



GENERAL

Well 6507/7-8 is a replacement well for well 6507/7-7 and was drilled on the southern flank of the Heidrun Field on the Halten Terrace. The primary objective was to appraise reserves in this part of the field. Further objectives were to obtain a water sample from the Aldra (Tilje) Formation, evaluate vertical communication between sandstone units in the Tomma Formation (Fangst Group), and to obtain oriented cores from this section for fracture orientation studies.

OPERATIONS AND RESULTS

Appraisal well 6507/7-8 was spudded with the semi-submersible installation Treasure Hunter on 9 June 1987 and drilled to TD at 2855 m in Early Jurassic sediments of the Åre Formation. Some problems with low penetration rate and bit balling occurred in the 17 1/2" section in swelling clay, sometimes interbedded with pebbles. The well was drilled with seawater and gel sweeps down to 1035 m and with KCl/polymer mud from 1035 m to TD.

The top of the Tertiary was encountered at 604 m. No indications of overpressured shallow gas were seen. The top of the Tomma Formation (Fangst Group) was penetrated at 2436.2 m and consisted of two hydrocarbon bearing sandstone units separated by a ca 2 m thick shaley interval at 2468 m. For the two units as a whole the logs gave an average SW of 19.4% over the 60.6 m reservoir and a net/gross ratio of 0.921. RFT pressure data indicated a common pressure regime across the shale band at 2468 m, with an OWC at 2495 m. Oil shows were first observed on cores at 2435.5 m where a uniform light buff coloured oil stain was observed. It had pale yellow fluorescence and gave a pale yellow fast blooming cut. Below this the cut was predominantly fast and streaming. A dark brown residue was observed after the solvent had evaporated. With depth the residue became medium brown. Below 2464 m the shows became patchy with the cut residue becoming a pale yellowish grey. No shows were observed below the OWC.

Seven cores were cut from 2405 m in the Melke Formation, through the Fangst Group, and down to 2525 m in the Ror Formation. The average core recovery was 98%. 30 RFT pressure tests were taken through the reservoir. No fluid samples were taken on wire line.

The well was permanently abandoned on 2 August 1987 as an oil and gas appraisal.

TESTING

Two DST's were conducted in the intervals 2473 m to 2480 m (DST 1) and 2438 m to 2441 m (DST 2). DST 1 flowed 30 deg API oil at 187 Sm3/day and gas at 19900 Sm3/day through a 20/64" choke. The gas gravity was 0.68 (air = 1) and the GOR was 106 Sm3/Sm3. DST 2 flowed 29 API oil at 1105 Sm3/day and gas at 136570 Sm3/day through a 52/64" choke. The gas gravity was 0.7 (air = 1) and the GOR was 124 Sm3/Sm3. The gauge temperatures recorded in the tests were 90.3 and 86.7 deg C in DST 1 and DST 2, respectively.

The results of the well test did not indicate vertical communication across the shaley interval at 2468 m.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 6507/7-8