

# PL399 Licence Relinquishment Report





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|                                 |          |
|---------------------------------|----------|
| <b>1 Summary and Conclusion</b> | <b>1</b> |
| <b>2 Key Licence History</b>    | <b>2</b> |
| <b>3 Database</b>               | <b>3</b> |
| 3.1 Well database               | 3        |
| 3.2 Seismic data                | 3        |
| <b>4 Geological Framework</b>   | <b>4</b> |
| <b>5 Prospect Updates</b>       | <b>5</b> |
| <b>6 References</b>             | <b>6</b> |



## 1 Summary and Conclusion

PL399 was situated in the Central Graben of the North Sea and covered part of block 2/8. The main play in PL399 was the Pre-Cretaceous play, comprising a Jurassic source, Upper Jurassic shoreface sandstone reservoir and Jurassic shales as the primary seal. The main prospect was "Tukan", an Upper Jurassic opportunity for which well 2/9-4 was of great significance. The 2/9-4 well, drilled on the "Trane" prospect in the adjacent block on PL273 found no Upper Jurassic reservoir sands, which condemned the play in the PL399 area. The partnership therefore decided to fully relinquish the licence.

## 2 Key Licence History

The application for this licence was submitted in 2006 by ConocoPhillips. The PL399 licence was awarded on 16th February 2007 to ConocoPhillips (operator) and Dong with 70% and 30% equity respectively.

The licence work commitments were as follows:

Reprocess 3D seismic within the awarded acreage within 1,5 years from the award.

Relinquish or choose (a) or (b) work commitment options:

a) "Drill or drop" decision within 1,5 years from the award

DoC or relinquishment within 3,5 years from the award

Submit PDO or relinquish within 5,5 years from the award.

or

b) Acquire 3D seismic over the prospective area within 3 years from the award

"Drill or drop" decision within 3 years from the award

DoC or relinquishment within 5 years from the award

Submit PDO or relinquish within 7 years from the award

The initial work obligations regarding 3D seismic reprocessing were completed.

An application for an extension of the 1.5 year drill or drop deadline was sent to the Ministry on 12th June 2008, due to the delays in drilling of the Trane Prospect (2/9-4) in the adjacent PL273 licence.

Approval of this request was granted by the Ministry in a letter by 27th June 2008 and the new deadline for a drill/drop decision was set to 16th February 2009.

Following the completion of the Trane well in 2008, which did not find any Jurassic reservoir rocks, the decision was made by the PL399 partnership to relinquish the license in its entirety with no further seismic or well activity and a letter was sent to the authorities on 16th December 2008 (our reference, Not 13063184). The licence remained active until 16th February, 2009 since when it has been inactive.

## 3 Database

### 3.1 Well database

The only change to the database in the Application document (*Awards in Predefined areas 2006, Application for part Block 2/8*) was the addition of the Trane well 2/9-4 drilled in PL273.

### 3.2 Seismic data

The original seismic database over the area is detailed in the 2006 APA application document (*Awards in Predefined areas 2006, Application for part Block 2/8*)

As part of the work commitment the PL399 partnership carried out post stack processing on the ga3d-933D seismic. An option was to purchase Western Geco reprocessed ga3D\_93 data. However, in the case of success in the Trane well drilled in PL273, the plan was to undertake new seismic acquisition over PL399 and PL273 to address the uncertainty over the deep structure, and this would have quickly rendered this reprocessed data redundant.

As the PL399 licence covered an area of simpler structural geology than the surrounding area, full reprocessing of the seismic data would produce less incremental improvement than in structurally more complex regions elsewhere in block 2/9. Therefore instead of purchasing the reprocessed data, very careful and thorough post-stack reprocessing of the data was carried out to address some of the data quality issues such as the multiple contamination, the signal/noise ratio, the coherency and the fault definition. The improvement in data quality was at least comparable, if not better in some respects than the reprocessed WesternGeco data. In addition, this post-stack processing assisted in the planning of a potential new 3D seismic acquisition in the case of success in the Trane well. As part of the efforts to improve and understand the seismic data issues in the area leading to the possible acquisition of new 3D seismic other studies such as illumination studies were carried out, and analysis of the optimum geometries for a new seismic survey were determined.

## 4 Geological Framework

The geological framework section summarises the changes in understanding of the Jurassic Play and prospectivity from that presented in the 2006 Licence Application Document (*Awards in Predefined areas 2006, Application for part Block 2/8*). These changes are due to revised interpretation on reprocessed seismic and the drilling of the 2/9-4 Trane well in 2008.

The main predicted reservoir objective in the study area is within the Upper Jurassic, where dominantly shoreface sandstones of the Heno equivalent Formation were deposited. The main risk for the area is reservoir presence, and this risk has increased after the results of the Trane well, which condemned the play in the PL399 licence area. It is anticipated that the PL399 area is located in a basinal setting, at the time of the deposition of the reservoirs seen in the Hejre and adjacent areas to the south and east, precluding the deposition of shoreface sands in the licence area.

Reservoir quality is dependent on proximity to shoreline during deposition, provenance source, depositional process, primary grain coatings, burial depth and hydrocarbon charge history. There are no changes to previous views on expected quality if reservoir was present.



## 5 Prospect Updates

### Tukan

The Tukan prospect was the primary target identified on PL399 at the time of application for the concession (ref. *Awards in Predefined areas 2006, Application for part Block 2/8*). It was recognised at the time of application that the results of well 2/9-4 well to be drilled on the Upper Jurassic Trane prospect in the neighbouring block would be significant to the understanding of the distribution of Upper Jurassic sandstone in the area. The 2/9-4 well did not encounter any Upper Jurassic reservoir section. The results of the post well evaluation show that there are several factors controlling sand deposition in the area. It is not only the increase in accommodation space, but also the rate of change in water depth that is important. Closer to the Heno plateau the sands are deposited on a high and stable platform, whereas towards Trane there is a rapid change of slope and a combination of more varied and deeper palaeobathymetry controlled by the shape of the basement unconformity. As a consequence, the shoreface environment is interpreted not to extend over as wide an area as originally thought and condemns the play in PL399 and the viability of the original Tukan prospect.

## 6 References

1. ConocoPhillips (2006): *Awards in Predefined areas 2006, Application for part Block 2/8*
2. ConocoPhillips (2008): *PL399 license relinquishment, 16th December, 2008; letter ref. Not 13063184*