

Comments on S. Fields' Assessment of LEHR Superfund Site BMP Effectiveness

On October 16, 2009, Sue Fields of UCD sent an email to the LEHR Superfund Site RPMs, PRPs, and DSCSOC, in which she stated:

"Project Team,

Exciting news: we had 3.89" of rainfall on Tuesday Oct 13, and successfully sampled stormwater discharges at both LF-1 and LF-3. It appears our BMP's worked well, as the discharge from LF-3 was retained on site until late afternoon."

From what I observed during that event, however, her characterization of the effectiveness of the BMP is overstated. I visited the LEHR site at about 4 pm on October 13, 2009, while it was still raining fairly hard. From the levee road I observed the runoff from the site. There was stormwater discharging from LF-1 through the discharge pipe that goes through the levee. The discharge water was passing over some of the upstream straw (fiber) rolls and was passing through all of the straw rolls including the set that is just upstream of the entrance to the discharge pipe that goes under the levee. At that time, the BMPs were not, in fact, working "well;" the stormwater runoff from LEHR was not being retained on the site. There were discharges of stormwater from both LF-1 and LS-1 as well as from the pipe that enters the side of concrete ditch that passes through LF-3.

The water in the most-downstream area next to the levee and below all straw rolls, like all water upstream of that point and in the through-the-levee discharge pipe, was highly turbid (muddy). This indicates that erosion particles derived from the LEHR Superfund site were passing over and/or through the straw rolls. I hope that UCD sampled that runoff water to determine if it contained mercury in excess of the 50 ng/L CTR criterion.

As I have discussed in previous DSCSOC reports concerning LEHR Superfund site mercury issues, just meeting the 50 ng/L CTR criterion for mercury in the LEHR site stormwaters runoff does not prevent the LEHR site from contributing mercury to Putah Creek and adding to the total mercury in Putah Creek that is bioaccumulating to excessive concentrations in fish in the creek and the Delta. The concentration of total recoverable mercury in LEHR site stormwater runoff **at any time** during the runoff event would have to be less than about 5 ng/L to achieve that level of control.

It should not continue to be assumed that a single grab sample of stormwater runoff can adequately characterize the concentration of pollutants in stormwater runoff from a complex area with multiple areas that can serve a source of pollutants. In order to evaluate the effectiveness of the LEHR site BMPs, it will be necessary to conduct a comprehensive stormwater runoff monitoring program in which samples are collected at appropriate locations at the beginning, during, and near the end of the runoff event.

At this time, it is unclear whether the erosion of the LEHR Superfund site that is occurring during stormwater runoff events is from CERCLA-regulated areas such as Landfill 1 and/or non-CERCLA-regulated areas. Studies will need to be conducted to determine whether any of the erosion transported from LEHR during stormwater runoff events is subject to CERCLA regulation.

The US EPA website contains a report, "Fiber Rolls, Minimum Measure: Construction Site Stormwater Runoff Control Subcategory: Sediment Control" devoted to the use of Fiber Rolls as a BMP for controlling erosion runoff from areas [http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=factsheet_results&view=specific&bmp=121]. That report states:

"The San Diego State University Soil Erosion Research Laboratory reported that the use of fiber roll products reduced offsite sediment delivery by 58 percent (International Erosion Control Association, 2005)."

Overall, I cannot agree with the claim, quoted above, that the LEHR site BMPs are working, much less, working "well." From my observations during the October 13 stormwater runoff event, there were discharges of erosional materials from the LEHR site that most probably exceeded the CTR mercury criterion, and the 5 ng/L level that results in contribution of mercury to Putah Creek that leads to excessive bioaccumulation of mercury in creek fish. It has been my experience that silt fences and/or fiber rolls are not effective for achieving the level of mercury control needed in stormwater runoff from the LFHR Superfund site.

Sue Fields also stated in her October 16, 2009 email:

"In prep for the storm, the campus WWTP asked that we turn off the IRA extraction well. We restarted it on Oct. 14."

Over the past 14 years that I have been involved in the LEHR site investigation, I have repeatedly concluded and noted that during stormwater runoff events, the UCD campus wastewater treatment plant discharges sludge to the creek. That conclusion is based on the observation, from the Old Davis Road bridge, of a black plume originating in the creek at the point at which campus wastewaters are discharged to the creek. As I reported in my discussion of LEHR Superfund site and UCD campus discharges to the creek last spring [Lee, G. F., "[Comments on UCD/DOE LEHR Superfund Stormwater Runoff Water Quality Monitoring Program](#)," Report of G. Fred Lee & Associates, El Macero, CA, March (2009). Available on the DSCSOC website at <http://www.gfredlee.com/dscsoc/doc.htm>]:

"In a Sacramento Bee September 26, 2008 article, "UC Davis fined for Putah Creek pollution" at <http://www.sacbee.com/378/story/1267438.html> stated that UC Davis was fined \$78,000 for pollution of Putah Creek. According to UCD representatives cited in the article these violations were due to storm events overwhelming the campus treatment plant. The campus wastewaters contain some wastewater discharges and stormwater runoff from the LEHR Superfund site. This situation occurred from January 1, 2001 to March 31, 2008 yet none of these discharges which were in excess of the campus wastewater treatment NPDES permit allowed concentrations were detected in any of the LEHR site monitoring of the Putah Creek during this period. This situation reflects the overall poor quality of the LEHR site stormwater runoff and surface water quality monitoring inadequately characterization of the pollutants in runoff and in Putah Creek near the LEHR the site."

If there are questions or comments on these issues please contact me.

G. Fred Lee
October 17, 2009



October 13, 2009 Runoff Event at LEHR LF-1