reviewed
1/20/93
SOS

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

January 8, 1993

Mr. Scott O. Seery, CHMM
Senior Hazardous Materials Specialist
Alameda County Health Care Services
80 Swan Way, Room 200
Oakland, CA 94621

SUBJECT: FORMER BEACON STATION NO. 574, 22315 REDWOOD ROAD, CASTRO VALLEY, CALIFORNIA

Dear Mr. Seery:

Enclosed is a copy of the Quarterly Monitoring Report Third Quarter 1992 for the above-referenced Ultramar facility prepared by Aegis Environmental Inc. Also included with the report is a copy of the Quarterly Status report describing the work performed this quarter and the work anticipated to be conducted in the next quarter.

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

Sincerely,

ULTRAMAR INC.

Kenneth R. Earnest
Environmental Specialist I
Marketing Environmental Department

Enclosure: Quarterly Groundwater Monitoring, Third Quarter 1992
Quarterly Project Status Report

cc w/encl: Mr. Rich Hiett, San Francisco Bay Region, RWQCB

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ENVIRONMENTAL PROJECT QUARTERLY STATUS REPORT

DATE REPORT SUBMITTED: January 8, 1993
QUARTER ENDING: September 30, 1992

FORMER SERVICE STATION NO.: 574
ADDRESS: 22315 Redwood Road, Castro Valley, CA
COUNTY: Alameda
ULTRAMAR CONTACT: Kenneth R. Earnest **TEL. NO:** 209-583-5571

BACKGROUND:

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

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

Quarterly monitoring was initiated during the fourth quarter 1991.

SUMMARY OF THIS QUARTER'S ACTIVITIES:

Performed third quarter monitoring on September 23, 1992.

RESULT OF QUARTERLY MONITORING:

Results indicate that since the previous sampling event benzene and TPH-g concentrations in MW-1, MW-2 and MW-3 have increased.

PROPOSED ACTIVITY OR WORK FOR NEXT QUARTER:

ACTIVITY	ESTIMATED COMPLETION DATE
Fourth quarter monitoring	December 1992
Install five ground-water monitoring wells	February 1993

AEGIS ENVIRONMENTAL, INC.

1050 Melody Lane, Suite 160, Roseville, CA 95678 ✦ 916 • 782-2110 / 916 • 969-2110 / FAX 916 • 786-7830

reviewed 1/20/93 SDS

requested copies of field sampling sheets

December 14, 1992

Mr. Kenneth Earnest
Environmental Specialist I
Ultramar Inc.
525 West Third Street
Hanford, California 93232-0466

Subject: **Third Quarter Monitoring Letter Report, September 1992**
Beacon Station #574
22315 Redwood Road, Castro Valley, California

Dear Mr. Earnest:

INTRODUCTION

Aegis Environmental, Inc. (Aegis), has been authorized by Ultramar Inc. (Ultramar), to conduct groundwater monitoring at the former Beacon service station site, #574, located at 22315 Redwood Road, Castro Valley, Alameda County, California (site). This letter report documents the third quarter groundwater monitoring conducted by Aegis on September 23, 1992, at this site (Figure 1). This letter report is based, in part, on information obtained by Aegis from Ultramar, and is subject to modification as newly acquired information may warrant.

SITE DESCRIPTION

The former Beacon site currently is a strip shopping center occupied by a 7-Eleven store, Lee's Donuts, Redwood Cleaners, Pizza Express, and Rob's Video. There are no longer underground storage tanks at the former Beacon site. Details of the former Beacon site facilities, including monitoring wells, are shown on Figure 2.

GROUNDWATER MONITORING

Groundwater Measurements

On September 23, 1992, Aegis personnel collected measurements of the depth to groundwater in monitoring wells MW-1, MW-2, and MW-3 on the former Beacon site. Depth to water ranged from 22.45 to 24.07 feet below grade at the former Beacon site. On the basis of the September 23, 1992, measurements, groundwater is estimated to flow to the southwest (Figure 3) at an average gradient of approximately 0.02 ft/ft.

Current and previous groundwater levels are summarized in Table 1 for the former Beacon site. All groundwater elevation measurements at the former Beacon site were made from the referenced wellhead elevations, measured to the nearest 0.01 foot, and conducted according to the Aegis standard operating procedures (SOP) included in Attachment 1.

Groundwater Sampling and Analyses

On September 23, 1992, Aegis personnel collected groundwater samples from monitoring wells MW-1, MW-2, and MW-3. The samples were collected according to the Aegis SOP included as Attachment 1, and delivered under chain-of-custody to West Analytical Laboratory of Davis, California, a state-certified analytical laboratory. The samples were analyzed for concentrations of total (volatile) petroleum hydrocarbons (TPH), as gasoline, by modified EPA Method 8015/purge-and-trap, benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 602, and TPH, as diesel, by modified EPA Method 8015/extraction. The analytical results are summarized in Table 2. The analytical reports and chain-of-custody forms are included in Attachment 2.

not analyzed for TPH-D

RECOMMENDATIONS

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

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

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

REMARKS/SIGNATURES

The interpretations and/or conclusions contained in this letter report represent our professional opinions. These opinions are based on currently available information and were developed in accordance with currently accepted geologic, hydrogeologic, and engineering practices at this time and for this specific site. Other than this, no warranty is implied or intended.

This letter report has been prepared solely for the use of Ultramar Inc. Any reliance on this letter report be third parties shall be at such parties' sole risk. The work described herein was performed under the direct supervision of the professional geologist, registered with the State of California, whose signature appears below.

Sincerely,

AEGIS ENVIRONMENTAL, INC.

John Giorgi

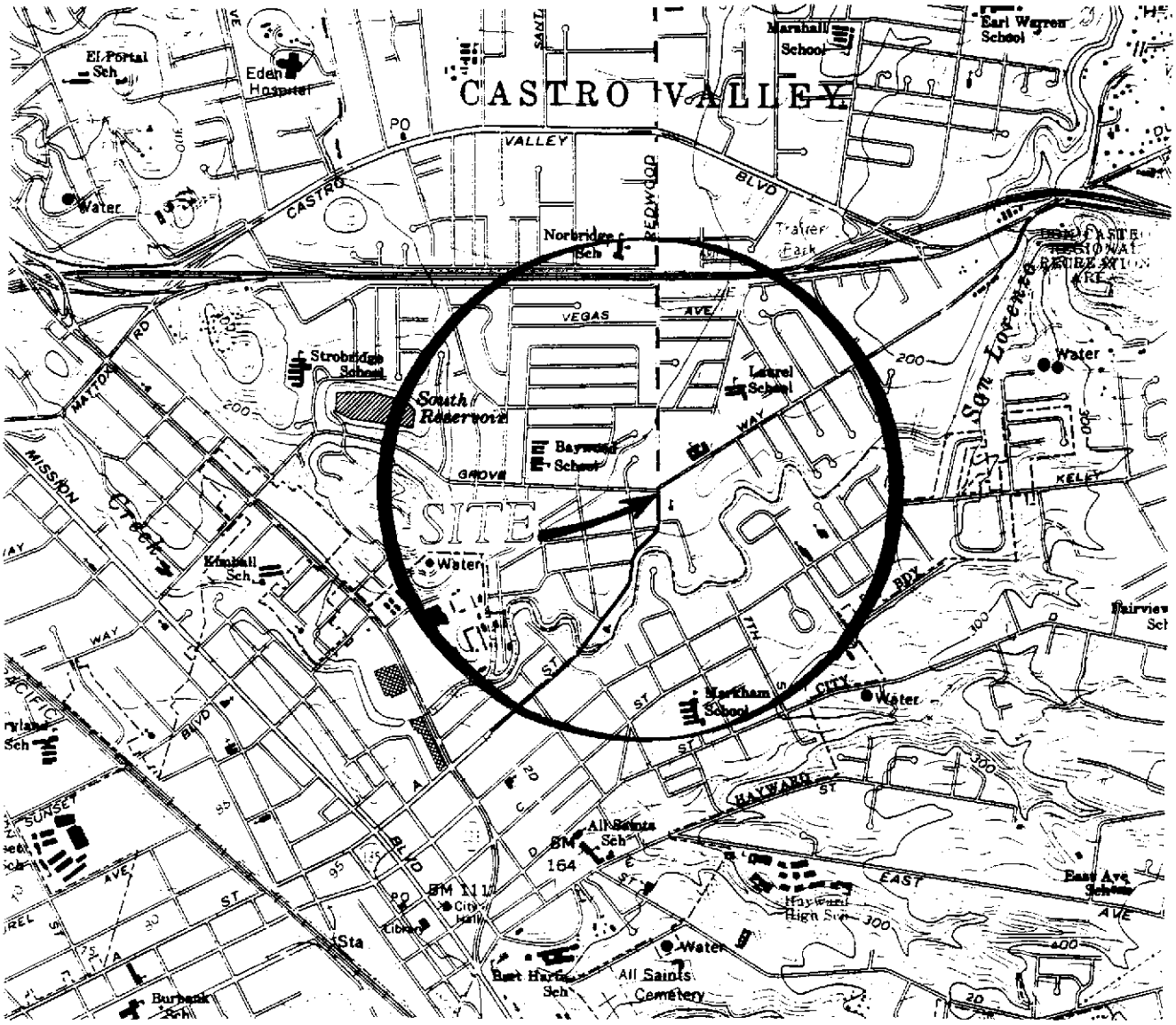
John Giorgi
Staff Geologist

Pat Wright

Pat Wright
Registered Geologist
CRG No. 529

12-16-92
Date

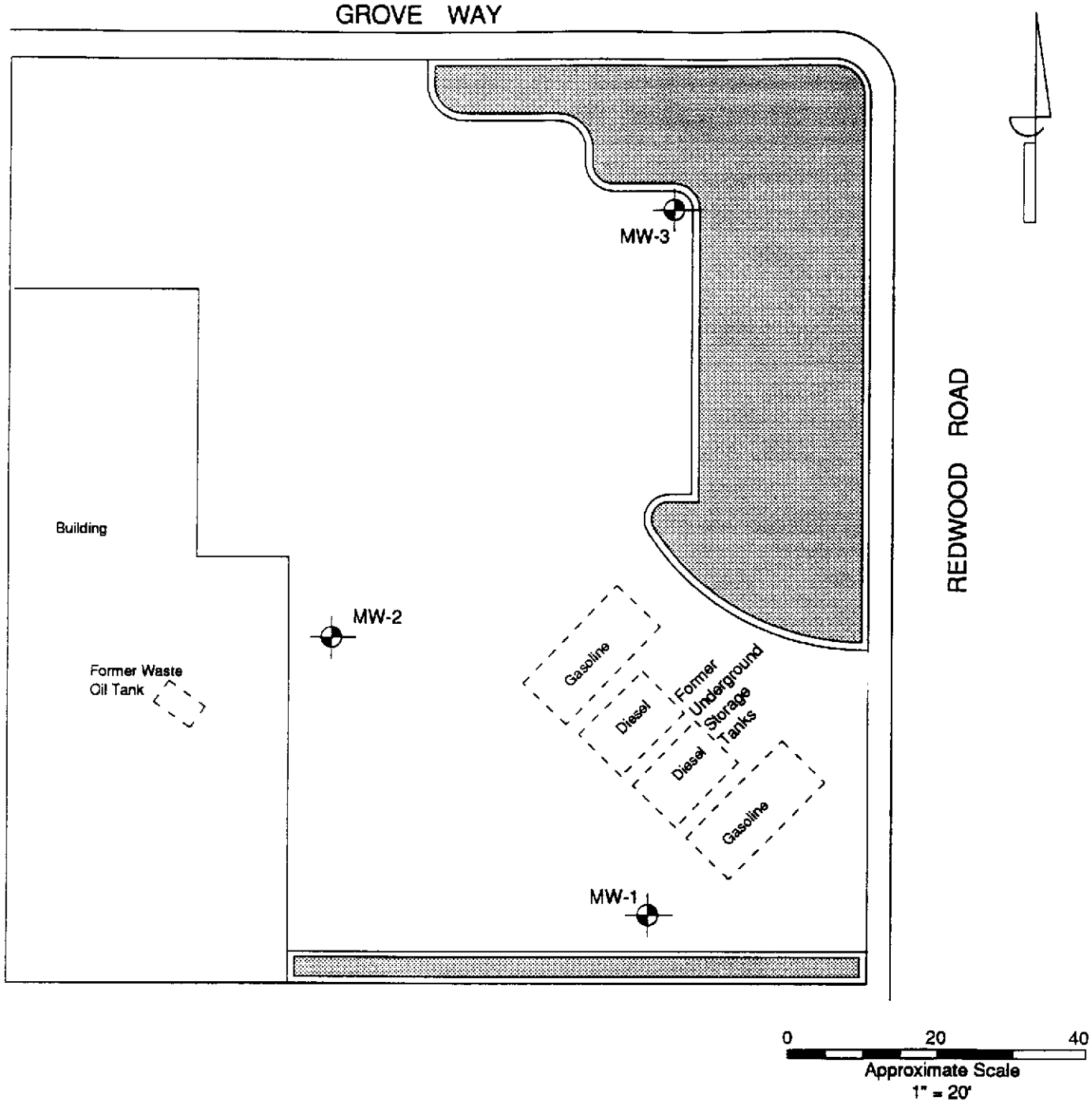
JG/PW/law



GENERAL NOTES:

BASE MAP FROM USGS
7.5 MINUTE TOPOGRAPHIC
HAYWARD, CALIF.

AEGIS ENVIRONMENTAL, INC.		SITE LOCATION MAP	FIGURE 1
DRAWN BY: Ed Berand	DATE: April 13, 1992	Former Beacon Station # 574 22315 Redwood Road Castro Valley, CA	PROJECT NUMBER: 10-91212
REVISED BY:	DATE:		
REVIEWED BY:	DATE:		



LEGEND

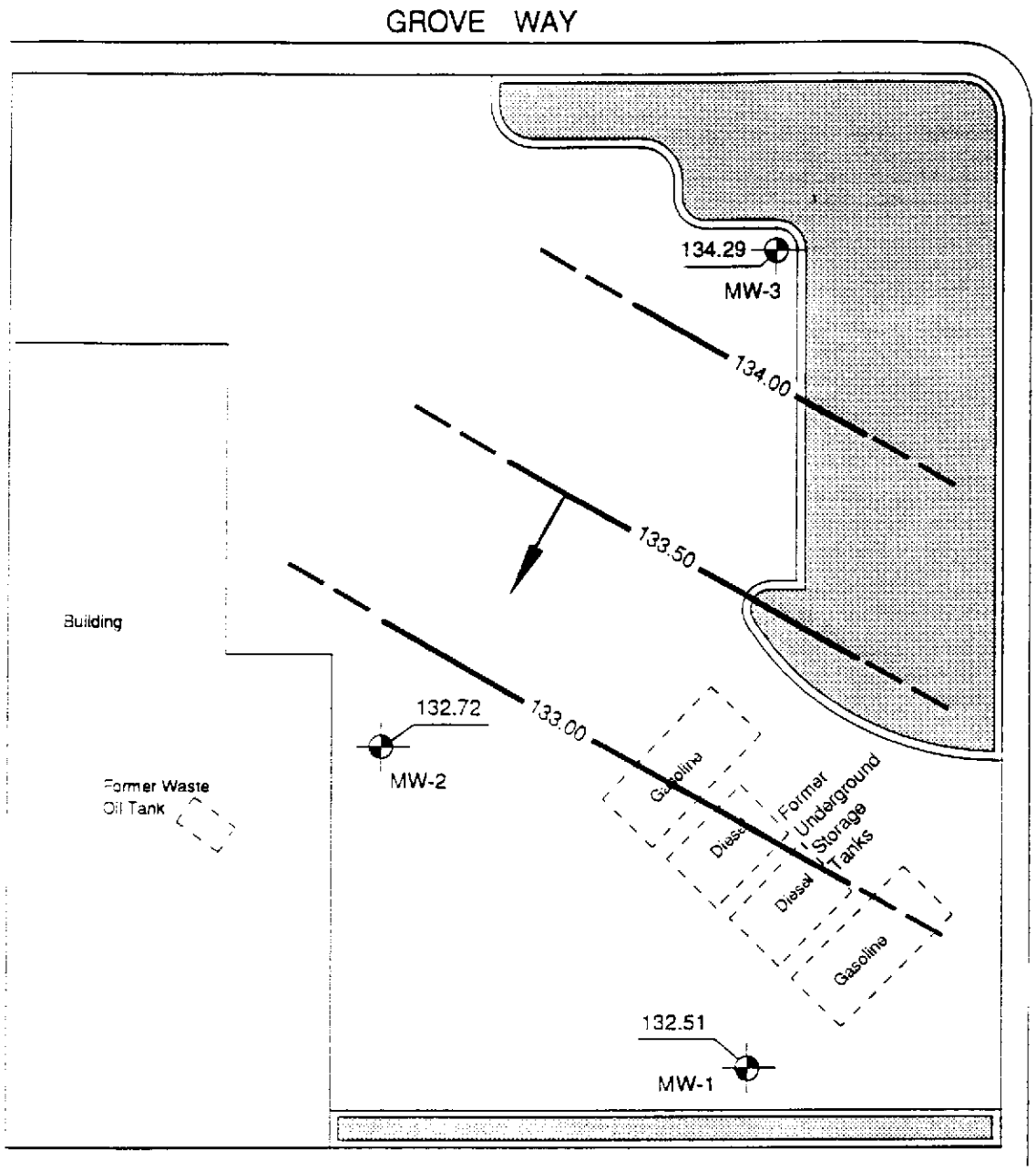
Monitoring Well

NOTES

Site Sketch After
Water Table Contour Map
By Delta Environmental

All locations Are Approximate

AEGIS ENVIRONMENTAL, INC.		SITE MAP	FIGURE 2
DRAWN BY: Ed Bernard	DATE: April 8, 1992	Former Beacon Station # 574 22315 Redwood Road Castro Valley, CA	PROJECT NUMBER: 10-91212
REVISED BY:	DATE:		
REVIEWED BY:	DATE:		



LEGEND

- Monitoring Well
- Potentiometric Surface Contour Line (Dashed Where Inferred)
- 132.51 Groundwater Elevation in Feet
- Estimated Direction of Groundwater Flow

0 20 40
Approximate Scale
1" = 20'

NOTES

Site Sketch After
Water Table Contour Map
By Delta Environmental

All locations Are Approximate

Approximate Hydraulic Gradient ≈ 0.02 ft. / ft.
Contour Interval = 0.5 ft.

AEGIS ENVIRONMENTAL, INC.

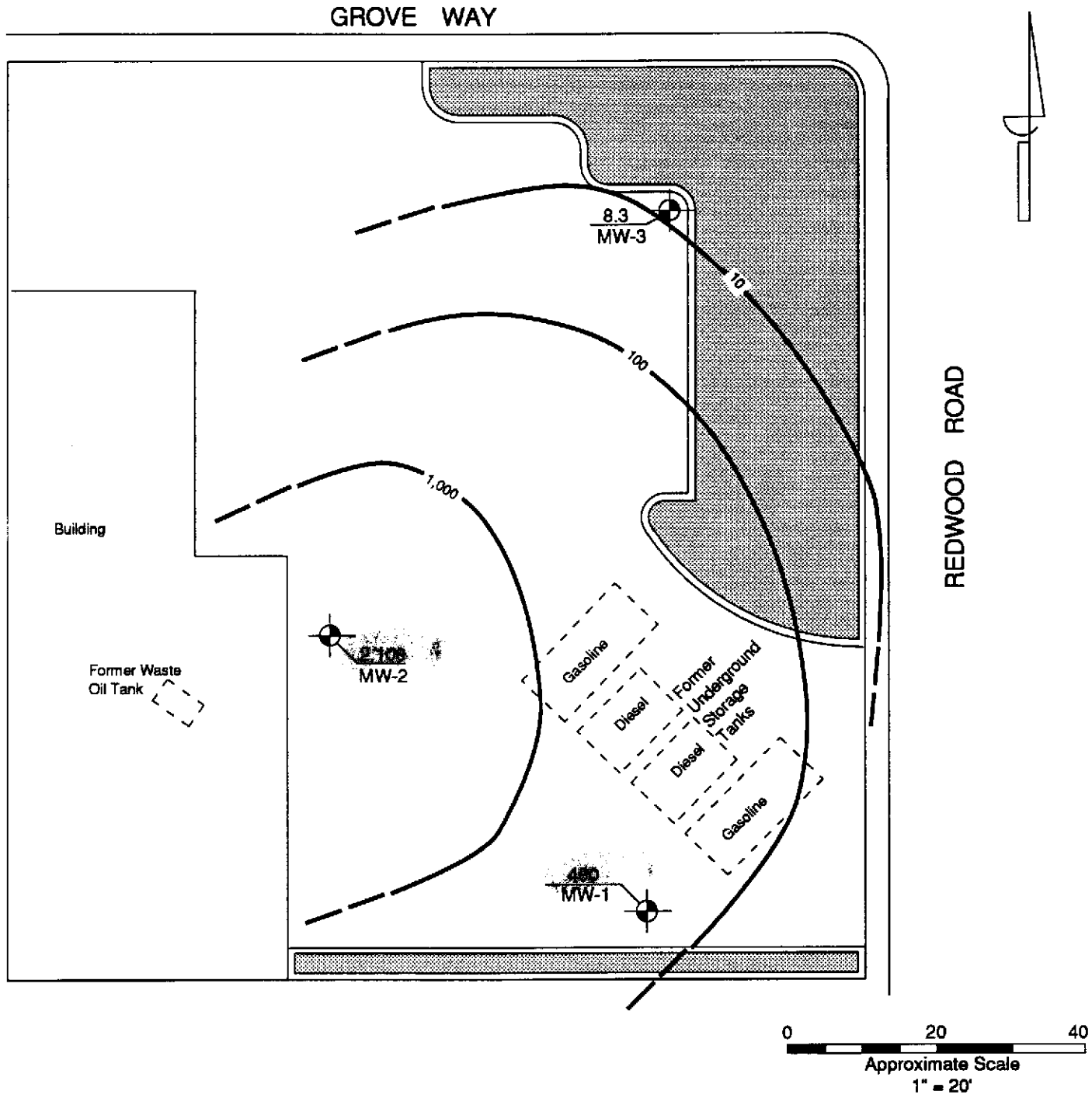
DRAWN BY:	Ed Bernard	DATE:	September 28, 1992
REVISED BY:	D. Hada	DATE:	December 6, 1992
REVIEWED BY:		DATE:	

POTENTIOMETRIC SURFACE MAP
September 23, 1992

Former Beacon Station # 574
22315 Redwood Road
Castro Valley, CA

FIGURE
3

PROJECT NUMBER:
10-91212



LEGEND

Monitoring Well

Concentration Of Benzene
In Parts Per Billion (ppb)

NOTES

Site Sketch After
Water Table Contour Map
By Delta Environmental

All locations Are Approximate

AEGIS ENVIRONMENTAL, INC.		ISOCONCENTRATION OF BENZENE IN GROUNDWATER September 23, 1992	FIGURE 4
DRAWN BY: Ed Bernard	DATE: October 28, 1992	Former Beacon Station # 574 22315 Redwood Road Castro Valley, CA	PROJECT NUMBER: 10-91212
REVISED BY: Ed Bernard	DATE: December 8, 1992		
REVIEWED BY:	DATE:		

TABLE 1

WATER LEVEL DATA - FORMER BEACON STATION

FORMER BEACON STATION #574
22315 REDWOOD ROAD, CASTRO VALLEY, CALIFORNIA
(Measurements in feet)

Monitoring Well	Date	Reference Elevation (top of casing)[1]	Depth to Groundwater[1]	Groundwater Elevation[2]
MW-1	03/26/91	156.55	22.43	134.12
	04/01/91		22.37	134.18
	11/22/91		24.09	132.46
	03/27/92		22.43	134.12
	06/04/92		23.40	133.15
	09/23/92		24.07	132.51
MW-2	03/26/91	155.17	20.91	134.26
	04/01/91		20.82	134.35
	11/22/91		22.54	132.63
	03/27/92		20.82	134.35
	06/04/92		21.81	133.36
	09/23/92		22.45	132.72
MW-3	03/26/91	157.13	21.62	135.51
	04/01/91		21.55	135.58
	11/22/91		23.98	133.15
	03/27/92		21.46	135.67
	06/04/92		22.34	134.79
	09/23/92		22.84	134.29

NOTES:
[1] = Measurement and reference elevation taken from notch/mark on top north side of well casing.
[2] = Elevation referenced to mean sea level and obtained from previous consultant.

TABLE 2

ANALYTICAL RESULTS: GROUNDWATER

FORMER BEACON STATION #574
22315 REDWOOD ROAD, CASTRO VALLEY, CALIFORNIA
(All results in parts-per-billion)

Sample ID	Date Collected	Total Petroleum Hydrocarbons			Aromatic Volatile Organics			
		Gasoline	Diesel	Motor Oil	Benzene	Toluene	Ethyl-benzene	Total Xylenes
MW-1	04/01/91	4,100	<100	---	340	570	76	460
	11/22/91	5,300	<50	<50	4.9	1,600	370	2,300
	03/27/92	5,600	<50	<50	760	900	230	1,100
	06/04/92	2,600	<800	---	270	57	230	440
	09/23/92	3,400	---	---	480	430	110	550
MW-2	04/01/91	10,000	<100	---	650	640	150	960
	11/22/91	11,000	<50	<50	51	1,900	770	3,200
	03/27/92	18,000	<50	<50	2,400	2,300	870	3,300
	06/04/92	14,000	<5,000	---	1,900	1,700	580	2,300
	09/23/92	22,000	---	---	2,100	1,500	760	2,900
MW-3	04/01/91	3,100	<100	---	41	91	37	420
	11/22/91	470	<50	<50	10	6.3	11	36
	03/27/92	160	<50	<50	9.2	4.8	10	23
	06/04/92	120	<50	---	7.5	2.7	0.5	15
	09/23/92	220	---	---	8.3	4.3	6.2	19

NOTES: < = Below the indicated detection limits labeled in the analytical laboratory results report.
--- = Not analyzed.

ATTACHMENT 1

STANDARD OPERATING PROCEDURES

AEGIS ENVIRONMENTAL, INC.
STANDARD OPERATING PROCEDURES
RE: SAMPLE IDENTIFICATION AND CHAIN-OF-CUSTODY PROCEDURES
SOP-4

Sample identification and chain-of-custody procedures ensure sample integrity, and document sample possession from the time of collection to its ultimate disposal. Each sample container submitted for analysis is labeled to identify the job number, date, time of sample collection, a sample number unique to the sample, any in-field measurements made, sampling methodology, name(s) of on-site personnel and any other pertinent field observations also recorded on the field excavation or boring log.

Chain-of-custody forms are used to record possession of the sample from time of collection to its arrival at the laboratory. During shipment, the person with custody of the samples will relinquish them to the next person by signing the chain-of-custody form(s) and noting the date and time. The sample-control officer at the laboratory will verify sample integrity, correct preservation, confirm collection in the proper container(s), and ensure adequate volume for analysis.

If these conditions are met, the samples will be assigned unique laboratory log numbers for identification throughout analysis and reporting. The log numbers will be recorded on the chain-of-custody forms and in the legally-required log book maintained in the laboratory. The sample description, date received, client's name, and any other relevant information will also be recorded.

AEGIS ENVIRONMENTAL, INC.
STANDARD OPERATING PROCEDURES
RE: LABORATORY ANALYTICAL QUALITY ASSURANCE AND CONTROL
SOP-5

In addition to routine instrument calibration, replicates, spikes, blanks, spiked blanks, and certified reference materials are routinely analyzed at method-specific frequencies to monitor precision and bias. Additional components of the laboratory Quality Assurance/Quality Control program include:

1. Participation in state and federal laboratory accreditation/certification programs;

2. Participation in both U.S. EPA Performance Evaluation studies (WS and WP studies) and inter-laboratory performance evaluation programs;

3. Standard operating procedures describing routine and periodic instrument maintenance;

4. "Out-of-Control"/Corrective Action documentation procedures; and,

5. Multi-level review of raw data and client reports.

AEGIS ENVIRONMENTAL, INC.
STANDARD OPERATING PROCEDURE
RE: GROUNDWATER PURGING AND SAMPLING
SOP-7

Prior to water sampling, each well is purged by evacuating a minimum of three wetted well-casing volumes of groundwater. When required, purging will continue until either the discharge water temperature, conductivity, or pH stabilize, a maximum of ten well-bore volumes of groundwater have been recovered, or the well is bailed dry. When practical, the groundwater sample should be collected when the water level in the well recovers to at least 80 percent of its static level.

The sampling equipment consists of either a "Teflon" bailer, PVC bailer, or stainless steel bladder pump with a "Teflon" bladder. If the sampling system is dedicated to the well, then the bailer is usually "Teflon," but the bladder pump is PVC with a polypropylene bladder. In general and depending on the intended laboratory analysis, 40-milliliter glass, volatile organic analysis (VOA) vials, with "Teflon" septa, are used as sample containers.

The groundwater sample is decanted into each VOA vial in such a manner that there is no meniscus at the top of the vial. A cap is quickly secured to the top of the vial. The vial is then inverted and gently tapped to see if air bubbles are present. If none are present, the vial is labeled and refrigerated for delivery, under strict chain-of-custody, to the analytical laboratory. Label information should include a unique sample identification number, job identification number, date, time, type of analysis requested, and the sampler's name.

For quality control purposes, a duplicate water sample is collected from each well. This sample is put on hold at the laboratory. When required, a trip blank is prepared at the laboratory and placed in the transport cooler. It is labeled similar to the well samples, remains in the cooler during transport, and is analyzed by the laboratory along with the groundwater samples. In addition, a field blank may be prepared in the field when sampling equipment is not dedicated. The field blank is prepared after a pump or bailer has been either steam cleaned or properly washed, prior to use in the next well, and is analyzed along with the other samples. The field blank analysis demonstrates the effectiveness of the in-field cleaning procedures to prevent cross-contamination.

To minimize the potential for cross-contamination between wells, all well development and water sampling equipment not dedicated to a well is either steam cleaned or properly washed between use. As a second precautionary measure, wells are sampled in order of least to highest concentrations as established by available previous analytical data.

In the event the water samples cannot be submitted to the analytical laboratory on the same day they are collected (e.g., due to weekends or holidays), the samples are temporarily stored until the first opportunity for submittal either on ice in a cooler, such as when in the field, or in a refrigerator at Aegis' office.

AEGIS ENVIRONMENTAL, INC.
STANDARD OPERATING PROCEDURE
RE: MEASURING LIQUID LEVELS USING WATER LEVEL OR INTERFACE PROBE
SOP-12

Field equipment used for liquid-level gauging typically includes the measuring probe (water-level or interface), light filter(s), and product bailer(s). The field kit also includes cleaning supplies (buckets, TSP, spray bottles, and deionized water) to be used in cleaning the equipment between wells.

Prior to measurement, the probe tip is lowered into the well until it touches bottom. Using the previously established top-of-casing or top-of-box (i.e., wellhead vault) point, the probe cord (or halyard) is marked and a measuring tape (graduated in hundredths of a foot) is used to determine the distance between the probe end and the marking on the cord. This measurement is then recorded on the liquid-level data sheet as the "depth to water" (DTW).

When necessary in using the interface probe to measure liquid levels, the probe is first electrically grounded to either the metal stove pipe or another metal object nearby. When no ground is available, reproducible measurements can be obtained by clipping the ground lead to the handle of the interface probe case. After grounding the probe, the top of the well casing is fitted with a light filter to insure that sunlight does not interfere with the operation of the probe's optical mechanism.

The probe tip is then lowered into the well and submerged in the groundwater. An oscillating (beeping) tone indicates the probe is in water. The probe is slowly raised until either the oscillating tone ceases or becomes a steady tone. In either case, this is the depth-to-water indicator and the DTW measurement is made accordingly. The steady tone indicates floating hydrocarbons. In this case, the probe is slowly raised until the steady tone ceases. This is the depth-to-product (DTP) indicator and the DTP measurement is made accordingly.

The process of lowering and raising the probe must be repeated several times to ensure accurate measurements. The DTW and DTP measurements are recorded on the liquid-level data sheet. When floating product is indicated by the probe's response, a product bailer is lowered partially through the product-water interface to confirm the product on the water surface, and as further indication of product thickness, particularly in cases where the product layer is quite thin. This measurement is recorded on the data sheet as "product thickness."

In order to avoid cross-contamination of wells during the liquid-level measurement process, wells are measured in the order of "clean" to "dirty" (where such information is available). In addition, all measurement equipment is cleaned with TSP solution and thoroughly rinsed with deionized water before use, between measurements in respective wells, and at the completion of the day's use.

ATTACHMENT 2

ANALYTICAL LABORATORY REPORTS AND CHAIN-OF-CUSTODY FORM

October 2, 1992
Sample Log 5091

John Giorgi
Aegis Environmental Consultants, Inc.
1050 Melody Lane, Suite 160
Roseville, CA 95678

RECEIVED
OCT - 6 1992
Ans'd. CF/AJG

Subject: Analytical Results for 3 Water Samples
Identified as: Project # 91-212 (Beacon 574)
Received: 09/24/92

Dear Mr. Giorgi:

Analysis of the sample(s) referenced above has been completed. This report is written to confirm results communicated on October 2, 1992 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

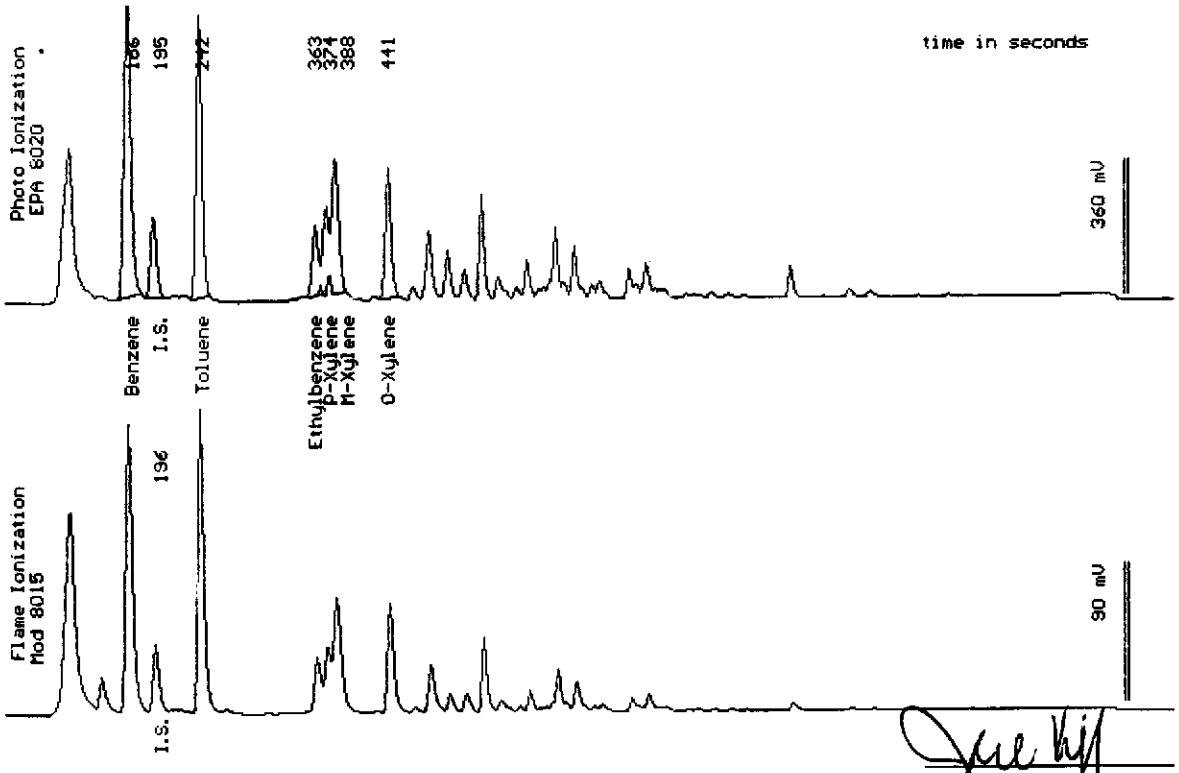
Sample Log 5091

5091-1

Sample: **MW-1**

From : Project # 91-212 (Beacon 574)
Sampled : 09/23/92
Dilution : 1:5 QC Batch : 4056E
Matrix : Water

Parameter	(MDL) ug/L	Measured Value ug/L
Benzene	(2.5)	480
Toluene	(2.5)	430
Ethylbenzene	(2.5)	110
Total Xylenes	(2.5)	550
TPH as Gasoline	(250)	3400



Date Analyzed: 09-29-92
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Joel Kiff
Senior Chemist

Western Environmental Science & Technology • 45133 County Road 32B • Davis, CA 95616 • 916 753-9500 • FAX: 916 757-4652

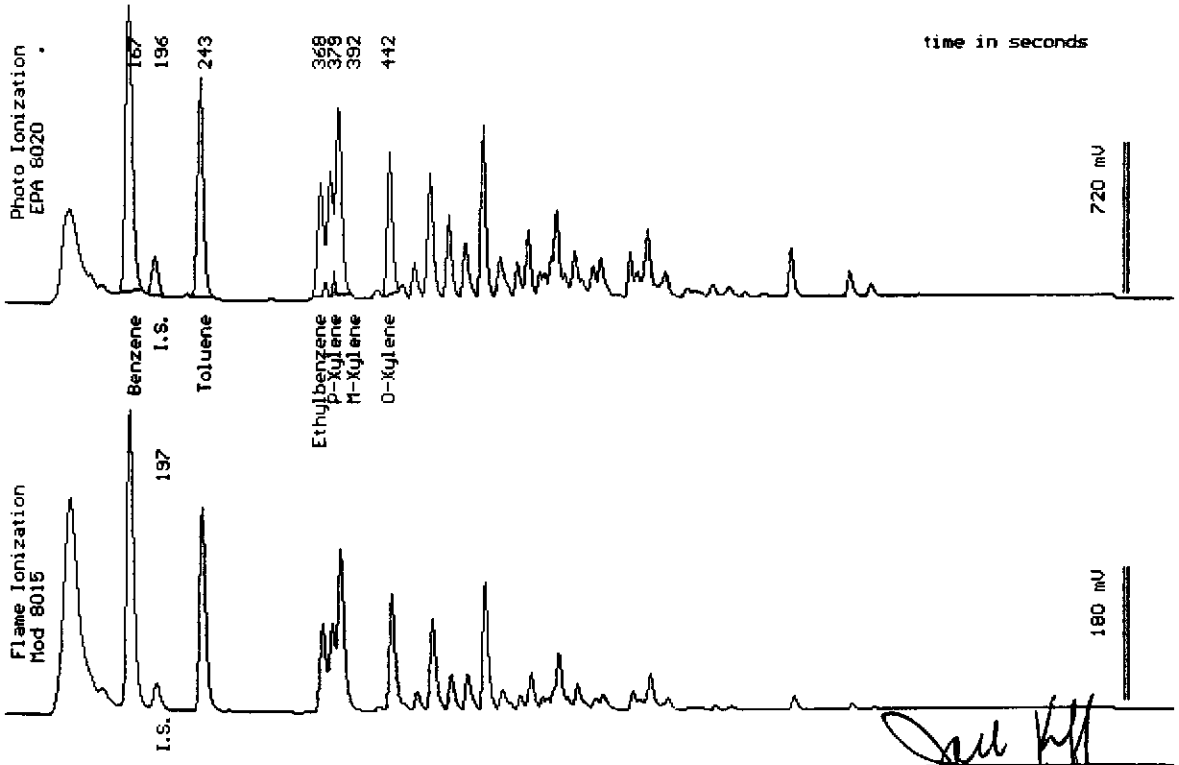
Sample Log 5091

5091-2

Sample: **MW-2**

From : Project # 91-212 (Beacon 574)
Sampled : 09/23/92
Dilution : 1:10 QC Batch : 4056E
Matrix : Water

Parameter	(MDL) ug/L	Measured Value ug/L
Benzene	(5.0)	2100
Toluene	(5.0)	1500
Ethylbenzene	(5.0)	760
Total Xylenes	(5.0)	2900
TPH as Gasoline	(500)	22000



Date Analyzed: 09-29-92
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Joel Kiff
Senior Chemist

Western Environmental Science & Technology · 45133 County Road 32B · Davis, CA 95616 · 916 753-9500 · FAX: 916 757-4652

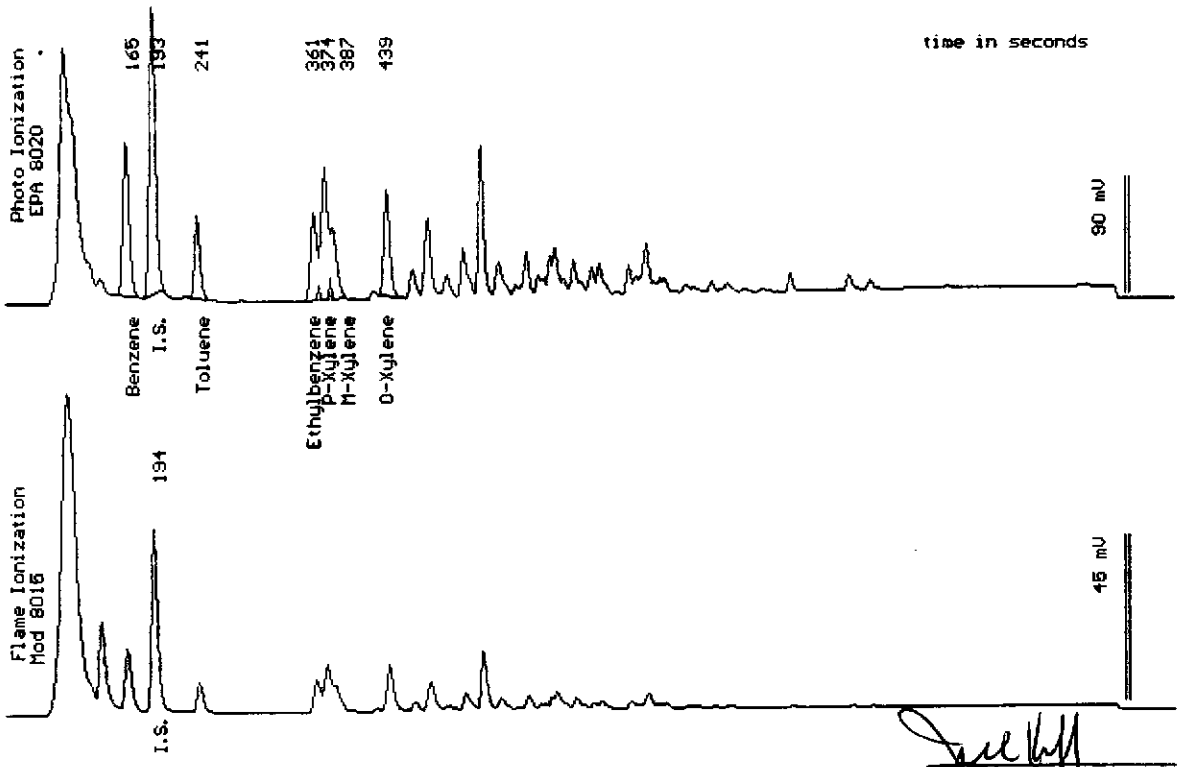
Sample Log 5091

5091-3

Sample: **MW-3**

From : Project # 91-212 (Beacon 574)
Sampled : 09/23/92
Dilution : 1:1 QC Batch : 4056G
Matrix : Water

Parameter	(MDL) ug/L	Measured Value ug/L
Benzene	(.50)	8.3
Toluene	(.50)	4.3
Ethylbenzene	(.50)	6.2
Total Xylenes	(.50)	19
TPH as Gasoline	(50)	220



Date Analyzed: 09-30-92
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Joel Kiff
Senior Chemist

Western Environmental Science & Technology · 45133 County Road 32B · Davis, CA 95616 · 916 753-9500 · FAX: 916 757-4652

Ultramar Inc.
CHAIN OF CUSTODY REPORT

BEACON

Beacon Station No.	Sampler (Print Name)	ANALYSES									Date	Form No.
574	BRIAN HENDERSON										9-23-92	1 of 1
Project No.	Sampler (Signature)										TO WEST	
91-212											753-9500	
Project Location	Affiliation										2wk TAT	
CASTRO VALLEY CA	DELTA TECH											

Sample No./Identification	Date	Time	Lab No.	BTEX	TPH (gasoline)	TPH (diesel)						No. of Containers	REMARKS
MW-1	9-23-92	3:05		X	X								
MW-2	9-23-92	3:10		X	X								
MW-3	9-23-92	3:10		X	X								

Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
	9/24/92	1605			
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
			Troy L Tyson	9/24/92	16:05

Report To: JOHN GIORGI
1050 MELODY LN. #160
ROSEVILLE CA 95678

Bill to: ULTRAMAR INC.
525 West Third Street
Hanford, CA 93230
Attention: RANDALL STEPHENSON

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

32-8003 1/90

PL 1553