

Wellbore History

GENERAL

Wildcat well 35/10-2 is located on the Flatfisk Slope approximately mid-way between the Fram and the Kvitebj ørn Discoveries in the Northern North Sea. The primary objective for the well was to explore the hydrocarbon potential of the Middle Jurassic Brent reservoir. The secondary objective was to explore the hydrocarbon potential of the Paleocene sandstones of the Goliath -prospect. Furthermore, the well would test the reservoir potential of the "intra Dunlin" (Cook Formation) and Statfjord sandstones. Planned TD was 5000 m MSL.

OPERATIONS AND RESULTS

Well 35/10-2 was spudded with the semi-submersible installation Transocean Arctic on 16 April 1996. The original well path, 35/10-2, was drilled down to a total depth of 3301 m, where the mud motor parted. A technical sidetrack, named 35/10-2 T2 was necessary. This was kicked off at 2563 and the well was drilled down to TD for the well at 4677 m in the Early Jurassic Statfjord Formation. In the 8 3/8" section, severe problems were encountered due to mud losses. The hole was cemented back once to try and seal off the loss zones. The well was drilled with bentonite down to 1460 m, with ANCO 2000 mud from 1460 m to 3990 m, and with AncoTherm mud from 3990 m to TD

No reservoir quality sandstones of any thickness were found in the Tertiary. The seismic anomaly thought to represent the Goliath prospect, was in fact caused by a sequence of thin siltstones and very fine sandstones at 1953-1955 m in the Sele Formation. Good oil shows were observed in this interval. The top of the Brent Group was penetrated at 4149 m, almost 90 m higher than prognosed, and the reservoir proved to hold a gas column of approximately 72 m. The well penetrated sandstones in the Early Jurassic, (Cook, Amundsen and Statfjord Formations), but no hydrocarbons were observed in these. Due to this the well was not drilled to the planned TD.

Nine conventional cores were cut in the well. Two of these were cut from 1960 m to 1974.5 m in the Lista Formation, one was cut from 2018 m to 2023.5 m in the Lista Formation, and the remaining 6 were cut from 4154 m to 4240 m in the Brent Group. FMT samples were taken in the Ness Formation at 4217.9 m (one sample: mix of mud filtrate and formation water) and at 4199.3 m (three samples: mainly mud filtrate with 1 litre gas in one of the samples).

The well was permanently abandoned on 22 August 1996 as a gas discovery.

TESTING

No drill stem test was performed

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 35/10-2