



Wellbore History

GENERAL

The main objective of drilling well 6407/8-2 was to establish the presence, quality and fluid content of the Jurassic Åre Formation sandstones in the Tau prospect, about 9 km west of the Draugen Field. The underlying Triassic grey/red beds provided a secondary target.

OPERATIONS AND RESULTS

Exploration well 6407/8-2 was spudded with the semi-submersible installation "Dyvi Stena" on 19 October 1994 and drilled to TD at 1950 m in the Triassic Grey Beds. The well was drilled with seawater and hi-vis pills down to 1140 m, with KCl polymer mud from 1140 m to 1733 m, and with a sized salt solids-free system from 1733 m to TD in the final 6" open hole.

The top of the Tau prospect reservoir section came in at 1733 m and the well confirmed oil and gas charge in the prospect. The reservoir quality in the Åre Formation was better than expected at this location. The hydrocarbon column encountered was close to the predicted minimum success case model. The drilling location was well chosen in revealing the extent of the different hydrocarbon phases in the structure. Further down-dip the gas cap could have been missed. The proportion of gas to oil, however, currently renders the discovery sub-commercial.

Discrepancies between actual and prognosed depths are interpreted as reflecting uncertainty in the velocity field. The failure of the larger success outcomes is attributed to trap failure, either through fault-seal failure or breaching by thief Ile sands in the hanging wall. It is clear that for this small-scale accumulation, distinguishing hydrocarbon phases is below seismic resolution. However, with wireline logs to calibrate seismic signature through gas, oil and water bearing reservoir sections the database for exploring adjacent prospects is excellent.

Three cores were cut in the 6" section from 1736 m to 1773 m in the Åre Formation. Core # 1 was cut from 1736 m -1744.8 m before jamming off on a coal stringer. At surface the core was found to contain a good reservoir sand with high oil content. Core # 2 was then cut from 1744.8 m to 1764 m and the assembly pulled at reduced tripping speeds to minimise the rate of gas expansion in the core. However the bottom 14m of core was not recovered and, as the sand was so un-consolidated as not to be able to support its own weight, the next coring assembly was limited to a 30ft barrel Core # 3 was cut from 1764 m -1774 m but only 1,95 m was recovered and, as this appeared water wet, it was decided to return to drilling. A wire line fluid sample was taken at 1738 m.

The well was permanently abandoned as an oil and gas discovery 25 November 1994.

TESTING

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 6407/8-2