



Title: CAB Comments on Focused Feasibility for Solid Waste Management Unit 1

Background:

SWMU-1 (C-747-C Oil Land Farm)

In the revised focused feasibility study, DOE concluded that the preferred remedial action for SWMU 1 is *In-situ* Source Treatment using Enhanced *In-situ* bioremediation at an estimated cost of 6.1 million dollars with an estimated completion time of 93 years. EPA and the Kentucky Division of Waste Management (DWM) prefer the use of *In-situ* Source Treatment using Deep Soil Mixing at an estimated cost of 9.7 million dollars with an estimated completion time of 68 years. EPA and DWM are concerned that the site geological and soil characteristics are such that additives cannot be distributed well enough to provide effective treatment through *in-situ* bioremediation. DOE screened out multiphase extraction and injection alternatives because of perceived limitations in soil permeability.

The CAB believes that *in-situ* bioremediation may be an applicable technology for treating contaminated groundwater at other areas in the complex, particularly related to removal of lower concentration, residual contaminants. Furthermore, following a meeting with DOE and contractor personnel, the CAB concludes that the explanation of how *in-situ* bioremediation could be effectively implemented when other processes requiring movement of additives through the soil was inadequate in the focused feasibility study.

The CAB supports DOE in its selection of *in-situ* bioremediation as the preferred alternative for the oil land farm, if this technology is shown to be implementable at this location. Although the estimated time of completion is about 1/3 longer, *in-situ* bioremediation has an estimated cost of approximately 2/3 of the alternative recommended by EPA and DWM. The technology has potential applicability in other areas, and implementation of the technology at the land farm would serve as a test case for other applications.

Recommendation

The CAB recommends that DOE pursue negotiations with EPA and DWM to implement *in-situ* bioremediation at the oil land farm. To support these recommendations, the CAB recommends that DOE provide a more detailed explanation of how *in-situ* bioremediation will be implemented that clearly demonstrates why the soil and geological characteristics will not be an issue. The explanation should differentiate why these same soil and geological characteristics are an issue for the alternatives that were screened out on that basis.

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