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Mercury in Cache Creek
Deadline: 7/10/06 5pm

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VIA Email and U.S. Mail

State Water Resources Control Board
1001 I Street, 22nd Floor
Sacramento, CA 95814

Attention: Song Her, Clerk to State Water Board

Re: Comment Letter - Plan for Control of Mercury in Cache Creek –
Homestake Mining Company of California

Dear Members of the Board:

These are the comments of Homestake Mining Company of California on the proposed Basin Plan amendment for Cache Creek. We appreciate the opportunity to comment.

Homestake's comments are focused on the elements of the proposed Basin Plan amendments relating to Davis Creek, which is a tributary to Cache Creek. Homestake is the owner of the McLaughlin Mine and the Davis Creek Reservoir. In addition, Homestake property abuts Davis Creek below Davis Creek Reservoir. Homestake built the Reservoir in the mid-1980's to supply water to the now-closed processing facilities associated with the McLaughlin Gold Mine. With the support of Homestake, the Reservoir has been the subject of extensive ecological studies by UC Davis scientists, including studies of the distribution and effects of mercury, and the Reservoir now is part of the UC Davis Natural Reserve System.

The Notice states that the proposed Basin Plan Amendment would establish (1) TMDL allocations for Cache Creek and its tributaries; (2) site-specific water quality objectives for Cache Creek aimed at reducing methylmercury in fish in Cache Creek to levels protective of humans and fish-eating wildlife in the watershed and (3) a water quality management program to reduce mercury and methylmercury loads into Cache Creek.

A. The State Board Should Clarify That The Cache Creek TMDL And Basin Plan Amendment Do Not Apply Directly To Davis Creek; No Load Allocation Should Be Made To Davis Creek Until The Staff-Recommended Studies Are Completed and a Thorough Understanding of its Contribution of Mercury to the Cache Creek Watershed Is Developed.

Although the Cache Creek TMDL documents clearly state that their scope does not extend to Davis Creek, the Proposed Basin Plan amendment includes a methylmercury load allocation for Davis Creek, with a requirement to reduce the existing loading by 50 percent. Proposed Basin Plan Amendment, Table IV-7. Based on the October 2005 Staff Report, it appears that the inclusion of this allocation in the Cache Creek proposal may have been an oversight.

The Staff Report expressly indicates that Davis Creek is to be the subject of a separate study and TMDL:

“Other tributaries to Cache Creek (e.g., Davis Creek) that are on the Clean Water Act 303(d) list will be addressed in a separate TMDL report and Basin Plan amendment report.” Staff Report at 2.¹

Consistent with the Staff Report, the “Creek Sediment – Upper Watershed” section of the Proposed Basin Plan Amendment and the Implementation Summary in Table IV-9 indicate that additional studies would be carried out for sediments in Davis Creek before any regulatory requirements are imposed. Further, no inactive mines in the Davis Creek Watershed are listed in the “Inactive Mines” section of the proposed Basin Plan Amendment. Finally, the “Potential Actions” section recommends further evaluations of potential load reductions from Davis Creek. All these recommendations reflect a clear recognition that additional analyses of Davis Creek mercury issues should be assembled and completed before considering a TMDL and load allocation for Davis Creek.

Therefore, it is not appropriate to include a methylmercury allocation for Davis Creek in the Proposed Basin Plan Amendment for Cache Creek. Homestake requests that the State Board conform the Cache Creek TMDL and Basin Plan amendment to the State and Regional Boards’ description of their actual scope by eliminating the methylmercury allocation for Davis Creek. Such an allocation should not be considered until the Davis Creek studies discussed in the Basin Plan amendment and Staff Report are completed and a more thorough understanding of the current contribution of mercury from Davis Creek has been developed.

¹ The September 2005 State Water Board Draft Staff Report for the Clean Water Act Section 303(d) List projects a completion date of 2010 for a separate TMDL for the Davis Creek Reservoir.

B. When the Future TMDL and Load Allocations for Davis Creek Are Developed, They Should Reflect the Role That Davis Creek Reservoir Already Plays in Limiting Mercury Discharges From Davis Creek to Cache Creek.

As stated above, the Cache Creek TMDL should reserve judgment on load allocations for Davis Creek until additional studies are completed to provide a thorough understanding of the contribution of mercury from Davis Creek. At least two significant factors suggest that the appropriate load allocation for Davis Creek should differ from that included in the current Cache Creek proposal.

1. The TMDL for Davis Creek Should Take Adequate Account of Remedial Actions Already Taken to Reduce Mercury Loading to Cache Creek from the Davis Creek Watershed.

Homestake recognizes the importance of addressing input from inactive mines as part of the TMDL. The TMDL load allocation and Basin Plan amendment for Davis Creek should recognize that significant reductions in mercury inputs to Davis Creek from inactive mines already have been achieved. When Homestake acquired the land for its McLaughlin Mine, Homestake voluntarily included acquisition of the Reed Mine, an inactive mercury mine located on Davis Creek upstream of the Reservoir, and conducted extensive surface cleanup and other remedial activities on that property. Data collected by UC Davis from the downstream Davis Creek Reservoir indicates that mercury inputs to the Reservoir from upstream sources have decreased significantly over the period since the remedial activity was conducted and the McLaughlin Mine processing ceased. The UC Davis studies indicate that the mercury load entering the Davis Creek Reservoir dropped from 193 and 227 kg of mercury in 1993 and 1995 respectively to 3.3 and 2 kg of mercury in 2001 and 2002 respectively. Slotton (2002) at 56, Table 2.²

2. The Davis Creek TMDL Should Acknowledge that Davis Creek Reservoir Has Been Acting as a Mercury Settling Basin.

The mercury reduction alternatives discussed in the Staff Report include increasing the efficiency of the Cache Creek Settling Basin and placing additional settling basins in the Cache Creek Watershed, including one at the mouth of Davis Creek. Staff Report at 38, 49 and Table 5.6. In Homestake's view, the Regional Board and State Board should consider the extent to which the Davis Creek Reservoir already acts as a settling basin for

² Slotton, Reuter, Ayers and Goldman, *Mercury Distribution in the Sediment and Biota of Davis Creek and Davis Creek Reservoir—Final Annual Report After 17 Years of Monitoring and Research: 1985-2002*; Department of Environmental Science and Policy, University of California Davis (2002)

Davis Creek, perhaps even more effectively than the Cache Creek Settling Basin. Certainly, the Regional Board should take account of that role in setting any load allocation to Davis Creek and establishing the Davis Creek TMDL.

Another UC Davis study suggests that the presence of the dam has sequestered a large volume of mercury in Reservoir sediments, and reduced the current contribution of mercury into Cache Creek from Davis Creek to a small percentage of what it would be without the Reservoir. Slotton (1997) at 27.³

As these points demonstrate, any load allocation to Davis Creek must take account of prior remedial activities and the sequestering role of Davis Creek Reservoir. These two factors alone already prevent a volume of mercury from entering Cache Creek that is a significant portion of the annual volume reductions proposed for the entire Cache Creek Watershed and even the allocation of the San Francisco Bay TMDL to the Central Valley.⁴ In Homestake's view, it would not be appropriate to impose an additional reduction on Davis Creek for methylmercury without first giving careful consideration to these factors.

C. **The Water Quality Objectives And Implementation Requirements for the Cache Creek TMDL Do Not Give Adequate Consideration to Economic Factors.**

As the Staff Report recognizes, the adoption of water quality objectives requires compliance with Water Code Section 13241, which, among other things, requires consideration of

- (a) Past, present, and probable future beneficial uses of water.
- (b) Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto.

³ "The reservoir has been clearly demonstrated to act as a trap for a large portion of the annual bulk load of mercury moving down Davis Creek from historic mercury mining sites." Slotton, Ayers, Reuter and Goldman, *Final Report, Cache Creek Watershed Preliminary Mercury Assessment, Using Benthic Macro-Invertebrates*, University of California Davis 1997.

⁴ The Proposed TMDL for the Delta indicates the total average annual reductions for the Cache Creek Watershed and the Central Valley as a whole are 72 kg and 110 kg, respectively. Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the Control of Methylmercury in the Sacramento-San Joaquin Delta Estuary; Staff Report, *Draft Report for Scientific Peer Review*, Central Valley Regional Water Quality Control Board (June 2006).

(c) Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area.

(d) Economic considerations.

The Water Code requires consideration of similar factors in the imposition of effluent limits and other regulatory requirements in the process of translating water quality objectives into regulatory requirements. In Homestake's view, the assessment of the water quality conditions that "may reasonably be achieved" and the related consideration of economic factors require analysis beyond that reflected in the Staff Report. In essence, the Staff Report suggests that any alternative adopted into the Basin Plan here is consistent with Section 13241 because the costs that would be incurred as a result of implementing that alternative would be incurred by the landowner in any event. For example, the Staff Report indicates that

Attainment of any objectives will require remediation of the inactive mines. After initial remediation, any necessary maintenance of the remediated mine sites must be performed in order to satisfy cleanup orders and prevent a recurring nuisance. Implementing erosion control practices and monitoring of turbidity for projects conducted in the floodplains are required by existing programs (401 Water Quality Certification and Basin Plan, respectively) and will also continue after the creeks are no longer impaired by mercury. Costs for fish tissue monitoring and public outreach and education will be incurred until the objectives are met; these costs will be less if higher objectives are selected. Staff Report at 24.

While it is true that significant actions may be required to protect and improve water quality, the Staff Report analysis does not reflect the variation in water quality conditions that may be reasonable under the unique circumstances of each watershed. Neither does the report reflect adequate consideration of the requirement for minimizing the economic impact of the effort. Different approaches that achieve equivalent water quality conditions can vary significantly in their economic impact. In our view, the Staff Report does not address adequately the costs of the different alternatives and the ultimate feasibility of implementing them. For example, determining the costs and feasibility of completely remediating an abandoned mine is highly complicated. In order to satisfy Water Code Section 13241 and related provisions, such an approach under consideration must be compared to alternatives or combinations of alternatives such as collecting contaminated sediments in catch basins or removing contaminated sediment from stream systems.

Homestake is concerned that, while the Staff Report recognizes that the ultimate satisfaction of water quality objectives could take many years—even hundreds of years—the Staff Report does not reflect an understanding of the magnitude of costs and the

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significance of limitations on the use of riparian lands that would be imposed by substantial remediation and sediment removal requirements. Every effort must be made to take account of implementation costs as well as water quality benefits that can be reasonably achieved when identifying approaches for reaching TMDL targets.

Again, when the Regional Board develops the TMDL for Davis Creek, the Water Code will require consideration of the costs of implementation measures proposed for that watershed—in relation to the costs that have already been borne to achieve the reductions in mercury outputs discussed above. When that time comes, Homestake requests that the Regional and State Boards take into account the costs of requiring additional reductions and the relative benefits of such reductions in relation to the small current contribution from Davis Creek. That reduced contribution is the result of prior remedial activities and mercury sequestration by the Davis Creek Reservoir.

D. Conclusion.

We appreciate the State Board's consideration of Homestake's comments. Homestake will actively participate in the Regional Board's consideration of a TMDL and Basin Plan Amendment for Davis Creek itself and for the remainder of the Delta Methylmercury TMDL process.

Sincerely,


Wayne M. Whitlock

cc: Mr. Karl D. Burke
Ms. Melissa Barbanell
Edward B. Grandy, Esq.