



Wellbore History

GENERAL

Well 7219/8-2 was drilled on the Iskrystall prospect in the Bjørnøyrenna Fault Complex southeast of the Johan Castberg Field in the Barents Sea. The primary objective was to prove hydrocarbons in the Stø, Nordmela and Tubåen formations and to prove the hydrocarbon-water contact observed in the seismic data.

OPERATIONS AND RESULTS

Wildcat well 7219/8-2 was spudded with the semi-submersible installation West Hercules on 16 July 2013 and drilled to TD at 3425 m (3413 m TVD) in the Late Triassic Fruholmen Formation. No shallow gas was observed neither in the pilot hole nor main hole. From new data received while drilling it seemed possible to drill into a faulted zone in top of the reservoir. This lead to a decision of deviating the well through the Kolmule formation, so that the reservoir would be encountered outside the faulted zone. The well path was then built to 6.85 degrees through the Kolmule Formation. The well was drilled with seawater and hi-vis sweeps down to 1167 m, with KCl/Polymer/Glycol mud from 1167 m to 2681 m, and with Low Sulphate/KCl/Polymer/Glycol mud from 2681 m to TD down to TD.

In the overburden, the well penetrated Tertiary and Cretaceous claystones and limestone stringers as well as Jurassic claystones. In the reservoir, the well penetrated sandstone, siltstone and claystones of Jurassic and Late Triassic age. The target reservoir, top Stø Formation, was penetrated at 2898 m. A 132 m gas column was proven in the Stø and Nordmela formations. No oil zone was encountered. The gas-water contact (GWC) was not seen in the well, but there was a gas down-to (GDT) in the lower shaly part of Nordmela Formation at 3106 m (3098 m TVD). Based on the gas and water gradients GWC was estimated to be at 3135 m (3127 m TVD). The reservoir quality was poorer than predicted due to extensive quartz cementation. There were no oil shows in the well and only condensate-like liquid hydrocarbons were observed by organic geochemical analyses of rock and fluid samples from the reservoir section. A thin gas sand was penetrated below the GWC at 3342 m in the Fruholmen Formation.

Five cores were cut in the well. A shale core was taken in the Kolmule Formation from 2231 to 2239 m and four cores were cut in the target reservoir from 2903 to 3049.5 m. The overall core recovery was close to 100%. MDT fluid samples were taken in the Stø Formation at 2951.2 m (gas), in the Nordmela Formation at 3101.0 m (gas), in the Tubåen Formation at 3225.0 m (water), and in the Fruholmen Formation at 3342.5 m (gas).

The well was permanently abandoned on 30 September 2013 as a gas discovery.

TESTING

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 7219/8-2