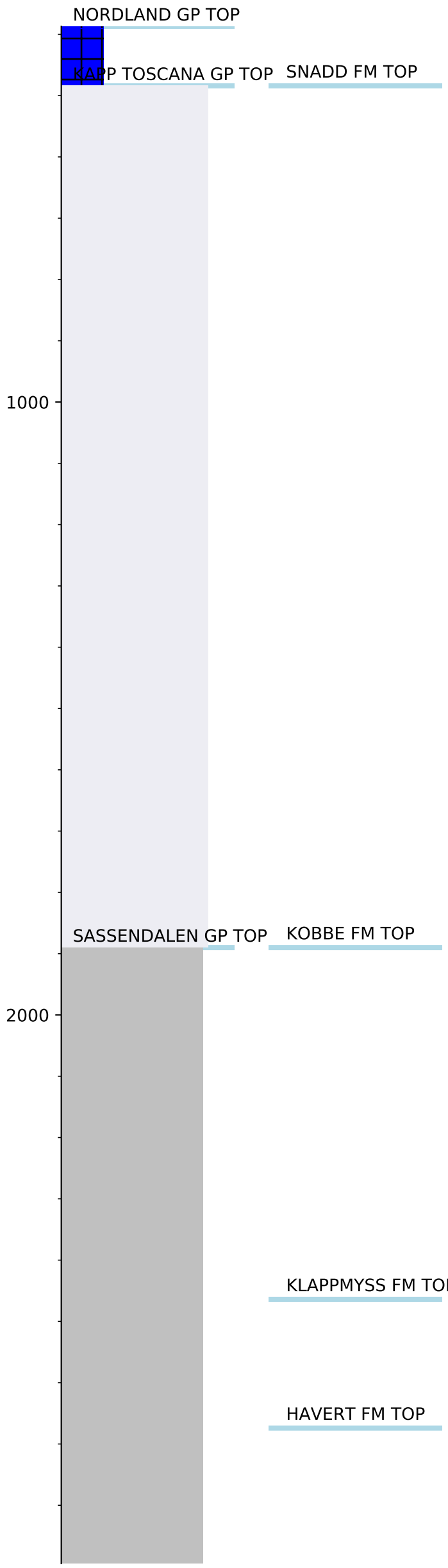
Groups

Formation Tops



Wellbore History

GENERAL

The 7222/6-1 S Obesum well was drilled on the Bjarmeland Platform, south of the Swaen Graben, east of the Loppa High in the Barents Sea. The objective was to prove hydrocarbons in the Snadd Formation of Carnian age (B1 and B2 prospects) and in the Kobbe Formation of Anisian age (B3 and C4 prospects).

OPERATIONS AND RESULTS

A pilot hole, 7222/6-U-1, was drilled 15 m east of the main well location. No shallow gas was found in the pilot hole. Wildcat well 7222/6-1 S was then spudded with the semi-submersible installation Polar Pioneer on 7 January 2008 and drilled to TD at 2895 m (2848 m TVD RKB) in the Early Triassic Havert Formation. The well was designed as an S-shaped well due to shallow gas warning, with a simplified casing design including a 30" casing at 452 m, a 20" casing set at 599 m and a 9 5/8" casing at 1050m. The 9 5/8" casing was set above the reservoir intervals that could have a pressure increase. At 1321 m the drill line snapped out of drum and DDM bails and elevator slid down maximum 1m and stopped on rig floor. Totally 6.2 days were lost to repairing of the damage done in this incident. The well was drilled with Seawater down to 604 m and with FormPro mud from 604 m to TD.

The Obesum well penetrated a short Quaternary section and then rocks of Triassic age. The observed stratigraphy was close to the prognosis, except for the reservoir levels in Snadd formation, which came in at 484 m (ditto TVD RKB), much shallower than expected. The Kobbe Formation came in at 1890 m (1843.2 m TVD RKB). Hydrocarbons were proven in channelized sandstones of Ladinian age (Snadd Formation) and in thin sandstone stringers in the Kobbe Formation. Moveable hydrocarbons were proven in this interval by MDT sampling. True migrated oil shows were recorded in these sections only; continuously from 1617 to 1648 m in the Snadd Formation, and more patchy from 1920 to 2067 m in the numerous thin sandstones the Kobbe Formation. Some fluorescence in the deeper Klappmyss Formation is interpreted as short migrated hydrocarbons from local carbonaceous claystones or due to mud additives. Geochemical analysis proved several source rock intervals in the Triassic: a gas prone source rock in the Klappmyss Formation from 2579 - 2675 m, and a richer oil prone source rock in the Kobbe Formation from 2447 to 2465 m. Finally, a very thin (3 meter thick) but also very rich source rock interval was proven on top of the Kobbe Formation at 1887 m. Rock-eval and vitrinite reflectance data indicate a maturity in the early oil window for the two deepest source rocks, while the thin uppermost source rock is probably in the beginning of or just below the oil window.

Four cores were cut in this well. Two were cut in the Snadd Formation from 1147 to 1156 m and 1637 to 1651 m, and two were cut in the Kobbe Formation from 1941 to 1945 m and 1951 to 1960 m. MDT fluid samples were taken at 1532.9 m (Formation water), 1625 m (gas), 1631 m (oil; high drawdown), 1633.3 m (oil, mud filtrate and water; high drawdown, poor sample), 1633.8 m (oil), and at 1642.1 m (water).

The well was permanently abandoned on 7 January 2008 as an oil and gas discovery.

TESTING

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 7222/6-1 S