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UNOCAL 76

Northern Region
Corporate Environmental
Remediation & Technology

[illegible]

September 15, 1994

Ms. Eva Chu
Alameda County Health Care Services Agency
UST Local Oversight Program
1131 Harbor Bay Parkway, Room #250
Alameda, CA 94502-6577

Request for Work Plan
Unocal Service Station #5366
7375 Amador Valley Blvd.
Dublin, California

Dear Ms. Chu:

This letter is written in response to your letter dated August 1, 1994, that stated that "additional investigations are required to delineate the extent of the contaminant plume".

As you are aware, subsurface investigations have been conducted at all four corners of the intersection of Amador Valley Boulevard and Village Parkway (Unocal, Arco, BP, and former Shell service stations). A minimum of five monitoring wells have been installed at each of the service station sites. A quarterly joint monitoring and sampling program is currently being performed by the respective consultants for each site. The water level data and a Potentiometric Surface Map for the May 17, 1994, joint monitoring event was included in MPDS Services, Inc's. Quarterly Data Report (MPDS-UN5366-02) dated June 29, 1994.

The analytical results of the most recent groundwater samples collected from all four service stations are summarized in the attached Table 1, and the concentrations of total petroleum hydrocarbons (TPH) and benzene are shown on the attached Figure 1.

Based on the groundwater samples that have been collected to date from all four service stations, elevated concentrations of petroleum hydrocarbons have been historically detected in the monitoring wells that are located closest to the intersection of Amador Valley Boulevard and Village Parkway (Unocal - MW5, Arco - MW3, BP - AW6, Shell - MW6). Therefore, it is likely that contamination is present within the intersection as well as within the streets in between the respective sites. Therefore, it is Unocal's opinion that additional delineation in between the respective sites is not warranted. In addition, the intersection of Amador Valley Boulevard and Village Parkway is very busy, which

makes the installation and subsequent sampling of a monitoring well in the intersection impractical as well as a safety issue.

Unocal and our consultant, Kaprealian Engineering, Inc. (KEI), are currently in the process of evaluating various groundwater remediation techniques that would: 1) be effective in cleanup of petroleum hydrocarbons in the vicinity of Unocal's wells, MW1 and MW5 and 2) minimize the potential to cause contamination from nearby sites to migrate onto the Unocal site. We would appreciate the opportunity to discuss various cleanup options with you, and will be contacting you in the near future to arrange a meeting.

If you have any questions or comments regarding this letter, please do not hesitate to contact me at (510) 277-2311.

Sincerely,

Edward C. Ralston
Senior Environmental Geologist

cc: Thomas J. Berkins, KEI

Attachments: Table 1
Figure 1

TABLE 1

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes
		(Unocal Monitoring Wells)				
5/17/94	MW1	1,000	41	ND	49	32
	MW2	SAMPLED ANNUALLY				
	MW3	SAMPLED ANNUALLY				
	MW4	SAMPLED ANNUALLY				
	MW5	20,000	4,300	ND	2,300	130
2/11/94	MW1	970	40	3.2	2.8	15
	MW2	ND	ND	ND	ND	ND
	MW3	ND	ND	ND	ND	ND
	MW4	ND	ND	ND	ND	ND
	MW5	18,000	2,400	140	920	3,100
		(Arco Monitoring Wells)				
5/17/94	MW1	1,400	79	1.4	11	2.4
	MW2	150	19	ND	2.5	1.2
	MW3	200	44	ND	9.3	ND
	MW4	ND	ND	ND	ND	ND
	MW5	ND	ND	ND	ND	ND
	MW6	ND	ND	ND	ND	ND
		(BP Monitoring Wells)				
6/20/94	AW4	ND	ND	ND	ND	ND
	AW5	1,300	0.9	ND	0.5	2.2
	AW6	42,000	2,700	1,300	1,900	9,100
2/11/94	MW1	ND	ND	ND	ND	ND
	MW2	ND	ND	ND	ND	ND
	MW3	ND	ND	ND	ND	ND
	AW4	ND	ND	ND	ND	ND
	AW5	210	16	ND	ND	ND
	AW6	140,000	21,000	25,000	1,100	13,000

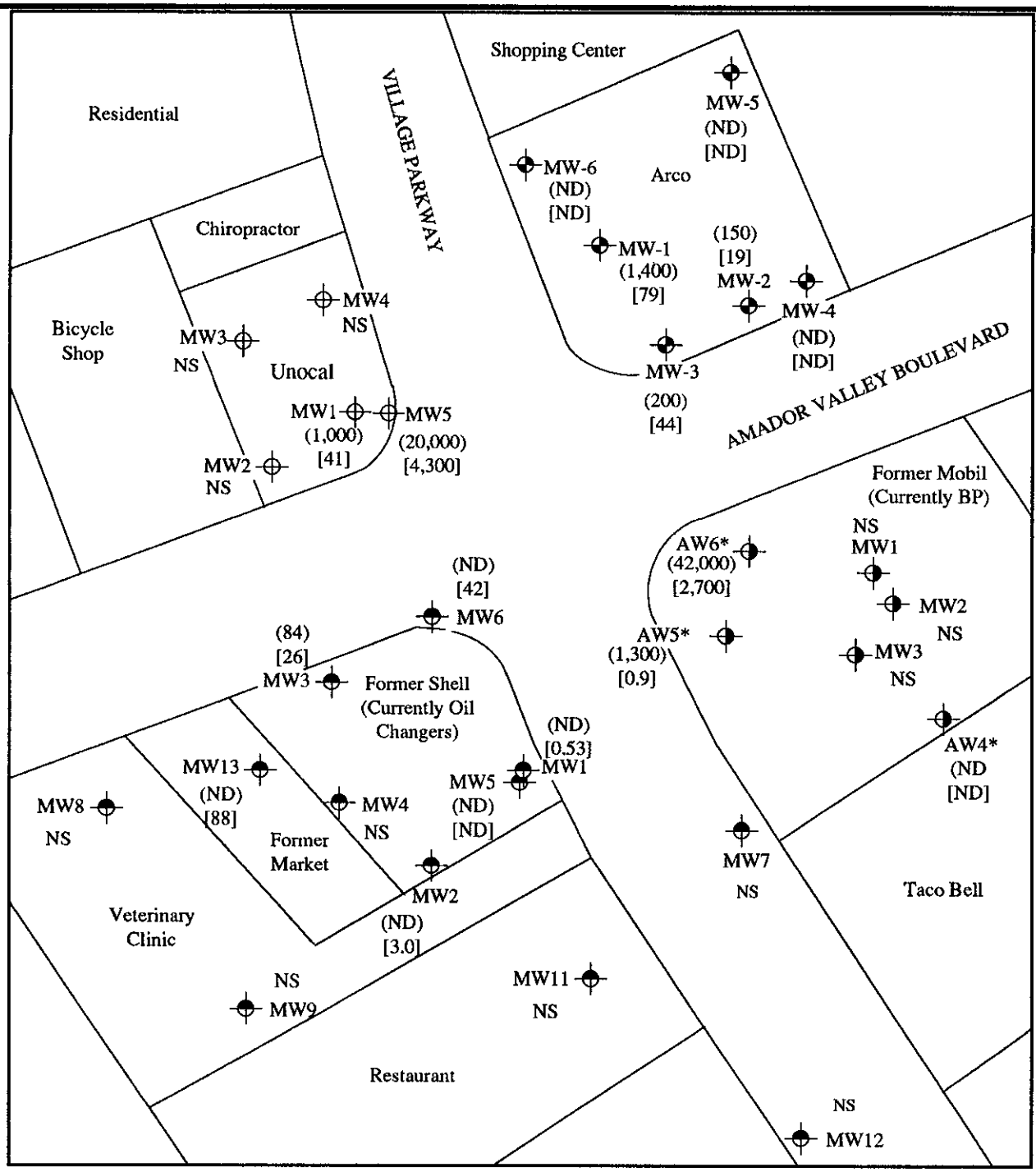
TABLE 1 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes
		(Shell Monitoring Wells)				
5/17/94	MW1	ND	0.53	ND	ND	0.71
	MW2	ND	3.0	ND	ND	0.51
	MW3	84	26	ND	2.2	ND
	MW4	SAMPLED	SEMI-ANNUALLY			
	MW5	ND	ND	ND	ND	ND
	MW6	ND	42	13	33	22
	MW7	SAMPLED	SEMI-ANNUALLY			
	MW8	SAMPLED	SEMI-ANNUALLY			
	MW9	SAMPLED	SEMI-ANNUALLY			
	MW11	SAMPLED	SEMI-ANNUALLY			
	MW13	ND	88	ND	12	10
2/11/94	MW1	110	12	4.6	6.4	13
	MW2	ND	0.64	ND	ND	ND
	MW3	76	23	ND	ND	ND
	MW4	ND	0.62	ND	ND	ND
	MW5	ND	ND	ND	ND	ND
	MW6	370	32	7	19	9.3
	MW7	ND	ND	ND	ND	ND
	MW8	ND	1.3	ND	0.71	2.5
	MW9	ND	ND	ND	ND	ND
	MW11	ND	ND	ND	ND	ND
	MW13	200	39	ND	4.7	3.9

ND = Non-detectable.

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



LEGEND

- Monitoring well (Unocal)
- Monitoring well (BP)
- Monitoring well (Shell)
- Monitoring well (Arco)

( ) Concentration of TPH as gasoline in µg/L

[ ] Concentration of benzene in µg/L

ND = Non-detectable NS = Not Sampled

* Sampled on June 20, 1994

0 100 200

Approx. scale feet

PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON MAY 17, 1994

KAPREALIAN ENGINEERING
INCORPORATED

UNOCAL SERVICE STATION #5366
7375 AMADOR VALLEY BLVD.
DUBLIN, CALIFORNIA

FIGURE
1