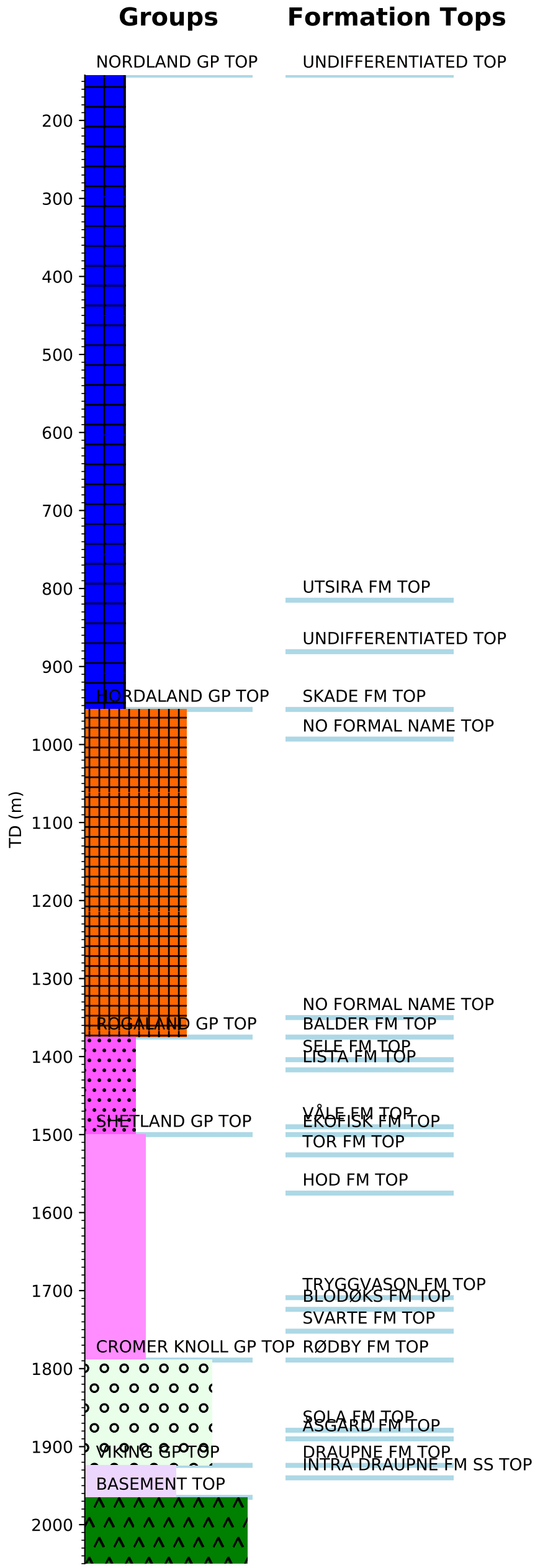

Wellbore History

GENERAL

Well 16/3-6 was drilled on the eastern part of the Johan Sverdrup Field on the Utsira High in the North Sea. The primary objective was to appraise the eastern part of the Johan Sverdrup Field between wells 16/2-13 S and 16/3-4. These two wells are located 5 km apart and found different Jurassic sequences and no oil water contact. Well 16/3-6 was drilled to determine which Jurassic sequences were present at this position as well as oil water contact, thickness of the sequences and depth to top reservoir.

OPERATIONS AND RESULTS

A 9 7/8" pilot hole was drilled from seabed 706 m to check for shallow gas. No shallow gas was seen. Appraisal well 16/3-6 was spudded with the semi-submersible installation Bredford Dolphin on 10 June 2013 and drilled to TD at 2050 m in fractured granitic basement. No significant problem was encountered in the operations. The well was drilled with spud mud down to 698 m and with Performadril water based mud from 698 m to TD.

Top Draupne Formation/BCU was encountered close to prognosis at 1924 m. A well-defined 15-meter thick Draupne Formation shale was penetrated above 24 meters of excellent quality Late Jurassic Intra-Draupne Formation sandstone. The Draupne Formation shales are of late Volgian to early Valanginian age. The Intra-Draupne Formation sandstones were encountered at 1939 m. They are of early Kimmeridgian to ?late Kimmeridgian/early Volgian age and rest directly on solid granitic basement rocks at 1964.5 m. No middle Jurassic sequence was present as in the neighbouring well 16/2-13 S. The oil water contact was established at 1951 m, 4 meters deeper than predicted. Oil shows were described in the interval from 1925 m in the Draupne shales to 1956 m, 5 m below the oil water contact; no other shows were described in the well.

Two cores were cut from 1926 m in the Draupne Formation shale, through the Intra-Draupne Formation sandstone reservoir and down into the basement at 1968 m. The core recovery was close to 100% and the core-log shift was 1.2 m. Oil and water samples were acquired using SLB MDT tools. Oil samples were acquired at 1940.11 m, 1946.51 m and 1950.3 m. Water samples were acquired at 1952.9 m and 1962.5 m. The oil samples proved a GOR of ca 33 Sm3/Sm3, oil density of ca 0.892 g/cm3, and gas gravity of ca 1.06 (air = 1).

The well was plugged and abandoned on 16 July 2013 as an oil appraisal.

TESTING

The hole was perforated between 1952.2 m and 1956.2 m, and two Expro Cats wireless downhole gauges were installed at 1900.7 m and 1885.2 m to monitor reservoir pressure and temperature. The gauges have battery capacity to sample data for up to 5 years. No DST was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 16/3-6