



Wellbore History

GENERAL

Well 6506/11-4 S was drilled on the southern segment of the Smørbukk Discovery. The objectives of the well were to appraise the Smørbukk Discovery and to verify the planned production in the southern segment. The well was planned to be completed as a future producer.

OPERATIONS AND RESULTS

Wildcat well 6506/11-4 S was spudded with the semi-submersible installation Transocean Searcher on 11 February 1996 and drilled to TD at 5110 m (4887.5 m MSL) in Early Jurassic sediments of the Åre Formation. The hole was drilled to 4531 m in the Garn Formation and the 9 5/8" casing was set at planned depth, with casing shoe a few meters into the Garn Formation. However, during drilling out of casing, the new 8 1/2" bottom hole assembly was seized by late setting cement and got stuck inside casing. The well was side tracked with KOP at approximately 3144 m. The sidetrack is designated 6506/11-4 S T2. The sidetrack leg was drilled to the original target zone, the Åre Formation. The well was drilled with seawater and bentonite down to 1415 m, with KCl/polymer/Anco200 from 1415 m to 2825 m and with Ancovert oil based mud from 2825 m to TD.

A Lange Formation sandstone unit was encountered from 4236 m to 4321 m. Well bore 6506/11-4 S T2 penetrated the top of the Tilje Formation and the Åre Formation approximately 24 m deeper than prognosed. Logs proved hydrocarbons in the Garn Formation, the Ile Formation and in the Åre 2 reservoir zone. The Tilje 1.1 Reservoir Zone was found to be water bearing. Hydrocarbons were further indicated by high resistivity log readings in the Lange Formation sandstone unit and in interbedded sandstones in the Lysing Formation from 3571 m to 3603 m.

Two cores were cut in the first well bore, from 4260 m to 4299.9 m in the Lange Formation sandstone unit. A further six cores were cut from 4790 m to 5085.2 m in 6506/11-4 S T2. The latter cores covered the Early Jurassic from upper Tofte through Tilje, and 68.7 m into the Åre Formation. Oil shows were recorded in sandstones throughout both cored intervals. Further geochemical analyses of the oil shows were made difficult by the oil base used in the well. No sidewall cores were taken in this well. The Formation Multi Tester (FMT) was run for pressure and fluid sampling. One segregated fluid sample was taken at 4272.6 m in the Lange Formation; one was taken at 4588 m in the Garn Formation and one at 4702 m in the Ile Formation.

The well is classified as an oil appraisal. It was completed on 6 June 1996 as a development well.

TESTING

One test, test 1 A, was carried out over the interval 5066 - 5073 m (Åre 1 Reservoir Zone) and proved to be tight. A second test, test 1 B, was carried out over the same interval plus interval 5039 - 5043 m (Åre 1 plus Åre 2 Reservoir Zone) and flowed with an oil rate of 726 SM3/day and a gas rate of 396500 Sm3/day gas. In reality this was a test of the Åre 2 reservoir zone. The bottom hole flowing temperature during the test was 163 deg C. A planned microfracture test was cancelled due to strike.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 6506/11-4 S