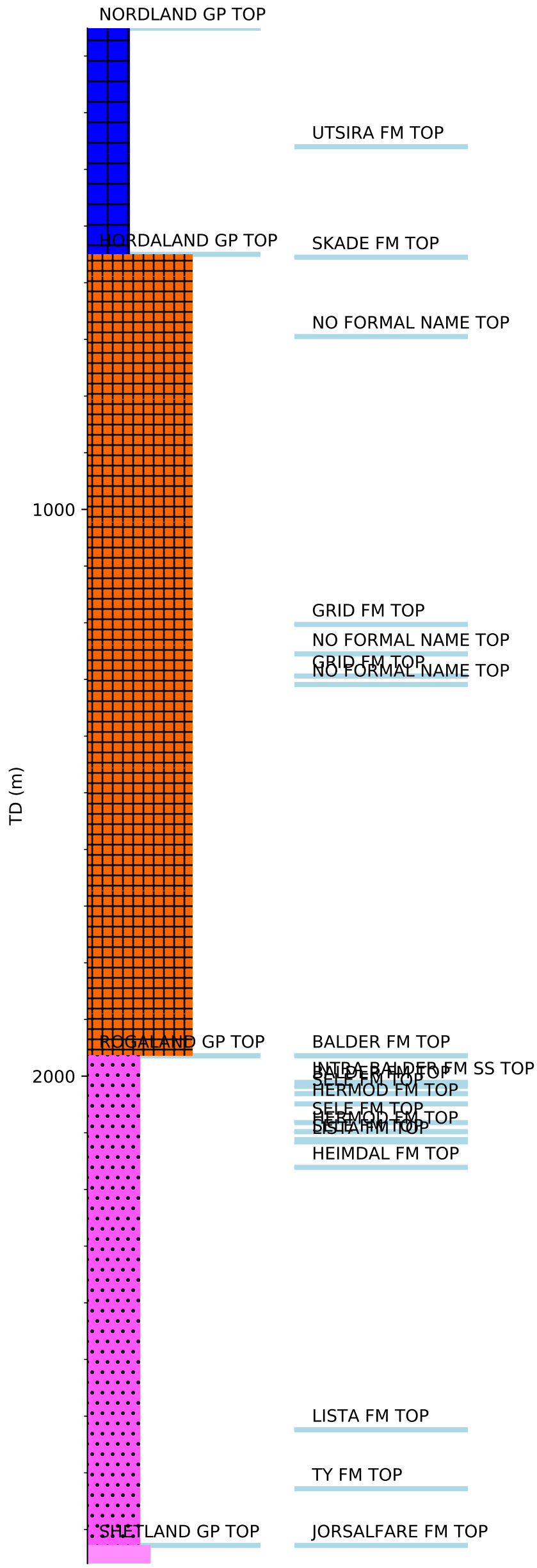

Wellbore History

GENERAL

Wildcat well 24/9-5 was drilled in a location SW of the Heimdal field, ca 5 km from the UK border. It was programmed to test two primary sandstone prospects in the Late Paleocene. The lower objective was the Hermod Formation and the upper objective was sandstones within the Balder Formation. The Hermod Formation prospect was a mapped isochron thick with a small area of structural closure at Top Sele Formation. The Balder Formation prospect was mapped as an isochron thick with an associated seismic amplitude anomaly and was primarily regarded as a stratigraphic trap.

OPERATIONS AND RESULTS

Wildcat well 24/9-5 was spudded with the semi-submersible installation West Delta on 7 December 1993 and drilled to TD at 2860 m in the Late Cretaceous Jorsalfare Formation. No significant problem was reported from the operations. The well was drilled with seawater down to 581 m, with KCl/PAC/PHPA from 581 m to 1941 m, and with KCl/PAC/PHPA/glycol from 1941 m to TD.

The Balder Formation was encountered at 1964 m. A gross oil bearing Intra Balder Formation sandstone interval of 7.1 m was encountered at 2011 m. Net sandstone was 6.3 m of which 5.9 m was in a single massive unit. Petrophysical analysis gave porosities of 35 - 40% in the massive sandstone unit with an average SW of 22.2%. Base of the reservoir was encountered at 2018 m, which was found to be an oil-down-to water contact. Samples from the FMT tool indicated the reservoir fluid to consist of 32-34 deg API oil with a GOR of 91 Sm3/Sm3. Pressure gradient analysis gave a free water level at 2031.5 m (2028.0 m TVD). Geochemical analysis of the oil sample indicated minor biodegradation had taken place. The Sele Formation was encountered at 2031 m with 47 m net sandstone in two Hermod Formation sequences. The upper sequence was encountered at 2049 m and the lower at 2098 m. These sandstones proved to be water bearing with no shows. A thin sandstone at 2045.5 - 2047 m, just above the upper Hermod interval, gave the highest known water below the Balder Formation pay interval. An additional zone of interest was encountered in the interval 1775-1790 m where a number of siltstone/argillaceous sandstone stringers were identified. Minor gas shows were observed and rare traces of sandstone gave poor (residual?) oil shows. Log analysis showed the presence of hydrocarbons in thin argillaceous stringers particularly over the interval 1785-1787.5 m where neutron density logs (acquired through casing) indicated the presence of gas (Average SW = 40%).

Four conventional cores were cut. Three were cut in the Late Palaeocene Balder Formation with 7 m Intra Balder Formation sandstone. The fourth was cut in the Hermod Formation Sandstone within the Sele Formation. Three FMT samples were taken in the well, one at 2013.5 m (oil) and two at 2017.5 m (mud filtrate)

Although the hydrocarbon-bearing interval in the Balder Formation was as prognosis it was recognised that the well was not in an optimum location and it was decided to drill an immediate appraisal well. Well 24/9-5 was therefore not tested.

The well was permanently abandoned on 26 January 1994 as an oil discovery.

TESTING

No drill stem test was performed in the well.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 24/9-5