

## GATES OF THE ARCTIC

# THE WORLD'S ONLY ARCTIC OIL LOADING TERMINAL

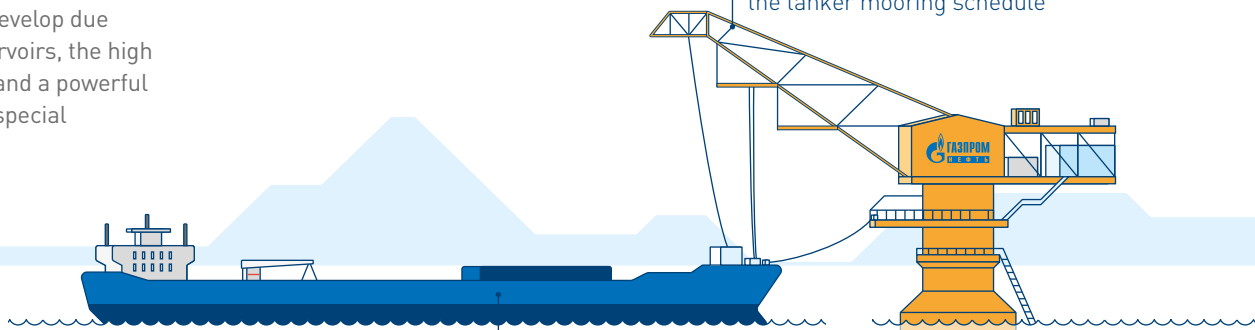
### ESTABLISHING TECHNOLOGICAL LEADERSHIP

The Novoportovskoye field is the northernmost and one of the largest oil and gas condensate fields on the Yamal Peninsula. Novy Port light crude oil is produced at the field with a low sulphur content (about 0.1%). This field is not easy to develop due to low-permeability reservoirs, the high partitioning of deposits, and a powerful gas cap, which requires special technologies.

The operator of the project is Gazpromneft-Yamal LLC. Crude oil is shipped year-round through the remote Gates of the Arctic terminal, which is 3.5 km from the shores of the Gulf of Ob.

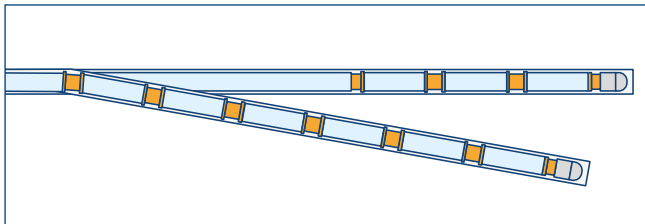
**Gates of the Arctic** – a unique offshore terminal designed for year-round operation at low temperatures

**Shipment management programme** automatically calculates the tanker mooring schedule

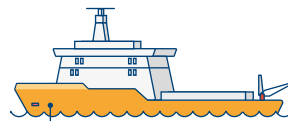


### Multi-lateral wells

#### Technologies B.2



**A multi-lateral well** is a well that has several trunks extending from the main one. This technology is an alternative to hydraulic fracturing for deposits below the gas cap with a low-quality reservoir. Russian-made equipment was successfully used to build the first multi-lateral well in Russia with four horizontal cased trunks at the Novoportovskoye field. The total penetration level was 6,756 m of which 4,411 m were drilled in the target formation. The well was built in 39 days at a pace of 5.78 days per 1,000 m.



**Two multifunctional icebreaking vessels** supply the platform with everything it needs

**'Zero discharge' technology** ensures no foreign substances get into the waters of the Gulf of OB

**Six ice class tankers** ensure uninterrupted oil supplies

# 5.95

**MN T OF OIL**  
PRODUCED IN 2017

# 1.26

**BN M<sup>3</sup> OF GAS**  
PRODUCED IN 2017

# 8.6

**MN T PER YEAR**  
DESIGN CAPACITY

Shipping oil from the field is difficult due to the constantly changing weather conditions and heavy ice, which is **2.5 m** thick in some places



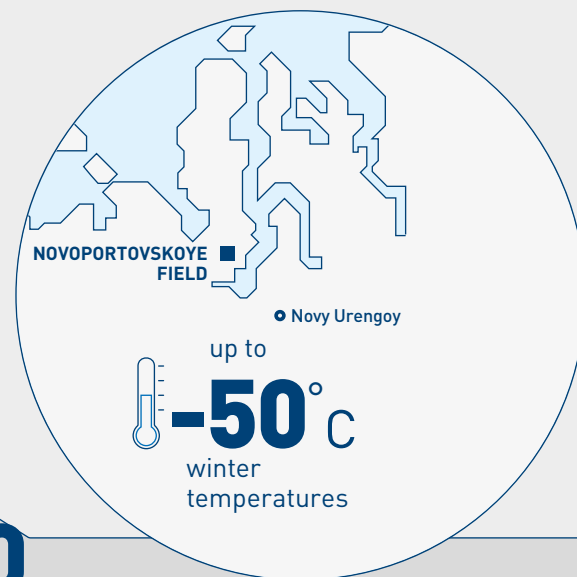
**Unmanned aerial vehicles (UAVs)** used to monitor equipment

**OVER 100 KM**  
length of the pipeline on land

**Two insulated pipelines** that circulate heated oil

**>250 MN T**  
oil and condensate

Russia's first multi-lateral well with **four horizontal cased trunks** was drilled at the field



**>270 BN M<sup>3</sup>**  
of gas

