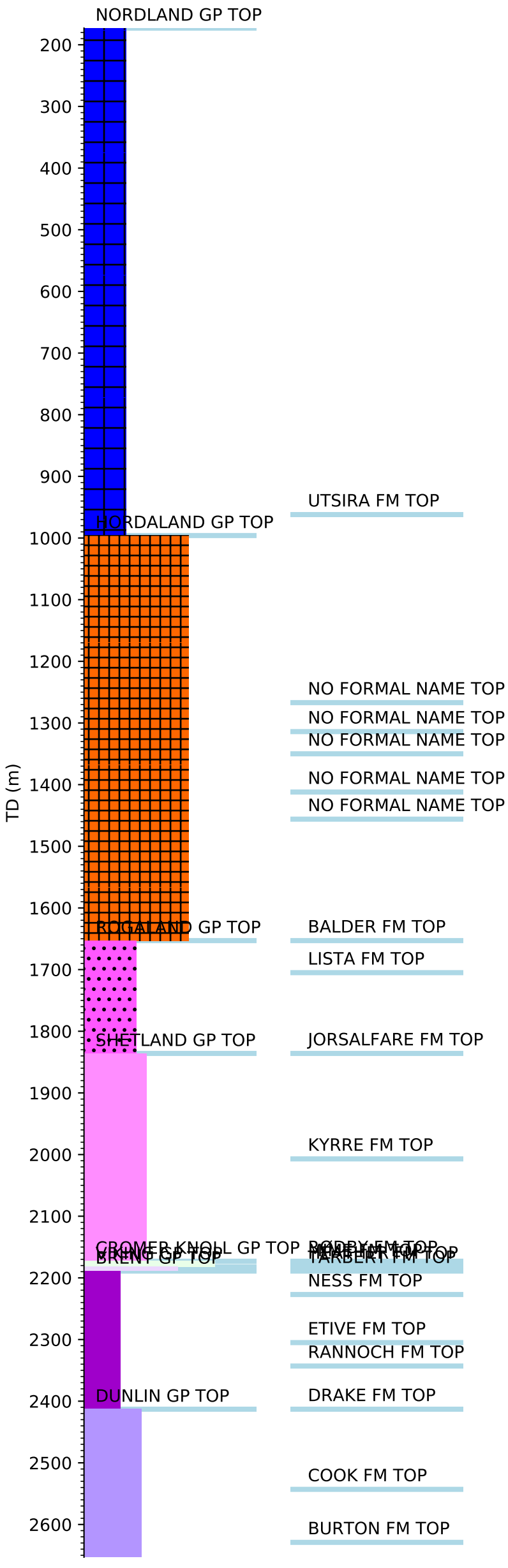
Groups

Formation Tops



Wellbore History

GENERAL

Well 34/7-14 was drilled in on the "B-structure", today named the Tordis Field, in the southern part of block 34/7. The Middle Jurassic Brent Group reservoir is located in tilted fault blocks dipping in a westerly direction within the southern fault segment about 1.4 km south of the well 34/7-12. The structure has a NE-SW trend and is bounded to the east and north by major faults, i.e. Northern Main Fault and Southern Main Fault with throws of 50-200 m. The primary purpose of well 34/7-14 was to further delineate and appraise the Tordis Field. The main target of the well was the sandstones in the Brent Group. Secondary objective was the sandstones of the Early Jurassic Cook Formation.

OPERATIONS AND RESULTS

Appraisal well 34/7-14 was spudded with the semi-submersible installation "Vildkat Explorer" on 28 September 1989 and drilled to a total depth of 2653 m in the Early Jurassic Burton Formation. Shallow seismic indicated gas at 246 & 285 m, 344 m, 376 m, and 511 m. Measurement and logging while-drilling (MWD) verified the indication at 511 m as a thin, gas-filled sand. The upper part of the well was drilled as a 9 1/2" pilot hole without a riser and was plugged back from 511 m due to lack of reliable gas readings in the sand layer. Lost circulation occurred at 2137 m, and the well was plugged back to the 13 3/8" casing shoe. The well was drilled with gel mud (barite, bentonite, caustic soda, soda ash) down to 495 m and with KCl mud from 495 m to TD.

Down to 2189 m, the top of the Brent reservoir, the well proved mainly claystones. Exceptions to this were the sandy Utsira Formation of Miocene/Pliocene age encountered at 856 m, and sandstones within the Hordaland Group encountered in the interval 1167 - 1456 m. The Jurassic comprised the Middle Jurassic Viking and Brent Groups and the Early Jurassic Dunlin Group.& Top Brent Group was encountered at 2189 m.& The Brent Group sandstones proved oil bearing. Exact determination of an OWC was not established due to pressure depletion effects, but oil down to (ODT) 2247 m was proven by logs.

Eleven conventional cores were attempted. Nine were recovered in the interval 2194 m - 2408 m (Tarbert and Ness Formation), two in the interval 1950 m - 1959.5 m were unsuccessful, and one was recovered in the interval 1610 m - 1619 m (Hordaland Group). Two FMT segregated samples were taken on wire line at 2223 m (base Tarbert Formation: gas, oil, and water) and one at sample point 2247 (Ness Formation: gas, oil, water, mud). Three runs were made with core gun. One hundred and fifty sidewall cores were attempted, 72 were recovered. The well was permanently abandoned as an oil appraisal on 2 December 1989.

TESTING

Two DST tests were carried out in the oil zone. Test no 1 (Ness Formation, 2232.3 m - 2241.3 m) produced fluid at a rate of 960 Sm3/d during the main flow period, with a GOR of 80 Sm3/Sm3. Test no 2 (Tarbert Formation, 2204.7 m - 2210,7 m) produced fluid at a rate of 1150 Sm3/d during main flow, with a GOR of 67 Sm3/Sm3.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 34/7-14