

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
COLORADO RIVER BASIN REGION**

ORDER NO 84-17

**WASTE DISCHARGE REQUIREMENTS  
FOR  
PICACHO PEAK MINE  
North of Yuma - Imperial County**

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

1. Chemgold, Inc. (hereinafter also referred to as the discharger), P. O. Box 2015, Yuma, Arizona 85364 submitted an updated Report of Waste Discharge, dated February 22, 1984.
2. The discharger proposes to expand, in phases, a heap leaching gold removal operation by adding three pads that could eventually be stacked with a total of 4.5 million tons of ore. These pads are designated as No. 2, No. 3. and No. 4. The ore would be stacked to form a flat pile, 40 feet high on each pad. A solution containing .05 percent or less Sodium Cyanide would be ponded to a depth of two inches over the top surface of each pile. Berms are constructed on top of each pile to allow thorough leaching of ore, and a berm would be extended along the perimeter of each pad to contain the leaching solution and any rainfall runoff. The solution containing the gold, drains from each pad into a lined containment basin, where it is pumped through gold removal processing facilities and then flows into a second lined basin where cyanide is added to bring the concentration to the appropriate strength before it is recirculated onto each pile. The total volume in the closed systems of the three new sites would not be more than 2.2 million gallons of solution. The processing sites are located (in a non-surveyed area) about one mile north and one-half mile east of the NE corner of Section 16, T14S, R22E, SBB&M, which is about 18 miles north of Yuma, Arizona.
3. The discharger describes each impervious leaching pad as a layer of compacted soil that is covered with a 20 mil (0.020 inch) thick P.V.C.(polyvinyl chloride) liner. About 18 inches of sand overburden serves to protect each liner and acts as the leaching medium. The containment basins are lined with 36 mil CPER (chlorinated poly-ethylene reinforced plastic).
4. The discharger states that at the end of all operations at each pad site, chlorine or some other procedure, would be used to neutralize all cyanide present. The neutralized solution would then be continually recirculated onto the piles until all is absorbed in the tailings and evaporated in each closed system. The neutralized tailings and pads are reported to be the only wastes discharged at this site.

*Superseded  
by  
87-77, 87-78  
9/23/87*

5. The discharges from the existing facilities at this mining operation are also subject to waste discharge requirements adopted in Board Orders No. 82-3 and No. 82-31.
6. The Water Quality Control Plan for the East Colorado River Basin was adopted on April 10, 1975. The Basin Plan contains water quality objectives for the Colorado Hydrologic Unit.
7. The beneficial uses of the ground waters of the Colorado Hydrologic Unit are:
  - a. Municipal supply
  - b. Industrial supply
  - c. Agricultural supply
8. The discharger reports the depth to ground water at the site is in excess of 150 feet. The supply water used for this heap leaching operation is piped from the Colorado River, which is about 4 miles northeast of the pad site.
9. The Board has notified the discharger and interested agencies and persons of its intent to update waste discharge requirements for the proposed expansion.
10. The Board in a public meeting heard and considered all comments pertaining to the discharge.
11. The Imperial County Planning Department has approved Negative Declaration #1532-84 (certification on May 28, 1984) for expansion of this mining operation. The below waste discharge requirements are designed to assure against any significant adverse effects on the quality of local ground waters and of any surface waters resulting from infrequent storm runoff.

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 in leak-proof containers.
3. There shall be no wind transport of cyanide solution or ore containing cyanide solution away from the leaching pad areas.
4. Each leaching pad liner and each containment basin liner shall have a permeability which does not exceed  $1 \times 10^{-8}$  cm/sec, and the fluids contained therein shall not penetrate through the liner during the containment period.

5. All facilities used to contain or transport leaching solution shall be effectively sealed to prevent leakage of these liquids, and pregnant solution processing equipment shall have leak-proof provisions.
6. A minimum impervious free board of at least two (2) feet shall be maintained around each impervious pad and in the containment basins.
7. The processing areas shall be protected from any run-on, 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 process wastewater at any location without prior approval from the Regional Board.
9. Adequate measures shall be taken to insure that liners will not be punctured for the duration of this activity.
10. Prior to removal of ore tailings from each impervious pad, the cyanide contained therein shall be detoxified to contain not more than one (1.0) mg/kg total cyanide ( $\text{CN}^-$ ), and said tailings shall be discharged in an area permanently protected from a flood having a predicted frequency of once in 100 years.
11. Ore tailings may be abandoned on the pads, provided the cyanide in the ore is detoxified to contain not more than one (1.0) mg/kg total cyanide ( $\text{CN}^-$ ), and said tailings are permanently protected from a 100 year flood. Lack of construction or operational activity on the site for a period of one year shall constitute abandonment for the purposes of this Order.
12. All industrial containers and other waste materials shall be discharged at a Class I 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.
13. Adequate measures shall be taken to assure that unauthorized persons and mammals are effectively excluded from the processing area.
14. Each pad and basin shall have a leakage detection system as deemed necessary by the Executive Officer of the Regional Board.
15. Each processing area consisting of leach pad and basins containing leachate, shall be diked to impound all storm water drainage from the pad and basins during a maximum probable one hour storm, in addition to the total volume of leachate contained in each closed system.

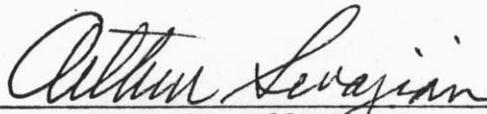
## B. Provisions

1. At least 60 days<sup>1</sup> prior to commencement of construction of each phase, the discharger shall submit to the Board for approval by the Executive Officer, a technical report which shall include a plan showing in detail the proposed construction of the pads, basins, leakage detection systems and flood protection facilities.
2. At least 10 days prior to commencement of operations of each phase, the discharger shall submit to the Board a certificate, signed by a California Registered Civil Engineer, stating that the pad, containment basins, attendant facilities, leakage detection systems, and disposal areas are constructed in accordance with the technical report as approved by the Executive Officer to meet the requirements of this Order.
3. At least 10 days prior to loading any material onto the liner seams, the discharger shall notify the Board for a staff inspection.
4. The discharger shall comply with the "Monitoring and Reporting Program No. 84-17", and future revisions thereto, as specified by the Executive Officer.
5. Prior to any modifications in this facility which would 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.
6. 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 the Board of such change; and
  - b. Transmit a copy of this Order to the succeeding owner or operator, and file a copy of the transmittal letter with this Board.
7. The discharger shall submit to the Board, at least 30 days prior to commencement of these expanded operations, written adequate assurance that money is available, upon abandonment of facilities, in an amount sufficient to insure neutralization of all cyanide, plus cleanup and closure of the processing and tailings disposal sites in a manner that will not adversely effect water quality.
8. This Order prohibits the processing of ore at these sites to exceed 4.5 million tons.

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1. 60 days unless a lesser period is approved by the Executive Officer

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 16, 1984.

  
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Executive Officer

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
COLORADO RIVER BASIN REGION**

**MONITORING AND REPORTING PROGRAM NO. 84-17  
FOR  
PICACHO PEAK MINE  
North of Yuma - Imperial County**

**Location of Discharge:** One (1) mile north and one-half mile east of NE corner of Section 16, T14S, R22E, SBB&M.

**MONITORING**

Chemgold Inc. (discharger) shall report to the Regional Board concerning the following:

**Monitoring and Reporting No. 1**

The discharger shall submit to the Regional Board monthly reports containing the following information:

- A. The current status of mining operations whether the operation is active or inactive at each processing site.
- B. An estimate of the total amount of ore (tons) that has been processed to date at each processing site.
- C. Analysis for total cyanide and pH in samples of ground water obtained from the ground water monitoring well(s) at each site, and of any water found in the seepage monitoring wells.

**Monitoring and Reporting No. 2**

- D. At least thirty (30) days prior to the initial use of cyanide on any pad, or storage of cyanide in any lined basin, the discharger shall submit background total cyanide and pH analyses for each upgradient and downgradient ground water monitoring well serving that processing area. Background analyses shall consist of a minimum of three (3) separate samples from each well collected at least one (1) week apart.
- E. Immediate reporting of any accidental spillage, leakage, or release of waste material, including immediate measures being taken to correct same and limit detrimental effects.
- F. Upon request from this Board's Executive Officer, the discharger shall furnish special technical and/or monitoring reports on the treatment and discharge of wastes, and on the integrity of the cyanide solution containment system.

- G. At least thirty (30) days prior to any proposed discharge of ore tailings or wastewater, or termination of the operation described in this Order, the discharger shall submit a copy of the results of analyses of the cyanide concentration in the wastewater and tailings, and shall request a Regional Board staff inspection to approve the proposed discharge or cleanup procedure.
- H. Report of completion of cleanup of premises shall be submitted to the Regional Board in writing within one week following completion of work.

### REPORTING

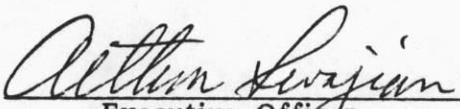
The above monitoring program shall be implemented immediately upon adoption of this Order No. 84-17.

Monthly reports shall be submitted to the Regional Board by the 15th day of the following month. Reports for Items 2D,E,F,G and H (above) shall be forwarded immediately and if at all possible shall be preceded by phone communication to the Regional Board's office. Phone No. (619) 346-7491. Copies of the reports submitted to the Board pursuant to this Monitoring and Reporting Program shall be maintained at the operations site, and shall be made available to staff of the Regional Board upon request.

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:

  
Executive Officer

May 16, 1984

Date

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD - 7



SITE MAP NO. 1

PICACHO PEAK MINE  
North of Yuma - Imperial County

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD - 7



SITE MAP NO. 2

PICACHO PEAK MINE

North of Yuma - Imperial County

Location: 1 mile north and 1/2 mile east of  
NE corner of Section 16, T14S, R22E, SBB&M  
USGS Picacho Peak 15 min. Topographic Map

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