Comments on
DRAFT FEASIBILITY STUDY DATA GAPS WORK PLAN at the LABORATORY FOR ENERGY-RELATED HEALTH RESEARCH/ SOUTH CAMPUS DISPOSAL SITE UNIVERSITY OF CALIFORNIA, DAVIS
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Prepared by Weiss Associates for the University of California Davis

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This feasibility data gaps study plan states,

"*Implementation of this work plan will provide data on the source, nature, extent, fate and transport of chromium (Cr) at LEHR/SCDS, which are needed so that Cr in soil and groundwater can be appropriately addressed in the feasibility study. Implementation of this work plan will also address disposal unit (DU) data gaps and provide an evaluation of the potential impact of constituents of concern (COCs) in the vadose zone on underlying groundwater, and will provide further delineation of COCs that have already impacted groundwater. These additional data and analyses will be used in evaluating remedial options for the disposal units.*"

While this proposed study plan will provide data needed to begin to fill data gaps that exist at the LEHR Superfund site, it is my assessment that there will be need to conduct follow-on studies to fill data gaps that will still exist when the data that will be generated in this study plan is available. Based on the existing data and the complexity of the LEHR site, a far greater number of groundwater monitoring wells will be needed to more fully define the issues pertinent to understanding the role of each of the waste management units in causing groundwater pollution at the LEHR site. Further, a much more comprehensive data collection program will be needed to answer the questions associated with the occurrence and origin of chromium in groundwaters.

This data gaps proposed study plan well in general add an additional monitoring well or hydropunch location downgradient from waste management units. A greater number of immediate up gradient and especially downgradient monitoring wells will be needed to better defined the releases of chemicals from each of the potential sources of pollutants for the sites groundwaters near the waste management units. Because of the heterogeneity of waste composition at various locations in waste management units, the completion of this proposed study plan will not define whether releases are occurring from all areas of waste management units.

From the offsite LEHR offsite public protection point of view, DSCSOC has suggested that an evaluation should be made of the potential for releases of pollutants from any

location in a waste management unit, such as landfill 3, to be transported to offsite without being detected by the existing groundwater monitoring well array. Those areas of the LEHR adjacent property line where pollutants could pass without being detected represent a data gap where one or more monitoring wells need to be developed.

It appears from this study plan that the geochemical measurements such as down well DO, etc. that DSCSOC has been requesting for over 13 years will finally be made on the groundwater samples. Incorporating aquatic chemistry into reviewing the groundwater data will be important to better understanding of the transport and transformations of COCs. The role of TOC/DOC in impacting the transformations and transport of COCs needs to be evaluated by examining this issue in those areas where TOC/DOC occurs due to UCD pollution of groundwater by bulk organics.

As the US EPA has indicated in their comments on this plan there are a number of questions about details of the chromium components of the plan. It appears that the chromium study plan is basically one of gathering a limited amount of additional data that will serve as a basis of defining the additional study that will need to be conducted. DSCSOC will likely have comments on these details when they become available.

A focus of the data gaps study plan should be on defining whether the chromium is HSU-1 is migrating to HSU-2 at a sufficient rate to cause the upper parts of HSU-2 to have total chromium at concentrations above about 5 µg/L compared to upgradient waters to the HSU-1 elevated chromium areas. The issue of greatest concern to offsite groundwater users is whether the LEHR HSU-1 chromium areas are causing or contributing to offsite groundwaters with chromium above the existing and potential revised MCL. The 5 µg/L concentration is selected to account for potential reductions in the CA DHS MCL for chromium.

Since some of the HSU-2 groundwater has chromium above 50 µg/L there is need to better define the origin of this chromium. From the data available it appears to be of natural origin.

This study plan proposes to add two south of Putah Creek monitoring wells to provide background information on the area chromium in groundwater of the area that is upgradient to the elevated chromium areas at LEHR. There are significant questions as to whether the proposed location of these wells is upgradient to these areas. Further local ag wells in the vicinity of at least one of these wells will likely impact the direction of groundwater flow during the time that the ag wells are pumping.

The proposed data gaps study plan is a modest step in the direction of meeting the objectives of the data gaps study plan quoted above.