1. Key License History

This report summarizes the technical evaluation completed on Norwegian offshore license PL419, awarded February 16th, 2007, to *Nexen Exploration Norge AS* (Operator-*30%), Revus Energy ASA (25%), Premier Oil Norge AS (25%) and Edison International Spa (20%).* By date of relinquishment the partnership is *Nexen Exploration Norge AS* (Operator-*45%), OMV (Norge) AS (30%) and PGNiG Norway AS (25%).* The license (195.457 km²) is located within the block 35/9 west of the Gjøa field in the Måløy Slope area (Figure 1).

The license was held on a drill/drop basis 2 year evaluation period, expiring on February 16th, 2009. The PL419 work commitments were within two years to reprocess seismic data over the license and decide if a well should be drilled. This part was concluded in a letter 7 September 2009 after the license was granted extension for the drill or drop decision until 31 December 2009 (ref. letters from MPE 12.02.2009 (ref 09/00153-4) and 23.06.2009 (ref 09/00153-7)). The license partners decided to continue the license into the drilling phase, and well 36/9-5 was drilled on the Cretaceous Brand prospect January/February 2010. All technical and operational objectives were met by the well, including meeting the target of zero reportable safety and environmental incidents. The well did not find hydrocarbons, and penetrated very poorly developed reservoir sands. Based on the well result and the negative impact it had on the remaining prospectivity in the block, the license partners decided to relinquish the license by end of the second part of the initial period.

Table 1**. Partnership meeting summary**

Meeting	Date	General Meeting Summary
MCM 1	1/3/2007	Establishment of license, budget and work program
ECM 1	26/6/2007	Seismic reprocessing
MCM 2/ECM 2	20/11/2007	Status G&G, budgets and workprogram
MCM 3/ECM 3	15/5/2008	Status G&G, budgets and workprogram
ECM 4	24/11/2008	License evaluation
MCM 4	9/12/2008	Recommendation, Budget and Work program
MCM 5	13/1/2009	Drill or Drop decision
ECM 5	16/4/2009	Well location, objectives, design and data aquisition
MCM 6	29/10/2009	AFE process, budget and work program
MCM 7	14/12/2010	Relinquishment

The partnership met on a regular basis to discuss the technical and business aspects of the license. A summary of these meetings and workshops that were held are listed in Table 1.

2. Database

2.1. Seismic Processing

The primary geophysical control used in the license was the multiclient 3D survey MC3D-Marflo2007 owned by PGS and prefunded by PL419. The survey is a prestack merge of NH8902, NH9202, NH9405 and NH9805 and covers 1263 km². The primary target zone was the Lower Cretaceous/Upper Jurassic section located near 3 seconds. Secondary targets were in the Upper Cretaceous and Mid-Jurassic Brent group. The well data base consisted of all adjacent released wells, and the unreleased 35/6-2 S which was a key well for the evaluation of Lower Cretaceous sands (Figure 1).

2.2. Seismic Interpretation

Detailed seismic interpretation was tied to the key wells, 35/3-2, 35/3-5, 35/6-2 S, 35/8-3, 35/8-5 S, 35/9-1, 35/9-2, 35/9-3 and 35/12-1 (Figure 1). The interpreted stratigraphic horizons were in time from Triassic to present day over the combined block areas and listed in Table 2.

Table 2**. Interpreted Horizon picks over PL419**

Horizon Pick	Group	Age
Seabed	Nordland	Recent
Base Pliocene	Nordland	Pliocene
Lark Fm.	Hordaland	Miocene
Sele Fm.	Rogaland	Paleocene
Kyrre Fm.	Shetland	Campanian
Blodøks Fm	Shetland	Turonian
Agat fan lobe	Cromer Knoll	Albian
BCU	Viking	Volgian
Heather	Viking	Oxfordian
Brent	Brent	Bathonian
Basement	Devonian	

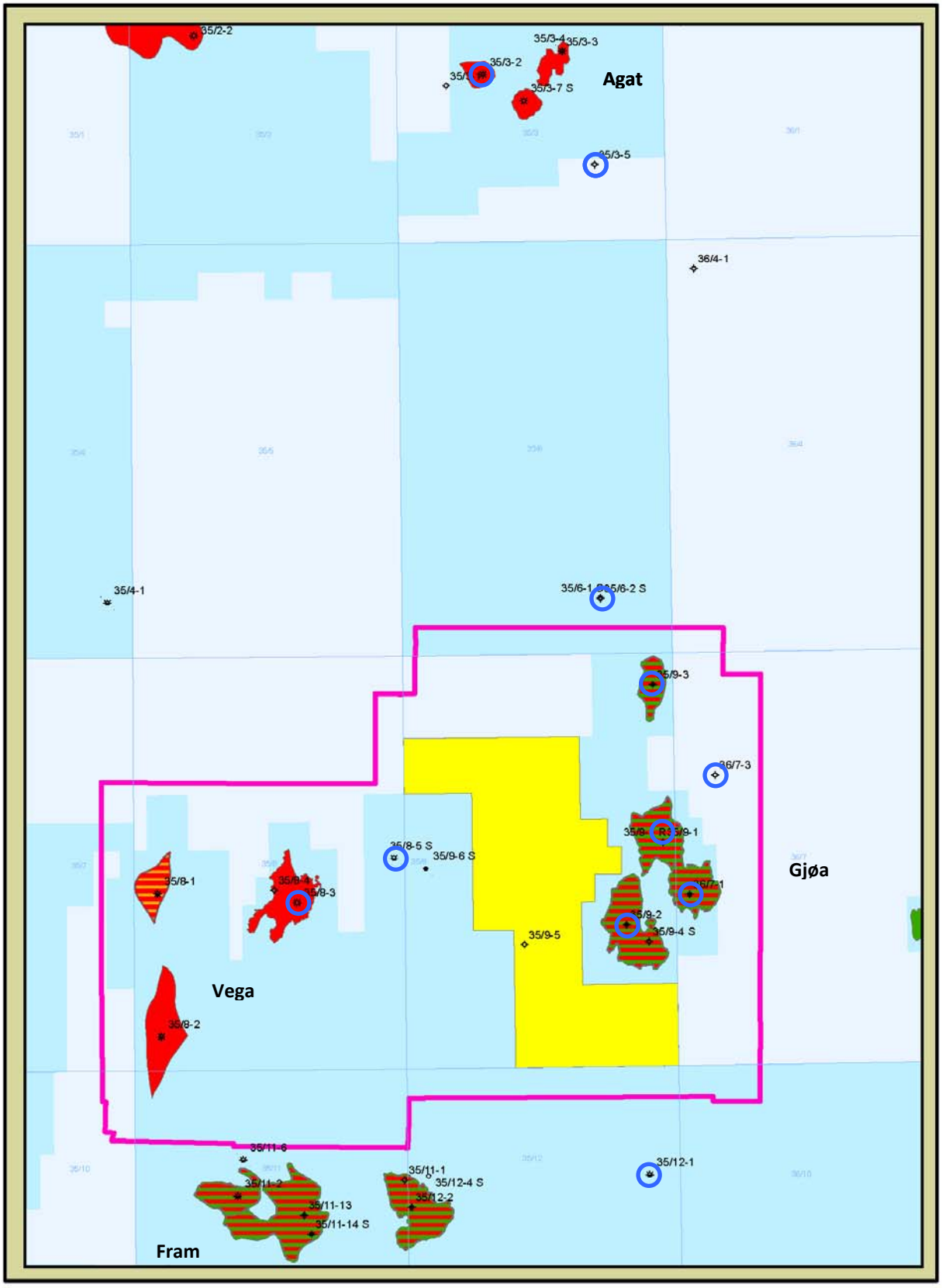

Figure 1 PL419 area basemap (yellow) including block lines, discoveries and seismic coverage of the Marflo07 seismic survey used in the evaluation (pink). Key wells are denoted with a blue circle.

3. Review of Geological Framework

3.1. Structural Setting

Block 35/9 is located north and north-east of the Fram fields, and west of the Gjøa field, within an area delineated to the east by the Øygarden Fault Complex, and cross cut north to south by the Sogn Graben. Existing discoveries at Gjøa, Agat, Vega and Fram Fields (Figure 1) demonstrate an effective petroleum system in which oil and gas generated from the Upper Jurassic Draupne and possibly Heather Formations plumbs into reservoirs of Middle Jurassic, Upper Jurassic, and Cretaceous age.

Complex faulting of the Brent Group took place over the Sogn Graben area during Bathonian times, resulting in an intense network of synchronous cross cutting faults, trending NW-SE and NE-SW, and a suite of major fractures trending N-S (Figure 2). The resultant fracture network is apparently unrelated to simple extensional tectonics, and the incipient rifting which was occurring to the west over the Viking Graben area. The major Bathonian lineaments were reactivated during Oxfordian times. Extensional tectonics resulted in rifting and fault block rotation across the area and the development of horst and graben topography. The major N-S structural grain was accompanied by lesser NW-SE and NE-SW faults. The episodic rifting continued through the Oxfordian to Volgian times and ceased in the Ryazanian. The Jurassic trap geometries were in place at the Jurassic/Cretaceous transition. Prospects younger than this are assumed to be stratigraphic traps.

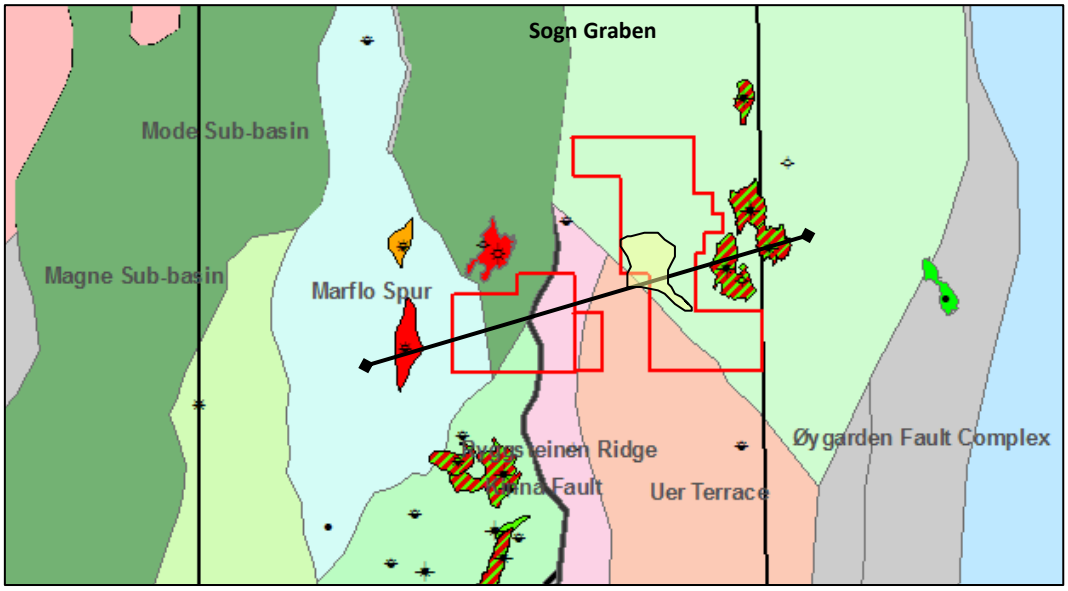

Figure 2 Map of the main structural elements. The Lower Cretaceous Brand prospect is shown as a yellow polygon West of Gjøa.

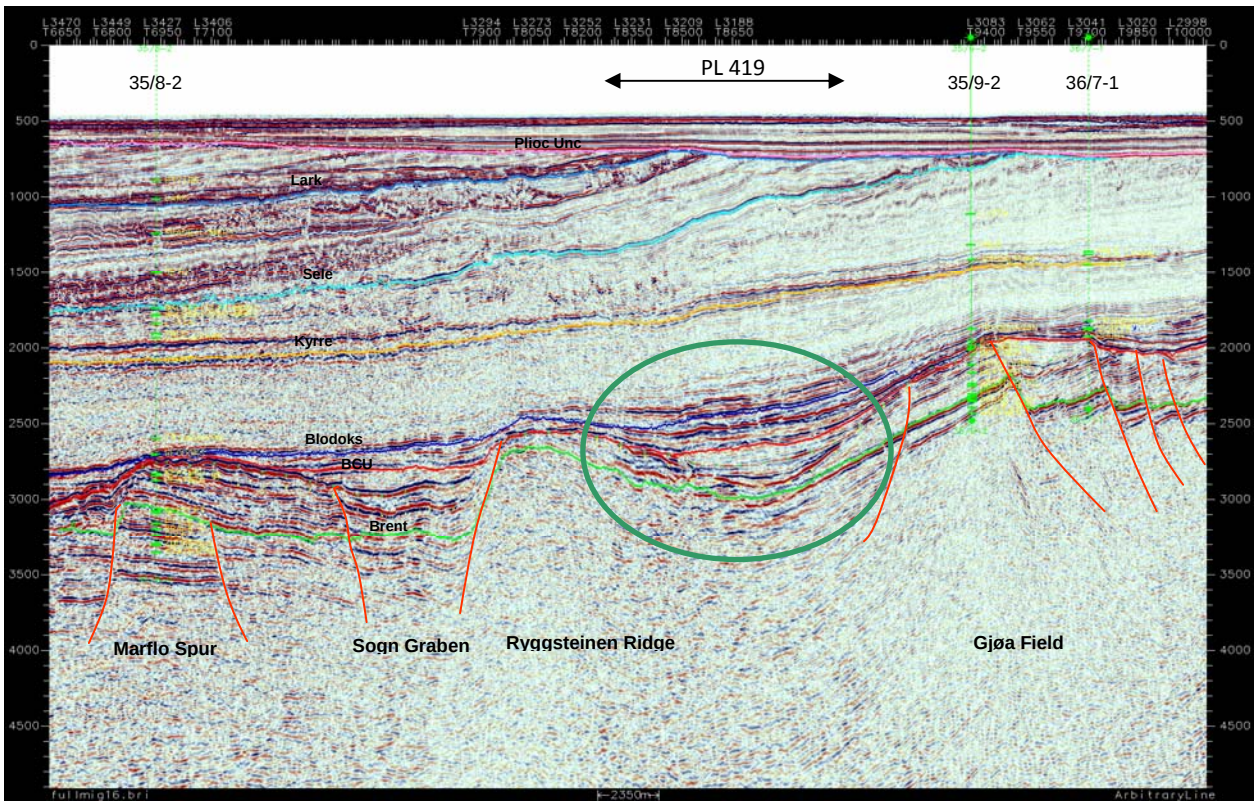

Figure 3 Seismic tie-line from Marflo Spur (west) to the Gjøa field (east) as shown on the structural element map in Figure 3. The location of orthogonal lower Cretaceous channel lobes are seen inside the green circle.

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3.2. Reservoir

The Upper Jurassic Oxfordian Sognefjord Formation and Lower Cretaceous Albian/Aptian Agat sst are the main reservoir targets in the PL419. The adjacent fields Fram Øst and Gjøa contain oil and gas in Upper Jurassic shallow marine sandstone reservoirs of the Fensfjord and Sognefjord Formations. In Fram Vest and Astero fields hydrocarbons are encountered in gravity flow deposits of the Sognefjord Fm. All reservoirs in the Upper Jurassic section have been influenced by syn-sedimentary tectonics, which generated erosion of structural highs, a trigger mechanism for gravity flow deposition, and tectonic lineaments, which governed sand fairways and depocentres.

The Upper Jurassic sequence has been incised by NW-SE trending Lower Cretaceous channel features, defined by the Base Cretaceous Unconformity which is poorly defined on seismic data in this area (Figure 3). The depositional system appears to have been point sourced from the Gjøa shelf margin, along narrow, incised, confined channels along steeper parts of the slope. The channels parallel the NW-SE structural trend. At the base of slope the channel fairways coalesce as terminal lobes within the graben basin.

Cretaceous stratigraphy in the area is dominated by argillaceous and marly facies. A high risk reservoir target for block 35/9 was tested in well 35/9-5 for potential presence of Cretaceous sands, which occur as a reservoir for oil and gas in well 35/9-3. Here, the sands occur as relatively thinly bedded sheet-like gravity flow depositional lobes within the Aptian / Albian Formation, and similarly within the Turonian / Coniacian Kyrre Formation. The Aptian / Albian event generated the Agat sandstones to the north in block 35/3 and the sands in 35/6-2 S. Valanginian to Barremian age Asgard sands are unproven in the area, but given the Upper Jurassic to Lower Cretaceous tectonic activity, hiatus and related unconformities at or near the BCU, such sands may be present in slope and basin areas. The Jurassic rift topography appears to have retained an impact on the Cretaceous system, generating isopach thicks away from old Jurassic highs. Uplift occurred along the margin of the Sogn Graben, as a discrete, relatively undissected structural unit during Cretaceous times, across the eastern margin of block 35/9 through to 36/7.

The Cretaceous prospectivity in 35/9 is entirely dependent on an updip stratigraphic pinch-out of the reservoir on the west to north dipping Cretaceous slope in the eastern half of the block. The trapping mechanism is proven in the Agat field where gas accumulation is fully dependent on effective sand pinchout and a lack of pressure communication between individual depositional / reservoir lobes is documented. Well 35/6-2 S demonstrated thick and well developed sands in Albian/Aptian deeper than found at more crestal position. There are Cretaceous sands on the eastern margin of the Sogn Graben without hydrocarbon charge, however: the isolation of reservoir units within blanketing Cretaceous shales increases the risk for an effective migration fairway. Thickening in the Cretaceous section demonstrate a major depocentre within the central part of block 35/9. This area is the likely area for deposition of Cretaceous sands.

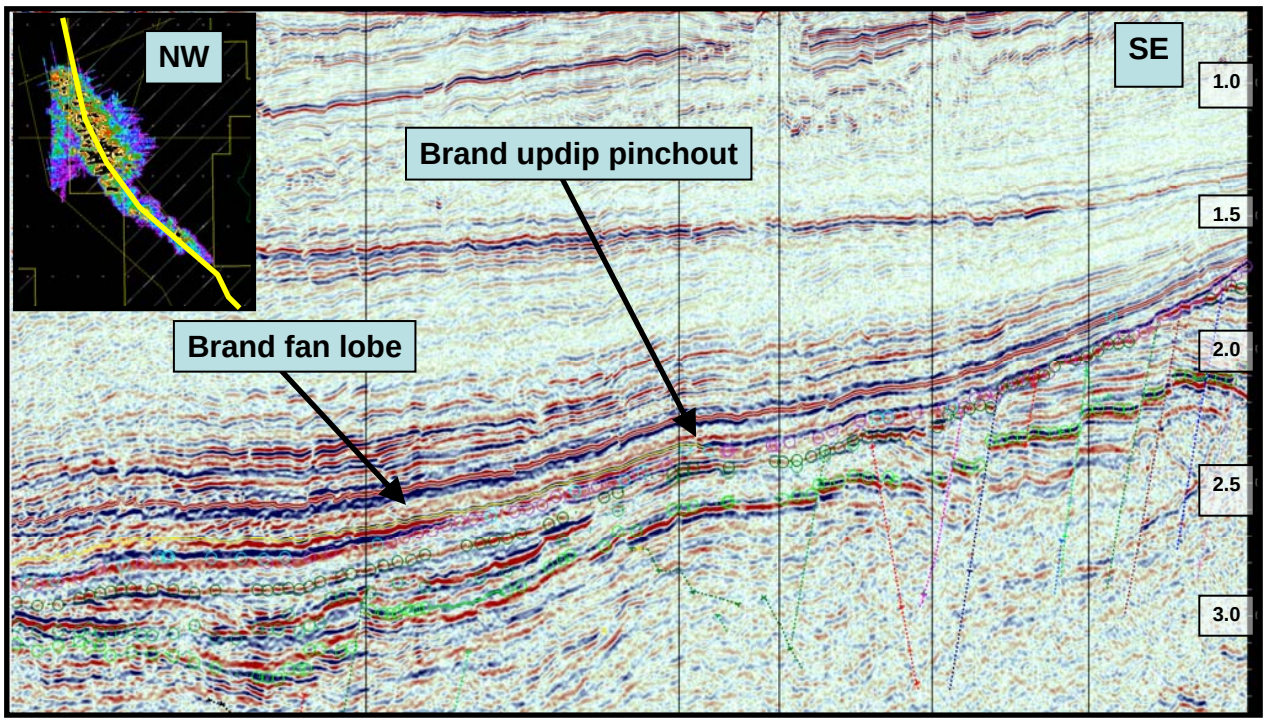


Figure 4 Seismic random line along axis of the Lower Cretacous Brand gravity flow highlighting the updip termination and downdip submarine fan development. Upper left shows the amplitude response and the line location.

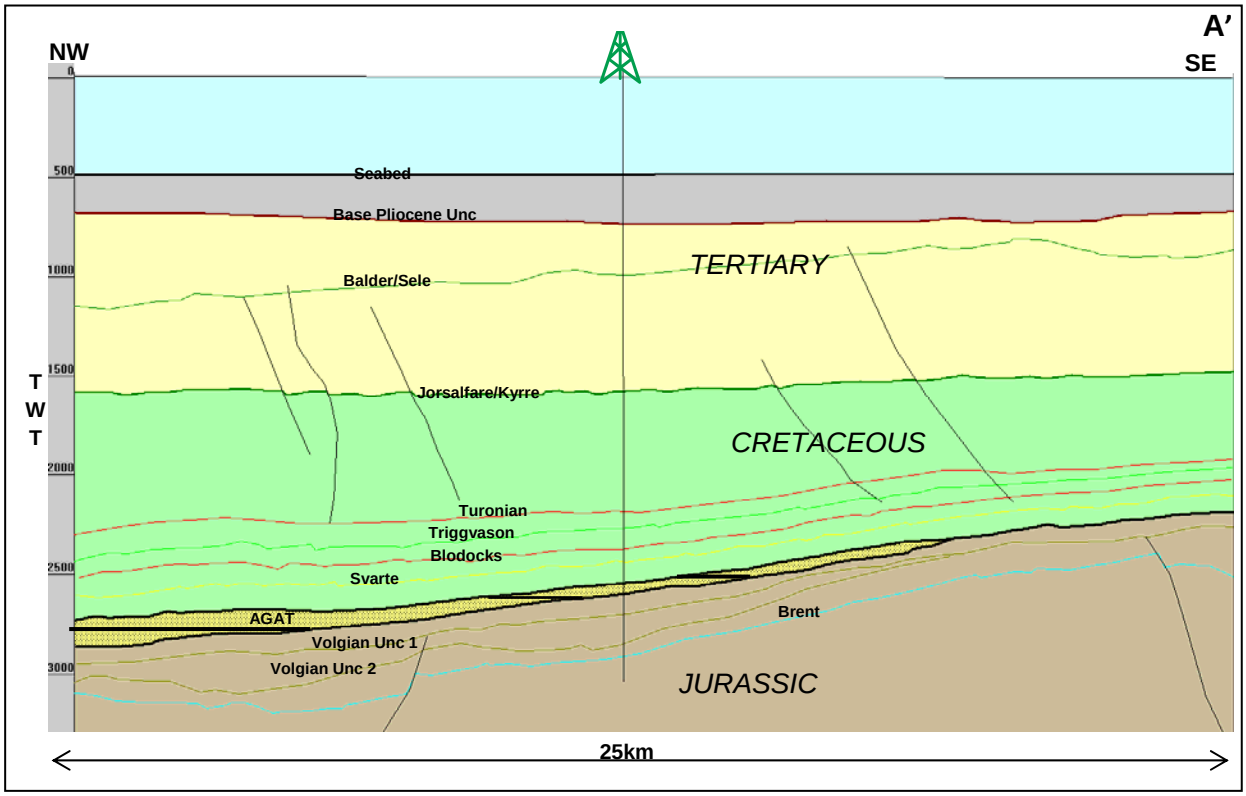


Figure 5 Geological cross section along strike direction of the Brand prospect. The location is similar to the seismic line in Figure 4.

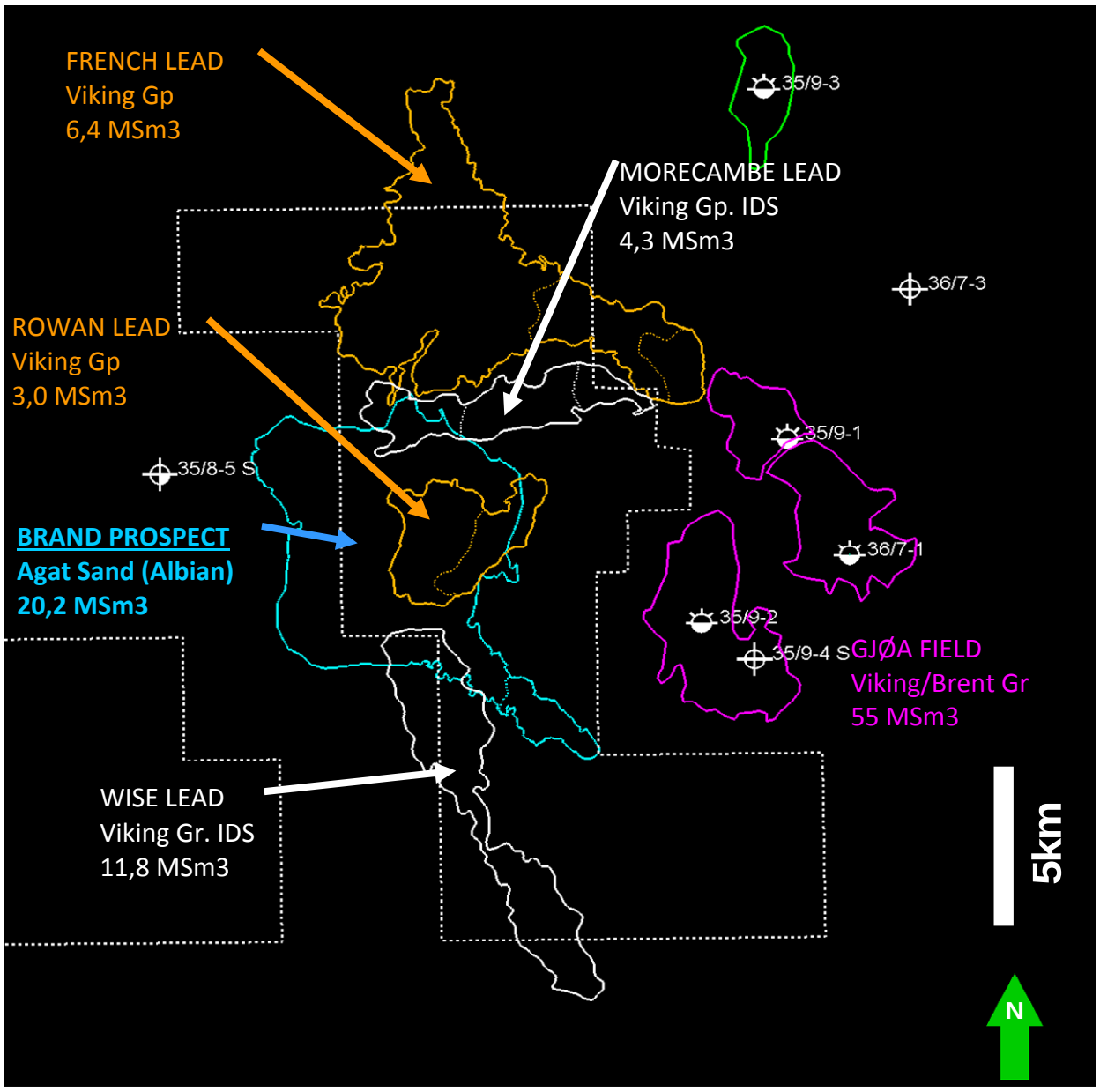
4. Prospect Update

4.1. Brand Prospect

The Brand Prospect was matured into a drillable prospect and tested by 35/9-5 drilled by West Alpha during Jaunuary-February 2010. The well hit all horizons within prognosis, but the main target, the Albian Agat sand equivalent, was present with only 4.1 m of net sand. The prospect was mapped as a stratigraphic trap with a seismic anomaly (soft kick) corresponding to a deep marine gravity flow sourced from SE into Sogn Graben. The soft response originated from a high impedance marly shale on top of softer shales and sand stringers. The well TD in undifferentiated Heather sst of poor quality. The well was dry and no sandstone was encountered between Agat sst and Heather sst. It was abandoned as a failure on containment and reservoir.

4.2. Other Leads:

There are several seismically driven leads in the block, all of them forming stratigraphic traps. They are Upper Jurassic/Lower Cretacous deep marine gravity flows in the depocentres. An overview is given in Figure 6. The result of well 35/9-5 was, however, negative impact on the remaining prospectivity in the block, both on reservoir presence, quality and containment. The resource potential is estimated to 25.5 MSm3, all in Upper Jurassic. Well 35/9-5 did not encounter sand at any Tertiary level. There are some potential in Upper Cretaceous (Turonian and Campanian) which is seen in wells 35/6-2 S and 35/9-3, but no sand was encountered in 35/9-5. Top Brent Grp has been mapped regionally within the license (Figure 7). No structural closure of significant size is found as this level.



Figur 6 Prospects and leads in PL419. Numbers are the base case (P_{50}) estimates.

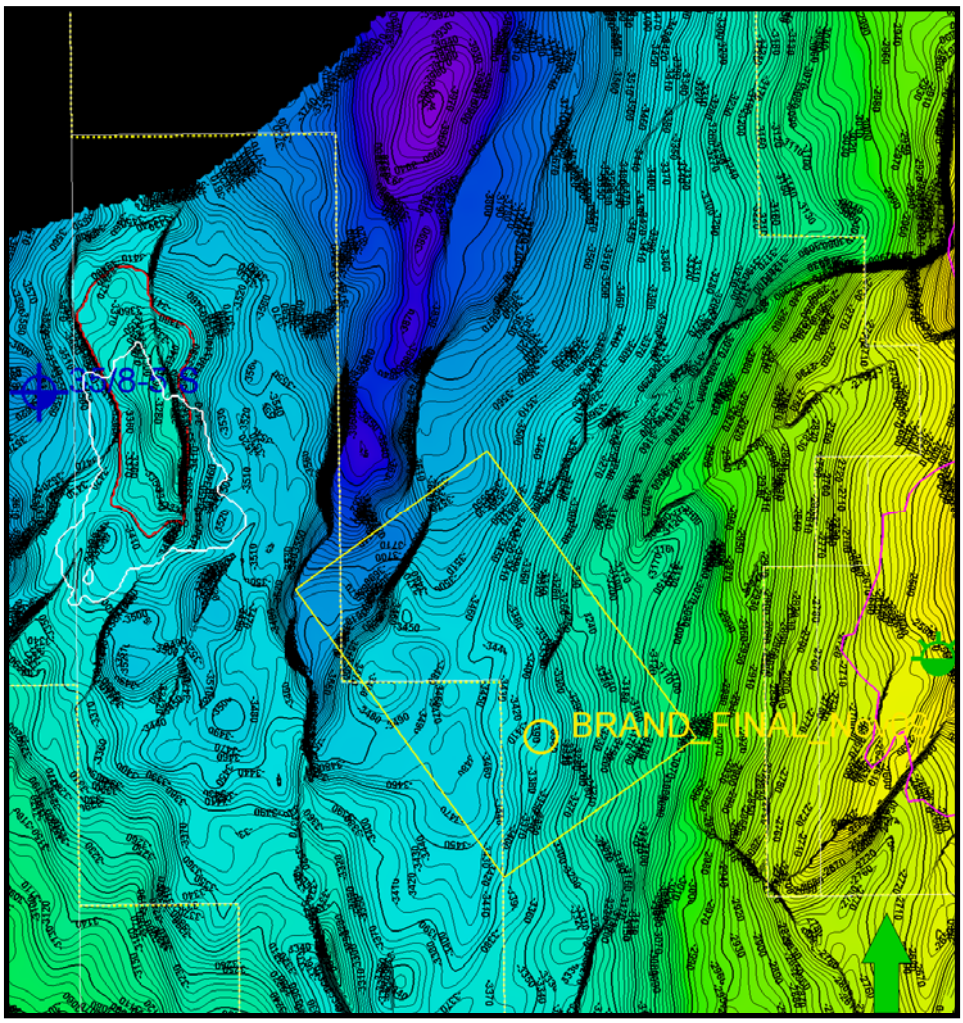


Figure 7 Top Brent depth map.

5. Conclusions

The technical evaluation and 35/9-5 results indicate that there is little prospectivity in the block. The well result has in fact increased risk on effective reservoir presence at all levels, including Upper and Lower Cretaceous, and Upper Jurassic. No significant sand development was observed through the entire Cretaceous section. The well TD in poorly developed Upper Jurassic Oxfordian sands which were dry. Finally, there is no significant closure at Brent Level to form a valid trap (Figure 7).

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References

Applied Petroleum Technology AS. Norwegian well 35/9-5 Routine Biostratigraphy Report. APT report 10-2268, Kjeller, June 2010.

Applied Petroleum Technology AS. Petroleum geochemistry of well 35/9-5 (Brand), APT report APT 10-2286, Kjeller, June 2010.

Geoservices, Sandnes, 2010. Geoservices Final Well report for Brand 35/9-5.

Ichron Limited, 2008: Core description, depositional modelling, stratigraphic correlation and reservoir quality assessment of the Viking Group, PL418 and PL419 area. Ichron Report No 07/1246/2, May 2008.

Ikon Science, 2009. Rock physics and AVO study of the Kyrre and Agat Fm. sandstone intervals for PL 419 Block 35/9. Ikon report No xxx, February 2009.

Nexen Exploration Norge AS 2011. Final well report – Exploration well Brand 35/9-5. Nexex report including composite log, August 2010.

Nexen Exploration Norge AS 2010. Brand 35/9-5 Petrophysical Report.

PGS Geophysical AS, 2008. General Processing Document MC3D Marflo 2007. PGS Processing Project No 1894, July 2008.

Rock Deformation Research Limited, 2009: Fault property characterization and prospect risking for Brand. RDR report No 9646, March 2009.

Schlumberger Drilling and Measurements 2010. Brand 35/9-5 End of Well LWD Report.

Weatherford Labs, 2010. Brand 35/9-5 Sidewall Core Analysis Report.