

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION**
11020 Sun Center Drive, #200, Rancho Cordova, California 95670-6114

ORDER NO. R5-2010-0053

**REQUIRING
SHASTA GOLD CORPORATION,
FRENCH GULCH (NEVADA) MINING CORPORATION
AND
U.S. DEPARTMENT OF AGRICULTURE, BUREAU OF LAND MANAGEMENT
SHASTA COUNTY**

**TO CEASE AND DESIST
FROM DISCHARGING CONTRARY TO REQUIREMENTS**

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

1. On 27 May 2010, the Regional Water Board adopted Waste Discharge Requirements (WDR) Order No. R5-2010-0052, prescribing waste discharge requirements for Shasta Gold Corporation (formally known as Bullion River Gold Corporation), French Gulch (Nevada) Mining Corporation, and U.S. Department of Interior, Bureau of Land Management, (hereafter collectively Discharger), Washington Mine (hereafter Facility), Shasta County.
2. WDR Order No. R5-2010-0052, contains Final Effluent Limitations IV.A.1.a, which reads in part as follows:

“IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Points 001-006

1. Final Effluent Limitations – Discharge Points 001-006

The Discharger shall maintain compliance with the following effluent limitations at Discharge Points 001-007, with compliance measured at Monitoring Locations EFF-001, EFF-003, EFF-004, EFF-005, and EFF-006 as described in the attached MRP (Attachment E). If the discharge from a given Monitoring Location is collected and routed to the main water treatment system or another treatment system, then compliance shall be measured at the discharge from the respective water treatment system.

a. The Discharger shall maintain compliance with the effluent limitations specified in Table 6:

Table 6. Effluent Limitations

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Antimony, Total Recoverable	µg/L	6.0			
Arsenic, Total Recoverable	µg/L	10			
Beryllium	µg/L	4			
Cadmium, Total Recoverable	µg/L	0.24	0.5		
Chromium, Total Recoverable	µg/L	50	100		
Cobalt, Total Recoverable	µg/L	50			
Copper, Total Recoverable	µg/L	5.0	10.3		
Lead, Total Recoverable	µg/L	1.7	3.4		
Mercury, Total Recoverable	µg/L	0.05	0.10		
Molybdenum, Total Recoverable	µg/L	10			
Nickel, Total Recoverable	µg/L	19.7	39.5		
Silver, Total Recoverable	µg/L				2.3
Vanadium, Total Recoverable	µg/L	100			
Zinc, Total Recoverable	µg/L	13.3	26.7		
Ammonia	mg/L	0.7	2.1		
BOD	mg/L	<5			
Chlorine	mg/l	0.02 ¹	0.01 ²		
Electrical Conductivity	µmhos/cm	700			
Nitrate (as N)	mg/L	10			
Nitrite (as N)	mg/L	1			
Oil and Grease	mg/L	10	15		
pH	standard units			6.5	8.5
Total Dissolved Solids	mg/l	450			
Total Petroleum Hydrocarbons (Diesel)	µg/L		50		
Total Suspended Solids	mg/L	20	30		

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Methyl Isobutyl Carbinol	µg/L	ND	ND		
Potassium Amyl Xanthate	µg/L	ND	ND		

3. The effluent limitations specified in Order No. R5-2010-0052 for copper, lead, nickel, silver, and zinc are based on implementation of the California Toxics Rule. The effluent limitations for ammonia, antimony, arsenic, cadmium, chlorine, chromium, cobalt, electrical conductivity, mercury, molybdenum, nitrate, TDS, Total Suspended Solids, vanadium, methyl isobutyl carbinol, and potassium amyl xanthate are based on the Basin Plan and protection of Beneficial Uses. This is the first NPDES permit issued for the facility.
4. These limitations are new requirements that become applicable to the Discharger upon 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 limitations, and the new or modified control measures cannot be designed, installed, and put into operation with 30 calendar days.
5. Section 13301 of the California Water Code (CWC) states in part, *“When a regional board finds that a discharge of waste is taking place or threatening to take place in violation of requirements or discharge prohibitions prescribed by the regional board or the state board, the board may issue an order to cease and desist and direct that those persons not complying with the requirements or discharge prohibitions (a) comply forthwith, (b) comply in accordance with a time schedule set by the board, or (c) in the event of a threatened violation, take appropriate remedial or preventative action. In the event of an existing or threatened violation of waste discharge requirements in the operation of a community sewer system, cease and desist orders may restrict or prohibit the volume, type, or concentration of waste that might be added to such system by dischargers who did not discharge into the system prior to the issuance of the cease and desist order. Cease and desist orders may be issued directly by a board, after notice and hearing, or in accordance with the procedure set forth in Section 13302*
6. Federal regulations at 40 CFR section 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.

7. In accordance with CWC section 13385(j)(3), the Regional Water Board finds that, based on the results of data submitted by the Discharger and collected by staff, the Discharger is not able to consistently comply with the new effluent limitations for the constituents and at the discharge locations listed below:

Parameter	Discharge Points			
	002 O'Neil Adit	003 Government Adit	005 Robillard Adit	006 I-Level Adit
Antimony, Total Recoverable			X	X
Arsenic, Total Recoverable	X	X	X	X
Cadmium, Total Recoverable			X	
Copper, Total Recoverable		X	X	X
Lead, Total Recoverable			X	X
Mercury, Total Recoverable			X	
Molybdenum, Total Recoverable			X	X
Nickel, Total Recoverable		X	X	
Silver, Total Recoverable			X	
Zinc, Total Recoverable	X	X	X	X
Electrical Conductivity		X	X	X
TDS		X	X	X

8. This Order provides a time schedule for the Discharger to develop, submit, and implement methods of compliance, including constructing necessary treatment facilities to meet these new limitations.
9. The Discharger is not able to immediately comply with the new effluent limitations for antimony, arsenic, cadmium, copper, lead, mercury, molybdenum, nickel, silver, zinc, electrical conductivity and total dissolved solids. The Clean Water Act and the California Water Code authorize time schedules for achieving compliance. The Discharger has indicated in an Infeasibility Report submitted 22 September 2009, that additional time is required beyond the California Toxics Rule compliance date of 18 May 2010 to comply with the final effluent limitations for antimony, arsenic, cadmium, copper, lead, mercury, molybdenum, nickel, silver, zinc, electrical conductivity and total dissolved solids. In particular, the Discharger anticipates the need to either implement source controls, seal the adits which discharge mine drainage, construct

individual treatment systems at each adit, or construct conveyance systems to transfer the mine drainage to the main water treatment system. Therefore, the Regional Water Board is providing up to 5 years from the adoption date of this Order for the Discharger to comply with the final effluent limitations for antimony, arsenic, cadmium, copper, lead, mercury, molybdenum, nickel, silver, zinc, electrical conductivity and total dissolved solids at adits which discharge these waste constituents and parameters in excess of the effluent limits.

10. California Water Code (CWC) Section 13385(h) and (i) require the Regional Board to impose mandatory minimum penalties upon dischargers that violate certain effluent limitations. CWC Section 13385(j)(3) exempts certain violations from mandatory 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.*
11. Compliance with this Order exempts the Discharger from mandatory penalties for violations of effluent limitations for the constituents and parameters at the respective adits shown in Finding No. 7 above in accordance with CWC section 13385(j)(3). CWC section 13385(j)(3) requires the Discharger to prepare and implement a pollution prevention plan pursuant to section 13263.3 of the CWC.
12. Since the time schedule for completion of action necessary to bring the waste discharge into compliance exceeds 1 year, this Order includes interim requirements and dates for their achievement. The time schedule does not exceed 5 years.
13. The interim limitations for antimony, arsenic, cadmium, copper, lead, mercury, molybdenum, nickel, silver, zinc, electrical conductivity and total dissolved solids at the respective adits in this Order are based on the current discharges from the adits using data gathered by the Discharger and staff beginning in August 2006. The interim effluent limitations consist of a maximum daily effluent concentrations and/or mean concentrations derived using sample data provided by the Discharger and staff. In developing the interim limitation, where there are ten sampling data points or more, sampling and laboratory variability is accounted for by establishing interim limits that are based on normally distributed data where 99.9% of the data points will lie within 3.3 standard deviations of the mean (*Basic Statistical Methods for Engineers and Scientists, Kennedy and Neville, Harper and Row, 3rd Edition January 1986*). Therefore, the interim limitations in this Order where there are 10 sampling data points or more, are established as the mean plus 3.3 standard deviations of the available data.

In developing the interim limitations, when there are less than ten sampling data points available, the *Technical Support Document for Water Quality-based Toxics*

Control [(EPA/505/2-90-001), TSD] recommends a coefficient of variation of 0.6 be utilized as representative of wastewater effluent sampling. The TSD recognizes that a minimum of ten data points is necessary to conduct a valid statistical analysis. The multipliers contained in Table 5-2 of the TSD are used to determine a maximum daily limitation based on a long-term average objective. In this case, the long-term average objective is to maintain, at a minimum, the current discharge levels. Therefore, when there are less than ten sampling points for a constituent, an interim limitation is based on 3.11 times the maximum observed effluent concentration to obtain the daily maximum interim limitation (TSD, Table 5-2).

The following tables summarize the calculations of the interim performance-based effluent limitations for antimony, arsenic, cadmium, copper, lead, mercury, molybdenum, nickel, silver, zinc, electrical conductivity and total dissolved solids at the respective adits:

Interim Effluent Limitation Calculation Summary For Discharge Point 002, O'Neal Adit

Parameter	Units	MEC/ Mean	# of Samples	Conversion Multiplier	Interim Limitation
Arsenic, Total Recoverable	µg/L	9.05 ¹	10	3.3	23.1
Zinc, Total Recoverable	µg/L	28.1 ¹	10	3.3	64

¹Mean value of data

Interim Effluent Limitation Calculation Summary For Discharge Point 003, Government Adit

Parameter		MEC/ mean	# of Samples	Conversion Multiplier	Interim Limitation
Arsenic, Total Recoverable	µg/L	8.35 ¹	10	3.3	21.0
Copper, Total Recoverable	µg/L	1.25 ^{1,2}	10	3.3	6
Nickel, Total Recoverable	µg/L	55	6	3.11	171
Zinc, Total Recoverable	µg/L	63 ¹	10	3.3	191
Electrical Conductivity	µmhos/L	824	10	3.3	2,719
Total Dissolved Solids	mg/L	441 ¹	5	3.11	1,372

¹Mean value of data

²"Non-detect" values were entered as ½ the detection limit for calculation of the mean

Interim Effluent Limitation Calculation Summary For Discharge Point 005, Robillard Adit

Parameter	Units	MEC	# of Samples	Conversion Multiplier	Interim Limitation
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Antimony, Total Recoverable	µg/L	6	6	3.11	18.7
Arsenic, Total Recoverable	µg/L	1590	8	3.11	4945
Cadmium, Total Recoverable	µg/L	2.2	8	3.11	6.8
Copper, Total Recoverable	µg/L	25	8	3.11	77.8
Lead, Total Recoverable	µg/L	6	2	3.11	18.7
Mercury, Total Recoverable	µg/L	0.11	3	3.11	0.34
Molybdenum, Total Recoverable	µg/L	9	6	3.11	28
Nickel, Total Recoverable	µg/L	37	6	3.11	115
Silver, Total Recoverable	µg/L	2	2	3.11	6.2
Zinc, Total Recoverable	µg/L	202	8	3.11	628
Electrical Conductivity	µmhos/L	887	8	3.11	2,759
Total Dissolved Solids	mg/L	518	5	3.11	1,611

Interim Effluent Limitation Calculation Summary For Discharge Point 006, I-Level Adit

Parameter	Units	MEC/MEAN	# of Samples	Conversion Multiplier	Interim Limitation
Antimony, Total Recoverable	µg/L	23	7	3.11	72
Arsenic, Total Recoverable	µg/L	167.7 ¹	11	3.3	331
Copper, Total Recoverable	µg/L	4.3 ^{1,2}	11	3.3	19
Lead, Total Recoverable	µg/L	3.18 ^{1,2}	11	3.3	10.9
Molybdenum, Total Recoverable	µg/L	27	7	3.11	84
Zinc, Total Recoverable	µg/L	34.5 ¹	11	3.3	216
Electrical Conductivity	µmhos/L	988	10	3.3	3,260
Total Dissolved Solids	mg/L	796	5	3.11	2,475

¹Mean value of data

²"Non-detect" values were entered as ½ the detection limit for calculation of the mean

14. The Regional Water Board finds that the Discharger can maintain compliance with the interim limitations included in this Order with existing practices. Interim limitations are established when compliance with final effluent limitations cannot be achieved by the existing discharge. Discharge of constituents in concentrations in excess of the final effluent limitations, but in compliance with the interim effluent limitations, can significantly degrade water quality and adversely affect the beneficial uses of the receiving stream on a long-term basis. The interim limitations, however, establish an enforceable ceiling concentration until compliance with the effluent limitation can be achieved.
15. On 27 May 2010 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 under CWC section 13300 to establish a time schedule to achieve compliance with waste discharge requirements.

16. 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 CWC Section 13389 and Section 15321(a)(2), Title 14, California Code of Regulations.
17. Any person adversely affected by this action of the Regional Board may petition the State Water Resources Control Board to review this action. The petition must be received by the State Water Resources Control Board, Office of the Chief Counsel, P.O. Box 100, Sacramento, CA 95812-0100, within 30 days of the date in 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. The Discharger shall comply with the following time schedule to ensure compliance with antimony, arsenic, cadmium, copper, lead, mercury, molybdenum, nickel, silver, zinc, electrical conductivity and total dissolved solids effluent limitations at Section IV.A.1.a, contained in WDR Order No. R5-2010-0052 as described in the above findings.

Task	Compliance Date
A. Submit Workplan/Schedule for construction of treatment systems, conveyance structures for routing adit discharge, or methodology for preventing adit discharge from the Robillard Adit (Discharge Point 005).	Within 6 months following Order adoption
B. Submit Construction Progress Reports ¹	Semi-annually on 15 January and 15 July of each year following submittal of Workplan/Schedule.
C. Submit Workplan/Schedule for construction of treatment systems, conveyance structures for routing adit discharge, or methodology for preventing adit discharge from the I-Level Adit (Discharge Point 006).	1 July 2011
D. Submit Notification of Completion of work to meet effluent limits for Discharge Point 005	17 March 2012
E. Submit Workplan/Schedule for construction of treatment systems, conveyance structures for routing adit discharge, or methodology for preventing adit discharge from the Government Adit (Discharge Point 003).	1 July 2012
F. Submit Notification of Completion of work to meet effluent limits for Discharge Point 006	17 March 2013
G. Submit Workplan/Schedule for construction of treatment systems, conveyance structures for routing adit discharge, or methodology for preventing adit discharge from the O'Neal Adit (Discharge Point 002).	1 July 2013
H. Submit Notification of Completion of work to meet effluent limits for Discharge Point 003	17 March 2014
I. Submit Notification of Completion of work to meet effluent limits for Discharge Point 002	17 March 2015
J. Full compliance with all effluent limitations	17 March 2015

¹ The progress reports shall detail what steps have been implemented towards achieving compliance with waste discharge requirements, including studies, construction progress, evaluation of measures implemented, and recommendations for additional measures as necessary to achieve full compliance by the final date.

2. The following interim effluent limitations shall be effective immediately at the Robillard Adit (Discharge Point 005), and shall remain in effect through **17 March 2012**, or when the Discharger is able to come into compliance with the final effluent limitations, whichever is sooner.

Parameter	Units	Maximum Daily Effluent Limitation
Antimony, Total Recoverable	µg/L	18.7
Arsenic, Total Recoverable	µg/L	4945
Cadmium, Total Recoverable	µg/L	6.8
Copper, Total Recoverable	µg/L	77.8
Lead, Total Recoverable	µg/L	18.7
Mercury, Total Recoverable	µg/L	0.34
Molybdenum, Total Recoverable	µg/L	28
Nickel, Total Recoverable	µg/L	115
Silver, Total Recoverable	µg/L	6.2
Zinc, Total Recoverable	µg/L	628
Electrical Conductivity	µmhos/cm	2,759
Total Dissolved Solids	mg/l	1,611

2. The following interim effluent limitations shall be effective immediately at the I-Level Adit (Discharge Point 006), and shall remain in effect through **17 March 2013**, or when the Discharger is able to come into compliance with the final effluent limitations, whichever is sooner.

Parameter	Units	Maximum Daily Effluent Limitation
Antimony, Total Recoverable	µg/L	72
Arsenic, Total Recoverable	µg/L	331
Copper, Total Recoverable	µg/L	19
Lead, Total Recoverable	µg/L	10.9
Molybdenum, Total Recoverable	µg/L	84
Zinc, Total Recoverable	µg/L	216
Electrical Conductivity	µmhos/cm	3,260
Total Dissolved Solids	mg/l	2,475

4. The following interim effluent limitations shall be effective immediately at the Government Adit (Discharge Point 003), and shall remain in effect through **17 March 2014**, or when the Discharger is able to come into compliance with the final effluent limitations, whichever is sooner.

Parameter	Units	Maximum Daily Effluent Limitation
Arsenic, Total Recoverable	µg/L	21.0
Copper, Total Recoverable	µg/L	6
Nickel, Total Recoverable	µg/L	171
Zinc, Total Recoverable	µg/L	191
Electrical Conductivity	µmhos/cm	2,719
Total Dissolved Solids	mg/l	1,372

5. The following interim effluent limitations shall be effective immediately at the O-Neil Adit (Discharge Point 002), and shall remain in effect through **17 March 2015**, or when the Discharger is able to come into compliance with the final effluent limitations, whichever is sooner.

Parameter	Units	Maximum Daily Effluent Limitation
Arsenic, Total Recoverable	µg/L	23.1
Zinc, Total Recoverable	µg/L	64

6. For the compliance schedule required by this Order, the Discharger shall submit to the Regional Water Board on or before each compliance report due date, the specified document or, if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is being reported, the reasons for such noncompliance shall be stated, and shall include as estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Water Board by letter when it returns to compliance with the time schedule.
7. 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. If compliance with effluent limitations contained in (WDR) Order No. R5-2010-0052 is not achieved by the full compliance date, the discharge would not be exempt from the mandatory minimum penalties for violation of effluent limitations, and would be subject to issuance of a Cease and Desist Order in accordance with CWC section 13001.

CEASE AND DESIST ORDER NO. R5-2010-0053
SHASTA GOLD CORP, FRENCH GULCH (NEVADA)
MINING CORP, AND U.S. DEPARTMENT OF INTERIOR, BUREAU OF
LAND MANAGEMENT
WASHINTON MINE
SHASTA COUNTY

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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 27 May 2010.

Original signed by

PAMELA C. CREEDON, Executive Officer