

EXPLORING THE BASINS OF THE ARCTIC

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DISCOVERED PETROLEUM RESOURCES

Exploration for oil and gas has been taking place in the Arctic since the early parts of the last century. Several thousand wells have been drilled, but still the area remains one of the least explored on the planet - with some of the largest remaining resources. Most databases agree that less than 5 % of the world's discovered volumes to date are within the Arctic, adding up to 150 BBOE. About 1/5 of these volumes are produced. Today, production takes place from the North Slope of Alaska, the Sverdrup Basin and the Timan Pechora. All of this production is onshore or from very shallow waters. When the Statoil operated Snøhvit Field comes into production in 2006, as the first in the Barents Sea, it will thus be the first truly offshore production in the Arctic. The Pirazlomnoye oil discovery in the Russian Pechora Sea is also scheduled to commence production in 2006/2007, and will be the first offshore oil field. Further development of production in the Arctic is dependent on decisions on infrastructure, including plans for the giant Shtockmanovskoye gas-field in the Russian Barents Sea and the gas discoveries in Arctic Canada.

UNDISCOVERED PETROLEUM RESOURCES

Statoil has over the last few years assessed most of the basins of the Arctic. The amount of geoscientific data available for each basin varies greatly though, and play-analysis methods applicable to proven basins cannot be used in many of the Arctic basins. In some basins, lack of seismic and outcrop-data makes it challenging to even know which petroleum

systems are working - far less attempt to quantify the possible resources in traps and structures. New methods are required, and Yet-to-Find (YTF) resource estimates in the Arctic are currently at best speculative. Statoil agrees with the USGS estimate that some 25% of the world's remaining YTF resources are located in the Arctic, though we have different absolute numbers. Approximately half of the YTF resources will be offshore. A large proportion of the future Arctic resources are located in Russia, but considerable volumes are also thought to be present in Norway, Greenland, Arctic Canada and Alaska.

FUTURE EXPLORATION

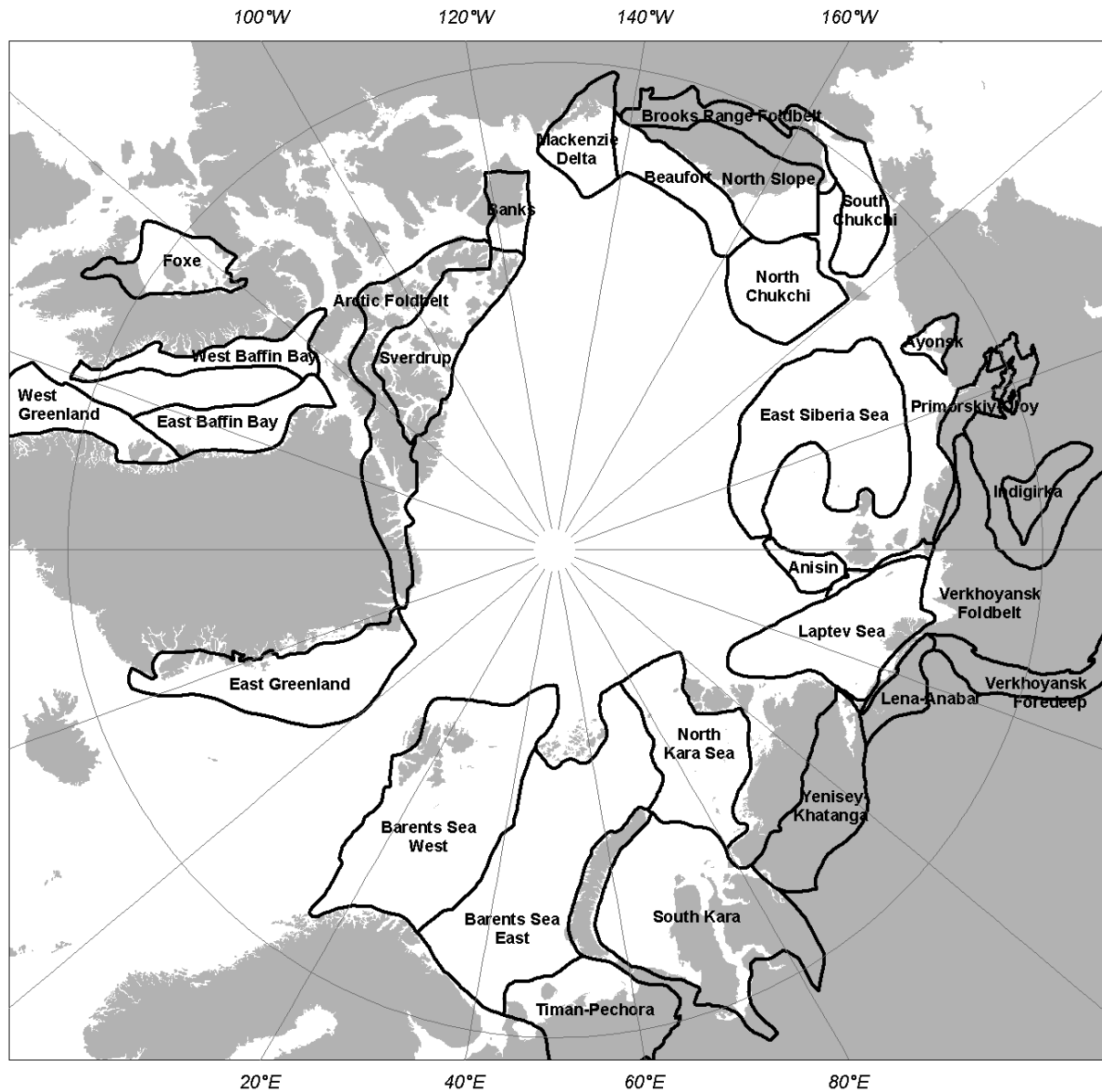
The challenges to explorers in the Arctic are numerous:

- Vulnerable habitats - protection needed for flora, fauna, culture and landscape.
- New technology needed for most operations and a considerable risk concerning cost is attached.
- High cost levels require very large discoveries to break thresholds for infrastructure development
- Harsh tundra environment onshore with deep permafrost.
- Offshore basins covered or affected by sea-ice year round.
- Prolific basins with more benign access have been able to satisfy global markets so far

The Arctic will only become a true exploration ground when the latter issue starts to change.

Areas permanently covered by sea-ice are not likely to be explored for many years. Monitoring the annual movement and thickness of the ice and prognoses for yearly retreat or advance will become increasingly important in the future. Fluctuations in sea-ice thickness and extent are dependent on air-

/seawater temperature and oceanic currents. The importance of close relationship with academic institutions and cooperation on geology, oceanography and environmental research, cannot be underestimated. Cooperation across international borders is essential.



Polar projection of the basins included in Statoil's Arctic Assessment