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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
215 Fremont Street
San Francisco, Ca. 94105

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AR0131

Mr. Angelo Bellomo
Chief, Southern California Section
Toxic Substances Control Division
California Department of Health Services
107 South Broadway, Room 7128
Los Angeles, California 90012

Dear Mr. Bellomo:

I have enclosed for your information the laboratory results from EPA's San Gabriel Valley Supplemental Sampling Program (SSP). I request that you please keep this data confidential, as EPA has not yet notified the well owners of the results of the sampling. EPA is providing the data to the RWQCB, California DOHS/Toxics Division, California DOHS/Sanitary Engineering Branch, Los Angeles County Department of Health Services, and the Upper San Gabriel Valley Municipal Water District (which is assisting EPA with community relations concerning the San Gabriel Valley Superfund sites) as a courtesy prior to the mailing of notices to the well owners whose wells were sampled.

Seventy existing wells in the San Gabriel Valley were sampled between February and May 1985 by EPA's contractor, CH_2M Hill. The chemical analyses were performed by private laboratories as part of EPA's national contract laboratory program. The raw data reported by the laboratories has undergone a quality assurance review by EPA chemists. The enclosed tables list the analyses that were performed for each sample and the results of the different analyses.

I would like to highlight a particularly significant finding of our sampling program -- the detection of a previously unidentified contaminant in the ground water of the San Gabriel Valley, perchlorate ion. Fourteen wells in the Azusa/Baldwin Park area were sampled for the presence of perchlorate ion as part of EPA's source sampling portion of the SSP. EPA had previously identified an industrial facility in Azusa as a potential source of ground water contamination. This facility was previously involved in the development and testing of rocket and jet engines. In an attempt to identify waste disposal by this facility as a source of ground water contamination, 14 wells surrounding the facility were sampled for several compounds that are associated with rocket engine testing, such as perchlorate ion, aniline, and xylidene. Perchlorate ion (CLO_4^-) was included because this facility used both ammonium perchlorate and potassium perchlorate as oxidizers in its solid rocket fuels. Of the special compounds tested for, only perchlorate ion was detected in the water samples.

The 14 samples were collected on 6 different days. For each daily batch of samples, one duplicate sample was collected and one field blank was included in the batch. The field blanks were prepared in CH_2M Hill's laboratory and then placed in the shipping containers used for the environmental samples. The duplicates and blanks were not identified to laboratory personnel performing the analyses.

The perchlorate analyses were performed by CAL Analytical Laboratory in Sacramento, California using a proprietary colorimetric analytical method. I have enclosed a separate table that summarizes the results of the perchlorate analyses, along with copies of the quality assurance review reports for the perchlorate analyses. The limits of detection claimed by the laboratory were 0.02 mg/l or 0.05 mg/l, depending on which batch of samples is considered. The laboratory reported contamination in all of the environmental samples, ranging from 0.11 mg/l to 2.6 mg/l. However, a major quality assurance problem was identified in that contamination was detected in 5 of the 6 field blanks. The source of this contamination has not been identified. For one batch of samples, the contamination level in the blank was roughly equivalent to the highest contaminant level in the environmental samples. For this reason, EPA quality assurance data reviewers rejected all of the results from this batch as invalid. In three other batches, several environmental samples were contaminated at levels either below or slightly higher than that of the field blank; the EPA data reviewer reported the results of these samples as probably 'undetected contamination' with the level of detection identified as the level of contamination reported by the lab.

Despite the quality assurance problems described above, it appears clear that perchlorate contamination does exist in the ground water. In one batch, the field blank was uncontaminated, but all three environmental samples were contaminated at levels ranging from 0.38 mg/l to 0.81 mg/l. In several of the other batches, the perchlorate concentrations in five wells were reported at levels much higher than the low level contamination found in the field blanks. These concentrations ranged from 1.0 mg/l to 2.6 mg/l. Therefore, based on this sampling episode, it is clear that some perchlorate contamination exists; however, the actual contaminant concentrations reported for several wells may be in question.

Since perchlorate contamination of drinking water wells was detected, a major issue raised is whether there are any potential health effects associated with drinking water contaminated with perchlorate ion. My staff has been unable to obtain any definitive information regarding the health effects of ingesting perchlorate ion. Therefore, EPA has asked the Center for Disease Control for assistance in determining any potential health effects that may be associated with perchlorate contamination of drinking water. A second issue that must be confronted concerns the validity of the data. It is clear that a resampling of the 14 wells is

necessary due to the quality assurance problems identified during the first sampling episode. In addition, other nearby wells should probably be sampled for perchlorate contamination, as well. A third issue that must be addressed is the notification of the public of these new findings. Given the nature of the findings and the recent controversy in the San Gabriel Valley over public notification of 1,1-dichloroethylene contamination, the release of these sampling results may be an extremely sensitive issue.

To enable EPA and the responsible state and local agencies to develop a coherent and coordinated strategy for dealing with the issues raised by the findings of EPA's sampling program, I would like to invite you or a member of your staff to a meeting that has been scheduled for 10:00 A.M., January 9, 1986, at the offices of the Upper San Gabriel Valley Municipal Water District, 11310 East Valley Boulevard, in El Monte, California. Each of the agencies that has received the sampling data has been invited to attend.

Again, I request that the results of EPA's sampling program remain confidential until a strategy to deal with the issue raised by EPA's findings is developed. If you have any questions concerning EPA's sampling program or the scheduled meeting, please contact Neil Ziemba of my staff at (415) 974-7520.

Sincerely yours,

for Keith A. Takata
Chief, Superfund Programs Branch

Enclosures

cc: T. Bailey, California DOHS/Toxics Division, Sacramento
P. Rogers, California DOHS/Sanitary Engineering, Sacramento
G. Yamamoto, California DOHS/Sanitary Engineering, Los Angeles
R. Rinaldi, Los Angeles County Department of Health Services
H. Yacoub, Los Angeles Regional Water Quality Control Board
J. Bray, Upper San Gabriel Valley Municipal Water District