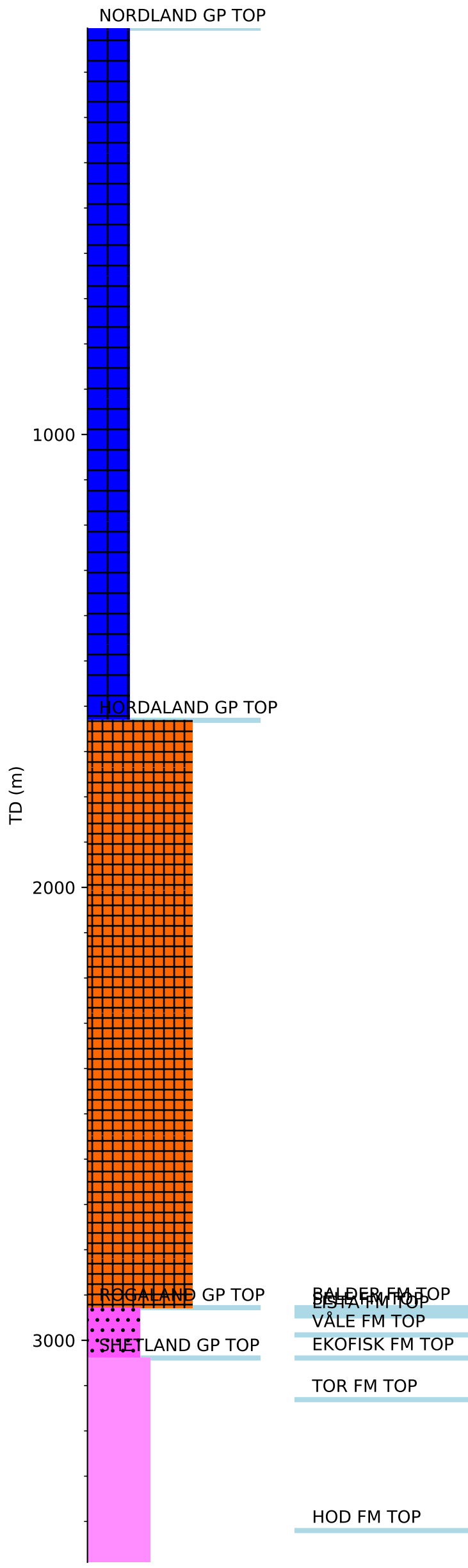
Groups

Formation Tops



Wellbore History

GENERAL

Wildcat well 2/5-4 was drilled ca 21 km southeast of the Tor Field in the southern Norwegian North Sea. The primary targets were Paleocene prognosed at 2914 m (9560 ft), and Danian Carbonate prognosed at 3011 (9880 ft).

OPERATIONS AND RESULTS

Well 2/5-4 was spudded with the jack-up installation Zapata Explorer on 3 November 1972 and drilled to TD at 3490 m in the Late Cretaceous Hod Formation. No significant technical problems were reported from the operations. The well was drilled with seawater and hi-vis mud down to 395 m, with an XC polymer, Shale Trol mud from 395 m to 2743 m, and with Chromium-lignosulphonate (Unical) / seawater mud from 2743 m to TD. From 1 to 6 % diesel addition was used all through.

Top Paleocene (Balder Formation) was encountered at 2928 m, top Danian chalk (Ekofisk Formation) at 3039 m, top Maastrichtian chalk (Tor Formation) at 3131 m, and top Campanian chalk (Hod Formation) at 3420 m.

First show (appearance of C2+ on chromatograph) was in shale at 2883 m. Thin sandstone stringers were penetrated in the Paleocene section, but no shows were recorded in these. Oil shows were recorded in the top of the Danian chalk at 3042 - 3063 m, in the top of the Tor Formation at 3133 - 3167 m, and in the Hod Formation at 3435 - 3459 m. Oil was confirmed by testing in the top of the Tor Formation.

Five short cores were taken with the Schlumberger core slicer. Core no 1 was taken at 3441.5 m in the Hod Formation; cores no 2, 4, and 5 were cut at 3137.9 - 3159.6 m in the Tor Formation, and core no 3 was taken at 3051.7 - 3052.6 m in the Ekofisk Formation. The cores are no longer available from the NPD. No fluid sample was taken on wire line.

The well was permanently abandoned on 31 October as an oil discovery.

TESTING

Two drill stem tests were performed. The following results are after acidizing:

DST 1 tested the interval 3137 - 3170 in the top of the Tor Formation and flowed initially 556 Sm3 oil, 30500 Sm3 gas and 484 Sm3 water, declining to 396 Sm3 oil, 20900 Sm3 gas, and 363 Sm3 water /day through a 32/64" choke. The GOR was fairly constant at 53 Sm3/Sm3, while the API decreased slightly from ca 39 to ca 36 deg API through the ca 20 hours flow.

DST 2 tested the interval 3041 - 3081 m in the Ekofisk Formation. It gave no flow.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 2/5-4