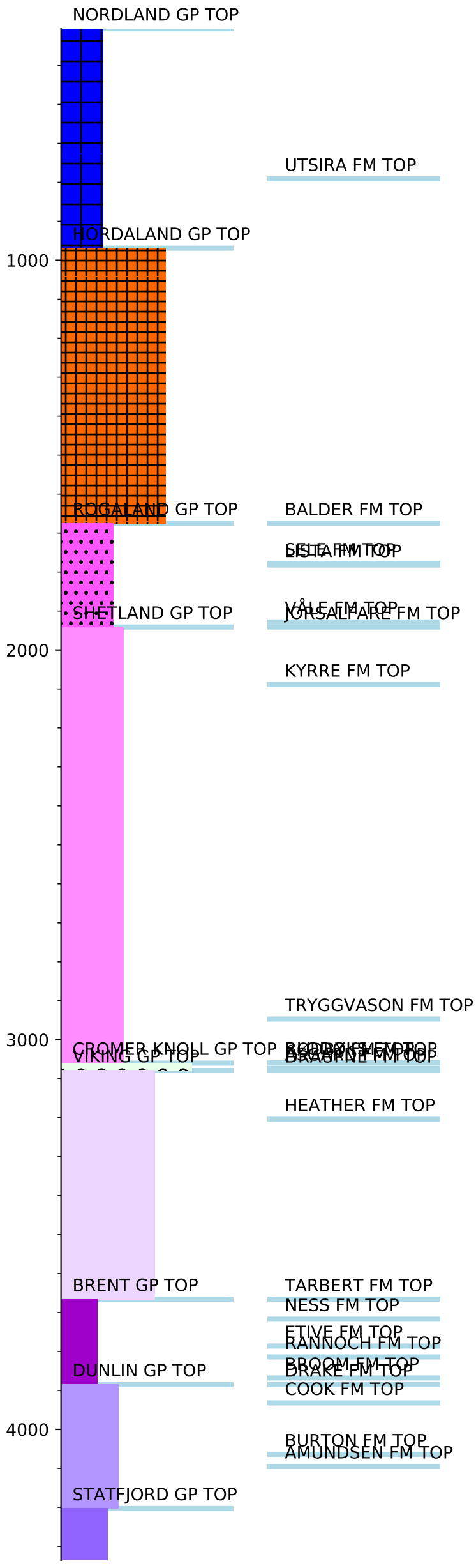
Groups

Formation Tops



Wellbore History

GENERAL

Wildcat well 35/8-2 is located in the Sogn Graben north of the Fram Field. The main objectives were to test the Middle Jurassic Brent Group as well as sands in the Early Jurassic Dunlin Group and Statfjord Formation on a structure located in the south western corner of the block. No reservoirs were anticipated above the Late Kimmeridge Unconformity.

OPERATIONS AND RESULTS

Well 35/8-2 was spudded with the semi-submersible installation Sedco 704 on 30 August 1981 and drilled to TD at 4336 m in the Early Jurassic Statfjord Formation Formation. During hole opening of the 36" section, the drill string parted and left the bit, opener and drill collars in the hole. Fishing was unsuccessful. The well was re-spudded 11 September 1981 and the 17 1/2" pilot hole was drilled without problems. When opening to 36" washing and reaming was required. Few problems were encountered in the 26" section. While drilling the 17 1/2" hole one experienced problems with tight hole at 830 to 883 m, 1610 -1720 m and 1915 - 1940 m. Repairs of the BOP and other unrelated rig problems occurred for 13 days during the drilling of this section. Tight hole was also experienced in the upper part of the 12 1/4" section and at 3100 m where pore pressure also started increasing. Some problems were experienced when coring in the 8 1/2" section. When running in hole with a new bit, the pipe became stuck at 3662 m. Twenty-one days were spent fishing before the hole was plugged back into the 9 5/8" casing. The well was then sidetracked from 3482 m and the 8 1/2" hole was drilled down to 3954 m. Some minor problems with tight hole and differential sticking occurred. A 6 1/8" hole was then drilled to TD at 4336 m. The well was drilled with seawater / pre-hydrated bentonite / gel down to 2155 m and with seawater/bentonite/polymer/LF-5 mud from 2155 m to 3538 m. From 3538 to TD the well was drilled with KCl/polymer mud, which was converted to a lignite/lignosulphonate mud with up to 5% peanut oil.

Indications of hydrocarbons while drilling occurred in Late Jurassic sandstones and shales, and in Middle and Early Jurassic sandstones. Log analyses indicated a gross hydrocarbon column of 60 m in the Brent Group down to a hydrocarbon/water contact at 3726 m, in a gross hydrocarbon sand thickness of 52 m. On the cores, the contact was indicated at 3733 m. The Early Jurassic sands (Cook and Statfjord Formations) had hydrocarbon shows while drilling. Subsequent log evaluation indicated that these sands were water-bearing.

A total of 7 cores were taken in the original, unlogged hole (ca 8 m from the logged sidetrack). One core was cut in the Heather sand and six cores were cut in the Middle Jurassic Brent Sand reservoir. Coring continued from 3667.2 to 3753.4 m, through the Tarbert Formation and into the Ness Formation, until hydrocarbon shows were no longer encountered. An RFT run was made in the well, but no fluid samples were obtained.

The well was permanently abandoned on 21 May 1982 as a gas/condensate discovery.

TESTING

The well was tested over three intervals. DST 1 in Brent (3694 - 3703 m) tested 447400 Sm3/day gas with 305.3 Sm3 condensate during a 945 minutes flow period before being shut-in for 1560 min. The gas/condensate ratio was 1467 Sm3/Sm3, with condensate density = 0.797 and gas gravity = 0.67 (air = 1). DST 2 (3306 - 3315 m) was considered as an invalid Heather test - the Brent section was inadvertently retested behind casing. However, DST 2 likely tested a different Brent sand than DST 1; with a lower flow capacity and a higher CGR than in DST1. Cement was squeezed before beginning the next test. DST 2A (3306 - 3315 m + 3321 - 3327 m) proved permeability in the Heather formation to be too small to allow fluids to be recovered in the drill pipe.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 35/8-2