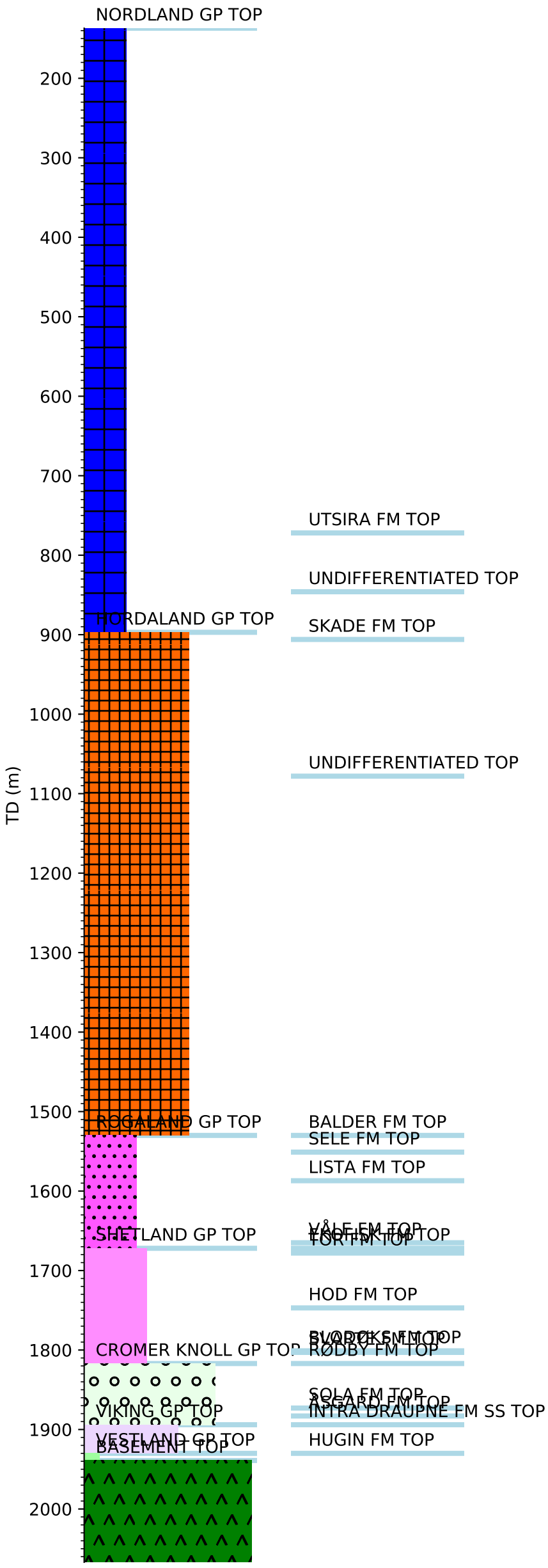

Wellbore History

GENERAL

Well 16/2-12 was drilled on the Geitungen Prospect on the Utsira High in the North Sea. The prospect is situated on a basement terrace north-west of the Johan Sverdrup Field. The main objectives were to investigate the hydrocarbon potential, reservoir quality, and lateral distribution of Intra-Draupne Formation sandstones, and the underlying sandstones of the Hugin and Sleipner Formations. The secondary objectives were to explore the hydrocarbon potential and reservoir properties in the fractured granitic Basement.

OPERATIONS AND RESULTS

Well 16/2-12 was spudded with the semi-submersible installation Ocean Vanguard on 25 July 2012 and drilled to TD at 2067 m in granite Basement. There was a pre-drill shallow gas warning at 707 m, ca 100 m below 20” casing shoe, but no gas was observed when drilling. The well was drilled with seawater down to 211 m and with PerformaDril water based mud from 211 m to TD.

The well penetrated rocks of Quaternary, Neogene, Paleogene, Cretaceous and Jurassic age. No indication of hydrocarbons were recorded above top Intra Draupne Formation sandstone, which was picked at 1894 m, 12 m deeper than prognosed. The reservoir had excellent reservoir properties and contained oil. The top of the Basement was picked at 1938 m, 5 m deeper than prognosed. The fractures in the uppermost part of Basement were oil-filled. The oil/water contact was not encountered, but pressure measurements indicate a connection between this segment and the rest of the Johan Sverdrup discovery. Extensive data acquisition and sampling was carried out. The gas/oil ratio is 51.8 Sm3/Sm3 and the oil density is estimated at 0.81 g/cm3 in the Intra-Draupne reservoir.

Four cores were cut in the interval 1893 m to 1951.7 m, covering the whole Jurassic interval and 13.7 m of the Basement. The difference between the cores depth and wireline logs depth is less than 50 cm. Core 1 was dripping with oil and had excellent shows. The same type of shows continued on core 2 down to 1930 m. From 1930 – 1940 m, the shows disappeared. From 1940 m, oil was observed in fractures in the granitic Basement. Due to less fractures in core 4 shows disappeared. The deepest indication of weak shows were seen at 1950 m.

Reservoir fluid samples were obtained at four depths, with three MDT runs in the well. Large diameter probe was used on MDT wireline runs 5 and 7, and dual straddle packer was used on MDT wireline Run 8. In Run 5, samples were taken in Intra-Draupne Formation sandstone at 1901.3 m (oil) and in the Basement at 1940.0 m (oil with water and filtrate). In Run 7 samples were taken in Intra-Draupne Formation sandstone at 1928.3 m (oil), In Run 8 samples were taken in the Basement at 1940.1 m (oil with water and filtrate) and at 1945 m (water).

The well was permanently abandoned on 6 September 2010. It was planned and drilled as a wildcat well. However, after performing data acquisition, and acquiring formation pressure testing data in the reservoir section, the well was reclassified as an appraisal of the Johan Sverdrup field.

TESTING

Formation tests (mini-DST) were conducted in the bedrock, revealing stable flow rates of both oil and water in different levels in the fractured and weathered bedrocks.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 16/2-12