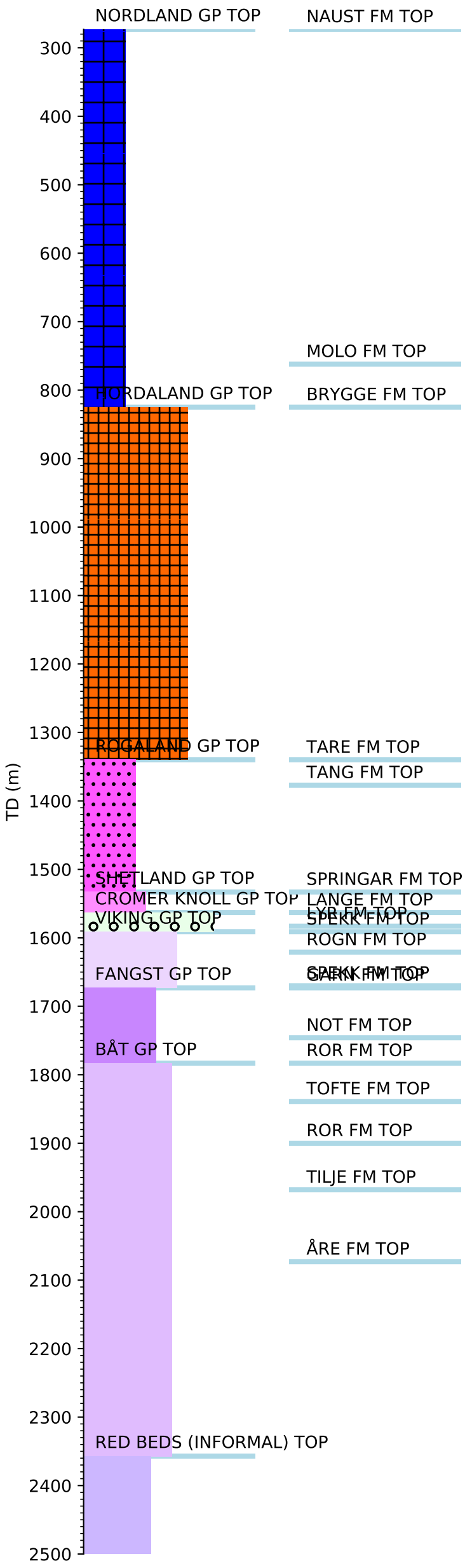

Wellbore History

GENERAL

Wildcat well 6407/9-1 was drilled in the Froan Basin offshore Mid Norway. The primary objective of the well was evaluation of possible reservoirs of Early to Middle Jurassic age. Secondary objectives were evaluation of deeper reservoirs of Early Jurassic to Upper Triassic age.

The well is Type Well for the Rogn Formation. It is Reference well for the Viking Group and Spekk Formation

OPERATIONS AND RESULTS

Wildcat well 6407/9-1 was spudded with the semi-submersible installation Borgny Dolphin on 26 June 1984 and drilled to TD at 2500 m in the Late Triassic Red Beds. Due to high deviation in the 36" hole section, the well was re-spudded. Junk was fished out of the hole before and after performing a leak off test below the 20" casing shoe. Gas bubbles were observed around the BOP stack, the 20" casing was perforated and several cement squeeze jobs were performed. The 13 3/8" casing was run just below the 20" casing. Some technical problems occurred while drilling the 12 1/4" hole. Some tight spots occurred in the two lowermost hole sections. The bottom hole assembly got stuck at 2027 m, but was successfully freed. The well was drilled with seawater and bentonite down to 809 m and with KCl/Polymer mud from 809 m to TD.

The well encountered a Late Jurassic intra-Spekk Formation sandstone unit which was previously unknown in the Haltenbanken area. It has later formally been named the Rogn Formation. It was oil filled from the top at 1621 m down to an OWC at 1660 m. Tests showed light oil with a low content of gas and condensate. The underlying reservoir sandstones of Middle/Early Jurassic to Late Triassic age were all water bearing, nor were oil shows reported in any other porous section in the well. Five cores were cut from the Late Jurassic into the Middle Jurassic. The three first were cut in the Rogn Formation while the two last recovered an underlying Spekk sequence and upper part of the Garn Formation. RFT oil and water samples were successfully recovered from 1635 m and 1703 m, respectively.

The well was permanently abandoned on 7 September 1984 as an oil discovery.

TESTING

One production test was carried out the in the interval 1632 m to 1638 m in the Rogn Formation. A maximum flow rate of 1351 Sm3/day (8500 BOPD) through a 2" choke was sustained for two days. The GOR was 38 Sm2/Sm3 (211 scf/STB), oil gravity was 40 deg API, and separator gas gravity was 0.89 (air = 1). The CO2 content was 1%, no H2S was detected. Bottom hole temperature recorded during the test was 68.3 deg C (155 deg F).

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 6407/9-1