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Mr. Joe Karkoski
303(d) List Update Coordinator
California Regional Water Quality Control Board
Central Valley Region
3443 Routier Road, Suite A
Sacramento, CA 95827-3003

Subject: Water Quality Information for Lower Mokelumne River, Rich Gulch, and American River

Dear Mr. Karkoski:

The East Bay Municipal Utility District (District) is pleased to provide surface water quality information in support of the Regional Water Quality Control Board, Central Valley Region's (Regional Board) request of February 21, 2001. Data to recommend delisting of the Lower Mokelumne River for impairment due to copper and zinc and listing Rich Gulch as impaired for arsenic are provided for your consideration.

Lower Mokelumne River

The 1998 State Water Resources Control Board (State Board) 303(d) list of impaired water bodies identifies copper and zinc as parameters of concern for the Lower Mokelumne River. The 1998 Basin Plan for the Sacramento and San Joaquin Rivers identifies the Lower Mokelumne River as extending from below Pardee Dam and discusses historic mining activity as a source of many heavy metals found in surface waters contributing to the Sacramento and San Joaquin. For the Lower Mokelumne River, the major source of copper and zinc was the abandoned Penn Mine located near Campo Seco in Calaveras County.

In 1999, the District and the Regional Board completed a multi-year restoration of Penn Mine. The restoration included treatment of mine drainage, excavation of more than 300,000 cubic yards of copper and zinc bearing waste rock and encapsulation in a new landfill. Abandoned mine shafts were sealed and clean soil and amendments were imported, and the site was regraded and seeded. A comparison of the pre and post restoration metals loading to the Mokelumne River from the Penn Mine site indicates a reduction from 19,383 pounds per year (lbs/yr) to 122 lbs/year for copper and from 40,000 lbs/year to 420 lbs/year for zinc. The data and calculations to support these reductions are provided in the attached *Penn Mine Environmental Restoration Project, Second Interim Effectiveness Monitoring Report, CH2M HILL, July 1999*. Specifically, Tables 12 and 13 of the report detail the pre and post restoration conditions.

Data on copper and zinc concentrations in the Mokelumne River during and after the restoration are provided in Table 7 of the *Penn Mine Environmental Restoration*



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Project, Post-Restoration Final Effectiveness Monitoring Report, CH2M HILL, December 2000.

Copies of this report are also provided. The data in this report indicates that Mokelumne River water quality is similar above and below Penn Mine.

The restoration of Penn Mine has returned the site to a condition where the mass of metals leaving the site are now at levels equal to natural background conditions. This restoration will be the single greatest reduction of copper and zinc sources on the lower Mokelumne River. With the project completed, the District requests that the Regional Board recommend that copper and zinc be removed from the State Board's 303(d) list of impaired water bodies.

Rich Gulch

Rich Gulch is a steep drainage that runs from the town of Paloma on Highway 26 down to the Mokelumne River above Pardee Reservoir at Middle Bar Bridge. A stream runs in Rich Gulch much of the year. Also located in Rich Gulch is Gwin Mine, a large gold mine that was operated until 1908. In 1997 owners of the mine opened it, released water from the mine and conducted water quality sampling, results of which indicated that indicated that water in the mine workings contains arsenic. The attached *Notice of Emergency Remediation Measures* prepared by Secor International, Inc for Gwin Mine Associates (GMA) in January 1997, documents arsenic concentrations in Rich Gulch below Gwin Mine to be on the order of 200 micrograms per liter (ug/l). The District is concerned that these high concentrations may be exacerbated should the mine be dewatered and/or operated. We request that the Regional Board recommend the State Board include arsenic as a parameter of concern in Rich Gulch.

The District appreciates your consideration of these recommendations. If you need additional information, please contact me at (510) 287-1663.

Sincerely,



ALEXANDER R. COATE
Manager of Regulatory Compliance

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Attachments

Cc: J. Lampe
M. Wallis
R. Sykes
J. Myers
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