TECHNOLOGY OF PRODUCING GOLD-CONTAINING CONCENTRATES FROM PERSISTENT Au-, As-CONTAINING ORES AND RECOVERING METAL GOLD

Description
The highly effective technological schemes for enrichment and hydrometallurgical processing of concentrates of persistent Au-, As-containing ores to produce metal gold are developed.

The combined technologies for ore-dressing including the preliminary enrichment to separate gold and accompanying minerals into concentrates and subsequent treatment with application of chemical metallurgical processes are developed on the basis of studies of physical and chemical properties of ledge ores, peculiar to different deposits. In addition, there were worked out technologies without preliminary mechanical enrichment applying hydrometallurgical processes on the basis of oxidizing roasting, autoclave oxidation and sorption leaching with extraction of gold more than 96%.

The separation of gold from persistent Au-containing ores to concentrates with the content of gold 50÷1000 g/t is carried out using various combinations of methods of gravitational and flotation ore-dressing.

Technical appraisal and economic benefits
The developed technologies ensure ecological safety in the course of processing As-containing ores - recycling arsenic and its compounds. Due to the use of new reagent modes the offered technologies provide high parameters of the technological process of processing persistent raw materials.

Application areas
Mining technology, enrichment of Au-containing ores, and extraction of gold from persistent ores.

The technological scheme of an enrichment process.
**Development stage**
The technologies are adopted at the mining-metallurgic combine “Altyn Aimak”, Republic of Kazakhstan.

**Commercial offers**
License agreement, joint venture.

**Estimated cost**
Contractual price.

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