

PACIFIC  
ENVIRONMENTAL  
GROUP, INC.

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November 30, 1992  
Project 330-06.13

Ms. Juliett Shin  
Alameda County Health Care Services  
Department of Environmental Health  
Hazardous Materials Division  
80 Swan Way, Room 200  
Oakland, California 94621

Re: ARCO Service Station 608  
17601 Hesperian Boulevard  
San Lorenzo, California

Dear Ms. Shin:

This letter, prepared by Pacific Environmental Group, Inc. (PACIFIC) on behalf of ARCO Products Company (ARCO), presents a response to the Alameda County Health Care Services' (ACHCS) letter dated June 5, 1992 for the above referenced site. The ACHCS June 1992 letter presented comments regarding PACIFIC's February 4, 1992 Risk Assessment, which was submitted to the ACHCS in PACIFIC's March 13, 1992 letter as Attachment C. PACIFIC performed the risk assessment in response to the detection of benzene in groundwater samples collected from off-site domestic irrigation wells in the vicinity of the site. Of the ten wells sampled, five were noted to contain benzene, at concentrations ranging from 0.64 to 13 parts per billion (ppb). Summarized below are the comments from the ACHCS June 1992 letter and associated responses:

**Comment 1. "Increased Health Risk Levels Identified in Risk Assessment:** The risk assessment identified increased health risks exceeding one in one million, yet concluded that no increased risk to the public exists. The purpose of a health risk assessment is to calculate risk, not to consider mitigation factors, particularly those over which ARCO has no control. The fact that risk has been determined to exceed 1:million indicates that mitigation actions are appropriate in this case. ARCO should explain these actions in depth in a separate document."

- o **Response 1.** The risk assessment prepared by PACIFIC was performed using the *EPA, Risk Assessment Guidance for Superfund. Volume 1, December 1989*, and the California Safe Drinking Water and Toxic Enforcement Act of 1986. The risks were calculated using values for benzene obtained from California Department of Health Services Title 22, and assumptions, which were determined appropriate for the area and living conditions. These assumptions are presented in PACIFIC's Risk Assessment dated February 4, 1992.

During the telephone conference call on June 17, 1992, between PACIFIC and ACHCS, PACIFIC asked the ACHCS what risk level would be acceptable. The ACHCS responded with an acceptable risk level of 1:100,000 with mitigating factors.

~~On behalf of ARCO, PACIFIC is preparing a revised risk assessment to incorporate your comments as described below.~~

~~As described further below, ARCO has initiated a remedial investigation and feasibility study (RI/FS) to obtain the necessary data to determine the remedial methodologies applicable to the site.~~

Following completion of this study, the recommended remedial program will be presented to the ACHCS for approval.

**Comment 2.** Comment 2 (completeness of the risk assessment) is subdivided into two sections. Therefore, a separate response addresses each of the following sections of concern.

**Section 1.** "Calculation of the total risk from exposures via oral, dermal and inhalation pathways. The exposures from these three routes must be added together to calculate total risk."

- o **Response 2, section 1.** At the request of ACHCS, the risk for the inhalation pathway will be calculated, and added to the oral and dermal pathways to calculate the total risk. The total risk calculation will be included in the revised risk assessment.

The inhalation pathway risk for benzene will be completed by performing a comprehensive air monitoring program at the following locations: (1) at a sprinkler head, where groundwater with the highest benzene concentration (13 ppb) was noted

(17349 Via Magdalena), (2) directly across Via Magdalena, approximately 100 feet in the prevailing downwind direction (east to southeast), (3) corner of Hacienda Avenue and Via Magdalena, (4) corner of Via Magdalena and Potrero Court, and (5) corner of Hacienda Avenue and Hesperian Boulevard. All air monitoring samples will be analyzed in a state certified laboratory for total volatile petroleum hydrocarbons calculated as gasoline (TVPH-g), and benzene, toluene, ethylbenzene, and xylenes (BTEX compounds).

Once the risk for the inhalation pathway has been calculated, the total risk will be calculated by adding together the risks from the oral, dermal, and inhalation pathways. These risks will be calculated using the above referenced EPA guidelines for performing risk calculations.

**Section 2.** "Separate oral, dermal and inhalation risk calculations for children must also be prepared using appropriate parameters."

- o **Response 2, section 2.** As requested by ACHCS, PACIFIC will calculate the separate risk calculations for children, in addition to the total risk for children, using the above referenced EPA guidelines for performing risk calculations. This calculation will be included in the revised risk assessment.

**Comment 3.** "Offsite well use: We recognize that ARCO lacks legal authority to require domestic well owners to discontinue pumping and using groundwater. Nevertheless, offsite well pumping should cease until our public health risk concerns are addressed and it can be determined that ARCO's remediation efforts will not be compromised due to offsite well use. We encourage ARCO to take the lead in requesting well owner cooperation during this interim period."

- o **Response 3.** ARCO submitted the results of groundwater sampling to the homeowners in letters dated May 13, 1992, and as required by Proposition 65, ARCO informed the homeowners whose domestic irrigation wells contained the presence of benzene in groundwater collected from those wells, that benzene was a known carcinogen, and requested that the wells be used only for irrigation purposes. Also, ARCO informed the homeowners that pending review of the February 4, 1992 Risk Assess-

ment by the ACHCS, the ACHCS may recommend that the wells be turned off.

Although the risk assessment completed to date indicates that a risk to public health does not exist, as requested by ACHCS, ARCO will issue notification to the property owners whose wells have been impacted by gasoline and benzene to stop pumping from their wells until ACHCS has approved the risk assessment and until ARCO can evaluate if continued pumping will impact ARCO's remediation efforts. ARCO will also submit a letter to owners of non-operational domestic irrigation water wells which explains that ARCO would like to sample the well water if the wells become operable in the future. Examples of these letters are presented as Attachment A. ARCO plans to submit these letters to the well owners as soon as possible. If ACHCS has any comments regarding these letters, please respond to PACIFIC within 1 week of receipt of this letter.

**Comment 4.** "Another issue of concern to this office is the effectiveness of the groundwater remediation system. The measures ARCO is currently taking appear inadequate for the extent of contamination. Only one extraction system is operating at the site, and this system does not appear to have a capture zone large enough to encompass the entire contaminant plume. In addition, continued pumping of private wells within the contaminated zone may lessen the effectiveness of the groundwater extraction system and expedite the migration of the contaminant plume."

- o **Response 4.** The on-site groundwater remediation system has been in full-time operation since October 15, 1991. The remediation system is designed to capture all impacted groundwater migrating off of the service station property. Based on examination of groundwater contours, the groundwater remediation system has a radius of influence of approximately 90 feet.

As discussed above, ARCO has initiated an RI/FS at the subject site in an effort to obtain the necessary data to determine the remedial methodologies applicable to the site. Upon completion of the study, a remedial program will be developed which addresses those concerns presented in your letter of June 5, 1992, including: (1) capture zone, (2) influence from private wells on

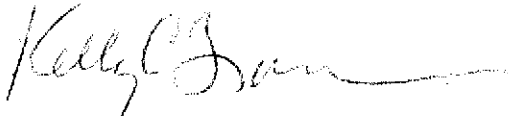
the effectiveness of the groundwater extraction system, and  
(3) migration of the contaminant plume.

ARCO would like to schedule a meeting with you and Mr. Eddy So of the RWQCB to discuss the risk assessment, scope of RI/FS, and schedule for remediation.

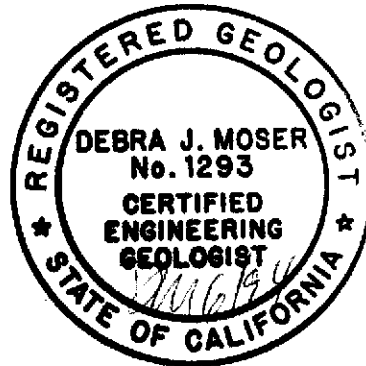
If you have any questions regarding the contents of this letter, please call.

Sincerely,

**Pacific Environmental Group, Inc.**



Kelly C. Brown  
Project Geologist



Debra J. Moser  
Senior Geologist  
CEG 1293

Attachments: Attachment A - Domestic Irrigation Well Use Letter and Inoperable Well Letter

cc: Mr. Michael Whelan, ARCO Products Company  
Mr. Chris Winsor, ARCO Products Company  
Mr. John Meck, ARCO Products Company  
Mr. Charles Lapin, ARCO Products Company  
Mr. Eddy So, RWQCB - San Francisco Bay Region

**ATTACHMENT A**

**DOMESTIC IRRIGATION WELL USE LETTER  
AND INOPERABLE WELL LETTER**

(EBMUD) water used for irrigation purposes until ACHCS had determined that your well water is safe to use for irrigation. ARCO has calculated a reimbursement of \$30.00 per month. The value of reimbursement is based on EBMUD drought condition rates and a use of well water at 15 hours per week of irrigation time. The reimbursement will be submitted on a monthly basis.

By this letter, ARCO is not saying that any ARCO gasoline service or other operation is the origin of the gasoline in the groundwater. Over time, releases from other non-ARCO operations in the area have been reported. Also, ARCO's offer to compensate you for the loss of use of the well water is limited just to this loss of use and is not intended to apply to any other claim.

If you have any questions regarding the contents of this letter, please call me at (415) 571-2434 or Ms. Juliatt Shin with ACHCS at (510) 271-4320.

Sincerely,

**ARCO Products Company**

Michael Whelan  
Environmental Engineer

cc: Mr. Chris Winsor, ARCO Products Company  
Mr. Charles Lapin, ARCO Products Company  
Mr. John Meck, ARCO Products Company  
Mr. Eddy So, RWQCB - San Francisco Bay Region  
Ms. Juliatt Shin, Alameda County Health Care Services

November 30, 1992

Well Homeowner  
Address

Re: Domestic Irrigation Well Use

Dear Homeowner:

ARCO Products Company (ARCO) presented the results of laboratory analysis of groundwater collected from the domestic irrigation well located on your property in a letter dated May 13, 1992. Laboratory analysis of the groundwater sample collected from your well indicated that very minor amounts of gasoline and benzene were present. In addition, ARCO indicated that a risk assessment had been performed in accordance to the provisions of Proposition 65, and that it was currently under review by the Alameda County Health Care Services (ACHCS).

Benzene is a known carcinogen. The health risk assessment completed to date indicates that based on the assumptions that 1 liter (approximately four 8-ounce cups) of groundwater from your well would be consumed on a daily basis for 35 years, there is no significant increase in risk. Although it is our understanding that your well is used exclusively for irrigation purposes, the May 13, 1992 letter indicated that the risk assessment was being reviewed by the ACHCS and that based on their review, ACHCS may recommend that use of your well be curtailed.

The ACHCS has solicited ARCO to take the lead in requesting that use of your well be temporarily discontinued. Therefore, ARCO requests that use of your well be discontinued for approximately 6 months to at least March 1, 1993, until ACHCS has completed their review of the risk assessment, and determined whether pumping of your well has an effect on the migration of the gasoline components found in the groundwater.

To compensate you for the temporary interruption in the use of your well water, ARCO will reimburse you for the cost of East Bay Municipal Utilities District