

ARCO Products Company
2000 Alameda de las Pulgas
Mailing Address: Box 5811
San Mateo, California 94402
Telephone 415 571 2400



September 23, 1991

Alameda County Health Care Services
Department of Environmental Health
Hazardous Materials Program
80 Swan Way, # 200
Oakland, CA 94621

Attn: Ms. Susan Hugo

Re: REMEDIATION PLAN FOR
ARCO Service Station #4931
Located at 731 West MacArthur

Dear Ms. Hugo:

This letter is submitted in response to your letter of August 16, 1991 concerning the review of GeoStrategies Inc. (GSI) Remediation Plan dated May 15, 1991. The format for the response is to address concerns and/or question in the order in which they were presented in your letter.

"Dissolved hydrocarbon plume has not been delineated in the up-gradient direction. Additional wells must be installed up-gradient of the underground storage tanks location."

The installation of an up-gradient well is currently being evaluated. The location of the proposed well will be contingent on rights-of-entry approvals for access to private property adjacent to the site.

"Monitoring wells must be screened to intercept any free product. All monitoring wells must be sampled monthly for free product and analyzed for TPH-Gasoline and BTEX by a State certified laboratory for three months following the installation. After three months of consecutive sampling, sampling may be conducted as needed, but must occur at least quarterly. Before each sampling event is begun, free product thickness and water level must be determined."

According to available boring logs that include well construction details, the existing wells are screened high enough to intercept free product. All new wells will continue to be installed so as to intercept free product that may be present. This site has historically been monitored on a bi-weekly schedule and sampled on a quarterly schedule. ARCO believes that monitoring of the new wells on other than the present quarterly schedule would not add significant information about water quality that would ultimately be collected over the period of one calendar year.

"Additional recovery well must be installed based on the Aquifer Test conducted on April 4 and 5, 1991. Pumping Well A-9 was not sufficient in creating a capture zone for the dissolved contaminant in the area of Well A-2."

A boring log is not available for Well A-2, however, it is suspected that the lithology consists predominately of clay. This well has historically demonstrated a low potential for groundwater extraction during quarterly sampling activities. Therefore, an alternative location is currently under consideration that would provide desirable groundwater extraction potential. A tentative location for this proposed well would be south and east of well A-4 and would augment the efficiency of the recovering system.

"The Remediation Action Plan is acceptable provided the following conditions are met."

- a) *The overall effectiveness of the remediation plan is verified by an appropriate monitoring program."*

After the installation and start-up of the interim recovery system a ninety day system evaluation report will be issued. This report will make recommendations concerning modifications, if required, to the system. Upon completion of the ninety day system evaluation quarterly monitoring of the ground-water monitoring network and new recovery system will resume.

- b) *A time schedule for plan implementation must be submitted which addresses the expedient removal of all free product at the site including monitoring and tabulating of actual amount."*

Alameda County Health Care Services
Department of Environmental Health
September 23, 1991
Page 3

The tentative schedule for the installation and start-up of the interim recovery system is as follows:

- o The project is currently in the design and bidding phase. Contract award and the commencement of site work would begin within forty five days after the opening of bids and the securing of applicable permits by the contractor from local agencies.
- o The installation of the additional recovery wells, referenced above, is dependent on scheduling by the consultant, it is anticipated that the wells will be completed before the end of remedial system project.
- o Upon completion of the construction phase the system will be started.

"A contingency plan must be submitted which addresses actions to be implemented if the remediation system is ineffective in mitigations the contamination at the site."

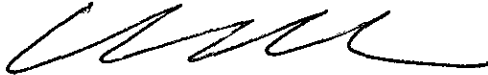
Additional elements required to insure adequate remediation at the site will be in the form of recommendations included in the ninety day system evaluation report to be issued. A third interim recovery well may be required, however decision on its installation will be made based on results of the ninety day system evaluation report.

Please do not hesitate to call me at (415) 571-2469 if you have any questions regarding this letter.

Alameda County Health Care Services
Department of Environmental Health
September 23, 1991
Page 4

If you have any question, please call.

Sincerely,



Charles Carmel
Environmental Engineer

CC/mlg

cc: Rafat A Shahid, Asst. Agency Director, Environmental Health
Eddie So, San Francisco Bay RWQCB
Howard Hatayama, State Department of Health Services
Keith Bullock, Gettler-Ryan Inc.
Mark Thompson, Alameda County District Attorney's Office Files
John Meck, ARCO Products Company
H.C. Winsor, ARCO Products Company