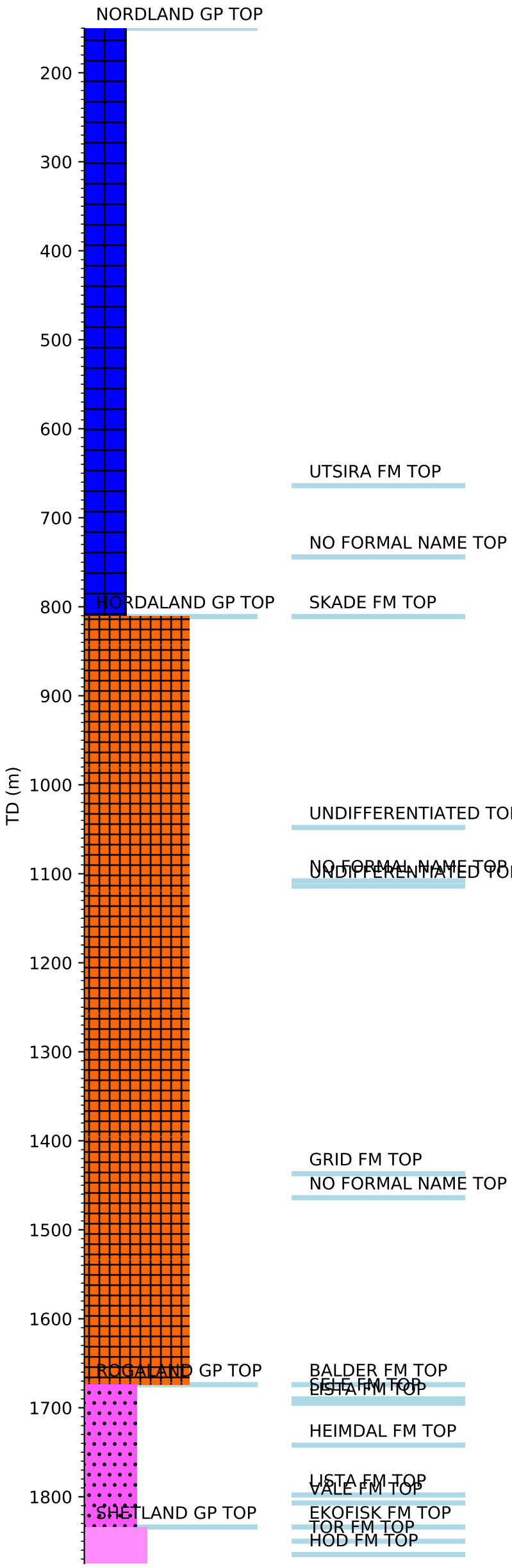


## Wellbore History

GENERAL

Well 25/11 -18 was drilled to appraise the 25/11-15 Grane discovery drilled in 1991. The primary objectives of 25/11-18 were to confirm beyond reasonable doubt recoverable oil reserves greater than 30 million Sm3 in the Heimdal Formation in the Grane Discovery prior to initiating PDO activities; to obtain an Utsira formation water sample and water production rates in order to design the water injection system for the Grane Field; to confirm top and base reservoir, reservoir development, continuity, and quality of Heimdal sand in order to reduce the uncertainties in the resource estimates; to obtain velocity information as input to depth conversion model for the Grane Field; and to test coiled tubing drilling/coring technology as concept for future cost savings.

OPERATIONS AND RESULTS

Appraisal well 25/11-18 was spudded with the semi-submersible installation "West Vanguard" on 10 August 1994 and drill to a total depth of 1875 m in the Late Cretaceous limestones of the Hod Formation. Due to technical problems it was not possible to do wire line logging at TD of the original well. The well was technically sidetracked (25/11-18 T2) with kick-off at 1390 m. The well was drilled with spud mud through the 36" and 24" sections down to 563 m, with polymer mud through the 17 1/2" section to 1183 m, with "ANCO 2000" mud from 1183 through the 8 1/2" section and into the slim 4 1/8" section down to 1690 m where the hole was displaced to "AQUACOL" mud.& Drilling of the 4 1/8" section continued with "AQUACOL" mud down to TD at 1860 m. The technical sidetrack was drilled as a 6" hole to final TD at 1875 m using KCl / Polymer mud. Coiled tubing drilling and coring and slim hole logging was proven possible from an offshore floater with acceptable quality on geological information. Operations, however, were hampered by problems related to junk and hole instability due to low mud weights.

A thin, 1 m thick oil bearing sand was encountered near the top of the Balder Formation at 1675 m. Heimdal Sand was penetrated at 1741.5 m in well 25/11-18 T2. A gross reservoir thickness of 55.5m was defined, giving a net pay of 47.1m. Good oil shows were seen on cores in the interval 1720 m to 1794 m in the original well and at 1606 m (SWC) and in the interval 1720 m to 1743 m in the sidetrack. The pressure data from the Heimdal Formation indicates a possible 1.2 bar pressure difference to well 25/11-15. Oil-water contact in well 25/11-18 was at 1765.2 m TVD, 2 m deeper than in well 25/11-15. Oil composition in 25/11-18 appears geochemically identical to oil in 25/11-15. No free gas cap was found in the sandstones. The well proved the Grane Field reserves to be greater than 30 million Sm3, confirming the reservoir and seismic models. Velocity information from the well indicated local / extended pull up of top and base of reservoir.

The Utsira water sample was of excellent quality. Dynamic test data of good quality were obtained. A total of 16 cores were cut in the interval from 1690 m to 1805 m in the Sele, Lista, and Heimdal Formations. The twelve first cores were cut in the 4 1/8" section of the original hole with recovery from 0 % to 93.3%. The last four cores were cut in the 6" technical sidetrack in the interval 1712 m to 1743.7 m with 75% to 96% recovery. A SRFT wire line fluid sample was recovered from 1755 m in the Heimdal Formation. The well was permanently abandoned as an oil appraisal well on 24. October 1993.

TESTING

A DST was performed over the interval 815 m to 865 m in the Utsira Formation. The test produced at maximum rate 3934 Sm3 water and no gas pr day, at sampling rate 1045 Sm3 water and 1081 Sm3 gas pr day. No sand was produced at either rate. The gas gravity was 0.63 (air = 1).

# LITHOSTRATIGRAPHY & HISTORY FOR WELL: 25/11-18