

L. Pamour, Inc. Porcupine Mines Ltd.

PAMOUR GOMILL





Fire Assaying of gold orebody drillcore to determine the gold grade.



Atomic Absorption assay analysis used to determine base metal grades and lower grade gold values.

Introduction

The GOMILL concept was conceived by the Ontario Ministry of Natural Resources in 1981 under terms of the BILD program, to provide custom gold milling facilities in various parts of the Province that would allow the processing of small tonnages from:

- (a) Properties that cannot economically justify a mill;
- (b) Properties interested in determining the metallurgical performance of their ore; and
- (c) Properties where the erratic nature of mineral distribution (i.e., presence of free gold) make sampling and analysis of sampling data extremely difficult.

Pamour's application to establish "Custom Milling" facilities under the established terms of reference, was accepted by the Ministry February 27, 1984. The site selected for the Province's third GOMILL facility was at Pamour's Schumacher Mine with construction commencing in August 1984. On July 1, 1985 the Pamour facility was ready to receive custom gold bearing materials for processing at a rated throughput of 225 tonnes per day. This dedicated custom processing circuit will allow accurate accounting of the final gold produced thus solving the age old problem of sampling gold-bearing custom ores.

Pamour has been successfully processing gold bearing ores on a toll basis since 1944. Currently, Pamour buys ores based on crushing plant sampling data and metallurgical laboratory estimates of achievable recoveries. Cutting factors for erratic high assay values are assigned based on Pamour's experience, as is a five percent head assay deduction, to allow for inevitable variances in sampling and analysis.

The addition of the "Custom Gold Mill" circuit at Pamour affords a more accurate method for the determination of the head grade and metallurgical recoveries. Processing a portion of a potential custom shipper's feed through this circuit will allow a relationship to be formulated between gold recovery and sampling data, providing a method of

treating sample data on tolled material. This will minimize the risk to both Pamour and the custom shipper and is expected to allow the elimination of the five percent head assay deduction assigned to tolled ores. Further it is anticipated that benefits would accrue to the custom shipper by "pilot plant" testing his material through the custom circuit.

The following will outline Pamour's custom GOMILL flexibility in addition to introducing you to the services afforded by Pamour's Business Development Group.

Ore Classification

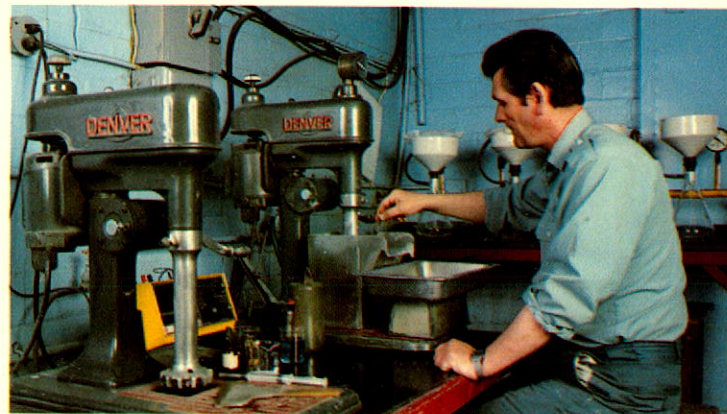
Prior to processing custom material through Pamour's GOMILL circuit it must be classified to ensure the most efficient metallurgical parameters are maintained during processing. In order to classify the material the custom shipper must submit a representative head sample to Pamour for metallurgical bench testing. This would allow the ore to be classified as:

- free gold bearing ores;
- gold with iron sulphides;
- gold with arsenic and/or antimony minerals;
- gold tellurides;
- gold with copper minerals;
- gold with lead and zinc minerals;
- carbonaceous and refractory ores; and
- gold in ores rich in clay and talc.

Once classified, metallurgical testing in the laboratory can proceed to define the optimum metallurgical flowsheet available to achieve maximum recoveries.

Processing Flexibility

Pamour's GOMILL circuit is designed to allow the processing of a wide variety of gold ore classifications. The various processing scenarios available are only achievable if impurity levels (i.e., arsenic, antimony, mercury) in the ore do not exceed Ministry of Environment or smelter emission guidelines. Pamour would reject any material for processing if outside allowable environmental guidelines.



Preliminary laboratory metallurgical bench testing to establish flowsheet configuration.



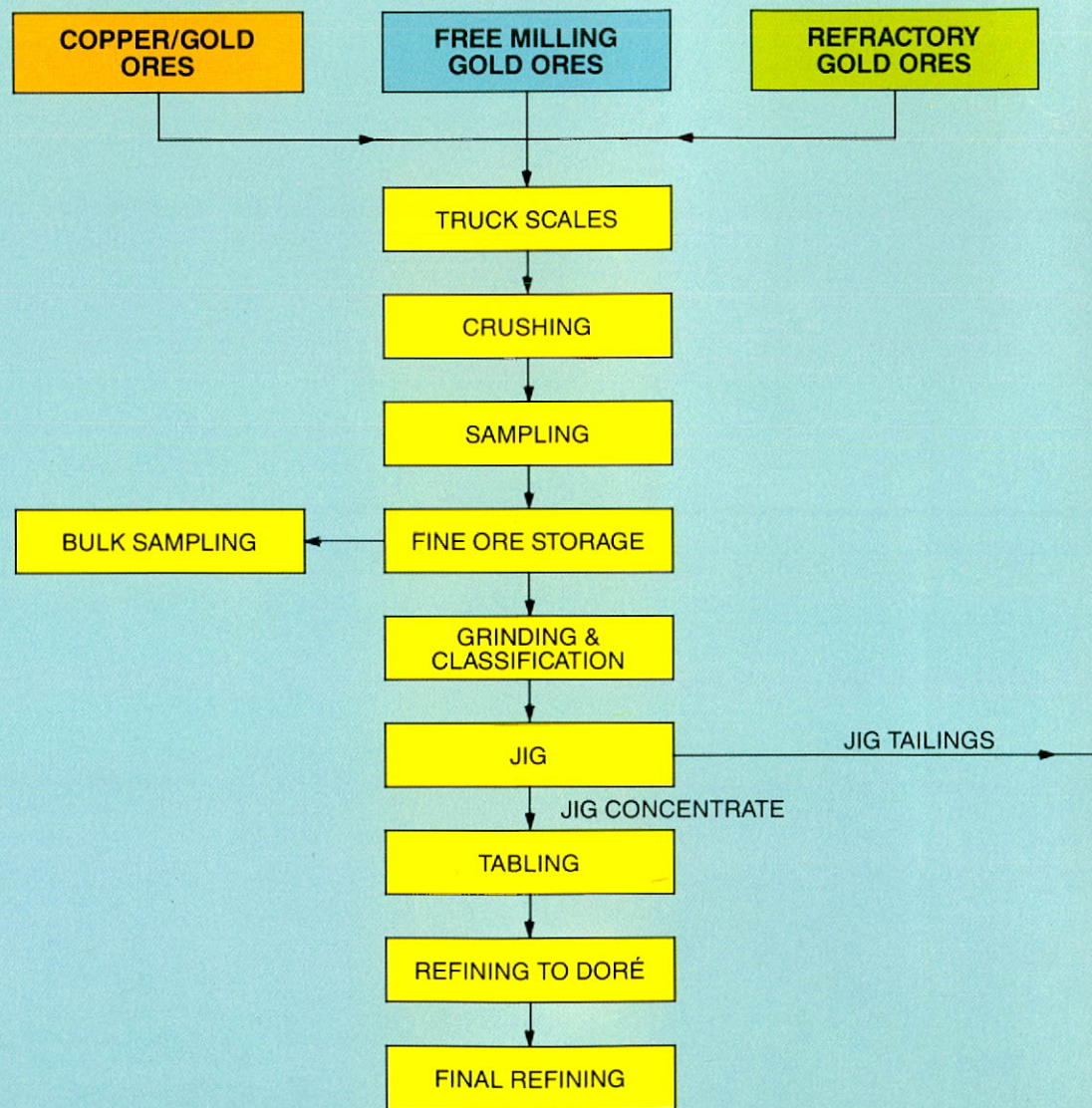
GOMILL Control Centre has automatic or manual control options.

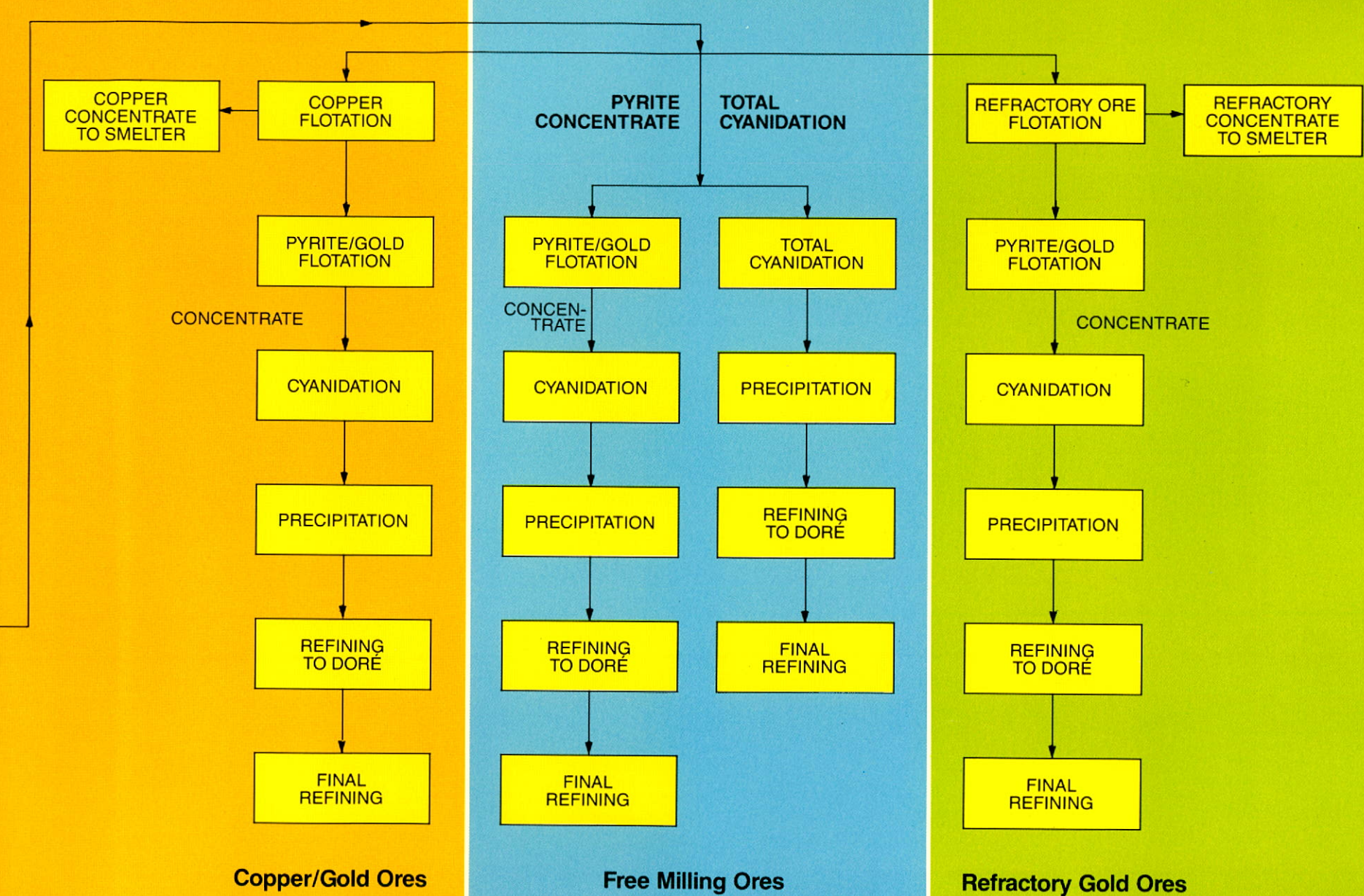
GOMILL

Processing Options



Gold Pour







GOMILL concentrate thickeners and concentrate holding tank.

Custom Milling Contract

Typical items covered under the custom milling contract are as follows:

- (a) **Proof of Title:** Custom Shipper represent and warrants to Pamour that they have the right to enter into this Agreement for the treatment of custom ore through the Pamour GOMILL circuit.
- (b) **Quality of Ore:** that the ore meets actual size limitations for crushing; and, it meets maximum allowable impurity levels for elements such as arsenic, antimony and mercury.
- (c) **Ore Delivery:** quantity and rate of delivery of the ore is outlined.
- (d) **Contract Duration:** under the terms of Pamour's agreement with the Ministry of Natural Resources a custom milling contract cannot exceed three months.
- (e) **Metal Accounting Procedures:** weighing, sampling and assaying procedures are outlined.
- (f) **Return Shipment:** where and how is the processed ore to be returned.
- (g) **Custom Milling Charges:** charges are directly related to tonnage throughput, ore complexity and the overall ounces of gold recovered.
- (h) **Final Settlement:** items considered under this clause include recovery of accountable gold and silver, timing of metal availability, by-product credits if any (i.e., copper), and marketing arrangements for the sale of gold and silver.

Diversification at PAMOUR

In addition to processing gold bearing material through the GOMILL circuit, Pamour is also in the business of tolling custom gold bearing material through their existing milling facilities. This facility has been utilized successfully in recent years by several individuals and companies in northern Ontario and northwestern Quebec. In 1984 Pamour established

a Business Development Group. At the present time this Group offers:

- (1) Custom Analytical Services addressing the needs of local prospectors and exploration companies; and
- (2) Design, Construction and Shop Teams are available to serve the local industrialized sector.

Further information regarding Pamour's business flexibility can be obtained by writing:

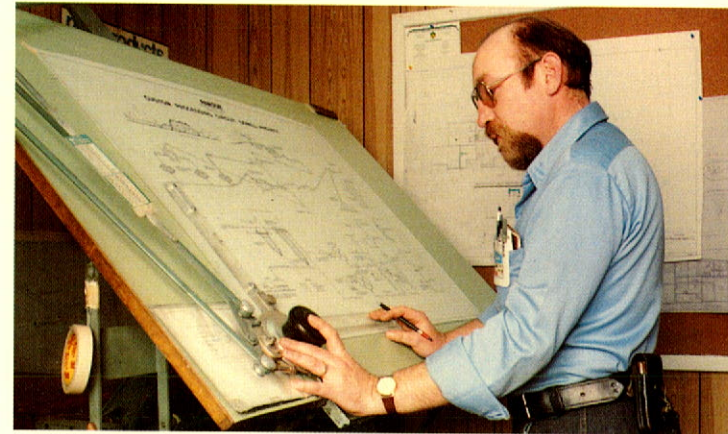
(1) Pamour's Custom Milling Group
Pamour Porcupine Mines,
Limited
P.O. Bag 2010
TIMMINS, Ontario P4N 7X7
(705) 267-1141

or (2) Pamour's Business Development Group
Pamour Porcupine Mines,
Limited
P.O. Bag 2010
TIMMINS, Ontario P4N 7X7
(705) 267-1141

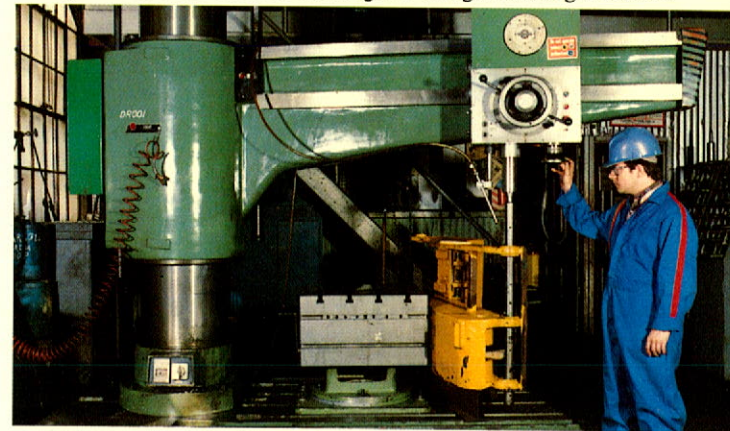
Conclusion

Pamour is proud to have been selected as a recipient of a GOMILL site. It affords us the opportunity to apply our custom tolling experience to a truly custom milling facility and to assist the gold mining sector in the Province to process gold bearing materials at economical rates. In addition, Pamour's resourcefulness in supplying support services through their Business Development Group has afforded local individuals and companies an opportunity to get skilled services at competitive rates.

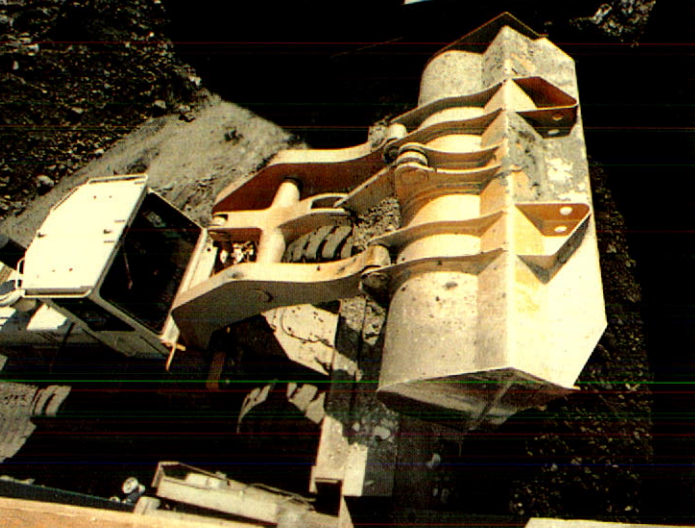
PAMOUR



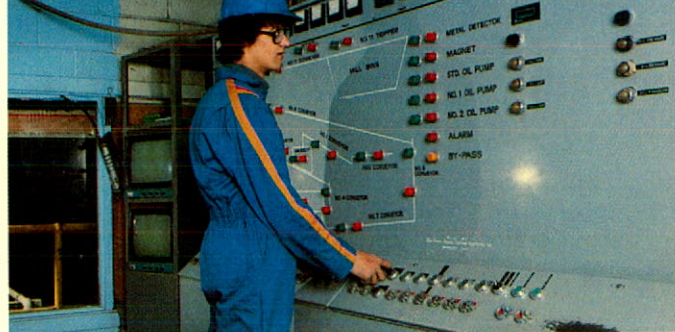
Design office staff offer a full range of design/drafting services.



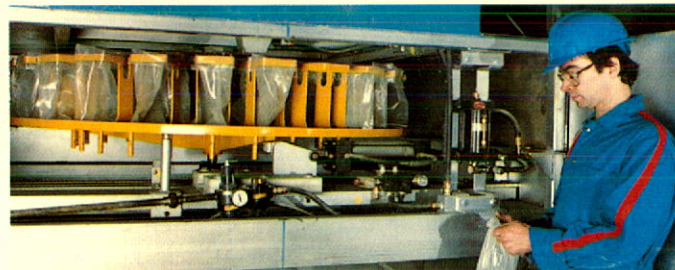
Machine shop and fabrication facilities are available.



1 Custom ore load in



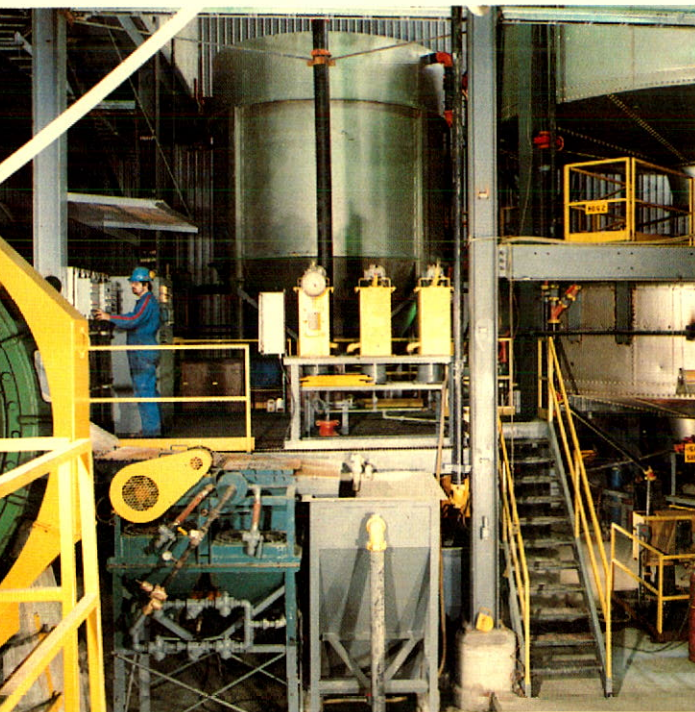
2 Crushing control room



3 Automatic crushed ore sampling



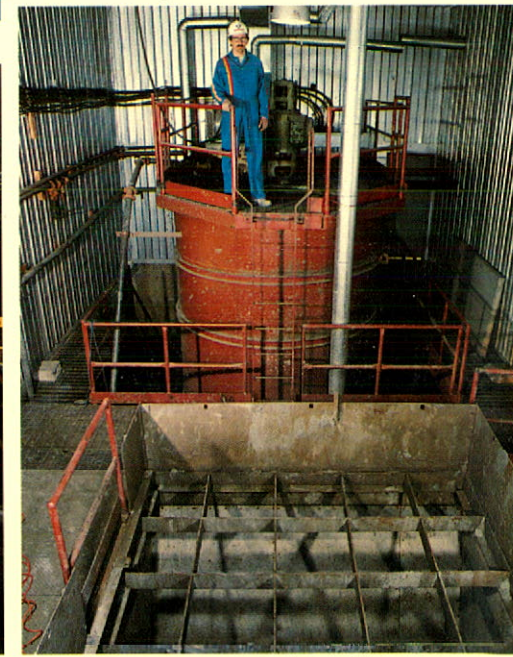
4 Conveyance to GOMILL fine ore bin



5 GOMILL grinding floor



6 GOMILL flotation and filter floor



7 Custom concentrate load in