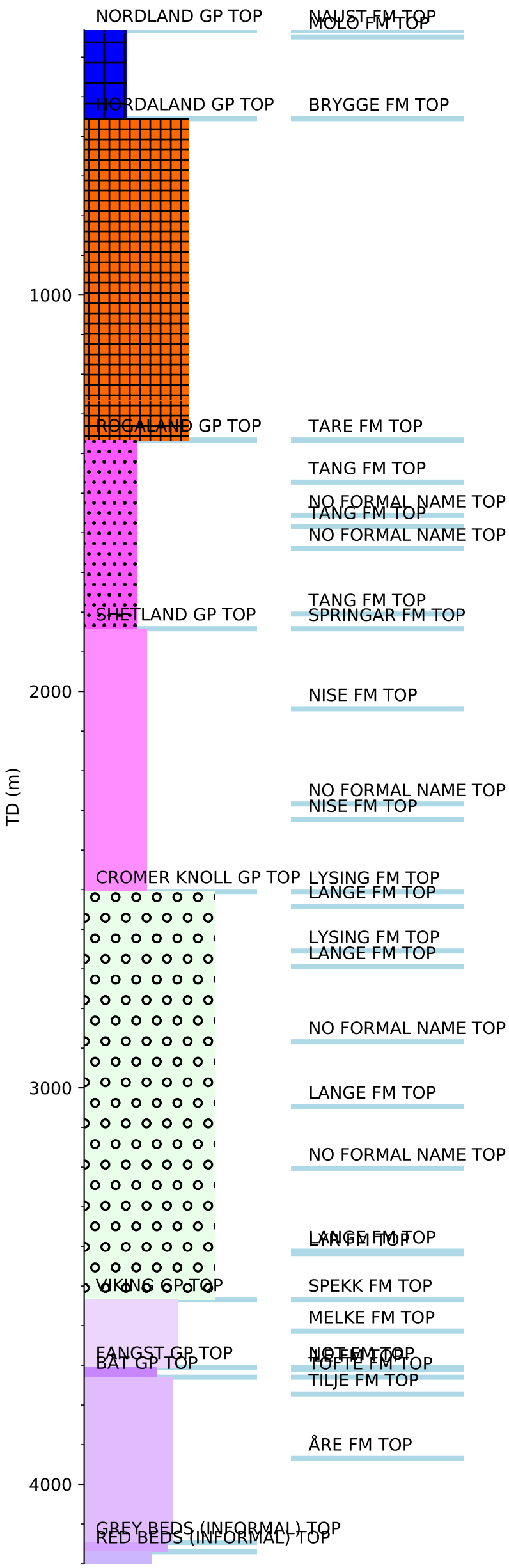

Wellbore History

GENERAL

Wildcat well 6610/3-1 is located ca 80 km southwest of the Røst Island in the Lofoten archipelago of Northern Norway. The main objective was to test the hydrocarbon potential in the Early Jurassic (Tilje Formation) sandstones. A secondary objective was to test the possibility of development of sandy fans from Early Tertiary (Paleocene) to Early Cretaceous. The secondary objective had been fulfilled by drilling of the primary entry 6610/3-1, which was temporarily abandoned in February 1993 due to problems induced by severe weather conditions. The re-entry was done to fulfil the primary objectives.

OPERATIONS AND RESULTS

Wildcat well 6610/3-1R is the re-entry of well 6610/3-1. It was entered with the semi-submersible installation Ross Isle on 15 September 1993 just below the 13 3/8" casing shoe in well 6610/3-1 (kick-off point at 1750 m in intra-Tang sandstone). Well 6610/3-1R was drilled to TD at 4200 m in the Triassic Red Beds. No significant technical problems were encountered during drilling. The well bore was drilled with ANCO 2000 mud from kick-off to TD.

The Tilje Formation was encountered from 3771 m to 3935 m with sandstone interbedded with siltstone and with limestone and claystone stringers. The sandstone was mostly fine-grained and mostly silica and calcite cemented. An FMT pressure log was run, but no gradient could be established due to tight/impermeable Formation. The well penetrated three source rock formations: the Spekk Formation (3534 m to 3614 m), the Melke Formation (3614 m to 3705 m, and the Åre Formation coals (3935 m to 4147 m). Moderate to minor shows of unproducible character were detected at scattered intervals in the Lange Formation. These were indicated by wet gas occurrences, sediment extracts and oil recovered through mud injection in a test interval. Trace shows were also recorded on claystones/limestones and silty layers in the Spekk and Melke Formation. No producible oil or gas was encountered in the well. The Spekk Formation had high TOC, typically 7 - 9 %, but very moderate hydrogen index, typically 60 to 90 mg HC/g TOC. Assuming a Type II kerogen for the Spekk Formation Tmax values indicated post oil window maturity (typically 455 - 460 deg C) while vitrinite reflectance indicated peak - late oil window (%Ro around 0.8). The Åre coals had Tmax values around 480 deg C and vitrinite reflectance values around 1.15. Again Tmax indicated higher maturity than did the vitrinite reflectance, but both techniques indicate coals into the gas window.

Three cores were cut in 6610/3-1R. One of these was cut from 3315 m to 3324.25 m in Intra Lange Sandstone, one from 3720 m to 3724.12 m in the Ile Formation, and one from 3741.3 m to 3747.9 m in the Tofte Formation. A segregated FMT fluid sample was taken at 4064.6 m. The reported content was mud filtrate under atmospheric pressure in both chambers.

The well was suspended on 11 December 1993 as a dry hole with shows

TESTING

Well 6610/3-1R was tested in 2 intervals in Intra Lange Sandstone. Test no. 1 tested the interval 3370 m to 3412 m. Test no. 2 tested the interval 3201 m to 3249 m. No fluids were produced. Both test intervals were tight.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 6610/3-1 R