

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

ORDER NO. 80-42

WASTE DISCHARGE REQUIREMENTS
FOR
SILVER REEF MINE
Southeast of Lucerne Valley - San Bernardino County

The California Regional Water Quality Control Board, Colorado River Basin Region, finds that:

1. Hydromet Systems, Inc. (hereinafter also referred to as the discharger), 32193 Highway 18, Lucerne Valley, California 92356, submitted a Report of Waste Discharge dated March 13, 1980.
2. The discharger proposes to separate gold, silver and other metals from mined ore by using a vat leaching system. The process would involve separating about 250,000 tons of fine sand from limestone, and then discharging the sand, which contains the metals, into large impervious tanks (vats), where a solution of four pounds of sodium cyanide and one pound of sodium hydroxide per ton of ore would be added to remove the precious metals. Finally, chlorine is to be added to the tanks to neutralize all cyanide remaining, and the leaching solution would be piped into a resin recovery system, while the solids would be discharged into a tailings basin. Following removal of the gold, silver and other metals, the solution would be recycled through this closed system, which would not contain more than 10,000 gallons at any given time. The tailings basin, designated as the only waste disposal site, is to be located in the SE $\frac{1}{4}$ of Section 3, T3N, R2E, SBB&M, which is about three miles south of Highway 247.
3. The discharger describes the tailings basin (50 feet by 100 feet by 4 feet) to be lined with a layer of compacted sand that would be covered with a 30 mil hypalon (rubberized plastic with nylon scrim reinforcement) liner.
4. The discharger states that at the end of all operations at this site chlorine would be added to neutralize any cyanide present.

Rescinded
7/13/83.

5. The Water Quality Control Plan for the West Colorado River Basin was adopted by the Board on April 10, 1975. The Basin Plan contains water quality objectives for the Lucerne Hydrologic Unit.
6. The beneficial uses of the groundwaters of the Lucerne Hydrologic Unit are municipal supply, industrial supply, and agricultural supply.
7. The discharger reports the depth of groundwater at the site is in excess of 100 feet. The supply water used for this operation is to be siphoned from a well about two miles southeast of the site.
8. The discharger is hereby informed that there are no Class I solid waste disposal sites in the Colorado River Basin Region at this time.
9. The Board has notified the discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the proposed discharge.
10. The Board in a public meeting heard and considered all comments pertaining to the proposed discharge.
11. The San Bernardino County Environmental Analysis Division has approved Negative Declaration EAD 412-68N (approval date April 30, 1980) for this proposed mining operation. The Regional Board has reviewed this Negative Declaration. The below waste discharge requirements are designed to assure against any significant adverse effects on water quality.

IT IS HEREBY ORDERED, the discharger shall comply with the following:

A. Discharge Specifications

1. Neither the mining process nor the discharge of wastewater or other wastes shall create a pollution or a nuisance as defined in Division 7 of the California Water Code.
2. The cyanide solution shall be contained only in the processing system or leak-proof containers.
3. There shall be no wind transport of cyanide solution away from the processing area.

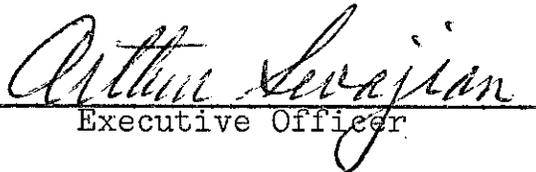
4. The tailings basin shall have a permeability which does not exceed 1×10^{-6} cm/sec.
5. All drainage and collection facilities used to contain or transport leaching solution or ore wash water shall be effectively sealed to prevent exfiltration of these liquids.
6. A minimum freeboard of at least two (2) feet shall be maintained in the impervious basin.
7. The processing area shall be protected from any washout or erosion which could occur as a result of floods having a predicted frequency of once in 100 years.
8. There shall be no discharge of wastewater containing any trace of cyanide at any location not approved by the Regional Board.
9. Prior to the removal of ore tailings from the impervious basin, the cyanide contained therein shall be neutralized and said tailings shall be discharged in an area permanently protected from a flood having a predicted frequency of once in 100 years.
10. Ore tailings may be abandoned in the basin provided the cyanide in the ore is neutralized and said tailings are permanently protected from a 100 year flood. Lack of construction or operational activity on the site of a period of one year shall constitute abandonment for the purposes of this Order.
11. All industrial containers and other waste materials shall be discharged at a Class I solid waste disposal site, or neutralized and discharged at a Class II-2 disposal site provided said discharged wastes are immediately covered. Said containers shall be rendered unusable prior to final disposal.
12. Adequate measures shall be taken to assure that unauthorized persons and animal pets are effectively excluded from the processing area.

B. Provisions

1. The discharger shall submit to the Board, at least 20 days prior to commencement of operations, a technical report showing the construction of the tailings basin and flood protection facilities, and a certificate signed by a California Registered Civil Engineer stating that the basin, tanks and attendant facilities are constructed to meet the requirements of this Order.

2. The discharger shall comply with the "Monitoring and Reporting Program No. 80-42", and future revisions thereto, as specified by the Executive Officer.
3. Prior to any modifications in this facility which could result in material change in the quality or quantity of wastes discharged, or any material change in location of discharge, the discharger shall report thereon to the Board.
4. In the event of any change in operation, or in control or ownership of land or waste disposal facilities owned or controlled by the discharger, the discharger shall:
 - a. Notify this Board of such change; and
 - b. Notify the succeeding owner or operator by letter of the existence of this Order, a copy of which shall be filed with this Board.

I, Arthur Swajian, 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, Colorado River Basin Region, on May 21, 1980.


Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

MONITORING AND REPORTING PROGRAM NO. 80-42
FOR

SILVER REEF MINE

Southeast of Lucerne Valley - San Bernardino County

Location: SE $\frac{1}{4}$ of Section 3, T3N, R2E, SBB&M

MONITORING

Hydromet Systems, Inc. (the discharger) shall report to the Regional Board concerning the following:

- A. Quarterly reports explaining the current status of mining operations, and whether the operation is active or inactive.
- B. Immediate reporting of any accidental spillage or release of waste material, and also, plan for immediate measures being taken to correct same and limit detrimental effects.
- C. Upon request from this Board's Executive Officer: technical and/or monitoring reports on the treatment and discharge of wastes.
- D. At least thirty (30) days prior to any proposed discharge or ore tailings or wastewater, or termination of the operation described in this Order, the discharger shall submit a copy of the results of analysis of cyanide concentration of wastewater, and shall request a Regional Board staff inspection to approve the proposed discharge or cleanup procedure.
- E. Report of completion of cleanup of premises shall be submitted to the Regional Board in writing within one week following completion of work.

REPORTING

The above monitoring program shall be implemented immediately upon adoption of this Order.

Quarterly reports shall be submitted to the Regional Board by January 15, April 15, July 15 and October 15 of each year. Reports for Items B, C, D and E (above) shall be forwarded

immediately and if at all possible shall be preceded by phone communication to the Regional Board's office. Phone number (714) 346-7491.

Mail reports to:

California Regional Water Quality Control Board
Colorado River Basin Region
73-271 Highway 111, Suite 21
Palm Desert, CA 92260

Ordered by

Arthur Surjan
Executive Officer

May 21, 1980

Date

