



Wellbore History

GENERAL

Wildcat well 31/2-5 is located in the southern part of the oil province in the Troll West area, some 6 km west of the discovery well 31/2-1, in a downthrown fault block. The objectives of the well were to test presence and nature of hydrocarbons in a structure west of the main gas reservoir; to test lateral variation in reservoir characteristics westwards; to investigate possible causes for the difference in flat spot appearance in this fault block; and to get a good geologic identification of the various seismic reflectors for lateral extrapolation of well data.

OPERATIONS AND RESULTS

Problems were experienced during positioning and anchoring of semi-submersible installation West Venture for the wildcat well 31/2-5. After 6 days efforts the installation had to be repositioned 25 m from the intended location and the anchors were successfully laid out and tensioned. The well was spudded on 26 October 1980 and drilled to TD at 2532 m in the Triassic Hegre Group. The well was drilled with seawater and viscous pills down to 443 m, with gelled seawater from 443 m to 810 m, with KCl/polymer mud from 810 m to 1807 m, and with seawater/gel from 1807 m to TD.

Well 31/2-5 confirmed that the Late Jurassic Sognefjord Formation sandstone reservoir was well developed also in the western part of the structure. A gas column was penetrated from 1536 m to 1579 m (43 m), followed by a 21 m thick oil column down to an OWC at 1600 m. Good oil shows continued down to 1644.5 m. The GOC was found at the same depth as seen in the other wells in the area. The most interesting observation in this well was the presence of the thick oil column below the gas, some 9 m thicker than seen in any of the other wells, and the oil was encountered in a section of the reservoir with very good clean sand. It is yet too early to explain the difference in oil thickness, and the importance of a thicker oil column in a good sand will remain unknown until a full production test of the oil has been carried out. A few carbonate cemented, apparently field-wide bands occur with very low poroperm values. A seal over the structure is provided by the Paleocene claystones.

A total of 21 cores (125.8 m) were cut using five Christensen core heads with a total recovery of 98.51 m (78%) from 1511.7 - 1652 m. RFT sampling of pressure points and two successful fluid samples (gas at 1578 m and oil/gas at 1597 m) were consistent with the fluid contacts assessed from the electrical logs. The oil sampled from 1597 m had a gravity of 30.5 deg API compared to 25 deg API in other 31/2 wells.

The well was plugged from 1204 m to 1465 m and suspended on 21 December 1980 as an oil and gas appraisal well.

TESTING

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 31/2-5