



Wellbore History

Well 16/11-1 S is located in the Danish Norwegian Basin. The objective of the well was to test the hydrocarbon potential of the Tertiary, Mesozoic and Permian sediments. Specifically, Tertiary sandstones, Cretaceous sandstones and limestones, Jurassic and Triassic sandstones, Permian carbonates and Permian Rotligendes sandstone were considered to be prospective.

OPERATIONS AND RESULTS

Wildcat well 16/11-1 S was spudded with the semi-submersible installation Ocean Viking on 17 July 1967 and drilled to TD at 3050 m (ca 3020 m TVD RKB) in the Late Permian Zechstein Group. The well is classified as deviated, but was not meant to be. During reaming operation at about 1463 m the hole was accidentally sidetracked. This was not discovered until 13 3/8" casing was set and the cement plug drilled through. Hole deviation was then determined to be 16 deg at the casing shoe. In order to prevent a dogleg the deviation was gradually decreased to 12.5 deg at about 2322 m and stabilized at an average of 12 deg to TD. The dip meter log indicates that the hole drifted in a N 45 deg E direction. While drilling at 2952 m the drill string stuck and a fish was left in the hole. A cement plug was set and the fish was bypassed by sidetracking with jet action from the bit. Upon reaching 2952 m, the pipe stuck a second time, which resulted in leaving a new fish. A second cement plug was set and the hole sidetracked using a Neyrpic turbine drill. The pipe stuck a third time at 2954 m and another fish was left. The hole was again sidetracked and mud weight increased to about 16 ppg. Drilling then continued to TD, before 9 5/8" casing was set. Circulation was lost immediately after drilling through the 9 5/8" casing shoe at 2957 m. Five Diaseal "M" squeezes and five DOC squeezes were performed in an attempt to regain circulation with a 16.0 ppg mud, but all attempts were unsuccessful. A Drispac/Flosal/Descos mud system was used to a depth of 2326 m. At this depth the system was converted to a Sodium Chloride -saturated Drispac/Flosal/Sodium Sulphate system. The salt-saturated mud system was used to total depth.

The Tertiary section consisted mainly of clays and shales. Fairly high methane percentages were recorded by the chromatograph in the shaley lower part of this section as the section was drilled. Two zones within the Mesozoic were encountered which could be prospective reservoirs in other areas. These zones were the middle part of the Late Cretaceous chalk and the sandstones of the Early Jurassic. No shows were observed in either zone, but permeability was indicated in the Late Cretaceous chalk by a small salt-water inflow. Electric log calculations of the Early Jurassic sandstones indicated an average porosity of 23 percent and 100 percent water saturation. No sidewall or conventional cores were taken and no fluid samples collected.

The well was permanently abandoned on 31 October 1967 as a dry well.

TESTING

No drill stem test was performed

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 16/11-1 S