



Wellbore History

GENERAL

Well 15/3-11 is the replacement well for 15/3-10, which was junked for technical reasons. It was drilled to appraise the 15/3-4 Sigrun discovery on the Gudrun Terrace in the North Sea. The target formation was located to the west and down dip of the original discovery well 15/3-4. The main objective was to prove more resources than already proven in the Middle Jurassic Hugin Formation in the 15/3-4 discovery well.

OPERATIONS AND RESULTS

Appraisal well 15/3-11 was spudded with the semi-submersible installation Deepsea Bergen on 14 June 2018 and drilled to TD at 4014 m in the Middle Jurassic Sleipner Formation. Operations proceeded without significant problems. The well was drilled with seawater and hi-vis pills down to 1000 m, with KCl/polymer/GEM mud from 1000 m to 2350 m, with Enviromul oil-based mud from 2350 m to 3660 m, and with BaraECD oil-based mud from 3660 m to TD.

The target Hugin formation was penetrated from 3856 to 3959 m. The reservoir consisted of interbedded sandstones and claystone with a few thin coal layers. It was oil filled in the upper sands, whereas the deeper sands were water-bearing. The fluids are the same volatile oils as were encountered in 15/3-4. Like the previously drilled wells, 15/3-4 and 15/3-5, did the 15/3-11 well encounter oil-down-to (ODT) situations. Pressure data show a complex reservoir with two different oil gradients and three different water gradients. In the well site cuttings descriptions shows are described in the Draupne Formation from 3744 to 3798 m (direct and cut fluorescence but no visible oil stain). In the core description oil shows are described in the Hugin reservoir sandstones down to 3930 (typically direct and cut fluorescence with visible stain), and with weaker shows in a few samples around a coal layer at 3959 m. No other zones with shows are reported.

Two cores were cut in succession from 3868 to 3975 m with 99.3% and 94% recovery, respectively. MDT fluid samples were taken at 3857.7 m (oil), 3888.46 m (oil) and 3927.5 m (water). The oil samples proved undersaturated volatile oil with small variations in GOR.

The well was permanently abandoned on 9 August 2018 as a dry well.

TESTING

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 15/3-11