

# PL 756 Relinquishment Report

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PGNiG Upstream International AS Idemitsu Petroleum Norge AS Pure E&P Exploration AS





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- 1 Key licence history
- 2 Database
- 3 Review of geological framework
- 4 Prospect update
- **5 Technical evaluations**
- **6 Conclusions**

## 1 Key licence history

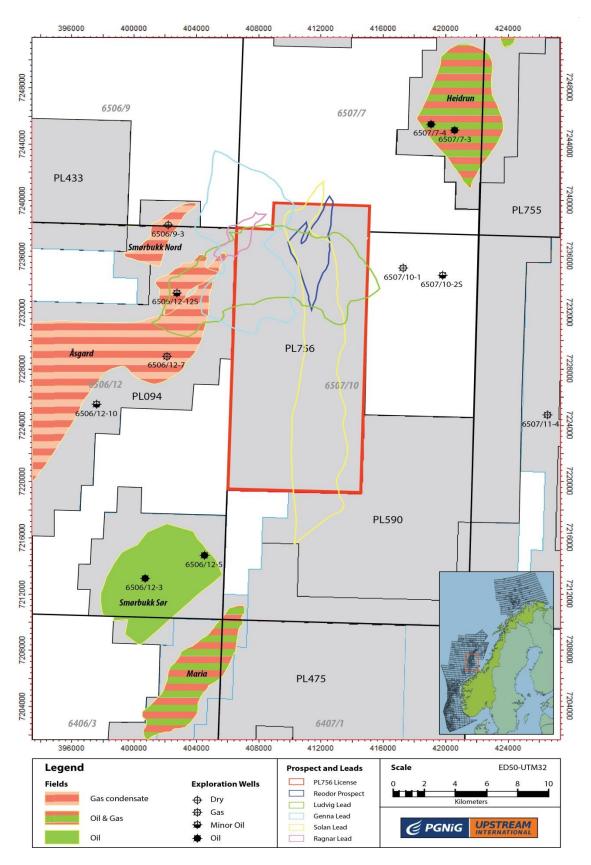


Figure 1 - PL756 License Map

The PL756 license (*figure 1*) was awarded to PGNiG Upstream International AS (50% and Operator) and license partners Idemitsu Petroleum Norge AS (25%) and Rocksource Exploration Norway AS (PURE E&P Exploration AS at time of relinquishment)(25%); as part of the APA 2013 with a drill or drop (DoD) decision within two years and an award date of 7<sup>th</sup> February 2014.

The work obligations were as followed:

- Within 2 years: Acquire 3D seismic within the awarded area and perform G&G studies as well as a DoD decision.
- Within 4 years: Drill one exploration well and decide to Concretise (BoK) or drop.
- Within 6 years: Perform conceptual studies and decide on Continuation (BoV) or drop.
- Within 7 years: Prepare development plan, decide to submit PDO or drop.

The voting rules to pass a resolution for the license were minimum two companies and a 50% share.

Regular license meetings have been held on the following dates:

5<sup>th</sup> March 2014 - ECMC meeting #1 17<sup>th</sup> October 2014 - EC Work meeting #1 25<sup>th</sup> November 2014 - ECMC meeting #2 30<sup>th</sup> June 2015 - EC Work Meeting #2 26<sup>th</sup> November 2015 - ECMC meeting #3

No extension was needed.

The license work obligations have been fulfilled. Two seismic surveys were purchased (MC3D-HVG2011/2013 and CE0801). Based on the results from the studies and the internal work, the Management Committee of PL756 has concluded to not drill a well and therefore relinquish the license.

The reason for relinquishment was that new seismic data revealed a new understanding of the amplitudes associated with main prospect, leading to a downgrading of size and chance of success. It was not possible to mature the identified leads into prospects.

## 2 Database

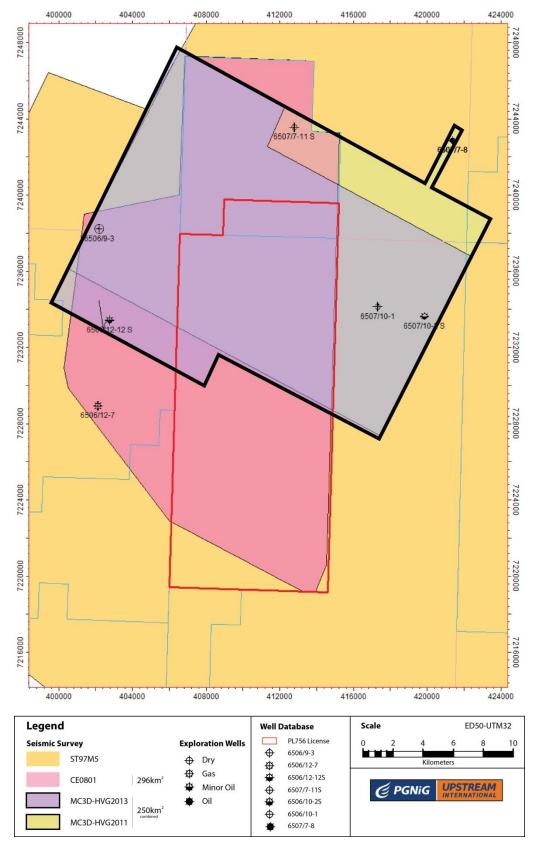


Figure 2 - Seismic and Well Database

#### Seismic database

The main seismic data used during the evaluation of PL756 (Figure 2 - Seismic and Well Database) consists of three 3D seismic surveys. The coverage of the seismic 3D surveys relative to well and license borders are shown in Figure 2 - Seismic and Well Database.

The broadband survey MC3D-HVG2011/2013 (thick outline) was acquired by PGS as a multi-client seismic survey partially in 2011 and partially in 2013. A subset of this seismic dataset covering the northern part of PL756 was purchased by the PL756 partnership in January 2015. The area acquired was covered partially by HVG2011, and partially by HVG2013. The principal objective of this dataset was to improve the imaging of the Fangst Group formations in order to better resolve the reservoir formations Garn and Ile, and their seismic signature, and to be able to understand the complicated faulting in the area. The 3D seismic survey resulted in a significant improvement in the understanding of the prospect seismic anomaly and the fault network. It appears that a valid trapping mechanism for the main prospect Reodor could not be defined. Furthermore, this 3D seismic survey presented an imaging improvement for the Cretaceous and Paleogene leads originally interpreted in the application. This enhancement of seismic quality helped to see that no leads have either a valid trap mechanism or potential for sufficient volumes. All the identified prospects and leads are shown in Figure 1.

The survey CE0801 was acquired in 2008, and processed in 2009 for license PL433, PL477 and PL478 using modern processing methods. CE0801 was made publicly available in 2011. This full stack seismic dataset was used as the basis for the license application evaluation. A subset of this dataset was purchased to get access to partial stacks for performing geophysical evaluation of the data as part of the work performed in the license. A review of these data revealed that better quality data were needed to evaluate the prospectivity.

The ST97M5 survey is a seismic dataset generated by merging 12 seismic survey. The area covered by this survey is approx. 8000 km2, including almost 100% of PL756(Figure 2). This merge was generated using relatively old input seismic data( 1998 - 1986), from already stacked datasets, resulting in a good dataset to be used for regional interpretation, however detailed interpretation of faults and individual reflectors are not possible. This seismic dataset was used to investigate the southern part of the license which is not covered by the two others surveys and to ensure coherency of interpretation with the surrounding discoveries.

### Well database

The common well database established for PL756 consisted of all publically available well data in the area, however particular focus was put on 7 wells, as shown in Figure 2. No new wells were drilled in the licence.

## 3 Review of geological framework

The subsurface evaluation of the PL 756 license was initially focused primarily on the Middle Jurassic Garn and Ile formations, corresponding to the reservoir units of the Reodor prospect (*figure 3*). At a later stage, focus was shifted towards the Cretaceous Lysing and Lange formation, and the early Jurassic Åre formation to examine all leads in the license.

Several sub-surface studies have been carried out on the license.

The initial subsurface interpretation was done on the seismic survey CE0801 prior to the purchase of MC3D-HVG2013. Some uncertainty was found when this interpretation was performed, in particular a large uncertainty was seen with regards to fault pattern understanding and fault identification. Another issue was seen with regards to understanding the seismic character of the Fangst group.

Nevertheless, a fault seal analysis was undertaken based on the fault interpretation from CE0801, since this was seen as a major risk for the Reodor prospect. This fault seal study was performed by PGNiG employees, but reviewed by Badleys.

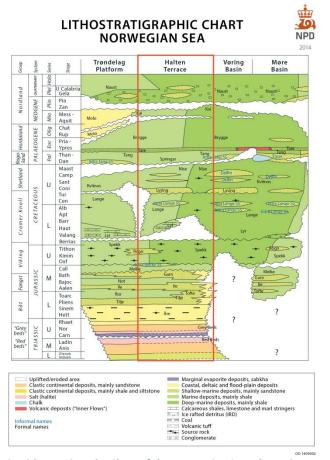


Figure 3 - Lithostratigraphy Chart of the Norwegian Sea. The main prospect and leads reservoir units were in the Middle Jurassic sands whereas leads targeted formations were Brygge, Lysing, Lange and Åre Formations.

## Seismic Interpretation

The main interpreted reflectors for the prospect were the Seabed, Top Kai Formation, Top Hordaland Group, Lysing, Lange and the BCU. A more detailed interpretation was carried out at the prospect level (Top Garn, Top Ile and Top Tilje).

Synthetic seismograms were generated for all the wells covered by the seismic data to identify the events that should be interpreted. A geophysical study was initiated to further understand the seismic signatures, and to understand the seismic anomaly represented in the main prospect (Reodor).

### **Fault Seal Analysis**

A fault seal analysis was undertaken by the operator in close cooperation with Badleys in 2014 to evaluate the seal potential of the structural closure.

The main conclusion was that due to a high proportion of shale within the sequence, any fault with displacement over 15-20m have a high fault seal possibility, with the likelihood of sustaining large hydrocarbon columns. Therefore, due to the limit of seismic resolution, any fault that can be observed on the seismic is likely to seal.

After receiving the new seismic survey (MC3D-HVG2013), the fault seal analysis was updated inhouse. Better seismic quality allowed for more detailed interpretation of the faults, and extending the fault network interpretation towards the north of the license. The potential for faults to seal has been evaluated for six main faults within the Reodor prospect structure, using throw and Vshale to calculate SGR and calibrated against global data using the Yielding equation. From this analysis it was found that any displacements over 35m have a high fault seal possibility with the likelihood to sustain large hydrocarbons columns. However, calculated throw of Reodor bounding faults show low throw areas that can leak.

In conclusion, the Garn Formation with low Vshale will in some places produce sand to sand connection over the faults, and consequently not seal.

The Ile formation and Tilje Formation areas of juxtaposition are likely to seal, holding back columns from 75m at the weakest point for Ile and from 140m at the weakest point for Tilje.

The updated fault seal analysis drastically modified the structural closure of the Reodor prospect, resulting in a considerable reduction in volumes, since the majority of the prospect segments were not able to sustain large columns of hydrocarbons.

## Geophysics

A geophysical study was done to investigate how to interpret the seismic data, and to see if the amplitude signature seen in the seismic data could be explained as hydrocarbons.

Synthetic seismograms were generated for all 6 wells covering the HVG2011/2013 data area (6506/12-7 is not covered by the purchased dataset). Initially, the synthetic seismograms did not present a consistent result with regards to which event to interpret in the Fangst group. There could be many reasons for this, including thickness variations, variations in porosity, variations in facies, pore fluid variations and overburden variations. To further investigate this, half-space models were generated from the shale-sand interface of each of the prospective events Garn-, Ile- and Tilje-formations for all the 7 wells. This removed the dependence on both seismic wavelet, and thickness variations. Additionally, fluid substitution was preformed, to represent the sands as brine, gas and oil saturated. The fluid parameters were taken from the wells in the area. In addition, different porosities were modelled.

The result of these investigations showed that the reflection amplitudes from each of the wells for each reservoir looked very similar under similar conditions, removing any indication of facies variation, however at the same time a large variation in porosity was seen. Further investigations showed that the porosity variations were following the depth variation for each well. This lead to the construction of a depth model for Vp, Vs and density for sand and shale, making it possible to estimate the un-tuned reflectivity for sands, both with water, oil and gas saturation.

The depth model showed that the top sand reflection is expected to change polarity at the depth of the Reodor prospect, thereby changing the interpretation of the Reodor prospect.

A wedge model was used to look into the effect of tuning, and showed that the Garn and Ile formations were expected to be affected by tuning, however, interpretation was still possible by following the general trend from the depth model.

The depth model also showed that the expected effect of hydrocarbons in the Reodor reservoir was a softening of the nears, and a decrease in the gradient.

Evaluation of the seismic data shows a hardening of the nears, and no indication of softening of the gradient. This is consistent with a hardening of the rocks that could be caused by local porosity reduction or cementation. The seismic analysis was performed both as a surface based analysis allowing for moveout variations, and by generating AVO cubes. The amplitudes in the AVO cubes were analysed to look for any indication of hydrocarbons, however, no interesting amplitudes were found.

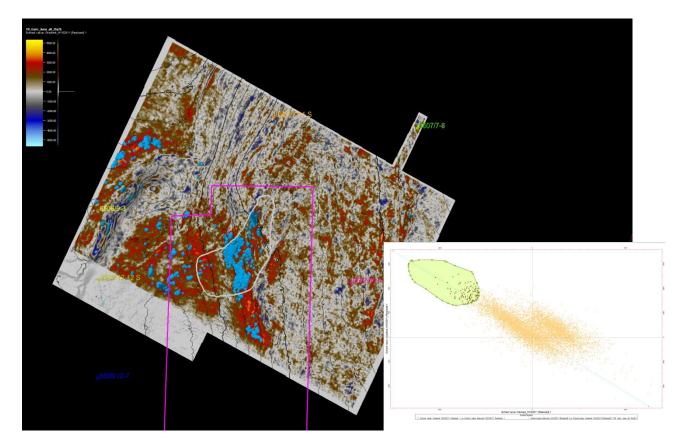


Figure 4: The geophysical study showed that the amplitude anomaly is consistent with a local stiffening of the subsurface, not a softening as would be expected if the reservoir was filled by hydrocarbons.

The conclusion from the geophysical study was that the Reodor amplitudes were generated from a local hardening of the reservoir rocks, and that no indications of hydrocarbons were found. The results were consistent with all the discovery wells covered by the seismic data.

### **Biostratigraphy**

A biostratigraphy dataset was purchased from Ichron at the end of 2014, and used to perform an inhouse study. The goal of the study was to provide a detailed stratigraphic interpretation of the potential reservoirs expected in the prospect vicinity.

The study was based on the review of five well sections with penetrated intervals interpreted within the Middle Jurassic Formations. These well are:

- 6506/12-3
- 6506/12-7
- 6507/7-11S
- 6507/10-1
- 6507/11-9

The conclusion from this study was that the Tilje and Ile Formations were continuous through the license, with generally good sandstones. The Garn Formation appears to be diachronous with two different sediment sources. A first sand deposition, prograding from East towards the West, followed by a second sand deposition prograding from West towards East, overlapping the previous section.

## 4 Prospect update

In the APA 2013 application, one prospect and two leads were identified within the license.

The Reodor prospect was defined as an amplitude anomaly within an apparent down-faulted structural closure and the main play was shallow-marine to coastal sandstones within the Garn and Ile Formations. The main risk was considered to be trap seal.

In addition, three leads were defined: Solan (Lange Formation), Blodstrupmoen (Upper Triassic/Lower Jurassic) and Ludvig (Brygge Formation).

### Reodor

At the time of application, the Reodor prospect was defined as a footwall fault dependant structure. The prospect is limited by a N-S trending fault system which is partly connected to SW-NE trending faults. The interpretation of the fault systems were challenging in the northern part by poor quality in the seismic data. The faults in the north are juxtaposed in sand versus sand contact along the interpreted fault planes. Therefore, one of the critical factor for the Reodor prospect was the presence of a trap, and the ability for the trap to be sealed in the fault-zone (Figure 5).

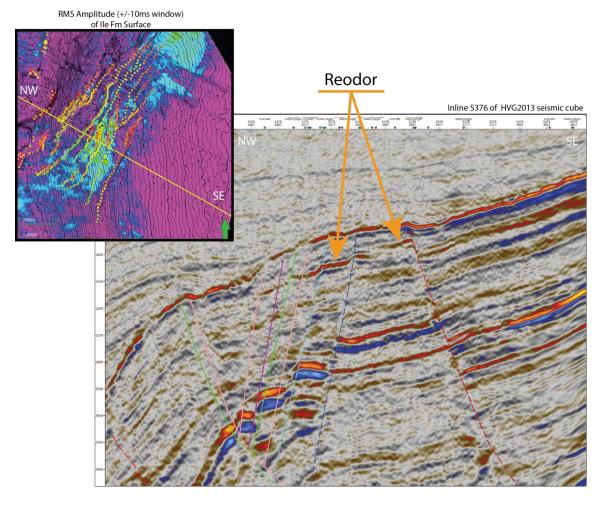


Figure 5 - Inline 5376 of MC3D-HVG2013 seismic cube

Table 3. Flospect data (Eliciose Iliap)	6507/7 8	Prospect name	Reodor	Discovery/Prosp/Lead	Prospect	Prosp ID (or New!)	NPD will insert value	NPD will insert value NPD approved (Y/N)	
Play name	NPD will insert value	New Play (Y/N)	- 15	Outside play (Y/N)	No O			Assessment	2013
	1 of 1	Structural element	Halten Terrace	Type of fran	structural	Water depth [m MSL] (>0)	300	Seismic database (20/30)	30
S IN PLACE and RECOVERABLE				drawadi		Associated phase		(2012)	3
Volumes, this case		I	Base, Mode	Base, Mean	Hiah (P10)	Low (P90)	Base, Mode	Base, Mean	High (P10)
	Oil [10 <sup>6</sup> Sm <sup>3</sup> ] (>0.00)				150.30				
In place resources	Gas [10 <sup>9</sup> Sm³1 (>0.00)			H		9.03	22.10 19.90		30.10
	Oil [10 <sup>6</sup> Sm³] (>0.00)	13,40 31,30 29,90	31,30		46,70				
Kecoverable resources	Gas [10 <sup>9</sup> Sm³] (>0.00)					2,62	6,13	5,97	9,25
Reservoir Chrono (from)	rasic	Reservoir litho (from)	Garn Fm.	Source Rock, chrono primary		Source Rock, litho primary		Seal, Chrono	Late Jurassic
	Early Jurassic	Reservoir litho (to)	Tilje Fm.	Source Rock, chrono secondary	y Early Jurassic	Source Rock, Itho secondary	. Åre Fm	Seal, Litho	Melke Fm.
Technical (oil + gas + oil & gas case ) (0.00-1.00)		Oil case (0.00-1.00)	0,14	Gas case (0.00-1.00)		Oil & Gas case (0.00-1.00)			
Reservoir (P1) (0.00-1.00)	1,00		0,14	Charge (P3) (0.00-1.00)	1,00	Retention (P4) (0.00-1.00)	1,00		
Parametres:	Low (P90)	Base	High (P10)	Comments					
Depth to top of prospect [m MSL] (> 0)	3200	3200	3200						
Area of closure [km²] (> 0.0)	7,8	15,0							
Beservoir thickness [m] (>0)	8	100	121						
HO column in proceed [m] (> 0)	27.0	137	583						
incomini in prospect [ini] (> 0)	717	7	3						
Gross rock vol. [10" m*] (> 0.000)	1817,800	2080,400	005,7822						
Net / Gross [fraction] (0.00-1.00)	29'0	9,75	0,83						
Porosity [fraction] (0.00-1.00)	0,18	0,21	0,23						
Permeability [mD] (> 0)	980	980	980						
Water Saturation [fraction] (0.00-1.00)	0.35	0.30	0.25						
Bo IBm3/Sm31 (< 1 0000)									
1/Bo ISm3/Dm31 (< 1.0000)	0.73		0.85						
COD free can Com <sup>2</sup> /Com									
CON, ince gas [company] (2.6)	000	000	000						
GUK, 011 [5m75m7] (> 0)	007	007	7007						
Recov. factor, oil main phase [fraction] (0.00-1.00)	0,25	0,30	0,35						
Recov. factor, gas ass. phase [fraction] (0.00-1.00)	0,25	00'30	0,35						
Recov. factor, gas main phase [fraction] (0.00-1.00)									
Recov. factor. liquid ass. phase [fraction] (0.00-1.00)				For NPD use:					
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Table 5: Prospect data (Enclose map)									
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american de la constanta de la	MDD will inpert value		No	Outside play (VM)	No	(3000) 20 (2000)	A CONTRACTOR OF THE CONTRACTOR	(iii) possedda a iii	
Oil Gas or O&G case.	io.	Voen	DGNIG Unetream In	Deference document				Assessment veer	2015
	1 of 1	Structural element	Halten Terrace	Type of trap	structural	Water depth [m MSL] (>0)	300	Seismic database (20/30)	30
December 11 DI ACE and DECOVEDADIE				danioodi		According to the contract of t		(appear) penganan pengan	3
Medical Min Lace and necoverable			Dear Made		High (040)	Associated prinses	Dane Made	Total March	11:Th /D401
Volumes, uns case		LOW (PSU)	Dase, mode	٠		Low (P30)	Dase, mode	Dase, meall	migii (P10)
In place resources	Oil (10° Sm²) (>0.00)	3,45	4,83	÷	12,60				
	Gas [10" Sm"] (>0.00)		- 1						
Recoverable resources	Oil [10° Sm³] (>0.00)	1,05	1,68	2,21	3,80				
	Gas [10 5m] (>0.00)								
Reservoir Chrono (from)	rasic	Ē	Ë	Source Rock, chrono primary		Source Rock, itho primary	Spekk rm.	seal, Chrono	Late Jurassic
Reservoir Chrono (to)	Early Jurassic	Reservoir litho (to)	ille rm.	Source Rock, chrono secondary	y Learly Jurassic	source Rock, Inno secondary		Seal, Litho	Melke rm.
Probability [fraction]									
Technical (oil + gas + oil & gas case ) (0.00-1.00)		Oil case (0.00-1.00)	0.00	Gas case (0.00-1.00)	,	Oil & Gas case (0.00-1.00)	,		
Reservoir (P1) (0.00-1.00)			050	Cnarge (P3) (0.00=1.00)	1,00	Retention (P4) (0.00-1.00)	1,00		
Parametres:	Low (P90)	Base	High (P10)	Comments					
Depth to top of prospect [m MSL] (> 0)	3200	3200	3200						
Area of closure [km ] (> 0.0)	2 1	7	0 0						
Reservoir thickness [m] (> 0)	/9	8)	8						
HC column in prospect [m] (> 0)	8	100	120						
Gross rock vol. [109 m²] (> 0.000)	546,000	643,000	743,000						
Net / Gross [fraction] (0.00-1.00)	69'0	6,79	68'0						
Porosity [fraction] (0.00-1.00)	0,19	0,23	0,26						
Permeability [mD] (> 0)	980	980	980						
Water Saturation [fraction] (0.00-1.00)	0.20		0.10						
Bo IBm3/Sm31 (< 1,0000)									
4 Por 10 mo	0.73		200						
(0.1 %) (% 1.00)	0,0	60,0	co'n						
GUK, rree gas [Smr/Smr] (> U)									
GOR, oil [Sm²/Sm²] (> 0)	200		200						
Recov. factor, oil main phase [fraction] (0.00-1.00)	0,25		0,35						
Recov. factor, gas ass. phase [fraction] (0.00-1.00)	0,25	08'0	0,35						
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Figure 6: Updated volumetrics and input parameters for the Reodor prospect.

The new seismic survey enabled the mapping and analysis of the prospect in more detail compared to the initial description in the APA application. Sealing property of the fault network was regarded as crucial for the trapping mechanism. The first study done by Badleys on a limited number of faults and with the former seismic data concluded that the prospect was most likely sealing for fault throw above fifteen meters.

The geophysical study did not provide any indications that the Reodor prospect was hydrocarbon saturated, rather indicated that the amplitude anomaly was caused by a hardening of the reservoir sands.

Reservoir presence and quality were established to be good due to the conclusions of the in-house study done with the biostratigraphic data from Ichron.

The combined lithological effect and trap geometry re-evaluation led to a drastic reduction of the Reodor prospect size. Therefore, volumes were small compared to the volumes presented at the application time (Figure 6).

The assessment led to negative results in the economic evaluation of the Reodor prospect.

#### Solan

Solan is a stratigraphic trap in the Lange Fm, defined by a seismic amplitude anomaly with good conformance to structure and pinching out on the BCU (Figure 7). Solan may be a part of a small sub fan extending south from the main Lange Fm clastic feeder fan. The petrophysical interpretation indicated that these reservoir sands in the Lange Fm. are of poor quality. This is reflected in the technical risk and the main reason for keeping Solan as a lead. The main risk factors for the Solan lead were reservoir quality and trap geometry.

Further evaluation of the Solan lead based on the new dataset failed in reducing the risk for reservoir quality, lateral seal and charge. The lateral seal to the North was not confirmed. The seal towards the East is a truncation and an important fault closure is confirmed to the South. Some hydrocarbons shows are observed in a nearby well, but not in a sufficient way to de-risk the charge uncertainty for the lead. Geophysical analysis of the nearby wells suggested that it would be difficult to see any pore fluid effects with the current quality and quantities of sandstones recorded in the wells. Increasing the quantity of sandstones could be consistent with the mapped hard Solan anomaly, however this would lead to more sensitivity to fluids, and hence expectation to see a softening of the anomaly up-dip. This is not seen.

The lead could not be matured to a prospect.

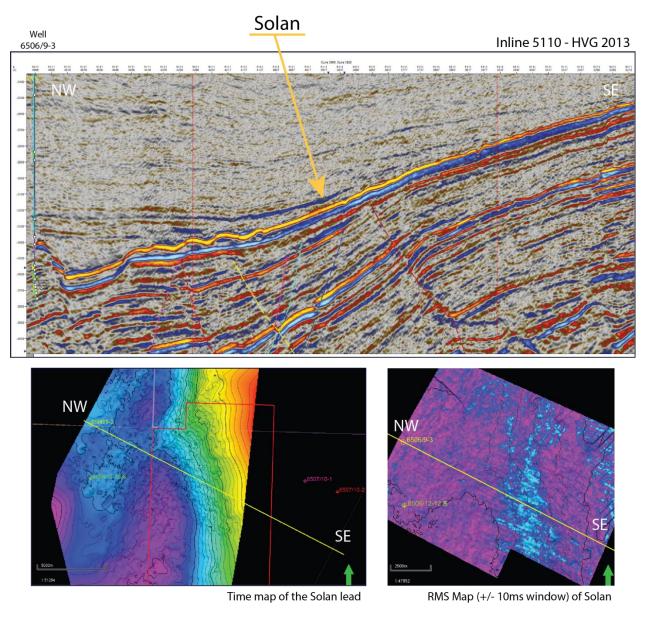


Figure 7: Inline 5110, HVG2013 3D survey, showing the Solan lead, defined by a seismic amplitude anomaly with good conformance to structure pinching out on the BCU.

## Genna

Genna is a lead defined as a stratigraphical trap in the Lysing Fm. and proposed by the partnership during the licence work. The seismic anomaly is only visible on the far stack for this lead (Figure 8). Genna is believed to be part of the Lysing fan system. The reservoir quality is indicated as being poor and this is reflected in the technical risk assessment. Another risk factor for the Genna lead was its trap geometry.

After re-evaluation with the new seismic survey, there is no evidence that the Lysing Fm. package is truncated, pinched-out or discontinuous over the prospect acreage and further east. A dry-hole analysis for the offset wells in the area concludes that a potential trap in the license would be water wet. Amplitudes indicate a fluid factor anomaly, but this can also be explained as variation in

thickness. Due to the high risk elements highlighted previously, the Operator concluded that the Chance of Success will be very low. Genna lead fails to be matured to a prospect due to charge and trapping mechanism.

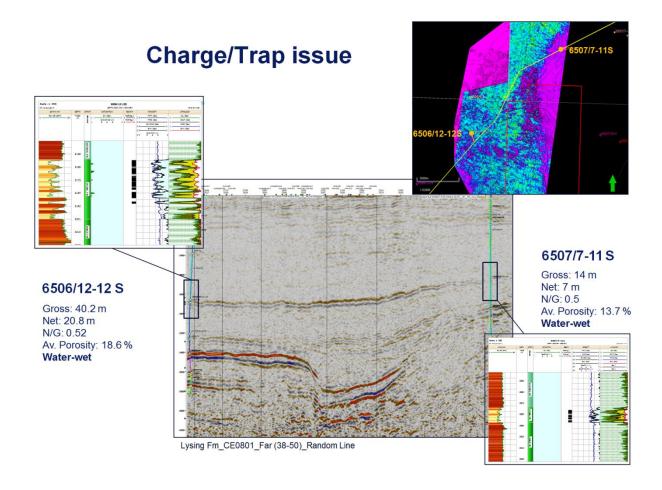
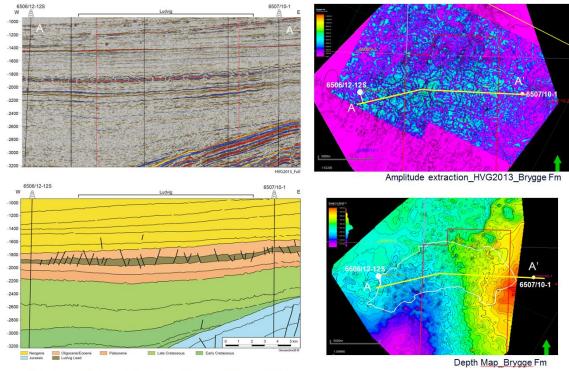


Figure 8 - Random line of the Genna lead on the CE0801\_Far(38-50), showing the lack of evidence for charge and trapping mechanism. The bounding wells are water-wet and the Lysing Fm looks continuous, which hinders any trapping mechanism.

## Ludvig

The Ludvig lead was defined to be a stratigraphic trap driven by a seismic amplitude anomaly. This lead was believed to be in a sand unit above the mid-Lutetian unconformity within the T12 sequence of the clay/mud dominated Brygge Fm, setting up a new play system. The main risk factors for the Ludvig lead were the reservoir quality and the charge.



- · Petrophysical interpretation rule out the possibility that this is a sand
- Given that the petrophysical analysis were wrong and it is sand, the sands appear in the offset wells, making them semi-regional. Having semi-regional sand it is observed that there is no structural closure and hence no trapping mechanism.

Figure 9 - Semi-regional view of the Ludvig lead, showing the amplitude anomaly into the Brygge Fm. It is observed that there is not a structural closure.

This lead has been re-evaluated. The reservoir presence and quality has been discussed and the new play concept has been abandoned. Indeed, the petrophysical analysis of the well 6506/12-12S rules out the possibility that this is a sand. In addition there is no structural closure and hence no trapping mechanism valid for this lead (Figure 9). The lead fails to be matured to a prospect.

### Blodstrupmoen

The Blodstrupmoen lead is an Upper Triassic/Lower Jurassic segmented fault block target which is defined by a high amplitude. The trap was iniatially believed to be a series of elongate segmented fault closures. The main critical factors for this lead were the reservoir quality, the charge and the trap seal.

Further evaluation of the lead suggests that it is not possible to distinguish any trap. Given the lack of evidence for any other fault trends than the N-S one, segmented fault closures are not observable. Therefore, Blodstrupmoen could not be matured into a prospect.

### Ragnar

The Ragnar lead is a Middle Jurassic structural fault block trap composed of two segments. A first segment corresponding to a horst structure and a second segment corresponding to a footwall fault dependant block (Figure 10). This lead was not presented in the application process and has been evaluated lately in the evaluation work after the purchase of the new seismic survey.

This lead shares the spill point with the northern part of the Smørbukk field and its reservoir units are mainly the Tilje and Åre Formations. Closure is provided by major faults in between the two segments and to the North of the structure. The reservoir parameters are similar to the Reodor prospect. Even though the risk is low for this lead, the volumes are too small to be interesting.

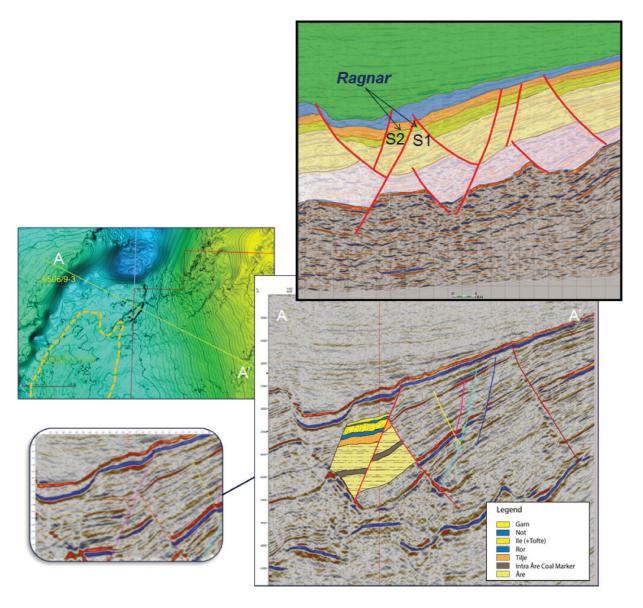


Figure 10: Inline 5192, HVG2013 3D survey, showing the Ragnar lead, and its two segments interpretation, north of the Smørbukk outline.

## **5 Technical Evaluation**

A technical evaluation for the Reodor prospect was performed for the license application. It was not updated due to the low volumes potential of the prospect and leads, following the G&G evaluation.

Nevertheless, an economic analysis was performed for the new volumes for the Reodor prospect (Figure 11). In place volumes were generated in GeoX.

## Reodor oil case - EMV

- As value creation only occurs when prospects are turned into commercial discoveries, all prospects
  are valued on an expected monetary value (EMV) approach.
- Valuation was performed for three production profiles (P90, P50 and P10).
- P10 MNOK 30% 197 P50 Success · The EMV of Reodor oil case 40% 54% -119 -462 is highly negative EMV (8,5) P90 -180 -558 Both P90 and P50 success cases are negative, only P10 46% Geological Failure success case is slightly -254 positive

Figure 11 - Economic analysis of Reodor Oil Case

NPV (8,5)

## **6 Conclusion**

The evaluation of the license area has contributed to increase the understanding of the prospectivity in the area.

Detailed investigation on the basis of the new seismic survey have shown that in spite the reservoir quality and presence, the main prospect Reodor does not have a sufficiently valid trap mechanism and the seismic anomaly is potentially due to a lithological effect. The leads fail to be matured to prospects.

The list below summarizes the reasons for relinquishment:

## Reodor Prospect:

- Too risky trap definition. Fault continuity is uncertain to the North, fault sealing properties are negative for the upper units.
- Significantly reduced size of possible trap
- Volumes are not sufficient economic evaluation becomes negative

Ludvig Lead:

Fails due to reservoir presence and trapping mechanism

Genna Lead:

Fails due to charge and trapping mechanism

Solan Lead:

Fails due to lateral seal, reservoir quality and charge

Blodstrupmoen Lead:

Fails due to trap mechanism

Ragnar Lead:

Fails due to too small volumes.

Based on the evaluation, the partnership has concluded that no drillable prospect is present within the license acreage and it has been decided to drop the license at the drill or drop deadline.