



Wellbore History

GENERAL

Well 6407/6-4 drilled the Mikkel Structure in the Bremstein Fault Complex, which separates the Trøndelag Platform in the east from the Halten Terrace in the west. The structure is an anticline aligned north-south. The well was planned to reach a total depth of 3150 m. There were no anomalous amplitudes at the planned well location, but there was an indication of shallow gas at 401 to 505 m. The purpose of drilling was to test the possibility of a significant oil leg in the southern part of the Mikkel Structure and to test the communication between the Garn- and Ile Formations in the southern part of the structure.

OPERATIONS AND RESULTS

Appraisal well 6407/6-4 was spudded 31 October 1990 by the semi-submersible installation Ross Rig and drilled to TD at 3126 m in Early Jurassic sediments of the Åre Formation. The well was started with a 9 7/8" pilot hole down to 1088 m due to the possibility of shallow gas. No shallow gas was encountered. The well was then opened up and drilled with sea water and viscous pills down to 1085 m, and with KCl/polymer mud from 1085 m to TD. No significant technical problems were encountered in the operations.

The Garn Formation was penetrated at 2651 m (26 m deeper than prognosis) and was 101 m thick. The reservoir quality of this sandstone was good. The only oil shows recorded during the drilling were in the Garn Formation at 2658 - 2686 m. These were of a poor quality consisting of very dull yellow direct fluorescence, weak light yellow streaming cut fluorescence with a milky cut colour. The shows were patchy with no oil bleeding or hydrocarbon odour being noted.

Two cores were cut in the well, the first in the Garn Formation of the Fangst Group and the second in the Åre Formation of the Båt Group, both with 100% recovery. The RFT tool was run in the Båt and Fangst Groups. A comparison of pore pressure in the Ile and Tilje Formations show they have slightly higher pore pressure than the Garn Formation. This imply the formations may not be in communication. An RFT fluid sample was obtained from 2661 m in the Garn Formation. It recovered only water.

The well was permanently abandoned on 13 December 1990 as a dry well with shows.

TESTING

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 6407/6-4