



CRM of Ukraine Database Supplements

Mineral target:	Pushkivske deposit
Commodity:	Nickel and cobalt ores

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Project	101075609 — GSEU — HORIZON-CL5-2021-D3-02
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Supplement status	
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Location: the deposit is located at a distance of 0.5 km to the south East from Pushkove village of Golovaniv district, Kirovograd region.

Research: geological exploration work was carried out in 1952-1958, reserves were approved by GKZ protocol No. 2594 dated 02/14/1959.

Geological characteristics: The Pushkivskiy massif has dimensions of 800×100-200 m, is elongated in the north-west direction and is composed of serpentinites and amphibolites. Serpentinites form two separate bodies. The geological structure of the deposit includes Proterozoic formations covered by a sedimentary layer of sand-clay deposits of the Baltska Suite of the Neogene age (15.0 - 20.0 m) and loams and clays of the Quaternary system (10.0 - 18.5 m). The structure of the weathering crust is characterized by vertical zonation:

1. zone of nontronites;
2. zone of nontronitized serpentinites;
3. zone of carbonated serpentinites.

Silicate cobalt-nickel ores are confined to the weathering crust of serpentinites, as well as amphibolites. In petrographic terms, they are represented by nontronites, iron-bearing nontronites, nontronite-chlorite rocks, less often ochres, brown ironstones and nontronitized serpentinites. Two ore bodies are distinguished within the deposit. The first ore body is stretched in the meridional direction and is 240 m long and 120 m wide in the central part. The second is stretched in the north-western direction and has a length of 450 m and a width of 170-240 m. The thickness of the first ore body is not constant and varies from 1.0 to 14.0 m, the average is 5.93 m. The nickel content varies from 0.58 to 1.23%, on average 0.89%. The second ore body has a thickness from 1.0 to 22.7 m, on average - 6.51 m. Nickel content varies from 0.51 to 1.33%, on average - 0.93%; in general, the average content of nickel is 0.91%, cobalt - 0.044%, iron - 23.49%. Off-balance ores have an average thickness of 4.51 m with a nickel content of 0.42%, cobalt - 0.026%, iron - 24.44%.

According to the conditions of occurrence of ore deposits, they belong to placid bodies. The depth of ore deposits is from 6.0 to 68 m.

According to the results of technological studies, it was established that it is advisable to process the ore by electrosmelting with the obtaining of 90-95% of nickel and 80-90% of cobalt.

Hydrogeological and mining-geological conditions are favorable for its development in an open-cast way.

Mineral reserves: cobalt-nickel silicate ores, thousand tons/ nickel, thousand tons/cobalt, tons: C1 – 892.0 / 6.1 / 304.0; off-balance - 354.0 / 1.1 / 70.0.

Degree of development: not being developed.