From: William Bosan <BBosan@dtsc.ca.gov>
To: Tom Alo <TAlo@waterboards.ca.gov>
CC: John Anderson <JAnderson@waterboards.ca.gov>, Julie Chan <JChan@waterboa...
Date: 3/28/2011 9:50 AM
Subject: RE: Teledyne

Hi Tom,

Overall, DTSC concurs with your conclusions regarding indoor air.

Bill

William S. Bosan, Ph.D.
Senior Toxicologist
Southern California Unit Chief
Human and Ecological Risk Office
Brownfields and Environmental Restoration
Department of Toxic Substances Control

5796 Corporate Ave.
Cypress, CA 90630

Phone: (714) 484-5399
Cell: (714) 397-1030
Fax: (714) 484-5302

>>> Tom Alo <TAlo@waterboards.ca.gov> 3/24/2011 2:02 PM >>>
Hi Bill,

This email is to memorialize our conversation today regarding your comment on the vinyl chloride risk based cleanup level for the TDY site.
Your email of February 11, 2011 stated that the RBC for vinyl chloride
in groundwater might not be protective of an indoor air worker. Today we discussed that you reviewed the soil gas data, and based on that data, there did not appear to be a risk to an indoor air worker. According to the Risk Assessment report, soil gas data were used to assess the risk to the various receptors. Groundwater data were used only where there was no soil gas data. Therefore, based on our conversation, we believe that the RBC for vinyl chloride in groundwater
is protective of an indoor air worker.

Thank you for your assistance in evaluating the risk assessment for this project.

Best Regards,

--Tom

Tom C. Alo

Water Resource Control Engineer
CA Regional Water Quality Control Board
9174 Sky Park Court, Suite 100
San Diego, CA 92123

Direct: (858) 636-3154
Office: (858) 467-2952
Fax: (858) 571-6972
Email: TAlo@waterboards.ca.gov

>>> William Bosan <BBosan@dtsc.ca.gov> 2/11/2011 1:49 PM >>>
I reviewed the Human Health Risk Assessment and RI/FS in detail, in terms of how the RBCs were estimated. For carcinogenic chemicals, all worker scenarios used a target risk of 1E-05, which is common and entirely defensible. While DTSC has a cancer risk point of departure of
1E-06 for unrestricted land use, we typically use 1E-05 for Industrial/Commercial (I/C) and other worker scenarios, where an adult,
healthy worker is assumed.

In your Draft Addendum No.4, the “Alternative Cleanup Levels” presented in Tables 4 and 5 are the RBCs summarized in Table 5-9 of the
RI/FS. The RBCs presented in Table 5-9 are the most conservative values
estimated for each worker scenario, specifically I/C, construction worker, trench worker and landscaper. Essentially, all of the RBCs are for protection of a construction worker, including the groundwater RBCs,
which are either direct contact for non-volatile compounds or inhalation
of VOCs from groundwater to outdoor air. As I stated in my previous email, DTSC normally will require cleanup to levels protective of a typical I/C worker. Consequently, these cleanup levels for soil will be
more than adequately health protective for any future workers on-site. In fact, when comparing these values to the CHHSLs and RSLs, you are in
between residential and I/C.

I noticed that no cleanup levels were provided for soil gas. This may also be an issue for VOC contamination of shallow groundwater. Using PCE, TCE and vinyl chloride as examples, the RBCs are 320, 260 and 500 µg/L, respectively. Again, these values are based on protection of a construction worker from VOCs emissions to ambient air. Using the DTSC J&E Model for groundwater and assuming about 10-feet to groundwater, the
risk-based groundwater concentration protective of an indoor worker would be 298 µg/L for PCE, 1,400 µg/L for TCE and 10 µg/L for vinyl

chloride. While the RBCs for PCE and TCE are adequately protective of an indoor air worker, the RBC for vinyl chloride is not. In fact, the RBC (500 µg/L) would correspond to an indoor air risk of about 5E-04 and the maximum on-site concentration (25,000 µg/L) would correspond to an indoor air risk exceeding 1E-02. Also, there are two errors in Table 4: the alternative cleanup level for 1,1-DCA should be 30,000 µg/L and the cleanup level for chloroethane should be 47,000 µg/L, based on the RBCs presented in Table 5-9.

I can modify the Excel version of Table 5-9 you sent me to incorporate more realistic cleanup levels, but since this has already been reviewed and commented on by Stakeholders, it may not make much sense at this point. When you have a chance, let's chat about the cleanup levels and discuss the groundwater-vapor intrusion potential, as I am not certain if this is a real issue, as I am not all that familiar with the site data.

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