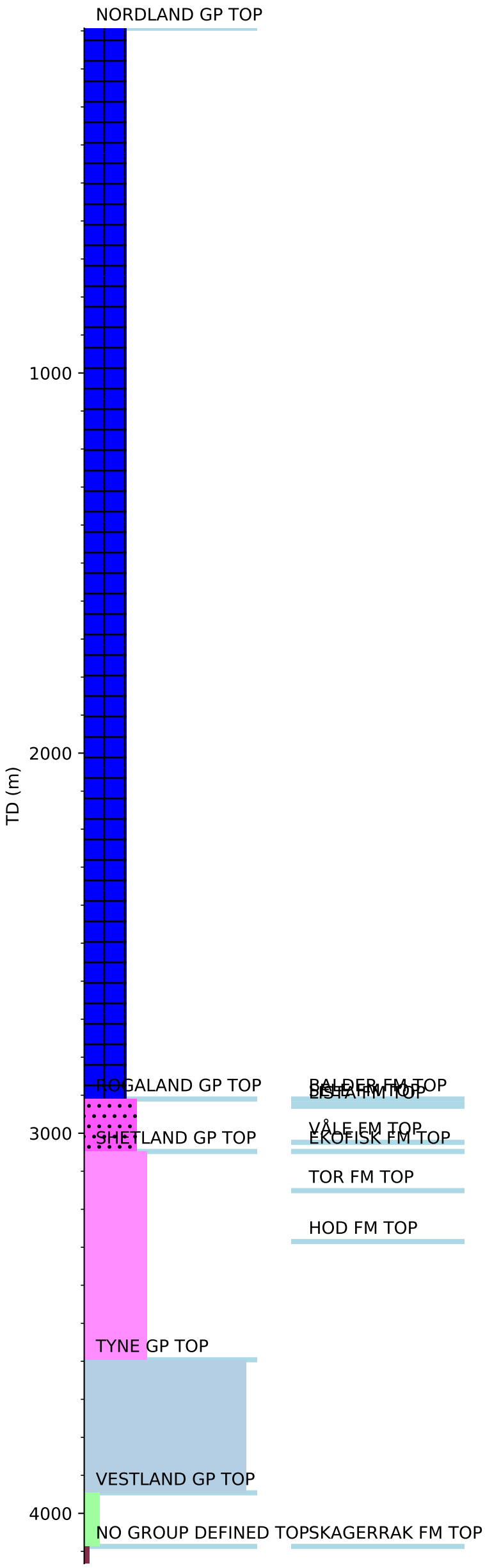
Groups

Formation Tops



Wellbore History

GENERAL

Well 2/5-6 was drilled on the Siv structure, only 800 m northeast of the 2/5-4 discovery well. The Siv structure is a north-south trending anticline. The primary objective of well 2/5-6 was to establish the possibility of Jurassic sands being present along the west side of the Mandal High and to evaluate the hydrocarbon potential of these sands on the Siv structure. Sands of this age had previously been encountered in the BP block 7/12 further to the north. In addition, the well was planned to appraise the Chalk reservoirs found to be oil-bearing by Amoco well 2/5-4.

OPERATIONS AND RESULTS

Wildcat well 2/5-6 was spudded with the semi-submersible installation Norskald on 14 May 1978 and drilled to TD at 4132 m in the Triassic Skagerrak Formation. A bentonite slurry used while drilling the first two intervals, 30" casing was set at 166 m and 20" casing at 540 m. The 17 1/2" hole was drilled using a seawater native solids mud. Problems were encountered as casing point was approached, sloughing shale and tight hole proved troublesome and the mud weight was increased to 10.6 lb/gal before running 13 3/8" casing to 1852 m. The 12 1/4" hole was drilled initially with a gypsum CMC mud. Tight hole was a significant problem until a depth of approximately 2900 m. At 2950 m the mud was converted to a dispersed lignosulphonate system to obtain more stable rheological properties. This mud was used until a depth of 3967 m. Tight hole was experienced on trips at a depth of 2000 m. The pipe was stuck at 3640 m and a fish was left in the hole. The 9 5/8" casing was set above the fish at a depth of 3560 m and a technical sidetrack was performed. The 8 1/2" hole was drilled using the same mud to a depth of 3967 m. At this point, in a Middle Jurassic sand, a salt water flow high in magnesium and calcium delayed operations considerably. The mud was converted to a brine polymer type system and the mud weight was raised to 17.4 lb/gal in order to quell the salt-water flow. This mud was used to TD.

Top Paleocene (Balder Formation) was encountered at 2910 m, top Danian Chalk (Ekofisk Formation) at 3048 m, top Maastrichtian chalk (Tor Formation) at 3151 m, and top Campanian chalk (Hod Formation at 3285 m. The primary objective, the Jurassic sands were encountered at depths of 3912 m (Late Jurassic) and 3946 m (Middle Jurassic). Gross sand thickness for each interval was 13 m and 142 m respectively, with net sand thickness of 10 m and 69 m. The average porosities for these sands were 19.4% (from core) and 25-30% in the Late and Middle Jurassic, respectively. Analysis of electric logs indicated 60% water saturation in these sands and only poor shows were observed. The chalk, the secondary target, was water wet with only poor shows.

One conventional core was cut, after sidetracking, at 3915 - 3925 m in the Late Jurassic sand. A wire line FIT fluid sample was taken at 3919.5 m in the Late Jurassic sand. The sample recovered 8.5 l mud/water and 71 l gas.

The well was permanently abandoned on 16 August 1978 as a dry well with shows.

TESTING

No drill stem test was performed

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 2/5-6