

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

ORDER NO. 87-21

**WASTE DISCHARGE REQUIREMENTS
FOR
BLACKHAWK MINE
Southeast of Lucerne Valley - San Bernardino County**

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

1. Blackhawk Mines Corporation (hereinafter also referred to as the discharger), P.O. Box 1190, Lucerne Valley, CA 92356, submitted current information by letter dated November 26, 1986 for the purpose of updating the waste discharge requirements for the proposed mining operation.
2. The discharger proposes to recover gold and silver from mined ore by leaching cyanide solution through about 200 tons per day of crushed ore in a series of steel tanks located above the water course in a steep-walled canyon. The mixture would contain about two pounds of sodium cyanide (NaCN) per ton of ore, which is to be circulated through a closed system. After mixing and leaching in the tanks, the mixture would contain about 40% solids and 60% solution. The pregnant solution would then be piped through a carbon filter system, where the precious metals would be removed for further processing off-site. The barren solution would flow into a tank where cyanide would be added to restore the concentration to the necessary strength for recirculation. The tailings (consisting of 80% solids and 20% solution) would be neutralized with a sodium hypochlorite solution and then be saturated with slurry water to a mixture of 40% solids. The neutralized slurry would be piped about a half mile through a 6-inch underground line to an impervious tailings basin, which is located outside of the steep-walled canyon, in the W $\frac{1}{2}$ of SE $\frac{1}{4}$, of Section 8, T3N, R2E, SBB&M. The free solution in the tailings would be pumped back to the mill site through a 3-inch underground pipeline for reuse as slurry solution. The mill site is located (in an area not sectioned on government maps) about $\frac{1}{4}$ mile south and $\frac{1}{2}$ mile east of the SW corner of Section 8, T3N, R2E, SBB&M, which is about 9 miles south of State Highway 247.
3. The discharger proposes to process and treat the ore in steel tanks mounted on concrete foundations above ground. In addition, the discharger proposes to enclose much of the processing facilities within a roofed structure.
4. The discharger proposes to construct an impervious tailing basin with a 1-foot layer of compacted clay base covered with a 20 mil polyvinyl chloride (PVC) liner that would be protected with a layer of sand.

The discharger states that at the end of all operations at this site, sodium hypochlorite would be added to neutralize all cyanide present. The tanks

*Superseded
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by 90-054*

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would then be drained into the basin where the solution would evaporate leaving the neutralized tailings and basin liner at the site.

6. The Water Quality Control Plan for the Colorado River Basin Region was adopted on November 14, 1984. The Basin Plan delineates the location of the discharge to be in the Lucerne Hydrologic Unit.
7. The beneficial uses of the ground waters of the Lucerne 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 280 feet. The supply water used for this leaching operation is to be pumped from a well at the mill site.
9. This proposed discharge has been subject to waste discharge requirements adopted in Board Order No. 82-57.
10. The Board has notified the discharger and interested agencies and persons of its intent to update waste discharge requirements for the proposed discharge.
11. The Board in a public meeting heard and considered all comments pertaining to the proposed discharge.
12. The San Bernardino County Environmental Analysis Division approved a Mitigated Negative Declaration (approval date April 28, 1981) 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, that 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 and treatment system or in leakproof containers.
3. There shall be no wind transport of cyanide solution or ore containing cyanide solution away from the mill site facilities.
4. A sealed concrete pad of adequate thickness with a concrete berm, or an equivalent containment system, shall be constructed around the processing steel tanks to capture any spillage or leakage of cyanide-bearing fluids.

5. A minimum freeboard of two (2) feet shall be maintained around the tailings basin.
6. In the event that a liner is installed at the mill site, adequate measures shall be taken to ensure that the liner will not be punctured for the duration of this activity.
7. There shall be no discharge of wastewater containing free cyanide in excess of 10 mg/l or any other substances in hazardous concentrations to the tailings basin or at any location not approved by the Regional Board.
8. All industrial waste materials, used cyanide containers, or other hazardous products shall be discharged at a waste management facility approved to receive these waste materials.
9. Adequate measures shall be taken to assure that unauthorized persons and large animals are effectively excluded from the processing area.
10. The processing area and the tailings basin shall each 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.
11. Prior to discharge to the tailings basin, the ore tailings shall be detoxified on a batch basis to a concentration of 10 mg/l or less of free cyanide. The determination of the free cyanide content shall be made on the undiluted liquid fraction of the rewatered slurry. The detoxified ore tailings shall meet the requirements for classification as a group C mining waste as prescribed in Section 2571 of Subchapter 15, Chapter 3, Title 23 of the California Administrative Code.
12. All sampling, preservation, storage and analyses shall be conducted in accordance with current EPA guideline procedures or in accordance with the then-current edition of Standard Methods for the Examination of Water and Wastewater.

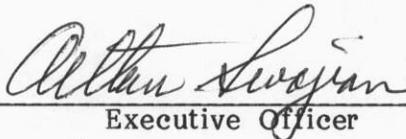
B. Provisions

1. At least 60 days¹ prior to commencement of construction, the discharger shall submit to the Regional Board for approval by the Executive Officer a technical report which includes a hydrology report in accordance with SBFCWCD procedures and a plan detailing the proposed construction of the tanks, containment system, tailings basin, pipelines and flood protection facilities.
2. At least 10 days prior to commencement of operations, the discharger shall submit to the Regional Board a certificate, signed by a California Registered Civil Engineer, stating that the processing and containment facilities are constructed in accordance with the technical report as approved by the Executive Officer to meet the requirements of this Order.

¹Unless a lesser period is approved by the Executive Officer

3. The discharger shall comply with the "Monitoring and Reporting Program No. 87-21", and future revisions thereto, as specified by the Executive Officer. The Monitoring Reports shall be certified to be true and correct, and signed, under penalty of perjury, by an authorized officer of the company.
4. Prior to any modifications in this facility which could result in material change in the quality or quantity of wastes discharged, quantity of ore processed, type of leachant used, or any material change in location of discharge, the discharger shall report thereon to the Board.
5. As proposed by the discharger and as stated in the findings, the entire processing and treatment operation shall take place in steel tanks mounted on concrete foundations aboveground. Any deviation from this proposal shall require the discharger to submit to the Board a report of waste discharge and a technical report describing the new mode of operation.
6. In the event of any change 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. Transmit a copy of this Order to the succeeding owner or operator; and a copy of the transmittal letter shall be filed with this Board.
7. The discharger shall submit to the Board, at least 30 days prior to commencement of operations, written adequate assurance that \$10,000 is available, upon abandonment of facilities, to ensure 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. The discharger shall process no more than one million tons of ore under this Order.
9. Lack of construction or operational activity on the site for a period of one year after the effective date of this Order shall constitute abandonment for the purpose of rescinding this Order.
10. The discharger shall immediately inform the Executive Officer of any spillage beyond any of the containment facilities or elsewhere at the site, along with a proposal to correct same.
11. This Order supersedes Board Order No. 82-57.

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 January 21, 1987.


Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

MONITORING AND REPORTING PROGRAM NO. 87-21
FOR
BLACKHAWK MINE
Southeast of Lucerne Valley - San Bernardino County

Basin Location: Portion of the SE $\frac{1}{4}$ of Section 8, T3N, R2E, SBB&M

Mill Site: $\frac{1}{4}$ mile south and $\frac{1}{2}$ mile east of the SW corner of Section 8, T3N, R2E, SBB&M

MONITORING

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.
- B. An estimate of the total amount of ore (tons) that has been processed to date.
- C. Analysis for free cyanide from each batch of neutralized ore tailings prior to discharge to the tailings basin.

Monitoring and Reporting No. 2

- A. Immediate reporting of any accidental spillage or release of waste material, including immediate measures being taken to correct same and limit detrimental effects.
- B. 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.
- C. At least thirty (30) days prior to any proposed relocation of ore tailings, or discharge of wastewater, or termination of the operation described in this Order, the discharger shall submit a copy of the results of analysis of cyanide content of the ore tailings and of the wastewater, and shall request a Regional Board staff inspection to approve the proposed relocation, discharge or cleanup procedure.
- D. Report of completion of cleanup of premises shall be submitted to the Regional Board in writing within one week following completion of work.

Reporting

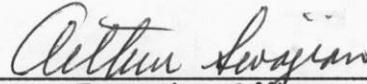
The above monitoring program shall be implemented immediately upon adoption of this Order.

Monthly reports for Items 1A, B, and C (above) shall be submitted to the Regional Board by the 15th day of the following month. Reports for Item 2A (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 also 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

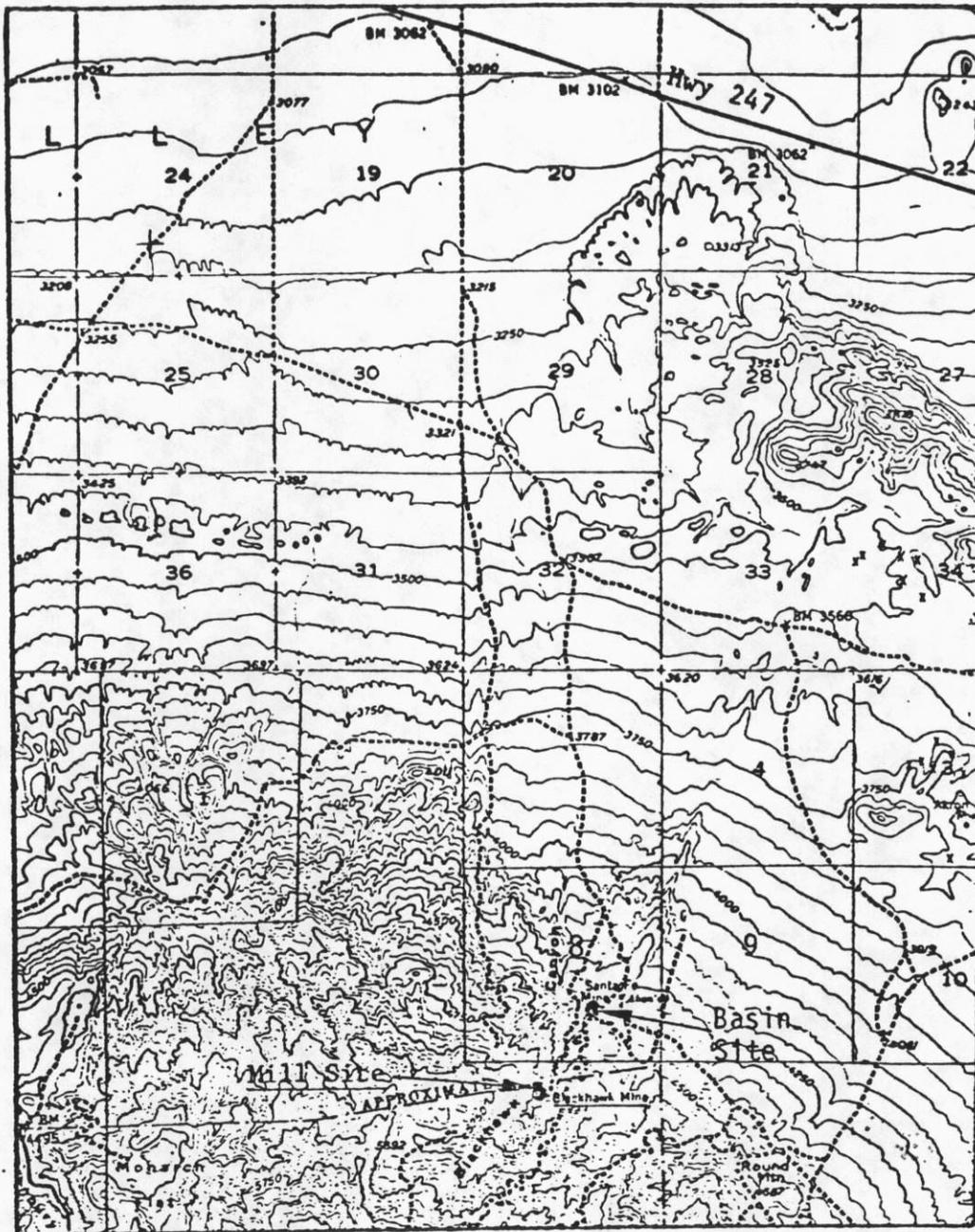
ORDERED BY:


Executive Officer

January 21, 1987

Date

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Scale:
1" = 1 mile

SITE MAP NO. 1

BLACKHAWK MINE

Southeast of Lucerne Valley - San Bernardino County

Basin Site: Portion of SE 1/4 of Section 8, T3N, R2E, SBB&M

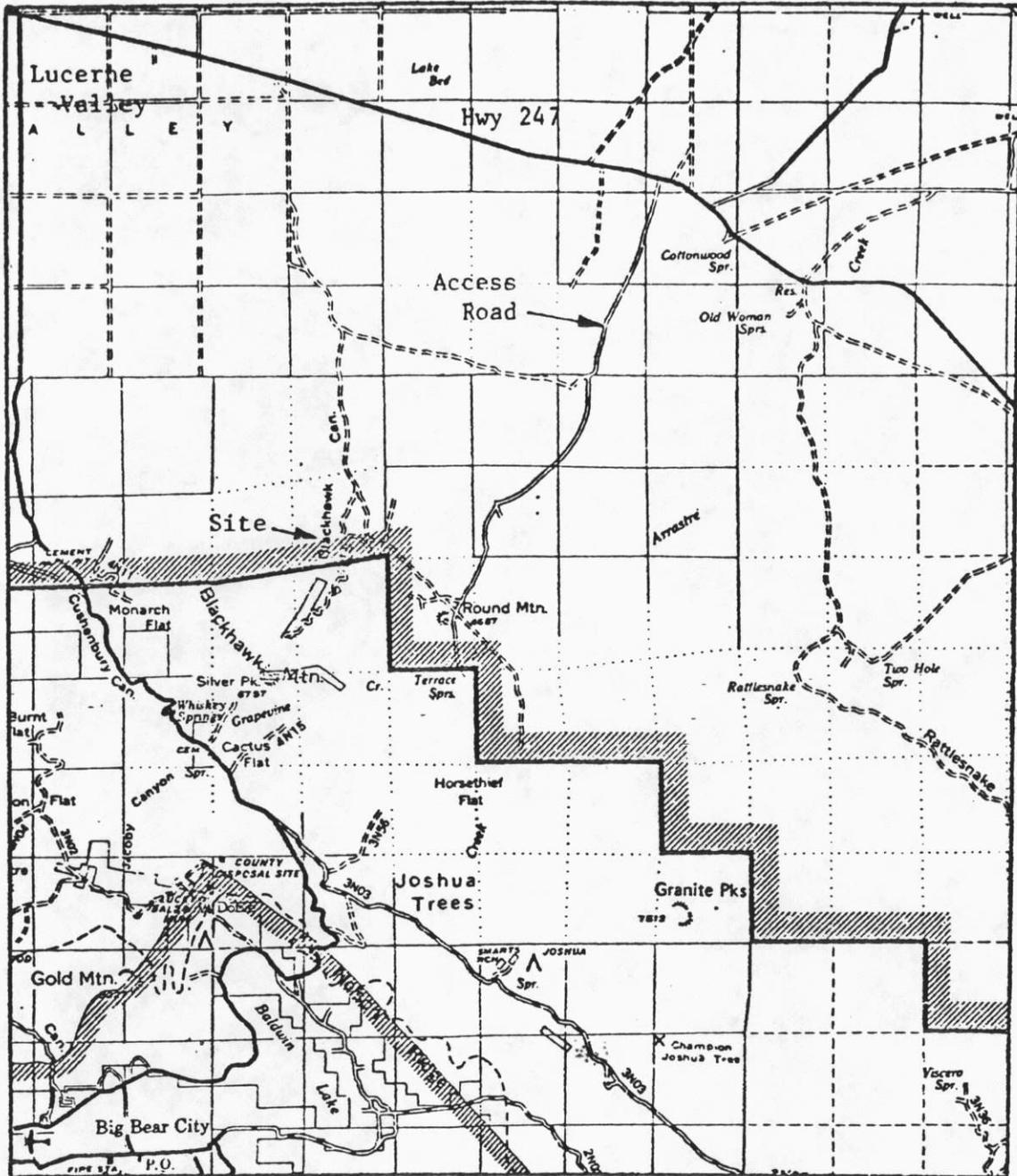
Mill Site: 1/4 mi. south and 1/2 mi. east of the SW corner of Section 8, T3N, R2E, SBB&M

USGS Lucerne Valley 7.5 min. Topographic Map

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SITE MAP NO. 2

BLACKHAWK MINE
Southeast of Lucerne Valley - San Bernardino County

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