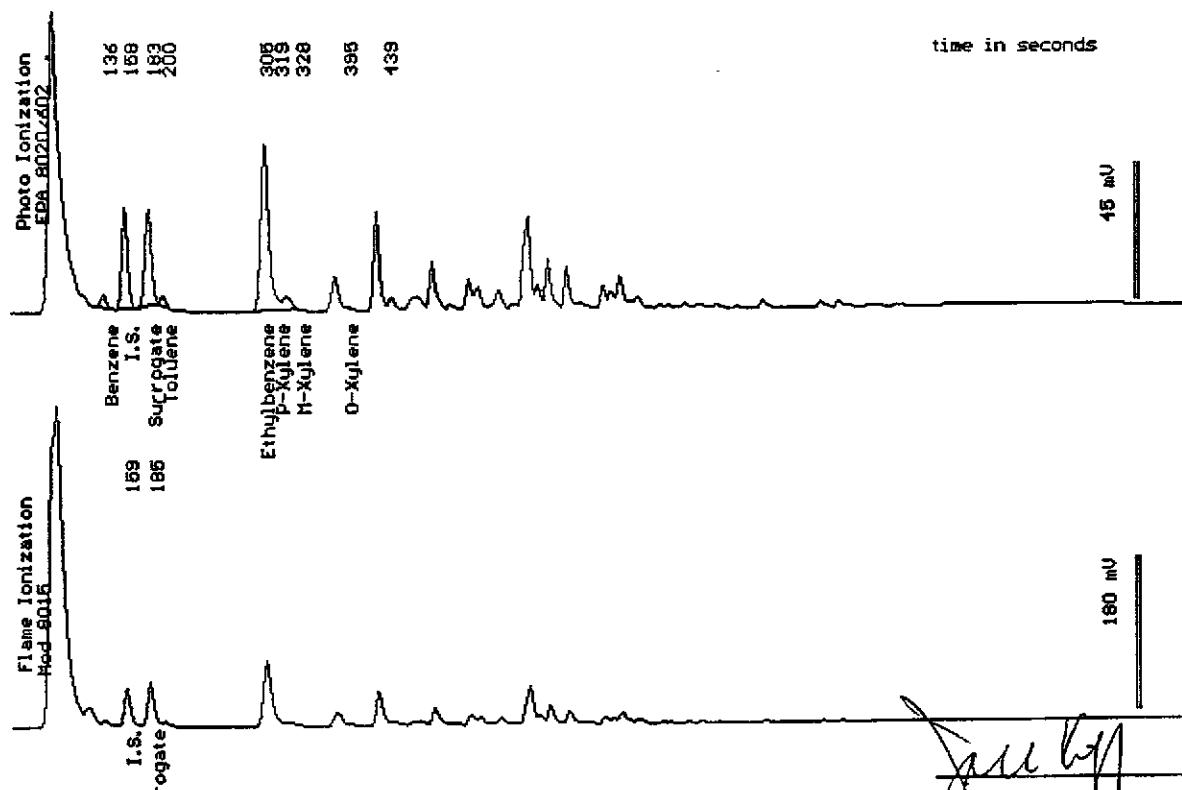
Sampled : 06/23/93

Dilution : 1:10

QC Batch : 4016C

Matrix : Water

Parameter	(MRL) $\mu\text{g/L}$	Measured Value $\mu\text{g/L}$
Benzene	(5.0)	21
Toluene	(5.0)	24
Ethylbenzene	(5.0)	540
Total Xylenes	(5.0)	45
TPH as Gasoline	(500)	8100
Surrogate Recovery		110 %



Date Analyzed: 06-29-93
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Joel Kiff
Senior Chemist



Sample Log 6754
6754-5

Sample: MW-7

From : Project # 40-92-812 (Beacon 721)

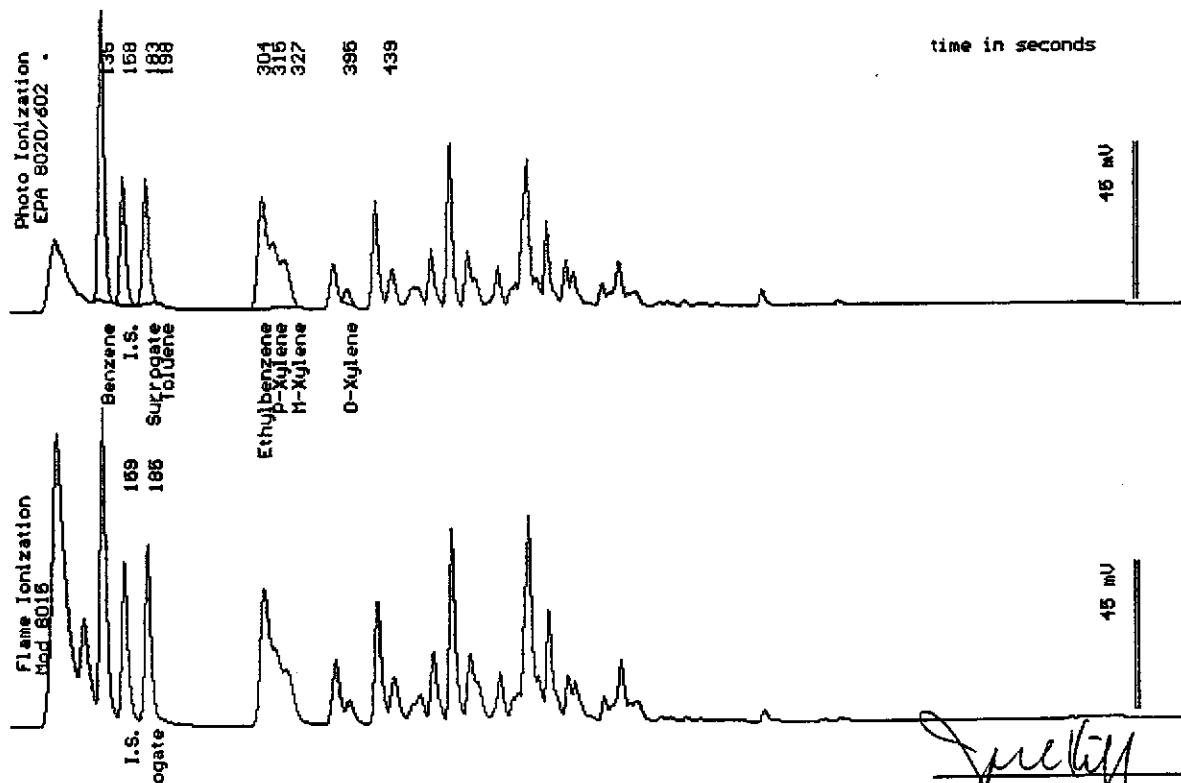
Sampled : 06/23/93

Dilution : 1:1

QC Batch : 4016C

Matrix : Water

Parameter	(MRL) $\mu\text{g/L}$	Measured Value $\mu\text{g/L}$
Benzene	(.50)	20
Toluene	(.50)	<.50
Ethylbenzene	(.50)	16
Total Xylenes	(.50)	16
TPH as Gasoline	(50)	280
Surrogate Recovery		108 %



Date Analyzed: 06-29-93
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Joel Kiff
Senior Chemist



Sample Log 6754
6754-6

Sample: MW-5

From : Project # 40-92-812 (Beacon 721)

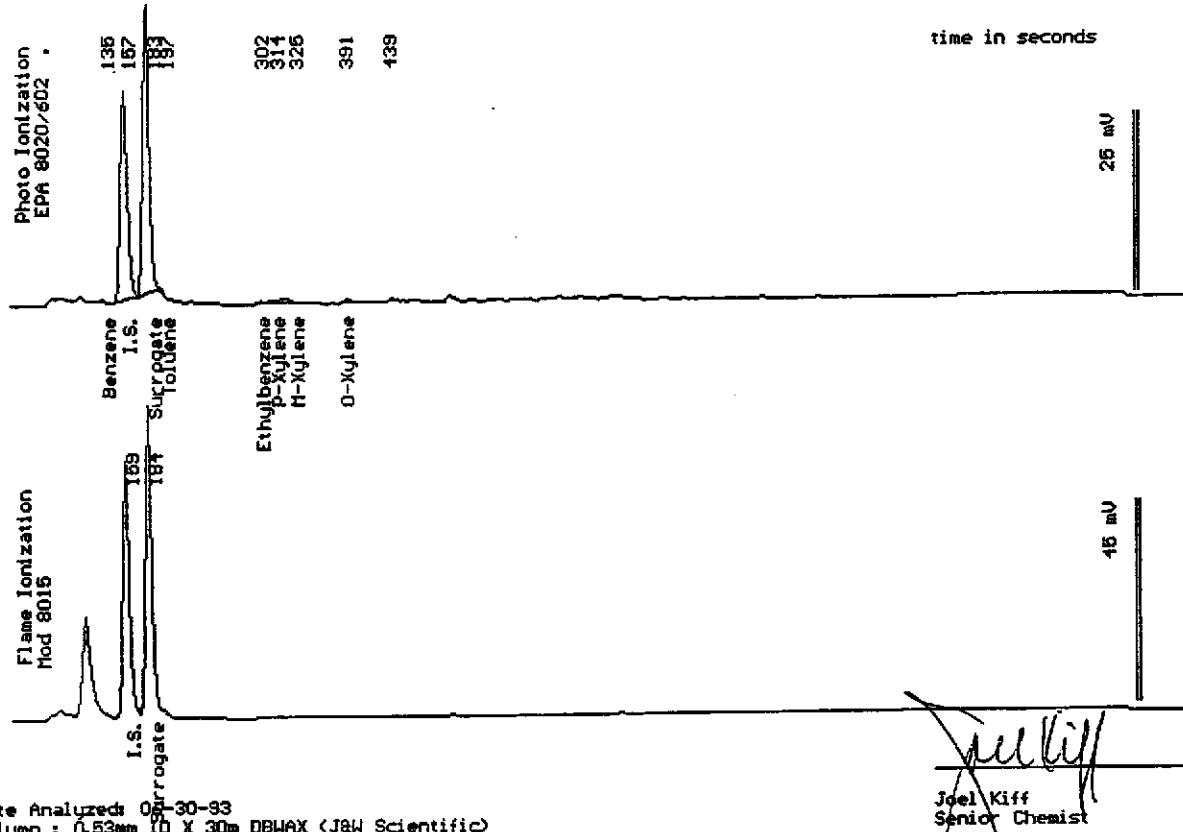
Sampled : 06/23/93

Dilution : 1:1

QC Batch : 4016C

Matrix : Water

Parameter	(MRL) $\mu\text{g/L}$	Measured Value $\mu\text{g/L}$
Benzene	(.50)	<.50
Toluene	(.50)	<.50
Ethylbenzene	(.50)	<.50
Total Xylenes	(.50)	<.50
TPH as Gasoline	(50)	<50
Surrogate Recovery		124 %



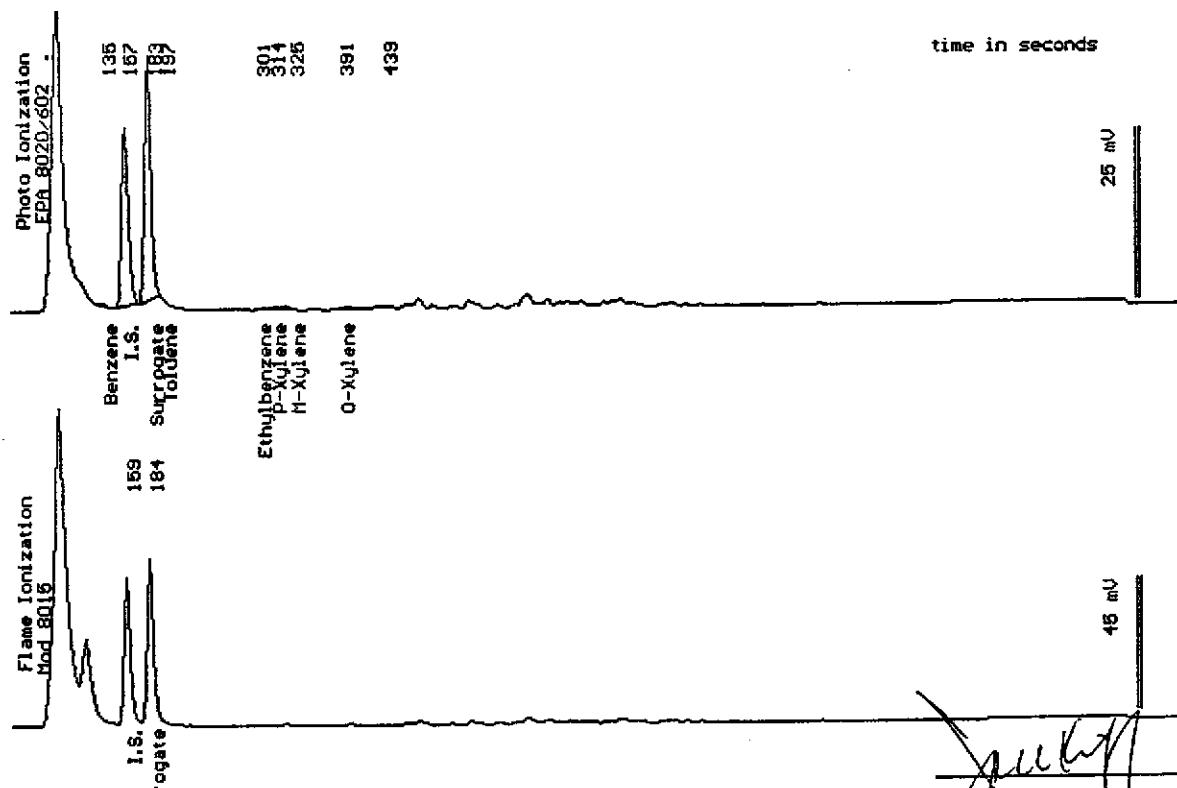


Sample Log 6754
6754-7

Sample: MW-6

From : Project # 40-92-812 (Beacon 721)
Sampled : 06/23/93
Dilution : 1:1 QC Batch : 4016C
Matrix : Water

Parameter	(MRL) $\mu\text{g/L}$	Measured Value $\mu\text{g/L}$
Benzene	(.50)	<.50
Toluene	(.50)	<.50
Ethylbenzene	(.50)	<.50
Total Xylenes	(.50)	<.50
TPH as Gasoline	(50)	<50
Surrogate Recovery		125 %



Date Analyzed: 06-30-93
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Joel Kiff
Senior Chemist

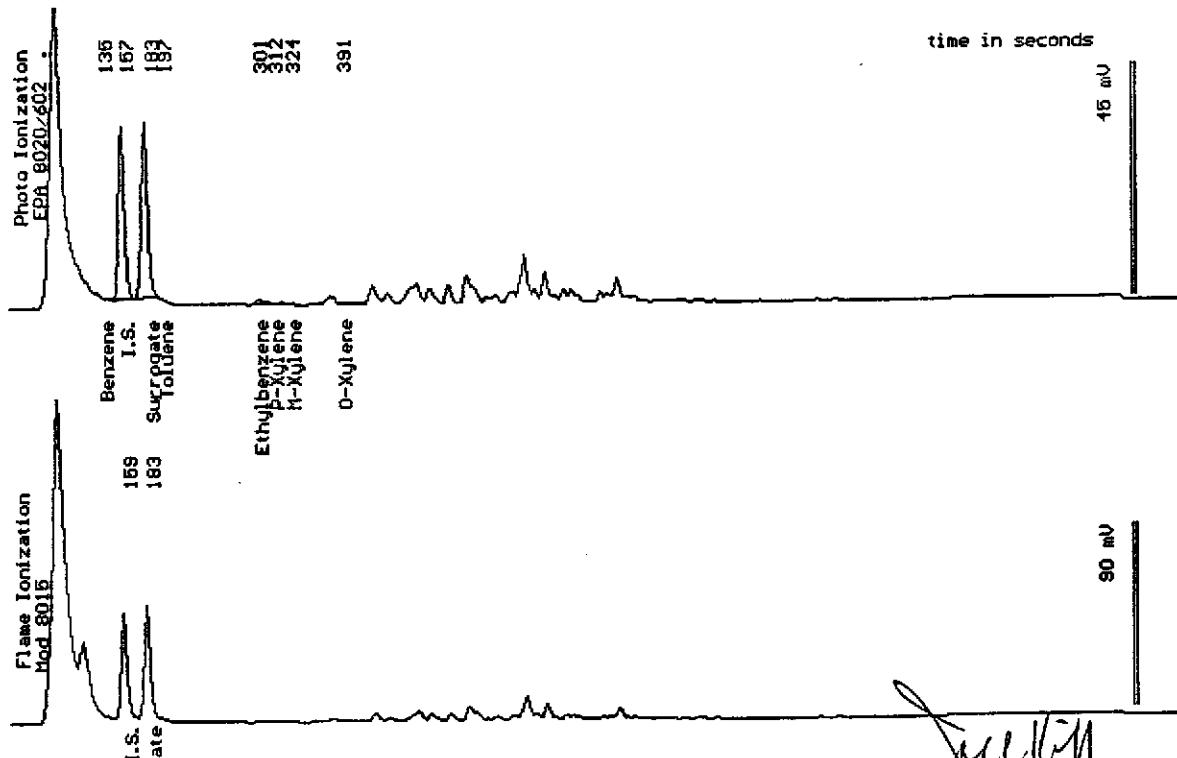


Sample Log 6754
6754-8

Sample: MW-2

From : Project # 40-92-812 (Beacon 721)
Sampled : 06/23/93
Dilution : 1:1 QC Batch : 4016C
Matrix : Water

Parameter	(MRL) $\mu\text{g/L}$	Measured Value $\mu\text{g/L}$
Benzene	(.50)	<.50
Toluene	(.50)	<.50
Ethylbenzene	(.50)	.52
Total Xylenes	(.50)	.50
TPH as Gasoline	(50)	160
Surrogate Recovery		107 %



Date Analyzed: 06/30/93
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Joel Kiff
Senior Chemist



Sample Log 6754
6754-9

Sample: MW-4

From : Project # 40-92-812 (Beacon 721)

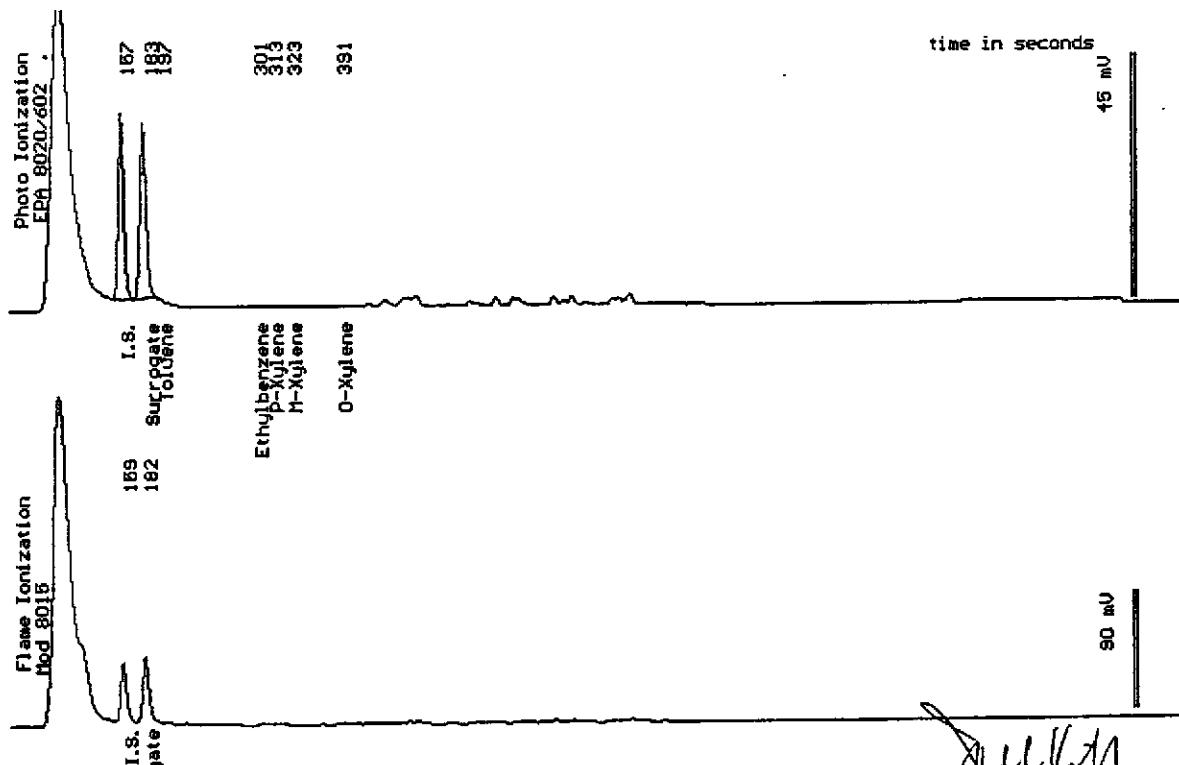
Sampled : 06/23/93

Dilution : 1:1

QC Batch : 4016C

Matrix : Water

Parameter	(MRL) $\mu\text{g/L}$	Measured Value $\mu\text{g/L}$
Benzene	(.50)	<.50
Toluene	(.50)	<.50
Ethylbenzene	(.50)	<.50
Total Xylenes	(.50)	<.50
TPH as Gasoline	(50)	120
Surrogate Recovery		102 %



Date Analyzed: 06-30-93
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Joel Kiff
Senior Chemist

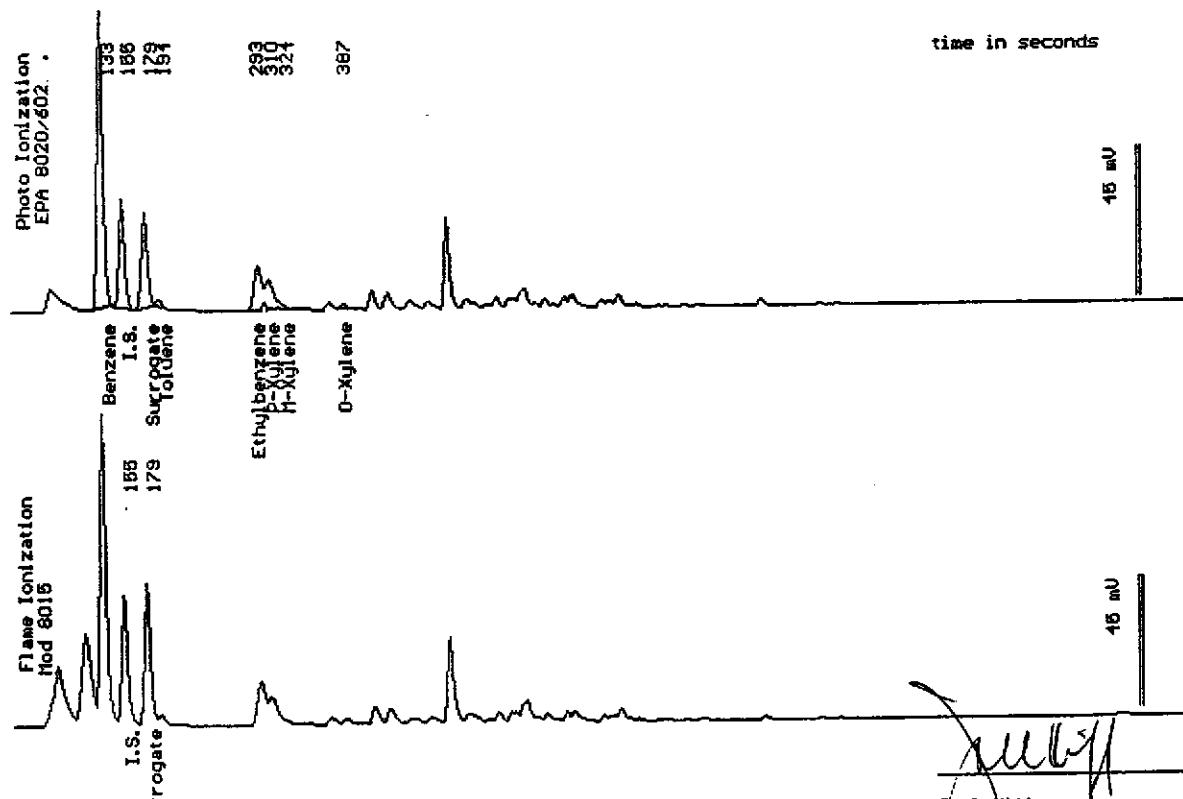


Sample Log 6754
6754-10

Sample: MW-1

From : Project # 40-92-812 (Beacon 721)
Sampled : 06/23/93
Dilution : 1:50 QC Batch : 4017A
Matrix : Water

Parameter	(MRL) $\mu\text{g/L}$	Measured Value $\mu\text{g/L}$
Benzene	(25)	2400
Toluene	(25)	74
Ethylbenzene	(25)	650
Total Xylenes	(25)	510
TPH as Gasoline	(2500)	12000
Surrogate Recovery		98 %



Date Analyzed: 07-02-93
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Joel Kiff
Senior Chemist



Sample Log 6754
6754-11

Sample: MW-3

From : Project # 40-92-812 (Beacon 721)

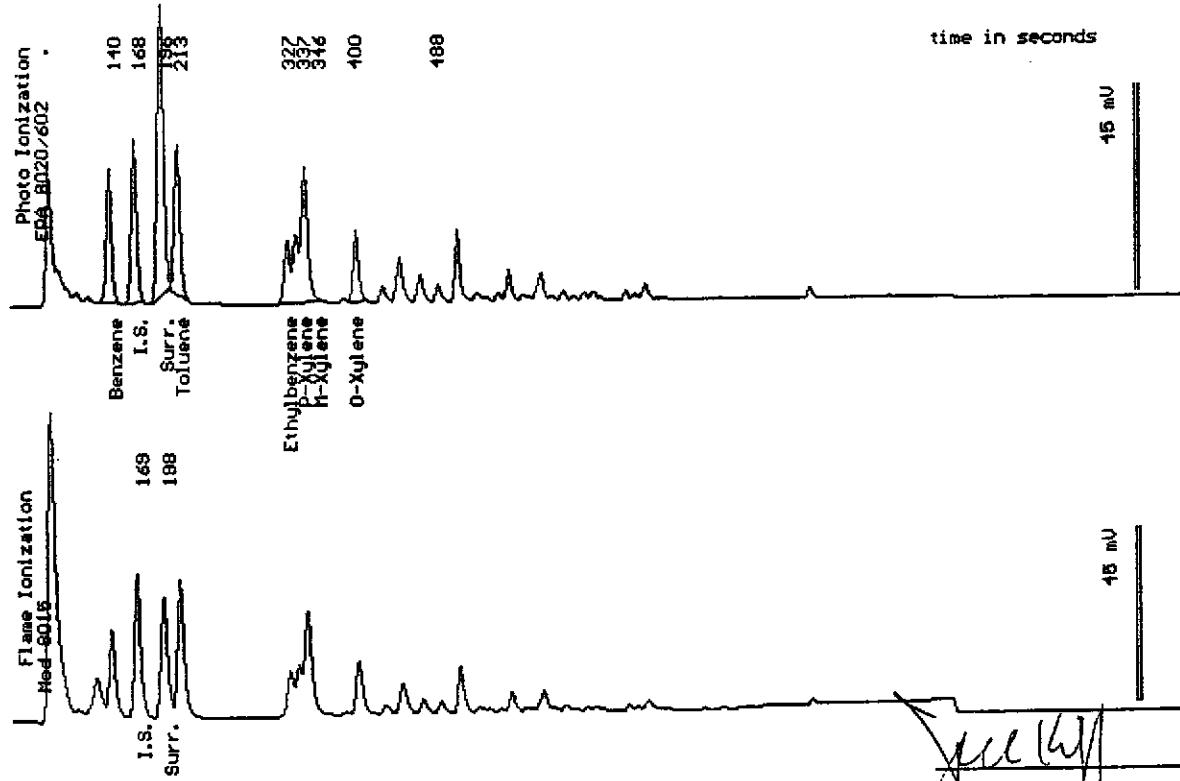
Sampled : 06/23/93

Dilution : 1:250

QC Batch : 2004C

Matrix : Water

Parameter	(MRL) $\mu\text{g/L}$	Measured Value $\mu\text{g/L}$
Benzene	(130)	3200
Toluene	(130)	5300
Ethylbenzene	(130)	2500
Total Xylenes	(130)	9100
TPH as Gasoline	(13000)	61000
Surrogate Recovery		100 %



Date Analyzed: 07-06-93
Column : 0.63mm ID X 30m DB5 (J&W Scientific)

Joel Kiff
Senior Chemist

WESTSample Log 6754
6754-12

Sample: RW-1

From : Project # 40-92-812 (Beacon 721)

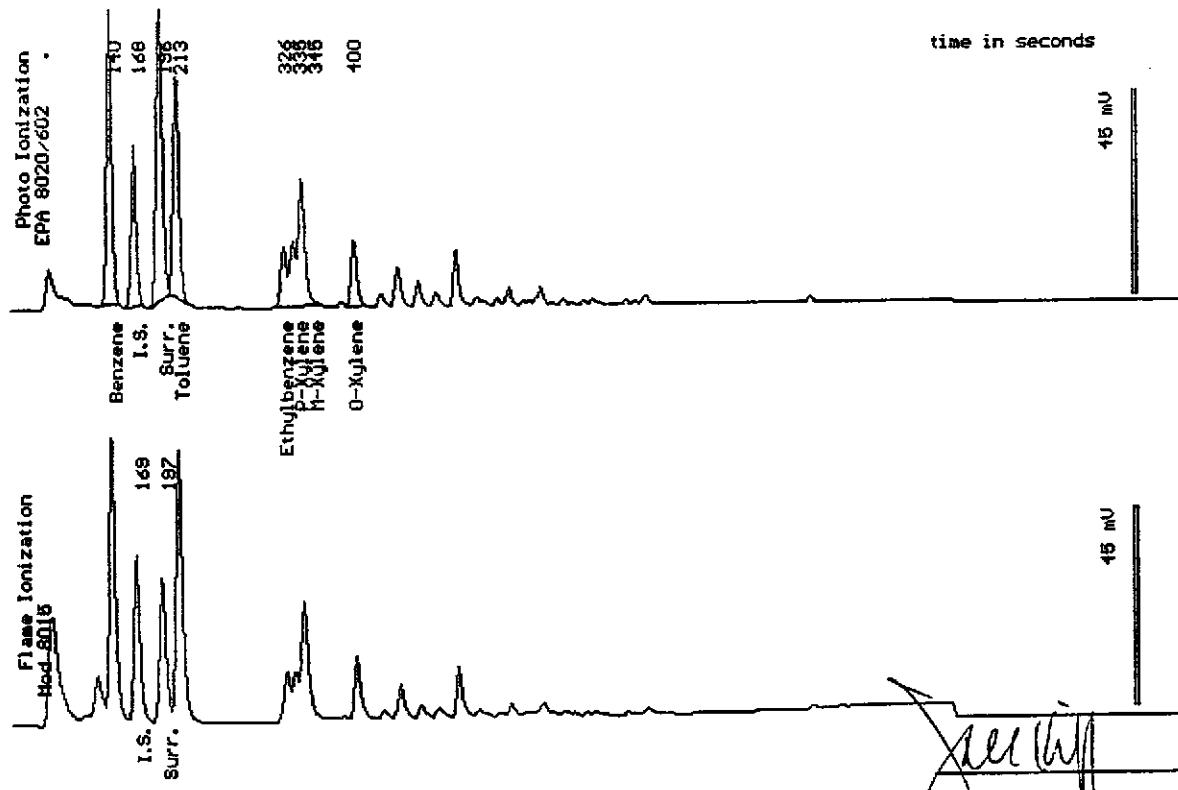
Sampled : 06/23/93

Dilution : 1:1

QC Batch : 2004C

Matrix : Water

Parameter	(MRL) $\mu\text{g/L}$	Measured Value $\mu\text{g/L}$
Benzene	(.50)	30
Toluene	(.50)	33
Ethylbenzene	(.50)	9.8
Total Xylenes	(.50)	35
TPH as Gasoline	(50)	220
Surrogate Recovery		101 %



Date Analyzed: 07-06-93
Column : 0.53mm ID X 30m DB5 (J&W Scientific)



Ultramar Inc.
CHAIN OF CUSTODY REPORT

BEACON

Beacon Station No. 721	Sampler (Print Name) Jon W Black	ANALYSES			Date 6-23-93	Form No. 1 of 2
Project No. 40-92-812	Sampler (Signature) JW Black (JWB REZ)	BTEX	TPH (gasoline)	TPH (diesel)	WEST Labs 1046 Olive Dr., 3 Davis, CA (916) 753-9500	
Project Location 44 Jewellling Blvd San Lorenzo, CA	Affiliation Delta Environmental Consultants				No. of Containers	
Sample No./Identification	Date	Time	Lab No.		REMARKS	
MW-9	6-23-93	09:45		XX	2	standard turnaround
MW-8		09:59		XX	2	
MW-11		10:19		XX	2	
MW-10		10:46		XX	2	
MW-7		11:15		XX	2	
MW-5		11:38		XX	2	
MW-6		12:01		XX	2	
MW-2		12:25		XX	2	
Relinquished by: (Signature/Affiliation) JW Black / Delta	Date 6/24/93	Time 11:25	Received by: (Signature/Affiliation) C. S. West		Date 6/24/93	Time 11:25
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)		Date	Time
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)		Date	Time
Report To: Todd Galati; Jon Black / Delta Fax 916 638-8385 ph 916 638-2085	Bill to:	ULTRAMAR INC. 525 West Third Street Hanford, CA 93230 Attention: Terrence Foxx				

WHITE: Return to Client with Report

YELLOW: Laboratory Copy

PINK: Originator Copy



Ultramar Inc.
CHAIN OF CUSTODY REPORT

BEACON

Beacon Station No. 721	Sampler (Print Name) Jon W Black	ANALYSES			Date 6-23-93	Form No. 2 of 2
Project No. 40-92-812	Sampler (Signature) JW Black (JWB)	BTEX	TPH (gasoline)	TPH (diesel)	Project Location 144 Levelewing Blvd San Lorchzo, CA	WEST Davis 1041 Olive Dr., 3 Davis, CA (914) 753-9500
Affiliation Delta Environmental Consultants					No. of Containers 2	REMARKS Standard furnace oil
Sample No./Identification MW-4	Date 6-23-93	Time 12:43		XX		
MW-1		13:14		XX	2	
MW-3		13:35		XX	2	
RW-1	↓	13:00		XX	2	✓
Relinquished by: (Signature/Affiliation) JW Black / Delta	Date 6-24-93	Time 11:25	Received by: (Signature/Affiliation) LBS	West	Date 6-24-93	Time 11:25
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)		Date	Time
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)		Date	Time
Report To: Todd Balati, Jon Black / Delta Fax 916 638-8385 Ph 916 638-2085	Bill to: ULTRAMAR INC. 525 West Third Street Hanford, CA 93230 Attention: _____ Terrence Foxy					

WHITE: Return to Client with Report

YELLOW: Laboratory Copy

PINK: Originator Copy

ENCLOSURE E

Ground Water Sample Analytical Summaries Prior to June 1993

TABLE 2
ANALYTICAL RESULTS: GROUNDWATER

BEACON STATION #721
44 LEWELLING BOULEVARD, SAN LORENZO, CALIFORNIA
(All results in parts-per-billion)

Monitoring Well	Date Collected	Total Petroleum Hydrocarbons	Aromatic Volatile Organics			
			Gasoline	Benzene	Toluene	Ethylbenzene
MW-1	02/18/92	—	—	—	—	—
	05/15/92	41,000	2,000	47	1,200	400
	08/28/92	110,000	3,800	54	850	870
	11/19/92	3,600	200	<5.0	80	140
	11/19/92	3,000	180	24	71	13*
MW-2	02/18/92	1,600	<0.5	<0.5	1.9	<0.5
	05/14/92	740	1.2	1.0	1.3	<0.5
	08/27/92	1,400	6.5	1.1	0.6	<0.5
	11/19/92	380	<0.5	<0.5	2.7	<0.5
	11/19/92	51*	1.2	1.5	4.5	4.4
MW-3	02/18/92	—	—	—	—	—
	05/15/92	180,000	8,300	5,800	1,700	6,100
	08/28/92	1,300,000	25,000	40,000	6,700	44,000
	11/19/92	—	—	—	—	—
	11/19/92	12,000	7200	11,000	7,700	13,000
MW-4	02/18/92	5,100	<0.5	<0.5	12	21
	05/14/92	4,600	<0.5	5.6	1.8	2.2
	08/27/92	1,700	8.8	1.3	1.8	3.1
	11/19/92	400	<0.5	<0.5	<0.5	<0.5
	11/19/92	N.D.	<	<	<	<
MW-5	02/18/92	<50	<0.5	<0.5	<0.5	<0.5
	05/14/92	<50	<0.5	<0.05	<0.5	<0.5
	08/27/92	<50	<0.5	<0.5	<0.5	<0.5
	11/19/92	<50	<0.5	<0.5	<0.5	<0.5
	11/19/92	5*	5.0	8.7	8.0	10
MW-6	02/18/92	370	4.8	<0.5	<0.5	<0.5
	05/14/92	120	<0.5	<0.5	<0.5	<0.5
	08/27/92	<50	1.2	<0.5	<0.5	<0.5
	11/19/92	68	1.3	<0.5	1.0	1.1
	11/19/92	16*	1.4	2.6	2.1	1.3
MW-7	02/18/92	670	18	<0.5	10	16
	05/14/92	1,500	44	<0.5	36	88
	08/27/92	23,000	400	5.8	290	1,400
	11/19/92	330	29	<0.5	10	63
	11/19/92	1,600	260	4	10*	46*

NOTES: < = Below indicated detection limit.
— = Not analyzed/not sampled.

FEB DATA
NOT INCLUDED

TABLE 2 (CONTINUED)
ANALYTICAL RESULTS: GROUNDWATER

BEACON STATION #721
44 LEWELLING BOULEVARD, SAN LORENZO, CALIFORNIA
(All results in parts-per-billion)

Monitoring Well	Date Collected	Total Petroleum Hydrocarbons	Aromatic Volatile Organics			
			Gasoline	Benzene	Toluene	Ethylenbenzene
MW-8	02/18/92	1,200	<0.5	<0.5	9.5	<0.5
	05/14/92	130	<0.5	<0.5	<0.5	<0.5
	08/25/92	140	<0.5	<0.5	<0.5	<0.5
	11/19/92	320	<0.5	<0.5	2.0	<0.5
	<	<	<	<	<	<
MW-9	02/18/92	<50	<0.5	<0.5	<0.5	<0.5
	05/14/92	<50	<0.5	<0.5	<0.5	<0.5
	08/27/92	<50	<0.5	<0.5	<0.5	<0.5
	11/19/92	<50	<0.5	<0.5	<0.5	1.3
	<	<	<	<	<	<
MW-10	02/18/92	18,000	110	57	440	63
	05/15/92	8,500	24	9.8	97	<0.5
	08/25/92	9,000	20	2.8	40	3.5
	11/19/92	5,700	36	21	390	31
	<100	/s	4.8	3.8	3.8	1.4
MW-11	02/18/92	2,400	<0.5	<0.5	<0.5	<0.5
	05/15/92	1,600	<0.5	1.9	1.3	0.7
	08/27/92	2,100	15	2	0.6	1.2
	11/19/92	400	<0.5	<0.5	<0.5	<0.5
	<100	<	<	<	<1.7	<
RW-1	05/15/92	780	270	82	29	140
	08/25/92	24,000	1,300	200	68	810
	11/19/92	--	--	--	--	--

NOTES: < = Below indicated detection limit.
-- = Not analyzed/not sampled.

ENCLOSURE F

Ground Water Sample Analytical Reports



June 14, 1993
Sample Log 6562

Scott Romine
Delta Environmental Consultants, Inc.
3330 Data Drive
Rancho Cordova, CA 95670

Subject: Analytical Results for 3 Water Samples
Identified as: Project # 40-93-934 (Beacon #721)
Received: 05/28/93

Dear Mr. Romine:

Analysis of the sample(s) referenced above has been completed. This report is written to confirm results communicated on June 11, 1993 and describes procedures used to analyze the samples.

The sample(s) were received in:

40-ml glass vials sealed with TFE-lined septae.
1-L glass bottles sealed with TFE-lined caps
1-L polyethylene bottles with polyethelyne caps.

Each sample was transported and received under documented chain of custody, assigned a consecutive log number and stored at 4 degrees Celsius until analysis commenced.

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)
"Metals" (EPA 6010,7000)

Please refer to the following table(s) for summarized analytical results and contact us at 916-757-4650 if you have questions regarding procedures or results. The chain-of-custody document is enclosed.

Approved by:

Joel Kiff
Senior Chemist



June 14, 1993
Sample Log 6562

The following abbreviations and qualifiers may be present in the analytical reports to follow:

ug/L : Micrograms of target analyte in 1 Liter of sample.

mg/kg : Milligrams of target analyte in 1 kg of sample.

B : This data qualifier indicates that a method blank from the analytical batch contained this compound and the level found in the sample is within 5 times that level. Use data with caution.

J : This data qualifier indicates that the compound was detected at a level below the required reporting limit.

E : This data qualifier indicates that the compound was detected at a level above that defined by the highest level calibration standard.

C : This data qualifier indicates that the presence of the compound has been confirmed by GC/MS.

TCLP : Toxicity Characteristic Leaching Procedure

MS : Matrix Spike

MSD : Matrix Spike Duplicate

RPD : Relative Percent Difference (the difference between two values divided by the mean, expressed as a percentage).

% REC : Percent Recovery (the ratio between the measured value and the expected value for a spiked sample, expressed as a percentage).

< : Less than

> : Greater than



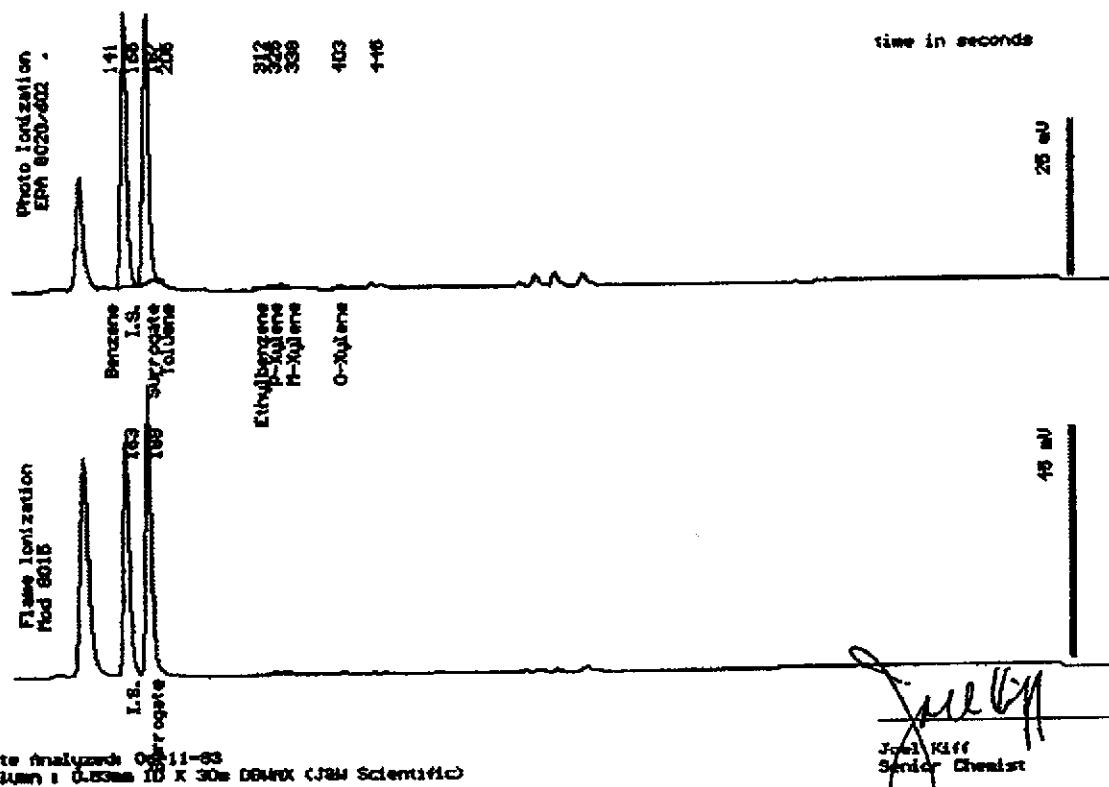
Sample Log 6562

6562-1

Sample: Tank Sample

From : Project # 40-93-934 (Beacon #721)
Sampled : 05/28/93
Dilution : 1:1 QC Batch : 4012f
Matrix : Water

Parameter	(MDL) $\mu\text{g/L}$	Measured Value $\mu\text{g/L}$
Benzene	(.50)	<.50
Toluene	(.50)	<.50
Ethylbenzene	(.50)	<.50
Total Xylenes	(.50)	<.50
TPH as Gasoline	(50)	<50
Surrogate Recovery		102 %





June 14, 1993
Sample Log 6562

Sample : Tank Sample 2

From : Project # 40-93-934 (Beacon # 721)

Sampled : 05/28/93

Received : 05/28/93

Matrix : Water

Analysis Completed : 06/04/93

Units : mg/L

Metals

Parameter	MRL*	EPA Method	Conc.
Arsenic	(0.010)	7060	<0.010
Cadmium	(0.0020)	6010	0.0048
Chromium	(0.0050)	6010	0.029
Copper	(0.010)	6010	0.019
Lead	(0.0050)	7421	<0.0050
Mercury	(0.0010)	7471	<0.0010
Nickel	(0.010)	6010	0.060
Selenium	(0.010)	7740	<0.010
Silver	(0.0050)	6010	0.010
Zinc	(0.010)	6010	0.028

* MRL = Method Reporting Limit

Joel Kiff
Senior Chemist



June 14, 1993
Sample Log 6562

Sample: Tank Sample 5

From : Project # 40-93-934 (Beacon #721)
Sampled : 05/28/93
Received : 05/28/93
Matrix : Water

Parameter	(MDL) $\mu\text{g/L}$	Measured Value $\mu\text{g/L}$
pH		7.05 pH

Joel D. Lipp
Analyst Chemist



ANALYTICAL LABORATORY

1910 S STREET, SACRAMENTO, CALIFORNIA 95814 • 916-447-8321 • FAX 916-447-8321

June 9, 1993

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

P.O.#: 6562
Project #: 40-93-934
Project Location: San Lorenzo, CA
Project Name: Beacon 721

Anlab I.D. AC12318

SAMPLE DESCRIPTION: TANK SAMPLE 2
Sample collection date: 05/28/93
Lab submittal date: 06/01/93
Turn-Around-Time: RUSH 5

Client Code: 315

Matrix: W

Time: 14:30

Time: 17:33

Sample Disposal: LAB

TEST PARAMETER	UNITS	TEST RESULT	DETECTION LIMIT
COD by EPA 410.4	mg/l	11	3

Anlab I.D. AC12319

SAMPLE DESCRIPTION: TANK SAMPLE 3
Sample collection date: 05/28/93
Lab submittal date: 06/01/93
Turn-Around-Time: RUSH 5

Client Code: 315

Matrix: W

Time: 14:30

Time: 17:33

Sample Disposal: LAB

TEST PARAMETER	UNITS	TEST RESULT	DETECTION LIMIT
Tot. Rec. Phenols by EPA 420.1	mg/l	ND	0.02

Anlab I.D. AC12320

SAMPLE DESCRIPTION: TANK SAMPLE 4
Sample collection date: 05/28/93
Lab submittal date: 06/01/93
Turn-Around-Time: RUSH 5

Client Code: 315

Matrix: W

Time: 14:30

Time: 17:33

Sample Disposal: LAB

TEST PARAMETER	UNITS	TEST RESULT	DETECTION LIMIT
Cyanide by EPA 335.2	mg/l	ND	0.006*

:1mr

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

June 28, 1993

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 Groundwater Monitoring and Sampling Report First Quarter 1993 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.

Ultramar has completed the installation of the ground-water remediation system and the system began on June 21, 1993.

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

8/2/93 - Will be fully submitted December 1st. Don't expect
anything before January 1st. for the first report.



A Member of the Ultramar Group of Companies

BEACON
#1 Quality and Service