

# Mineral resource base

The Group’s mineral resources and ore reserves as at 1 January 2025

POLAR DIVISION <sup>1</sup> (copper-nickel sulphide ores)	Ore (mln t)	Metal grade						Contained metal					
		Ni (%)	Cu (%)	Pd (g/t)	Pt (g/t)	Au (g/t)	6 PGM (g/t)	Ni (kt)	Cu (kt)	Pd (koz)	Pt (koz)	Au (koz)	6 PGM (koz)
Total proven and probable reserves	1,373	0.69	1.18	3.03	0.82	0.17	4.00	9,460	16,216	133,721	36,272	7,311	176,391
Total measured and indicated resources <sup>2</sup>	1,995	0.73	1.17	3.00	0.83	0.17	3.98	14,552	23,289	192,604	53,282	10,837	255,292
Total inferred resources	837	0.67	1.17	3.00	0.80	0.18	3.97	5,590	9,793	80,632	21,579	4,808	106,925
Taimyr Peninsula													
Proven and probable reserves	1,206	0.70	1.31	3.45	0.93	0.19	4.54	8,477	15,754	133,564	36,165	7,263	176,115
Measured and indicated resources	1,573	0.75	1.39	3.80	1.05	0.21	5.03	11,756	21,913	191,969	52,875	10,565	254,179
Inferred resources	782	0.66	1.23	3.20	0.86	0.19	4.24	5,181	9,595	80,531	21,513	4,760	106,742
Kola Peninsula, disseminated ore <sup>3</sup>													
Proven and probable reserves	167	0.59	0.28	0.03	0.02	0.01	0.05	983	462	157	107	49	276
Measured and indicated resources	422	0.66	0.33	0.05	0.03	0.02	0.08	2,796	1,376	636	407	272	1,114
Inferred resources	55	0.75	0.36	0.06	0.04	0.03	0.10	408	198	102	66	48	182

TRANS-BAIKAL DIVISION <sup>4</sup> (gold-iron-copper ores)	Ore (mln t)	Metal grade				Contained metal			
		Cu (%)	Au (g/t)	Ag (g/t)	Fe (%)	Cu (kt)	Au (koz)	Ag (koz)	Fe (kt)
Proven and probable reserves	272	0.52	0.65	2.73	18.7	1,429	5,728	23,937	50,914
Measured and indicated resources	292	0.59	0.66	3.16	22	1,732	6,213	29,658	64,294
Inferred resources	43	0.61	0.4	3.41	4.15	258	544	4,671	1,768



<sup>1</sup> According to the JORC Code. In 2021, SRK Consulting (Russia) completed an estimate of mineral resources and ore reserves using its proprietary methodology.  
<sup>2</sup> Proven and probable ore reserves are included in measured and indicated resources.  
<sup>3</sup> Mineral resources and ore reserves at the deposits developed by the Kola site were estimated based on an updated methodology using resource modelling.  
<sup>4</sup> In 2021, CSA Global completed an estimate of the Trans-Baikal Division’s mineral resources in line with the JORC Code based on an updated resource model, which reflects both the complexity and diversity of the deposit’s ore types.



# Existing deposits

The Company conducts exploration in three regions of Russia – on the Taimyr and Kola Peninsulas and in the Trans-Baikal Territory. Through exploration at new and existing mine sites, Nornickel drives increases in its high-grade and cuprous ore reserves to support future production from existing sites, viewing it as a key driver of its long-term growth.



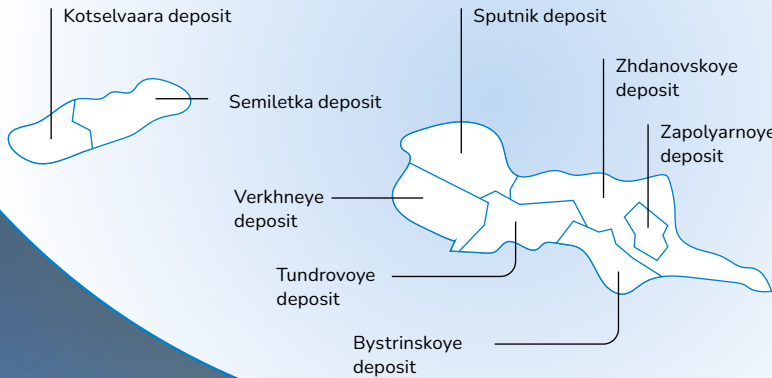
Given the current production rate, the available resources of copper-nickel sulphide ores will last for

**>70** YEARS,

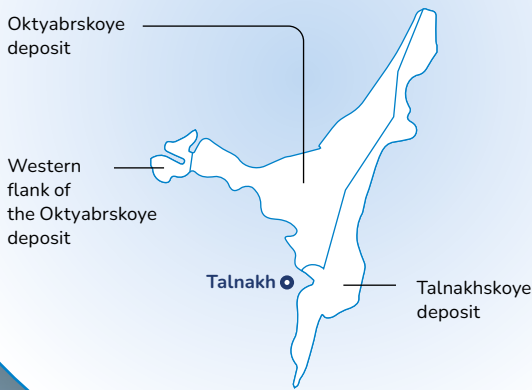
and those of gold-iron-copper ores – for

**>20** YEARS

Deposits: Zhdanovskoye, Zapolyarnoye, Bystrinskoye, Tundrovoye, Sputnik, Verkhneye

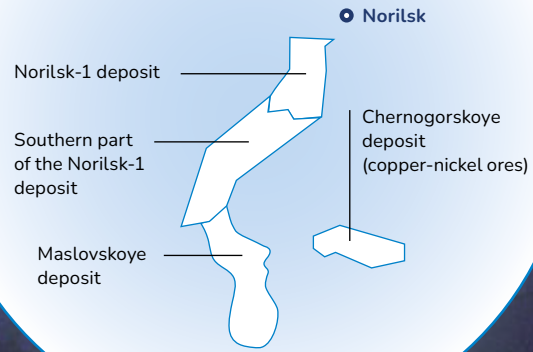


Deposits: Talnakhskoye and Oktyabrskoye





Deposits: Mokulayevskoye, Ozero Lesnoye, Gribovskoye, Gorozubovskoye, Kayerkanskoye

Deposit: Norilsk-1



Deposit: Bystrinskoye

-  Ore deposits
-  Non-metallic deposits



# Existing ore deposits

## Deposits: Talnakhskoye and Oktyabrskoye

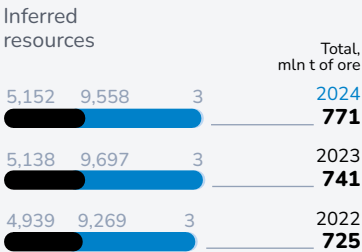
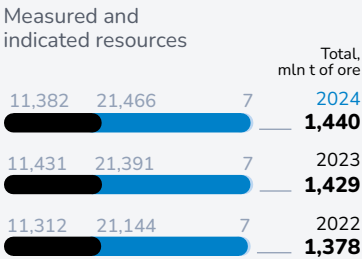
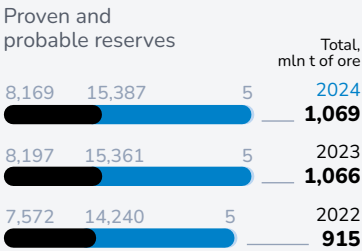
**Minerals:**  
copper-nickel sulphide ores.

**Location:** Krasnoyarsk Territory, Norilsk. Geologically, they form part of the Talnakh Ore Cluster and are being developed by the Norilsk site of the Polar Division.

The Company has been developing the Talnakhskoye and Oktyabrskoye deposits since the early 1960s, when multiple deposits of high-grade, cuprous, and disseminated ores were discovered within the area. Nornickel is still well supplied with non-ferrous and noble metals from the uniquely rich and vast resource base of the Talnakh Ore Cluster deposits.



### Reserves and resources of the Talnakh Ore Cluster deposits



● Nickel, kt    ● 6 PMG, kt  
● Copper, kt

## Deposit: Norilsk-1

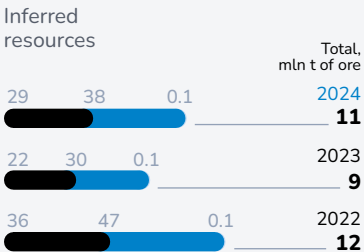
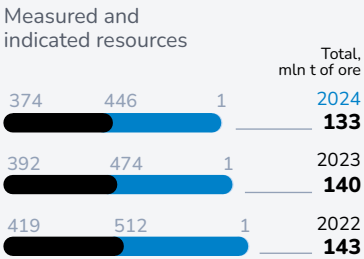
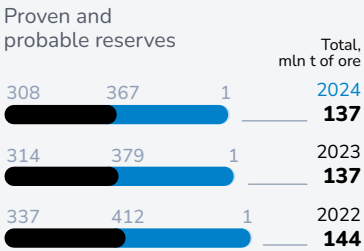
**Minerals:**  
copper-nickel sulphide ores.

**Location:** Krasnoyarsk Territory, Norilsk. Geologically, it forms part of the Norilsk Ore Cluster and is being developed by the Norilsk site of the Polar Division.

The Company has been developing Norilsk-1 since the 1930s, currently mining disseminated ores from the deposit's northern portion. In 2020, the deposit's resource estimate was updated against new permanent exploratory conditions for open-pit and underground mining.



### Reserves and resources of the Norilsk-1 deposit



● Nickel, kt    ● 6 PMG, kt  
● Copper, kt



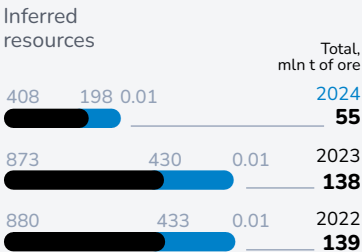
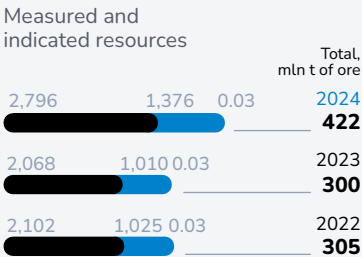
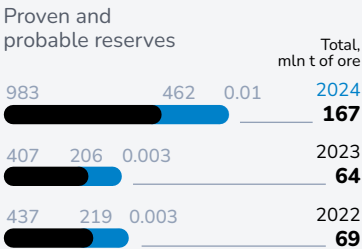
Deposits: Zhdanovskoye, Zapolyarnoye, Bystrinskoye, Tundrovoye, Sputnik, Verkhneye

**Minerals:**  
copper-nickel sulphide ores.

**Location:** Murmansk Region, Pechengsky District.

The deposits are located within a 25 km strip between Nikel and Zapolyarny and are grouped into two ore clusters: the Western cluster (the Kotselvaara-Kammikivi and Semiletka deposits, whose reserves were classified as off-balance following a state expert review and excluded from the 2024 estimate) and the Eastern cluster (comprising the Zhdanovskoye, Zapolyarnoye, Bystrinskoye, Tundrovoye, Sputnik, and Verkhneye deposits). The deposits in the Western and Eastern clusters have been developed since the 1930s and 1960s, respectively. The deposits are developed by the Kola site of the Polar Division.

Reserves and resources of the Kola site



• Nickel, kt      • 6 PMG, kt  
• Copper, kt

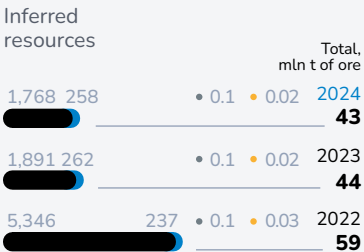
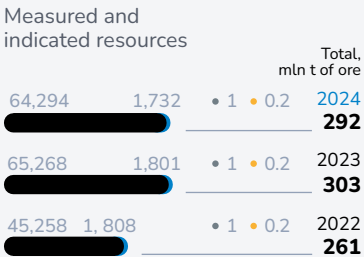
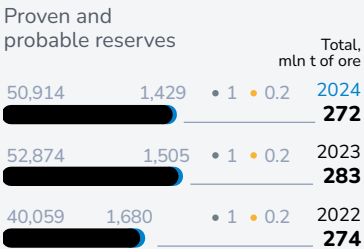
Deposit: Bystrinskoye

**Minerals:**  
gold-iron-copper ores.

**Location:** Trans-Baikal Territory, Gazimuro-Zavodsky Municipal District.

The Bystrinskoye deposit has been developed by the Trans-Baikal Division since 2017. Mining operations are carried out at two open pits: Verkhne-Ildikansky and Bystrinsky-2, with two more — Medny Chainik and Yuzhno-Rodstvenny — scheduled to come online in 2030.

Reserves and resources of the Bystrinskoye deposit



• Iron, kt      • Silver, kt  
• Copper, kt      • Gold, kt



## Existing non-metallic deposits

### Deposit: Mokulayevskoye

**Minerals:** limestone.

**Location:** Krasnoyarsk Territory, Taimyrsky Dolgano-Nenetsky Municipal District.

In 2018, following the discovery of the Mokulayevskoye limestone deposit located 10 km north-west of the production sites of the Oktyabrsky and Taimyrsky Mines, an exploration and mining licence was obtained for its development. In 2018, the State Commission for Mineral Reserves of the Russian Ministry of Natural Resources reviewed the feasibility study of permanent exploratory conditions and the reserve statement for the deposit. The deposit's limestone reserves — amounting to approximately 136 mln t — were entered into the State Register of Mineral Reserves for potential use in cement and lime production as well as for sulphuric acid neutralisation. The deposit can be developed through open-pit mining.

In 2022, an exploration campaign was conducted to look into dolomite overburden within the Mokulayevskoye limestone deposit, and since 2023 the Company has been mining limestone at the site.

### Deposit: Ozero Lesnoye

**Minerals:** magmatic rock (basalts).

**Location:** Krasnoyarsk Territory, Norilsk.

Located 22 km to the north of Norilsk, the deposit consists of two adjacent licence areas (No. 1 and No. 2) which share a common boundary. The deposit is developed within licence area No. 1. In 2017, Nornickel obtained a survey, exploration, and mining licence for the magmatic basalt reserves at licence area No. 2.

In 2022, Nornickel updated its reserve estimate for the deposit's two licence areas to 189.2 Mcm. In 2023, a technical project was prepared for the further development of the deposit, enabling mining the two licence areas as one open-pit mine to ensure continuous production, and mining operations commenced at the deposit.

### Deposit: Gribanovskoye

**Minerals:** sand.

**Location:** Krasnoyarsk Territory, Taimyrsky Dolgano-Nenetsky Municipal District.

In 2020, Nornickel obtained an exploration and mining licence upon the discovery of the Gribanovskoye deposit, located on the Yenisei River, 22.5 km south of Dudinka. In 2020, the exploration phase was completed and pilot production was launched at the deposit. A state expert review of the feasibility study of permanent conditions and the reserve statement was conducted in 2021, and sand production was launched in 2022.

### Deposit: Gorozubovskoye

**Minerals:** anhydrite.

**Location:** Krasnoyarsk Territory, Norilsk.

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 converted from C2 to C1. A certificate issued by the State Commission for Mineral Reserves confirmed the parameters of the updated conditions and the anhydrite reserves. The deposit is currently under development.

### Deposit: Kayerkanskye

**Minerals:** quartzose sandstone, coal, tuffaceous argillite.

**Location:** Krasnoyarsk Territory, Norilsk.

Since 1967, the Kayerkanskye deposit has been supplying the needs of the Company's Norilsk site in materials used to produce fluxes for concentration and metallurgical processes at the metallurgical plants, as well as to manufacture building materials. The deposit is currently under development.





## Growth projects

### Deposit: Maslovskoye

**Minerals:**  
copper-nickel sulphide ores.

**Location:**  
Krasnoyarsk Territory, Norilsk. Geologically, the deposit is part of the Norilsk Ore Cluster.

The Company obtained a licence to explore and mine the Maslovskoye deposit upon its discovery in 2015.

A feasibility study of permanent exploratory conditions and a reserve statement for the Maslovskoye deposit were approved by the State Commission for Mineral Reserves, and its copper-nickel ore reserves were included into the State Register of Mineral Reserves. B + C1 + C2 ore reserves: 206.8 mln t.

### Deposit: Kolmozerskoye

**Minerals:**  
beryllium, niobium, lithium, lithium ore, tantalum.

**Location:**  
Murmansk Region, Lovozersky District.

In 2023, an exploration and mining licence (under a 50%/50% JV arrangement) was obtained for the Kolmozerskoye deposit, located within an area of federal significance.

The balance (economic) reserves of the deposit were confirmed through exploration in 1960 at 75 mln t of ore and 844.2 kt of lithium oxide. In 2024, follow-up exploration fieldwork was completed at the deposit to verify the quality and quantity of the minerals present. The development of a feasibility study of conditions and the approval of reserves by the State Commission for Mineral Reserves are scheduled for 2025.

### Deposit: Bugdainskoye

**Minerals:**  
beryllium, niobium, lithium, lithium ore, tantalum.

**Location:** Trans-Baikal Territory, Alexandrovo-Zavodsky Municipal District.

The deposit’s mineral reserves, comprising 813 mln t of B + C1 + C2 ore reserves, including 600 kt of molybdenum, were included into the State Register of Mineral Reserves in 2007.

### Deposit: Bystrinsko-Shirinskoye

**Minerals:**  
gold ore.

**Location:** Trans-Baikal Territory, Gazimuro-Zavodsky Municipal District.

In 2024, a geological exploration project was developed to study the flanks and deep horizons of the deposit, which are characterised by a highly complex ore body structure. Geological exploration is scheduled for 2025, with a feasibility study and a reserve statement to be prepared based on its results.

### Deposit: Western flank of the Oktyabrskoye deposit

**Minerals:**  
copper-nickel sulphide ores.

**Location:** Krasnoyarsk Territory, Norilsk. Geologically, the deposit is part of the Talnakh Ore Cluster.

Licensed for prospecting in 2017, the area shares a boundary with the earlier licensed mining area at the Oktyabrskoye deposit. In 2022 and 2023, appraisal activities were carried out at the Zapadny section, where prospecting had earlier confirmed the presence of copper-nickel ores. In 2024, a final report with reserve estimates was prepared and successfully passed the state expert review at the State Commission for Mineral Reserves. Following expert evaluations, reserve approvals anticipated in the second quarter of 2025 are as follows: rich ores — 225 kt, cuprous ores — 2,287 kt, and disseminated ores — 667 kt.

## Promising areas and prospects

### Area: Yuzhno-Norilskaya

**Minerals:**  
copper-nickel sulphide ores.

**Location:** Krasnoyarsk Territory, Taimyrsky Dolgano-Nenetsky Municipal District.

In 2019, the Company obtained prospecting licences for the Morongovsky and Yuzhno-Yergalakhsky copper-nickel sulphide ore prospects within the Yuzhno-Norilskaya area. In 2021 and 2022, prospecting of the areas was conducted, including prospecting drilling. An estimate of inferred copper-nickel sulphide ore resources was completed. The resources total 46 mln t, are located on the flanks, and have potential for extension beyond the boundaries of both prospects. In 2023, a subsoil use licence was obtained for the adjacent Mezhdurechensky licence area. In 2024, a geological exploration project was developed. Exploration work is scheduled to commence in 2025.

### Area: Mikchangdinskaya

**Minerals:**  
copper-nickel sulphide ores.

**Location:** Krasnoyarsk Territory, Taimyrsky Dolgano-Nenetsky Municipal District.

In 2019 and 2020, the Company obtained exploration licences for the Neralakhsky, Yuzhno-Neralakhsky, Snezhny, Yuzhno-lkensky, and Medvezhy prospects within the Mikchangdinskaya area. Prospecting drilling was carried out in 2021–2023. In 2024, an assessment was conducted to evaluate the viability of mining the identified disseminated copper-nickel mineralisation, which demonstrated negative economic viability. A prospecting programme for the properties has been completed.

### Area: Arylakhskaya

**Minerals:**  
copper-nickel sulphide ores.

**Location:** Krasnoyarsk Territory, Taimyrsky Dolgano-Nenetsky Municipal District.

In 2020, the Company obtained prospecting licences for the Yttakhsky, Samoyedsky, and Mastakh-Salinsky prospects within the Arylakhskaya area. In 2021 and 2022, prospecting drilling was conducted at the prospects identified by geophysical and geochemical prospecting across areal zones. In 2024, an assessment was conducted to evaluate the viability of mining the identified disseminated copper-nickel mineralisation, which demonstrated negative economic viability.

A prospecting programme for the properties has been completed.

### Area: Alenuyskaya

**Minerals:**  
gold-copper porphyry ores.

**Location:** Trans-Baikal Territory, Alexandrovo-Zavodsky District.

In 2020, the Company obtained prospecting licences for the Severo-Alenuysky and Yuzhno-Alenuysky prospects within the Alenuyskaya area. In 2023, prospecting drilling was conducted at the Tsentralno-Alenuysky area. In 2024, an assessment was conducted to evaluate the viability of mining the identified gold-copper porphyry mineralisation, which demonstrated negative economic viability. A prospecting programme for the properties has been completed.

### Area: Mostovskaya

**Minerals:** gold-silver ores, copper ore, molybdenum ore.

**Location:** Trans-Baikal Territory, Mogochinsky District.

In 2020, the Company obtained prospecting licences for the Zapadno-Mostovsky and Vostochno-Mostovsky prospects

within the Mostovskaya area. In 2022, prospecting drilling was conducted at prospects identified by geophysical and geochemical prospecting across areal zones. In 2024, an assessment was conducted to evaluate the viability of mining the identified gold and copper mineralisation, which demonstrated negative economic viability. A prospecting programme for the properties has been completed.

Area:  
Dogyinskaya

**Minerals:**  
gold-copper and gold-silver ores.

**Location:**  
Trans-Baikal Territory,  
Gazimuro-Zavodsky District.

In 2021, the Company obtained prospecting licences for the Severo-Dogyinsky and Yuzhno-Dogyinsky prospects within the Dogyinskaya area. In 2022 and 2023, prospecting drilling was conducted at prospects identified by geophysical and geochemical prospecting across areal zones. The prospectivity of the area has not been confirmed, and exploration programme has been completed.

Area:  
Shamyanskaya

**Minerals:**  
gold ore, copper-molybdenum ore.

**Location:**  
Trans-Baikal Territory,  
Trans-Baikal District.

In 2021 and 2022, the Company obtained prospecting licences for the Zapadno-Shamyansky, Tsentralno-Shamyansky, and

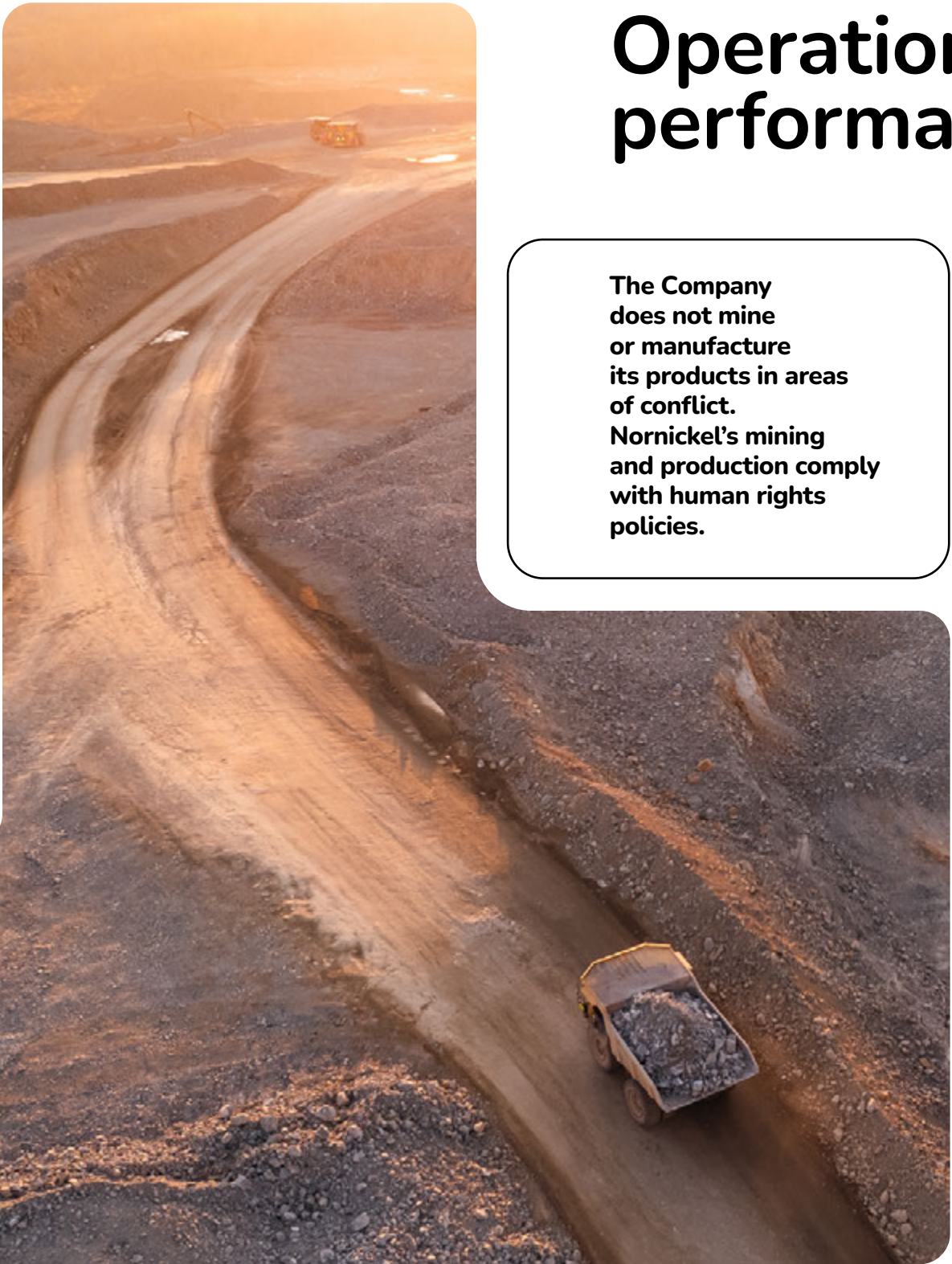
Vostochno-Shamyansky prospects within the Shamyanskaya area. In 2023, prospecting drilling was conducted at prospects identified by geophysical and geochemical prospecting across areal zones. In 2025, after the ongoing laboratory tests are completed, a report on the area’s potential and an opinion on further prospecting will be prepared.

Area: Chuvanskaya

**Minerals:**  
gold ore, silver ore, copper-molybdenum ore.

**Location:**  
Kamchatka Territory, Penzhinsky Municipal District. Chukotka Autonomous Area, Anadyrsky Municipal District.

In 2024, Nornickel obtained a prospecting licence for the Chuvanskaya area site. In 2025, preparation of a geological exploration project is planned, along with the commencement of prospecting activities, including geophysical and geochemical surveys.



# Operational performance

The Company does not mine or manufacture its products in areas of conflict. Nornickel’s mining and production comply with human rights policies.

One of Nornickel’s core business areas is the production of non-ferrous and precious metals. The Group has two production divisions: the Polar Division, which mines copper-nickel sulphide ores at the Norilsk and Kola sites, and the Trans-Baikal Division, which develops gold-iron-copper ores.

**The Norilsk site** is located on the Taimyr Peninsula in the north of the Krasnoyarsk Territory. This is where the Company’s largest deposits are being developed. This production asset operates a full metals production cycle — from ore mining to the shipment of finished products. Given its location in the Arctic Circle,

the site is connected to other regions of the country via the Yenisei River, the Northern Sea Route, and by air.


**The Kola site** is located on the Kola Peninsula in the Murmansk Region where ore is mined and nickel concentrate is produced. The Kola site serves also as the Company’s nickel refining hub.

**The Foreign site** hosts a nickel refinery with a total production capacity of up to 65 ktpa of nickel products. The plant processes the Company’s own feedstock as well as nickel-bearing raw materials from third-party suppliers.


**The Trans-Baikal Division** is located in the Trans-Baikal Territory of Russia, 500 km away from Chita. The mining and processing plant was launched with commercial operation in 2019. The asset includes open-pit mining operations and processing facilities with full infrastructure, including a power line, a 227-km Borzya–Gazimursky Zavod railway line (25% held by Nornickel and 75% by the government), as well as a rotation camp.

Polar  
Division


Norilsk site


Taimyr Peninsula,  
Krasnoyarsk Territory

Kola site


Kola Peninsula,  
Murmansk Region

Trans-Baikal  
Division


Trans-Baikal Territory