

Kokpektinskoye deposit

Aktobe region

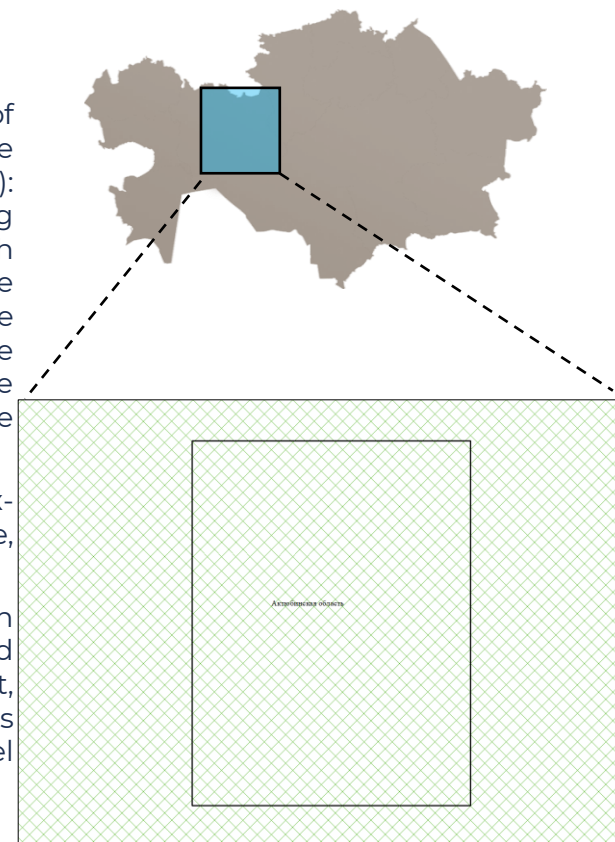
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Location: located 12 km west of the city of Khromtau and 8 km southeast of the Nickel-Tau railway station in the Aktobe region.

Brief geological characteristics: The deposit is confined to the weathering crust of serpentinites at their contact with the body of gabbroids that make up the Tygashasay anticline. Remnants of the weathering crust have been preserved on the slopes of a gentle watershed upland. Three mineral zones are distinguished in the section of the ore-bearing eluvium (from bottom to top): disintegrated and leached weakly nontronitized serpentinites, nontronite clays, ochereous weathering products and ochre-bearing clays. nontronites . All lithological varieties of eluvium are industrial ores of silicate nickel. The deposit consists of four ore bodies with a strike length of 70 to 1310 m and a width of 20-490 m with a thickness of 1 to 28.3 m, averaging 4.4 m. The depth of the roof of the ore bodies varies within 0.8-19.4 m. Their shape is isometric and irregular in plan with sinuous outlines, stretched in the submeridional direction according to the strike of the contact of serpentinites with gabbroids . In the section, the ore bodies are tabular deposits lying horizontally with a variable thickness due to pocket-like depressions at their base. On the periphery of ore body No. 1, seven bodies of substandard cobalt-nickel ores measuring from 20x40 to 40x80 m with a thickness of 1.7-8.8 m have been identified. Due to the low content of useful components, these ores are classified as off-balance.

The main ore mineral, nontronite, makes up about 90% of the rock and occurs as a homogeneous brown-green clay mass or wax-like clusters in the form of nests. Secondary minerals , kerolite , nickel-bearing chlorite, asbolane, and cobalt-bearing psilomelane, make up 2-3% of the rock volume. They occur in the form of nests, veins, and drip crusts in the leaching voids of serpentinites.

According to the chemical composition of the ore, the deposits are divided into two technological types: ferrous-magnesian, which makes up about 65% of the cobalt-nickel ore reserves, and ferrous - 35%. The first type includes ochereous weathering products and nontronites , the second - weakly nontronitized and leached serpentinites. The ores are distinguished by a high silica content, averaging 48.3% and a low iron content - 23.5%, which necessitates their blending with low-melting ferrous ores from other deposits and limestone. At the same time, the extraction of nickel into commercial products is 70.9%, cobalt - 28.5%. The average nickel content in the ore is 1.22%, cobalt - 0.061%, copper - 0.005%, chromium oxide - 1.19%.



Extract from the state inventory records as of 01.01.2024.		
Useful component	Balance reserves	Off-balance sheet reserves
nickel	A+B+C1 – 3.3 thousand tons	0,1 thousand tons
cobalt	A+B+C1 – 181 tons	29.0 tons

- the outline of the Kokpektinskoye deposit, included in the PUGFN for solid mineral extraction, for auction
- license for GIN