

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

TIME SCHEDULE ORDER NO. R5-2006-0059

REQUIRING THE STATE OF CALIFORNIA, DEPARTMENT OF PARKS AND RECREATION  
EMPIRE MINE STATE HISTORIC PARK  
TO COMPLY WITH REQUIREMENTS PRESCRIBED IN ORDER NO. R5-2006-0058  
FROM DISCHARGING CONTRARY TO REQUIREMENTS  
(NPDES PERMIT NO. CA0085171)

The California Regional Water Quality Control Board, Central Valley Region, (hereafter referred to as Regional Water Board) finds:

1. On 23 June 2006, the Regional Water Board adopted Waste Discharge Requirements (WDR) Order No. R5-2006-0058, for the State of California, Department of Parks and Recreation’s (Discharger) Empire Mine State Historic Park. WDR Order No. R5-2006-0058 regulates the discharge of mine drainage from the Magenta Drain Tunnel to an unnamed tributary to the South Fork of Wolf Creek, which is tributary to the South Fork of Wolf Creek, Wolf Creek, and the Bear River.

2. WDRs Order No. R5-2006-0058 contains Discharge Prohibitions III.C, which reads as follows:

*“Neither the discharge nor its treatment shall create a nuisance as defined in Section 13050 of the California Water Code.”*

Section 13050 of the California Water Code defines nuisance as *“anything which meets all of the following requirements: (1) Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property. (2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal. (3) Occurs during, or as a result of, the treatment or disposal of wastes.”*

3. WDRs Order No. R5-2006-0058, contains Final Effluent Limitations – Discharge Point EFF-001 IV.A.1 which reads, in part, as follows:

*“1. Final Effluent Limitations – Discharge Point EFF-001*

*a. The discharge of mine drainage from the Magenta Drain portal shall maintain compliance with the following effluent limitations at Discharge Point EFF-001, with compliance measured at Monitoring Location EFF-001 as described in the attached Monitoring and Reporting Program (Attachment E):*

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Total Suspended Solids	mg/L	20	30	--	--
Settleable Solids	mL/L-hr	0.1	0.2	--	--
pH	standard units	--	--	6.5	8.5
Turbidity	NTU	5	--	--	--

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Color	color units	15	--	--	--
Aluminum, Total Recoverable	µg/L	71	140	--	--
Antimony, Total Recoverable	µg/L	6	--	--	--
Arsenic, Total Recoverable	µg/L	10	--	--	--
Barium, Total Recoverable	µg/L	1,000	--	--	--
Cobalt, Total Recoverable	µg/L	50	--	--	--
Iron, Total Recoverable	µg/L	300	--	--	--
Manganese, Total Recoverable	µg/L	50	--	--	--
Vanadium, Total Recoverable	µg/L	100	--	--	--

b. *Acute Toxicity: Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:*

*Minimum for any one bioassay - - - - - 70%*

*Median for any three consecutive bioassays - - - - 90%*

c. *Dissolved Oxygen: Dissolved oxygen in the discharge shall be no less than:*

i. *85 percent of saturation as the monthly median of the mean daily dissolved oxygen concentration;*

ii. *75 percent of saturation as the 95 percentile dissolved oxygen concentration; and*

iii. *7.0 mg/L at any time.”*

4. The effluent limitations specified in Order No. R5-2006-0058 for antimony, arsenic, barium, iron, and manganese are based on the Basin Plan chemical constituents objective; the effluent limitation for color is based on the Basin Plan color and chemical constituents objectives; the effluent limitations for dissolved oxygen are based on the Basin Plan dissolved oxygen objective; the effluent limitations for pH are based on the Basin Plan pH objectives; the effluent limitations for settleable solids are based on the Basin Plan settleable material objective; effluent limitations for acute toxicity, aluminum, cobalt, and vanadium are based on the Basin Plan narrative toxicity objective; the effluent limitation for turbidity is based on the Basin Plan turbidity and chemical constituents objectives; and the effluent limitations for total suspended solids are based on technology-based standards required by 40 Code of Federal Regulations (CFR) 122.44 and contained in 40 CFR 440.102. With the exception of the total suspended solids limitations, these limitations are based on existing Basin Plan water quality objectives that were adopted prior to 25 September 1995. The technology-based standards included in 40 CFR 440.102 were published in the Federal Register 3 December 1982 and amended 24 May 1988. Effluent limitations for these pollutants are new limitations. The discharge has not previously been regulated.

NEED FOR TIME SCHEDULE ORDER AND LEGAL BASIS

5. The Discharger owns the Empire Mine State Historic Park.
6. More than two-dozen residents of the Grass Valley area contacted Regional Water Board staff in May 2006 to express concern regarding the adverse impact that the discharge from the Empire Mine has on the Grass Valley community's usage of the City's Memorial Park.
7. California Water Code (CWC) Section 13300 states: *"Whenever a regional board finds that a discharge of waste is taking place or threatening to take place that violates or will violate requirements prescribed by the regional board, or the state board, or that the waste collection, treatment, or disposal facilities of a discharger are approaching capacity, the board may require the discharger to submit for approval of the board, with such modifications as it may deem necessary, a detailed time schedule of specific actions the discharger shall take in order to correct or prevent a violation of requirements."*
8. Federal regulations, 40 CFR Part 122.44 (d)(1)(i), require that NPDES permit effluent limitations must control all pollutants which are or may be discharged at a level which will cause or have the reasonable potential to cause or contribute to an in-stream excursion above any State water quality standard, including any narrative criteria for water quality. Beneficial uses, together with their corresponding water quality objectives or promulgated water quality criteria, can be defined per federal regulations as water quality standards.
9. Analytical results are not available for all limited constituents. Maximum observed constituent concentrations in the discharge are shown below:

<u>Constituent</u>	<u>Sample Date</u>	<u>Concentration (mg/L)</u>	<u>Constituent</u>	<u>Sample Date</u>	<u>Concentration (µg/L)</u>
Total Suspended Solids	9 June 2003	1,840	Antimony, Total Recoverable	9 June 2003	98.9
Settleable Solids	--	NA	Arsenic, Total Recoverable	9 June 2003	35,400
pH (minimum/maximum)	9 June 2003	6.45/7.33	Barium, Total Recoverable	9 June 2003	2,480
Turbidity	--	NA	Cobalt, Total Recoverable	9 June 2003	257
Color	--	NA	Iron, Total Recoverable	9 June 2003	4,760,000
Aluminum, Total Recoverable (µg/L)	9 June 2003	36,100	Manganese, Total Recoverable	9 June 2003	172,000
Dissolved Oxygen (minimum, mg/L)	25 February 2004	4.9	Vanadium, Total Recoverable	9 June 2003	229
Acute Toxicity	--	NA			

10. No treatment is currently provided for the discharge.
11. Based on the above Findings, this discharge represents a threatened discharge of waste in violation of WDR Order No. R5-2006-0058, Discharge Prohibition III.C and Effluent Limitations for acute toxicity, aluminum, antimony, arsenic, barium, cobalt, color, dissolved oxygen, iron, manganese, pH, settleable solids, total suspended solids, turbidity, and vanadium.
12. In accordance with California Water Code (CWC) Section 13385(j)(3), the Regional Water Board finds that, based upon operational capabilities, the Discharger is not able to consistently comply with the acute toxicity, aluminum, antimony, arsenic, barium, cobalt, color, dissolved oxygen, iron, manganese, pH, settleable solids, total suspended solids, turbidity, and vanadium limitations are new requirements that become applicable to the permit after the effective date of adoption of the waste discharge requirements, and after 1 July 2000, for which new or modified control measures are necessary in order to comply with the limitation, and the new or modified control measures cannot be designed, installed, and put into operation within 30 calendar days.
13. Facilities can be built to correct the violations that would otherwise be subject to mandatory penalties under CWC Section 13385(h) and (i). The Discharger can take reasonable measures to achieve compliance within five (5) years. This Order provides a time schedule for the Discharger to develop, submit, and implement methods to achieve compliance or to construct necessary treatment facilities to meet these new effluent limitations.
14. Since the time schedule for completion of action necessary to achieve full compliance and bring the waste discharge into compliance exceeds one year, interim requirements and dates for their achievement are included in this Order. This Order includes interim, performance-based effluent limitations for aluminum, antimony, arsenic, barium, cobalt, iron, manganese, total suspended solids, and vanadium in the wastewater until implementation of the final compliance project. Data for color and turbidity are unavailable and characterization of pH and dissolved oxygen are inadequate to develop appropriate and defensible interim effluent limitations. These interim effluent limitations consist of a maximum daily effluent concentrations derived using effluent sample data summarized below and applying the statistical methodologies for estimating maximum concentrations identified in Chapter 3 of U.S. EPA's *Technical Support Document for Water Quality-based Toxics Control* (TSD). Derivation of these interim limitations is summarized below:

Constituent	Units	Number of Observations	Maximum Concentration	Coefficient of Variation <sup>1</sup>	Multiplier <sup>2</sup>	Projected Maximum <sup>3</sup>
Aluminum, Total Recoverable	µg/L	5	36,100	0.600	4.19	151,000

<sup>1</sup> A default CV of 0.6 was used where the number of observations was less than 10.

<sup>2</sup> The multiplying factor (for 99% confidence level and 99% probability basis) is dependent on the coefficient of variation (CV) and number of reported effluent results (From Table 3-1 of the U.S. EPA's *Technical Support Document for Water Quality-based Toxics Control*).

<sup>3</sup> The projected maximum effluent concentration is determined by multiplying the maximum detected concentration by a factor that accounts for statistical variation.

Constituent	Units	Number of Observations	Maximum Concentration	Coefficient of Variation <sup>1</sup>	Multiplier <sup>2</sup>	Projected Maximum <sup>3</sup>
Antimony, Total Recoverable	µg/L	5	98.9	0.600	4.19	415
Arsenic, Total Recoverable	µg/L	16	35,400	3.904	15.8	558,000
Barium, Total Recoverable	µg/L	5	2,480	0.600	4.19	10,400
Cobalt, Total Recoverable	µg/L	5	257	0.600	4.19	1,080
Iron, Total Recoverable	µg/L	16	4,760,000	3.936	15.9	75,600,000
Manganese, Total Recoverable	µg/L	13	172,000	3.076	15.7	2,700,000
Vanadium, Total Recoverable	µg/L	5	229	0.600	4.19	960
Total Suspended Solids	mg/L	15	1,840	3.479	15.2	27,900

15. This time schedule does not exceed five years. Actions can be taken to correct the violations that would otherwise be subject to mandatory penalties under CWC Section 13385(h) and (i), and the Discharger can take reasonable measures to achieve compliance within five (5) years from the date the waste discharge requirements were required to be reviewed pursuant to CWC Section 13380.
16. California Water Code Section 13385(j)(3) requires the Discharger to prepare and implement a pollution prevention plan pursuant to Section 13263.3 of the California Water Code. A pollution prevention plan addresses only those constituents that can be effectively reduced by source control measures
17. The CWC Section 13385(h) and (i) require the Regional Water Board to impose mandatory minimum penalties upon dischargers that violate certain effluent limitations. CWC Section 13385(j) exempts certain violations from the mandatory minimum penalties. CWC Section 13385(j)(3) exempts the discharge from mandatory minimum penalties “*where the waste discharge is in compliance with either a cease and desist order issued pursuant to Section 13301 or a time schedule order issued pursuant to Section 13300, if all the [specified] requirements are met.*”
18. Compliance with this Order exempts the Discharger from mandatory minimum penalties for violations of effluent aluminum, antimony, arsenic, barium, cobalt, color, dissolved oxygen, iron, manganese, pH, settleable solids, total suspended solids, turbidity, and vanadium limitations only, in accordance with California Water Code Section 13385(j)(3).
19. On 23 June 2006, in Rancho Cordova, California, after due notice to the Discharger and all other affected persons, the Regional Water Board conducted a public hearing at which evidence was received to consider a Cease and Desist Order to establish a time schedule to achieve compliance with waste discharge requirements.

20. Issuance of this Order is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21000, *et seq.*), in accordance with Section 15321 (a)(2), Title 14, California Code of Regulations.
21. Any person adversely affected by this action of the Regional Water Board may petition the State Water Resources Control Board (State Board) to review the action. The petition must be received by the State Board Office of the Chief Counsel, P.O. Box 100, Sacramento, CA, 95812-0100, within 30 days of the date on which the action was taken. Copies of the law and regulations applicable to filing petitions will be provided on request.

**IT IS HEREBY ORDERED THAT:**

1. Pursuant to California Water Code Section 13300, the State of California, Department of Parks and Recreation, shall comply with the following time schedule to assure compliance with the acute toxicity, aluminum, antimony, arsenic, barium, cobalt, color, dissolved oxygen, iron, manganese, pH, settleable solids, total suspended solids, turbidity, and vanadium Effluent Limitations and Discharge Prohibition III.C contained in Waste Discharge Requirements Order No. R5-2006-0058, Final Effluent Limitations – Discharge Point EFF-001 IV.A.1 as described in the above Findings:

<u>Task</u>	<u>Compliance Date</u>
Progress Report/Implementation Schedule	<b>30 November 2006</b>
Submit Pollution Prevention Plan <sup>1</sup>	<b>31 January 2007</b>
Progress Reports <sup>2</sup>	<b>31 May and 30 November of each year</b>
Achieve Full Compliance	<b>18 May 2010</b>

<sup>1</sup> The Pollution Prevention Plan shall be prepared for all constituents listed above and shall meet the requirements specified in California Water Code Section 13263.

<sup>2</sup> The progress reports shall detail what steps have been implemented towards achieving compliance with waste discharge requirements, including construction progress, evaluate the effectiveness of the implemented measures and assess whether additional measures are necessary to meet the time schedule.

2. Discharge from the Empire Mine State Historic Park at Discharge Point EFF-001 shall not exceed the following interim, performance-based effluent limitations:

Constituent	Units	Average Monthly Effluent Limitation
Aluminum, Total Recoverable	µg/L	151,000
Antimony, Total Recoverable	µg/L	415
Arsenic, Total Recoverable	µg/L	558,000
Barium, Total Recoverable	µg/L	10,400
Cobalt, Total Recoverable	µg/L	1,080

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NEVADA COUNTY

Constituent	Units	Average Monthly Effluent Limitation
Iron, Total Recoverable	µg/L	75,600,000
Manganese, Total Recoverable	µg/L	2,700,000
Vanadium, Total Recoverable	µg/L	960
Total Suspended Solids	mg/L	27,900

3. If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may apply to the Attorney General for judicial enforcement or issue a complaint for Administrative Civil Liability.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 23 June 2006.

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PAMELA C. CREEDON, Executive Officer