



Wellbore History

GENERAL

Wellbore 34/6-3 S was drilled to appraise the 34/6-2 S Garantiana discovery in the Visund area in the North Sea. The Primary objective was to prove hydrocarbon presence, determine fluid nature and evaluate reservoir characteristics in the Early Jurassic Cook Formation. The secondary objective was to prove petroleum in the Statfjord Group higher up on the structure than the 34/6-2 S well.

OPERATIONS AND RESULTS

Garantiana appraisal well 34/6-3 S was spudded with the semi-submersible installation Leiv Eiriksson on 30 May 2014 and drilled to 4462 m (3816 m TVD) in the Early Jurassic Statfjord Group. The well was drilled vertical down to ca 2500 m and deviated with a sail angle of ca 48 ° from there to TD. While RIH with cement stinger for plugging back the Statfjord reservoir prior to testing the Cook reservoir, severe losses leading to formation supercharging was observed. It resulted in ballooning effect. Several bleed off sequences was required to assess and regain normal situation. The well was drilled with seawater and hi-vis sweeps down to 1500 m, with Sildril Sodium Silicate WBM from 1500 m to 2058 m, with EMS-4600 NABM OBM from 2058 m to 3704 m, and with WARP-NABM mud from 3704 m to TD.

Top Cook Formation was penetrated at 3850 m (3493 m TVD) and was oil filled all through (oil-down-to) to top Burton Formation at 4000 m (3593 m TVD). The NTG of the Cook formation was proven to be 86 %, with average effective porosity of 22 % and water saturation of 17.5 %. Formation pressure data and the PVT analysis of the acquired DST samples indicate that the formation fluid in the Cook reservoir of 34/6-3S is the same as the fluid encountered in the 34/6-2S exploration well. The Statfjord Group proved to be water bearing with a NTG of 45.7%, effective average porosity of 12.4% and water saturation of 98.4%. Oil shows were described only within the Cook Formation.

A total of 77 metres of core was cut and 75.5 metres recovered (98.0% recovery) in two cores from the interval 3918 to 3995 m in the Cook Formation. No wire line fluid sample was taken.

The wellbore was plugged back for sidetracking and abandoned on 24 September 2014. It is classified as an oil appraisal well.

TESTING

A well test was performed within the Cook reservoir from 3911 to 3998 m (3533 to 3591 m TVD). The test produced 945 Sm³ oil and 16731 Sm³ gas through a 24/64" choke in the second main flow. The separator GOR was 42 Sm³/Sm³, the stock tank oil density was 0.8784 g/cm³ and the gas gravity was 0.927. The flowing bottom hole temperature was 132.2 °C.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 34/6-3 S