



## Wellbore History

### GENERAL

Well 7220/11-1 was drilled on the Alta prospect on the southern part of the Loppa High in the Barents Sea. The primary objective was to test sandstones of the Triassic Kobbe Formation and Permian to Carboniferous carbonates of the Ørn Formation. The secondary objective was to test carbonates and sandstones of the Carboniferous Falk Formation.

### OPERATIONS AND RESULTS

Wildcat well 7220/11-1 was spudded with the semi-submersible installation Island Innovator on 5th August 2014 and drilled to TD at 2251 m in the Late Carboniferous Ugle Formation. No significant problem was encountered in the operations. The well was drilled with seawater down to 588.4 m and with Aqua-Drill mud from 588.4 m to TD.

Numerous shows, of variable quality, was described in thin sandstones in the upper part of the Triassic Snadd Formation (624 m, 727 - 737 m, 822 m, 845 - 9924 m, 1246 m, 1280 m, 1298 m, and 1329 - 1349 m). The well did not encounter reservoir quality in the primary Alta Kobbe Formation target. A 26 m thick Triassic conglomerate unit was encountered at 1897 m. This unit rests directly on carbonates of the Carboniferous Falk Formation. The Ørn Formation was not present in the well. The Triassic conglomerates and the Falk carbonates were found to be hydrocarbon bearing with a total column height of 57 m (11 m gas column over a 46 m oil leg). The gas/oil contact is interpreted to be at 1908.1 m. Organic geochemical analyses of the oil show an abundance of tricyclic terpanes combined with a light carbon isotopic composition, typical of the Barents region Triassic source rocks. The oil/water contact is interpreted to be at 1954 m. Below the Falk Formation the Ugle Formation had 122 m gross sandstones. These sandstones were described as clear translucent, occasionally yellowish-orange quartz (common moderate brown coating) with moderate brown to reddish brown argillaceous matrix. The grain size is mostly fine to medium, but up to coarse.

The reservoir section was cored in four cores from 1904 m to 1977.5 m with 99 to 100% recovery. MDT fluid samples were taken at 1900.7 m (condensate), 1912.0 m (oil), 1919.5 m (oil), 1939.7 m (oil), 1986.8 m (water), and 1999.5 m (water).

The well was permanently abandoned on 17 October 2014 as an oil and gas discovery.

### TESTING

The well was perforated in two separate intervals in the Falk Formation (1934.8-1945.0 m) and the Triassic Conglomerates (1912.9-1921.4 m). While flowing from the lower perforations alone before acid stimulation, well productivity was low. After acid stimulation of the lower zone and perforation of the upper zone, a good productivity was achieved. The final flow rate was 520 Sm<sup>3</sup>/day oil and 48 600 Sm<sup>3</sup>/day gas through a 36/64 inch fixed choke; the GOR was 94 Sm<sup>3</sup>/Sm<sup>3</sup>, and the downhole temperature was 72.7 °C at 1935 m.

## LITHOSTRATIGRAPHY & HISTORY FOR WELL: 7220/11-1