

Zagadka deposit (Bakyrchik ore field)

Abay region

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Location: Situated in the Zharminsky District, 3 km west of the deposit and the Bakyrchik mining enterprise of the same name , 51 km east of the Shar railway station, 160 km southeast of Semipalatinsk and 90 km southwest of the regional centre of Ust-Kamenogorsk. **Brief geological description:** The history of geological exploration of the ore zone of the Zagadka site is closely linked to the exploration of the Kyzylvskaya shear zone and the discovery of the Bakyrchik deposit . Exploration (search and exploration work) of the site was carried out from 1962 to 1974 , in 1996 verification work was carried out at the site to check the data obtained during previously conducted geological exploration work. In terms of geological and structural position, control of mineralization, and mineral composition of ores, the ore zone of the Zagadka site is a complete analogue of the Bakyrchik deposit . Six ribbon-shaped ore bodies and 12 lenses have been identified on the site.

According to the degree of complexity of the geological structure, the Zagadka site is classified as group 3.

The bulk density of oxidized ores at the Zagadka deposit was determined by selecting pillars, followed by waxing of the samples. Four samples were selected. The bulk density of the waxed samples was 2.42 t/m³.

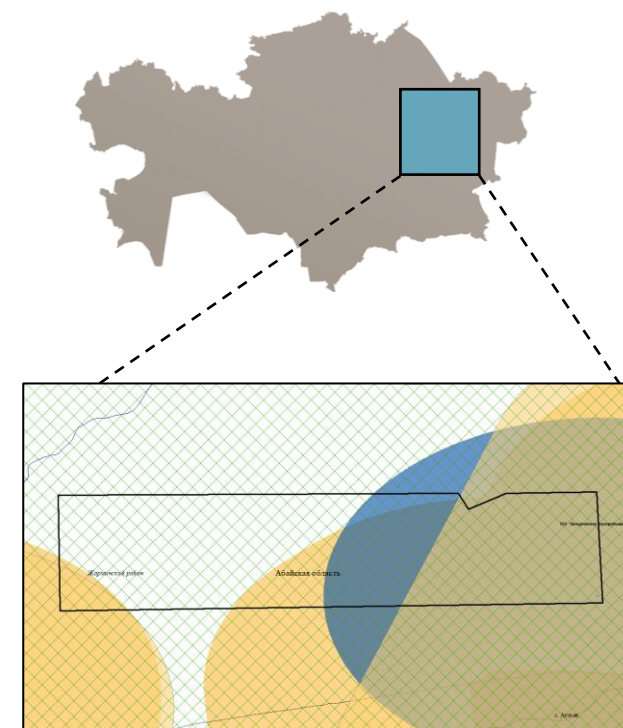
The bulk density of oxidized ore for calculating reserves, taking into account the natural moisture content determined from 30 samples and equal to 1.5%, is taken to be 2.48 t/m³


The results of technological experiments show the possibility of processing oxidized ores of the Zagadka deposit using the cyanidation method with high gold extraction (90-92%), while the gold content in the enrichment tailings is 0.35 g/t.


Engineering and geological conditions are adopted similar to those of the surveyed mining quarries of the region (Chalobai , Bakyrchik , Alaigyr sections) with a depth of up to 25 m and a standing time of 15–25 years, and are characterized as simple.


Extract from the state inventory records as of 01.01.2024.


Useful component	Balance reserves	Off-balance sheet reserves
gold	C2 – 105.0 kg	-



 - the territory included in the PUGFN for solid mineral extraction (Zagadka field (Bakyrchik ore field), for further auctioning

 - licenses for GIN

 - buffer zone of a populated area

 - buffer zone of the cattle burial ground