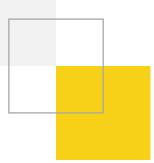


PL 1056

License Status Report



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1. PL1056 History

PL1056 is located in the Møre Basin (Volcanic Margin) about 130km west of the producing Ormen Lange Field (Ref. Figure 1). It is captured within Quadrant 6302 including blocks 4-12 and parts of blocks 10-12, a total of 4548 km². Block 6302/6 include the Tulipan gas discovery made in 2005. The license was awarded 14.02.2020 (APA19) to A/S Norske Shell (Operator 40%), DNO Norge ASA (20%), Wintershall Dea Norge AS (20%) and Petoro AS (20%), with an initial 1-year data or drop decision ending on 14.02.2021. Aker BP joined as a fourth partner on 30th June 2020 taking 10% of the operators share.

At the time of application, the main license prospectivity was centred around two main opportunities (Prestekrage and Rose), both in the Paleocene play. Key challenge for the play in this license is presence of basalt which partly overlays the reservoir as well as presence of large sill complexes. All of which cause poor seismic imaging and uncertain interpretation results. Seismic reprocessing trial and further G&G studies have been carried out. The risk however, remains high and identified volume potential only marginally economic. The license decision is therefore not to proceed with further activities after the first milestone 14.02.2021.

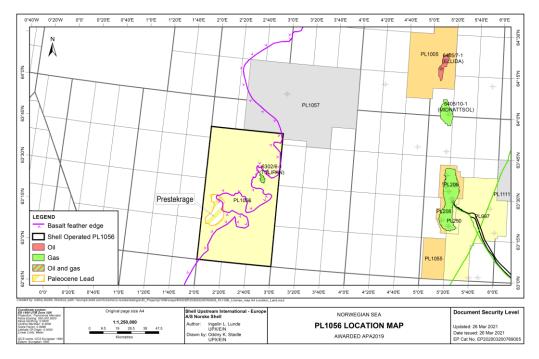


Figure 1 – PL1056 Prospect and Discovery Map

1.1 Status of Work Commitment

Firm work program for the initial 1-year phase consisted of G&G study work, followed by a decision to acquire 3D seismic and/or reprocess 3D seismic or drop. The partnership has reprocessed 311 km² of the original BG0805 3D dataset. In addition, survey acquisition modelling study has been conducted with the objective to rank the seismic options for best seismic imaging as an alternative for addressing the key uncertainty related to trap definition. Additional G&G study work included basin modelling, geochemistry work, AVO analysis, mapping and evaluation of intrusions and extrusives.

1.2 Licence Meetings

Two combined Management and Exploration committee meetings have been held in 2020; March 26th, EC/MC Committee meeting #1 and November 12th, EC/MC Committee meeting #2.

1.3 Explanation of Grounds for Lapse

Improved understanding of the geological complex volcanic margin over the license area through evaluations of the reprocessed 3D seismic dataset and updated petroleum systems analysis (geochemistry and basin modelling), have shown significant remaining irreducible uncertainty related to the identified opportunities. A technical summary of the evaluation of the two main leads, Rose and Prestekrage, is outlined in Table 1 and the resulting Volume and Risk summary is presented in Table 2. No drillable prospects have been identified and the partnership has agreed to relinquish the licence.



| Name | Play | Status | Prospect Summary and Evaluation Status |
|-------------|-----------|--------|--|
| | | | |
| Rose | Paleocene | - | Rose were initially identified as a three-way dip closure, possibly fault bounded to the northeast, with a significant uncertainty due to challenging seismic imaging. On the basis of the trial dataset interpretation and further evaluations, the structure is no no longer apparent and together with the other evaluations like presence of pervasive sill complexes interferring with the reservoir and seal, Rose is no longer considered a lead. |
| Prestekrage | Paleocene | Lead | Prestekrage is a Tulipan look-alike forced fold 4-way structure. It is generated by the intrusion of an underlying saucer- shaped sill into the underlying Cretaceous stratigraphy during the Early Eocene (Schmeidel et al. 2017), without the overlying extrusives or sills. The reservoir is deep-water turbiditic sandstone of Danian age with Paleocene to early Eocene seal. As explained in chapter 4 the subsequent modifications of the fold is seen as a risk, and here there are no protecting basalt cover. The exact seismic loop representing the top reservoir is challenging to correlate over from Tulipan and hence the top reservoir pick remains an uncertainty. Basin model suggest charge limitations and Prestekrage is only showing a class I AVO signal, which may indicate either a poor sand quality with HC or sand with brine saturation. The low POS of the Prestekrage lead remains and thereby not proposed as a drill opportunity. |

Table 2 – Prestekrage Volume and POS summary

| Name | P90 Rec. (BCM) | P50 Rec (BCM) | P10 Rec. (BCM) | Pmean Rec. (BCM) | POSg |
|-------------|----------------|---------------|----------------|------------------|------|
| Prestekrage | 4 | 22 | 64 | 29 | 15% |

2. Database Overview

2.1 Common Well Database

A summary of the license well common database is shown in Table 3 and outlined in Figure 2.

Table 3 - Well Database

| Well name | Common name | Drilled year (TD) | NPDID | Result | Water depth (m MSL) | TD (mMD) | Age/Fm. at TD | Comment, Key relevance for this application |
|-----------|----------------|----------------------|-------|---------|------------------------|-------------|----------------------------------|---|
| 6302/6-1 | Tulipan | 2005 | 5086 | Gas | 1261 | 4300 | Upper Cretaceous Springar Fm. | Gas discovery in <u>heterolithic Egga sst</u> . Key stratigraphic calibration. Analogue for structural concept (forced fold). |
| 6403/10-1 | Solsikke | 2003 | 4602 | Dry | 1717 | 3400 | Upper Cretaceous Kvitnos Fm. | Key stratigraphic calibration. Testing flat-event in a dome structure. |
| 6305/4-1 | Ormen Lange | 2002 | 4441 | Gas | 1002 | 2975 | Upper Cretaceous Springar Fm. | Gas discovery in <u>heterolithic Egga sst</u> . Key stratigraphic and geochemical calibration and analogue for <u>Danian</u> play. |
| 6305/4-2S | Ormen Lange | 2011 | 6441 | Dry | 1086 | 2985 | Upper Cretaceous Nise Fm. | Stratigraphic and geochemical calibration and analogue for Danian play. |
| 6305/5-1 | Ormen Lange | 1997 | 3144 | Gas | 889 | 3053 | Upper Cretaceous Nise Fm. | Gas discovery in <u>heterolithic Egga sst</u> . Key stratigraphic and geochemical calibration and analogue for <u>Danian</u> play. |
| 6305/5-3S | Ormen Lange | 2009 | 6118 | Gas | 832 | 2954 | Upper Cretaceous Springar Fm. | Gas discovery in heterolithic Egga sst. Key stratigraphic and geochemical calibration and analogue for Danian play. |
| 6305/7-1 | Ormen Lange | 1998 | 3535 | Gas | 857 | 3377 | Upper Cretaceous Springar Fm. | Gas discovery in <u>heterolithic Egga sst</u> . Key stratigraphic and geochemical calibration and analogue for <u>Danian</u> play. |
| 6305/8-1 | Ormen Lange | 2000 | 4109 | Oil/Gas | 837 | 3175 | Upper Cretaceous Nise Fm. | Gas (with oil) discovery in <u>heterolithic Egga sst</u> . Key stratigraphic and geochemical calibration and analogue for <u>Danian</u> play. |
| 6305/8-2 | Ormen Lange | 2014 | 7579 | Gas | 616 | 3078 | Upper Cretaceous Springar Fm. | Gas discovery in <u>heterolithic Egga sst</u> . Key stratigraphic and geochemical calibration and analogue for <u>Danian</u> play. |
| 6405/7-1 | Ellida | 2003 | 4749 | Oil | 1206 | 4300 | Upper Cretaceous Nise Fm. | Oil discovery with <u>heterolithic Nise</u> Fm. sandstones. Key geochemical calibration. |
| 6405/10-1 | Midnattsol | 2007 | 5565 | Gas | 828 | 3182 | Upper Cretaceous Nise Fm. | Gas discovery with <u>heterolithic Nise</u> Fm. sandstones. Key geochemical calibration. |

2.2 Seismic Database

PL1056 was initially evaluated on BG0805 and ST0105 3D with supporting 2D data outside the 3D coverage. The seismic reprocessing of BG0805 dataset over an area of 311 km2 (ref. Fig. 2) is named BG0805SHR20. A summary of the license 2D and 3D seismic common database is shown in Table 4 and outlined in Figure 2.

Table 4 – Table of CDB seismic common database

| Survey name | 3D/2D | Acquisition Year | NPDID | Operator/Owner | Data available | Relevance |
|-------------|-------|------------------|-------|----------------|--|---|
| BG0805 | 3D | 2008 | 4512 | BG | Full offset & near/far offset stacks for trial area only | Key existing 3D over majority of leads. |
| ST0105 | 3D | 2001 | 4134 | Statoil | Full offset | Key existing 3D over Tulipan discovery. |
| BG0805SHR20 | 3D | 2020 | - | PL1056 lisence | Full offset | Reprocessed BG0805 data over key leads. |
| MNR09 | 2D | 2009 | 7001 | TGS/Spectrum | Full offset | Ties over licence area and to OL area. |
| MNR08 | 2D | 2008 | 4571 | TGS/Spectrum | Full offset | Ties over licence area and to OL area. |
| Other MNR | 2D | Before 2008 | - | TGS/Spectrum | Full offset | Ties over licence area and to OL area. |

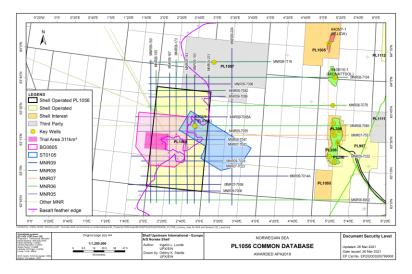


Figure 2 – Common Well and Seismic Database PL1056

3. Results of Geological and Geophysical Studies

3.1 General G&G Studies

Table 5 provides an overview of the completed studies carried out, intent and results.

Table 5 – Geological and Geophysical Studies Summary

| Study | Intent | Result | | | | |
|--|---|---|--|--|--|--|
| Geochemistry | Re-look at the hydrocarbon types within the Møre Basin to address the charge timing uncertainty. Integration with the regional Basin Model. | The Geochem study undertaken confirms the dry gas (n-alkanes) in Tulipan to be geochemically comparable to fluids at Ormen Lange. The results are in line with earlier studies hence the Jurassic vs Cretaceous source discussion continues due to lack of hard evidence. Refer to section 4.1.1 for more details. | | | | |
| Regional Basin Model | To address the charge timing uncertainty in a complex volcanic margin setting. Input of regional horizons including the marginal high to the west and results from the geochemistry study. | Charge timing remains a key uncertainty also with a regional extent around the license including some of the volcanic complexities. The Basin Model results are compatible with Tulipan discovery showing small accumulation of high maturity gas, indicating an underfilled trap due to limited charge at the time of trap generation. However, the maturity of Jurassic source is not impacted by sill emplacement because peak expulsion predates sill emplacement at ~56Ma, while deeper Cretaceous SR is low-mid mature before and at peak maturity during sill emplacement. Refer to section 4.11 for more details. Note: Due to no well penetrations deeper into Cretaceous and Jurassic sections or further out on the marginal highs, the input mapped horizons | | | | |
| Mapping and evaluation of extrusives and intrusions | Addressing the extent of the volcanics and the possible impact on prospectivity | remain conceptual. Using the 3D datasets (BG0805 and ST0105), regional 2D lines together with trial dataset (BG0805SHR20) and academic learnings, the extent of the volcanics were better understood. There are multiple phases of extrusives in addition to a pervasive extent of sill networks throughout the license. This complexity impacts the overall prospectivity risks in multiple ways. | | | | |
| AVO analysis on BG0805 of key leads; Rose and Prestekrage | To identify potential AVO response at Rose and Prestekrage, calibrating the response to rock physics from Tulipan well (testing AVO signal for three different sand scenarios) | As previous stated by BG (2012) the Danian structures were not seen as prospective due to the lack of seismic response. The lack of any evidence for HC-fill on the seismic data is still valid but could be argued to be non-reliable as evidence for or against hydrocarbons, due to the very low confidence on the AVO analysis as a result of proximity to the volcanic intrusions and overlying extrusives. Refer to section 4.11 for more details. | | | | |

3.2 Seismic Reprocessing

The existing 3D dataset BG0805 is a pseudo broadband dataset with good low frequency content. Deep source & receivers were used in the acquisition and fairly long offsets (7300m), however, sparse cross line sampling of 50m and narrow azimuth.

A trial was carried out to see what could be achieved with reprocessing, in a limited area of 311 km² (ref. Figure 2) of the BG0805 dataset, covering the main opportunities, involving reprocessing of time-shifted RTM shots. Figure 3 shows a seismic line through the BG0805SHR20 trial dataset with an overlay of the velocity model. Sub-basalt targets are illuminated due to the low frequency content of the data in combination with advanced imaging. Surface-related multiplies are seen to represent less of a challenge, but internal multiples may still represent an issue. The existing velocity model from ION is seen as not optimal for imaging due to the complexity of the basaltic layers that does not seem to have been adequately captured in that model.

Some uplift of the imaging was achieved below the basalt where seismic loops are more consistent and can be interpreted with more confidence. Also, other geological features like intrusions, are more prominent in the data. However, imaging remains challenging due to large presence of sill complexes and inaccurate velocities thereby leaving the sub-basalt structures with a high irreducible uncertainty.

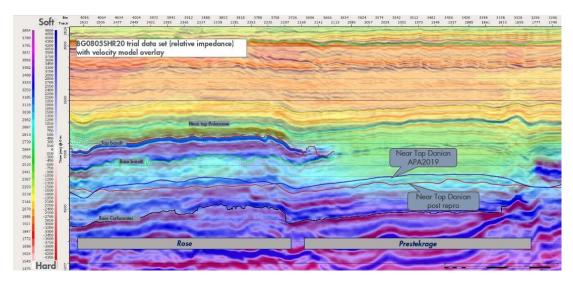
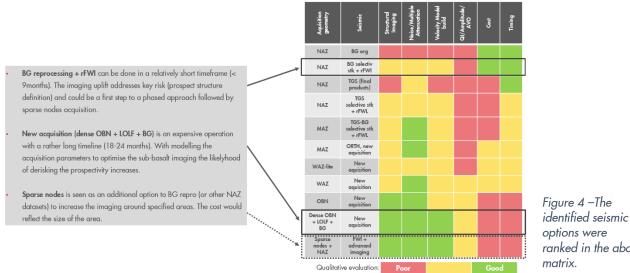


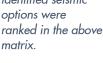
Figure 3 -BG0805SHR20 trial dataset *(relative* impedance) with velocity model overlay

An acquisition modelling study was performed with the intent to support a ranking of best suited seismic option for sub-basalt imaging. The study investigated the aspect of the survey design that may improve imaging, comparing existing BG and TGS datasets, and developed options for a new survey. Comparing BG and TGS configuration, the TGS parameters are generally an improvement over BG parameters but there is a lack of offsets out to 15 km to update model below basalt.

After the acquisition modelling and reprocessing, an evaluation and ranking has been done of relevant seismic options, see Figure 4. Uplift vs cost is challenging to demonstrate for the different options. The results of the reprocessing trial of the BG data could improve the imaging at a relatively low cost. Technically, OBN data appears to represent the best technical way forward. However, the associated cost and time outlook has downgraded this option. A full reprocessing of the BG data together with a rFWI (reflection full waveform inversion) could be a timeand cost-effective option. In addition, local interesting areas could be addressed with innovative acquisition of sparse nodes.

Even with the uplift observed with the BG0805SHR20 trial dataset, there is still significant remaining uncertainty. Severe complexity is related to the extent of the extrusives and the sills in terms of the imaging and velocity challenges to achieve confident mapping of low relief structures.





4. Prospect Update Report

4.1 Rose and Prestekrage Summary

Fig. 5 shows an overview of the Paleocene leads considered in the APA19 application. Rose and Prestekrage were the anchor leads in the application (Rose: 12 % POS, 21 BCM, and Prestekrage: 16% POS, 29 BCM mean recoverable gas volumes). An assessment of the Possibility of Success for Prestekrage were undertaken in the light of the license studies, leaving Prestekrage with an overall POS of 15%, down from the initial POS of 16%. The only change is charge POS going down from 0.7 to 0.65. Table 6 Shows the revised Prestekrage lead data. Note that this is without any DHI downgrade applied. A large part of the Prestekrage structure is outside the reprocessed trial data area, therefore no updates of volumes. Since the former identified Rose structure is no longer valid on the new interpretation, this leaves the license only with Prestekrage as a main lead. The other identified Paleocene leads have not been evaluated further. However, our understanding of the demonstrated complex geology makes it less likely that these would become drillable targets after further evaluation, even with improved seismic imaging.

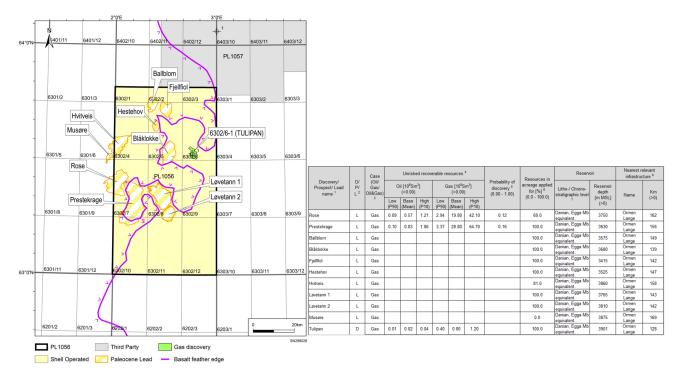


Figure 5 - APA19 overview of Paleocene leads and respective NPD table of resource potential

4.1.1 Charge

The Tulipan discovery proves gas charge in this western part of the Møre Basin. The discovery has an amplitude shutoff and a gas sample below the FWL, implying possible charge limitation or seal failure. The Ormen Lange field, located in the eastern part of the Møre Basin, has dry gas which most likely is linked to a present day high mature Upper Jurassic source rock interval.

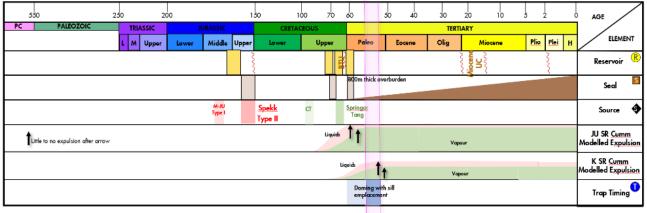
The Geochem study undertaken confirms the dry gas in Tulipan to be geochemically comparable to fluids at Ormen Lange. In addition, there is a small contribution of a low mature (0.6-0.64VRE) charge as indicated by Tulipan extracts, C2+ isotopes and a liquid portion analysed from cuttings/SWS. Geochemically, the low maturity fluids suggest a marginal type II/III Cretaceous organic source rock is present, in-situ or nearby.

The Basin Model results support the Tulipan discovery as an underfilled accumulation due to limited charge at the time of trap generation (Fig. 6). At Tulipan, the basin model estimates a present day overmature Jurassic source rock with peak expulsion at ~75-60 Ma, followed by likely limited expulsion. This predates the deposition of the Danian reservoir and probably also the trap formation. Post peak expulsion and/or any form of torturous migration pathways could explain the Tulipan charge. Potential for Jurassic charge in Rose and Prestekrage is further challenged given the timing of trap generation relative to the Jurassic SR being mature slightly earlier than at Tulipan.

A local Cretaceous source rock encountered at Tulipan is low mature and unlikely to result in significant HC charge. Deeper Cretaceous SR (e.g Cenomanian-Turonian (CT) is modelled to be gas generating within the license, however Rose is situated on the borderline to oil mature present day.

Tulipan has a class III AVO response where the rock physics modelling only shows class III gas response with blocky sands. Two other modelled sand scenarios show class II. For the Prestekrage lead, assumed to be a Tulipan look-alike opportunity, a similar QI gas response is expected. However, using the original BG0805 dataset, Prestekrage results reveal a class I signal, which may indicate either a HC filled poor sand or a brine response. For the initial Rose opportunity, the results are inconclusive. The presence of the basalt cover and/or surrounding sills adds complexity to the seismic amplitude evaluation, hence a conclusive QI response is challenging to identify.

The updated regional basin model suggests charge limitation for the opportunities identified in the license and hence a relatively low chance factor (0.65) has been assigned which is comparable to what was originally quoted in APA19.



Critical moment = trap formation & top seal.

Figure 6 – Petroleum system Event Chart. Charge from a local Jurassic kitchen (Peak expulsion ~75 to 60Ma) predates significant trap formation. Cretaceous (CT) local charge is challenged due to early expulsion pre-dating trap formation and peak expulsion coinciding with sill emplacement.

4.1.2 Structure

Using the reprocessed data (BG0805SHR20), the original sub-basalt Rose structure has significantly changed and is no longer considered as a valid structure. Towards the north, the structure is flattening out and towards the south, there seems to be a seismic pull-up effect generated from the sills above. Figure 7 displays the structure map overlaid by the original outline APA of Rose and Prestekrage. The Prestekrage lead remains a low relief structure with the trial dataset interpretation. However, the entire Prestekrage structure is not covered by the trial dataset, leaving also the structure chance factor at 0.4, the same as viewed in the APA

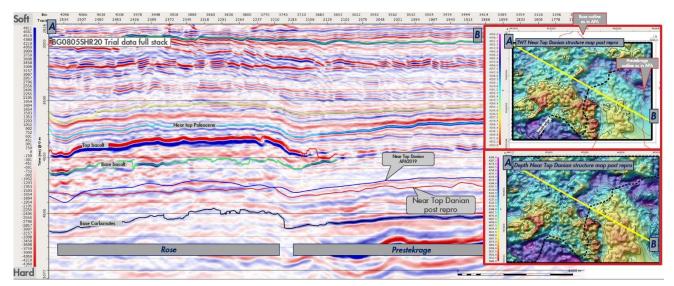


Figure 7 – Cross section and map of the main leads Rose and Prestekrage.

4.1.3 Reservoir

No new reservoir studies have been initiated, hence the chance factor remains at 0.7 for the Prestekrage lead. The Danian deep-water turbiditic sandstones are proven in the Tulipan well with 178m gross and 34m net (with a porosity and Vshale cut off applied of >0.14 and <0.50 respectively). As described in the APA application, integrating the palynological study (Jolley 2006) and the interpreted Paleocene thickness expansion over the license, this suggest the reservoir in Tulipan to be located in a distal part of a deep-water fan complex sourced from the west i.e. the Greenland margin (StatoilHydro 2008). This implies that improved (proximal) reservoir quality may be found further to the west. The model in Figure 8 shows an interpretation of the deep-water fan system possible penetrated by the Tulipan well.

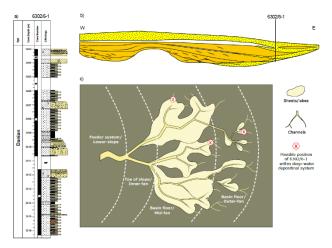


Figure 8 – Representation of Danian reservoir variability in the Tulipan discovery (6302/6-1). a) Partial core log from well 6302/6-1illustrating thin bedded turbidites with occasional thicker, higher quality units. b) Conceptual cross section through westerly-sourced turbidite systems, interpretation of 6302/6-1 in a distal position. c) Potential alternative facies positions of the 6302/6-1 turbiditic sandstones. After ExxonMobil 2015.

4.1.4 Seal

Competent muddy seal of Danian to early Eocene age is encountered in the Tulipan discovery well. Initially risks were associated with top seal due to the mechanism of forced fold formation and subsequent modifications, as

described for Tulipan by Schmeidel et al. (2017) and globally by Magee et al. (2019). This is still considered to be a risk for the Prestekrage lead, therefore the chance factor remains at 0.8. For the Rose lead it is possible that the extrusive cap protected the structure from burial modification, thereby maintaining a competent top seal. However, based on new evaluation of the Rose lead on the trial reprocessed dataset and legacy datasets, it seems likely that a heavily intruded interval is located immediately above and at top reservoir level, adding a significant risk to top seal. Shallow sill around the Paleocene level seems pervasive and occur as thick intervals or complexes with nested, small diameter, saucer shaped intrusions (Figure 9).

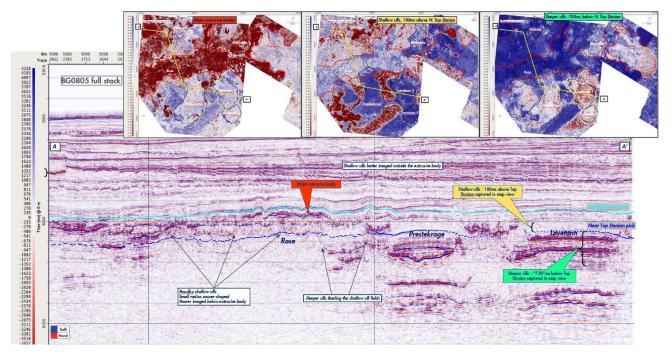


Figure 9 – Seismic section through Prestekrage and Rose showing the basalt cover and deep and shallow sills in this complex volcanic area. The maps show amplitude extractions at 3 levels, highlighting the basalt cover, the shallow sills around the Paleocene level and the deeper sills causing the forced folds underneath Prestekrage and Tulipan.

| Table 6 – Revised Pres | tekraae lead data (NPE |) table 5). Chanaes fro | om APA2019 highlighted in the table. |
|------------------------|------------------------|-------------------------|--------------------------------------|
| | | | |

| | 6302/7. 6302/10 | Prospect name | Development | Di | Lead | Prosp ID (or New!) | | NPD approved (Y/N) | |
|---|--|------------------------|------------------|------------------------------------|--|-----------------------------------|--|---------------------------------|--|
| | | New Play (Y/N) | Prestekrage | Discovery/Prosp/Lead | Lead | Prosp ID (or New!) | NPD will insert value | INPD approved (17/N) | |
| | | | | Outside play (Y/N) | 0.0.1 | | | | 0000 |
| | Gas | Reported by company | A/S Norske Shell | Reference document | | port PL1056, A/S Norske Shell | | Assessment year | 2020 |
| | 1 of 1 | Structural element | Møre Basin West | Type of trap | 4-way dip | Water depth [m MSL] (>0) | 1260 | Seismic database (2D/3D) | 3D |
| Resources IN PLACE and RECOVERABLE | | Main phase | 1 | T | 1 | Associated phase | - | 1 | 1 |
| Volumes, this case | | Low (P90) | Base, Mode | Base, Mean | High (P10) | Low (P90) | Base, Mode | Base, Mean | High (P10) |
| | Oil [10 ⁶ Sm ³] (>0.00) | | | | | 0.14 | 0.84 | 1.12 | 2.49 |
| · · · · · · · · · · · · · · · · · · · | Gas [10 ⁹ Sm ³] (>0.00) | 4.59 | 29.20 | 38.90 | 86.60 | | | | |
| | Oil [10 ⁶ Sm ³] (>0.00) | | | | | 0.10 | 0.62 | 0.83 | 1.86 |
| Recoverable resources | Gas [10 ⁹ Sm ³] (>0.00) | 3.37 | 21.50 | 28.80 | 64.70 | | | | |
| Reservoir Chrono (from) | Paleocene | Reservoir litho (from) | Egga Fm eq. | Source Rock, chrono primary | Upper Jurassic | Source Rock, litho primary | Spekk Fm. | Seal, Chrono | Paleocene |
| Reservoir Chrono (to) | | Reservoir litho (to) | | Source Rock, chrono secondary | Cretaceous | Source Rock, litho secondary | Lange Fm. | Seal, Litho | Tang Fm. |
| Probability [fraction] | | | | | | | | | |
| Total (oil + gas + oil & gas case) (0.00-1.00) | 0.15 | Oil case (0.00-1.00) | 0.00 | Gas case (0.00-1.00) | 1.00 | Oil & Gas case (0.00-1.00) | 0.00 | | |
| Reservoir (P1) (0.00-1.00) | 0.70 | Trap (P2) (0.00-1.00) | 0.40 | Charge (P3) (0.00-1.00) | 0.65 | Retention (P4) (0.00-1.00) | 0.80 | | |
| Parametres: | Low (P90) | Base | High (P10) | Comments: 1. Included assumptio | | | | n unlimited charge model. P10 c | overing the spill point |
| Depth to top of prospect [m MSL] (> 0) | | 3630 | | the P90 covering the Tulipan GIIP. | 2. Gas saturation of | lependent on porosity, max positi | ve. | | |
| Area of closure [km ²] (> 0.0) | 107.7 | 166.2 | 193.0 | 5 | | | | | |
| Reservoir thickness [m] (> 0) | 50 | 105 | 200 | 5 | | | | | |
| HC column in prospect [m] (> 0) | 60 | 100 | 160 | b l | | | | | |
| Gross rock vol. [10 ⁹ m ³] (> 0.000) | 0.129 | 0.849 | 2.667 | 7 | | | | | |
| Net / Gross [fraction] (0.00-1.00) | 0.15 | 0.40 | 0.60 | | | | | | |
| Porosity [fraction] (0.00-1.00) | 0.10 | | | | | | | | |
| Permeability [mD] (> 0.0) | 1.0 | 250.0 | 900.0 | | | | | | |
| Water Saturation [fraction] (0.00-1.00) | 0.50 | | | | | | | | |
| Bg [Rm3/Sm3] (< 1.0000) | 0.0033 | 0.0036 | | | | | | | |
| 1/Bo [Sm3/Rm3] (< 1.00) | 0.0000 | 0.000 | | | | | | | |
| GOR, free gas [Sm ³ /Sm ³] (> 0) | 37174 | 34483 | 32154 | 4 | | | | | |
| GOR, oil [Sm ³ /Sm ³] (> 0) | 51114 | | 52154 | | | | | | |
| Recov. factor, oil main phase [fraction] (0.00-1.00) | | | | | | | | | |
| Recov. factor, das ass. phase [fraction] (0.00-1.00) | | | | | | | | | |
| Recov. factor, gas main phase [fraction] (0.00-1.00) | 0.65 | 0.75 | 0.80 | 1 | | | | | |
| Recov. factor, liquid ass. phase [fraction] (0.00-1.00) | 0.65 | | | For NPD use: | | | | | |
| | 115 | 0.75 | 0.00 | | NPD will insert value | Registrert - init: | NPD will insert value | Kart oppdatert | NPD will insert value |
| | 550 | | | Innrapp. av geolog-init: Dato: | NPD will insert value NPD will insert value | | NPD will insert value NPD will insert value | Kart oppdatert Kart dato | NPD will insert value NPD will insert value |
| | | 2. Por>0.14 | - | Dato. | NPD Will insert value | Registren Dato: | NPD will insert value | | |
| Cut off criteria for N/G calculation | 1. VSn<0.5 | Z. P0r>0.14 | 1 | | | | | Kart nr | NPD will insert value |

Status: Final

5. Technical Evaluations

Economic screening was carried out to understand the volume range that is required to create value from developing the volumes in PL1056. The development concept considered in the evaluation involved a subsea tie-back (130km to OL and 250km to Nyhamna) to Ormen Lange. The results showed that the volumes for most of the identified leads were too small and not economic, except for Prestekrage which was marginal.

6. Conclusions

The evaluation of the license is complete with the following conclusions:

- Results from the evaluation of the seismic options show improved imaging of a full reprocessing of BG data (and likely TGS dataset) together with a rFWI (reflection full waveform inversion). This could be a time- and cost-effective option. In addition, local interesting areas could be addressed with innovative acquisition of sparse nodes. Technically, OBN data is the best option but comes at a high cost. However, severe complexity is related to the extrusives and the sills, both in terms of the imaging and velocity challenges to achieve confident mapping of low relief structures. Even after possible further seismic efforts, the license is of the opinion that there would still be significant remaining uncertainty.
- The closure of one of the main opportunities, Rose, is no longer identified using the trial dataset. A complicated sill system is identified around the Danian level and has a negative impact on reservoir and seal.
- Areas with shallow sill systems as seen in Rose seem pervasive in the license area, and as in Rose, resulting in damaging the seismic image causing unreliable picking of top Danian, velocity pull-ups, chance of reservoir compartmentalisation and seal breach. The Danian play is therefore regarded as being associated with considerable uncertainty.
- No seismic support as would have been expected for a gas filled reservoir has been observed in the largest lead, Prestekrage.
- Basin modelling results suggest charge limitations, either with longer tortuous migration paths from a Jurassic kitchen, and/or limited local charge form a Cretaceous source.
- Economic screening indicates that the lead portfolio does not have the minimum economic volume range. Only Prestekrage (29BCM, APA volume) could be interesting in terms of volume, but the gPOS remains low (15%).

The license work commitments have been fulfilled. However, a drill-worthy prospect has not been identified and the partnership has therefore unanimously recommended relinquishment of PL1056.

7. References

- Schmeidel, T., Kjoberg, S., Planke, S., Magee, C., Galland, O., Schofield, N. & Jackson, C. 2017. Mechanisms of overburden deformation associated with the emplacement of the Tulipan Sill, Mid-Norwegian Margin. AAPG Interpretation, 5, 23-38.
- Jolley, D.W. 2006. Westerly sourced Palynofloras in the Eocene-Palaeocene sediments of well 6302/6-1. Prepared on behalf of Statoil UK.StatoilHydro 2008
- Magee, C., Hoggett, M., Jackson, C. & Jones, S. 2019. Burial-related compaction modified intrusioninduced forced folds: implications for reconciling roof uplift mechanisms using seismic reflection data. Frontiers in Earth Sciences, 7, 37. ExxonMobil 2015
- BG, 2012. License Relinquishment report PL388.
- A/S Norske Shell, 2019. APA 2019 application document
- ExxonMobil, 2015. Licence Relinquishment Report PL596.
- StatoilHydro, 2008. PL251 Block Evaluation Report.