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North Region
Corporate Environmental Remediation & Technology

February 15, 1995

Ms. Eva Chu
Alameda County Health Care
Services Agency
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

**SUMMARIZATION OF MEETING ON
JANUARY 25, 1995**

Unocal Service Station No. 5366
7375 Amador Valley Boulevard
Dublin, California

Unocal Service Station No. 6419
6401 Dublin Boulevard
Dublin, California

Unocal Service Station No. 0746
3943 Broadway
Oakland, California

Dear Ms. Chu:

This letter has been prepared in order to summarize the items discussed and agreed to in our January 25, 1995 meeting, pertaining to the three referenced sites. However, before proceeding with the summary, I would again like to thank you for taking the time and discussing the work that has been performed at the referenced sites. I have found that these face-to-face meetings are usually successful in resolving environmental concerns and encourage them whenever possible. The Unocal service station locations and the agreements reached at each location are as follows:

I. **Unocal Service Station #5366, Dublin, California**

DISCUSSION

- The underground storage tanks were replaced in 1988. Hydrocarbon-impacted soil was overexcavated in the vicinity of the tank pit. The extent of overexcavation was limited to the northwest due to the proximity of the dispenser islands. Groundwater was also encountered and approximately 9,000 gallons of contaminated groundwater were pumped from the open tank excavation.

- Soil assessment conducted during tank replacement activities and monitoring well installation indicates that soil contamination is localized. Soil contamination is limited to the vicinity of the southern-most pump island and the capillary fringe in the vicinity of MW5.
- Five monitoring wells have been installed at the site. The extent of groundwater contamination is limited to the southeast portion of the Unocal site. Groundwater investigations are also currently in progress at four nearby sites (Arco, Shell, BP, and Dutch Pride). Unocal has initiated joint monitoring with the adjacent PRP's (Arco, Shell and BP). It is Unocal's understanding that no active remediation is currently being performed at any of these sites.
- In response to your request, our consultant (KEI) investigated the positioning of the sewer mains in the vicinity of the site as potential conduits for off-site migration. Information obtained from the Dublin-San Ramon Services District indicates that the sewer main within the intersection of Village Parkway and Amador Valley Boulevard is approximately 18 feet below grade. The depth to groundwater in the vicinity is approximately 10 feet below grade, thus, the sewer main is below the groundwater table. Investigation of the sewer main trenches is not viable and presents a significant risk of damaging the sewer line. Exact locations and as built drawings are not available for the sewer lines.

CONCLUSIONS

- Historically, elevated concentrations of contaminants have been detected in the monitoring wells that are located closest to the intersection of Amador Valley Boulevard and Village Parkway (Arco - well MW3, BP - well AW6, Unocal - well MW5 and Shell - well MW6)
- Unocal will continue to review remedial options at the site as requested in your letter dated December 6, 1994. However, as discussed in our meeting, a preliminary review of remedial options, as well as past experience, indicates the lithology at the site will most likely render standard remedial techniques infeasible (i.e. pump and treat, vapor extraction, etc.). Results of our review will be submitted to you by March 15, 1995. Additionally, as we agreed, Unocal is planning the implementation of an oxygenation program by utilizing magnesium peroxide in selected monitoring wells at the site.

- Ms. Eva Chu will contact other responsible parties within the intersection area to determine if they are willing to have the area classified as a regional Non-Attainment Area.
- As discussed during the meeting, BP may be required to install a monitoring well downgradient of their site and in Village Parkway before NAA status can be granted (to be determined later).

II. Unocal Service Station #6419, Dublin, California

DISCUSSION

- The underground storage tanks were replaced in 1993. Approximately 19,000 gallons of contaminated groundwater was pumped from the open tank excavation. No significant soil contamination has been detected at the site to date.
- Three monitoring wells have been installed in the vicinity of the USTs. One well (MW1) has elevated levels of dissolved hydrocarbon constituents. A very flat ground water gradient exists at the site.

CONCLUSIONS

- An oxygen-releasing compound (magnesium peroxide) will be added to MW1 to facilitate the bioremediation process. Dissolved oxygen content will be measured in each well, during routine groundwater monitoring and sampling events.
- Send Regenesis (magnesium peroxide) information package and case study to Eva Chu (completed 1/26/95).

III. Unocal Service Station #0746, Oakland, California

DISCUSSION

- The underground storage tanks were replaced in 1989. Hydrocarbon-impacted soil was overexcavated in the vicinity of the tank pit. Groundwater was also encountered and approximately 6,500 gallons of contaminated groundwater were pumped from the open tank excavation.
- Soil assessment conducted during tank replacement activities and monitoring well installation indicates that soil contamination is relatively localized, as well as defined. Soil contamination is limited to capillary

fringe soils at and in the immediate downgradient vicinity of the site.

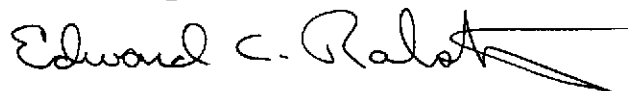
- A pilot vapor extraction test was performed at the site and indicated that vapor extraction was ineffective and therefore, not feasible. The lack of significant hydrocarbon extraction rates appeared to be related to the fine-grained nature of the soils.
- Twelve groundwater monitoring wells and one groundwater recovery well have been installed at and in the vicinity of the site. The extent of groundwater contamination has been defined and does not appear to be migrating. Monitoring wells MW3 and MW5 periodically show trace amounts of free product. Free product and contaminated groundwater has been purged from both wells on a biweekly basis from 1990 through 1994. Approximately, 14,200 gallons of groundwater and 28 ounces of product has been recovered. A groundwater pump test was also not feasible, due to the fine-grained nature of the subsurface soils at the site and the slow rate of recharge of the wells.

CONCLUSIONS

- Standard remedial techniques are not applicable for this site, based on the results of the pilot vapor extraction and the groundwater recovery tests performed at the site.
- Unocal is currently planning to add magnesium peroxide (Regenesis) to monitoring wells, MW3 and MW5, as agreed in our meeting. After a six-month oxygenation period, an evaluation will be made as to whether to include this site in the Non-Attainment Area (NAA) program.
- Decrease the sampling frequency of wells MW10, MW11, and MW12 to semi-annually.

Again, thank you for taking the time to meet with us to discuss the three subject sites. If you have any questions, please feel free to contact me at (510) 277-2311.

Sincerely,



Edward C. Ralston
Senior Environmental Geologist

cc: Rick Sisk, Unocal
Tim Ross, KEI