



CRM of Ukraine Database Supplements

Mineral target:	Lypovenkivske deposit
Commodity:	Nickel and cobalt ores

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Location: Golovanivskiy district, Kirovograd region, near the western outskirts of the Lypovenke village. The deposit is represented by two sites - Western and Shkilna. The Western site is located 600 m west of the Lypovenke village. The Shkilna site is located on the right bank of the Mokra Derenyukha river.

Deposit size: 42.3 ha.

Research: chrome ores in Middle Pobuzhzhia were discovered in 1952 during the exploration of the Kapitanivske silicate-nickel deposit. Based on the results of geological prospecting from 1953 to 1958, reserves of chrome ores were calculated and approved by the State Committee of the USSR (protocol No. 2735 dated 16.07.1959); reserves of silicate-nickel ores were approved by the State Committee of the USSR (Protocol No. 2594 dated 14.02.1959).

Geological characteristics. It is located within the southwestern slopes of the central part of the Ukrainian Shield. Chromite ores of the Lypovenkivske deposit on the block are located west of the village, where blocks of amphibolites and biotite gneisses merge together. In the Western site, chromite ores are represented by three bodies of massive (dense) and densely interspersed ores. The bodies have a lenticular shape. Chromite ores of the Shkilna site are represented by a number of small lenticular bodies. The thickness of the ore bodies of polymetallic ores is up to 15 m, the length is 60-80 m. The ores are massive, dense, rarely scattered. Contacts are often clear, sharp, straight or tortuous, changes in contacts are not observed. Massive (dense) ores with an average chromium oxide content of 36.1-43% do not require enrichment. Dense ores with an average content of useful components from 22.7% to 31.1% require enrichment.

Exploration has shown that the best results can be obtained by gravity. Thus, from the original ore with a chromium oxide content of 36.5% (dense ores) and 23.6% (dispersed) when crushed to 0.16 mm, concentrates with an oxide content of 46.5% and 42%, respectively, were obtained, the recovery is 83.9% and 73.8%. A significant part of chrome ores is associated with the remnants of ultrabasic rocks and contains nickel and cobalt in industrial concentrations. The development of cobalt + nickel ores is expected to be carried out by open-cast method. This method will allow, together with cobalt-nickel ores, to extract a significant part of chromite ores, which are represented by a loose variety.

The average nickel content in the Western site is 1.09% for category A; 0.92% for category B; 0.86% for category C1. The average cobalt content is 0.064%, 0.048%, 0.044%, respectively. In the Shkilna site, the average nickel content is 0.92%, and cobalt -0.056% in the C1 category. Off-balance reserves in categories B and C1 were calculated based on the content of nickel, cobalt and the ores types. The average content of nickel in category B is 0.41%, and in category C1 - 0.46%. The average cobalt content is 0.029% for both categories.

The total number of reserves is taken into account by the State Inventory as follows:

chrome ores (in general for deposit): ore C1– 1,061 thousand tons; Cr₂O₃ – 416.0 t.

Cobalt-nickel silicate ores:

Western site:

ore: A – 749.0 thousand tons, B – 1,887.0 thousand tons; off-balance – 820.0 thousand tons;

nickel: A – 3,907 thousand tons, B – 10.6 thousand tons; off-balance - 2.8 thousand tons;

Shkilna site:

ore: B – 2,058.2 thousand tons, off-balance – 2,405.0 thousand tons;

nickel: B - 13,633 thousand tons, off-balance – 8 thousand tons.