



Wellbore History

GENERAL

Well 31/6-5 was drilled in the southern part of the Troll East gas province, 30 m from well 31/6-4, which was junked for technical reasons. The main purpose was to appraise and test possible oil and gas accumulations in sandstones of Late to Middle Jurassic age, and to give further information about lateral facies changes within the reservoir sandstones.

OPERATIONS AND RESULTS

Appraisal well 31/6-5 was spudded with the semi-submersible installation Deepsea Bergen on 5 March 1984 and drilled to TD at 2082 m in the Early Jurassic Drake Formation. In the 26" hole lost circulation occurred at 653 m, two cement plugs were set. Several wiper trips were taken due to tight hole. After setting of the 20" casing, the BOP had to be repaired due to leaking during pressure testing. A drilling break occurred at 1476 m in the 12 1/4" hole. The well was drilled with the spud mud from the previous hole (31/6-4) treated with CMC-EHV down to 389 m, with seawater/gel mud from 389 m to 663 m, with KCl/polymer mud from 663 m to 1720 m, and with seawater/gel/CMC mud from 1720 m to TD.

Sandstone of Late to Middle Jurassic age (Sognefjord Formation) was encountered at 1518 m with a 52 m gas column and a 4 m oil column. The gas/oil contact was at 1570 m and the oil/water contact at 1574 m. Oil shows were recorded on sidewall cores on top Fensfjord Formation sandstone from 1722 m to 1726 m and on a sandstone SWC from 2010 m in the Ness Formation. Ten cores were cut from 1470 m to 1721 m in the Late to Middle Jurassic sequence (Heather Formation to Fensfjord Formation). One FMT fluid sample was taken in the oil zone 1571.5 m. Geochemical analyses showed the oil to be biodegraded.

The well was permanently abandoned on 16 March 1984 as a gas and oil appraisal.

TESTING

The Sognefjord Formation was tested through gravel pack from the interval 1558 m to 1568 m. The first test gave a non-representative flow due to obstructions in the hole. The second test, termed Test 1A, was ok and produced gas at a maximum rate of 1266000 Sm³/day on a 1.5" choke. Geochemical analyses showed the gas to be 92.4% methane and biodegraded.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 31/6-5