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Via email Fernandoeanoja@arvincsd.com

Fernando Pantoja, Manager  
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Fernando,

During the site visit to the B&B Superfund site last January you expressed an interest in the Corps of Engineers' site report that showed chloroform concentration contours in the groundwater near the B&B site, and stated that that chloroform was not likely due to the B&B site but rather to some other source. Following that meeting I sent you information on this issue that included the chloroform concentration contours in the groundwater.

I recently reviewed the January 2012 Eco & Associates report that was submitted as the "Final Work Plan" for the Monitored Natural Attenuation (MNA) for the OU-2 at the B&B Superfund site. That report is available online at:  
[http://yosemite.epa.gov/r9/sfund/r9sfdocw.nsf/3dc283e6c5d6056f88257426007417a2/9aea34c0a94d8cf4882579980083aec5/\\$FILE/BB%20Site%20MNA%20Plan%201\\_12.pdf](http://yosemite.epa.gov/r9/sfund/r9sfdocw.nsf/3dc283e6c5d6056f88257426007417a2/9aea34c0a94d8cf4882579980083aec5/$FILE/BB%20Site%20MNA%20Plan%201_12.pdf)

That report contains a comprehensive compilation of chemical concentration data for groundwater in the vicinity of the B&B site, including chloroform. Table 1, which presents a compilation of groundwater monitoring data, and Figures 8 and 11 from that report, which show isobars of chloroform concentrations as measured in April 2011, also indicate that the chloroform in the groundwater near the B&B site is not likely from the B&B site.

In a related matter, we stated in our comments on the Eco & Associates January 2012 report: Lee, G. F., and Jones-Lee, A., "Comments on Eco & Associates, 'Final Site-Specific Work Plan [Monitored Natural Attenuation] Brown & Bryant Superfund Site in Arvin, CA,' Contract No. W912PP-10-D-0014, Prepared for US Army Corps of Engineers, Albuquerque, NM, by Eco & Associates, Orange, CA, January 26, 2012," Comments submitted to CBA by G. Fred Lee & Associates, El Macero, CA, March 29(2012).  
[http://www.gfredlee.com/CBA\\_BBsite/2012/Eco\\_MNA\\_WP\\_comments.pdf](http://www.gfredlee.com/CBA_BBsite/2012/Eco_MNA_WP_comments.pdf)

*"Page 12 [of the Eco & Associates January 2012 report] contains a table of the cleanup levels for the COCs. The cleanup level listed for chloroform is 80 µg/L. That concentration is much greater than a true risk-based level. The 80 µg/L level is based on a drinking water MCL for trihalomethanes (THMs) (primarily chloroform) that was established at a level substantially*

*higher than a risk-based level owing to the desire to balance the benefits of chlorination with the risks of cancer. The US EPA currently recommends 5.7 µg/L as a carcinogen-risk-based criterion for chloroform in non-chlorinated drinking water (see <http://water.epa.gov/scitech/swguidance/standards/criteria/health/draftfs.cfm>. That is the cleanup level that should be used in the table of cleanup levels.”*

It is my understanding that the assessment and remediation of groundwaters polluted with chloroform should be based on the US EPA human health risk-based criterion of 5.7 µg/L rather than the 80 µg/L THM criterion that is applicable to chlorinated drinking water.

On February 13, 2012 Eco & Associates sent me a report entitled, “October 2011 Groundwater Sampling and Analysis Report for the City Wells,” which contains chloroform data for several of the City Wells; if you would like to see those data, I can email them to you. Chloroform concentrations ranging from 0.24 to 0.63 µg/L and <1 µg/L were reported for the City wells sampled (CW-1, CW-5, CW-6, CW-8, and CW-10); the report noted that those values were considered to be estimated concentrations as they were below the method reporting limit of 1 µg/L.

My comments on chloroform issues near the B&B site are based in part on my experience working on the LEHR Superfund site in Davis, CA; the University of California Davis (UCD) dumped waste chloroform in pits at a university landfill which became part of the Superfund site. That disposal resulted in a chloroform plume in the groundwater that extends more than 1 mile from the locations at which the dumping occurred. The US EPA and the Central Valley Regional Water Quality Control Board (CVRWQCB) has established a groundwater remediation goal associated with cleanup of that site of about 0.1 µg/L chloroform based on contamination of groundwater by waste chloroform. While an 80 µg/L goal had initially been advocated by UCD, it was rejected by the US EPA and CVRWQCB as not being in accord with CVRWQCB Basin Plan requirements.

As discussed in our comments on the January 2012 Eco & Associates report, the chloroform pollution of groundwater near the B&B site does not appear to be the result of site-derived chloroform. That finding raises the question of the appropriateness of continuing to list chloroform as a COC at the B&B site. It also raises the question of the source of the chloroform pollution of the groundwater south of the B&B site, and in particular whether it is a continuing source of chloroform or whether it is the result of a past discharge.

If you have questions on these comments, please contact me.

Fred