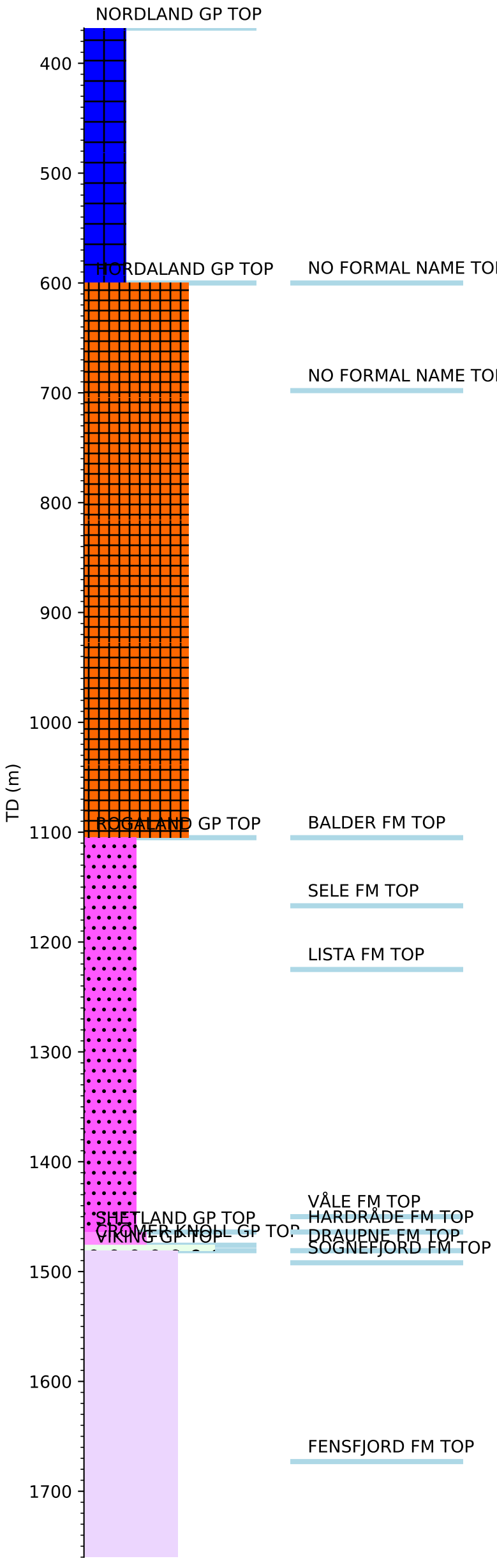

Wellbore History

GENERAL

Well 31/2-6 is located in a fault block north-east on the main Troll structure, approximately 8 km NNE of 31/2-3. The main objective of the well was to test the north-eastern margin of the Troll structure and to prove hydrocarbon communication between block 31/2 and 31/3. The well location was picked to test the oil zone in a good sand reservoir. A second objective was to get reliable geologic tie to the seismic reflectors to allow for accurate lateral extrapolation of well data. Planned TD was 2500 m in Triassic sediments.

The well is Reference Well for the Sele Formation.

OPERATIONS AND RESULTS

Appraisal well 31/2-6 was spudded with the semi-submersible installation Borgny Dolphin on and drilled to TD at 1760 m in the Late Jurassic Formation. The 9 5/8" casing collapsed at 771 m and was cut and retrieved from 760 m. As a result of this, well 31/2-6 was not deepened to the Triassic. The well was drilled with seawater gel down to 614 m and with KCl polymer mud from 614 m to TD.

Well 31/2-6 proved a similar hydrocarbon accumulation in this northern fault block area to that of the main field accumulation tested by wells 31/2-1,2,3 and 4. The well encountered the Sognefjord Formation at 1492 m. The Formation held a 79.4 m gross gas column underlain by a 10.3 m oil column. The GOC at 1571.4 m and the OWC was at 1582.2 m. Well 31/2-6 confirmed the overall interpretation of the flatspot as a direct hydrocarbon indicator. Oils shows were recorded on cores from 1504 m to 1601 m. In addition, cuttings gave patchy shows in the interval from 1710 m to 1758 m. Sidewall cores from this interval did not confirm shows in the latter interval.

Coring commenced at 1504.4 m and terminated at 1632.05 m, within the Sognefjord Formation. Thus 127.65 m of core was cut from which 123.65 m (97%) was recovered. An RFT gas sample was taken at 1518 m as a backup until samples could be obtained from the subsequent production test. No sample was attempted in the oil zone because of the badly washed out hole.

The well was permanently abandoned on 17 October 1981 as a gas and oil appraisal.

TESTING

Production testing was carried out in both the oil and gas zones. The oil zone from 1576 m to 1579 m produced up to 151 Sm3 bbl/day of 27 °API oil with a GOR of up to 267 Sm3/Sm3. Maximum temperature recorded was 65.6 deg. C. The gas zone from 1518 m to 1537 m produced up to 1699000 Sm3 gas/day with a condensate/gas ratio of ca 0.00002 Sm3/Sm3 (GOR = ca 50000 Sm3/Sm3). The maximum recorded temperature in this test was 62.8 deg. C. The DST temperatures gives a temperature gradient above the Troll reservoir of ca 51 deg C /km, which is unusually high compared to the average for the Norwegian continental shelf.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 31/2-6