



Wellbore History

GENERAL

Well 7220/4-1 was drilled to test the Kramsnø prospect in the Johan Castberg area of the Barents Sea. The primary objective was to prove commercial volumes of hydrocarbons in the Stø, Nordmela and Tubåen formations and confirm the GOC and OWC seen on seismics. Secondary objective was to investigate the Snadd Formation and acquire data for exploration of the Triassic play.

OPERATIONS AND RESULTS

Wildcat well 7220/4-1 was spudded with the semi-submersible installation West Hercules on 22 December 2013 and drilled to TD at 3240 m in the Triassic Snadd Formation. No significant problem was encountered in the operations. The well was drilled with Seawater and hi-vis pills down to 744 m, with KCl/polymer/glycol mud from 744 m to 2128 m, and with Low sulphate/KCl/polymer/glycol from 2128 m to TD.

A potential source rock section is proven by sidewall cores and elevated Gamma Ray in the interval 2220 to 2228 m within the Knurr Formation (Late Barremian). This section has TOC from 2.5 to 4.1% and Rock-Eval Hydrogen Index in the range 270 to 370 mg HC/g TOC. The Hekkingen Formation source rock is not present in the well. In the reservoir, the well penetrated sandstone and siltstone of the Jurassic Stø and Nordmela Formations. MDT pressure gradients show a gas column from top Stø Formation at 2267 m and down to a gas/water contact at 2400 m in the Nordmela Formation. The reservoir quality in Stø, Nordmela and Tubåen formations is deteriorated by extensive quartz cementation. There was no oil leg in the well, but weak oil shows are recorded from 2387 m and downwards in the cored section in Nordmela and Tubåen formations. Further weak oil shows (cut fluorescence) are described on cuttings down to 2503 m in the Tubåen Formation.

Triassic sandstones and claystones were encountered in the Fruholmen and Snadd Formations. Gas was found in two zones in the Snadd Formation: from 3002 m with gas down-to contact at 3047 m and from 3117 with gas down-to contact at 3162 m. The overall reservoir quality in Snadd is poor due to the low net thickness of permeable sandstones.

Three cores with a total recovery of 185.4 m were taken in the Stø, Nordmela and Tubåen formations. The core-log depth shifts are -1.7 m, -2.8 m and - 3.3 m for cores 1, 2, and 3, respectively. MDT fluid samples were taken at 2334.4 m (gas), 2393.6 m (gas), 2417.5 m (water), and 3009 m (gas),

The well was permanently abandoned on 25 February 2014 as a gas discovery.

TESTING

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 7220/4-1