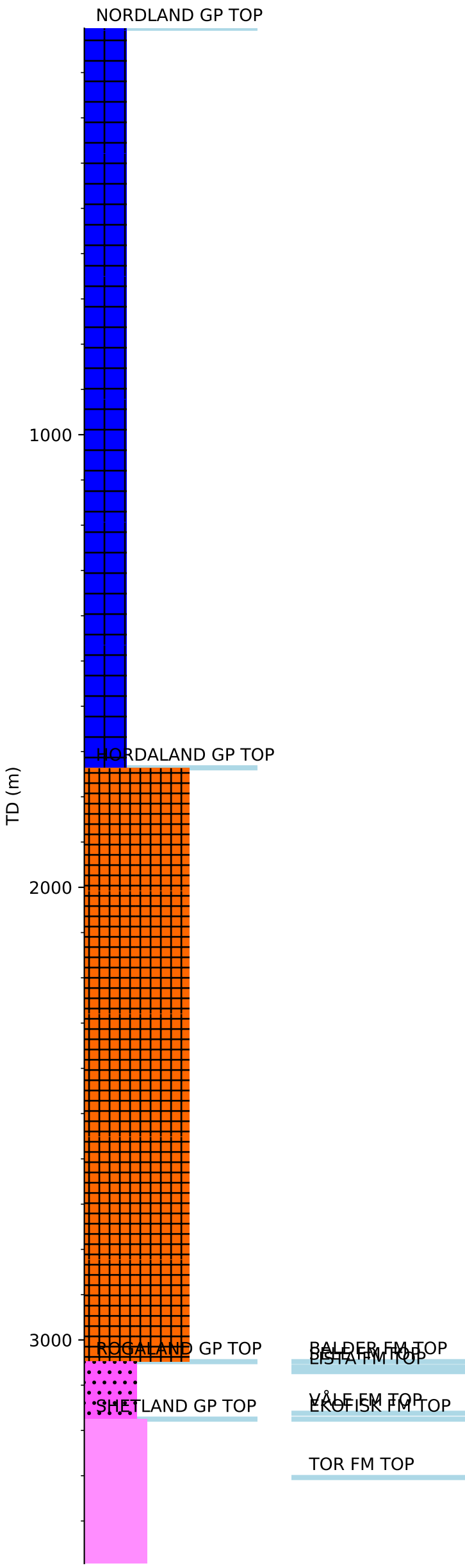
Groups

Formation Tops



Wellbore History

GENERAL

Well 2/4-7 was drilled on a structure ca six km west off the Ekofisk discovery. The objective of the well was to test the Danian limestone with estimated 200 m gross / 120 m net pay, and the Late Cretaceous limestone with estimated 60 m gross / 15 m net pay. These Formations had proved oil productive in the other wells on the Tor structure. Secondary objective was possible Paleocene sand in the interval 3020 - 3140 m. Planned depth was 3414 m (11200 ft).

OPERATIONS AND RESULTS

Appraisal well 2/4-7 was spudded with the jack-up installation M ærsk Explorer on and drilled to TD at 3493 m in the Late Cretaceous Tor Formation. The drill pipe stuck at 3405 m, but was freed after seven hours working. The well was drilled with seawater and gel down to 555 m and with seawater/drill aid and 2 - 5% diesel from 555 m to TD.

Top Paleocene (Balder Formation) was encountered at 3048 m. The Paleocene contained only minor, thin sand beds. The chalk group came in with the Ekofisk Formation at 3175 m and the Tor Formation at 3304 m. Fair shows were recorded on cores in the top 2 m of the Ekofisk Formation, otherwise Ekofisk only had scattered shows. Fair to good shows were again recorded in the Tor Formation, from the top and down to 3332 m. Below this depth shows were reported as spotty, on fracture plains. Oil was confirmed by testing in the top 24 m of the Tor Formation. The test in top Ekofisk gave only water with a trace of gas. Thirteen cores were cut in the well, recovering a total of 164 m core. Core 1 to 9 were cut throughout the Ekofisk Formation, the rest were cut in the upper part of the Tor Formation. Core depths were reported to be 4 - 5 m shallower than log depth for all cores except core 5, which need to be shifted only + 1 m. No wire line fluid samples were taken.

The well was permanently abandoned on 18 October as an oil appraisal.

TESTING

Seven drill stem tests were carried out through perforations in the 7" liner. DST 1, 2, and 3 were conducted in the Tor Formation, the rest in the Ekofisk Formation. The following results are after acidization of the formation. DST 1 from 3367 - 3370 m flowed 229 m3 water /day. DST 2 from 3345 - 3348 m flowed only water cushion to surface and died after 50 min. DST 3 from 3304 - 3313 and 3319 - 3328 m flowed 551 Sm3 oil, 73620 Sm3 gas, and 164 Sm3 water /day. The GOR was 137 Sm3/Sm3 and the oil gravity was 38.2 deg API. The tests in the Ekofisk Formation gave water with only a trace of gas in the interval 3176 - 3203 m in DST 5. The reported DST temperatures are somewhat erratic but were all higher than BHT's from well logging from similar depths. The reported temperatures from the best flows, DST 1 and DST 3, were 138 and 129 deg C, respectively.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 2/4-7