RWQCB Comments

December 23, 2004

California Regional Water Quality Control Board
San Francisco Bay Region

Dr. Alan Lloyd
Secretary for Environmental Protection

1515 Clay Street, Suite 1400, Oakland, California 94612
(510) 622-2300 • Fax (510) 622-2460
http://www.swrcb.ca.gov/rwqcb2

Arnold Schwarzenegger
Governor

Date: December 23, 2004
File No. 2199.9026 (MBR)

Department of Toxic Substances Control
Attn: Salvatore Ciriello
700 Heinz Avenue, Suite 200
Berkeley, California 94612

SUBJECT: Water Board's Comments on Draft RCRA Corrective Measures Study Report for Lawrence Berkeley National Laboratory dated July 2004, Alameda County

Dear Mr. Ciriello;

On September 13, 2004, the San Francisco Bay, Regional Water Quality Control Board (Water Board) staff provided the Department of Toxic Substances Control (DTSC) with our comments on the U.S. Department of Energy's (DOE) Draft RCRA Corrective Measure Study Report (CMS) for Lawrence Berkeley National Laboratory (Berkeley Lab). Our comments, along with DTSC's were forwarded to DOE for their response.

On October 27, we received DOE's written response to our comments but without the figures we had requested. Most recently on December 8, 2004, DOE submitted the requested figures after a technical meeting between Water Board and Berkeley Lab staff. With these figures, we have completed our review of the Draft Corrective Measure Study.

Overall, Water Board staff finds that DOE's responses to our comments acceptable; however, two issues remain. The first issue is to maintain the designated potential beneficial use of a drinking water supply for all groundwater underlying Berkeley Lab but establish short-term and long-term Media Cleanup Standards (MCSs) for areas of low well yield. The second issue is to revise the CMS to identify any collocated radionuclide and volatile organic compounds (VOCs) groundwater plumes.

Regarding the first issue, the draft CMS presents data to support a proposed exclusion of the drinking water beneficial use based on State Board Resolution 88-63. This resolution states that all groundwater of the State is considered to be suitable, or potentially suitable, for municipal or domestic drinking water supply and so designated with the exception of groundwater where:

a. The concentration of total dissolved solids (TDS) exceeds 3,000 mg/L (5,000 uS/cm, electrical conductivity) and it is not reasonably expected by Regional Boards to supply a public water system, or

b. There is contamination, either by natural processes or by human activity (unrelated to the specific pollution incident), that cannot reasonably be treated for domestic use using either Best Management Practices or best economically achievable treatment practices, or

c. The water source does not provide sufficient water to supply a single well capable of producing an average, sustained yield of 200 gallons per day (gpd), or

d. The aquifer is regulated as a geothermal energy producing source or has been exempted administratively pursuant to 40 Code of Federal Regulations (CFR), Section 146.4 for the purpose

of underground injection of fluids associated with the production of hydrocarbon or geothermal energy, provided these fluids do not constitute a hazardous waste under 40 CFR, Section 261.3.

The CMS presents hydrogeologic data identifying small specific areas where groundwater yield is less than 200 gpd and proposes that drinking water supply should not be a designated beneficial use for these areas. However, "de-designation" of groundwater beneficial uses requires Water Board adoption of a Basin Plan amendment and typically takes place on a regional aquifer or sub-aquifer basis. The facility-wide data shows considerable variation of yield, above and below 200 gpd, and does not support drinking water supply de-designation of the regional aquifer or sub-aquifer scale.

Based on presented data, Water Board staff concurs that groundwater conditions directly underlying specific area may limit potential use as a municipal or domestic drinking water supply but that hydrogeologic site-wide conditions do not support de-designation of the drinking water supply potential beneficial use for groundwater at Berkeley Lab.

To address these low yield areas, Water Board staff recommend establishment of short term and long-term Media Cleanup Standards (MCS) for areas where groundwater yield is less than 200 gpd. The short-term MCS would remain as currently proposed in the CMS but the long-term MCS would be protective of groundwater as drinking water supply, e.g., MCLs. The establishment of a long-term MCS for the areas with well yields less than 200 gpd does not appear to require any changes in the proposed corrective measures since the plumes in areas with a groundwater yield less than 200 gpd are already required to be monitored to demonstrate long-term plume stability. The long-term MCS time frame should be proposed by Berkeley Lab based on attenuation rates for the contaminants of concern in each groundwater contaminate plume.

The second issue is more of a restatement of an earlier comment by Water Board staff requesting identification groundwater plumes with collocated radionuclide and non-radionuclide contamination. In our September 27, 1999, letter on the Request for No Further Investigation Status for Areas of Groundwater Contamination Designated as Areas of Concern, staff commented that, " DTSC has notified LBNL and RWQCB that they have no authority to regulate radionuclides and radioactive waste under RCRA. Additionally, DTSC has proposed LBNL remove all radionuclide investigations from the RFI and include them as part of the Site Restoration Program. RWQCB concurs with DTSC's proposal but requests notification of any collocated radionuclide contamination within each identified groundwater AOCs." The identification of any collocated radionuclide and non-radionuclide groundwater contamination should be continued as part of the CMS to insure that the selected corrective measures for the VOC groundwater contamination are not influenced by or influencing any radionuclide groundwater contamination.

Please contact me at (510) 622-2411 or via email at <mrochette@waterboards.ca.gov> if you have any questions or comments.

Sincerely,

Michael B. Rochette

Michael Bessette Rochette
Groundwater Protection Division