

Wellbore History



Well 35/8-3 was drilled in the southern end of the Sogn Graben in the Northern North Sea. The primary objective was to assess the hydrocarbon potential of the Brent Group sandstones, which flowed gas-condensate in wells 35/8-1 and 35/8-2. The Brent Group was expected to be 212 m thick and to be encountered at a depth of 3631 m subsea. Secondary objectives were Late Jurassic Intra-Heather Formation sandstones, and possible Intra-Early Cretaceous sandstones.

OPERATIONS AND RESULTS

Wildcat well 35/8-3 was spudded with the semi-submersible installation Treasure Scout on 6 July 1988 and drilled to TD at 3944 m (3947 m logger's depth) in the Middle Jurassic Brent Group. No shallow gas was observed. While drilling the 12 1/4" section the drill string got stuck in Heather sands at 3539 m. After 7 days unsuccessful fishing the hole was plugged back to 3308 m. It was sidetracked from 3371 m and drilled to section TD at 3560 m. The BHA got stuck a second time at 3863 m in the 8 1/2" section. After 5 days with several fishing attempts by jarring the BHA was fished after spotting a diesel based fluid. The diesel was circulated out and the well was drilled to its final TD. The well was drilled with spud mud down to 830 m, with Drispac and seawater from 830 m to 2174 m, and with KCl/polymer mud from 2174 m to TD.

Hydrocarbon indications while drilling were minor except in the Late Jurassic Heather sands. Log analyses of the Heather sands indicated a probable gross gas column of 70 m with a net pay of 31.9 m. Average porosity in the net sand was 15.6% with an estimated average water saturation of 22%. An RFT pressure-depth plot confirmed a gas column with an estimated 0.162 psi/ft (3.66 KPa/m) pressure gradient. No gas/water contact was apparent. Shows were encountered while drilling the Brent Group sands, but analyses of wire line logs and RFT's indicated the interval was water bearing. No reservoir rocks were encountered in the Early Cretaceous age formations.

One conventional core was cut from 3830 to 3848.4 m. Recovery was 100% and consisted of sands and shales of the Ness Formation, Brent Group. Two RFT fluid samples were taken at 3467 m (0.04 Sm² gas and 10 litres mud filtrate with trace of oil), and at 3859.5 m (10 litres mud filtrate and formation water, no gas or oil).

The well was permanently abandoned on 15 October 1988 as a gas discovery.

TESTING

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 35/8-3