

# The Group business

## Mineral base

Nornickel boasts a unique mineral resource base due to its Tier 1 assets on Russia's Taimyr and Kola Peninsulas, in Zabaykalsky Krai. The continued expansion of the resource base secures the Company's long-term development.

### RESERVES AND RESOURCES<sup>1</sup>



Measured and indicated resources

**2,220**  
mt

Ni  
15.5 mt

Cu  
23.8 mt

PGM  
8.3 kt  
(265.1 mln oz)

Proven and probable reserves






**815**  
mt

Ni  
7.1 mt

Cu  
12.4 mt

PGM  
3.9 kt  
(125 mln oz)

#### Geography of metals produced by Norilsk Nickel

-  **Taimyr Peninsula**  
Ni, Cu, Au, Pt, Pd, Rh, Ru, Os, Ur, Co
-  **Kola Peninsula**  
Ni, Cu, Au, Pt, Pd, Rh, Ru, Os, Ur, Co
-  **Zabaykalsky Krai**  
Cu, Au, Ag, Fe
-  **Australia**  
Ni
-  **South Africa**  
Ni, Cu, Co, Rh, Ru, Os, Ur, Pt, Pd

<sup>1</sup> The Company's reserves and resources as at 31 December 2017, including wholly owned overseas assets and excluding fields in Zabaykalsky Krai. Data regarding the mineral resources and ore reserves of the deposits of the Taimyr and Kola peninsulas were classified according to the Australasian Code for Reporting of Mineral Resources and Ore Reserves (JORC code), created by the Australasian Institute of Mining and Metallurgy, the Australian Institute of Geoscientists, and the Minerals Council of Australia, subject to the terminology recommended by the Russian Code for Public Reporting of Exploration Results, Mineral Resources, Mineral Reserves (NAEN Code). The six platinum group metals (PGMs) are platinum, palladium, rhodium, ruthenium, osmium, and iridium.

## Taimyr Peninsula (Polar Division and Medvezhy Ruchey)

Norilsk Nickel's Polar Division develops copper-nickel sulphide deposits at the Talnakhskoye and Oktyabrskoye Fields (the Talnakh Ore Cluster). Medvezhy Ruchey develops copper-nickel sulphide deposits at the Norilsk-1 Field (part of the Norilsk Ore Cluster).

The Company has a strong potential to maintain the high level of ore reserves given the significant mineral resources available within the existing mining operations. The depleted rich and cuprous

ore reserves at the existing mines are mainly replaced through inferred resources on the flanks of the fields under exploitation. The Company plans to ramp up its mining operations by tapping into new rich ore deposits and focusing on the gradual and active development of disseminated and cuprous ore horizons. The Company will leverage the approved projects to develop new deposits and horizons in the Talnakh Ore Cluster and promising geological exploration data to ensure a sustainable mineral resource base going forward.

### Balance reserves of the Talnakh and Norilsk Ore<sup>2</sup>

**2,160** mt

— Ni 15.8 mt  
— Cu 30.4 mt  
— PGM 10.7 kt

### Proven and probable ore reserves

**690** mt

— Ni 6.4 mt  
— Cu 12.07 mt  
— PGM 3.9 kt  
(124.8 mln oz)

### Measured and indicated mineral resources

**1,714** mt

— Ni 12.0 mt  
— Cu 22.7 mt  
— PGM 8,2 kt  
(over 264.2 mln oz)

### Depletion of balance metal reserves

**15.0** mt

Ni—250.5 kt, Cu—434.5 kt,  
PGM—0.138 kt

### Additional balance reserves<sup>3</sup>

**5.4** mt

Average metal content  
Ni—2.87%, Cu—7.02%, PGM—17.04 g/t

## Kola Peninsula (Kola MMC)

Kola MMC develops copper-nickel sulphide deposits at the Zhdanovskoye, Zapolyarnoye, Tundrovoye, Kotselvaara-Kammikivi and Semiletka Fields as part of Pechenga ore fields. In addition to those,

Pechenga ore fields include the Sputnik, Bystrinskoye and Verkhneye Fields, and Kola MMC also holds an exploration and mining licence for them.

### Balance reserves of Pechenga ore fields<sup>2</sup>

**470.4** mt

— Ni 3.16 mt  
— Cu 1.54 mt

### Proven and probable ore reserves

**125** mt

— Ni 0.7 mt  
— Cu 0.36 mt

### Measured and indicated mineral resources

**333** mt

— Ni 2.3 mt  
— Cu 1.1 mt

### Depletion of balance metal reserves

**6.86** mt

Ni—43.6 kt, Cu—18.7 kt

### Conversion of balance reserves<sup>4</sup>

**6.7** mt

average metal content  
Ni—0.63%, Cu—0.27%

<sup>2</sup> Clusters (A + B + C<sub>1</sub> + C<sub>2</sub>).

<sup>3</sup> Operational and follow-up exploration, and re-estimation of reserves within the boundaries of the fields under exploitation.

<sup>4</sup> Operational exploration.



## Zabaykalsky Krai (GRK Bystrinskoye and Bugdainsky Mine)

### Bystrinskoye Field

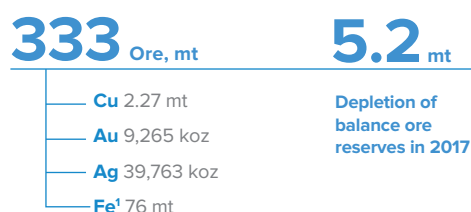
GRK Bystrinskoye develops deposits of gold-iron-copper ores at the Bystrinskoye Field.

### Bugdainskoye Field

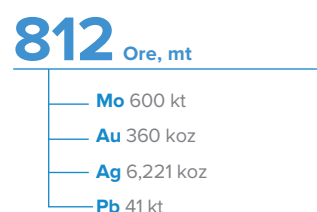
Bugdainsky Mine holds an exploration and mining licence for the Bugdainskoye Field.

The exploration of the field resulted in B + C<sub>1</sub> + C<sub>2</sub> mineral reserves entered into the government books in 2007. 2013 saw the launch of a development project at the Bugdainskoye Field in accordance with the duly approved design documents. In 2014, due to the low international molybdenum prices, the subsoil user suspended its right to develop the Bugdainskoye Field for three years. In 2017, the suspension of the right to develop the field was extended for another five years, until 31 December 2022.

### Balance reserves of the Bystrinskoye Field (B + C<sub>1</sub> + C<sub>2</sub>)



### Balance reserves of the Bugdainskoye Field (B + C<sub>1</sub> + C<sub>2</sub>)



<sup>1</sup> Magnetite iron.



## Australia (Norilsk Nickel Cawse)

The Group holds a licence to develop the Honeymoon Well Project including:

- fields with disseminated nickel sulphide ores (Hannibals, Harrier, Corella and Harakka);
- the Wedgetail Field hosting solid and vein ores.

The total measured and indicated mineral resources of the Honeymoon Well Project are estimated at

**173** mt of ore

Average nickel:  
Ni — 0.68%

## South Africa (Nkomati)

Nkomati is a 50/50 joint venture of the Norilsk Nickel Group and African Rainbow Minerals. Nkomati's performance is reflected in financial results using proportional consolidation according to our stake and not reflected in other totals.

The Nkomati disseminated copper-nickel sulphide ore deposit constitutes part of the Bushveld Complex. Nkomati is comprised of several ore

bodies, the key ones being a solid sulphide ore body (rich nickel ore) and the Main Mineral Zone (MMZ). The field also contains a Peridotite Chromite Mineralisation Zone (PCMZ) with a lower metal content vs MMZ.

The proven and probable ore reserves as at the end of 1H 2017

Proven average content and probable ore reserves<sup>2</sup>

**88.6** mt of ore

Average content:  
Ni — 0.31%  
Cu — 0.11%  
Co — 0.02%  
PGM — 0.88 g/t

Measured and indicated mineral resources<sup>2</sup>

**182.4** mt of ore

Average content:  
Ni — 0.35%  
Cu — 0.14%  
Co — 0.02%  
PGM — 0.95 g/t

<sup>2</sup> At the end of 1H 2017.