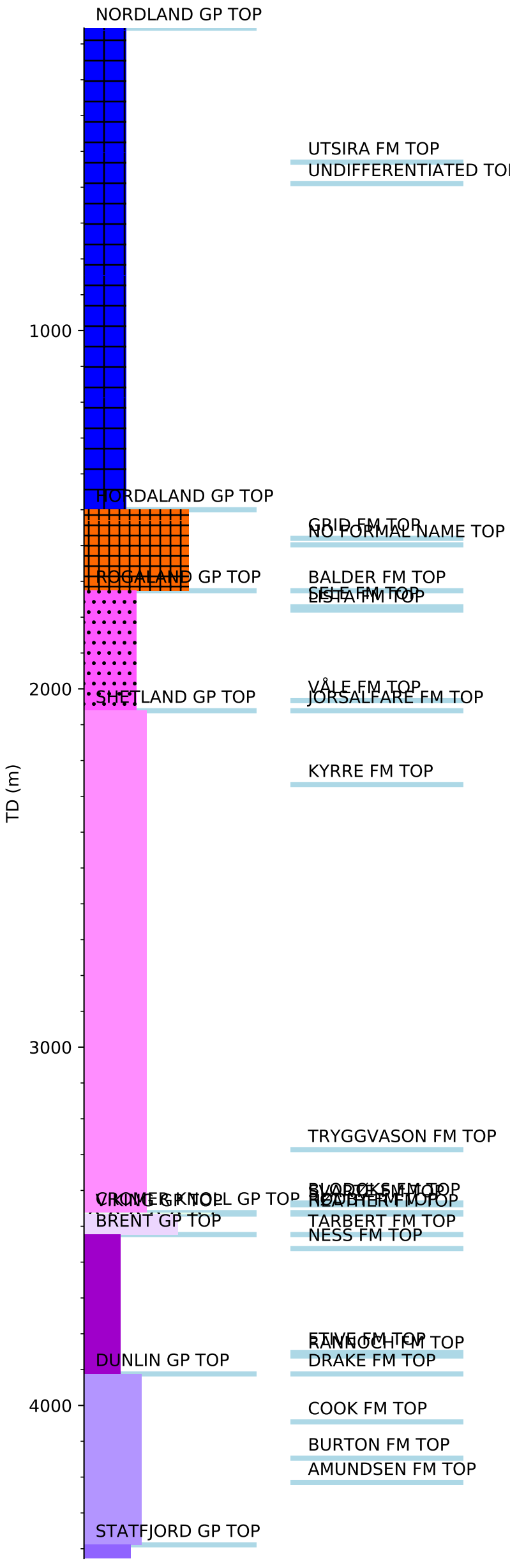

Wellbore History

GENERAL

Well 29/3-1 was drilled in an area adjacent to several major hydrocarbon discoveries close to the UK-Norway median line. The structure is located in the highest part of a westerly tilted fault panel and the closure is provided by fault to the North East and South and by structural dips westward.

The objectives of the well were to test hydrocarbon potential of the Middle Jurassic Brent sandstones; and to test the reservoir potential of the Dunlin sands.

OPERATIONS AND RESULTS

Wildcat well 29/3-1 was spudded 20 may 1986 by Dolphin Services A/S semi-submersible installation Byford Dolphin and completed 15 September 1986 at a depth of 4427 m in the Early Jurassic Statfjord Formation. The 17 1/2" hole (756 m to 2252 m) was drilled with KCL/polymer fluid. Well section below 13 3/8" casing point (2252 m) was drilled oil based with Safemul Invert Emulsion mud (80 % base oil). Drilling was delayed due to a destroyed guide block, after that drilling proceeded without significant problems. The Tarbert Formation was water bearing with residual hydrocarbons and minor amounts of gas in the top section. The lower Ness Formation contained a 150 m hydrocarbon column. The Dunlin Group was water bearing. The Statfjord Formation was found tight and water bearing. Two cores were cut in the Brent sandstones in the interval 3525 m to 3561 m. Five RFT samples were taken in the Brent Group: 3821.5 m (Ness: oil and water), 3719 m (Ness: oil and gas), 3697.8 m (Ness: oil and gas), 3556.4 m (Tarbert: water and filtrate), and 3530 m (Tarbert: gas and water). All samples showed unusually high oil filtrate recovery due to a very deep invasion by the oil base mud.

The well was plugged and abandoned as a gas and oil discovery.

TESTING

Four drillstem tests were performed in the Brent Group.

DST 1B was performed in three zones in the Ness Formation over the interval 3802 m to 3822 m. In this test no flow of reservoir fluid reached surface in 22 hours however, oil (specific gravity: 0.88 g/cm3) and gas (specific gravity (air=l): 0.69) was recovered during reverse circulation.

DST 2B was performed in three zones in the Ness Formation over the interval 3682 m to 3725 m. In this test oil rates varied from 665 Sm3 to 433 Sm3 pr day, gas rates varied between 395000 Sm3 to 535000 Sm3 pr day. GOR varied correspondingly between 595 Sm3/Sm3 to 1235 Sm3/Sm3, indicating gas coning from a gas-cap, with the presence of the gas-oil contact near the well. Oil density was 0.87 g/cm3 and gas gravity was 0.68 (air = 1).

DST 2C was performed in two zones in the Ness Formation over the interval 3682 m to 3699 m. The test flowed 238.5 Sm3 oil and 438960 Sm3 gas pr day with a GOR of 1840 Sm3/Sm3. Oil density was 0.85 and gas gravity was 0.72.

DST 3 was performed in the interval 3522 m to 3530 m in the Tarbert Formation. It produced only Formation water with a little gas.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 29/3-1