

Foley, Bryan L

From: RickMcCain@aol.com
Sent: Wednesday, January 13, 1999 4:36 PM
To: bryan_l_foley@rl.gov
Subject: Comments to DOE/RL-98-28

065452

Mr Foley;

Given below are my comments to DOE/RL-98-28 "200 Area Remedial Investigation/Feasibility Study Implementation Plan - Environmental Restoration Program"

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In general, I felt the document was a good first step in developing a methodology for completing RI/FS work in the 200 Areas. However, I do have the following specific comments:

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[p 2-28, sec 2.2.5] In order for the observational approach to be effective, decision authority needs to be delegated down to the level of the individual project. The advantage gained in the observational approach can be quickly lost if all decisions have to be made by EPA, Ecology and DOE unit managers. The implementation plan should include provisions for delegation of decision-making authority to the project level and specific constraints on that authority. Perhaps one means to do this is to prepare a site-specific work plan which defines various alternatives and lays out decision criteria associated with each alternative. Approval of this document by the appropriate regulatory agencies would then constitute limited authority for the project to act within a range of approved alternatives.

[p 3-4, sec 3.1] Some mention should be made in this section of groundwater mounding associated with past liquid waste disposal practices. This is particularly significant in that cessation of large disposal volumes has resulted in dissipation of groundwater mounds, which leads to falling groundwater levels and changing flow directions. These factors will significantly affect the impact of an individual site on groundwater.

[p 6-8, & 6-9 sec 6.2.5.1, 6.2.5.2 & 6.2.5.3] The borehole methods mentioned here are all oriented toward relatively deep holes. It appears that test pits are the method of choice for collecting shallow samples. As stated, the cone penetrometer and Geoprobe do not generally provide adequate sample volume. While test pits are relatively quick and cheap, and provide a good opportunity to observe shallow stratigraphy, they do result in exposure of the sampling horizon. At least while the hole is open, the soil removed from the hole is generally piled nearby. The test pit spoil is functionally equivalent to borehole cuttings and should be subject to the same restrictions. In cases where a contaminated area is being investigated, the spoil piles may result in worker exposure and possibly also downwind dispersal of particulate contamination. Some consideration should be given to the use of hollow-stem auger with split-spoon sampling for shallow investigations in an around waste sites. This is an accepted method for sampling, particularly above the water table, and an auger rig can generally drill several holes in a day. The cuttings brought to the surface by the auger flights are considerably less in volume than the soil dug up by a test pit. This would make it much easier to contain any contamination encountered in the borehole. Moreover, a large-diameter drive sample could be used to collect adequate sample volume. Finally, auger holes have much less impact to the site, compared to test pits.

[p 6-9 & 6-10] Under borehole geophysics, mention is made of the RLS, but not the spectral gamma logging system (SGLS). The SGLS is a high-resolution spectral gamma system operated by MACTEC - ERS for the vadose zone baseline characterization in Tank Farms. It could be used in both new and existing boreholes to detect specific man-made gamma-emitting radionuclides such as Cs-137 and Co-60. A further advantage of the SGLS is that it is capable of detecting naturally occurring radionuclides such as K-40, and gamma-emitting daughters in the U-238 and Th-232 decay chains. In the tank farms, variations in natural radionuclide concentrations have been shown to be capable of delineating contacts between backfill and undisturbed soil, and between the various stratigraphic units. It has also been successful in



detecting caliche and silt layers that may act as barriers to subsurface flow.

Also, if hollow stem augers are used, it may be possible to install PVC or other non-metallic casing, which would facilitate the use of other borehole geophysical methods, such as induction logs to detect moisture variations.

[p 6-11, sec 6.2.5.7] This section would benefit from a brief discussion (or perhaps a table) discussing specific characterization technology needs.

Thank you for the opportunity to review and comment on the document.

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