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8:33 am, May 18, 2009

Alameda County
Environmental Health

February 21, 1996

Mr. E.H. Everett
Unocal Corporation
1201 West 5th Street, Rm. 5-211
Los Angeles, California 90051

Re: Site Status
Unocal Service Station No. 7176
7850 Amador Valley Road
Dublin, California

FILE #	<u>7176</u>	SS	<input checked="" type="checkbox"/>	BP	<input type="checkbox"/>
RPT	<input type="checkbox"/>	QM	<input type="checkbox"/>	TRANSMITTAL	<input type="checkbox"/>
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>	6	<input checked="" type="checkbox"/>

Dear Mr. Everett:

On behalf of Unocal Corporation (Unocal), Enviro, Inc. (Enviros), is providing remedial services to address petroleum hydrocarbon impact at the above referenced site. Herein is a summary of remedial activities performed to date, a projection of remedial activities to be completed, or initiated, over the project lifespan, and an estimate of remedial expenses to be incurred by Unocal over the project lifespan. A copy of the MPDS Quarterly Monitoring report dated February 5, 1996 is attached for reference.

REMEDICATION SUMMARY

Four fuel UST's and one waste oil UST were replaced and/or removed in November 1994. Two new fuel UST's were installed in the same excavation which the former fuel USTs were removed. The former waste oil tank was removed and the corresponding excavation backfilled. One sand/water separator located in the service station building was decommissioned and backfilled. Product piping was also replaced concurrently in November 1994. Soils containing petroleum hydrocarbons were found in the UST complex and beneath the two east product dispensers. The UST pit was overexcavated vertically to just below groundwater prior to installation of the new UST's. The areas below the east product dispensers was overexcavated and backfilled prior to installation of the new dispenser islands

Six soil borings and three groundwater monitoring wells were installed in July 1995. The extent of impacted soil is defined, however, groundwater has not been. Site remediation costs may be high due to specific site subsurface conditions. Additional delineation of groundwater, along with soil and groundwater remediation, is warranted. Groundwater monitoring will continue at least through 2000.

CONCURRENCE OF ESTIMATED REMEDIATION EXPENSES

Based on the current information, delineation and remediation of the soil and groundwater at the site is warranted. As of March 1, 1996, the estimated cost to delineate and remediate the soil and groundwater is approximately \$200,000, and the estimated completion date is 2000. This estimate is based on the current data and planned course of action for the subject site. Please note that the cost estimate and completion date are subject to change based on changes in scope and/or changes in regulatory direction and also due to the inherent uncertainties associated with subsurface conditions.

If you have any questions, please call me at 707-935-4856.

Sincerely,

Enviros, Inc.



David J. Vossler
Project Manager

Attachment: MPDS Quarterly Monitoring Report dated February 5, 1996.

cc: Adadu Yemane, Unocal Corporation- San Ramon
Ed Ralston, Unocal Corporation- San Ramon

MPDS-UN7176-02
February 5, 1996

Unocal Corporation
2000 Crow Canyon Place, Suite 400
P.O. Box 5155
San Ramon, California 94583

Attention: Mr. Edward C. Ralston

RE: Quarterly Data Report
Unocal Service Station #7176
7850 Amador Valley Boulevard
Dublin, California

Project No.	96132				
RPT	X	PF		BF	
1	2	3	4	5	6

Dear Mr. Ralston:

This data report presents the results of the most recent quarter of monitoring and sampling of the monitoring wells at the referenced site by MPDS Services, Inc.

RECENT FIELD ACTIVITIES

The monitoring wells that were monitored and sampled during this quarter are indicated in Table 1. Prior to sampling, the wells were checked for depth to water and the presence of free product or sheen. The monitoring data and the ground water elevations are summarized in Table 1. The ground water flow direction during the most recent quarter is shown on the attached Figure 1.

Ground water samples were collected on January 11, 1996. Prior to sampling, the wells were each purged of between 7 and 9 gallons of water. In addition, dissolved oxygen concentrations were also measured and are presented in Table 4. During purging operations, the field parameters pH, temperature, and electrical conductivity were recorded and are presented in Table 2. Once the field parameters were observed to stabilize, and where possible, a minimum of approximately four casing volumes had been removed from each well, samples were then collected using a clean Teflon bailer. The samples were decanted into clean VOA vials and/or one-liter amber bottles, as appropriate, which were then sealed with Teflon-lined screw caps, labeled, and stored in a cooler, on ice, until delivery to a state-certified laboratory. Field blank and Trip blank samples (denoted as ES1 and ES2 respectively) were also collected for quality assurance and control. MPDS Services, Inc. transported the purged ground water to the Unocal Refinery located in Rodeo, California, for treatment and discharge to San Pablo Bay under NPDES permit.

ANALYTICAL RESULTS

The ground water samples were analyzed at Sequoia Analytical Laboratory and were accompanied by properly executed Chain of Custody documentation. The analytical results of the ground water samples

collected to date are summarized in Table 3. The concentrations of Total Petroleum Hydrocarbons (TPH) as gasoline, TPH as diesel, and benzene detected in the ground water samples collected this quarter are shown on the attached Figure 2. Copies of the laboratory analytical results and the Chain of Custody documentation are attached to this report.

LIMITATIONS

Environmental changes, either naturally-occurring or artificially-induced, may cause changes in ground water levels and flow paths, thereby changing the extent and concentration of any contaminants.

DISTRIBUTION

A copy of this report should be sent to Ms. Eva Chu of the Alameda County Health Care Services Agency.

If you have any questions regarding this report, please do not hesitate to call Joel G. Greger at (510) 602-5120.

Sincerely,

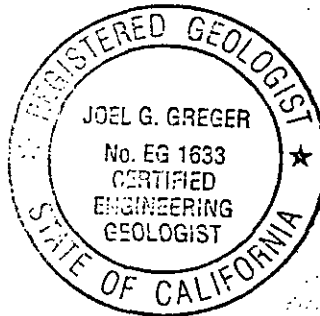
MPDS Services, Inc.



Haig (Gary) Tejirian
Senior Staff Geologist



Joel G. Greger, C.E.G.
Senior Engineering Geologist



License No. EG 1633
Exp. Date 8/31/96

/bp

Attachments: Tables 1 through 4
Location Map
Figures 1 & 2
Laboratory Analyses
Chain of Custody documentation

cc: Clyde Galantine, Enviros, Inc.

TABLE 1

SUMMARY OF MONITORING DATA

<u>Well #</u>	<u>Ground Water Elevation (feet)</u>	<u>Depth to Water (feet)♦</u>	<u>Total Well Depth (feet)</u>	<u>Product Thickness (feet)</u>	<u>Sheen</u>	<u>Water Purged (gallons)</u>
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(Monitored and Sampled January 11, 1996)

U-1	339.29	16.33	28.85	0	No	9
U-2	339.53	17.06	27.25	0	No	7
U-3	339.48	18.65	29.33	0	No	7.5

(Monitored and Sampled October 12, 1995)

U-1	340.24	15.38	29.15	0	No	10
U-2	340.58	16.01	26.15	0	No	7.5
U-3	340.53	17.60	29.06	0	No	8.5

(Monitored and Sampled on July 8, 1995)

U-1	343.03	12.59	30.00	0	--	NA
U-2	343.91	12.68	30.00	0	--	NA
U-3	343.55	14.58	30.00	0	--	NA

<u>Well #</u>	<u>Well Casing Elevation (feet)*</u>
U-1	355.62
U-2	356.59
U-3	358.13

♦ The depth to water level and total well depth measurements were taken from the top of the well casings.

* The elevations of the top of the well casings are relative to Mean Sea Level (MSL), per the Benchmark AM-STW1977 located at the easterly return at the most easterly corner of intersection of Amador Valley Blvd. and Starward Street (Elevation = 344.17 feet MSL).

-- Sheen determination was not performed.

NA = Not available.

Note: Monitoring data prior to October 12, 1995, were provided by Enviros, Inc.

TABLE 2

RECORD OF THE TEMPERATURE, CONDUCTIVITY, AND pH VALUES
 IN THE MONITORING WELLS DURING PURGING AND PRIOR TO SAMPLING

(Measured on January 11, 1996)

Well #	Gallons per Casing Volume	Time	Gallons Purged	Casing Volumes Purged	Temper- ature (°F)	Conductivity ([μmhos/cm] x100)	pH
U-1	2.13	12:05	0	0	69.5	11.08	6.99
			2.5	1.17	72.1	10.57	6.85
			4.5	2.11	72.1	10.73	6.76
			7	3.29	72.1	10.65	6.75
			9	4.23	72.1	10.90	6.74
U-2	1.73	11:40	0	0	73.7	10.10	7.25
			2	1.16	73.0	10.45	7.02
			3.5	2.02	72.7	11.11	6.88
			5	2.89	73.3	10.93	6.86
			7	4.05	73.9	11.21	6.85
U-3	1.82	11:05	0	0	56.7	7.64	7.07
			2	1.10	68.1	10.73	6.94
			4	2.20	70.9	11.27	6.94
			6	3.30	71.8	11.21	6.95
			7.5	4.12	71.9	11.58	6.95

TABLE 3

SUMMARY OF LABORATORY ANALYSES
 WATER

<u>Date</u>	<u>Well #</u>	<u>TPH as Diesel</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl-benzene</u>	<u>Xylenes</u>
1/11/96▲	U-1▼▼	8,200◆	8,300	690	11	680	1,500
	U-2▼▼	8,600◆	10,000	210	55	1,400	240
	U-3	260◆◆	230	0.62	0.91	0.97	1.9
10/12/95	U-1▼	4,200◆	33,000	1,400	ND	1,400	3,100
	U-2▼	3,600◆	24,000	310	60	1,900	190
	U-3	470◆◆	560	ND	0.87	0.70	1.1
7/08/95	U-1	9,400*	39,000	1,500	19	1,600	5,200
	U-2	4,700*	17,000	430	ND	2,200	590
	U-3	710*	1,100**	0.57	2.1	1.7	2.4

▲ On January 11, 1996, the polynuclear aromatic hydrocarbon (PNA) compound naphthalene was detected in well U-1 at a concentration of 320 µg/L, and at a concentration of 310 µg/L in well U-2. All other PNA compounds (EPA method 8100) were non-detectable.

▼ Sequoia Analytical Laboratory has potentially identified the presence of MTBE at reportable levels in the ground water sample collected from this well.

▼▼ Sequoia Analytical Laboratory has identified the presence of MTBE at a level above or equal to the taste and odor threshold of 40 µg/L in the sample collected from this well.

* = Unidentified Hydrocarbon C9-C24

** = Gas and Unidentified Hydrocarbons >C12

◆ Sequoia Analytical Laboratory reported that the hydrocarbons detected appeared to be a diesel and non-diesel mixture.

◆◆ Sequoia Analytical Laboratory reported that the hydrocarbons detected did not appear to be diesel.

ND = Non-detectable.

Results are in micrograms per liter (µg/L), unless otherwise indicated.

Note: Laboratory analyses data prior to October 12, 1995, were provided by Enviros, Inc.

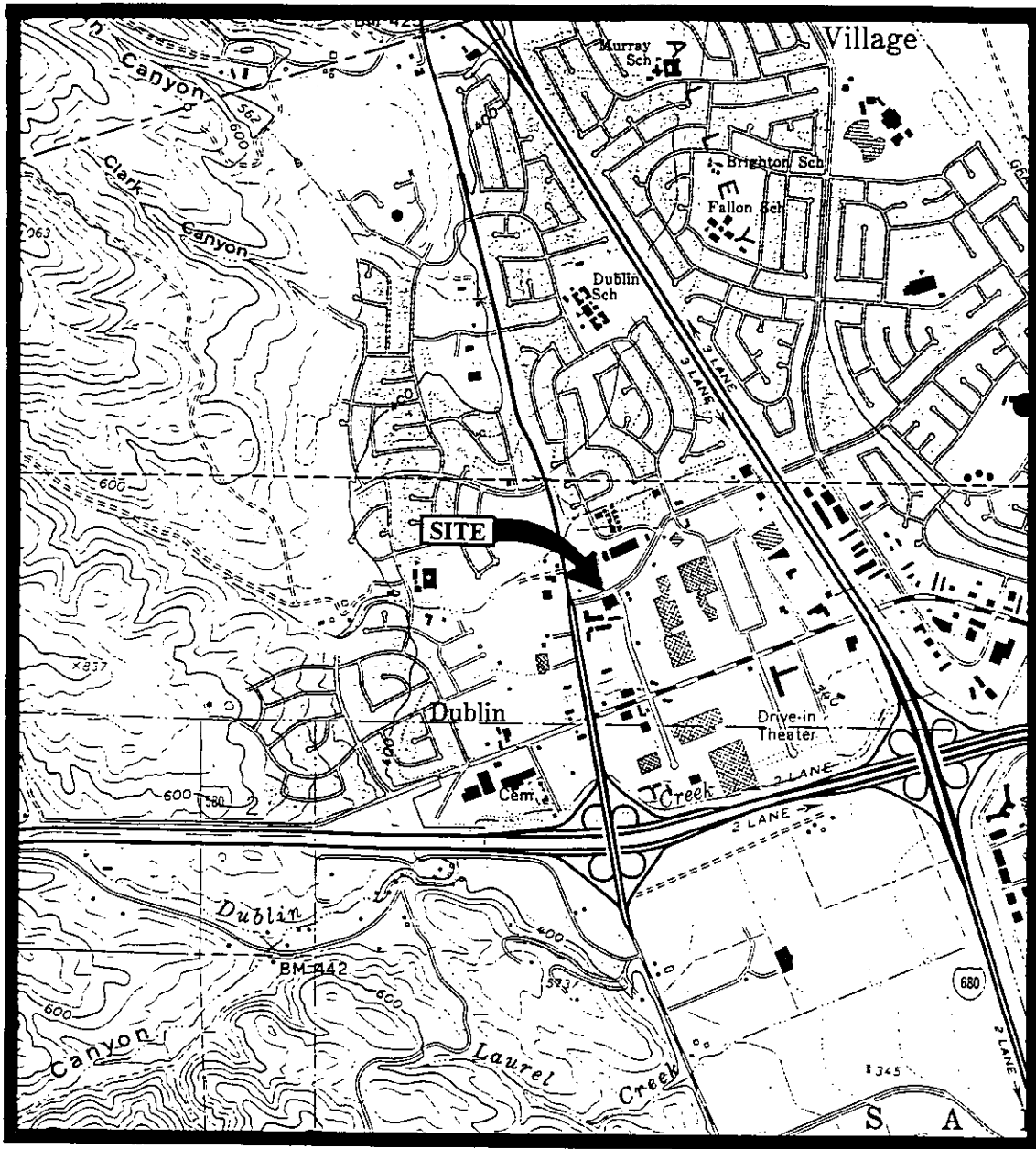
TABLE 4

SUMMARY OF MONITORING DATA

DISSOLVED OXYGEN CONCENTRATIONS (O₂)

<u>Date</u>	<u>Well #</u>	<u>O₂ (ppm)</u>
1/11/96	U-1	3.41
	U-2	3.99
	U-3	5.05
11/07/95	U-1	12.32
	U-2	14.85
	U-3	17.67
10/02/95	CC1*	2.83

* For the location of sample point CC1, see Figure 1.



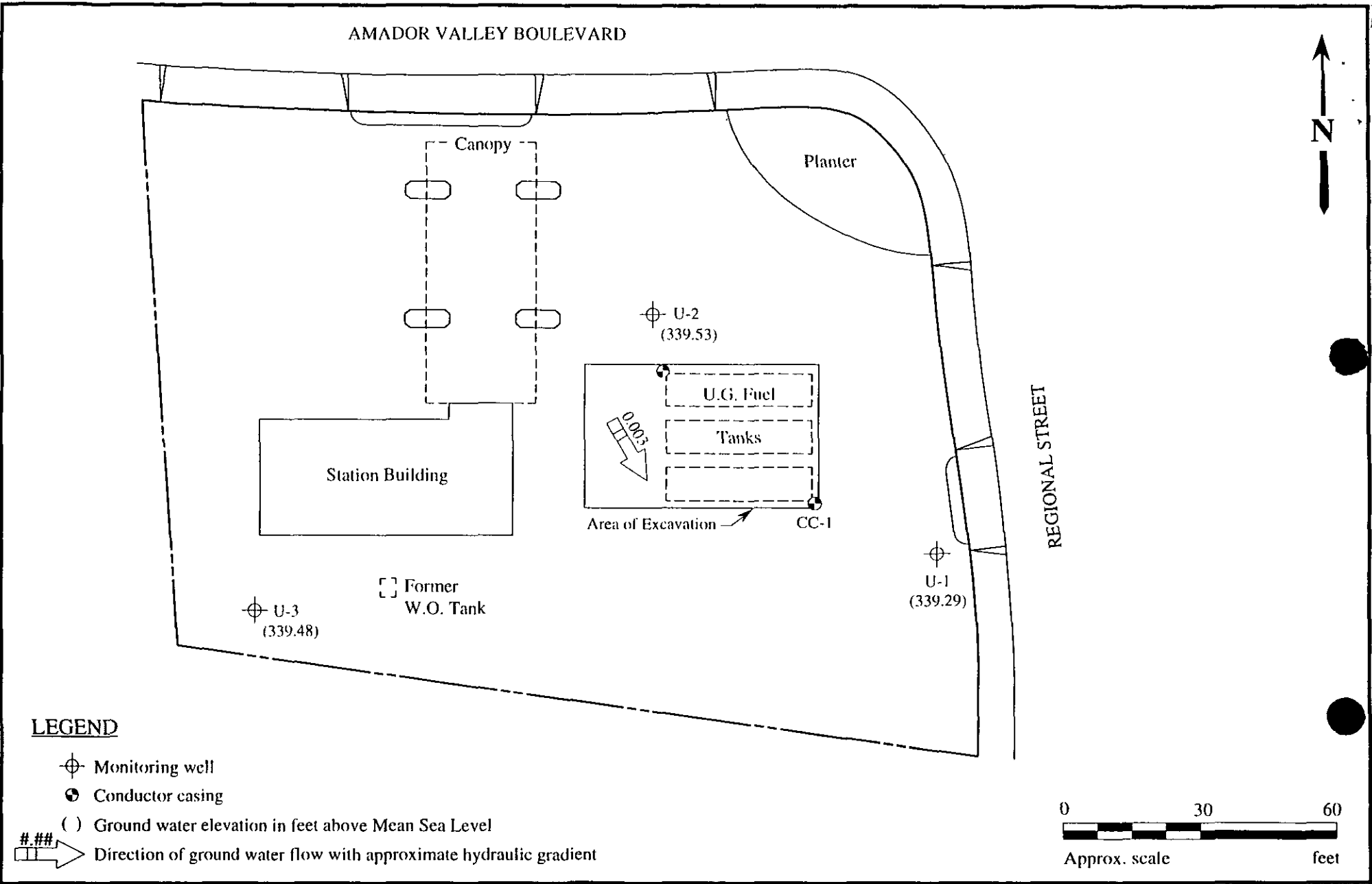
Base modified from 7.5 minute U.S.G.S. Dublin Quadrangle
(photorevised 1980)



MPDS SERVICES, INCORPORATED

**UNOCAL SERVICE STATION #7176
7850 AMADOR VALLEY BOULEVARD
DUBLIN, CALIFORNIA**

**LOCATION
MAP**

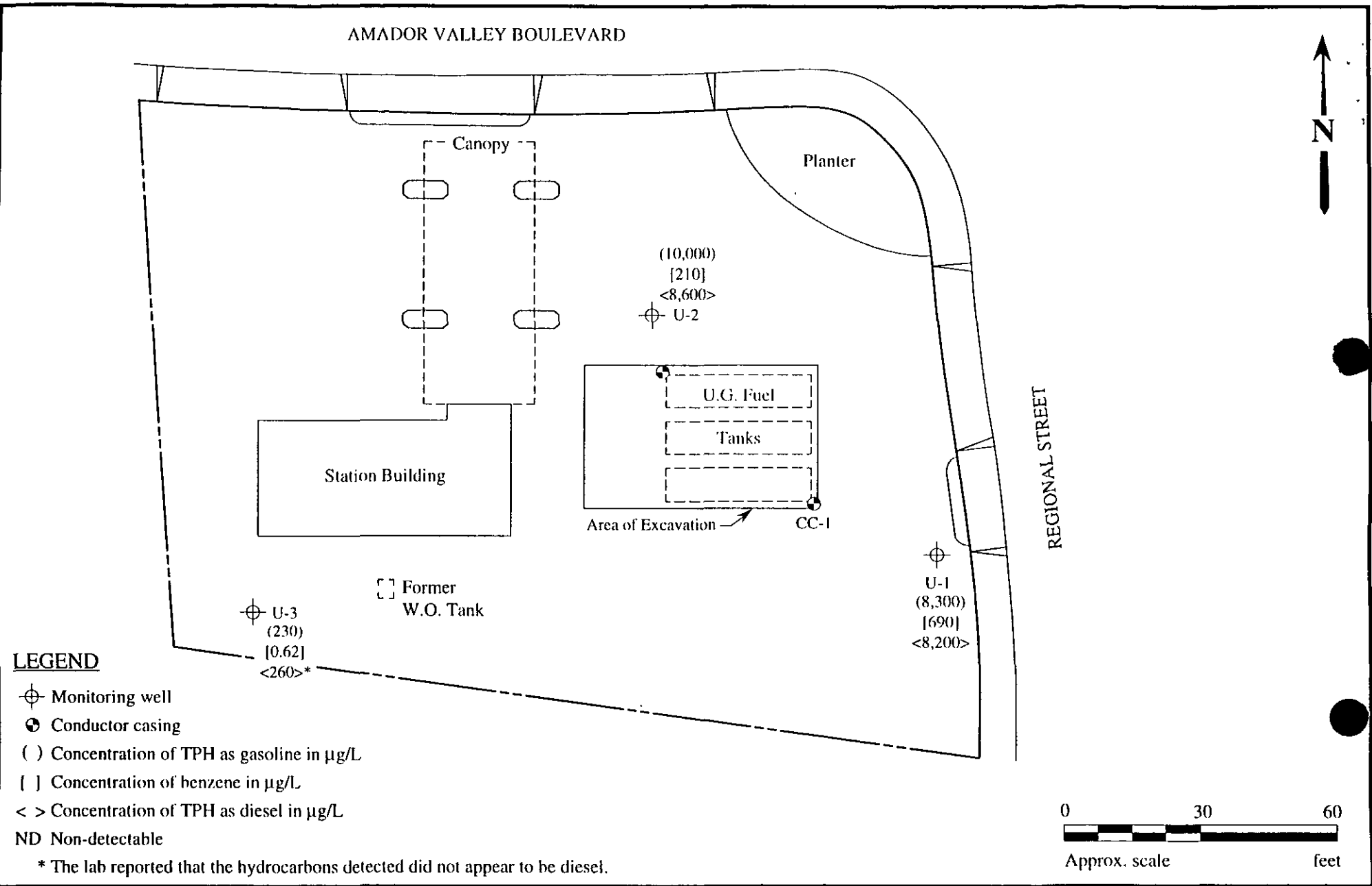


GROUND WATER FLOW DIRECTION MAP FOR THE JANUARY 11, 1996 MONITORING EVENT

UNOCAL SERVICE STATION #7176
7850 AMADOR VALLEY BOULEVARD
DUBLIN, CALIFORNIA

MPDS SERVICES, INCORPORATED

FIGURE
1



PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON JANUARY 11, 1996

**UNOCAL SERVICE STATION #7176
7850 AMADOR VALLEY BOULEVARD
DUBLIN, CALIFORNIA**

mpds SERVICES, INCORPORATED

**FIGURE
2**