Review of Draft Technical Memorandum, Alternative 5A for NAPL Present in Groundwater Contamination Source Areas SA12, SA3, and SA11, Soil and NAPL Feasibility Study Report, Del Amo Superfund Site, Los Angeles, California

Pursuant to a request from the U. S. Environmental Protection Agency (EPA) Task Order Project Officer (TOPO), CH2M HILL has reviewed a document entitled Draft Technical Memorandum, Alternative 5A for NAPL Present in Groundwater Contamination Source Areas SA12, SA3, and SA11, Soil and NAPL Feasibility Study Report, Del Amo Superfund Site, Los Angeles, California, dated June 3, 2009. The draft technical memorandum was prepared by URS Corporation (URS) on behalf of the Del Amo Superfund Site Respondents.

CH2M HILL's review comments are divided into general comments and specific comments.

General Comments

1) As stated in the introduction, “significant assumptions regarding remedial design parameters” were made for all active remedial alternatives in the Draft Final Feasibility Study Report (FS). Although the text states that Alternative 5 had the highest uncertainty of the active remedial alternatives, it seems that to be equitable, other alternatives could also be revisited with a less conservative approach.

2) Please explain the rationale for the different chemicals at the different source areas (i.e., Fentons versus Peroxone).

3) What is the basis for the injection volumes and frequency at the different source areas? Is it based on the stoichiometric ratio to the mass of contaminant at each site, or the extent of volumetric displacement in the zone of contamination at each site? Other?

4) Alternative 5A is rated the same as Alternative 5 in LTE and RTMV although Alternative 5A is less intense (less wells, lower injection volumes, etc). Alternative 5A remediates the contaminant using ISCO in the immediate vicinity of the less dense injection points, and relies on biodegradation in between injections and injection points. Alternative 5 works more on straight ISCO (i.e., contact with the
chemical). Given that peroxide/ozone persists for a relatively short time in the subsurface (hours or days) and given the limited 5 to 6 foot lateral displacement of the Fenton's reagent from the well after injection (with wells/points spaced at 45 feet and less injection points vertically), the effectiveness in maintaining higher DO levels (and promoting biodegradation) for any significant duration in between the injection points and in between semi-annual injections is questionable. Please explain how higher DO will be maintained in between the injection points and between the semi-annual injection events in Alternative 5A. It seems that the LTE and RTMV would be slightly lower for Alternative 5A.

5) Alternative 5 included extending some of the interior SVE wells into the water table to serve as interim groundwater monitoring wells during the remediation. Is this included in Alternative 5A?

6) Where are the costs for the bench scale testing and pilot testing? Are they included in the design task?

7) The monthly cost of electricity seems excessive. For example, at Source Area 12, the SVE unit specified is 400 cfm. A unit this size typically has a blower motor (the main electricity consumer) in the range of 20 horsepower. At $0.10 per kwh, 20 HP equates to ~$1,000 per month at full load and 100% up time. Electricity cost of $3,500 per month is included. Please reconcile the difference in costs.

8) The monthly cost of Waste/Water disposal at Source Area 12 seems high at $4,000 per month. This equates to the disposal of ~4,000 gallons of water at $1.00 per gallon. Although water will be generated in the SVE knockout pot, 4,000 gallons per month seems very high. Also, no significant solid waste should be generated on a monthly basis. Please explain.

9) Same comment for Miscellaneous at Source Area 12 at $6,000 per month.

Specific Comments

1) Page 1, Section 1.0, second paragraph – The text states that Alternative 5 has the highest uncertainty in cost and ratings of the active alternatives due to uncertainty in remedial design parameters, one of which is “impacted area.” The uncertainty associated with the impacted area is actually shared by all of the alternatives, and thus “impacted area” should not be listed here.

2) Tables 2, 5, and 8 – A weighted average is calculated for Alternatives 5 and 5A and used to “rate” Alternative 5A above Alternative 5, and even above Alternative 6 (which is not the focus of the document). The methodology for calculating the weighted average is not described. Regardless, a weighted average should not be used to compare or select alternatives in the FS.

3) Table 5 – A “4.” appears at the upper left corner of the page. Please remove.
Good morning Dante. Attached is a technical memorandum presenting CH2M HILL’s review comments on the Draft Technical Memorandum, Alternative 5A for NAPL Present in Groundwater Contamination Source Areas SA12, SA3, and SA11, Soil and NAPL Feasibility Study Report, submitted by the Del Amo PRPs. Please feel free to call and discuss.

Thanks,
Randy

Randy Kellerman, P.G.
Project Consultant
CH2M HILL - Southern California Office
6 Hutton Centre Drive, Suite 700
Santa Ana, CA 92707
Ph: (714) 435-6381
Fax: (714) 424-2258