



Wellbore History

GENERAL

Well 7220/7-3 S was drilled to test the Drivis prospect on the Bjørnøyrenna Fault Complex in the Barents Sea, about 15 kilometres southwest of the 7220/8-1 Johan Castberg discovery. The primary exploration target was to prove petroleum in reservoir rocks from the Middle and Early Jurassic Age (the Stø and Nordmela formations). Flat spots at these levels were believed to be gas-oil and oil-water contacts. The secondary exploration target was to prove petroleum in reservoir rocks from the Late Triassic Age (the Fruholmen formation).

OPERATIONS AND RESULTS

Wildcat well 7220/7-3 S was spudded with the semi-submersible installation West Hercules on 28 February 2014 and drilled to TD at 2097 m (2059 m TVD) in the Late Triassic Fruholmen Formation. No shallow gas was observed even though a shallow gas warning Class 2 was given through the Tertiary Torsk Formation. TD of the 17 1/2" section was set shallower than planned due to stuck pipe. Otherwise, no significant problem was encountered in the operations. The well was drilled with seawater and sweeps down to 736 m and with KCl/GEM/Polymer mud from 736 m to TD.

Top Stø Formation was encountered at 1448 m and top Nordmela Formation at 1525 m. There was a 68-metre gross gas column in the Stø Formation and an 86-metre gross oil column in the Stø and Nordmela formations. The GOC is at 1516 m and the OWC is at 1604 m. The reservoir quality in the Stø formation is very good. The reservoir quality in the Nordmela Formation is variable, but about half of the oil zone was encountered in sandstone with very good reservoir quality. Oil shows of variable quality are described from the OWC and down to 1766 in the Tubåen Formation. The Fruholmen Formation has poor reservoir properties, and is mostly water bearing, but petroleum was recovered in an MDT sample from 1952.2 m. In this petroleum, the gas and light oil components were less mature than in the oil in Nordmela, while the heavier fraction (C15+) was similar to the oil in Nordmela. There were also some oil shows in the interval 1907 to 1925 m in Nordmela.

A total of 140.7 m core was recovered in two cores from the interval 1457 m to 1597.6 m in the Stø and Nordmela formations. The recovery was 100%. MDT fluid samples were taken at 1458 m (gas), 1545.5 m (oil), 1578 m (oil), 1609.5 m (water), and at 1952.2 m (oil).

The well was permanently abandoned on 5 May 2014 as an oil and gas discovery.

TESTING

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 7220/7-3 S