



Wellbore History

GENERAL

Well 34/7-17 is located on the Vigdis Field on Tampen Spur in the Northern North Sea. It was drilled on the southern extension of the C-Plus prospect, on the eastern margin of a complete or non-truncated Brent Group sequence. Furthermore, the location is defined by the down dipping geometry to the northwest, and the proximity to a major fault zone to the south. The primary purpose of the well was to test the reservoir quality and fluid contacts in the prospect. The sequence was drilled in a structural position where a large range of oil-water contacts could be tested. A secondary objective was to test the pressure regimes in the Jurassic sequence, including possible depletion associated with pressure communication, previously identified in the nearby Tordis Field.

OPERATIONS AND RESULTS

Well 34/7-17 was spudded with the semi-submersible installation Treasure Saga on 25 February 1991 and drilled to TD at 3115 m in the Late Triassic Lunde Formation. Due to leaks in the riser the 26? section was drilled riserless while the riser was sent onshore for repairs. First returns to the rig floor was at 897 m. From the MWD logs possible shallow gas was interpreted at 519 - 520, 576 - 576.5 and 692 -693 m, but flow checks performed proved negative. The well was drilled with spud mud down to 897 m, and with KCl mud from 897 m to TD.

In the Nordland, Hordaland, Rogaland and Shetland Groups, the well penetrated mainly claystones with minor sandstone intervals. Top of the Brent Group reservoir was reached at 2461 m (2458 m TVD), which was 38 m deeper than prognosed. The Jurassic section comprised a minor interval of the Viking Group, and a complete section of the Middle Jurassic Brent Group, the Early Jurassic Dunlin Group and the Statfjord Formation. Both main reservoir targets, the Brent Group and the Statfjord Formation, proved to be water bearing. Scattered oil shows were noted in sandstones in drill cuttings from the Lista Formation (at 1855 to 1900 m). A continuous section with traces of both direct and predominantly crush cut fluorescence was recorded in side wall cores between 2235 and 2405 m. Only scattered shows were recorded on the cores taken in the primary target Brent Group reservoir (at 2467 m and at 2472 to 2481 m). Shows were again noted in sandstone side wall cores from the Amundsen and Statfjord Formations in the interval 2920 to 3080 m.

A total of 8 cores were cut in the Brent Group between 2460.0 and 2586.0 m (driller's depth). This makes a total of 126 m, of which 117.05 m were recovered (93%). Two RFT runs were conducted, one in the Lista Formation and one in the Early - Middle Jurassic. The resulting pressure gradients showed three different pressure regimes in the Middle - Early Jurassic, each separated by ca 5 bar pressure. Highest pressure was seen in the Statfjord Formation, medium pressure was seen in the Lower Brent Group and the lowest pressure in the upper Brent Group (Tarbert Formation). Only one (at 1881.5 m) of the pressure measurements taken in the Rogaland Group was reliable, indicating an equivalent pressure gradient of 1.40-1.41 g/cc subsea. One segregated RFT fluid sample was taken at 1881.5 m. The content was reported to be water and mud.

The open hole was plugged back to 2408 m and prepared for sidetracking to a new reservoir target. The well is classified as dry with shows.

TESTING

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 34/7-17