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## License Relinquishment Report PL 169D

Reference is made to the letter sent from the MPE dated 13.11.2014 (reference: 14/1608-1) regarding the relinquishment of production license 169D. This report outlines the key license history, database, prospects and technical evaluations of PL169D and fulfills the requirement by the NPD for a license status report within 3 months after relinquishment.

### 1 KEY LICENSE HISTORY

Production License 169D is located on the eastern side of the Utsira High in blocks 25/11, 25/12 (Figure 1) and was awarded on February 19<sup>th</sup> 2010 as a part of the 2009 APA round. The reason for applying for this area was to cover an extension of the Eocene Nanna prospect. This prospect was identified by a seismic AVO anomaly within an expanded wedge of the otherwise thin Balder Fm. The license has the same ownership as PL169 and PL028C. In PL169D Statoil was assigned as operator with 57% ownership, ExxonMobil & production Norway 13 % ownership and Petoro AS was given 30%.

Well 25/11-26 Nanna was drilled in January/February 2013 by Ocean Vanguard on behalf of the PL169 and PL169 B2 licenses.

The main objective for the well was to prove commercial hydrocarbons in the Eocene Odin Sst Member of the Balder Formation (Nanna prospect) and determine whether the reservoir is in communication with the Grane Field. The second objective was to validate the seismic DHI of the Nanna prospect and thereby de-risk other Odin sandstone prospects in the area. The third objective was to prove commercial hydrocarbons within the Upper Jurassic Draupne Fm of the Leviathan prospect.

The well found no reservoirs in the Balder and Draupne formations. No further prospectivity of commercial value is seen in the license. Due to the negative result and with no more prospectivity within the license, the license partnership has decided to relinquish production license 169D.

### Work obligations

No work obligations in this extended license.

Milestones	Expiry date
Expiry of initial period	19.02.2011
Expiry of Production period	01.03.2030
Relinquishment date	01.01.2015
Relinquishment report	26.12.2014

### Management and Exploration committee meetings held in the license:

EC and MC meetings have been arranged in combination with PL169 and PL028C.

## **2 DATABASE**

The seismic survey used for technical evaluation was the 3D survey NH9301R07 and key wells are 25/11-17, 25/11-20S, 25/11-C-17.

## **3 REVIEW OF GEOLOGICAL FRAMEWORK**

The Nanna oil prospect was originally evaluated in year 2000 and based on a new evaluation in 2009 it was decided to drill a well in PL169D (Figure 2 and 3). Nanna is a stratigraphic trap located within a larger structural “supertrap” that controls the regional hydrocarbon contact. An Early Eocene Odin sst Mbr of the Balder Fm was identified by a seismic AVO anomaly seen in a nearby discovery (25/11-25S and 25/11-C-17). Nanna had a Pg of 33,6% and the main risks were producibility and reservoir presence. During the evaluation of the Nanna prospect a deeper opportunity, Leviathan, was identified and it was decided to extend the well into the Upper Jurassic to explore the presence of Draupne Formation reservoir sandstones. Leviathan is a fault trap including a stratigraphic element within the Upper Jurassic Draupne Fm sandstone (Figure 2,5 and 6). The sand was expected to be derived from the local highs into the elongated graben. Leviathan had a Pg of 10% and the main risks were reservoir presence and seal. The well TD'd in Lower Jurassic Statfjord Fm.

Table 1: Pre-well recoverable resources Nanna and Leviathan

Prospect	Version	Recoverable volumes $10^6 \text{Sm}^3$		
		P90	Mean	P10
Nanna	APA 2009	3,1	5,6	8,6
Leviathan	2012	2,4	11,3	25,6

The 25/11-26 well found no reservoirs in the prospects. The AVO anomaly in the Eocene Odin sst is probably due to the elastic response of tuffs of the Balder Fm. (Figure 4). The Upper Jurassic Draupne sand was not presented in the well. Instead a thick Draupne shale, thicker than expected followed by a Lower Jurassic Dunlin shale was seen. Both shales had a high TOC content, and are immature in the well location, as expected. The lack of

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reservoir sandstones and the high content of shale in this graben shows that the area was had a low input of clastic material during late Jurassic/Early Cretaceous times.

No other reservoirs or hydrocarbon shows were seen in the well. No further studies has been performed in the license as a result of the negative well result.

#### **4 PROSPECT UPDATE**

No other prospects are identified within the PL169D.

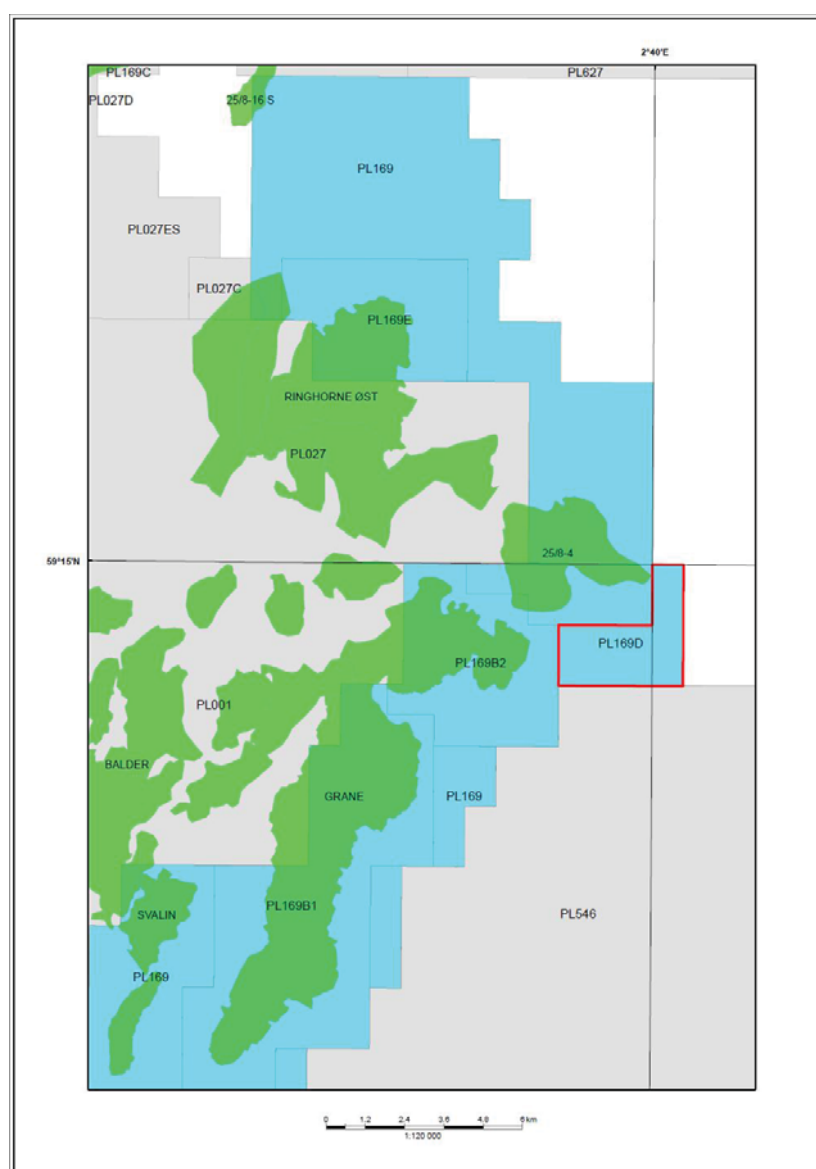
#### **5 TECHNICAL EVALUATIONS**

No technical evaluation has been performed due to the negative result.

#### **6 CONCLUSIONS**

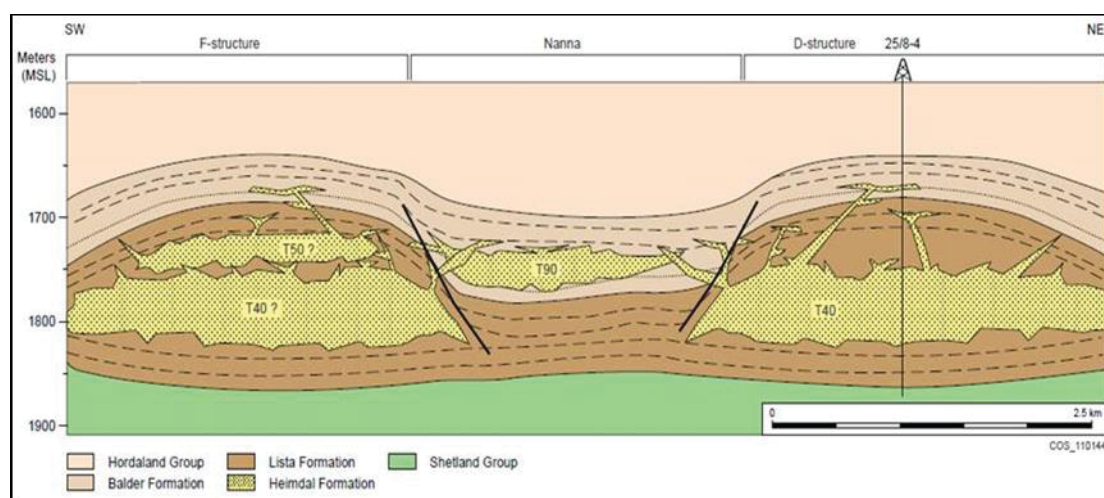
Due to the negative result of the Nanna and Leviathan prospects and the thorough area screening done in 2010 the license partnership has decided to relinquish production license 169D.

#### **7 FIGURES**

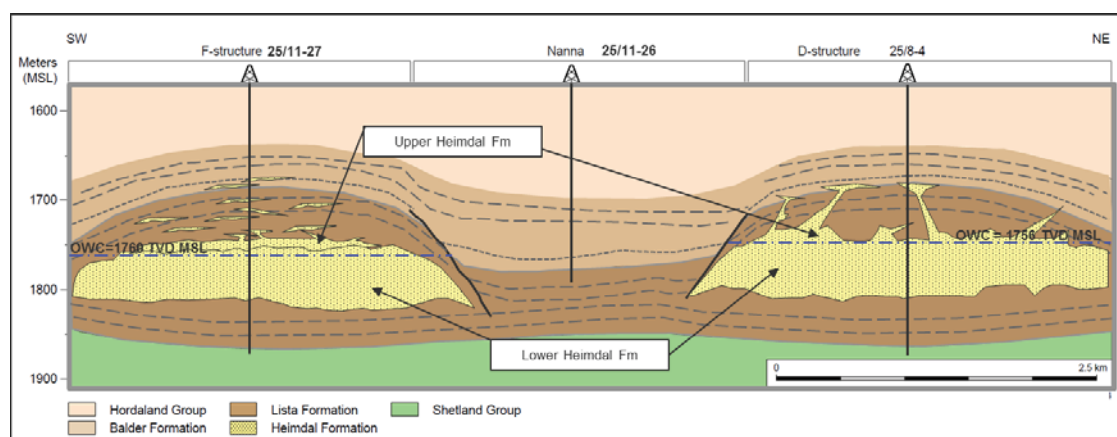


**Figure 1:** Location map. Position of the PL169D in red outline.



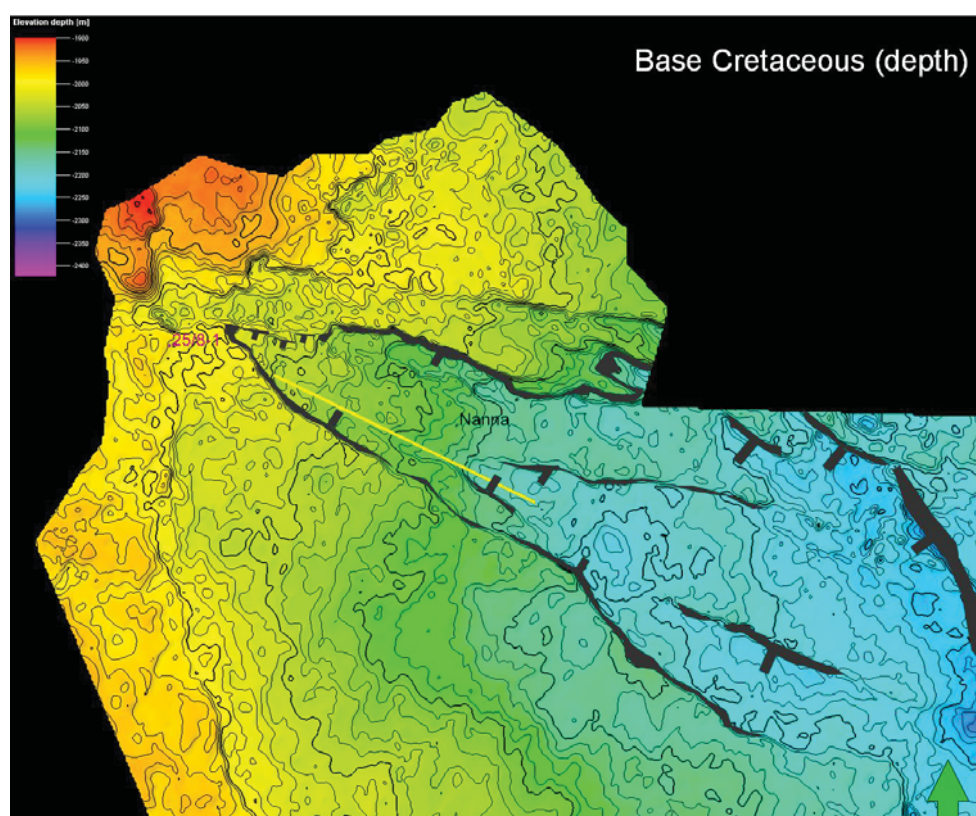


**Figure 3:** Schematic model of the Nanna prospect pre- well.

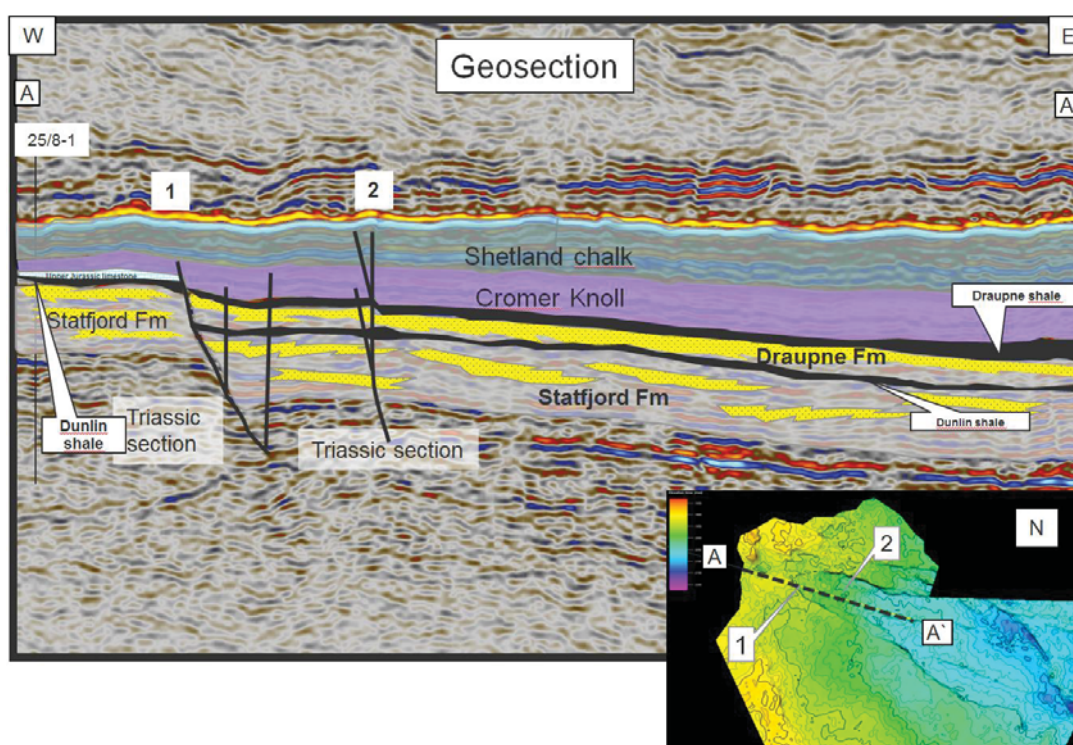


**Figure 4:** Schematic model of the Nanna prospect post- well.





**Figure 5:** Leviathan Base Cretaceous top map (depth)



**Figure 6:** Seismic geosection through the Leviathan prospect.