



LITHOSTRATIGRAPHY & HISTORY FOR WELL: 30/6-11

Wellbore History

GENERAL

Well 30/6-11 was drilled on the Delta structure on the Flatfisk Slope, close to the northwestern end of the Oseberg Fault Block in the North Sea. The primary objective was to find hydrocarbon accumulations in the Brent Group. Secondary objective was to find additional hydrocarbon accumulations within the Early Jurassic Cook Formation and Statfjord Group. The well was placed in an area where a complete Jurassic succession could be expected. Planned TD was 75 m into the Statfjord Group.

OPERATIONS AND RESULTS

Wildcat well 30/6-11 was spudded with the semi-submersible installation Nortrym on 20 December 1982 and drilled to TD at 4001 m in the Early Jurassic Statfjord Group. When running casing in the 17 1/2" section at 2165 m the rig had to wait on weather. Cavings accumulated as fill on the bottom and the casing was differentially stuck. Various additives were used to free the casing, including diesel. The well was drilled with seawater and hi-vis pills down to 235 m, with pre-hydrated bentonite and seawater from 235 m to 965 m, and with KCl/polymer mud from 965 m to 2165 m. From 2165 m to 3654 m, the KCl/polymer mud was slowly converted to a dispersed lignosulphonate/lignite mud and in the bottom 8 3/8" section, from 3654 m to TD a dispersed lignosulphonate/lignite mud system was used. From 2165 and downwards the diesel content in the mud was 5%, diminishing to traces below 3265 m.

The Brent Group (3351 - 3561m) had a gross thickness of 210 m with 118 m of net sand, giving a net to gross ratio of 0.56. The average porosity of the sandstones were calculated from wireline logs to 16% with an average water saturation of 80%. The Cook Formation (3752.5 - 3768.5m) had a net sand thickness of 3 m, giving a net to gross ratio of 0,19. The average porosity of the sandstones were calculated from wireline logs to 14% with an average water saturation of 55%. The Statfjord Group (3892.5 - 4001 m) had 85 m calculated as net sand giving a net to gross ratio of 0.86. The average porosity was calculated from logs to 11% with a water saturation varying from 60-100%.

Oil shows from both cuttings and cores together with high resistivity readings from the logs stated the presence of hydrocarbons in sandstones from the Brent Group, Cook Formation and in the very top of the Statfjord Group. All hydrocarbons were evaluated as residual. Drill stem testing and FMT sampling of the Brent Group produced no hydrocarbons. Otherwise, oil shows were described on limestone stringers in the interval 2515 m to 2635 m and on siltstones in the Late Jurassic between 3265 and 3320 m.

Seven cores were cut in this well, one in the Late Jurassic, 5 in the Etive Formation and one in the Cook Formation sandstones. An FMT fluid sample was taken at 3463.5 m. It recovered mud filtrate and water only.

The well was permanently abandoned on 30 March 1983 as dry with shows.

TESTING

A drill stem test was performed from the interval 3448.5 to 3454.5 m. The test gave no flow to surface and no samples of formation fluid could be recovered from the test string.