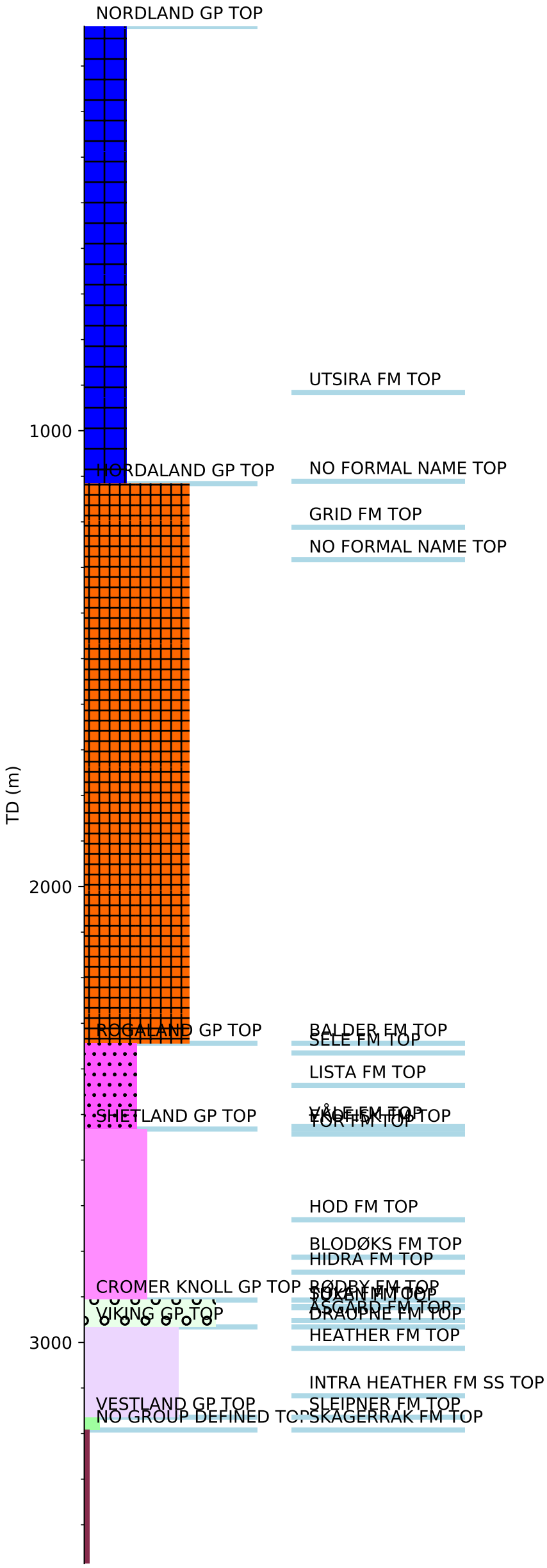
Groups

Formation Tops



Wellbore History

GENERAL

Well 15/12-23 was drilled to appraise the Grevling Discovery in the Southern Viking Graben in the North Sea. The objective was to seek a deeper oil reservoir, or an oil water contact, within the Sleipner Formation, while addressing reservoir distribution and quality along with oil type and to prove up additional reserves in the Grevling discovery in the Hugin, Sleipner and Skagerrak formations sandstones.

OPERATIONS AND RESULTS

Appraisal well 15/12-23 was spudded with the semi-submersible installation Transocean Winner on 1 April 2010 and drilled to TD at 3485 m in the Late Triassic Skagerrak Formation. No significant problem was encountered in the operations. The well was drilled with Hi-Vis Bentonite Sweeps down to 176 m, with KCl/GEM mud from 176 m to 1200 m, and with ENVIROMUL oil based mud from 1200 m to TD.

The prognosed top reservoir Hugin Formation was absent. Instead a silty Intra Heather Formation Sandstone was found directly on the Sleipner Formation. The Sleipner Formation came in at 3164 m and proved to be the main reservoir with coals and massive sandstones interbedded with siltstone. The top of the Sleipner was picked on the log response of coals present at the top of the Formation, and coals seen in the samples. Top reservoir sandstones came in at 3179 m only 1 m deep to prognosis. The reservoir comprises the Sleipner and Skagerrak Formations at this well location. The Skagerrak Formation came in at 3192 m 56 m shallower than the prognosis. Top Skagerrak was picked 54 m shallower from core biostratigraphy than from seismic and petrophysical logs. An OWC, possibly ODT, was picked at 3251 m in the Skagerrak Formation. Shows were observed on cuttings in the Sleipner sandstones and varied from no show to very good show in clean sands before pulling out to cut core at 3187 m. Shows from top cored interval in the Sleipner Formation at 3187 m continued into the Skagerrak Formation and down to 3230m.

Two cores were cut, core 1 from 3187 m to 3241.5 m and core 2 from 3241.5 m to 3296 m, giving a total of 109 m of core. Cores must be depth shifted down 4.6 meter to match the logs. The MDT was run and 18 good pressure points were obtained. Fluid samples were taken at 3191 (oil), 3232 m (oil), 3264 (water), 3285 (water), and 3336 (water).

The well was permanently abandoned on 29 May 2012 as an oil appraisal.

TESTING

One drill stem test was performed from the interval 3181.5 - 3233 m in the Sleipner and Skagerrak Formations. The test produced at maximum 103 Sm3 oil/day through a 16/64" choke in the main flow. The gas measuring equipment did not work properly. In the succeeding sampling flow the well produced 84 Sm3 oil and 4159 Sm3 gas/day through a 12/64" choke. The GOR was 50 Sm3/Sm3.

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LITHOSTRATIGRAPHY & HISTORY FOR WELL: 15/12-23