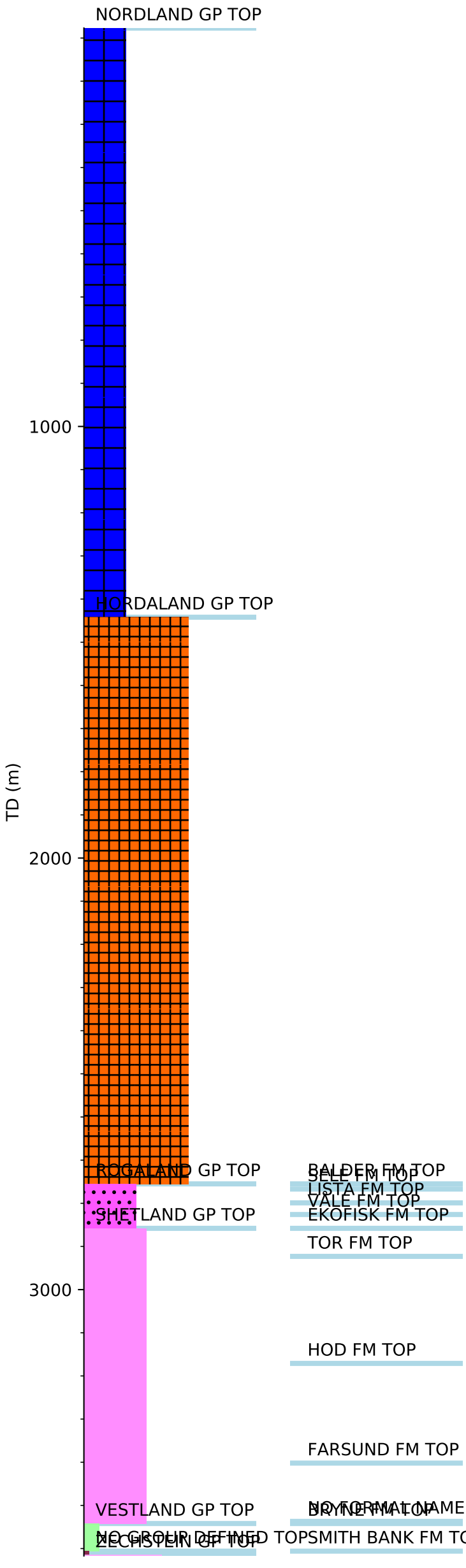
Groups

Formation Tops



Wellbore History

GENERAL

Well 2/6-4 S is located in the northwest part of the Søgne Basin in the North Sea. It was drilled on the flank of a salt dome. The objectives were to evaluate the potential of the Late and Middle Jurassic series, which were supposed to accommodate three reservoirs; turbiditic sands in the Mandal-Farsund Formations, shallow marine Ula Formation sands of Kimmeridgian to Volgian age, and fluvial sands of the Middle Jurassic. Oil was expected with only small amounts of associated gas.

OPERATIONS AND RESULTS

Wildcat well 2/6-4 S was spudded with the semi-submersible installation West Vanguard on 8 April 1990 and drilled to TD at 3627 m (3617 m drillers depth, 3584 m TVD MSL drillers depth) in the Late Permian Zechstein Group. The well was drilled deviated down to 2330 m to avoid possible shallow gas pockets seen on seismic. No shallow gas was encountered. From 2330 m it was drilled with an average of 15 deg dip to the target at 3402 m, then dropping of to less than 10 deg dip for the rest of the well down to TD. No significant drilling problems occurred during drilling operations, but due to a problem of tie-in with gamma ray drillers depth was 10 m shallower than logger's depth in the lower part of the well.

The results of the well were disappointing since the Ula formation was missing, and only two meters of Kimmeridgian sands were encountered at 3537 m (3527 m driller's depth). These sands were very glauconitic, silty and well cemented with porosity estimated around 5-7%. The Bryne formation was thicker than expected, but had limited reservoir quality with only some thin sand beds separated by shaley layers towards the base of the Formation. All Jurassic sands were water bearing without shows, except for some fluorescence in fissures in a coal at the top of the Bryne Formation. Small shows at 2930 to 3040 m (in upper Tor Formation) were described as: "- background gas increases and remains between 1 to 7.7 % (max at 2970 m) with presence of C1 to traces of C5. On this interval, direct fluorescence was observed on cuttings (10 to 20 % light yellow spots) with a slow to moderate streaming pale milky cut fluorescence."

One core was cut at 3530 m in the Middle-Late Jurassic with 67% recovery 67%, (4 m). Two runs of SWC were run with a recovery 50 SWC. Since no significant reservoir was encountered no RFT pressures or fluid samples were acquired.

The well was permanently abandoned on 2 June 1990 as a dry well.

TESTING

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 2/6-4 S