Stanislaus County
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DEPARTMENT OF ENVIRONMENTAL RESOURCES

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CROWS LANDING
SSIC NO. 5090.3.A

December 12, 2008

Mr. James B. Sullivan
BRAC Environmental Coordinator
Department of the Navy
BRAC Program Management Office West
1455 Frazee Rd., Suite 900
San Diego, CA 92108-4310

RE: DRAFT HERA FOR GROUNDWATER ASSOCIATED TO AN OFF-SITE AGRICULTURAL SUPPLY WELL, CROWS LANDING FLIGHT FACILTIY, CROWS LANDING, CA

Dear Mr. Sullivan,

We have received your Draft Human Health and Ecological Risk Assessment for Groundwater Associated with an Off-Site Agricultural Supply Well, Former NASA Crows Landing Flight Facility, Crows Landing, California, dated November 17, 2008 (your cover letter 5090 Ser BPMOW.djr/1092).

I have read your draft with great interest, and commend the Tetra Tech EC team for a very thorough analysis. There are two pieces of data, however, that I feel need to be collected, and a third area of concern that I would like to see addressed:

1. Water samples have been obtained from the agricultural well, with a high value of 1.8 µg/l of CCl_4. However, the well is screened at two different intervals (205 to 225 ft bgs, just above the Corcoran Clay; and 360 to 480 ft bgs). Page 1-5 of the draft states that at the 200 to 225 ft bgs depth interval the CCl_4 plume extends offsite. Monitoring well 17-MW-42 [D] is screened at this particular interval, and has had a high value of 19 µg/l CCl_4. Assuming that the Corcoran Clay has effectively shielded the lower aquifer from the contamination (but please see paragraph 3 below), then the sample collected at the agricultural well could well be a blend between contaminated water from the upper interval, and non-contaminated water from the lower interval. If the 1.8 µg/l of CCl_4 is indeed a blended value, then the upper aquifer may have significantly higher values (perhaps as high as those of monitoring well 17-MW-42 [D]). I think it would be worthwhile to try to collect a sample from the upper interval, perhaps with the use of a packer to isolate that portion of the screen, to better delimit the extent of the problem.

2. The draft report states, in page 3-2, that "surface soil, ambient air, and almonds that may be potential exposure media have not been sampled." It would add considerably to the acceptance of the conclusions if some samples were collected from these media.

3. I have a concern about the potential contamination of the lower aquifer through the gravel pack of the agricultural well. If the well has pulled in the plume, and if the contamination is in the upper interval, above the Corcoran Clay, then a conduit across the Corcoran Clay (i.e., the ag well gravel pack) could allow the movement of the contamination unto the lower aquifer. This would probably not happen when the well is pumping, but could happen when the well is idle (unless there is an upward directed hydraulic gradient). Maybe the gradient between the lower and upper screen intervals should be measured (using packers), and maybe one should consider grouting the upper contaminated interval. The latter action would reduce the productivity of the well, but would effectively eliminate the health and ecologic risk path.

Please feel free to contact me if you need further clarification of these comments. I can be reached by phone at (209) 525-6732 or by e-mail at hferriz@envres.org. You can also contact Ms. Nicole Damin at (209) 525-6725 or by e-mail at ndamin@envres.org

Sincerely,

Horacio Ferriz

Dr. Horacio Ferriz, PG, CEG
Stanislaus County Geologist

cc. File
RWQCB-CV Gregg Issinghoff