

Growth projects

MASLOVSKOYE DEPOSIT

The Maslovskoye deposit is located in the Norilsk Industrial District, 12 km south of Norilsk. Geologically, the deposit is part of the Norilsk Ore Cluster. The Company received the licence to explore and mine the Maslovskoye deposit's platinum-copper-nickel sulphide ores upon its discovery in 2015.

Reserves

A feasibility study of permanent exploratory standards and a reserve statement for the Maslovskoye deposit were approved by the State Commission for Mineral Reserves of the Russian Ministry of Natural Resources and included into the State Register of Mineral Reserves.

B + C1 + C2 mineral reserves

Item	Reserves	Metal grade
Total ore	206.8 mln t	-
Palladium	33,087 koz	5.0 g/t
Platinum	13,040 koz	2.0 g/t
Nickel	711 kt	0.3%
Copper	1,098 kt	0.5%
Cobalt	26 kt	0.01%
Gold	1,268 koz	0.2 g/t

BUGDAINSKOYE DEPOSIT

The Bugdainskoye molybdenum deposit lies in the Alexandrovo-Zavodsky District of the Zabaykalsky Region, 30 km north-west of Alexandrovsky Zavod. Its mineral reserves were included into the State Register of Mineral Reserves in 2007. In 2014, Nornickel halted the development of the Bugdainskoye deposit for three years amid a low-price environment across the global molybdenum market, and in 2017 extended the suspension of operations for another five years, until 31 December 2022.

B + C1 + C2 mineral reserves

Item	Reserves
Ore	813 mln t
Molybdenum	600 kt
Gold	360 koz
Silver	6,221 koz
Lead	41 kt

BYSTRINSKO-SHIRINSKOYE DEPOSIT

The Bystrinsko-Shirinskoye gold ore deposit is located 24 km south-east of Gazimursky Zavod in the Zabaykalsky Region. The licence area shares a boundary with the Bystrinskoye deposit. In 2021, the Company developed the necessary document package to enhance the exploration project design. In 2022, Nornickel will submit a final reserve statement for the site to the government authorities responsible for managing subsoil assets.



DEPOSITS

TALNAKH ORE CLUSTER

To unlock the full potential of its deposits supporting existing operations and determine the best configuration for new operations, Nornickel explores the Talnakh Ore Cluster deposits, ensuring increases in high-grade and cuprous ore reserves.

Eastern flank of the Oktyabrskoye deposit

Surface exploration was conducted in 2020–2021. The project uncovered new high-grade ore zones as well as further defined the boundaries and delivered a detailed geology of the high-grading ore reserves within the Severnaya 3 and Severnaya 4 deposits. The state expert review found the reserve statement compliant with applicable regulations, with the rich ore reserves of these deposits included into the State Register of Mineral Reserves.

Western flank of the Oktyabrskoye deposit

In 2017, Nornickel obtained an exploration licence to prospect for, and appraise, mineral deposits within the western flank of the Oktyabrskoye deposit. The exploration licence area shares a boundary with the already licensed mining area at the Oktyabrskoye copper-nickel ore deposit. In 2021, prospecting for the project was completed. Preliminary estimates of the Zapadny section suggest potential reserve growth of 500 kt in high-grade copper and nickel ores, 2,140 kt in cuprous ores, and 546 kt in disseminated ores. Appraisal phase exploration activities will continue in 2022, to be followed by a state expert review and approval of the reserves by the State Commission for Mineral Reserves.

DEPOSITS

NON-METALLIC MINERAL

Mokulayevskoye deposit

The Mokulayevskoye limestone deposit lies 10 km north-west of the production sites of the Oktyabrsky and Taimyrsky Mines. The mining licence for this limestone deposit was obtained upon its discovery in 2017. In 2018, the State Commission for Mineral Reserves of the Russian Ministry of Natural Resources reviewed the feasibility study of permanent exploratory standards and the reserve statement for the deposit, and included its limestone reserves into the State Register of Mineral Reserves for potential use in cement and lime production and in sulphuric acid neutralisation. The deposit can be developed through open-pit mining.

Its B + C1 + C2 balance reserves of limestone are 135,661 kt.

Building stone (dolomite) reserves at 1.2 million m³ were confirmed by an exploration programme conducted in 2021. The measured reserves will be used to construct in-pit roads to enable the deposit's further development.

Ozero Lesnoye deposit

The deposit is developed within licence area No. 1 of the Ozero Lesnoye deposit located 22 km north of Norilsk. In 2017, Nornickel obtained a survey, exploration and mining licence for the magmatic basalt reserves of the Ozero Lesnoye deposit (licence area No. 2), which is adjacent to licence area No. 1.

Following a review of the 2019 feasibility study of permanent exploratory standards and the reserve statement, the deposit's basalt reserves were included into the State Register of Mineral Reserves for potential use as inert reinforcement for backfill concrete in underground mines. The C1 + C2 balance reserves of basalt are 187,911 thousand m³.

In 2022, Nornickel is planning to update its reserve estimate for the deposit's two licence areas and start working on a single detailed geological study to ensure the continuous production of magmatic basalts from the Ozero Lesnoye deposit.

Gribanovskoye deposit

In 2020, Nornickel obtained an exploration and mining licence upon the discovery of the Gribanovskoye deposit, located on the Yenisey River, 22.5 km south of Dudinka. Exploration phase activities were completed, and a pilot operation was started at the deposit in 2020. A state expert review of the feasibility study of permanent conditions and the reserve statement was conducted in 2021. 87,798 kt of sand reserves used for operational needs were confirmed as C1 + C2 reserves.

Gorozubovskoye deposit

In 2020, following further examination of the deposit's flanks carried out as part of follow-up exploration of the Gorozubovskoye anhydrite deposit, the reserves were reclassified from C2 to C1. As a result, the deposit's reserves were recalculated. A certificate issued by the State Commission for Mineral Reserves confirmed the parameters of updated standards; anhydrite reserves were confirmed as follows: C1 balance reserves at 81,830 kt, C2 balance reserves at 12,484 kt, and A + B + C1 + C2 off-balance reserves at 1,640 kt.



PROMISING AREAS

Yuzhno-Norilskaya area

The Morongovsky and Yuzhno-Yergalakhsky copper-nickel sulphide ore prospects lie within the Yuzhno-Norilskaya area, located 30 km south of Norilsk. In 2019, Nornickel obtained exploration licences to prospect for, and appraise, deposits within the area. In 2021, prospecting drilling was conducted across prospects. A report on the area's potential is to be prepared in 2022 upon the completion of chemical and analytical studies and laboratory tests.

Mikchangdinskaya area

The Neralakhsky, Yuzhno-Neralakhsky, Snezhny, Yuzhno-Ikensky and Medvezhy copper-nickel sulphide ore prospects lie within the Mikchangdinskaya area, located 70 km north-east of Norilsk. Between December 2019 and April 2020, Nornickel obtained exploration licences to prospect for, and appraise, deposits within the area. In 2021, prospecting drilling was conducted at prospects identified by geophysical and geochemical prospecting across areal zones, which confirmed that the area has a potential for containing copper-nickel sulphide ores. Prospecting drilling is planned to continue in 2022.

Arylakhskaya area

The Yttakhsky, Samoyedsky and Mastakh-Salinsky copper-nickel sulphide ore prospects lie within the Arylakhskaya area, located 160 km north-east of Norilsk. In May 2020, Nornickel obtained exploration licences to prospect for, and appraise, deposits within the area. In 2021, prospecting drilling was started at prospects identified by geophysical and geochemical prospecting across areal zones. Prospecting drilling is planned to continue in 2022.

Alenuyskaya area

The Severo-Alenuysky and Yuzhno-Alenuysky gold-copper porphyry and epithermal gold-quartz mineralisation prospects lie within the Alenuyskaya area, located in the Alexandrovo-Zavodsky Municipal District of the Zabaykalsky Region. In February and March 2020, Nornickel obtained exploration licences to prospect for, and appraise, deposits within the area. In 2020–2021, the Company conducted geophysical and geochemical prospecting across areal zones and identified drilling targets to confirm the geology.

Mostovskaya area

The Zapadno-Mostovsky and Vostochno-Mostovsky gold-copper porphyry and epithermal gold-quartz mineralisation prospects lie within the Mostovskaya area, located in the Mogoichinsky District of the Zabaykalsky Region. In May 2020, Nornickel obtained exploration licences to prospect for, and appraise, deposits within the area. In 2020–2021, the Company conducted geophysical and geochemical prospecting across areal zones and identified drilling targets to confirm the geology.

Dogyinskaya area

The Severo-Dogyinsky and Yuzhno-Dogyinsky gold-copper porphyry and epithermal gold-quartz mineralisation prospects lie within the Dogyinskaya area, located in the Cazimuro-Zavodsky District of the Zabaykalsky Region. In March and April 2021, Nornickel obtained exploration licences to prospect for, and appraise, deposits within the area. In 2021, the Company conducted geophysical and geochemical prospecting across areal zones, to be continued in 2022 to further identify drilling targets to confirm the geology.

Shamyanskaya area

Zapadno-Shamyansky, Tsentralno-Shamyansky and Vostochno-Shamyansky prospecting areas of gold-copper porphyry mineralisation prospects lie within the Shamyanskaya area in the Zabaykalsky District of the Zabaykalsky Region. In September 2021, Nornickel obtained an exploration licence to prospect for, and appraise, deposits at the Zapadno-Shamyansky prospect. Subsoil licenses for the Tsentralno-Shamyansky and Vostochno-Shamyansky prospects are expected to be obtained in 2022.

