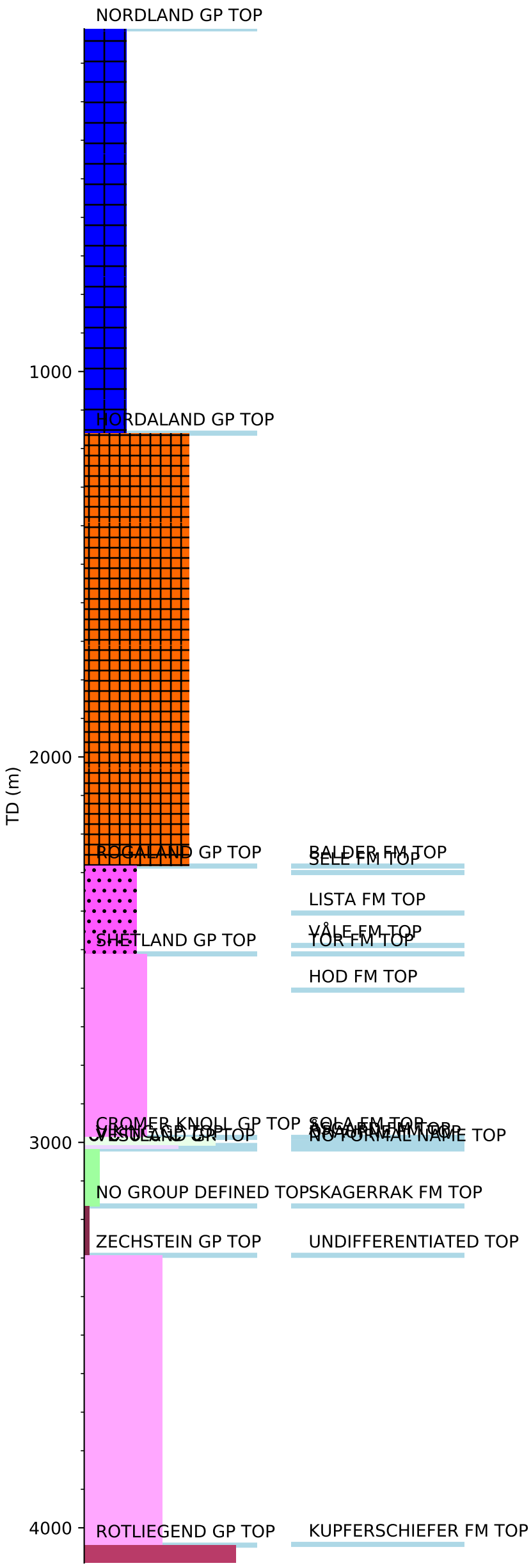

Wellbore History

GENERAL

Well 6/3-2 was drilled on the gamma structure on an early Permian formed fault block, 1.4 km from the Norwegian/UK median line. The primary objective was to test Jurassic/Triassic sandstones at different levels for possible hydrocarbon accumulations. Secondary objectives were to test Cretaceous porous/fractured limestone/chalk and Rotliegend sandstone. The prognosed TD was 4325 m. The location was chosen due to the proximity to mature source rocks and oil/gas discoveries in British waters. Seismic anomalies indicated shallow gas. Due to this the original planned well location was abandoned and a new location was chosen 500 m to the east.

OPERATIONS AND RESULTS

Wildcat well 6/3-2 was spudded with the semi-submersible installation ROSS Isle 21 November 1985 and drilled to TD at 4091 m in the Early Permian Rotliegend Formation. Some hole problems were experienced in the top of the 12 1/4" hole section. 9 5/8" casing was set close to the Zechstein formation before drilling the 8 1/2" hole into the salt. At 3772 m, an over-pressured zone of dolomite/slate was encountered. It was anticipated that one had found a "floating lens" enclosed in the evaporites. The well started flowing and pressure was increased to 2.05 g/cc in order to stabilise the well. Because of this a 7" liner had to be set in the middle of the salt. A 6" hole was drilled to base of the Zechstein Formation and a 5" liner was set in order to be able to reduce mud weight through the Rotliegend sandstone. The well was drilled with seawater/hi-vis pills/pre-hydrated bentonite through the top sections to 622 m, with gypsum/polymer mud from 622 m to top of the salt at 3400 m, and with Safemul oil based mud from 3400 m to TD. No indication of shallow gas was encountered at this location.

Top Cretaceous came in at 2511 m. There were some shows in the Cretaceous limestone/chalk. However, logs, cores and cuttings showed that the reservoir properties were poor, with no fracturing, and permeabilities were less than 0.02 mD. There is a possibility that the shows are due to hydrocarbons that have migrated from the underlying Jurassic sandstone. Top Jurassic sandstone was encountered at 3017 m and extended down to 3165 m. Conglomerates are developed in a thin bed on top of the Triassic. Fair shows were recorded in the Hugin Formation, but logs showed no moveable hydrocarbons, so the shows were interpreted as residual hydrocarbons. The Rotliegend sandstone came in at 4045 m. Base was not seen. Core, cuttings and logs all proved a water-saturated formation without trace of hydrocarbons. Three cores were cut in the Cretaceous chalk between 2794 m and 2859 m, seven cores were cut in the Jurassic sandstone and into the Triassic Skagerrak Formation from 3042 m to 3197.5 m, and one core was cut at TD in the Rotliegend sandstone between 4098 m and 4091 m. FMT fluid samples were taken at 3017 m and 2652 m. Both samples contained mud filtrate and no liquid or gaseous hydrocarbons.

The well was permanently abandoned 10 March 1986 at as dry

TESTING

A salt-water depletion test was performed to deplete the over-pressured shale/dolomite layer in the Zechstein to be able to continue drilling to prognosed TD. The secondary objective was to determine the formation pressure in this abnormal pressure zone.

The test interval was the open-hole section from 3722 to 3776 m with the production packer just above the 7" liner shoe at 3712. The lithology from 3722 to 3761 was mainly halite. From 3761 to 3772 m the lithology was anhydrite/halite/shale with minor amounts of dolomite. The interval from 3772 to 3776 m consisted of mainly shale interbedded with salt and porous clastic dolomite. Cumulative 21.6 Sm3 salt water was produced during the main flow period and the water flow rate decreased gradually from 234 Sm3/day to 0 Sm3/day. Initial Pressure at reference depth 3710 m, from Horner plot was 75670 KPa. Maximum-recorded temp during main flow was 115 deg C.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 6/3-2