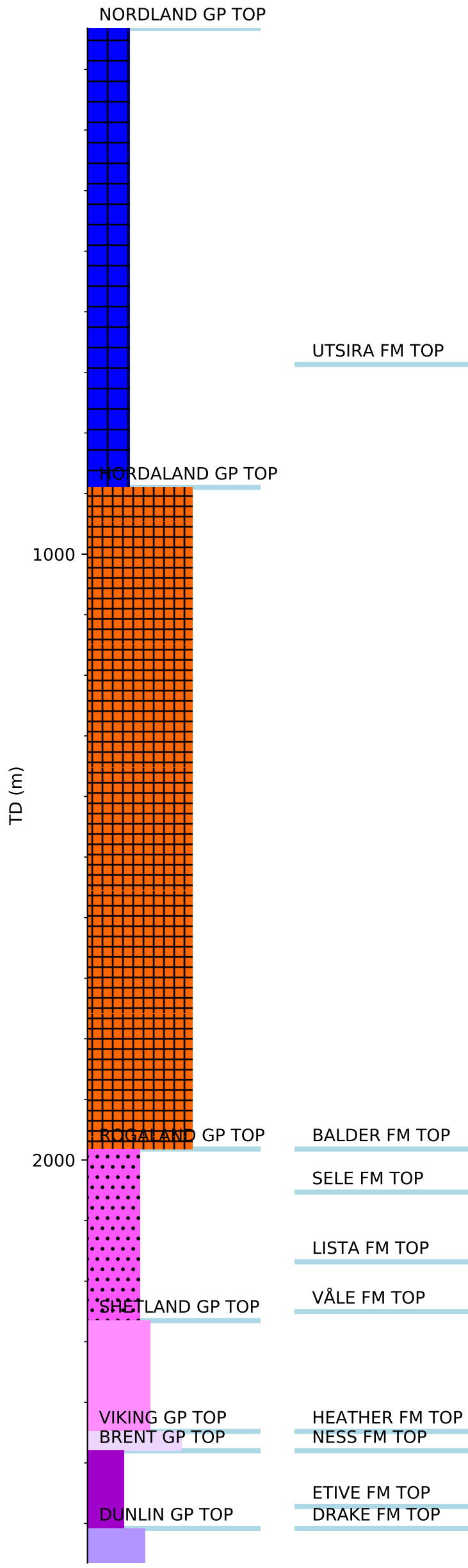

Wellbore History

GENERAL

Well 30/6-10 A is a sidetrack to appraisal well 30/6-10 on the Alfa structure on the Oseberg Field in the North Sea. The primary well found oil and gas all through the Brent Group with a gas/oil contact at 2520 m, but no oil water contact. The main objective was to further define the gas/oil contact and to perform drill stem tests over the reservoir. The well was planned to penetrate the Brent reservoir approximately 300 m west of the original hole.

OPERATIONS AND RESULTS

Appraisal well 30/6-10 A was sidetracked on 2 December 1982 through a milled window in the 13 3/8" casing at 1788 to 1803 m in the primary well bore. The sidetrack was drilled with the semi-submersible installation Treasure Scout to 2665 m (2577 m TVD) in the Early Jurassic Drake Formation. At 2657 m bad weather came up and caused some problems and down time. The pipe got stuck at TD but was worked free after 32.5 hrs using pipe lax, Imco spot and diesel. Otherwise the sidetrack was drilled with KCl/polymer mud from kick-off to TD.

First oil shows were seen in cuttings from limestone stringers in the Balder Formation at 2015 m. Oil shows on limestone cuttings continued down through the Shetland Group to top Heather Formation at 2448 m. The Brent Group interval from 2480 - 2608.5 m (2429 - 2531 m TVD) was found hydrocarbon bearing over the entire interval with the free gas/oil contact based on RFT pressure gradients at 2594 m (2520 m TVD) in the Ness Formation. No oil/water contact was found. The net pay in the Brent Group was calculated to be 58 m with average porosity of 24.4% and average water saturation of 27%. The net/gross ratio in 30/6-10 A is higher than in 30/6-10 due to a better sand development in the Ness Formation.

A total of 10 cores were cut from 2467 m in the lower part of the Heather Formation, through the Ness Formation and into the oil zone of the Etive Formation at 2606.5 m. When coring the last core the inner barrel parted in two and part of the core was washed away by the mud. Only 21.6% of this core was recovered, and relating this part to any specific depth proved to be impossible. The part recovered was sandstone with good oil shows. Segregated RFT samples were taken at 2605.5 m (gas, oil and solids), 2596 m (gas, oil and solids), and 2592 m (gas and condensate with traces of oil).

The well was permanently abandoned on 3 March 1982 as a gas and oil appraisal well.

TESTING

Four production tests were performed, three in the gas zone and one in the oil zone.

DST1 from 2600 to 2602 m (2524.75 m to 2526.25 m TVD) at the base of the Etive Formation tested 563 Sm3/day of oil and 78820 Sm3 gas through a 32/64" choke. Oil gravity was 35.7 deg API and gas gravity was 0.685 (air=l). GOR was 140 Sm3/Sm3. Down hole temperature was 100.7 deg C at gauge depth 2513.5 m TVD.

DST2 from 2587 to 2590 m (2514 to 2516.5 m TVD) in the middle of the Etive Formation tested 181 Sm3 /day of condensate and 546190 Sm3 /day of gas through a 40/64" choke. Condensate gravity was 58.7 deg API and gas gravity was 0.660 (air = 1). GOR was 3030 Sm3/Sm3. Down hole temperature was 102.2 deg C at gauge depth 2513.7 m TVD.

DST3 from 2546 to 2555 m (2481 - 2489 m TVD) in the lower Ness Formation tested 170 Sm3 /day) of condensate and 551850 Sm3/day of gas through a 40/64" choke. Condensate gravity was 60.2 deg API and gas gravity was 0.655 (air=1). GOR was 3246 Sm3/Sm3. Down hole temperature was 101 deg C at gauge depth 2471 m TVD.

DST4 from 2480 to 2486 m (2430 - 2435 m TVD) in the Upper Ness Formation tested 254 Sm3/day of condensate and 798500 Sm3 /day of gas through a 64/6 4" choke. Condensate gravity was 60.2 API and gas gravity 0.665. GOR was 3143 Sm3/Sm3.