

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL VALLEY REGION

ORDER NO. R5-2002-0044

REQUIRING THE  
ORIGINAL SIXTEEN TO ONE MINE, INC.  
SIXTEEN TO ONE MINE  
SIERRA COUNTY

TO CEASE AND DESIST  
FROM DISCHARGING CONTRARY TO REQUIREMENTS

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

1. On 27 January 1995, the Board adopted Waste Discharge Requirements Order No. 95-004, prescribing waste discharge requirements for the Original Sixteen to One Mine, Inc. (hereafter Discharger), Sixteen to One Mine, in Sierra County. Order No. 95-004 was a renewal of the National Pollution Discharge Elimination System (NPDES) No. CA0081809.
2. The treatment facilities, at Sixteen to One Mine, consist primarily of three settling basins on the surface, with additional settling underground in the mine prior to discharge to Kanaka Creek. The average daily dry weather flow is 0.28 MGD.
3. The Discharger has discharged rocks and sediments to North Fork Kanaka Creek and Kanaka Creek, has discharged constituents in the effluent that exceeded Effluent and Receiving Water Limitations, and has failed to submit monitoring results and monitoring reports, in violation of Order No. 95-004. Staff issued an Administrative Civil Liability Complaint in the amount of \$40,000 in May 1997 and a Notice of Violation in June 1997 after additional discharges in violation of requirements. In September 1997, the Regional Board adopted an Administrative Civil Liability (ACL) in the amount of \$20,000. The Discharger petitioned the ACL to the State Board, who dismissed the Discharger's petition in January 1998. The Discharger brought a lawsuit against the Board regarding the ACL in January 1999. The Court denied the Discharger's petition. To date the Discharger has not paid the \$20,000 ACL. The Discharger has not submitted monitoring results or reports since December 1998.
4. Order No. 95-004 includes the following Waste Discharge Requirements, in part:

***“A. Discharge Prohibitions:***

1. *Discharge of treated wastewater and mine drainage at a location or in a manner different from that described in Findings No. 3 and 4 is prohibited.*
2. *The by-pass or overflow of wastes to surface waters is prohibited, except as allowed by the attached Standard Provision and Reporting Requirements A.13.*

**B. Effluent Limitations:** for discharge of combined mine drainage and process wastewater.

1. Effluent shall not exceed the following limits:

<u>Constituents</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>
Total Suspended Solids	mg/l	20	30
Settleable Solids	ml/l	0.1	5.0

2. The discharge shall not have a pH less than 6.5 nor greater than 8.5.

4. 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 or more consecutive bioassays-----90%

**D. Receiving Water Limitations:**

Receiving Water Limitations are based upon water quality objectives contained in the Basin Plan. As such, they are a required part of this permit.

The discharge shall not cause the following in the receiving water:

- 1. Concentrations of dissolved oxygen to fall below 7.0 mg/l.
- 6. Turbidity to increase more than 20 percent over background levels.
- 7. The normal ambient pH to fall below 6.5, exceed 8.5, or change by more than 0.5 units.
- 8. Deposition of material that causes nuisance or adversely affects beneficial uses.

**E. Provisions:**

1. The Discharger shall comply with the following time schedule to evaluate the variability of arsenic concentrations in effluent and receiving water related to seasonal and operational variations:

<u>Compliance Task</u>	<u>Date</u>
<b>a. Information Gathering on Arsenic in Discharge and Receiving Water</b>	
Submit Plan of Study	1 March 1995
Initiate Study	1 May 1995
Progress Report on operations which may effect arsenic variability	1 September 1995

***b. Source Control of Arsenic***

<i>Submit Workplan To Develop Source Control Program</i>	<b><i>1 November 1995</i></b>
<i>Submit Final Report and Source Control Program</i>	<b><i>1 February 1996</i></b>

4. *The Discharger shall comply with the attached Monitoring and Reporting Program No. 95-004, which is part of this Order, and any revisions thereto, as ordered by the Executive Officer."*
5. On three occasions in 1997 and 1998 (19 February and 12 May 1997 and 5 February 1998) staff of California Department of Fish and Game observed the discharge of storm water laden with fine material into the North Fork of Kanaka Creek, approximately 300 feet from the confluence with Kanaka Creek and/or the deposition of materials from the stockpiles (ranging in size from fines to 6-inch diameter rocks or larger) into the flood plain and channel of Kanaka Creek. Board staff confirmed the discharges in violation of Discharge Prohibitions A.1 and A.2, and Receiving Water Limitations D.6 and D.8, shown above.
6. Between January 1996 and December 1998, the Discharger reported the results of 25 effluent Suspended Solids samples. Of these samples, **12** were in violation of the Monthly Average Effluent Limitation and **7** were in violation of the Daily Maximum Effluent Limitation shown in Effluent Limitation B.1, above.
7. Between January 1996 and July 1998, the Discharger reported the results of 63 effluent Settleable Solids samples. Of these samples, **2** were in violation of the Monthly Average Effluent Limitation shown in Effluent Limitation B.1, above.
8. Between February 1995 and 31 July 1998, the Discharger reported the results of 107 effluent pH samples. Of these samples, **3** were in violation of Effluent Limitation B.2, shown above.
9. Between February 1995 and September 2001, the Discharger reported the results of only **one** bioassay of undiluted effluent, which had 100% mortality, in violation of Effluent Limitation B.4, shown above.
10. Between May 1996 and July 1998, the Discharger reported the results of 65 receiving water Dissolved Oxygen (DO) samples. Of these samples, **2** were in violation of Receiving Water Limitation D.1, shown above.
11. Between May 1996 and December 1998, the Discharger reported the results of 21 receiving water Turbidity samples. Of these samples, **17** were in violation of Receiving Water Limitation D.6, shown above.
12. Between January 1996 and July 1998, the Discharger reported the results of 107 receiving water pH samples. Of these samples, **26** were in violation of Receiving Water Limitation D.7, shown above.
13. Provision E.1 required the Discharger to conduct an arsenic study, implement a source control program, and submit various reports. The Discharger completed the first two tasks but failed to submit a Progress Report for the arsenic study, a Work Plan for the arsenic source control program, and the Final Report, as required, in violation of Provision E.1, shown above.

14. Provision E.4, shown above, required the Discharger to comply with Monitoring and Reporting Program No. 95-004. The Discharger was required to collect samples, have them analyzed, and submit monitoring reports. Between February 1995 and September 2001, there were 26 quarters, 80 months, and 360 weeks. The Discharger failed to submit monitoring reports as follows:
  - a. No monitoring results or reports were submitted at all for **38** months (out of 80).
  - b. Weekly monitoring of effluent pH was required. The Discharger submitted the results of 107 weekly samples. Therefore, out of 360 weeks, the Discharger failed to submit the results of **253** effluent pH samples.
  - c. Weekly monitoring of effluent Temperature was required. The Discharger submitted the results of 80 weekly samples. Therefore, out of 360 weeks, the Discharger failed to submit the results of **280** effluent Temperature samples.
  - d. Weekly monitoring of effluent Electrical Conductivity (EC) was required. The Discharger submitted the results of 113 weekly samples. Therefore, out of 360 weeks, the Discharger failed to submit the results of **247** effluent EC samples.
  - e. Monthly monitoring of effluent Settleable Solids was required. The Discharger submitted the results of 21 monthly samples. Therefore, out of 80 monthly samples, the Discharger failed to submit the results of **59** effluent Settleable Solids samples.
  - f. Weekly monitoring of effluent Arsenic concentrations was required. The Discharger submitted the results of 85 weekly samples. Therefore, out of 360 weekly samples, the Discharger failed to submit the results of **275** effluent Arsenic samples.
  - g. Monthly monitoring of effluent Mercury concentrations was required. The Discharger submitted the results of 25 monthly samples. Therefore, out of 80 monthly samples, the Discharger failed to submit the results of **55** effluent Mercury samples.
  - h. Monthly monitoring of effluent Suspended Solids was required. The Discharger submitted the results of 25 samples. Therefore, out of 80 monthly samples, the Discharger failed to submit the results of **55** effluent Suspended Solids samples.
  - i. Quarterly effluent Acute Toxicity tests were required. The Discharger submitted the results of only 1 test. Therefore, out of 26 quarterly tests, the Discharger failed to submit the results of **25** effluent Acute Toxicity tests.
  - j. Weekly monitoring of receiving water Temperature was required. The Discharger submitted the results of 81 weekly samples. Therefore, out of 360 weekly samples, the Discharger failed to submit the results of **279** receiving water Temperature samples.

- k. Weekly monitoring of receiving water EC was required. The Discharger submitted the results of 107 weekly samples. Therefore, out of 360 weekly samples, the Discharger failed to submit the results of **253** receiving water EC samples.
  - l. Weekly monitoring of receiving water pH was required. The Discharger submitted the results of 107 weekly samples. Therefore, out of 360 weekly samples, the Discharger failed to submit the results of **253** receiving water pH samples.
  - m. Monthly monitoring of receiving water DO samples was required. The Discharger submitted the results of 24 monthly samples. Therefore, out of 80 monthly samples, the Discharger failed to submit the results of **56** receiving water DO samples.
  - n. Monthly monitoring of receiving water Turbidity samples was required. The Discharger submitted the results of 21 monthly samples. Therefore, out of 80 monthly samples, the Discharger failed to submit the results of **59** receiving water Turbidity samples.
  - o. Monthly monitoring of receiving water Arsenic was required. The Discharger submitted the results of 26 monthly samples. Therefore, out of 80 monthly samples, the Discharger failed to submit the results of **54** receiving water Arsenic samples.
15. As shown in Findings Nos. 4 through 14, above, the Discharger violated Order No. 95-004 and threatens to violate Discharge Prohibitions, Effluent Limitations, Receiving Water Limitations, and Provisions prescribed in Order No. R5-2002-0043 and the monitoring and reporting requirements in Monitoring and Reporting Program No. R5-2002-0043, in part, as follows:

**“A. Discharge Prohibitions:**

- 1. *Discharge of treated wastewater and mine drainage at a location or in a manner different from that described in the Findings, is prohibited.*
- 2. *The by-pass, overflow, and/or discharge of ore, tailings, waste rock, sediment, fine materials, waste solids and liquids, and other waste materials, except as described in Discharge Prohibition No. 1 above, are prohibited throughout the mining, milling, solids handling, collection, settling, treatment, storage, and discharge system.*
- 3. *Neither the discharge nor its treatment shall create a nuisance as defined in Section 13050 of the California Water Code.*
- 4. *The discharge or storage of waste classified as ‘hazardous’ or ‘designated’, as defined in Sections 2521(a) and 2522(a) of Title 27, is prohibited.*
- 5. *The direct discharge of storm water, from the mine site, to surface waters is prohibited, except as allowed by the General Permit for Discharges of Storm Water Associated with Industrial Activities.*

**B. Effluent Limitations:** for discharge of combined mine drainage and process wastewater.

1. Effluent shall not exceed the following limits:

<u>Constituents</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>
Electrical Conductivity	µmhos/cm	900	1600
Settleable Solids	ml/l	0.1	5.0
Total Suspended Solids	mg/l	20	30
	g/day <sup>1</sup>	21,224	31,836
Mercury	µg/l		0.050
	g/day <sup>1</sup>		0.053
Arsenic	µg/l		50
	g/day <sup>1</sup>		53

<sup>1</sup> Based upon an average daily dry weather flow of 0.28 MGD (280,000 gallons/day)  
 $X \text{ mg/l} \times 0.001 \text{ g/mg} \times 3.79 \text{ liters/gallon} \times 280,00 \text{ gal/day} = Y \text{ g/day}$   
 or  
 $X \text{ µg/l} \times 0.000001 \text{ g/µg} \times 3.79 \text{ liters/gallon} \times 280,00 \text{ gal/day} = Y \text{ g/day}$

- 3. The discharge to the receiving water shall not have a pH less than 6.5 nor greater than 8.5.
- 4. The discharge to the receiving water shall not have a dissolved oxygen concentration less than 7.0 mg/l.
- 5. 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 or more consecutive bioassays ----- 90%

**C. Receiving Water Limitations:**

Receiving Water Limitations are based upon water quality objectives contained in the Basin Plan. As such, they are a required part of this permit.

The discharge shall not cause the following in the receiving water:

- 1. Concentrations of dissolved oxygen to fall below 7.0 mg/l. The monthly median of the mean daily dissolved oxygen concentration shall not fall below 85 percent of saturation in the main water mass. The 95<sup>th</sup> percentile concentration of dissolved oxygen shall not fall below 75 percent of saturation in the main water mass.
- 2. The ambient pH to fall below 6.5, exceed 8.5, or change by more than 0.5 units.
- 4. The turbidity to increase as follows:
  - a. More than 1 Nephelometric Turbidity Unit (NTU) where natural turbidity is between 0 and 5 NTU.
  - b. More than 20 percent where natural turbidity is between 5 and 50 NTU.

- c. More than 10 NTU where natural turbidity is between 50 and 100 NTU.*
- d. More than 10 percent where natural turbidity is greater than 100 NTU.*
- 9. Deposition of material that causes nuisance or adversely affects beneficial uses.*
- 10. Deposition of material that reduces or restricts the natural flow.*
- 11. Aquatic communities and populations, including vertebrate, invertebrate, and plant species, to be degraded.*

**F. Provisions:**

- 3. The Discharger shall complete a study to assess the sources of arsenic and determine if source control measures or treatment are necessary to achieve compliance. The Discharger must comply with the following schedule to evaluate arsenic concentrations in effluent from the milling process, in the discharge from the mine, and in the receiving water, and to develop a source control program or treatment measures necessary to achieve compliance with this Order:*

<u>Task</u>	<u>Compliance Date</u>
<i>Submit Plan for Arsenic Study</i>	<i>45 days after permit adoption</i>
<i>Begin Study</i>	<i>4 months after permit adoption</i>
<i>Complete Study</i>	<i>1 year after beginning study</i>
<i>Submit Report on Arsenic Study</i>	<i>1 year, 8 months after permit adoption</i>
<i>Begin Implementation</i>	<i>2 years, 6 months after permit adoption</i>
<i>Full Compliance with Arsenic Effluent Limitations</i>	<i>3 years after permit adoption</i>

*The Discharger shall submit to the Board on or before each compliance date, the specified document or a written report detailing compliance or noncompliance with the specific date and task. If noncompliance is reported, the Discharger shall state the reasons for noncompliance and include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Board by letter when it returns to compliance with the compliance schedule.*

*If after review of the study results it is determined that the discharge has a reasonable potential to cause or contribute to an exceedance of a water quality objective this Order will be reopened and effluent limitations for arsenic will be modified or added.*

*If USEPA adopts new criteria for arsenic, this Order will be reopened and effluent limitations for arsenic will be modified or added.*

- 4. The Discharger shall complete a study to assess sources of mercury and determine if source control measures or treatment are necessary to achieve compliance. The Discharger shall comply with the following schedule to evaluate mercury concentrations in effluent from the milling process, in the discharge from the mine, and in the receiving water, and to develop a source control program or treatment measures necessary to achieve compliance with this Order:*

<u>Task</u>	<u>Compliance Date</u>
<i>Submit Plan for Mercury Study</i>	<i>45 days after permit adoption</i>
<i>Begin Study</i>	<i>4 months after permit adoption</i>
<i>Complete Study</i>	<i>1 year after beginning study</i>
<i>Submit Report on Mercury Study</i>	<i>1 year, 8 months after permit adoption</i>
<i>Begin Implementation</i>	<i>2 years, 6 months after permit adoption</i>
<i>Full Compliance with Mercury Effluent Limitations</i>	<i>3 years after permit adoption</i>

*The Discharger shall submit to the Board on or before each compliance date, the specified document or a written report detailing compliance or noncompliance with the specific date and task. If noncompliance is reported, the Discharger shall state the reasons for noncompliance and include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Board by letter when it returns to compliance with the compliance schedule.*

*If after review of the study results it is determined that the discharge has a reasonable potential to cause or contribute to an exceedance of a water quality objective this Order will be reopened and effluent limitations for mercury will be modified or added.*

*If USEPA adopts new criteria for mercury, this Order will be reopened and effluent limitations for mercury will be modified or added.*

5. *There are indications that the discharge may contain constituents that have a reasonable potential to cause or contribute to an exceedance of water quality objectives: NTR and CTR constituents, EPA Priority Pollutants, aluminum, barium, copper, cyanide, iron, manganese, silver, and zinc. The Discharger shall comply with the following time schedule in conducting a study of the potential effects of these constituents in surface waters:*

<u>Task</u>	<u>Compliance Date</u>
<i>Begin Study</i>	<i>2 months after permit adoption</i>
<i>Submit Study Report</i>	<i>1 June 2003</i>

*The Discharger shall submit to the Board on or before each compliance due date, the specified document or a written report detailing compliance or noncompliance with the specific date and task. If noncompliance is reported, the Discharger shall state the reasons for noncompliance and include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Board by letter when it returns to compliance with the time schedule.*

*If after review of the study results it is determined that the discharge has reasonable potential to cause or contribute to an exceedance of a water quality objective this Order will be reopened and effluent limitations added for the subject constituents.*

*On 10 September 2001, the Executive Officer issued a letter, in conformance with Section 13267 of the California Water Code, requiring the Discharger to prepare a technical report assessing water quality. This Order is intended to be consistent with the requirements for the technical report, in requiring sampling for NTR, CTR, and additional constituents, to determine the full water quality impacts of the discharge. The technical report requirements are intended to be more detailed than this Provision, listing specific constituents, detection levels, and acceptable time frames, and shall take precedence in resolving any conflicts.*



7. *The Discharger shall comply with Monitoring and Reporting Program No.R5-2002-0043, which is part of this Order, and any revisions thereto as ordered by the Executive Officer."*

16. On 1 March 2002, in Sacramento, California, after due notice to the Discharger and all other affected persons, the 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.
17. 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.
18. Any person adversely affected by this action of the 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 Chief Counsel, P.O. Box 100, Sacramento, CA 95812-0100, within 30 days from the date that 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. **Immediately**, the Original Sixteen to One Mine, Inc. shall cease and desist from discharging waste contrary to Waste Discharge Requirements Order No. R5-2002-0043 as described in Finding 15, above, regarding Discharge Prohibitions, Receiving Water Limitations C.9 and C.10, and Provision F.7.
2. **Immediately**, the Original Sixteen to One Mine, Inc. shall prepare to comply with the schedules described in Finding 15 above regarding Provisions F.3, F.4, and F.5 of Waste Discharge Requirements Order No. R5-2002-0043, with full compliance with Effluent Limitations, Receiving Water Limitations, and Provisions F.3, F.4, and F.5, by **15 March 2005**.
4. As a means for determining progress toward compliance, the Original Sixteen to One Mine, Inc. shall, beginning **30 January 2001 and quarterly thereafter**, submit quarterly progress reports to the Board describing actions taken to achieve compliance with Waste Discharge Requirements, Order No. R5-2002-0043.
5. 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.

CEASE AND DESIST ORDER NO. R5-2002-0044  
ORIGINAL SIXTEEN TO ONE MINE, INC.  
SIXTEEN TO ONE MINE  
SIERRA COUNTY

- 10 -

I, GARY M. CARLTON, 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 1 March 2002.

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GARY M. CARLTON, Executive Officer