



Wellbore History

GENERAL

Well 16/3-4 was drilled to prove the extension of the Avaldsnes Discovery to the north-east of the structural crest of the Avaldsnes structure. In this area, a continuation of the Upper Jurassic, Intra-Draupne Formation sandstone found in the discovery well 16/2-6 was expected to rest on granitic basement.

OPERATIONS AND RESULTS

Wildcat well 16/3-4 was spudded with the semi-submersible installation Bredford Dolphin on 16 May 2011 and drilled to TD at 2020 m in granitic basement. A 9 7/8" pilot hole was drilled down to planned setting depth for 20" casing at 760. No shallow gas or boulders were seen. No significant problem was encountered during drilling of the pilot or the main well. The well was drilled with seawater and hi-vis sweeps down to 760 m and with Performadril mud from 760 m to TD.

BCU, top Draupne Formation was encountered at 1914 m, and a 13.8 m thick Intra-Draupne Formation sandstone, Tithonian age, was penetrated at 1926 m. The Intra-Draupne sandstone was oil-filled down to weathered basement at 1940 m. No oil-water contact was established, however, pressure communication between 16/3-4 and the 16/2-6 T2 Avaldsnes discovery well was proved. There were no shows above or below the Intra Draupne Formation sandstone reservoir.

Three cores were cut from 1913 to 1961 m, covering the Draupne Formation and 21 m of the underlying Basement. Good recovery was obtained in the first and last core (100 and 94% recovery respectively), while the recovery in core number 2 was 43%. Extensive wire line logging was performed including pressures (XPT/MDT) and fluid sampling. MDT fluid samples were taken at 1929.0 m (oil), 1939.6 m (oil), and 1943 m (water).

After completing the data acquisition program and testing, the well was plugged back to the 20" casing shoe and sidetracked as well 16/3-4 A. The 16/3-4 well bore was permanently abandoned on 28 June as an oil appraisal well.

TESTING

The Draupne Formation sandstone was production tested (DST) from the interval 1923.5 to 1936.8 m. The test produced in the main flow 18200 Sm³ gas and 885 Sm³ oil /day through a 52/64" choke. The GOR was 20 Sm³/Sm³ at separator conditions of 46 deg C and 13.6 bar. The oil density and gas gravity at ambient conditions on-rig were 0.889 g/cm³ and 0.806 (air = 1), respectively. The maximum temperature measured at 1894.8 m was 83.5 m.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 16/3-4