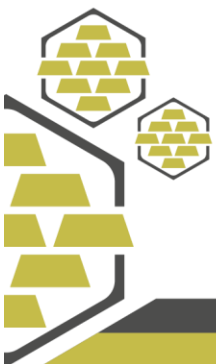
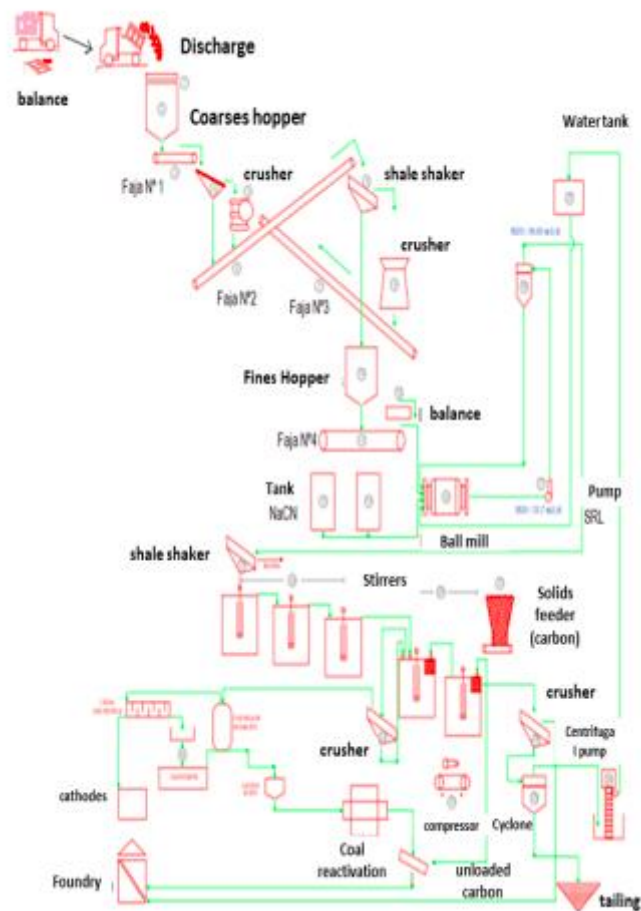


350 MT / DAY MINERAL PROCESSING PLANT AND REFINERY CONSTRUCTION PROJECT

(FLOW DIAGRAM)



DESCRIPTION OF THE PROCESS

A) Minerals Reception Area

Weighing of minerals: All vehicles loaded with ore entering the plant will be weighed by batches on the 60 MT capacity scale and then unloaded into the coarse hoppers of the crushing circuit, according to the batch registration code of the suppliers.



B) Crushing.

Crushing circuit.

The ore from the coarse hopper is discharged through a gate control to conveyor belt No° 1, which in turn transports the coarse ore to the 16 "x24" primary crusher. The primary crushed product is conveyed to the 4'x7' 3/8" mesh vibrating screen through conveyor belt #2. The classified ore -3/8" (100%) is received by the front loader and deposited in the reception area for subsequent sampling.

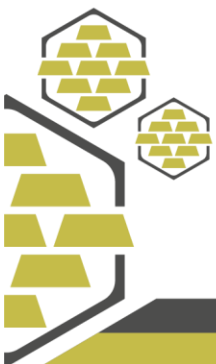


The coarse ore from the +3/8" screen is taken by conveyor belt No. 3 to the 2 PZ conical crusher, whose product returns to the vibrating screen for classification through belt No. 2, which create a closed circuit of crushing and constant classification, under the belt are located dump trucks that will transport to the fines field for sampling, and once approved the batch of ore is transported by a front-end loader to the hoppers of fines.



Crushing circuit-II:

This circuit is used in case crusher I is inoperative. The ore from the coarse hopper is discharged through a gate control to the conveyor belt, which in turn transports the coarse ore to the 16 "x24" primary crusher. The primary crushed product is conveyed through the conveyor belt to the 4'x8' 3/8" mesh vibrating screen. The classified ore - 3/8" (100%) is received by wheelbarrows and deposited in the reception area for later sampling. The coarse ore from the +3/8" screen is discharged directly into the 2" conical secondary crusher, whose product is transported to the screen for classification.





MINERAL STORAGE TRACK

There is an ore storage yard for the storage of different lots of ore, of different tonnages and volumes, once the ore has been crushed. The dimension of the ore field is 80 x 60 mts. of natural soil of the area, profiled and compacted. The total capacity of the ore pit is 4800 tons, resulting from the sum of the different lots distributed and managed in stock pile.



SAMPLING OF ORE

The ore deposited in the reception area is sampled and pulverized in the 1' x 2 ½' powder mills for 40 minutes. The pulverized ore will be quartered and distributed in 4 envelopes:

- 1 for supplier.
- 1 for chemical laboratory (analysis).
- 1 for re-sampling if required.
- 1 for metallurgical analysis.



C) Cyanidation plant.

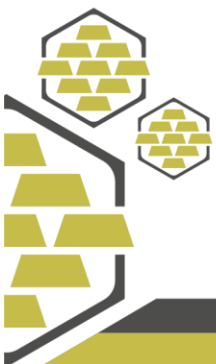
Grinding Circuit 1:

The grinding circuit operates one 5'x5' mill and two 3'x5' mills (regrinding).

The 3/8" grain size ore deposited in the fines hopper is discharged through a gate to the 8 m. x 18' feed belt, which transports and feeds the 5'x5' mill to perform the wet milling process in a continuous system. The discharge from the 5'x5' mill passes to the 2 "x2" pulp pump, which pumps to the D-4 hydrocyclone, to perform the overflow and underflow classifications respectively.

The overflow enters directly to tank N°1 and the underflow returns to the 3'x5' mill for regrinding. The discharge from this mill enters by gravity to the 3'x5' regrind mill and its discharge is pumped to the cyclone circuit.

It should be noted that the cyanidation process starts in the mills, since together with the ore and water, cyanide solution and caustic soda are being



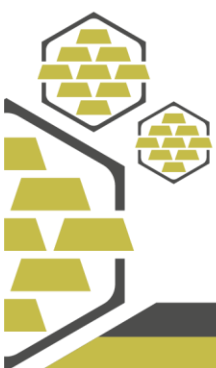
dosed, which simultaneously turns the mill into a reactor where 60% of the cyanidation is carried out.

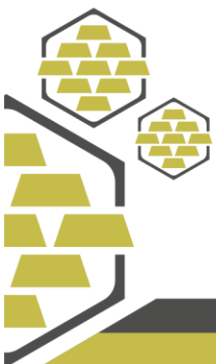
D) Cyanidation of minerals.

The fines from the hydrocyclone (overflow) are sent to tank No. 1, 15'x15' to continue with the cyanidation process, being this tank exclusive for cyanidation (leaching) and at the same time continuing with the addition of cyanide and pH control. The fact that 60% of the cyanidation is carried out in the mill, allows this tank to continue simultaneously with the dissolution of the remaining 40% of the gold.

Adsorption:

- Cyanidation starts with the addition of dilute sodium cyanide solution in a basic medium to dissolve the gold contained in the ore pulp.
- Basicity is controlled at 10.5 pH and the cyanide strength is 3%. The pH is regulated by adding sodium hydroxide and lime.
- In order to restart the milling process, which is where cyanidation begins, soda must be fed in solid form by means of a disc feeder.
- The fine mineral pulp, with a concentration of 32% solids, will enter the cyanidation tanks.
- The cyanidation time is 70 hr, to obtain a minimum of 90% gold recovery.
- The ore slurry flows by gravity from the first to the fifth tank, and the activated carbon will be transferred in countercurrent from the last tank to the first tank.
- The pulp continues its flow through the leaching tanks in which the adsorption of the gold complex by the activated carbon (carbon in pulp CIP) takes place and in parallel the cyanidation process continues, resulting in a continuous process with better control.
- From the first tank the pulp passes successively to the second, third, fourth tank; the 4 tanks are arranged in cascade, so that the pulp is transferred by gravity. The second, third, fourth tank is provided with a screen 20 at the discharge point of the pulp, to prevent the outflow of the activated carbon.
- From the first tank the pulp passes successively to the second, third, fourth tank; the 4 tanks are arranged in cascade, so that the pulp is transferred by gravity. The second, third, fourth tank is provided with a screen 20 at the discharge point of the pulp, to prevent the outflow of the activated carbon.
- For adsorption, 10 grams of activated carbon per liter of pulp is added to each of the tanks to adsorb the dissolved gold during the 2-day cyanidation, after which the carbon will reach an adsorbed gold load of 1.2 and 5.2 gr/Kg, respectively.







Activated Charcoal Harvesting:

Activated carbon is a highly porous solid, produced by controlled carbonization of carbonaceous raw material. The charcoal is placed in the agitation tanks and as the gold dissolves, it is trapped by the charcoal.

Because the enrichment of the activated carbon takes place from the third tank. The carbon harvests will also be carried out from this tank and the pulp will be degraded throughout the circuit, thus obtaining a good recovery percentage.

The pulp with the loaded coal is discharged through a valve into a harvesting bin where the coal is washed and the pulp recirculated through a 2 "x2" pulp pump to another tank, and the coal is transferred to the desorption reactors.



- CALCULO DE TONELAS DE CARBON ACTIVADO POR TANQUE

kg-carbon/m3	kg-carbon/Tanque	TM-carbon/Tanque
8.32	2023.52904	2.02

Distribucion de carbon en tanques de Cianuracion:

Contenido de carbon	kg -Carbon / Tanque	Desgaste de Carbon
Tanque de 15'x15'- N°1	1200	10
Tanque de 15'x15'- N°2	950	8
Tanque de 15'x15'- N°3	950	8
Tanque de 15'x15'- N°4	750	6
	3850	32 kilos de carbon por campaña de 20 días / mes

CALCULO DE INSUMOS QUIMICOS PARA EL PROCESO

De acuerdo a las pruebas Metalurgicas se tiene :

consumo de soda Caustica : 5 kgr/tonelada

consumo de cianuro de Sodio : 2 - 5 kgr/tonelada

E) Tailings disposal:

Tailings from this process are sent to the tailings pond. Water is separated from the sludge, collected and then pumped to the circuit to feed the metallurgical processes.



F) Desorption

The harvested coal is deposited in reactors with current installed capacity for the treatment of the projected volumes of the beneficiation plant.

This carbon will be under the action of a recirculating solution composed of 10% alcohol, 0.1% cyanide and 2% caustic soda that is prepared in the solution reactor, this solution is brought to temperatures between 80°C and 90°C, and is fed through the lower part of the reactor and discharged through the upper part of the same, and this in turn passes through the electrolytic cells returning again to the solution reactor. The gold goes into solution, forming a rich electrolyte which is deposited on the cathodes contained in the cells, thus forming a gold-rich mass known as cement.

The cement is taken to the foundry and the bullnose is obtained.

Chemical Refining:

Refining consists of obtaining the gold and silver with the highest purity by separating the metallic elements that accompany it in the bullion (40-50% Au, 20% Ag and the rest Cu, Pb, Zn, Fe, Hg etc.). For this purpose, it is subjected to a chemical attack with a hot nitric acid solution (85%), then it is smelted again and highly pure metallic gold is obtained.

Chemical Reactivation of Coal:

The coal product of the adsorption process tends to lose its efficiency due to the impurities and various elements that it usually adsorbs on its surface. For this reason, the desorbed coal is discharged into a pool and washed with hydrochloric acid. At the end of the operation, the coal recovers most of its adsorption efficiency.

Chemical Laboratory - Chemical Analysis:

As in every mineral processing plant, this one has a laboratory for chemical analysis and daily controls of plant operation samples and analysis services to third parties (suppliers).

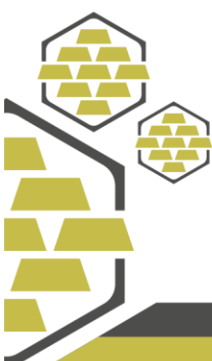
The sample coming from reception is previously dried and pulverized in the ring pulverizers.

A representative sample of 20 g. is taken, prepared in crucibles by adding litharge, borax, urea, silica and melted in muffles at a temperature of 1000oC for one hour.

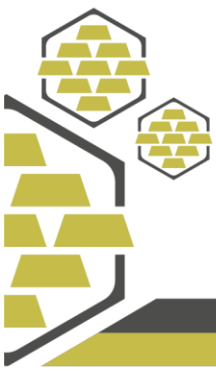


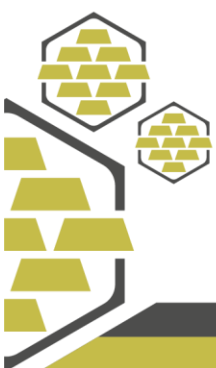
From the smelting product, some granules are obtained, which are again taken to the copelation muffle to eliminate the lead contained in the sample, thus obtaining the gold and silver buttons.

These buttons are chemically attacked in porcelain crucibles with 20% nitric acid at a temperature of 80°C on attack plates.



GOLD, SILVER OR COPPER REFINING FURNACES





SIMPLIFIED DESCRIPTION:

In order to advance in the project, I will detail general concepts related to the extraction, processing and refining of minerals.

- 1- Implement the necessary machinery to carry out 5 labores of mineral extraction in our own petition.
- 2- Buying the ore from the miners in the sector, offering them a better profit.
- 3- To offer processing plant services to mining companies in the sector.
- 4- Implement the necessary transportation to supervise and transfer the cargo to the processing plant (TOYOTA 4X4 trucks, mining dump trucks).
- 5- To hire qualified personnel for the extraction of the mineral in our deposits (geological engineer, drilling chief, assistant drilling chief, laborers, etc).
- 6- Hire qualified personnel for the management of the processing and refining plant (plant manager, chief guard, plant mechanic, electrical mechanic, crushing assistant, ore unloading assistant, powdering assistant, tanker assistant, milling assistant, security guards, environmental safety manager, laboratory manager, laboratory assistants, pailoader operator, nurse, cook, kitchen assistant, administrator, accountant, multifunctional lawyer, etc).
- 7- Full Permits for the construction of the processing and refining plant.

CONCLUSION:

In order to reduce costs we can compare quotations from abroad (USA, China, Japan or any other country) with costs in Peru.

By getting the full permits for the processing and refining plant according to Peruvian law you could export the gold, silver and copper to any country you have available.

Best regards Shmuel.

