Comments on
"Draft 2006 Comprehensive Annual Water Monitoring Report –
LEHR/SCDS Environmental Restoration Program" dated March 2007
prepared by Brown and Caldwell

Submitted to DSCSOC
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Overall

The 2006 draft annual water monitoring report, like previous years' draft and final reports, is significantly deficient compared with that which should be allowed by regulatory agencies in the reporting of analytical data by a PRP for a Superfund site. As discussed herein, again this year, UCD has failed to point out that the LEHR site continues to have excessive concentrations of mercury in the runoff from the site. Also, this report, like past years' reports, contains propaganda claims that the results for a particular set of analyses do not show any water quality problems - while failing to discuss the deficiencies in the monitoring approach that was used to develop the data upon which the claim was made.

Executive Summary

Page 0-4, last paragraph states,

"Results from the stormwater and surface water sampling in 2006 were within historical values. Based on the data presented in this 2006 Comprehensive Annual Water Monitoring Report, historical results for surface and storm water, and conclusions of the Site Wide Risk Assessment approved in 2006, UC Davis recommends eliminating surface and storm water monitoring. The SWRA concluded that the Site has not contributed to an increased human or ecological risk to Putah Creek. Future surface and storm water monitoring may be implemented as specified by the USEPA in the Record of Decision for remedial actions implemented at the Site."

That paragraph is more of the chronic problems with UCD and its contractors' providing unreliable information on key issues. The DSCSOC's comments on the previous UCD claims about stormwater runoff from the LEHR site's not impacting Putah Creek water quality, as well as DSCSOC's comments on the unreliability of the Site Wide Risk Assessment's discussion of this issue have been provided to the RPMs and are available on the DSCSOC website: http://members.aol.com/dscsoc/doc.htm

As has been documented repeatedly by DSCSOC ,and based on the monitoring data and the RPMs, stormwater runoff from the LEHR site at times contains more than 10-times the allowed discharge limit for mercury to Putah Creek. The CVRWQCB has indicated

that there is need for UCD to implement BMPs to eliminate this violation. **Under no circumstances should UCD be allowed to terminate monitoring of stormwater runoff from the LEHR. In fact, UCD should be forced to greatly improve the quality of the stormwater runoff monitoring to more reliably define the magnitude of the violations of the mercury discharge limits for the LEHR site.** Detailed information on the improvements needed to this monitoring program have been provided in previous comments by DSCSOC.

Page 0-5 heading "LTPS"
The last sentence of that section states,
"Based on a comprehensive evaluation of metals content in IRA effluent applied to the LTPS from 2003 to 2006, combined with soil sample evaluations from 2003 to 2005 (compared to baseline samples collected in 2000), UC Davis recommends that no additional soil monitoring on the LTPS is needed and there is sufficient data to evaluate this Pilot Study in the FS."

UCD should be required to continue the comprehensive monitoring program of the LTPS area as long as UCD places its wastewaters in the area. Further, as DSCSOC has discussed, the currently allowed monitoring program needs to be expanded to specifically address the migration of wastewater-associated pollutants in the vadose zone to the watertable.

Section 3 - 2006 Water Monitoring Programs
Page 3-5 presents a discussion of the currently allowed surface water monitoring program at the LEHR site. DSCSOC has repeatedly pointed out over the past 10 years or so that this monitoring program is grossly deficient compared with that needed to reliably evaluate the impact of the LEHR site on surface water quality in the vicinity of the LEHR site and downstream from it. A detailed report on the approach that should be followed to properly evaluate surface and stormwater impact issues was submitted to the RPMs as

Lee, G. F., "Comments on LEHR/SCDS Environmental Restoration Quarterly Monitoring Report, Winter 2006 Prepared for University of California, Davis, by Brown and Caldwell, August 2006," Report submitted to DSCSOC by Dr. G. Fred Lee, G. Fred Lee & Associates, El Macero, CA, January 24 (2007).
http://members.aol.com/dscsoc6/2007/LEHRWinterQtr06MonRPT.pdf

That report is on the DSCSOC website. Preparation of that report was stimulated by the fact that UCD conducted a Site Wide Risk Assessment in which its contractor attempted to use the grossly inadequate database on surface water quality issues to claim that the LEHR site is not adversely affecting Putah Creek water quality. It is obvious to anyone who understands even the most elementary aspects of this situation that the Site Wide Risk Assessment has not yet been adequately completed with respect to surface water quality issues.

Page 4-8 - 4.4.1 Groundwater IRA Operations
The last paragraph discusses the chronic scaling problems associated with the IRA. As DSCSOC pointed out before the IRA was developed, as well as repeatedly thereafter, UCD's allowing the plugging of the injection well as a result of failing to recarbonate the air-stripped wastewater, means that the IRA system that UCD has developed and continues to operate is grossly deficient in design and operation. It is also a significant waste of taxpayer's funds. Those with even an elementary knowledge of air-stripping of hard water such as occurs at the LEHR site know that calcium carbonate scaling will seriously impact the ability of the system to operate properly. This situation is another example of the inadequacy of the approach taken by UCD in developing and operating the IRA system.

Page 4-12 – 4.4.5 LTPS Groundwater Monitoring Beneath the LTPS
The last sentence in the last paragraph of this section states,
"LTPS groundwater results in Appendix D combined with LTPS soil data in Table 14 and Table 15 and effluent data presented in Appendix C support the conclusion that IRA effluent has had little if any deleterious effects on LTPS soil or groundwater quality between 2000 and 2006."

There are several aspects of that statement that need to be considered. What is meant by *"little if any deleterious effects"*? Has there been an effect? Is the groundwater monitoring that has been done adequate to detect incipient impacts? As discussed in

Lee, G. F. and Jones-Lee, A., "Groundwater Quality Protection Issues," Report of G. Fred Lee & Associates, El Macero, CA, February (2007).
http://www.members.aol.com/annelhome/GWProtectionIssues.pdf

it is inappropriate to try to assess the initial impacts of a land-surface activity, such as the disposal of wastewaters on land, through the use of existing monitoring wells with long screens. The upper part of an aquifer sampled by long-screened wells can fail to detect the initial pollution of the upper part of the aquifer. A series of monitoring wells screened in the upper part of HSU-2 is needed for this purpose.

Page 4-19 – Section 4.7 Stormwater Monitoring Results
This section provides a grossly deficient discussion of the mercury data. As I have discussed in comments on previous years' annual monitoring reports, it appears that UCD is attempting to confuse the reader on the issue of mercury in stormwater runoff from the LEHR site. In some years the mercury in stormwater runoff exceeded 500 ng/L, yet UCD did not comment on that exceedance (by a factor of 10) of the CTR criterion.

Page 5-3 - Section 5.2.2 Stormwater Monitoring
This section states,
"The results of the 2006 stormwater monitoring program are discussed in Section 4.6. Reported detections of analyzed constituents were between the historical average and the historical maximum. Based on theses results, no unexpected changes occurred during 2006."

That statement is inappropriate in discussion of the data for mercury presented in Appendix E. Examination of Appendix E for the mercury data shows that LF-01 had a reported mercury "0.123 J" on 3/20/06. LF-01 on 11/02/06 had a reported mercury of "0.37 J." Examination of the footnote in Appendix E for the "J" designation shows,

"J validation qualifier for the estimated values; sample exceeds quantitation range."

That footnote on those values indicates that the two mercury concentrations cited above exceeded the analytical range used for the test. Therefore, there is no indication of how much mercury was in these samples, except that it was above the values listed. We know that the LF-01 on 3/20/06 had at least 123 ng/L mercury, which exceeds the CTR criterion. Similarly for 11/02/06, the sample had at least 370 ng/L mercury, also exceeding the CTR criterion. Since this kind of unreliable, indeed deceptive, discussion is a chronic problem with UCD's reporting of data for mercury in stormwater runoff, the RPMs need to take action to inform UCD that the draft 2006 annual monitoring report is not acceptable, and that UCD needs to redo the report to properly discuss the data.