ALCO
HAZMAT

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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

December 9, 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 Third Quarter 1993 Groundwater Monitoring Report 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: Third Quarter 1993 Groundwater Monitoring Report
Quarterly 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: December 9, 1993
QUARTER ENDING: September 30, 1993

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 August 11, 1993.

Installed five new groundwater monitoring wells in May of 1993. With the installation of these new wells the site is fully defined.

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. Benzene concentrations in MW-4, MW-5, MW-6, MW-7 and MW-8 have remained not detected since installation.

PROPOSED ACTIVITY OR WORK FOR NEXT QUARTER:

ACTIVITY	ESTIMATED COMPLETION DATE
Fourth quarter monitoring	November 1993
Conduct soil gas survey and performance test, aquifer pump test and air sparging test.	February 1994

1050 Melody Lane, Suite 160, Roseville, California 95678
AEGIS ENVIRONMENTAL, INC.
(916) 782 2110 Fax (916) 786 7830

November 29, 1993

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

Subject: **Third Quarter 1993 Groundwater Monitoring Report**
Beacon Station #574
22315 Redwood Road, Castro Valley, California

Dear Mr. Earnest:

Aegis Environmental, Inc. (Aegis), is pleased to provide Ultramar Inc. this report documenting the results of quarterly groundwater monitoring conducted on August 11, 1993, at the subject site (Figure 1). The monitoring included measurements of depth to groundwater, subjective analysis of free product, and collection of groundwater samples. All field activities pertaining to events in this report were conducted according to Aegis' Standard Operating Procedures included in Attachment 1.

GROUNDWATER ELEVATIONS

Prior to purging, Aegis personnel collected depth-to-water measurements. Groundwater level data from March 1992 to date, are summarized in Table 1. Previous groundwater level data are included in Attachment 3. On the basis of the current measurements, groundwater flows to the southwest (Figure 2) at a gradient of 0.01 ft/ft. Groundwater levels have decreased an average of 0.64-foot compared to the last monitoring event.

GROUNDWATER SAMPLING AND ANALYSES

Groundwater samples were collected from all eight wells. All samples were analyzed for concentrations of:

- Total petroleum hydrocarbons, as gasoline, by modified EPA Method 8015;
- Benzene, toluene, ethylbenzene, and total xylenes by EPA Method 602.

Analytical results from March 1992 to date are summarized in Table 2. Previous analytical results are included in Attachment 4. Figure 3 is a distribution map of benzene in groundwater based on the current data. The laboratory report and chain-of-custody form are included as Attachment 2. Benzene concentrations remain nondetectable in wells MW-4 through MW-8. Wells MW-1 through MW-3 had an increase in benzene concentrations compared to the last sampling event.

Aegis recommends a copy of this quarterly monitoring report be forwarded to the following parties:

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 Regional Water Quality Control Board
2101 Webster Street, Suite 500
Oakland, California 94612

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

If you have any questions or comments, please call us at (916) 782-2110.

Sincerely,

AEGIS ENVIRONMENTAL, INC.

Owen W. Kittredge
Project Geologist

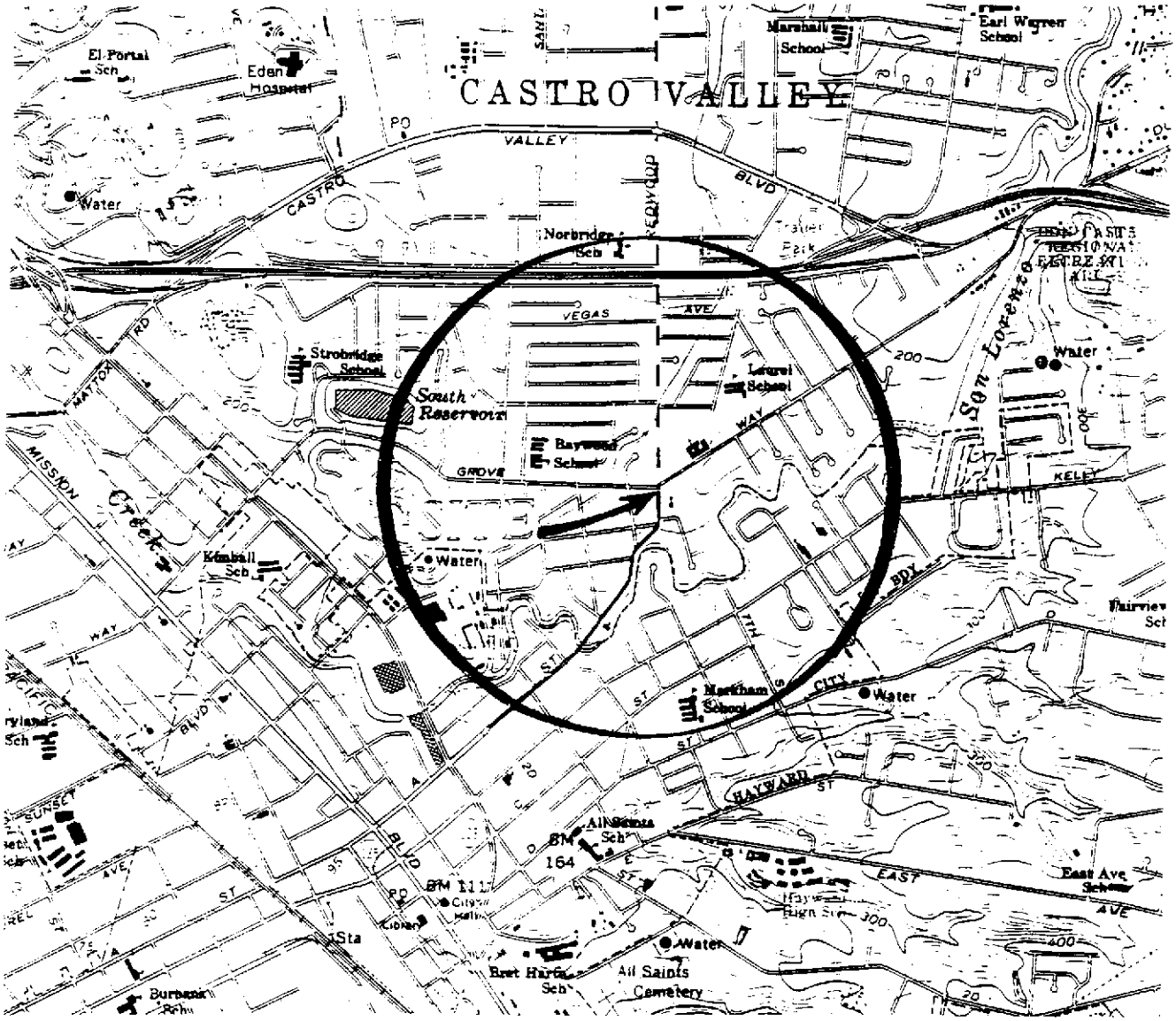
REGISTERED PROFESSIONAL ENGINEER
EDGAR PAUL HAYES
Cert No. C49163
EXP. 9/2-/56
CIVIL
STATE OF CALIFORNIA

E. Paul Hayes
Principal Engineer
PE No. C49163

11/1-/93
Date

OMK/EPH/srr

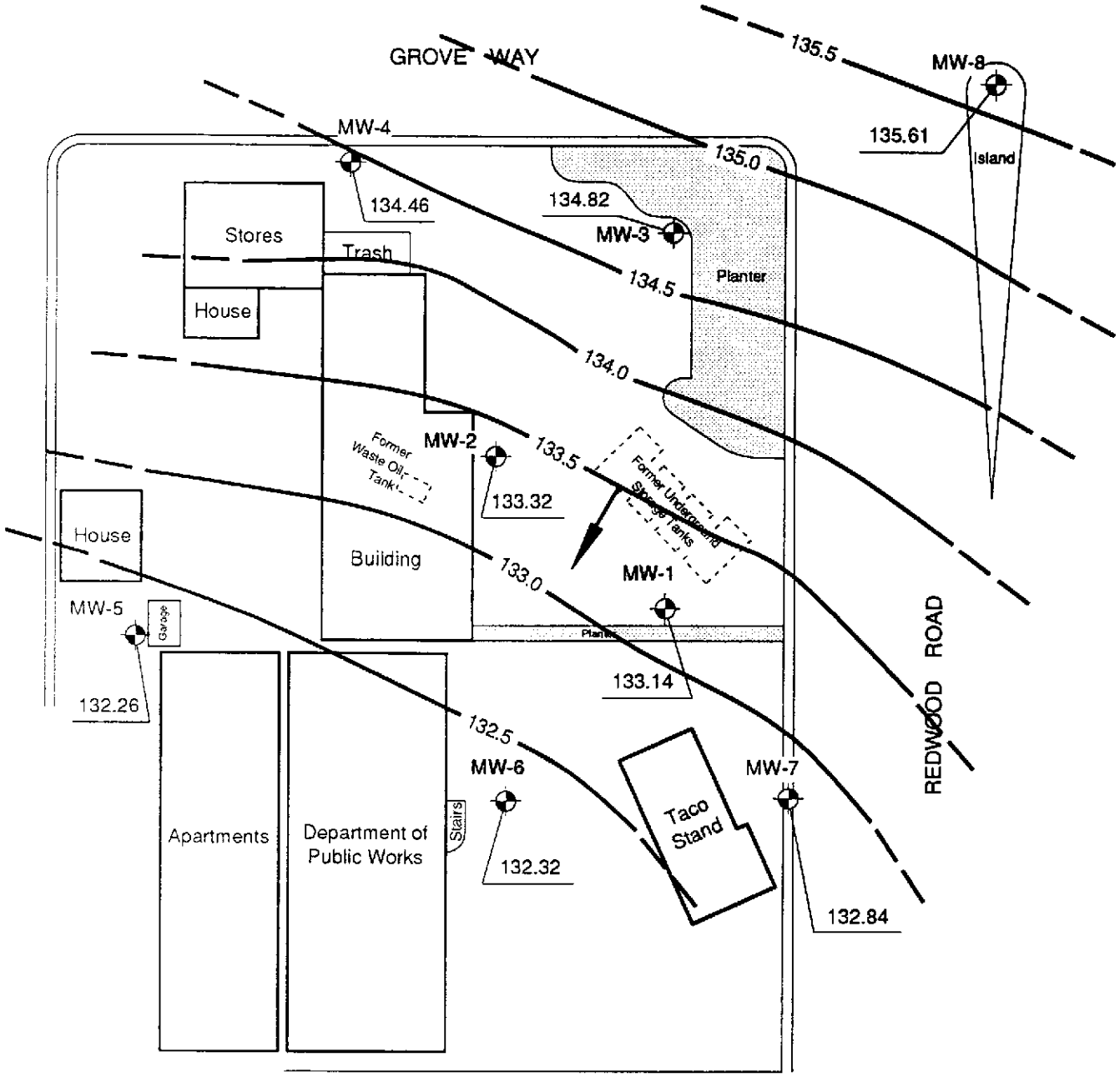
Attachments



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	
REVISED BY:	DATE:		PROJECT NUMBER: 10-91212
REVIEWED BY: John Giorgi	DATE: April 15, 1992		



LEGEND

Monitoring Well

Potentiometric Surface Contour Line (Dashed Where Inferred)

133.14 Groundwater Elevation in Feet

Estimated Direction of Groundwater Flow

Hydraulic Gradient = 0.01 ft/ft
Contour Interval = 0.5 ft

NOTES

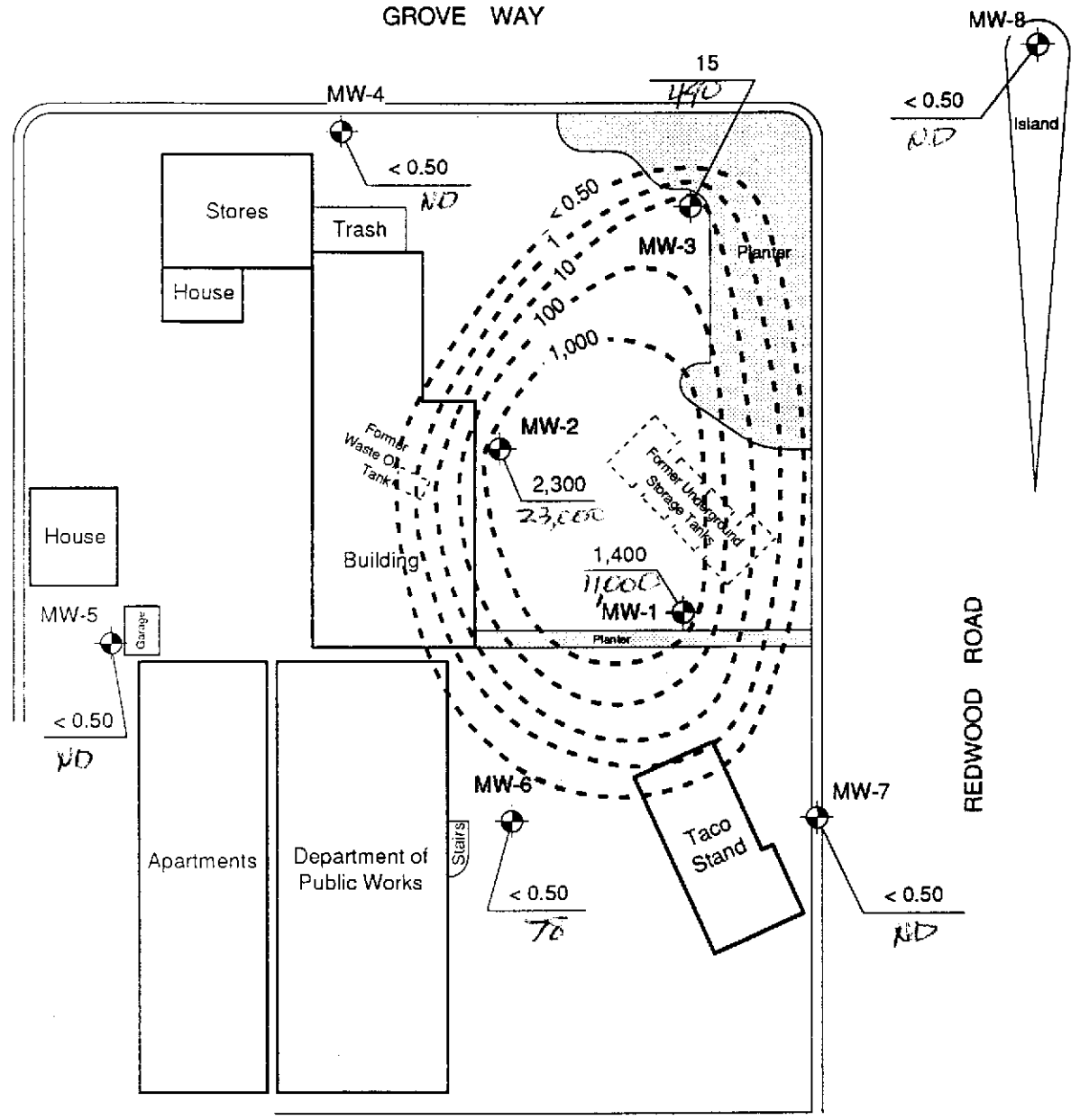
Site Sketch After Site Map

By Acton • Mickelson • van Dam, Inc.

All locations Are Approximate

0 50 100
Approximate Scale
1" = 50'

AGGIS ENVIRONMENTAL, INC.		POTENTIOMETRIC SURFACE MAP August 11, 1993	FIGURE 2
DRAWN BY: D. Hada	DATE: October 9, 1993	Former Beacon Station # 574 22315 Redwood Road Castro Valley, CA	PROJECT NUMBER: 92-779
REVISED BY:	DATE:		
REVIEWED BY:	DATE:		



LEGEND

- Monitoring Well
- 15 / 29000 TPH-G — Benzene Concentration (parts-per-billion)
- Inferred Iso-Concentration Limits
- < 0.50 — Below Indicated Detection Limit

Contour Interval = Exponential

NOTES

Site Sketch After Site Map

By Acton • Mickelson • van Dam, Inc.

All locations Are Approximate

0 50 100

Approximate Scale
1" = 50'

AEGIS ENVIRONMENTAL, INC.		DISTRIBUTION MAP OF BENZENE IN GROUNDWATER August 11, 1993	FIGURE 3
DRAWN BY: D. Hada	DATE: October 9, 1993	Former Beacon Station # 574 22315 Redwood Road Castro Valley, CA	PROJECT NUMBER: 92-779
REVISED BY:	DATE:		
REVIEWED BY:	DATE:		

TABLE 1

WATER LEVEL DATA

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]	Well Depth	Comments
MW-1	03/27/92	156.55	22.43	134.12	—	
	06/04/92		23.40	133.15	—	
	09/23/92		24.07	132.48	—	
	11/12/92		24.16	132.39	29.33	
	02/02/93		21.87	134.68	29.80	
	05/07/93		22.58	133.97	29.84	
	05/18/93		22.66	133.89	—	
	08/11/93		23.41	133.14	29.81	
MW-2	03/27/92	155.17	20.82	134.35	—	
	06/04/92		21.81	133.36	—	
	09/23/92		22.45	132.72	—	
	11/12/92		22.60	132.57	29.71	
	02/02/93		20.28	134.89	29.73	
	05/07/93		20.97	134.20	29.73	
	05/18/93		21.06	134.11	—	
	08/11/93		21.85	133.32	29.70	
MW-3	03/27/92	157.13	21.46	135.67	—	
	06/04/92		22.34	134.79	—	
	09/23/92		22.84	134.29	—	
	11/12/92		23.04	134.09	29.55	
	02/02/93		21.03	136.10	29.45	
	05/07/93		21.59	135.54	29.53	
	05/18/93		21.73	135.40	—	
	08/11/93		22.31	134.82	29.41	
MW-4	05/18/93	151.96	17.55	134.41	—	
	08/11/93		17.50	134.46	28.43	
MW-5	05/18/93	148.68	15.72	132.96	—	
	08/11/93		16.42	132.26	25.43	
MW-6	05/18/93	153.96	20.80	133.16	—	
	08/11/93		21.64	132.32	31.15	
MW-7	05/18/93	156.09	22.64	133.45	—	
	08/11/93		23.25	132.84	30.75	
MW-8	05/18/93	158.04	21.55	136.49	—	
	08/11/93		22.43	135.61	34.82	

NOTES:
[1] = Measurement and reference elevation taken from notch/mark on top north side of well casing.
[2] = Elevation referenced to mean sea level.
Well Depth = Measurement from top of casing to bottom of well.
--- = Not measured.

TABLE 2

ANALYTICAL RESULTS: GROUNDWATER

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

Monitoring Well	Date Collected	Total Petroleum Hydrocarbons			Aromatic Volatile Organics			
		Gasoline	Diesel	Motor Oil	Benzene	Toluene	Ethyl-benzene	Total Xylenes
MW-1	03/27/92	5,600	<50	<50	760	900	230	1,100
	06/04/92	2,600	<800	NS	270	57	230	440
	09/23/92	3,400	NS	NS	480	430	110	550
	11/12/92	2,700	NS	NS	5.8	<5.0	140	340
	02/02/93	6,500	NS	NS	760	770	250	1,200
	05/07/93	7,700	NS	NS	970	630	280	1,500
	08/11/93	11,000	NS	NS	1,400	1,000	260	1,600
MW-2	03/27/92	18,000	<50	<50	2,400	2,300	670	3,300
	06/04/92	14,000	<5,000	NS	1,900	1,700	580	2,300
	09/23/92	22,000	NS	NS	2,100	1,500	760	2,900
	11/12/92	29,000	NS	NS	2,400	860	540	3,500
	02/02/93	24,000	NS	NS	2,700	1,900	590	2,600
	05/07/93	19,000	NS	NS	1,800	1,300	460	2,600
	08/11/93	23,000	NS	NS	2,300	1,500	550	2,300
MW-3	03/27/92	160	<50	<50	9.2	4.8	10	23
	06/04/92	120	<50	NS	7.5	2.7	0.5	15
	09/23/92	220	NS	NS	8.3	4.3	6.2	19
	11/12/92	230	NS	NS	12	5.5	7.7	19
	02/02/93	86	NS	NS	2.4	0.71	2.7	6.2
	05/07/93	140	NS	NS	2.6	1.2	3.9	8.4
	08/11/93	490	NS	NS	15	8.1	14	37
MW-4	05/18/93	<50	NS	NS	<0.5	<0.5	<0.5	<0.5
	08/11/93	<50	NS	NS	<0.5	<0.5	<0.5	<0.5
MW-5	05/18/93	<50	NS	NS	<0.5	<0.5	<0.5	<0.5
	08/11/93	<50	NS	NS	<0.5	<0.5	<0.5	<0.5

NOTES: < = Below indicated detection limit.
NS = Not sampled.

Aegis Environmental, Inc.
92-778/October 14, 1993

TABLE 2

ANALYTICAL RESULTS: GROUNDWATER

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

Monitoring Well	Date Collected	Total Petroleum Hydrocarbons			Aromatic Volatile Organics			
		Gasoline	Diesel	Motor Oil	Benzene	Toluene	Ethyl-benzene	Total Xylenes
MW-6	05/18/93	170	NS	NS	<0.5	<0.5	<0.5	<0.5
	08/11/93	78	NS	NS	<0.5	<0.5	<0.5	<0.5
MW-7	05/18/93	<50	NS	NS	<0.5	<0.5	<0.5	<0.5
	08/11/93	<50	NS	NS	<0.5	<0.5	<0.5	<0.5
MW-8	05/18/93	<50	NS	NS	<0.5	<0.5	<0.5	<0.5
	08/11/93	<50	NS	NS	<0.5	<0.5	<0.5	<0.5

NOTES: < = Below indicated detection limit.
NS = Not sampled.

ATTACHMENT 1

STANDARD OPERATING PROCEDURES

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.

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.

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.

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) 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 "Measured Total Depth" of the well.

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.

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 (DTW) 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 or similar 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

LABORATORY REPORT AND CHAIN-OF-CUSTODY FORM

August 18, 1993
Sample Log 7136

Sheila Richgels
Aegis Environmental Consultants, Inc.
1050 Melody Lane, Suite 160
Roseville, CA 95678

Subject: Analytical Results for 8 Water Samples
Identified as: Project # 92-779 (Beacon #574)
Received: 08/12/93

Dear Ms. Richgels:

Analysis of the sample(s) referenced above has been completed. This report is written to confirm results communicated on August 18, 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:

Stewart Podolsky
Senior Chemist

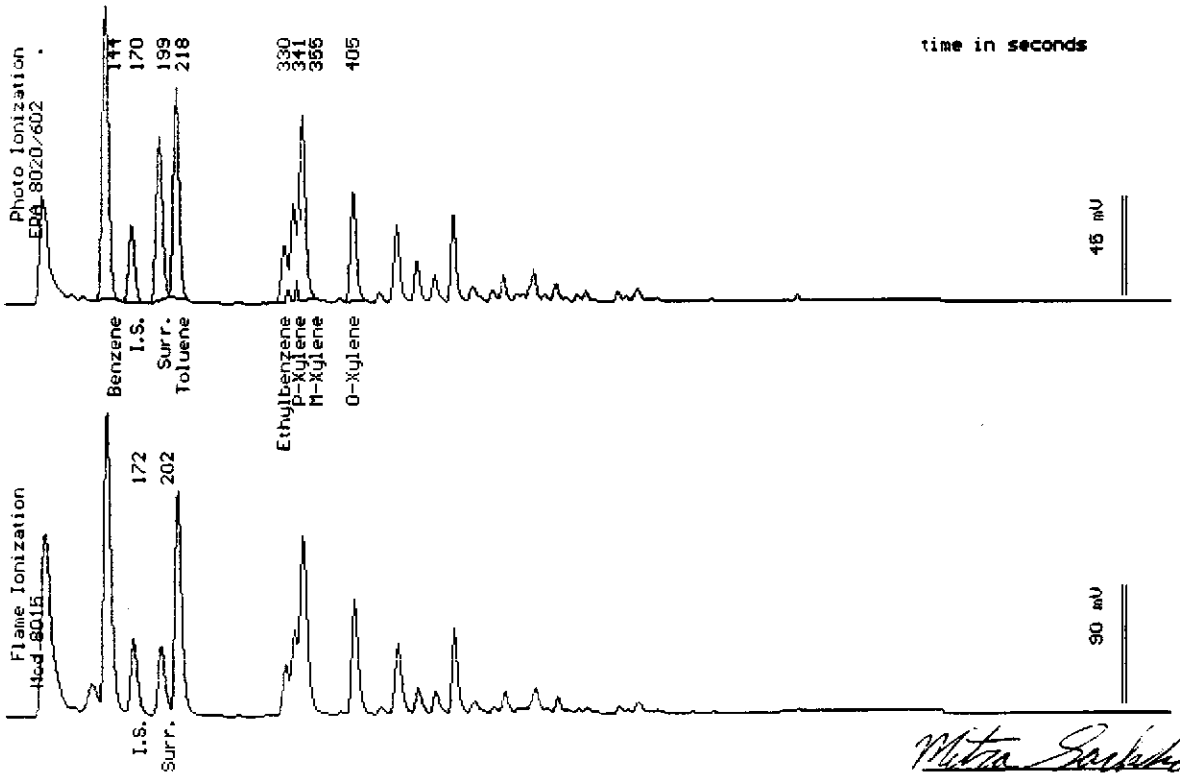
Sample Log 7136

7136-1

Sample: **MW-1**

From : Project # 92-779 (Beacon #574)
Sampled : 08/11/93
Dilution : 1:17 QC Batch : 2010c
Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Benzene	(8.3)	1400
Toluene	(8.3)	1000
Ethylbenzene	(8.3)	260
Total Xylenes	(8.3)	1600
TPH as Gasoline	(830)	11000
Surrogate Recovery		92 %



Date Analyzed: 08-17-93
Column : 0.53mm ID X 30m DB5 (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

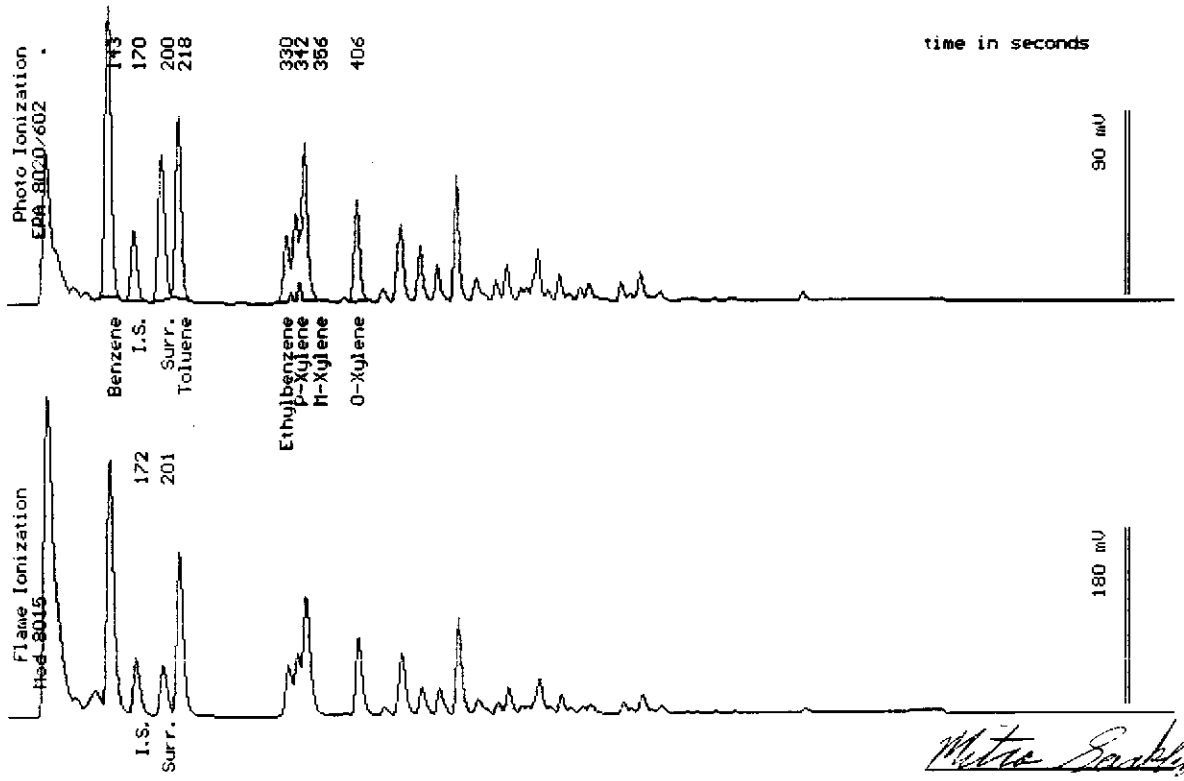
Sample Log 7136

7136-2

Sample: **MW-2**

From : Project # 92-779 (Beacon #574)
Sampled : 08/11/93
Dilution : 1:25 QC Batch : 2010c
Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Benzene	(13)	2300
Toluene	(13)	1500
Ethylbenzene	(13)	550
Total Xylenes	(13)	2300
TPH as Gasoline	(1300)	23000
Surrogate Recovery		94 %



Date Analyzed: 08-17-93
Column : 0.53mm ID X 30m DB5 (J&W Scientific)

Joel Kiff
Senior Chemist

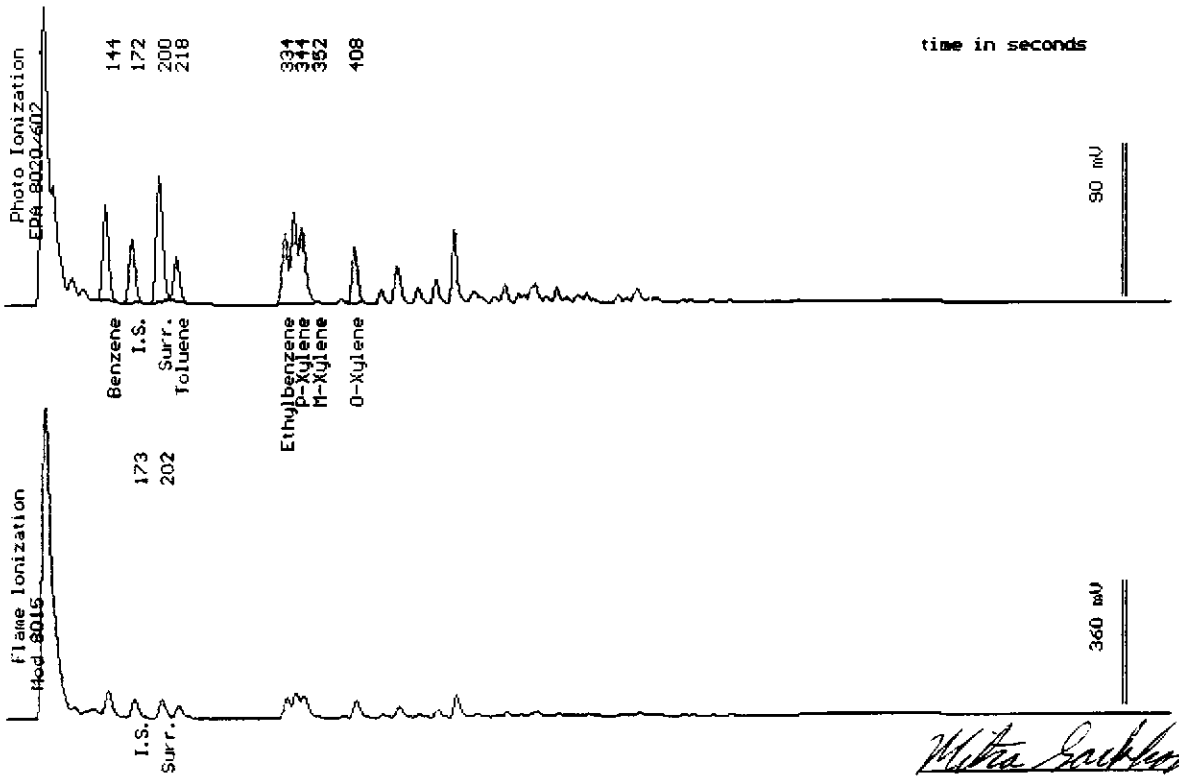
Sample Log 7136

7136-3

Sample: **MW-3**

From : Project # 92-779 (Beacon #574)
Sampled : 08/11/93
Dilution : 1:1 QC Batch : 2010b
Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L	
Benzene	(.50)	15	
Toluene	(.50)	8.1	
Ethylbenzene	(.50)	14	
Total Xylenes	(.50)	37	
TPH as Gasoline	(50)	490	
Surrogate Recovery		92	%



Date Analyzed: 08-16-93
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

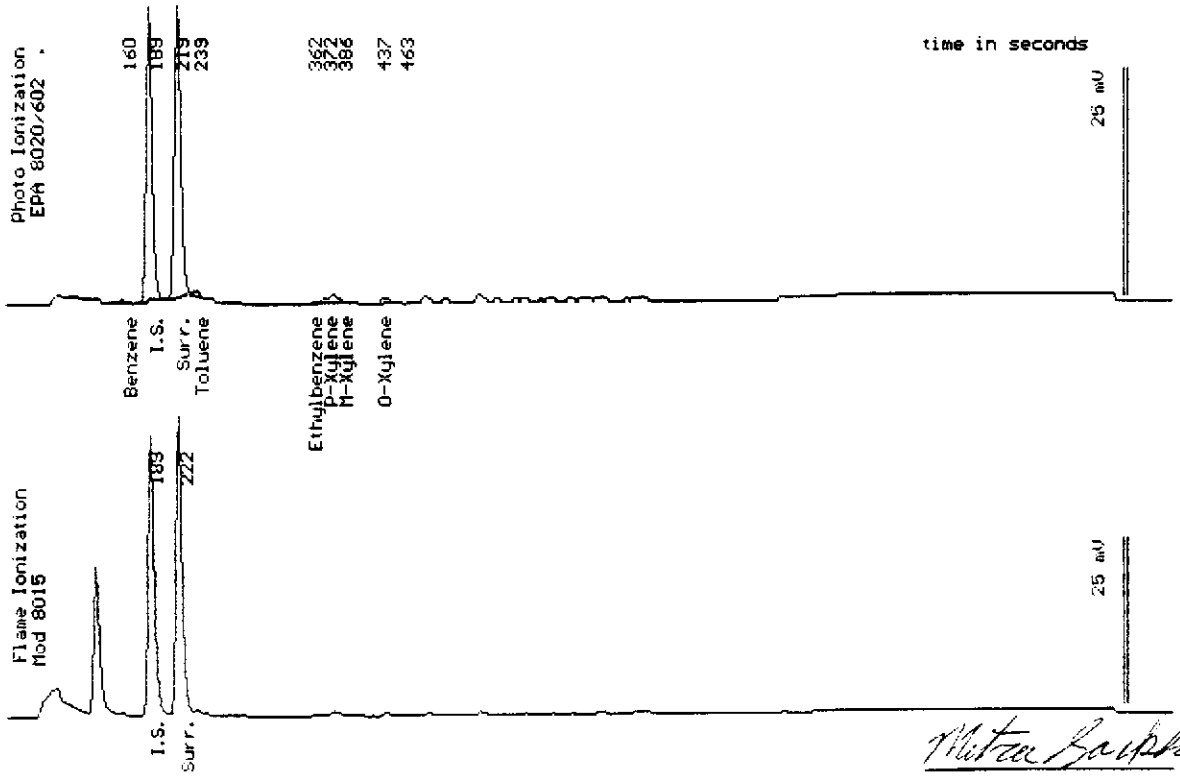
Sample Log 7136

7136-4

Sample: **MW-4**

From : Project # 92-779 (Beacon #574)
Sampled : 08/11/93
Dilution : 1:1 QC Batch : 4028d
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: 08-16-93
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

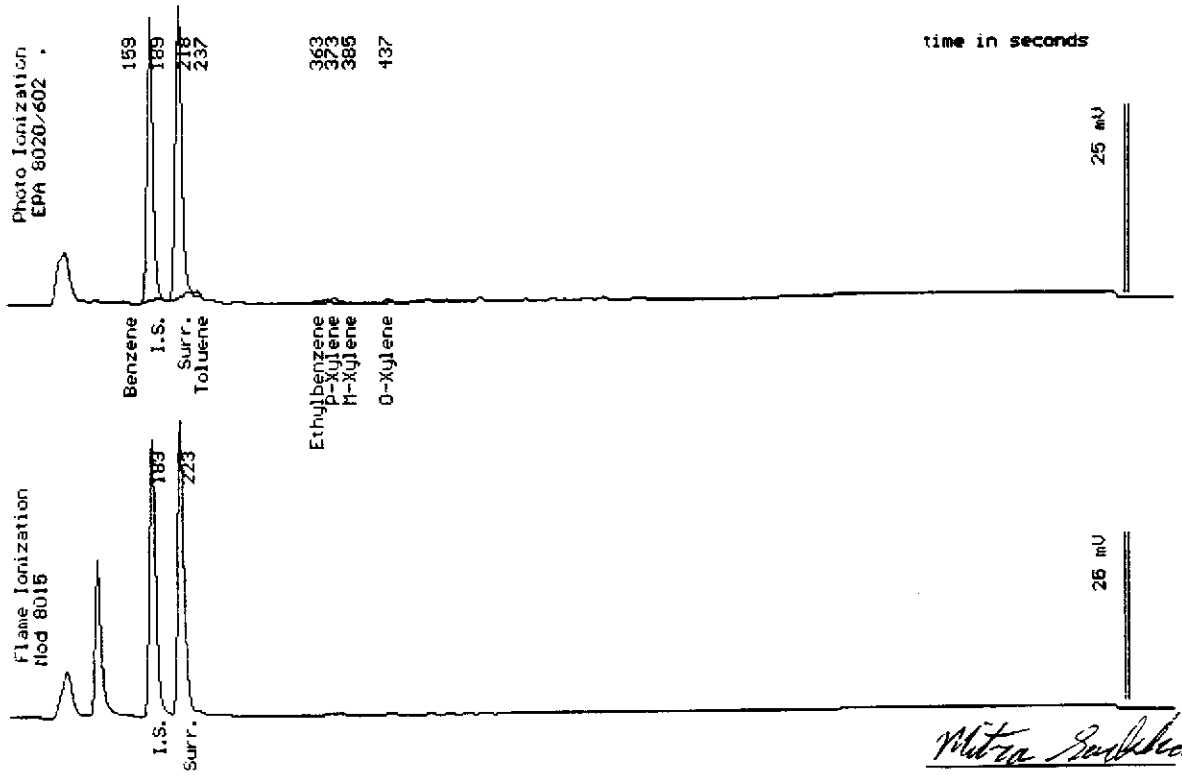
Sample Log 7136

7136-5

Sample: **MW-5**

From : Project # 92-779 (Beacon #574)
Sampled : 08/11/93
Dilution : 1:1 QC Batch : 4028f
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		109 %



Date Analyzed: 08-17-93
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

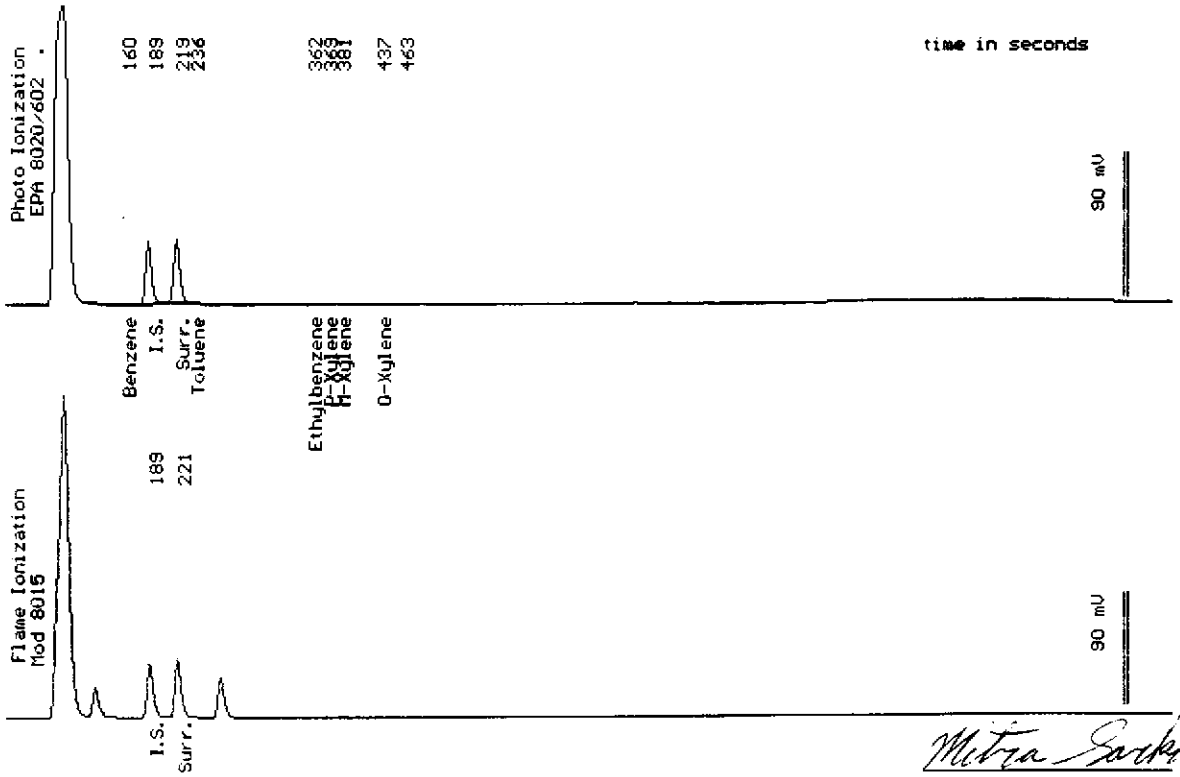
Sample Log 7136

7136-6

Sample: **MW-6**

From : Project # 92-779 (Beacon #574)
Sampled : 08/11/93
Dilution : 1:1 QC Batch : 4028e
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)	78
Surrogate Recovery		101 %



Date Analyzed: 08-16-93
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Joel Kiff
Senior Chemist

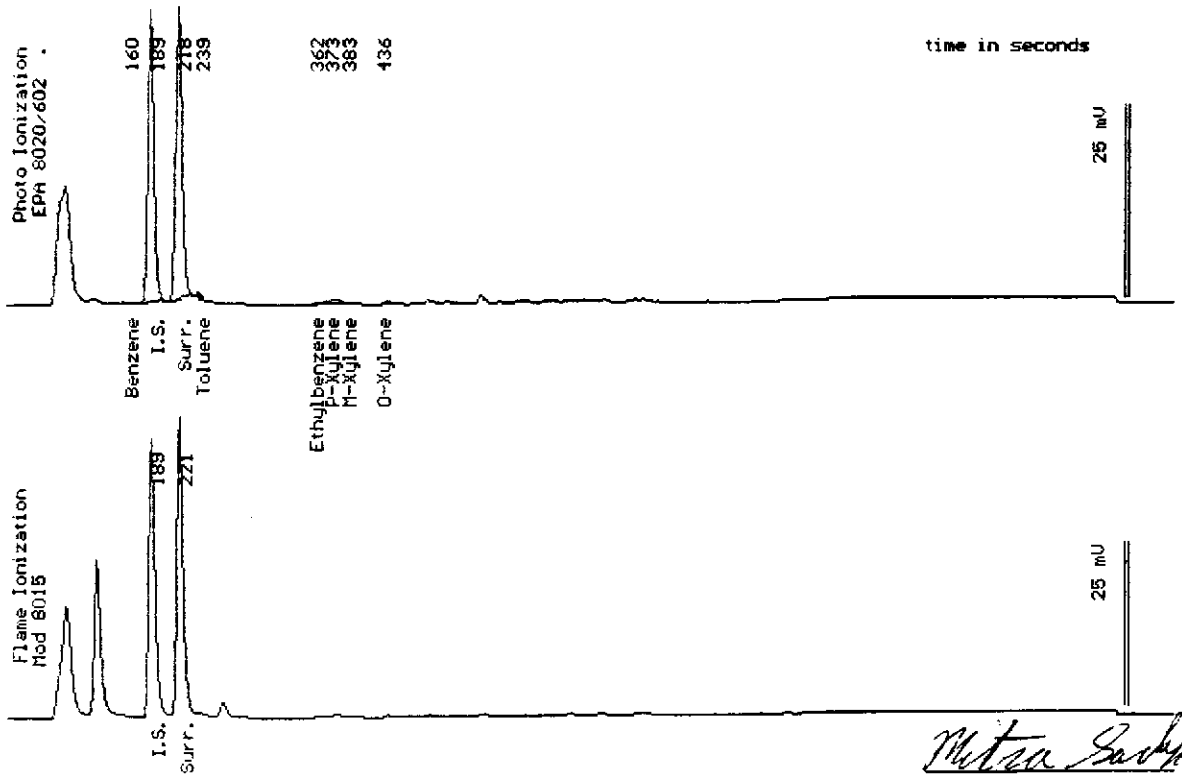
Sample Log 7136

7136-7

Sample: **MW-7**

From : Project # 92-779 (Beacon #574)
Sampled : 08/11/93
Dilution : 1:1 QC Batch : 4028e
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: 08-16-93
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

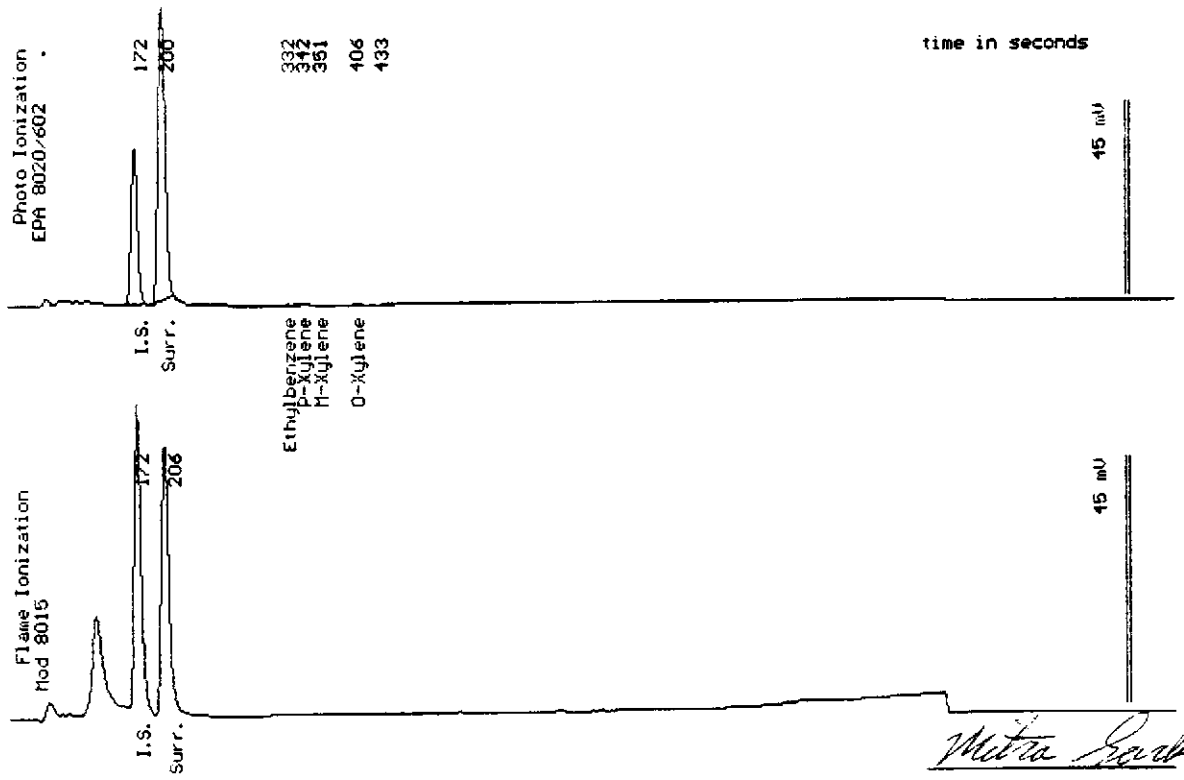
Sample Log 7136

7136-8

Sample: **MW-8**

From : Project # 92-779 (Beacon #574)
Sampled : 08/11/93
Dilution : 1:1 QC Batch : 2010b
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		91 %



Date Analyzed: 08-16-93
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Joel Kiff
Senior Chemist

WEST
(916) 753-9500

Ultramar Inc.
CHAIN OF CUSTODY REPORT

BEACON

Beacon Station No.	Sampler (Print Name)	Date	Form No.
574	[illegible]	8-11-93	1 of 1

Project No.: 92-779

Sampler (Signature): [illegible]

Project Location: CASTRO VALLEY

Affiliation: AEGIS ENVIRONMENTAL

Sample No./Identification	Date	Time	Lab No.	BTEX	TPH (gasoline)	TPH (diesel)						No. of Containers	REMARKS
MW-1	8-11-93	1205p		X	X							3	STANDARD T.A.T
MW-2	↓	1225p		↓	↓							3	
MW-3		1111A										3	
MW-4		1130A										3	
MW-5		1241p										3	
MW-6		1101A										3	
MW-7		1051A										3	
MW-8	8-11-93	1035 AM		↓	↓							3	

Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
[illegible] / AEGIS	8/12	7:15	[illegible]	8/12	8:15 pm
[illegible]	8/12	[illegible]			
			[illegible]	8/12	3:00

Report To: SHEILA RICHGELS 916/782-2110
ROSEVILLE, CA. Fax 786-7830

Bill to: ULTRAMAR INC.
525 West Third Street
Hanford, CA 93230
Attention: KENNETH EARNEST

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

32-8003 1/90

ATTACHMENT 3

HISTORICAL WATER LEVEL DATA

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	132.48
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.

ATTACHMENT 4

HISTORICAL ANALYTICAL DATA

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 5

FIELD DATA SHEETS

AEGIS ENVIRONMENTAL, INC.
GROUNDWATER/LIQUID LEVEL DATA
(measurements in feet)

Project Address: **Beacon - 22315 Redwood, Castro Valley - 574** Date: 8-11-93

Recorded by: C.J. GRI Project No.: 92-779

Well No.	Time	Well Elev. TOC	Measured Total Depth	Depth to Gr. Water	Depth to Product	Product Thickness	Comments (TOC/TOB) (product skimmer in well)
MW-1	1151A	156.55	29.81	23.41			
MW-2	1258p	155.17	29.70	21.85			
MW-3	1139A	157.13	29.41	22.31			
MW-4	11:13A	151.96	28.43	17.50			
MW-5	1232p	148.68	25.43	16.42			
MW-6	1054A	153.96	31.15	21.64			
MW-7	1038A	156.09	30.75	23.25			
MW-8	1021A	158.04	34.82	22.43			

Notes:

AEGIS ENVIRONMENTAL, INC.

SAMPLING INFORMATION SHEET

Client: BEACON #574
Site: 22315 REDWOOD RD. CASTRO VALLEY, CA.

Project No: 92-779
Well Designation: MW-

Purging Equipment:

____	2" Disposable bailer	____	Submersible pump
____	2" PVC bailer	____	Dedicated bailer
X	4" PVC bailer		

Sampled with disposal bailer: X Teflon Bailer: ____

Well Diameter:	2"	3"	4"	6"	8"	
Purge Vol. Multiplier:	0.163	0.367	0.653	1.47	2.61	gal/ft.
	___	___	X	___	___	

Initial Measurment
Time: 1151
Depth of well: 29.81
Depth to water: 22.41

Recharge Measurement
Time: ____
Depth to water: ____

Calculated purge: 16
Actual purge: 8

Meter Calibration
Date ____
Time ____

	Temp.	E.C.	pH	Turbidity
Initial reading				
Adjusted reading				

Start purge: 1153 Sampling time: 1203p Sampling Date: 8-11-93

pH 7.53 (wet)

Time	Temp.	E.C.	pH	Turbidity	Volume
1159	63.8	1.07	7.53		5
went	Dry	at	8		5
					6

Sample appearance: Semi-cloudy
QC samples collected at this well: ____
Lock: Dolphin

Equipment replaced: (Check all that apply) Note condition of replaced item.

2" Locking Cap:	____	Lock #2357:	____
4" Locking Cap:	____	Lock #3753:	____

Remarks: Cap, Riser, Lock - good Sealed well

Signature _____ Review _____

ARGUS ENVIRONMENTAL, INC.

SAMPLING INFORMATION SHEET

Client: Beacon 574
Site: 22315 Bed Wood. RD
Castro Valley

Project No: 92-779
Well Designation: mw-2

Purging Equipment:

	2" Disposable bailer		Submersible pump
	2" PVC bailer		Dedicated bailer
X	4" PVC bailer		

Sampled with disposal bailer: [X] Teflon Bailer: [ ]

Well Diameter:	2"	3"	4"	6"	8"	
Purge Vol. Multiplier:	0.163	0.367	0.653	1.47	2.61	gal/ft.

Initial Measurment
Time: 1208p
Depth of well: 29.70
Depth to water: 21.85

Recharge Measurement
Time: _____
Depth to water: _____

Calculated purge: 20
Actual purge: ~~20~~ 9

Meter Calibration
Date _____
Time _____

	Temp.	E.C.	pH	Turbidity
Initial reading				
Adjusted reading				

Start purge: 1213p Sampling time: 1223p Sampling Date: 8-11-93

Time	Temp.	E.C.	pH	Turbidity	Volume
1218	64.5	129	7.54		7
Went	Dry at	9	gal		7
					6

Sample appearance: cloudy
QC samples collected at this well: _____
Lock: Dolphin

Equipment replaced: (Check all that apply) Note condition of replaced item.

2" Locking Cap: ___ _____
4" Locking Cap: ___ _____
Lock #2357: [ ] _____
Lock #3753: [ ]

Remarks: Cap Rusty lock - good
Sealed well

Signature _____ Review _____

AEGIS ENVIRONMENTAL, INC.

SAMPLING INFORMATION SHEET

Client: BEACON #574
Site: 22315 REDWOOD RD. CASTRO VALLEY, CA.

Project No: 92-779
Well Designation: MW-3

Purging Equipment:
- ____ 2" Disposable bailer
- ____ 2" PVC bailer
- X 4" PVC bailer
- ____ Submersible pump
- ____ Dedicated bailer

Sampled with disposal bailer: X Teflon Bailer: ____

Well Diameter:	2"	3"	4"	6"	8"	
Purge Vol. Multiplier:	0.163	0.367	0.653	1.47	2.61	gal/ft.

Initial Measurment
Time: 1139
Depth of well: 29.41
Depth to water: 22.31

Recharge Measurement
Time: ____
Depth to water: ____

Calculated purge: 18
Actual purge: 18

Meter Calibration
Date ____
Time ____

	Temp.	E.C.	pH	Turbidity
Initial reading				
Adjusted reading				

Start purge: 1141 Sampling time: 1147 Am Sampling Date: 8-11-93

Time	Temp.	E.C.	pH	Turbidity	Volume
1143	63.5	1.23	8.55		6
Went Dry	at 10	gal			6
—					6

Sample appearance: ____
QC samples collected at this well: ____
Lock: Dolphin

Equipment replaced: (Check all that apply) Note condition of replaced item.

2" Locking Cap: ☐ ____ Lock #2357: ☐ ____
4" Locking Cap: ☐ ____ Lock #3753: ☐ ____

Remarks: Cap Riser lock. good Sealed well

Signature: CJ Review: DK

AEGIS ENVIRONMENTAL, INC.

SAMPLING INFORMATION SHEET

Client: BEACON #574
Site: 22315 REDWOOD RD. CASTRO VALLEY, CA.

Project No: 92-779
Well Designation: MW-4

Purging Equipment:

	2" Disposable bailer		
X	2" PVC bailer		Submersible pump
	4" PVC bailer		Dedicated bailer

Sampled with disposal bailer: X Teflon Bailer:

Well Diameter:	2" X	3"	4"	6"	8"	
Purge Vol. Multiplier:	0.163	0.367	0.653	1.47	2.61	gal/ft.

Initial Measurment
Time: 11:13A
Depth of well: 28.43
Depth to water: 17.50

Recharge Measurement
Time:
Depth to water:

Calculated purge: 7.0
Actual purge: 7.0

Meter Calibration
Date
Time
Initial reading
Adjusted reading

Temp.	E.C.	pH	Turbidity

Start purge: 11:17AM Sampling time: 11:35A Sampling Date: 8-11-92

Time	Temp.	E.C.	pH	Turbidity	Volume
11.23	63.1	1.96	8.41		3
1129	62.9	1.91	7.99		2
1132	62.7	1.27	7.96		2

Sample appearance: cloudy
QC samples collected at this well:
Lock: Dolphin

Equipment replaced: (Check all that apply) Note condition of replaced item.

2" Locking Cap:		Lock #2357:	
4" Locking Cap:		Lock #3753:	

Remarks: Cap, Riser, lock - good
Sealed well

Signature
Review OK

AEGIS ENVIRONMENTAL, INC.

SAMPLING INFORMATION SHEET

Client: BEACON #574
Site: 22315 REDWOOD RD. CASTRO VALLEY, CA.

Project No: 92-779
Well Designation: MW-5

Purging Equipment:

	2" Disposable bailer		
X	2" PVC bailer		Submersible pump
	4" PVC bailer		Dedicated bailer

Sampled with disposal bailer: ☐ Teflon Bailer: ☐

Well Diameter:	2" X	3"	4"	6"	8"	
Purge Vol. Multiplier:	0.163	0.367	0.653	1.47	2.61	gal/ft.

Initial Measurment
Time: 1232 pm
Depth of well: 25.43
Depth to water: 16.42

Recharge Measurement
Time: _____
Depth to water: _____

Calculated purge: 5.0
Actual purge: 5.0

Meter Calibration
Date _____
Time _____

	Temp.	E.C.	pH	Turbidity
Initial reading				
Adjusted reading				

Start purge: 1235 pm
Sampling time: 1249 p
Sampling Date: 8-11-93

Time	Temp.	E.C.	pH	Turbidity	Volume
1237	62.7	.64	7.79		2
1243	62.1	.66	7.74		2
1246	61.8	.61	7.71		1

Sample appearance: Semi Cloudy
QC samples collected at this well: _____
Lock: Dolphin

Equipment replaced: (Check all that apply) Note condition of replaced item.

2" Locking Cap: ☐ _____ Lock #2357: ☐ _____
4" Locking Cap: ☐ _____ Lock #3753: ☐ _____

Remarks: Cap, Riser, lock - good Sealed Well

Signature _____ Review _____

AEGIS ENVIRONMENTAL, INC.

SAMPLING INFORMATION SHEET

Client: BEACON #574
Site: 22315 REDWOOD RD. CASTRO VALLEY, CA.

Project No: 92-779
Well Designation: MW-6

Purging Equipment:

___	2" Disposable bailer		
X	2" PVC bailer	___	Submersible pump
___	4" PVC bailer	___	Dedicated bailer

Sampled with disposal bailer: X Teflon Bailer: ___

Well Diameter:	2" X	3" ___	4" ___	6" ___	8" ___	
Purge Vol. Multiplier:	0.163	0.367	0.653	1.47	2.61	gal/ft.

Initial Measurment
Time: 1054
Depth of well: 31.15
Depth to water: 21.64

Recharge Measurement
Time: ___
Depth to water: ___

Calculated purge: 6
Actual purge: 6

Meter Calibration
Date ___
Time ___

	Temp.	E.C.	pH	Turbidity
Initial reading				
Adjusted reading				

Start purge: 1057 Sampling time: 11:09A Sampling Date: 8-11-93

Time	Temp.	E.C.	pH	Turbidity	Volume
11:00	62.9	1.25	7.76		2
11:03	62.7	1.31	7.77		2
11:06	62.1	1.24	7.49		3

Sample appearance: cloudy
QC samples collected at this well: ___
Lock: Dolphin

Equipment replaced: (Check all that apply) Note condition of replaced item.

2" Locking Cap:	___	Lock #2357:	___
4" Locking Cap:	___	Lock #3753:	___

Remarks: Cap, Riser, lock - good
Sealed well

Signature: CJ Review: [signature]

AEGIS ENVIRONMENTAL, INC.

SAMPLING INFORMATION SHEET

Client: BEACON #574
Site: 22315 REDWOOD RD. CASTRO VALLEY, CA.

Project No: 92-779
Well Designation: MW-7

Purging Equipment:
- ___ 2" Disposable bailer
- X 2" PVC bailer
- ___ 4" PVC bailer
- ___ Submersible pump
- ___ Dedicated bailer

Sampled with disposal bailer: X Teflon Bailer: ___

Well Diameter:	2" X	3" ___	4" ___	6" ___	8" ___	
Purge Vol. Multiplier:	0.163	0.367	0.653	1.47	2.61	gal/ft.

Initial Measurment
Time: 1038
Depth of well: 30.75
Depth to water: 23.25

Recharge Measurement
Time: ___
Depth to water: ___

Calculated purge: 4
Actual purge: 4

Meter Calibration
Date ___
Time ___

	Temp.	E.C.	pH	Turbidity
Initial reading				
Adjusted reading				

Start purge: 1041 Sampling time: 1051 Sampling Date: 8-11-93

Time	Temp.	E.C.	pH	Turbidity	Volume
1044	63.1	.87	7.65		2
1046	62.7	.89	7.67		1
1048	62.4	.85	7.61		1

Sample appearance: cloudy
QC samples collected at this well: ___
Lock: Dolphin

Equipment replaced: (Check all that apply) Note condition of replaced item.

2" Locking Cap: ___ ___ Lock #2357: ___ ___
4" Locking Cap: ___ ___ Lock #3753: ___ ___

Remarks: Cap Riser, lock - good Sealed well

Signature CJ Review

AEGIS ENVIRONMENTAL, INC.

SAMPLING INFORMATION SHEET

Client: BEACON #574
Site: 22315 REDWOOD RD. CASTRO VALLEY, CA.

Project No: 92-779
Well Designation: MW-8

Purging Equipment:
- ___ 2" Disposable bailer
- X 2" PVC bailer
- ___ 4" PVC bailer
- ___ Submersible pump
- ___ Dedicated bailer

Sampled with disposal bailer: ___ Teflon Bailer: ___

Well Diameter:	2" X	3" ___	4" ___	6" ___	8" ___	
Purge Vol. Multiplier:	0.163	0.367	0.653	1.47	2.61	gal/ft.

Initial Measurment
Time: 1021 AM
Depth of well: 34.82
Depth to water: 22.43

Recharge Measurement
Time: ___
Depth to water: ___

Calculated purge: 8.0
Actual purge: 8.0

Meter Calibration
Date 8-11-93
Time 1015 AM

	Temp.	E.C.	pH	Turbidity
Initial reading		.04	7.13	
Adjusted reading		.02	7.00	

Start purge: ___ Sampling time: 1035 AM Sampling Date: 8-11-93

Time	Temp.	E.C.	pH	Turbidity	Volume
1025	64.2	1.69	7.12		3
1029	65.4	1.35	7.20		3
1033	65.1	1.31	7.22		2

Sample appearance: cloudy
QC samples collected at this well: ___
Lock: Dolphin

Equipment replaced: (Check all that apply) Note condition of replaced item.

2" Locking Cap: ___ ___ Lock #2357: ___ ___
4" Locking Cap: ___ ___ Lock #3753: ___ ___

Remarks: Cap, Risen lock good Sealed well

Signature ___ Review ___