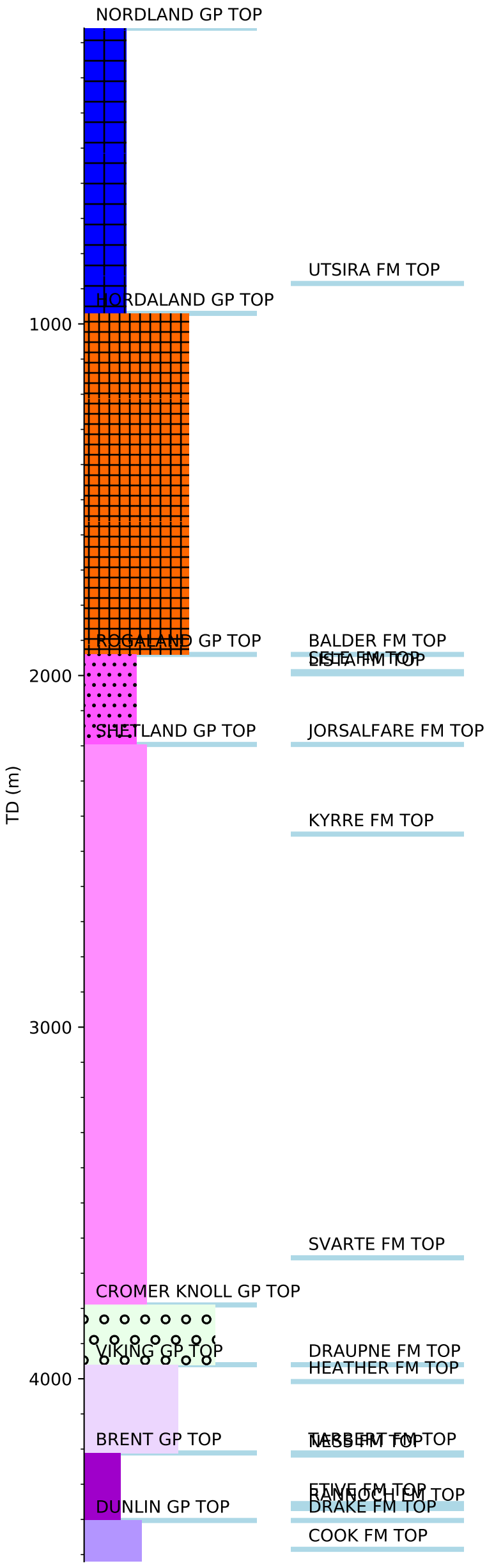


## Wellbore History

GENERAL

Block 34/10 covers a structurally complex area located in the Tampen Spur area of the Viking Graben. The Tampen Spur is characterized by a series of rotated fault blocks, where the major faults generally have throws towards the east and stratigraphic dips westwards. The Gullfaks Gamma structure sits on a fault terrace, down thrown from the Gullfaks Sør Field. This terrace also covers the Kvitebjørn area. The structure is a complex, faulted culmination, with a dip closure in all directions. The Gullfaks Gamma area straddles the 34/10 - 34/11 block boundary. The majority of the defined prospective elements, lie within block 34/10

The primary objectives for drilling well 34/10-42 S were to appraise economical Brent hydrocarbon reserves updip from well 34/10-23 and to test the Brent erosion model and thereby to enable a Gullfaks Gamma Field PDO. The hydrocarbon type was to be tested. A secondary objective was to test possible additional reserves in the Cook and Statfjord Formation if the well was extended through these formations. Finally, the well should add data to the field parameter database and provide a key velocity calibration point for time-depth conversion.

OPERATIONS AND RESULTS

The appraisal well 34/10-42 S was spudded with the semi-submersible installation "Transocean Arctic" on 15 July 1999 and drilled to TD at 4520 m (4378 m TVD RKB) approximately 40 m into the Early Jurassic Cook Formation. It was drilled deviated to avoid shallow gas Class II warnings. The well was drilled with sea water and hi-vis pills down to 1133 m, with KCl / polymer / glycol mud from 1133 m to 3666 m, and with oil based mud from 3666 m to TD. The reservoir tops came in deeper than the geological prognosis indicated. The top of the Tarbert and Cook Formations were found 174 m and 112m deeper, respectively. Both the Brent group and the Cook Formation proved to be water wet, indicating a sealing fault between well 34/10-23 and 34/10-42 S.

No visual shows were observed above the Viking Group. Dull, yellowish, direct fluorescence and slow streaming, milky white cut fluorescence was observed on some of the claystone cuttings from the Draupne Formation hot shale. In the sandstones of the Tarbert and upper Ness Formations, no direct fluorescence was observed, but moderate to weak, slow streaming bluish white cut fluorescence was common in the upper half of the cored section. Gas readings were recorded from the 20" shoe. The gas level was generally low, below 0.5 %, down to 3140 m where the gas content increased sharply to a higher level, 2 - 6%, reaching a maximum peak of 9.73% at 3202 m. This continued down to the top of the Viking Group. Gas levels through the Draupne Formation varied from 0.7% and up to 3.1% in the most carbonaceous intervals (C1-C5). Throughout the Heather Formation, the background gas varied between 0.6% and 3% with peaks up to 3.8%. All components from Cl to C5 were recorded. In the Brent reservoir, the gas readings were commonly showing levels slightly below and slightly above 2%, with a maximum of 7.2 % in the relatively tight, arkosic Rannoch Formation. In the Dunlin Group, gas levels were typically between 0.8 % and 2.2% with a local maximum of 6.2% at 4359 m. In a very tight, impermeable, arkosic sand near TD of the well within the Cook sandstone unit, the gas level was peaking 14.4%. One core was cut in the interval 4109 m to 4111 m in the Heather Formation and a second was cut in the interval 4217 m to 4254 m in the Ness Formation. One segregated FMT water sample was taken at 4226.4 m. A 2x20 litres preflush chamber and a 4 litres PVT chamber was run, and a total volume of 32 litres and 3.4 litres were sampled respectively. No contamination was measured offshore (tritium added as tracer in the mud), however some traces of oil are reported from the laboratory. The well was abandoned as a dry appraisal well with shows on 19 September 1999.

TESTING

No drill stem test was performed.

# LITHOSTRATIGRAPHY & HISTORY FOR WELL: 34/10-42 S