



Wellbore History

GENERAL

Wildcat well 6506/12-4 was drilled on the Alpha north segment in the northern part of the Smørbukk field, Haltenbanken. The primary objective was to test the hydrocarbon bearing potential of Middle Jurassic Sandstones.

Secondary objectives were to test Early Jurassic sandstones within the coal beds, and possible sand development within the Cretaceous. The prognosed depth was 4457 m or rocks of Triassic age to satisfy the licence commitment.

The well is the typewell for the Melke, Springar, and Nise Formations, and reference well for the Viking and Cromer Knoll Groups and the Lange, Lysing, and Kvitnos Formations (NPD Bulletin no 4)

OPERATIONS AND RESULTS

Wildcat well 6506/12-4 was spudded with Dyvi Offshore installation Dyvi Stena 24 March 1985 and drilled to TD at 4457 m in the Early Jurassic Åre Formation. The well was drilled with seawater and hi-vis pills down to 680 m where a shallow gas pocket caused the well to flow. The gas was led through the diverter system and mud weight was increased. This led to lost circulation, but control was gradually regained after pumping LCM pills. A cement plug was set between 600 m and 680 m. The 20" casing was set shallow at 622 m and drilling commenced with a Gypsum / Lignosulphonate mud system to the 8 1/2" section at 3936 m from where a weighted lignosulphonate mud system was used the rest of the well bore down to TD. During coring operation, at 3978 m, a water kick was experienced, but was brought under control. During cleanup at TD the drill string got stuck. While attempting to work this free, the string fell off the hook. Three weeks were spent on fishing for the string without complete success. The top of the fish is left at 3910 m.

About ten m sandstone was encountered in top Lysing Formation (Late Cenomanian ? Turonian). The sandstone was cored and it contained hydrocarbons but none were produced during DST. The Garn Formation was encountered at 3980 m and a pore pressure considerably higher than expected was observed. Shows were recorded on the cores from the Lysing. Shows recorded in sandstone sequences throughout the Jurassic indicated residual hydrocarbons. Three cores were cut in the well: one from 3135 m to 3157 m in the Lysing to Lange Formations and two from 3972 m to 4008.5 m in the Melke to Garn Formations. The well was plugged and abandoned on 13 August 1985 as a dry well with shows.

TESTING

One DST test was performed in the Lysing Formation between 3133 m to 3150 m. Only water was produced and the test indicated poor reservoir characteristics. Maximum temperature at 3095.62 m was 105.9°C

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 6506/12-4