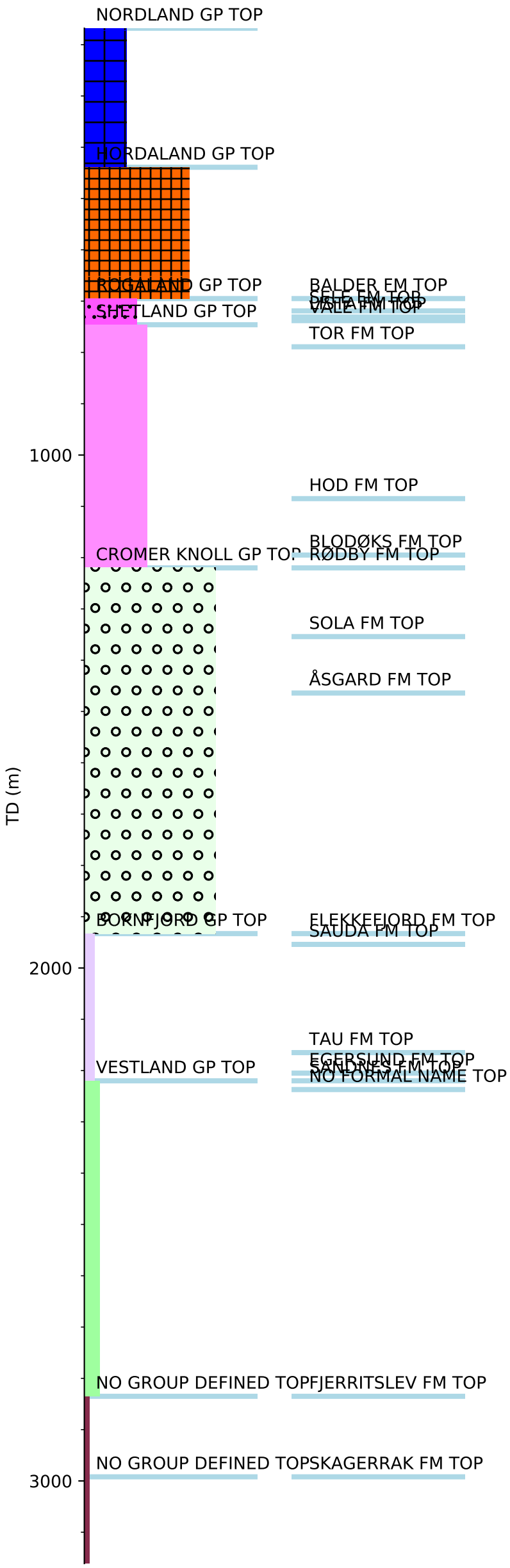
Groups

Formation Tops



Wellbore History

GENERAL

Well 17/9-1R is located in the Åsta Graben in the North Sea, ca 30 km north of the 17/12-1R Bream Discovery well. The primary objective was to evaluate sands at the base of the Jurassic sequence. The structure is not associated with mobile salt, which is the case for the Bream Discovery. The first entry was suspended on 6 November 1973 at 2816 m when the riser was lost in a storm. The re-entry 17/9-1R was made to recover and repair the damaged stack on the sea floor. A deeping program was designed to 3658 m to test the Triassic and possible Zechstein sand intervals. Also a complete logging program was designed to include the portion of original hole below 2616 m, which was not logged due to storm damage to drill ship.

OPERATIONS AND RESULTS

Well 17/9-1 was re-entered (17/9-1R) with the drill ship Glomar Grand Isle on 12 May 1974. The broken BOP stack left on the original hole was recovered and repaired by divers. A total of 7 days and 11 lock-out dives in 159 m water depth were required for these operations. After successful re-entry well bore 17/9-1R was drilled to TD at 3161 m in Late Triassic sand and shale of the Skagerrak Formation. The well bore was drilled with a lignosulphonate/seawater mud from re-entry point to TD.

The upper section of the Skagerrak Formation, from 2999.2 m to 3029.7 m, had sandstone with apparent porosity and questionable traces of dead oil. Sands penetrated in the interval from 3109 m to TD had no shows. The sands were found in thin zones and the potential reservoir quality was considered very poor. Organic geochemical analyses detected no significant source rock potential in the re-entry; the Late Jurassic shales penetrated in the first entry (17/9-1) thus remain as the only significant source rock in the total well bore. The well was found immature; possibly marginally mature towards the Late Triassic at TD (%Ro = 0.5). One organic geochemical study (Robertson Research) inferred "traces of migrant oil stain" in the interval from 2078 m to 2661 m in 17/9-1.

One core from 3073.0 m to 3077.3 m was taken with full recovery. The recovery was a basaltic -volcanic conglomerate with inclusions of calcite, volcanic tuff, siltstone, shale, quartzite and large mica-flakes (biotite). Triassic red Shale and Sand was drilled immediately below the core to total depth with no shows. A total 46 out of 57 attempted sidewall cores were recovered from the interval 2232 m to 3146 m. No fluid samples were taken.

The decision was made to plug and abandon after penetrating the Late Triassic with no shows of hydrocarbons in the well. The well was permanently abandoned on 11 June 1974 as dry hole.

TESTING

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 17/9-1 R