

## **CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD**

### **CENTRAL COAST REGION**

San Luis Obispo, California

#### **RESOLUTION NO. R3-2002-0107 AMENDING THE WATER QUALITY CONTROL PLAN FOR THE CENTRAL COAST BASIN TO INCLUDE LAS TABLAS CREEK AND LAKE NACIMIENTO TOTAL MAXIMUM DAILY LOAD FOR MERCURY AND IMPLEMENTATION PLAN**

**The California Regional Water Quality Control Board Central Coast Region hereby finds:**

1. The California Regional Water Quality Control Board, Central Coast Region (Regional Board), adopted the Water Quality Control Plan for the Central Coastal Basin (Basin Plan), on September 8, 1994. The Basin Plan includes beneficial use designations, water quality objectives, implementation plans for point source and nonpoint source discharges, and statewide plans and policies.
2. The Regional Board periodically revises and amends the Basin Plan. The Regional Board has determined the Basin Plan requires further revision and amendment to incorporate a Las Tablas Creek and Lake Nacimiento Total Maximum Daily Load (TMDL) for Mercury and Implementation Plan.
3. The Regional Board proposes to amend the Basin plan by inserting amendments into Chapter Four, Section IX Total Maximum Daily Loads.
4. Section 303(d) of the Clean Water Act requires States to identify and to prepare a list of water bodies that do not meet water quality objectives and then to establish load and waste load allocations, or a total maximum daily load, for each water body which will ensure attainment of water quality objectives and then to incorporate those allocations into their Basin Plans.
5. Lake Nacimiento and Las Tablas Creek were identified as impaired by metals on the 1998 Clean Water Act Section 303(d) list of impaired water bodies. Therefore, the Regional Board is required to adopt a TMDL for those water bodies and incorporate the TMDL and associated Implementation Plan into the Basin Plan. (40 CFR 130.6(c)(1), 130.7, Water Code section 13242).
6. Lake Nacimiento watershed is located partly in Monterey County and partly in San Luis Obispo County. Las Tablas Creek is located entirely within San Luis Obispo County.
7. The TMDL contains a Problem Statement, Source Analysis, Numeric Targets, Total Maximum Load, Load Allocation, an Implementation Plan, and a Monitoring Plan.
8. The Problem identified in the TMDL is summarized as follows: Mercury impairments have been identified in Lake Nacimiento and Las Tablas Creek. Reported mercury levels are considered an impact to the Freshwater Habitat (warm and cold water) and Municipal Supply beneficial uses designated for Las Tablas Creek and Lake Nacimiento. In addition, mercury-rich sediment is

associated with mercury in fish tissue at levels that pose a nuisance for fish consumers and therefore impacts the Commercial and Sport Fishing beneficial use designated for these waters. No other metals were identified as impairing beneficial uses in Lake Nacimiento or Las Tablas Creek.

9. The Source analysis in the TMDL is summarized as follows: Using a model of estimated sediment fluxes in the watershed, it was determined that approximately 88% of the total mercury loading to Lake Nacimiento is from Las Tablas Creek. Sampling data support this model in the sense that the only exceedences of appropriate objectives for water (or guidance values for sediment) occur in the Las Tablas arm of the lake and not in the main body of the lake. Las Tablas Creek delivers an estimated 46 kilograms (kg) per year of sedimentary mercury into Lake Nacimiento. The majority of this mercury loading (38 kg of the 46 kg per year) is estimated to come from two adjacent mines, the Klau Mine and Buena Vista Mine, both of which are owned by Buena Vista mines, Inc. These mines are point sources which require regulation under NPDES or Waste Discharge Requirements. Some additional mercury is coming from a County Road. Control of this mercury loading is required to achieve the beneficial uses of Las Tablas Creek and Lake Nacimiento with regard to metals.
10. The TMDL is: an annual mercury load for Las Tablas Creek of 13.54 kg/yr, a 71 percent reduction in the estimated current loading.
11. The numeric targets are as follows: The load was calculated using an estimated 1000 kilograms of sediment runoff per square mile per year from the 30.65 square mile Las Tablas creek drainage area with an average mercury concentration of 0.486 milligrams mercury per kilogram of sediment. Because the load is from mercury-rich sediment and sediment objectives in the Basin Plan are narrative, rather than numeric, this TMDL establishes a numeric sediment target (0.486 mg/kg) as an indicator of long-term conditions anticipated to be able to support the designated beneficial uses. The numeric sediment target serves to interpret the narrative water quality objectives and provides a measure with which to determine if the objectives and the TMDL are being met. This TMDL also uses a numeric water quality target for total mercury in water. The combination of total mercury in sediment and total mercury in water is considered an effective approach in lieu of directly measuring mercury-rich sediment loading to Las Tablas Creek. Furthermore, direct measurement of sediment loads may not characterize the *effect* of those loads on beneficial uses. A monitoring guidance value, mercury in largemouth bass fish tissue, is suggested as a means of evaluating progress of the TMDL to restore the listed beneficial uses for Lake Nacimiento and Las Tablas Creek. The selection of the water and sediment targets does not preclude efforts to directly measure loading, however the natural variability inherent in annual sediment loads in this region is large enough to suggest that clear trends could not readily be identified by data collection in the near term.
12. The TMDL will be achieved by implementing Regional Water Quality Control Board's regulatory authority to regulate point source discharges. The plan guides the Regional Board in its control of point source pollution by requiring specific actions of responsible dischargers in the Las Tablas Creek watershed. Specifically, the Regional Board will be requiring San Luis Obispo County to address mercury-rich sediment runoff from a particular section of unpaved roadway (Cypress Mountain Road) pursuant to authority of the California Water Code. The Regional Board will also be requiring Buena Vista Mines, Inc. (owner of the two mine properties) to operate and maintain an effective mercury runoff control system and monitor the effectiveness of that system through appropriate permit conditions and compliance.
13. The TMDL will be evaluated by monitoring the numeric targets specified in finding 10 above, as well as tracking progress in implementation of required implementation actions. Responsibility for reporting status and effectiveness of required implementation actions and monitoring of numeric targets rests with the responsible dischargers and the Regional Board (San Luis Obispo County for roadways and Buena Vista Mines, Inc. for mined areas, along with monitoring data collected by the Regional Board). The Regional Board will review reports submitted by the responsible dischargers

and, in the event required actions are not implemented or numeric targets are not achieved, Regional Board staff may identify appropriate regulatory actions to achieve the targets.

14. Public review and comment were solicited after completion of the TMDL report and during the public meeting of this Regional Board on November 1, 2002.
15. The Regional Board submitted the TMDL Report to an external scientific review panel. On June 26, 2002 and July 10, 2002, the reviewers submitted their responses to the Regional Board, which stated that in general, the TMDL and proposed Basin Plan amendment presented a sound and scientifically justifiable program for reducing mercury loading. In addition, the review panel identified several specific areas of concern. The Regional Board revised the proposed Basin Plan amendment in response to the comments submitted by the review panel, or provided a written response which explained its basis for not incorporating their comments.
16. Public Resources Code section 21159 (a)(3),(c) mandates that prior to implementation of this regulatory action, an estimate of the total cost of such a program shall be indicated in any regional water quality control plan. The TMDL and Implementation Plan, in Chapter 8.7, contains an estimate of the cost of preventing mercury loading to Las Tablas Creek via implementation of required actions. The cost of implementing the required actions in the TMDL implementation Plan will be incurred by the responsible parties.
17. This Basin Plan amendment must be submitted for review and approval by the State Water Resources Control Board and the State Office of Administrative Law (OAL). The TMDL must further be approved by the USEPA. The Basin Plan amendment will become effective upon approval by the State Board and OAL.
18. This amendment meets the "Necessity" standard of the Administrative Procedure Act, Government Code §11353(b).
19. The Regional Board has determined that the Las Tablas Creek and Lake Nacimiento TMDL for Mercury is set at levels necessary to attain and maintain the applicable numeric and narrative water quality objectives with seasonal variations and margin of safety that takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality (40 CFR 130.7(c)(1)). The TMDL also takes into account critical conditions for stream flow, loading and water quality parameters.
20. The basin planning process has been certified as functionally equivalent to the California Environmental Quality Act requirements for preparing environmental documents (Public Resources Code, Section 21000 et seq.) and as such, the required environmental documentation ~~and CEQA environmental checklist~~ hasve been prepared. Drafts of the Notice of Filing, staff report, environmental checklist, alternatives analysis and proposed amendment have been prepared and distributed to interested persons and agencies for review and comment in accordance with Title 23 California Code of Regulations section 3777. All public comments were considered. No significant environmental impacts will result from approval of this Basin Plan amendment.
21. The proposed amendments to the Basin Plan were developed in accordance with California Water Code Section 13240 et seq.
22. Notice of public hearing was given by advertising in newspapers of general circulation within the Region and by mailing a copy of the notice to all persons requesting such notice and applicable government agencies.

23. The amendment to the Basin Plan will result in no potential adverse effect, either individually or cumulatively, on wildlife and so is exempt from fee payments to the Department of Fish and Game under the California Fish and Game Code.
24. On November 1, 2002 in San Luis Obispo, California, the Regional Board held a public hearing and heard and considered all public comments and evidence in the record.
25. On November 1, 2002, the Regional Board adopted resolution no. R3-2002-0107.
26. On March 17, 2003, State Board returned the Administrative Record to the Regional Board with a memo stating that Regional Board adoption procedures did not comply with section 3777 of Title 23 California Code of Regulations which requires consideration of reasonable alternatives to the proposed amendment that would achieve the stated goal.
27. On May 16, 2003, in Watsonville, California, the Regional Board held a public meeting and re-heard this item to correct the omission stated above. The Regional Board heard and considered all public comments and evidence in the record.

**THEREFORE, BE IT RESOLVED,**

1. The Regional Board, after considering the entire record, including oral testimony, adopts the Basin Plan amendment shown on "Attachment-Proposed Basin Plan Amendments." The amendment will not take effect until approved by the State Board and the Office of Administrative Law (OAL).
2. The Board's Executive Officer is authorized to submit the amendment to the State Water Resources Control Board. Upon approval, the State Board is requested to approve the Basin Plan Amendment in accordance with requirements of Sections 13245 and 13246 of the California Water Code, and upon approval, the State Board is requested to transmit the amendment to the OAL for approval.
3. The environmental document prepared by Regional Board staff pursuant to Public Resource Code Section 21080.5 is hereby certified. The Regional Board shall file a CEQA Notice of Decision with the Secretary for Resources, following approval of the revised Basin Plan by the State Board and OAL. A Certificate of Fee Exemption will be included with the Notice of Decision.
4. The Board's Executive Officer is authorized to sign a Certificate of Fee Exemption, since no adverse effect on wildlife results from adoption of this Basin Plan Amendment.
5. If during approval process the State Board or OAL determines that minor, non-substantive corrections to the language of the amendment are needed for clarity or consistency, the Executive Officer may make such changes, and shall inform the Board of any such changes.

**I, ROGER W. BRIGGS, Executive Officer,** do hereby certify the foregoing is a full, true, and correct copy of the resolution adopted by the California Regional Water Quality Control Board, Central Coastal Region, on ~~November 1, 2002, and re-adopted on~~ May 16, 2003.

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Executive Officer

**RESOLUTION NO. R3-2002- 0107**

**ATTACHMENT - PROPOSED BASIN PLAN AMENDMENTS**

~~+~~ Revise the September 8, 1994 Basin Plan, Chapter Four, as follows:

Add the following to chapter 4 ~~under IX..B. under IX. B.~~

**IX. C. LAS TABLAS CREEK AND LAKE NACIMIENTO TOTAL MAXIMUM DAILY LOAD FOR MERCURY**

This TMDL was adopted by the Regional Water Quality Control Board on ~~May~~November 16, 20023.

This TMDL was approved by:

The State Water Resources Control Board on insert date.

The California Office of Administrative Law on insert date.

The U.S. Environmental Protection Agency on insert date.

**Table IX.C.1 - TMDL Elements**

<b>Element</b>		
<b>Problem Statement</b>	The historic processes of mining have caused mercury impairments in Lake Nacimiento and Las Tablas Creek. Water samples from these waterbodies consistently show mercury at levels in excess of Basin Plan objectives for “freshwater habitat” (cold and warm waters) beneficial uses. In addition, fish tissue samples collected from fish in Lake Nacimiento between 1981 and 1994 exceed US Food and Drug Administration levels for human consumption. This is an impairment of narrative standards for suspended and settleable materials and indicates impact to the beneficial use of “commercial and sport fishing”.	
<b>Numeric Targets</b> ( <del>numeric objective or interpretation of a narrative water quality objective</del> )	<b>Parameter</b>	<b>Numeric Target</b>
	Mercury (in water)	0.05 micrograms per Liter ( <del>µg</del> g/L), total
	Mercury (in sediment)	0.486 milligrams per kilogram (mg/kg)
<b>Total Load and Loading Allocations</b> (TMDL expressed as annual load)	<b>Source Area Category (size-sq.mi)</b>	<b>Projected target mercury load (kg/yr)</b>
	<b>General Soils (30.14)</b>	7.67
	<b>Roads (0.01)</b>	0
	<b>Mines (0.5)</b>	4.52
	<b>Total</b>	13.54*
* = projected total includes 1.35 kg/yr margin of safety, total load estimated as 12.19 kg/yr+1.35 kg/yr= 13.54 kg/yr		
<b>Implementation</b>	The TMDL will be implemented by reducing mercury-rich sediment loading into Lake Nacimiento and Las Tablas Creek (and its tributaries). Because the sediment load of the Las Tablas Creek watershed derives primarily from point sources (mines and roads), this Implementation Plan will rely upon the control of these identifiable sources.  <u>Unpaved Road Areas:</u> Loading from the unpaved segment of Cypress Mountain road between Chimney Rock Road and Klau Mine Road will be addressed through existing regulatory authority of the Regional Board. San Luis Obispo County will be asked to provide to the Regional Board a	

Element	
	<p>schedule for eliminating the loading (paving or equivalent method) from the specified road segment and progress satisfactorily along that schedule. The Regional Board will use its authority under the California Water code to implement the sediment runoff reductions from the road identified in this TMDL. Paving of the roadway (or equivalent control) will be considered compliance with the requirements of the TMDL. Costs associated with this action have been estimated to be approximately \$980,000 (one-time) pursuant to Public resources Code section 21159 (a)(3), (c).</p> <p><u>Mined Areas:</u> The Buena Vista and Klau mines are within the permitting authority of the Regional Board in the National Pollutant Discharge Elimination System (NPDES) program or through the issuance of Waste Discharge Requirements (WDRs). Upon <del>adoption</del> approval of this TMDL, the owner of the mines must apply for either a new NPDES permit or a WDR for the properties (NPDES if the owner seeks a discharge directly to waterways or WDR if to lands near the waters). The permit will then include specific permit conditions to limit the sediment runoff from the properties in accordance with the targets set forth in this TMDL.</p> <p>Several erosion control measures were implemented at the mines as part of US EPA’s Emergency Response Action at the site in 2000- 2001, which may be anticipated to achieve the needed 88 % reduction of mercury loading to the creek. Although these practices were implemented in 2000-2001 (RWQCB, 2001), the treatment has not been evaluated to verify that discharges have been eliminated, nor have ongoing operation and maintenance measures been planned or implemented to ensure no future discharges will occur. For these reasons, the remaining anticipated actions to reduce mercury loading from the mined areas are:</p> <ul style="list-style-type: none"> <li>• plan and propose maintenance, monitoring, and operation of the land management practices implemented by USEPA in 2000-2001,</li> <li>• submit application for an appropriate permit,</li> <li>• comply with permit conditions, and,</li> <li>• implement control practices and discharge requirements.</li> </ul> <p>Costs associated with maintaining mined-land management practices and monitoring the mined lands have been estimated to be approximately \$1500 per year pursuant to Public Resources Code section 21159 (a)(3), (c). The cost estimate includes only costs of maintaining a vegetated buffer and monitoring listed in this TMDL. It does not include any other costs that would be incurred by the responsible party under any regulatory or enforcement action</p> <p><del>This Implementation Plan goes into effect on the date that this Basin Plan Amendment is approved by the Office of Administrative Law.</del></p>
Margin of Safety	<p>A margin of safety of 10% has been included in the annual load equation presented in the section titled “Total Maximum Annual Mercury Load for Las Tablas Creek” because of:</p> <ul style="list-style-type: none"> <li>• Uncertainty associated with the selection of an appropriate sediment target, and the relationship between sediment targets and water column or fish tissue concentrations;</li> <li>• Conservative usage of only largemouth bass (no lower trophic levels) fish tissue in evaluation of potential human health exposures;</li> <li>• Uncertainty associated with Regional Board Lake Nacimiento Model calculations (extrapolations of data points to unsampled areas);</li> <li>• Uncertainty associated with the small area sedimentation rate incorporated into the Estimated Source Load Calculations;</li> <li>• Conservative estimation of mine area size in the Estimated Source Load Calculations and uncertainty about acid mine drainage,</li> <li>• The existence of other smaller mines (currently estimated to contribute less than 5 % of the total mercury load) in the drainage area; and,</li> <li>• The use of an adaptive management approach in the TMDL which allows refinement of targets as additional data become available.</li> </ul>

**Table IX.C.2 - Implementation Compliance Schedule**

By End of Implementation Year	Implementation Action (Milestone)	Responsible Party or Discharger	Monitoring Activity (Responsible party for that monitoring)	Numeric Target <u>indicator of associated with</u> Load Allocation
1 (baseline data)	Maintain Buena Vista (BV) and Klau Mine <del>slope/vegetated</del> <u>buffer</u> , and sediment control measures. Submit complete application for discharge permits	Buena Vista Mines, Inc. <del>(BV Mines, Inc.)</del>		
1	Require schedule <u>for eliminating mercury-containing runoff from segment of Cypress Mountain Road between Klau Mine Road and Chimney Rock Road of County Road load elimination</u>	Regional Board	Notify San Luis Obispo County <del>(County)</del> of adoption of TMDL and track response (Regional Board).	
2	Maintain BV and Klau Mine <del>slope/vegetation</del> <u>buffer</u>	BV Mines, Inc.		
2	Review permit application(s) for mined areas	Regional Board	<u>The Regional Board will e</u> Establish discharge permit(s) for mines. If permit application not submitted, Regional Board staff will issue Cleanup and Abatement Order (CAO) or other	

By End of Implementation Year	Implementation Action (Milestone)	Responsible Party or Discharger	Monitoring Activity (Responsible party for that monitoring)	Numeric Target <u>indicator of associated with Load Allocation</u>
	Receive County <u>Cypress Mountain</u> Road load elimination schedule.		appropriate regulatory action (Regional Board).  If Road load elimination Schedule not received, Regional Board staff will issue CAO or similar regulatory action. (Regional Board)	
3	Maintain BV and Klau Mine <del>slope</del> /vegetation <u>buffer</u>	BV Mines, Inc.	3 Storm Events and twice/year sampling for total mercury in water. Once per year for total mercury in sediment ( <u>to establish baseline data</u> ) (BV Mines, Inc.)	Water: Mercury = 0.05 $\mu\text{g/L}$  <del>Sediment: establish baseline data</del>
3	Review progress and data to date	Regional Board	Review data for completeness; adjust sampling program as needed ( <u>Regional Board</u> )	
By End of Implementation Year	Implementation Action (Milestone)	Responsible Party or Discharger	Monitoring Activity (Responsible party for that monitoring)	Numeric Target associated with Load Allocation
4	Maintain BV and Klau Mine <del>slope</del> /vegetation <u>buffer</u>	BV Mines, Inc.	3 Storm Events and twice/year sampling for total mercury in water. Once per year for total mercury in sediment ( <u>to confirm baseline data</u> ). (BV Mines, Inc.)	Water: Mercury = 0.05 $\mu\text{g/L}$  <del>Sediment: confirm baseline data</del>
5	Maintain BV and Klau Mine <del>slope</del> /vegetation <u>buffer</u>  <u>Sample Lake Nacimiento conditions</u>	BV Mines, Inc.  Regional Board	3 Storm Events and twice/year sampling for total mercury in water. Once per year for total mercury in sediment (may be modified if permits renewed or re-adopted in year 5) (BV Mines, Inc.)  <del>Lake Nacimiento: Dissolved oxygen, Total mercury and methylmercury in water, total mercury in sediment and fish tissue (largemouth bass, as a guide) near where Las Tablas Creek enters lake</del>	Water: Mercury = 0.05 $\mu\text{g/L}$  Sediment: Mercury = 0.486 mg/kg  <del>Fish Tissue Guide: &lt; 0.37 mg/kg, or decreasing trend from existing data</del>

<b>By End of Implementation Year</b>	<b>Implementation Action (Milestone)</b>	<b>Responsible Party or Discharger</b>	<b>Monitoring Activity (Responsible party for that monitoring)</b>	<b>Numeric Target <u>indicator of associated with</u> Load Allocation</b>
			<del>(Regional Board)</del>	
<u>5</u>		<u>Regional Board</u>	<u>Sample Lake Nacimiento near where Las Tablas Creek enters lake. Sample for: Dissolved oxygen, total mercury and methylmercury in water, total mercury in sediment and fish tissue (largemouth bass)</u> <u>(Regional Board)</u>	
5	Perform 5-year review of TMDL and Progress; <u>Review Tracked Actions</u>	Regional Board	<del>Review tracked actions;</del> Review data of initial program years for trends showing TMDL will be achieved; report and document any changes needed to TMDL or plans (e.g., acid mine drainage control if monitoring data indicates a quantifiable impediment to achieving TMDL) (Regional Board)	
<b>By End of Implementation Year</b>	<b>Implementation Action (Milestone)</b>	<b>Responsible Party or Discharger</b>	<b>Monitoring Activity (Responsible party for that monitoring)</b>	<b>Numeric Target associated with Load Allocation</b>
6	Eliminate load from <del>3-mile</del> segment of Cypress Mountain Road (between Chimney Rock Road and Klau Mine Road)	SLO County	Per schedule submitted by County or by CAO or other action of Regional Board. (SLO County)	<del>Tracking/ Reporting of completed action (including photo documentation).</del>

By End of Implementation Year	Implementation Action (Milestone)	Responsible Party or Discharger	Monitoring Activity (Responsible party for that monitoring)	Numeric Target <u>indicator of associated with Load Allocation</u>
6 - 10	Review Monitoring Data	Regional Board	Review data from required Permit monitoring for total mercury in water (Regional Board)	Water: Mercury = 0.05 $\mu\text{g/L}$ ;
7 - 10	Maintain load control method for specified segment of Cypress Mountain Road	SLO County	Inspect general operation and perform necessary maintenance of load prevention method. Submit annual letter/report of inspection and any maintenance performed. (SLO County)	<del>Tracking/Reporting of completed actions.</del>
10	Maintain BV and Klau Mine <del>slope</del> /vegetation <u>buffer</u>  Sample Lake Nacimiento conditions	BV Mines, Inc.  Regional Board	Regular sampling for total mercury in water; total mercury in sediment (regularity of sampling as specified in permits – e.g., by storm event, quarterly, seasonally, or combination of these) (BV Mines, Inc.)  <del>Lake Nacimiento: Dissolved oxygen, Total mercury and methylmercury in water, total mercury in sediment and fish tissue (largemouth bass, as a guide) near where Las Tablas Creek enters lake. (Regional Board)</del>	Water: Mercury = 0.05 $\mu\text{g/L}$ ;  Sediment: Mercury = 0.486 mg/kg  Fish Tissue Guide: < 0.37 mg/kg
<u>10</u>		<u>Regional Board</u>	<u>Sample Lake Nacimiento near where Las Tablas Creek enters lake. Sample for: Dissolved oxygen, total mercury and methylmercury in water, total mercury in sediment and fish tissue (largemouth bass) (Regional Board)</u>	
<del>11—30</del>	<del>Repeat as above with 5 and 10 year milestones and annual permit requirements</del>			

Note: Implementation begins on the date this TMDL is approved by the Office of Administrative Law.