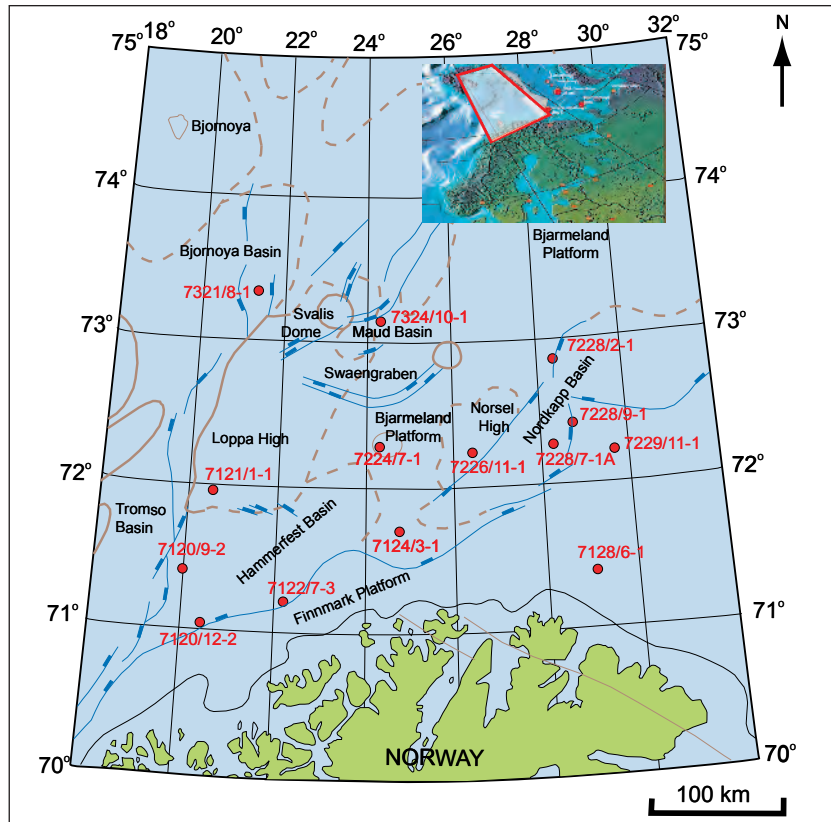


## New Insights on Stratigraphy of Triassic / Jurassic Sequences in the Barents Sea

The Barents Sea is a complex mosaic of basins and platforms that were the recipients of intracontinental sediments from early Triassic (c.240mya) to early Cenozoic (c. 60mya). In Norwegian waters, there are proven resources of 260-300 billion cubic meters of gas and minor oil, with most reserves being in Jurassic, and to a lesser extent Triassic sandstones. Historically, development of the area has been slow, due largely to its gas-prone system. However, with the continued development of new and improved LNG technologies, gas-prone areas, such as the Barents Sea are experiencing a rapid increase in exploration activity.

The oldest successions (Lower Triassic) consist of NE-SW trending, distal marine shales occurring in the centre of the basin, with shallow marine to deltaic and coastal deposits being found on its north-western and south-eastern flanks. There were repeated cycles of deltaic progradation to the west during middle to late Triassic times and by the middle Jurassic, deltaic deposits had filled the basin, with the establishment of an extensive coastal plain. A lack of well control, marked lateral facies variations, multiple sediment input points and a paucity of biostratigraphic markers all combine to result in a challenging basin stratigraphy. Without a well defined and robust stratigraphic framework, understanding the basin's development is difficult and exploration risks are high.

A major stratigraphic study, the results of which will be detailed in this presentation, was undertaken to improve the understanding of Triassic to Middle Jurassic stratigraphy in the Barents Sea. The primary stratigraphic method employed is chemical stratigraphy, a tool that lends itself to basins such as the Barents Sea, where sediments are largely continental in nature. Additional information on lithostratigraphy, mineralogy, provenance, sediment input points will all be discussed and integrated into the stratigraphic model. This work has provided the building blocks for a stable reference framework into which exploration and



Barents Sea well location map

development wells can be placed in this new, but challenging petroleum province. ■

### Biographical Sketch

HEATHER STILWELL graduated with a Bachelor of Science in Environmental Science from Sam Houston State University in 1995 and is currently pursuing a Master's in Petroleum Geosciences at Rice University. Between 1995 – 2008, she worked at ExxonMobil and Halliburton Energy Services, her duties initially involved Research and Development, petrochemical and geological laboratory work. Heather joined Chemostrat's Houston offices in 2008 and helps develop their global services.

