

NPD – exploration drilling result

05/12/2012 The Norwegian Petroleum Directorate has granted Wintershall Norge AS a drilling permit for well 16/1-16 A, cf. Section 8 of The Resource Management Regulations.

Well 16/1-16 A will be drilled from the *Bredford Dolphin* drilling installation at position 58°54'47.77" north 02°15'54.65" east of Wintershall Norge AS in drilling permit 457.

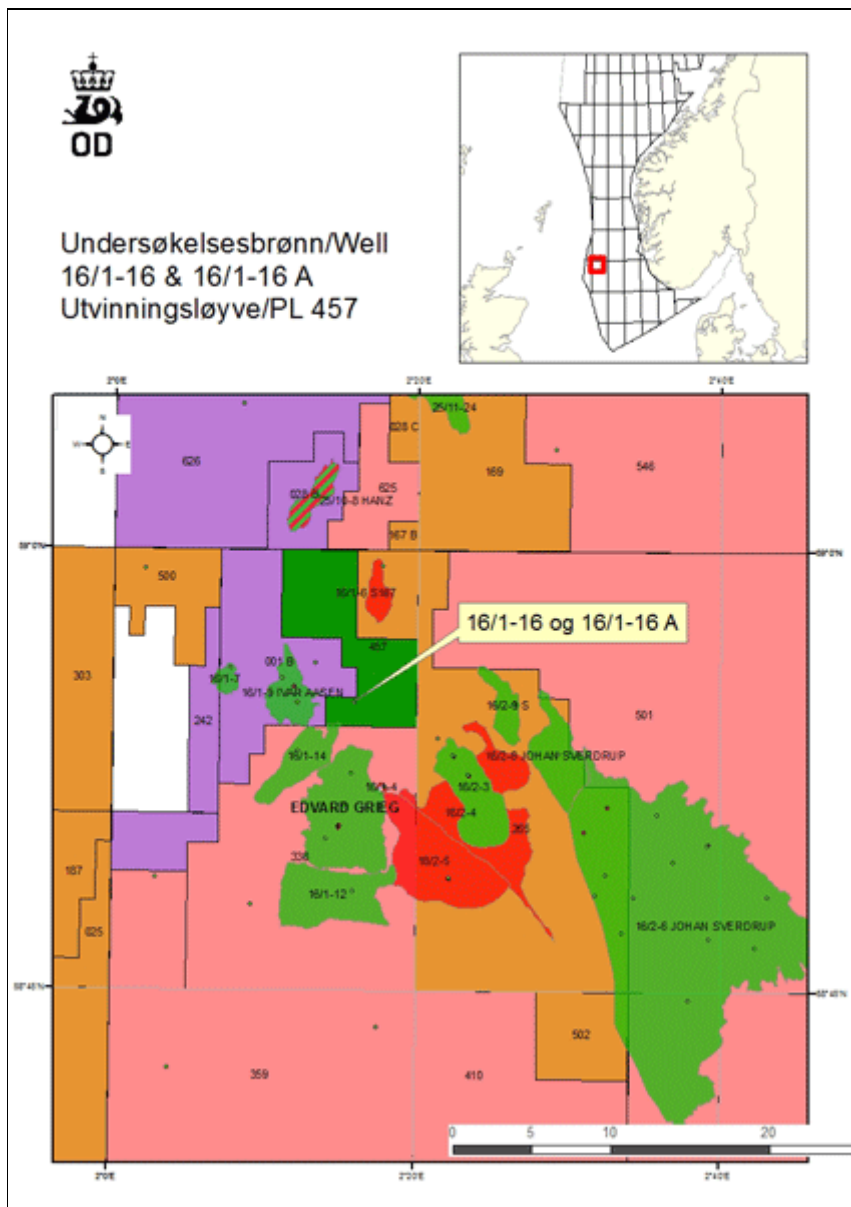
The drilling programme for well 16/1-16 A relates to drilling of an appraisal well in production licence 457. Wintershall is the operator with a 40 per cent ownership interest. The other licensees are E.ON E&P Norge AS, Bridge Energy Norge AS and VNG Norge AS, each with 20 per cent.

The acreage in this permit includes parts of block 16/1. The well will be drilled approximately 3 kilometres north of the Edvard Grieg field and approximately 3 kilometres east of the oil discovery 16/1-9 Ivar Åsen in the central North Sea.

Production licence 457 was awarded on 29 February 2008 (APA 2007). This is the second well to be drilled within the area covered by the licence.

The permit is contingent upon the operator securing all other permits and consents required by other authorities before the drilling starts.

See [Factpages](#) for more information about this wellbore.



16/1-16 and 16/1-16 A

11/01/2013 Wintershall Norge AS, operator of production licence 457, has completed drilling of wildcat well 16/1-16 and appraisal well 16/1-16 A.

The 16/1-16 and 16/1-16 A wells were drilled about three kilometres east of the 16/1-9 discovery well in the Ivar Aasen discovery and about three kilometres north of the Edvard Grieg field in the central part of the North Sea.

The primary exploration target for the 16/1-16 wildcat well was to prove petroleum in Lower Cretaceous and Upper Jurassic reservoir rocks (Åsgard and Draupne formations) on the west side of the Utsira High. The secondary target was to delineate the eastern extent of the 16/1-9 Ivar Aasen oil discovery in Middle Jurassic to Upper Triassic reservoir rocks (Hugin and Skagerrak formations), as well as to investigate Palaeocene (Heimdal formation) and Permian (Zechstein group) reservoir formations.

Well 16/1-16 in the Åsgard formation encountered an approx. 90-metre gross aquiferous sandstone reservoir of variable quality. Furthermore, the well encountered a gross oil column of around 70 metres in the Hugin and Skagerrak formations, of which 28 metres were in a reservoir with very good quality in the Hugin formation. The oil/water contact was not encountered. The oil proven in the well is a different type than the one previously proven in the Ivar Aasen discovery. In addition, the pressure in the oil zone in the Hugin formation and the upper part of the Skagerrak formation is somewhat lower (0.6 bar) than previously observed in the Ivar Aasen discovery. Unlike the western part of the Ivar Aasen discovery, a gas cap was not encountered over the oil in 16/1-16.

No reservoir was encountered in the Heimdal formation. The 29-metre thick Zechstein group, which is composed of dolomites and limestone, is aquiferous and has relatively poor reservoir properties.

The objective of the 16/1-16 A appraisal well, which was drilled just south of 16/1-16, was to determine the oil/water contact. The well encountered a gross oil column of 30+ metres in the Hugin formation. The Hugin formation is about twice as thick as in 16/1-16 and the reservoir quality was very good, as expected. The oil/water contact was encountered at 2440 metres below sea level. This is six metres deeper than the oil/water contact in the western part of the Ivar Aasen discovery.

Preliminary estimates of the resources proven with 16/1-16 and 16/1-16 A within production licence 457 are between 3 and 6 million standard cubic metres (Sm³) of recoverable oil.

The licensees in production licences [001 B](#), [028 B](#) and [242](#) submitted a Plan for Development and Operation (PDO) for the Ivar Aasen discovery to the Ministry of Petroleum and Energy on 21 December 2012. The resources in production licence 457, which were proven with 16/1-16 and 16/1-16 A, are not included in the submitted PDO for Ivar Aasen.

Extensive data acquisition and sampling have been carried out. These are the first and second exploration wells in [production licence 457](#). The licence was

awarded in APA 2007. Wells 16/1-16 and 16/1-16 A were drilled to a vertical depth of 2722 and 2683 metres below sea level, respectively, and were terminated in the Rotliegende group in the Permian and the Skagerrak formation in the Triassic. The wells are permanently plugged and abandoned. Water depth is 113 metres.

The wells were drilled by the *Bredford Dolphin* drilling facility, which has proceeded to production licence 501 in the central part of the North Sea to drill appraisal well 16/3-5, where Lundin Norway AS is the operator.

