California Regional Water Quality Control Board
San Francisco Bay Region

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Arnold Schwarzenegger
Governor

October 3, 2006
File No. 07S0156 (MRC)

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Ms. Nancy Ellicock
Ms. Elizabeth Young
Mr. John V. Hook
Mr. Steven Pucell
c/o Mr. Daniel C. Helix
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SUBJECT: Conditional Approval of Feasibility Study - Hookston Station Site, 228 Hookston Road, Pleasant Hill, Contra Costa County

Dear Messrs. Grant, Helix, Kennedy, Hook, and Pucell and Mses. Helix, Ellicock and Young:

Water Board staff has reviewed the Feasibility Study (FS) submitted for the Hookston Station site in Pleasant Hill (ERM; July 10, 2006). The report is intended to satisfy Task 10 of Order No. R2-2003-0035 (as amended by Order No. R2-2004-0081), which requires a Feasibility Study and Proposed Cleanup Standards, including (a) summary of the results of the remedial investigation; (b) evaluation of the installed interim remedial measures; (c) feasibility study evaluating final remedial actions; (d) risk assessment for current and post-cleanup exposures; (e) recommended final remedial actions and cleanup standards; and (f) implementation tasks and time schedule. The report is comprehensive and well organized. It covers a reasonable range of alternatives and appears to provide sound rationale for recommending Alternative 4 (A-Zone Permeable Reactive Barrier, B-Zone Chemical Oxidation, and Common Components). I approve the report, with the following conditions:

1. Time table: We are concerned about the time table presented in the report for completing pilot studies and implementing full-scale cleanup. Please provide a discussion of the factors and considerations involved in estimating the time table, including identification of opportunities to shorten the time to full-scale implementation.

2. Characterization of A-Zone: The report raises some issues regarding estimated time to achieve interim cleanup goals for the A-Zone groundwater (below the level at which indoor air impacts would be expected). Alternative 3 includes enhanced bioremediation of A-Zone groundwater, using injection of an amendment to promote reductive dechlorination of TCE. This alternative is expected to reduce concentrations of TCE to below the interim cleanup goal within 5 years. Alternatives 4 and 5 include a zero-valent iron permeable reactive barrier for A-Zone groundwater, which is expected to reduce concentrations of TCE below the interim cleanup goal within 3 years. Alternative 6 includes pumping water from extraction wells in the A-Zone and is expected to reduce concentrations of TCE to below the interim cleanup goal in 2 years.

   In the Detailed Evaluation of Remedial Alternatives (Section 7.2), the text states that the discontinuous nature (emphasis added) of the A-Zone could make effective distribution of biological amendments difficult (short-term effectiveness score = 3). The text goes on to state that the short-term effectiveness score for Alternatives 4, 5 and 6 is 4. It is unclear from this discussion why the report concludes that alternative 6 (groundwater extraction) would be expected to attain interim cleanup goals any faster than the other alternatives. Further, based on our experience with groundwater extraction systems throughout the region over more than 20 years, this technology does not result in rapid decreases in VOC concentration in discontinuous water-bearing units such as the A-Zone at this site.

   Please provide additional evaluation of the effectiveness of the alternatives with respect to the discontinuous nature of the A-Zone. Please also include a discussion that clarifies why an additional technology down gradient from the PRB, such as groundwater extraction and treatment or targeted injection of zero-valent iron (perhaps phased, after one or two quarters of monitoring), would not be appropriate.

3. Vinyl chloride in soil vapor: The report does not include any mention of specific concerns about vinyl chloride that has developed as a result of commingling of TCE with petroleum hydrocarbons (near the Pitcock Petroleum site on Hookston Road and near a former natural gas leak along Hookston Road). Please provide an evaluation of measures to address these incidental occurrences of vinyl chloride in groundwater and soil vapor.

4. Groundwater capture zone: Please provide a clear explanation of measures that will be taken to ensure an adequate groundwater capture zone for the proposed PRB.

5. Cost of Institutional Controls: The cost of implementing and monitoring the Institutional Control to prohibit future well installation (e.g., County ordinance) is not specifically discussed in the FS. Experience has shown that such costs may be substantial. Please provide clarification of this issue.

6. Contingency plan: Please provide a discussion that clearly explains potential contingencies should Alternative 4 not function as expected.

7. Pitcock Petroleum: Please provide a discussion that clarifies the impact of the Pitcock Petroleum plume on the Hookston plume and treatment options, including extent of overlap, differences between chemicals, and source of chemicals.

8. "Common Components": Section 6.3 describes three common components of the "active remediation" alternatives: a soil management plan for arsenic in soil, vapor intrusion prevention systems, and private well removal. This section does not discuss institutional controls to prevent installation of wells until final groundwater cleanup goals are achieved (see Section 8.3.5, Land Use Restrictions and Institutional Controls). Please clarify the full suite of common elements of the "active remediation" alternatives.

9. Land Use Controls: Table 4-2, Action-Specific Applicable or Relevant and Appropriate Requirements, includes DTSC as the relevant agency for land use controls, and includes this comment: "In the event a remedy is selected that does not result in unrestricted use, a LUC between the City of pleasant Hill and DTSC will be signed and recorded with Contra Costa County prior to DTSC certification that the removal action has been completed." Because this is a Water Board-lead site, DTSC would not be involved in any land use covenants for the site. Any land use controls associated with the Hookston Station site would be between the landowner or the city and the Water Board. Please clarify this issue.

Please submit by October 27, 2006, an addendum or revised FS that addresses the conditions listed above. Upon satisfactory resolution of these issues, Board staff will issue an approval letter and responsiveness summary.

If you have any questions, please contact Mary Rose Cassa at (510) 622-2447 or e-mail at mcassa@waterboards.ca.gov.

Sincerely,

for

Digitally signed by Stephen Hill
DN: CN = Stephen Hill, C = US
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