

# Shcherbakovskoye deposit

## Aktobe region

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**Location:** The Shcherbakovskoye deposit was discovered in 1955 during drilling testing of magnetometric anomalies. It is located 3 km east of the Nikel-Tau railway station and 20 km south of the Batamshinsky urban settlement in the Aktobe region.

**Brief geological characteristics:** Industrial mineralization is localized in the weathering crust developed at the contact of apoperidotite serpentinites and gabbro-amphibolites and preserved as separate spots on gentle slopes of the watershed surface. The weathering crust is represented by a reduced profile in which two zones are distinguished: nontronitized serpentinites and ocherous weathering products. The eluvium thickness does not exceed 30 m. The deposit is represented by three ore bodies spaced 30-100 m from each other. The shape of the ore bodies in plan is irregular with sinuous outlines. In the section, the ore bodies have a sheet-like shape, horizontal occurrence and high variability of thickness due to the complex configuration of the base of the ore bodies with pocket-like depressions. The extent of the ore bodies along the strike varies within 70-1760 m with an average width of 85 m, thickness from 1 to 26 m, on average 6.9 m. The total area of the ore bodies is 472955 sq. m, the depth of the roof from 0.2 to 28 m. According to the cutoff nickel content of 0.5%, four ore bodies with off-balance reserves of an area from 14 to 525 thousand sq. m are outlined.

The main ore minerals are nontronite, nickel-containing chlorite, and the secondary ones are kerolite, garnierite, and asbolane. Nontronite makes up about 40% of the rock in the form of aggregate clusters of scaly grains of green and brown color. Chlorite forms dense massive aggregates and individual small scales. The amount of asbolane in the ore is about 1%. It occurs in the form of drip crusts and thin veins.

Three technological types of ores have been identified at the deposit: ferrous, which make up 85% of the reserves, magnesite - 13% and siliceous - 2%. The nickel content in balance ores is on average 1.1%, cobalt - 0.04%, copper - 0.03%, chromium oxide - 2.5%. Technological tests have shown unsatisfactory sintering of the ores and the need to add them to ores from other deposits.

Extract from the state inventory records as of 01.01.2024.

Useful component	Balance reserves	Off-balance sheet reserves
nickel	A+B+C1 – 1.4 thousand tons ,	17.1 thousand tons
cobalt	A+B+C1 – 80 tons	829 thousand tons

