



Wellbore History

GENERAL

Well 6507/8-1 was drilled on the eastern part of the Heidrun Discovery. The primary objective was to ascertain that the Heidrun field extension into the 6507/8 block and to verify reserve calculations. Secondary objectives were to verify geological model and structural interpretation, and define oil water contact in the Tilje Formation. It was also intended to provide more information on reservoir characteristics and hydrocarbon fluids, and maximum input of data for reservoir simulation studies. The Fangst Group was expected at 2245 m, and the Tilje Formation at 2340 m. Prognosed TD was 2590 m.

OPERATIONS AND RESULTS

Wildcat well 6507/8-1 was spudded with the semi-submersible installation Dyvi Delta on and drilled to TD at 2600 m in Early Jurassic sediments of the Åre Formation. Drilling proceeded without significant problems. The well was drilled with seawater and hi-vis pills down to 1063 m, with KCl/polymer mud from 1063 m to 2235 m, and with gel/polymer/lingo mud from 2235 m to TD.

The only oil shows reported above the target reservoir were on sandstone in a cuttings sample at 2235, and on limestone in a SWC at 2238 m, both samples from the Melke Formation. The Middle Jurassic Fangst Group was penetrated at 2248 m and the Early Jurassic Tilje Formation at 2386.5 m. These reservoir sandstones were found to be hydrocarbon bearing with a gas/oil contact at 2312 m and an oil/water contact at 2480 m.

A total of 9 cores were cut from 2249 m to 2469 m in the Garn, Not, Ile, Ror, and Tilje Formations. Core no 1 from the Garn Formation was loose sand and was lost on the drill floor while recovering from core barrel. One relatively good RFT fluid sample was taken at 2317 m. It contained oil with a density of 0.88 g/cc (29 deg API).

The well was permanently abandoned on 9 December 1986 as a gas and oil appraisal.

TESTING

Two DST tests were performed in the Tilje Formation.

DST 1 tested the interval 2444 - 2463 m and produced 715 Sm³ oil and 31460 Sm³ gas /day through a 3.81 cm choke. The GOR was 44 Sm³/Sm³, the stock tank oil gravity was 0.933 g/cm³ (22.8 deg API), and the gas gravity was 0.600 (air=1). This test produced no sand.

DST 2 tested the interval 2386.4 - 2405.4 m and produced 906 Sm³ oil and 50080 Sm³ gas /day through a 1.91 cm choke. The GOR was 55 Sm³/Sm³, the stock tank oil gravity was 0.917 g/cm³ (22.8 deg API), and the gas gravity was 0.615 (air=1) with 0.5 ppm H₂S and 1.5 % CO₂. This test also produced some sand. The down-hole temperatures recorded during the tests were 84.9 and 81 deg C in DST 1 and DST 2, respectively.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 6507/8-1