PL392 Relinquishment Report

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1 Key Licence History

PL392 is located in the Vøring Basin and comprise the 4 blocks, 6603/5,6,7,& 8 (Figure 1.1).

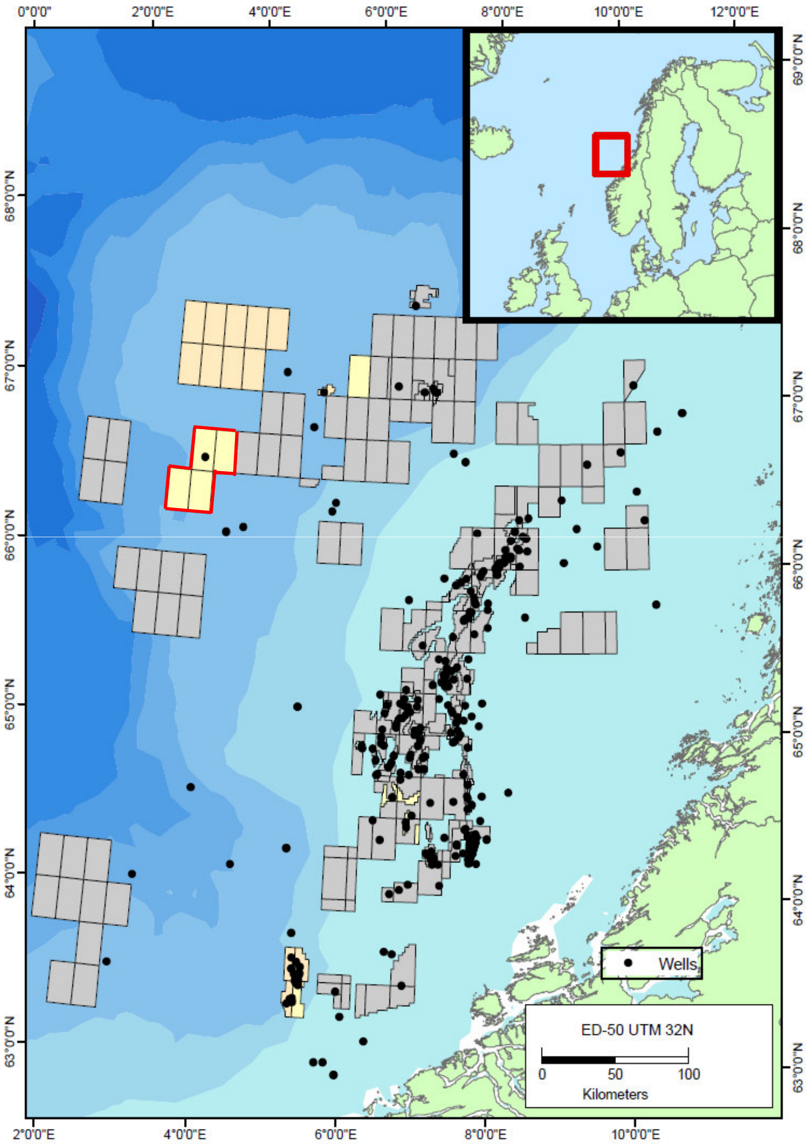


Figure 1.1 Location of PL392

PL392 Partnership and Work Commitment

The licence was awarded in the 19th Concession Round in 2006 with a commitment to acquire at least 1200 km^2 of 3D seismic and drill a well to 4000 m during the initial licence period that expires 28th April 2012. The current partnership consists in 2011 of A/S Norske Shell (Op 30%), Statoil ASA (20%), ConocoPhillips Norge (20%), BG Norge AS (10%), Noreco ASA (10%) and Det norske oljeselskap ASA (10%).

Licence Meetings and Activities

Regular Exploration Committee and Management Committee meetings have been hosted by the operator every year since the award. In addition there have been twenty technical work meetings (Table 1.1). A license field trip to the Lusitanian Basin in Portugal was organised in 2011.

Table 1.1 Licence meetings, PL392

Meeting	Date	Meeting	Date
Work Meeting #1	May 23rd 2006	Work Meeting	January 14th 2009
MCM/ECM #1	June 23rd 2006	Work Meeting	February 13th 2009
Work Meeting #2	August 17th 2006	Work Meeting	February 20th 2009
ECM #2	October 25th 2006	Work Meeting	March 5th 2009
Work Meeting #3	November 6th 2006	Work Meeting	May 8th 2009
MCM #2	December 6th 2006	Work Meeting	June 24th 2009
ECM #3	October 25th 2007	Work Meeting	September 10th 2009
MCM #3	November 15th 2007	Work Meeting	October 14th 2009
Work Meeting	December 17th 2007	Work Meeting	October 20th 2009
Work Meeting	February 14th 2008	Work Meeting	November 4th 2009
Work Meeting	August 20th 2008	Work Meeting	December 1st 2009
Work meeting	November 5th 2008	MCM/ECM #5	December 10th 2009
ECM #4	November 18th 2008	Work Meeting	September 28th 2010
Work Meeting	November 21st 2008	MCM/ECM #6	November 18th 2010
MCM #4	November 27th 2008	Work Meeting	June 7th 2011
Work Meeting	December 9th 2008	Work Meeting	November 10th 2011
		MCM/ECM #7	December 14th 2011

6603/5-1S Dalsnuten Well

The well was drilled in the centre of the aqcuired 3D survey. The objectives of the well were to :

1. Test the presumed Jurassic Dalsnuten prospect
2. Provide lithology calibration for the Campanian (Lhotse) and the Maastrichtian (Annapurna) prospects

6603/5-1S Well Results

Well 6603/5-1S provided a conclusive test of the Dalsnuten structure and near-complete calibration of the Upper Cretaceous and parts of the Lower Cretaceous section on the southern Gjallar Ridge. The well was drilled to a total depth of 5200 m MD msl, 1200 m deeper than the licence commitment. Key learnings from the well and impact on remaining prospectivity within the PL392 Licence are as follows:

1. The Jurassic section is, if present, deeply buried and severely challenged with respect to viable reservoir quality
2. The Cretaceous and Paleogene plays within PL392 have increased risk on reservoir presence
3. No shows or other indications of an active or extinct hydrocarbon generating systems were identified; there is a risk of non-HC fluids in amplitude-supported prospects
4. Thermal gradients and measured temperatures are very high, resulting in a significant shallowing of the prospectivity floor within the PL392 area

6603/5-1S Post-Well Evaluation

The post-well evaluations included seismic reinterpretation of key horizons, structural restoration, reservoir fairway evaluation, thermal history and basin model update, and seismic inversion and QI scenario modelling studies. Thos work has been integrated to support a review of PL392 remaining prospectivity.

PL392 Prospectivity

Play Inventory

Figure 1.2 shows the outline of leads as defined in the 19th Concession Round application. Five plays were defined at the time, the Jurassic, Santonian-Campanian, Maastrichtian, Upper Paleocene and Lower Eocene. These play levels remain and have been re-evaluated in 2011. In addition another potential prospective play within the Cenomanian to Coniacian has been identified based on the 6603/-1S Dalsnuten post-well evaluation.

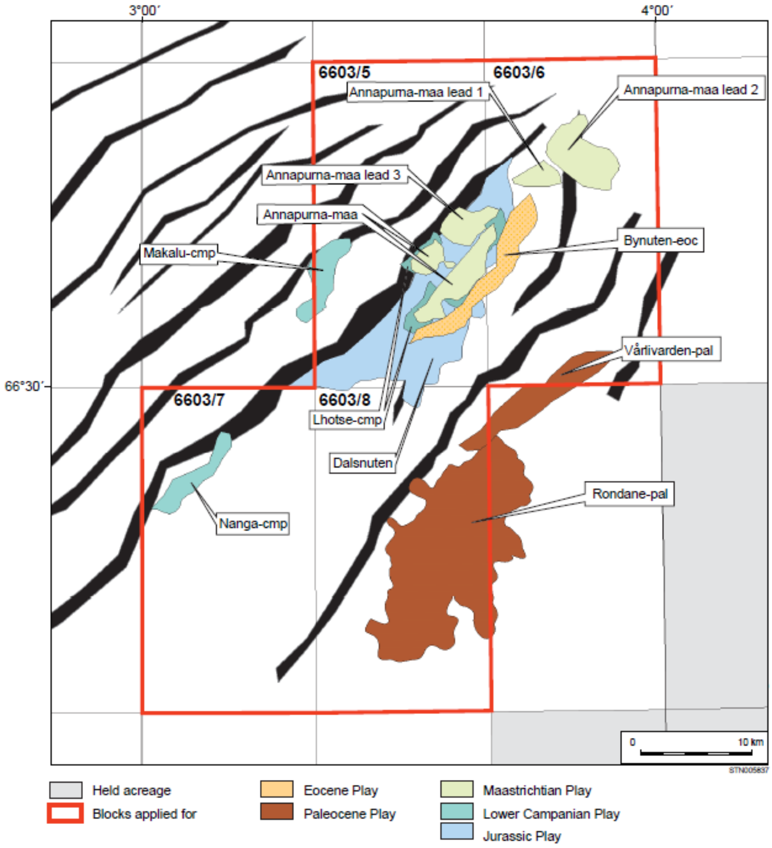
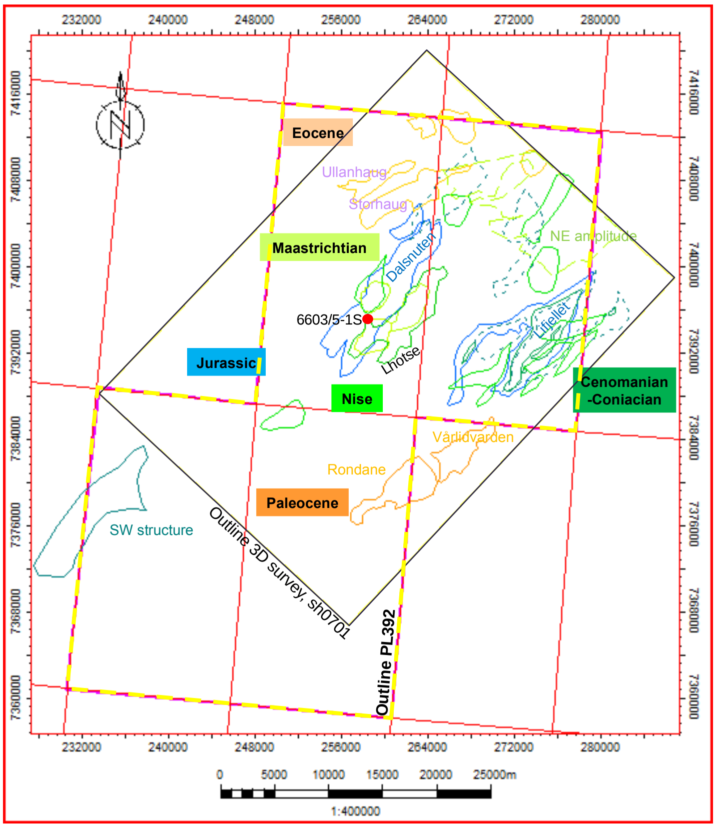


Figure 1.2 Leads in the 19th Round application

Prospect and Lead Inventory

Figure 1.3 shows the outlines of the 2012 prospect and lead inventory in the PL392 licence after the 6603/5-1 Dalsnuten post-well evaluation and PL392 prospectivity update. Prospect and leads remain within the Cenomanian to Conician, Campanian, Maastrichtian, Selandian-Thanetian and Ypresian plays, whereas notional Jurassic leads are deeply buried and presumed less prospective. For the remaining prospects and leads, volumes have been reduced and risks have increased.



Jurassic
Dalsnuten & Lifjellet (prospects)

Cenomanian-Coniacian
Lifjellet (A, B, C, E, F, G)

Campanian, (Nise Fm.)
Lhotse (prospect)
Kailish, 10+ leads (high dependency)
SW structure

Maastrichtian
Annapurna cluster
NE amplitude

Paleocene
Rondane/Vårlivarden

Eocene
Storhaug/Ullandhaug

Figure 1.3 Prospects and Leads post 2011 Evaluation

Reason for Relinquishment

No attractive drilling targets have been identified to pursue further licence activities and a decision was made not to extend the licence after initial period which expires 28th April 2012.

2 Database

3D Seismic Database

The licence work program committment to aquire a 3D survey of at least 1200 km^2 was fulfilled in 2007 with the completion of the SH0701 survey. Several seismic volumes have been generated based on the SH0701 - high definition processed data used for shallow hazards identification as well as angle stack datasets. Acoustic and shear impedance datasets were produced to investigate lithology and fluid effects. See Table 2.1 for list of seismic data sets.

Table 2.1 Seismic data (3D)

Seismic Volume (Petrel)	Description
M2421_08PrDMkF_Near_T_Rzn_RMO_vG	Near Stack, time domain, mild Van Gogh filter applied
M2421_08PrDMkF_NearM_T_Rzn_RMO_vG	Near Mid Stack, time domain, mild Van Gogh filter applied
M2421_08PrDMkF_FarM_T_Rzn_RMO_vG	Far Mid Stack, time domain, mild Van Gogh filter applied
M2421_08PrDMkF_Far_T_Rzn_RMO_vG	Far Stack, Time domain, mild Van Gogh filter applied
M2421_08PrDMkF_Full_T_Rzn_RMO_vG	Full Stack, Time domain, mild Van Gogh filter applied
M2421_08PrDMfF_Full_T_Rzn_RMO	Flater Volume, Time domain, does not cover full survey
M2421_08PrDMkF_Near_T_Rzn_RMO_vG_DEPTH_2	Near Stack, depth domain, mild Van Gogh filter applied
M2421_08PrDMkF_Far_T_Rzn_RMO_DEPTH	Far Stack, depth domain, mild Van Gogh filter applied
M2421_08PrDMkF_Full_T_Rzn_RMO_Depth	Full Stack, Depth domain
sh0701V2874_08PrDMkf_3st_T_AIab	Absolute acoustic impedance, time domain, Jason elastic inversion
sh0701V2874_08PrDMkf_3st_T_AIrl	Relative acoustic impedance, time domain, Jason elastic inversion
sh0701V2874_08PrDMkf_3st_T_SIab	Absolute shear impedance, time domain, Jason elastic inversion
sh0701V2874_08PrDMkf_3st_T_SIrl	Relative shear impedance, time domain, Jason elastic inversion
sh0701V2874_08PrDMkf_3st_T_VPVSab	Absolute Vp/Vs ratio, time domain, Jason elastic inversion
sh0701V2874_08PrDMkf_3st_T_VPVSrl	Relative Vp/Vs ratio, time domain, Jason elastic inversion
R2485_08PrTM_O01_T_AIrl	High definition data, relative acoustic impedance – sh0701h project

2D Seismic Database

The 2D common database includes lines from the following surveys: MNR08, MNR07, MNR06, MNR05, GGR94, NPD-VOE81, NPD-VOERB-86, NPD-VOERB-89, NPD-VOERB-90, SG9711, SG9801, V2R96, WG96VOR, GRS99. Figure 2.1 shows the PL392 2D and 3D common seismic database.

Well Commitment

One well, 6603/5-1S Dalsnuten, was drilled in PL392 in 2010 and concluded the licence work program committment. Data from this well was fully integrated in the remaining prospectivity evaluation prior to the relinquishment decision. The data from the well included wireline and MWD data, as well as cuttings and gas readings, biostratigraphy, isotube gas samples, Vitrinite Reflectance, TOC and QEMSCAN.

Common Well Database

Data from nearby exploration wells were utilised as calibration for seismic interpretation, and structural and basin modelling in addition to evaluation of reservoir fairway distribution. Two wells drilled in PL326 (Gro prospect) and one in PL522 (Gullris prospect) are new wells since the PL392 license award. Data from these wells have been have been incorporated in the remaining prospectivity evaluation.

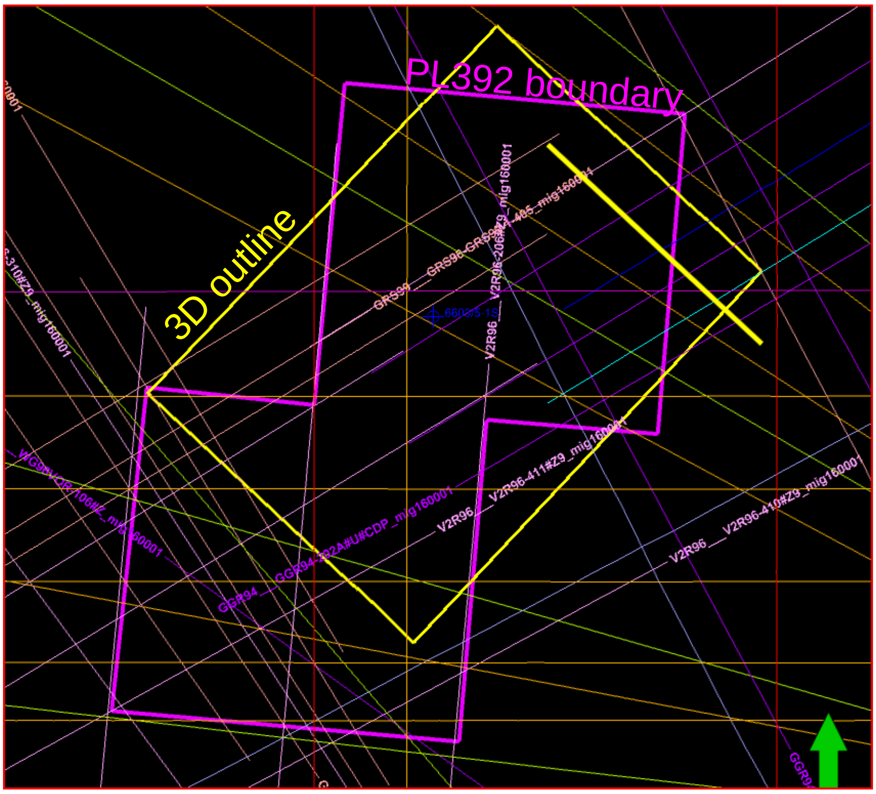


Figure 2.1 3D outline and 2D coverage (common data)

3 Review of Geological Framework

PL392 is located on the southern Gjallar Ridge close to the basalt edge. Figure 3.1. Figure 3.2 and Figure 3.3 shows the Vøring basin tectonostratigraphic framework. During the Mesozoic the Vøring Basin experienced episodic rifting and subsidence until break-up occurred in the Early Eocene. The resultant infill likely changed from a mixed non-marine and shallow marine in the Triassic and Jurassic to a deep-marine during the Early Cretaceous. The basin was gradually infilled by deep-water clastics in the Late Cretacous and Early Paleogene (Figure 3.2).

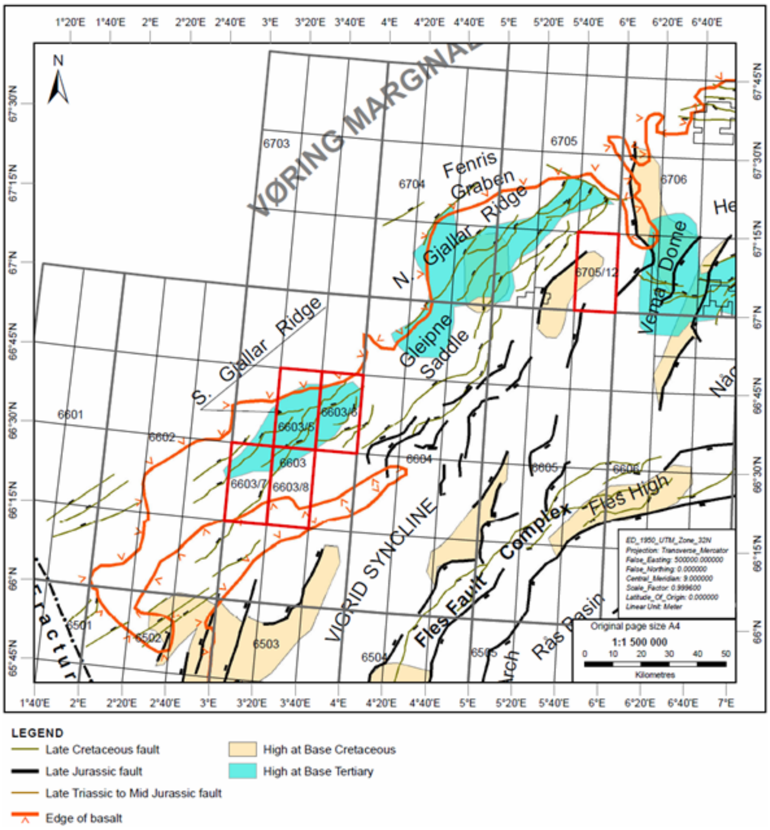


Figure 3.1 PL392 Semi Regional Structural Setting

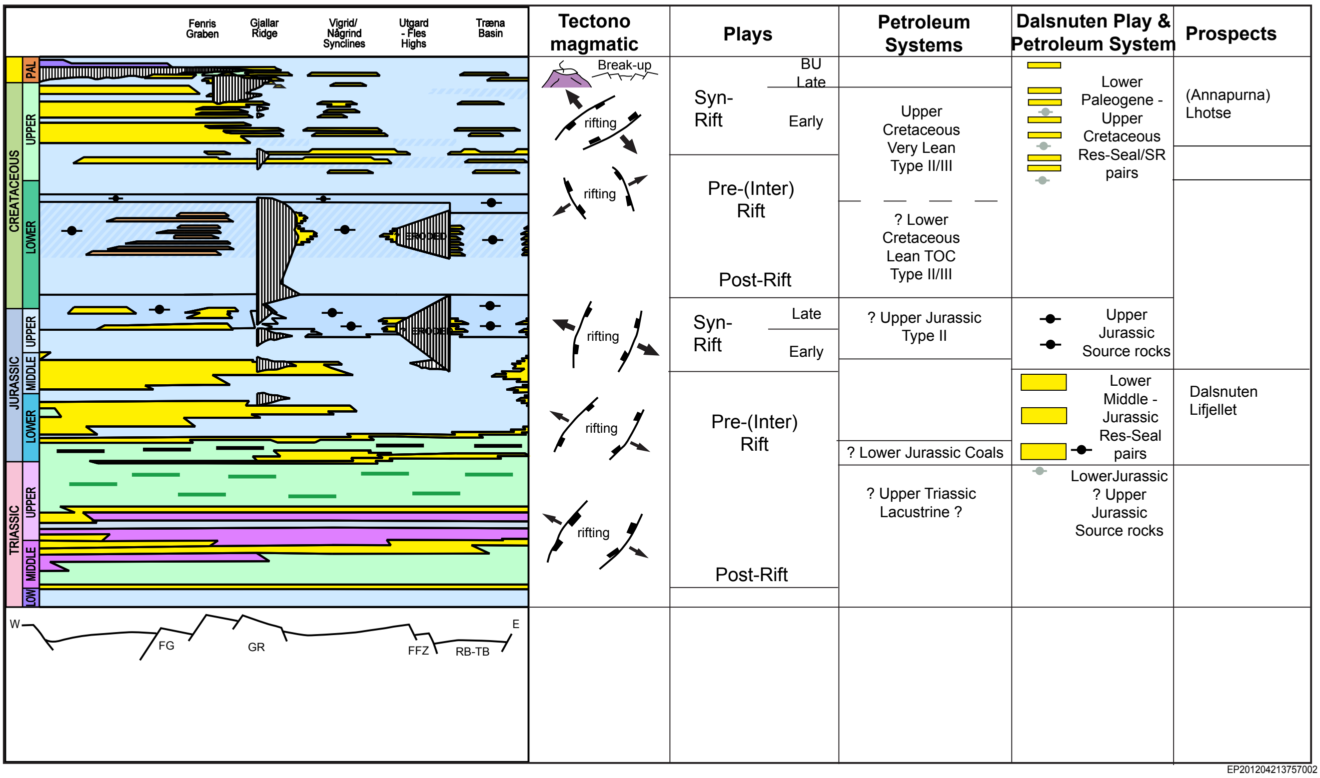


Figure 3.2 NW Vøring Basin Mesozoic Tectonostratigraphy and Play Summary Chart

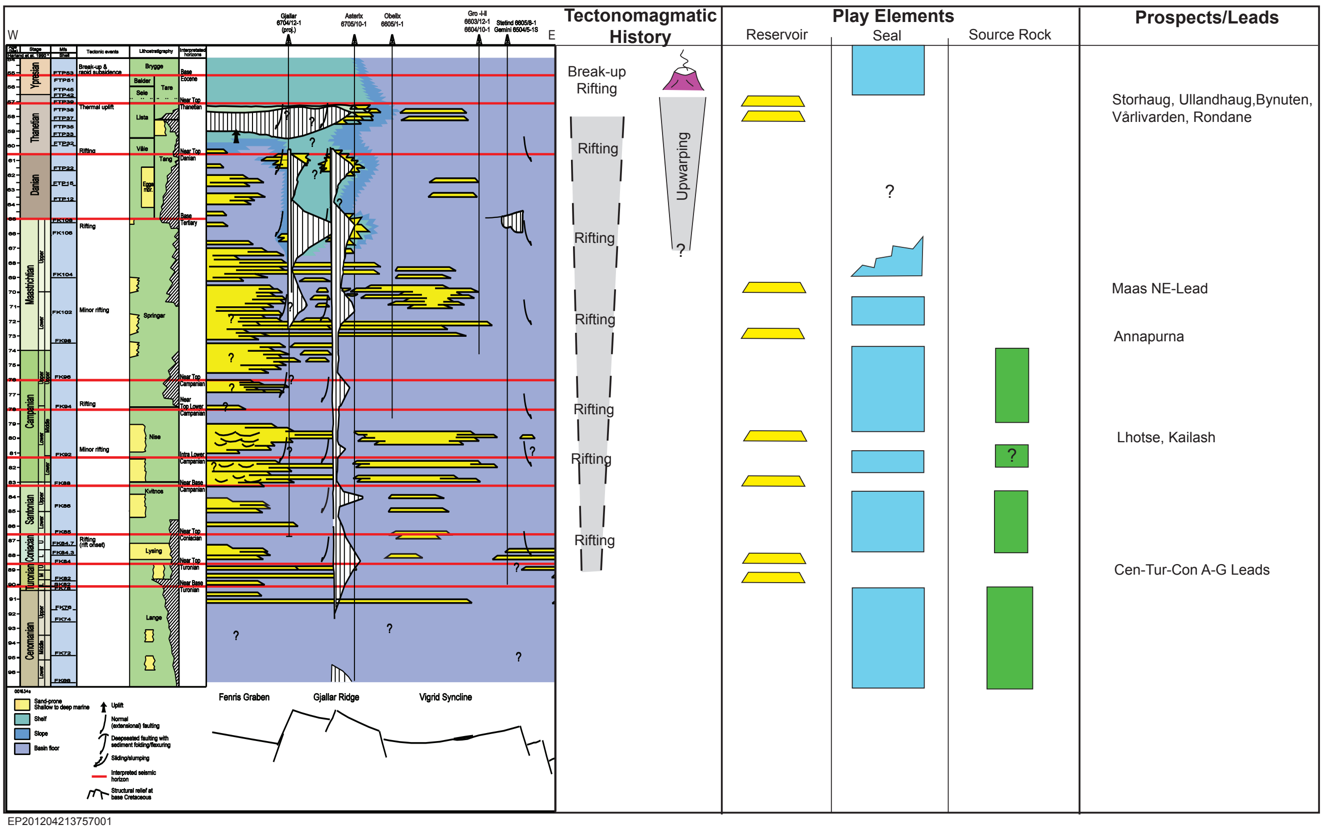


Figure 3.3 NW Vøring Basin Upper Cretaceous and Lower Paleogene Tectonostratigraphy and Play Summary Chart

Gjallar Ridge Plays and Petroleum Systems

Play Types

The tectonostratigraphic history of the greater Vøring Basin suggests that multiple stacked plays are potentially present on the Gjallar Ridge, including Lower-Middle Jurassic to Lower Paleogene pre-/post-rift and syn-rift play types (Figure 3.2). Viable plays in and adjacent to PL392, post 6603/5-1S, are within 1) the Lower Paleogene upper (late) syn-rift to break-up play, 2) the Upper Cretaceous lower (early) syn-rift play, and 3) the 'Mid'-Cretaceous pre-(inter-) rift play.

Petroleum Systems

Within the greater Vøring Basin, several source rock intervals have been postulated present (Figure 3.2). Well data from the region, however, suggest that the likely viable source rocks in the basin are the Upper Cretaceous low-TOC, lean mudstones (Figure 3.3). A working petroleum system was not proven by the 6603/5-1S well.

New data, well results from Dalsnuten (6603/5-1S)

One commitment well was drilled within the licence area (Figure 3.4), the 6603/5-1S Dalsnuten well. The main target was a presumed sub-Cretaceous section, post-well proven to correlate with the Cenomanian to Turonian. A secondary objective of the well was to aquire data in the Maastrichtian and Campanian sections to calibrate prospectivity at these play levels.

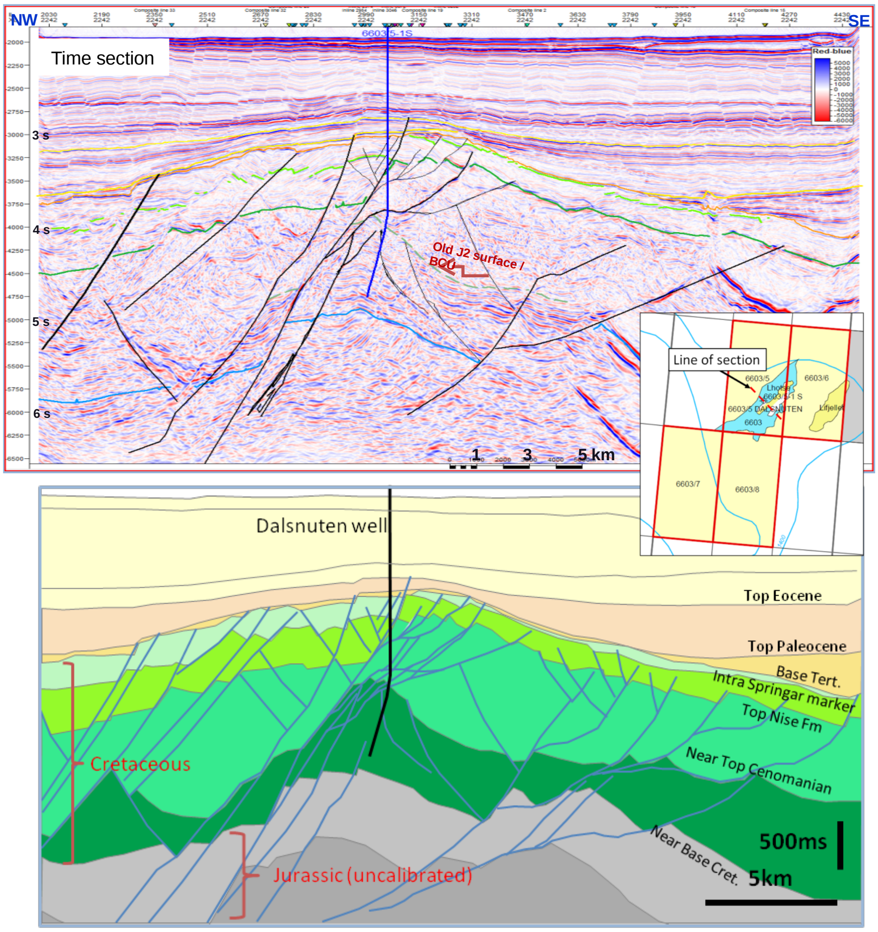


Figure 3.4 Cross-section through 6603/5-1S location

Key information from well 6603/5-1S:

Play and Reservoir Development

- Jurassic sediments not detected in the well; the Jurassic are, if present, deeply buried and severely challenged with respect to viable reservoir quality.
- The Upper Cretaceous is mud-prone with only poorly and locally developed reservoirs if at all present; clear HC-indicators in the lower Maastrichtian (Springar Fm.) and Middle Campanian (Nise Fm.) are associated with mudstones and silty lithologies.
- Sandstones are present within the Cenomanian to Coniacian, but poorly developed and in inferred marginal turbidite facies; this interval correlates with the pre-drill presumed Jurassic.
- Marginally developed sandstones within the Lower Cretaceous are tight due to diagenesis.
- High temperature gradient (54degC/km) results in signifcant shallowing of viable reservoir floor

Petroleum Systems

- No shows challenging the presence of a working petroleum system
- Low TOC in Cretaceous (TD in sediments of Aptian age)
- Negative Fluid Inclusion results (early migration from any deep source is unlikely in this particular area)
- High temperature gradient, high Vitrinite Reflectance trend, deeper burial of Jurassic source (results in narrow HC generation window and limited HC generation potential)

Semi-regional studies

All results from well 6603/5-1S have been fully integrated with the existing regional data and models for the Vøring Basin. Figure 3.5 illustrates the structural configuration and sediment fill the across the southern Gjallar Ridge and the southern Vigrid Syncline.

Revised Structural Interpretation

The structural interpretation and restoration has been revised and updated post-6603/5-1S Dalsnuten well (Figure 3.6). Important conclusions regarding PL538 prospectivity are:

- The Jurassic is deeply buried; imaging of Jurassic structures are challenging and of reduced confidence
- The southern Gjallar Ridge was affected by mild 'mid'-Cretaceous rifting, herein dated to the Aptian-Albian, potentially as young as the Cenomanian
- Onset of the Late Cretaceous to Early Paleogene rifting can be dated to the Turonian; after which the southern Gjallar Ridge formed long-lived high
- Latest Cretaceous to Early Paleogene rifting was associated with signifcant normal faulting, likely resulting in seal breaching and the formation of leaky traps

Revised Reservoir Fairways

The revised structural interpretation in consort with well results and seismic inversion study has led to a revision of reservoir fairways and gross depositional environments. Figure 3.6 gives an overview of the structural evolution of the southern Gjallar ridge at key time intervals together with corresponding sediment deposition and distribution.

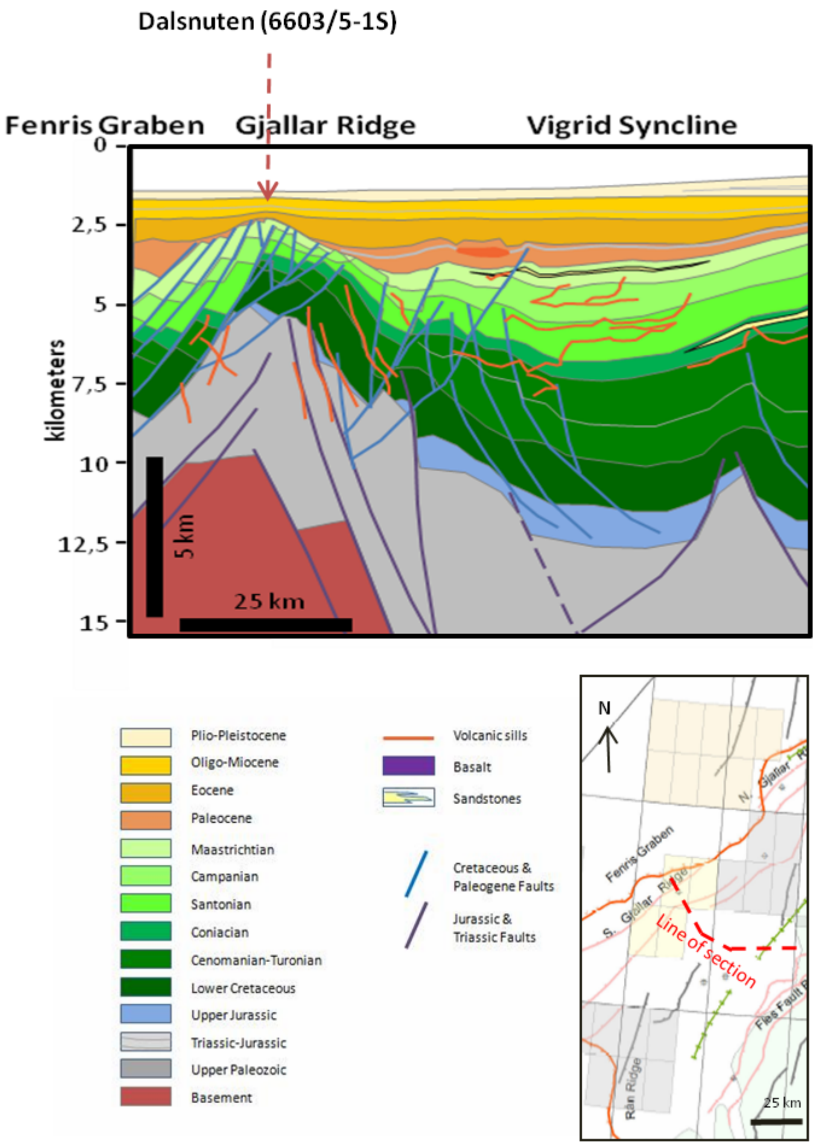
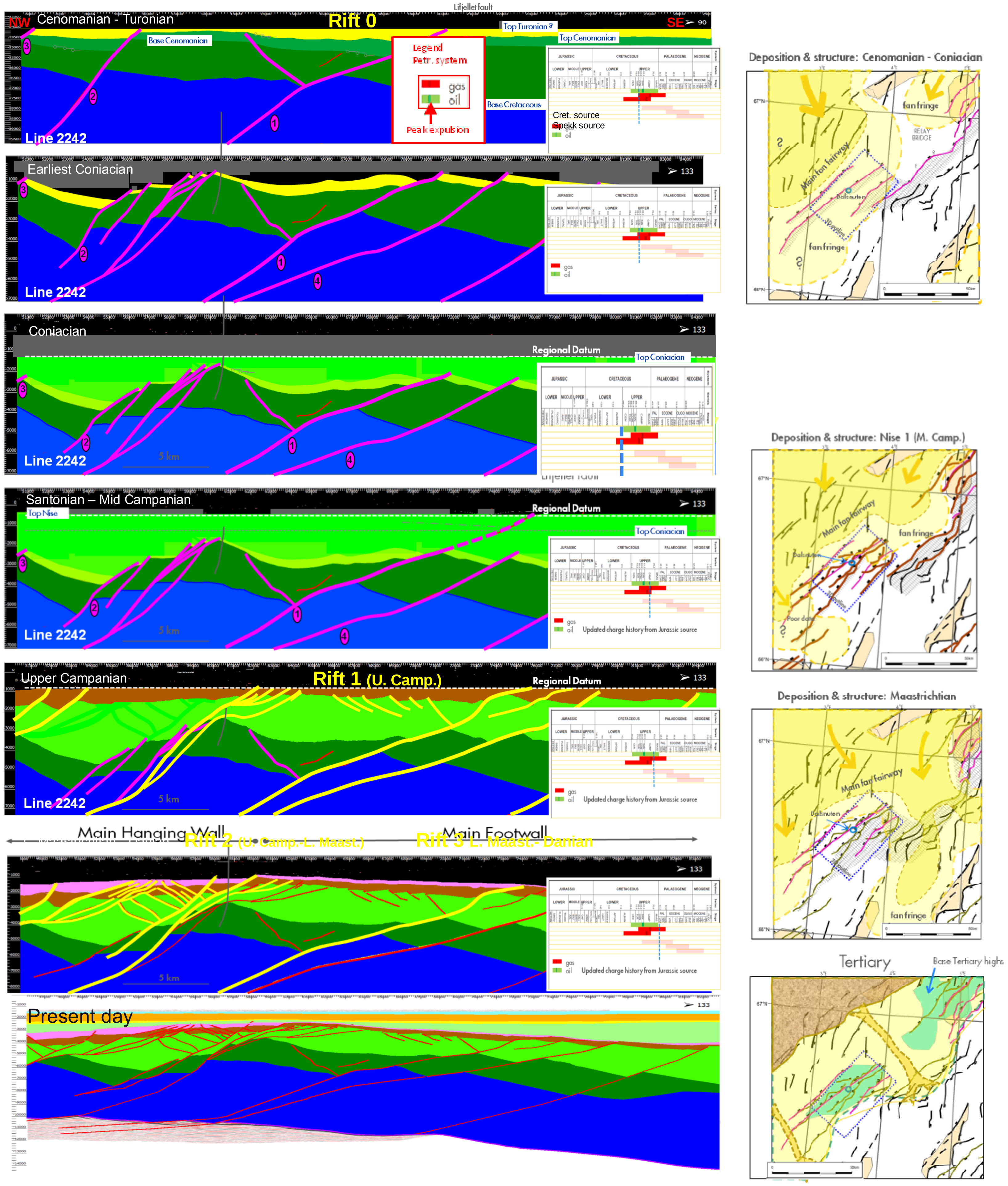


Figure 3.5 Regional cross-section



- Faulting active during the deposition of yellow unit
  - Subdued topography (~300 m max)
- Onlap onto structural high
- Sandy stringers in Well

- **Faulting interpreted to occur in Earliest Coniacian**
- **Marked topographic relief (~1500 m max)**
- Well location equals area of long-lived exposed high, submarine erosion and footwall degradation - slumping
  - Combination of erosion and small-scale faulting could in part account for missing sections in Well
- Footwall rotation and uplift

- Layer-cake, passive infill sub-parallel stratigraphy
- Shale interval in Well with Sandy Stringers in Lower Coniacian section
- Fault related topography in-filled by the end of the Coniacian

Passive infill through Lower Campanian

- Well not representative for Nise formation
  - Top Nise is not fully penetrated by Well
  - Large section of Lower Campanian not penetrated by Well
  - If active faulting at time, sediments at Lifjellet could be different
  - Top Nise locally eroded during next phase of faulting. Syn-rifting erosion of footwall crestal zones and hanging wall roll-over crests

- **Renewed rift activity, faults link with Coniacian faults**
- **Subdued fault-related topographic relief** (~800 m max) created during L. Cret Rift 1 in comparison to the relief created during L. Cret Rift 0 and 2
- Top Brown acquires fault-related eroded topography in next phase of rifting.
- Compex anastomosing faults – small scale faulting could account for missing section in well

- **Significant fault-related topographic relief** (~1200 m max) existed during sediment deposition
- Syn-rifting erosion of footwall crests and hanging wall roll-over crests
- Shows expression of cumulative Upper Campanian- Danian isostatic uplift from tectonic unroofing

- Period of delayed isostatic adjustment to Late Cretaceous crustal thinning - continued isostatic uplift into the Paleocene
  - Erosion occurred post-faulting
- Topography at time of Danian – sand distribution?
  - Shale in Well
- Followed by break-up related-volcanics and break-up

1

Figure 3.6 Structural Restoration, Petroleum System and Depositonal Environments.

Geochemical Data and Analysis
Extensive samples from the 6603/5-1S Dalsnuten wells were analysed and reported for TOC, RockEval, Fluid Inclusions Screening and Vitrinite Reflectance. This was also quality checked and reported in a Shell report made available to the licence. Bit burn negatively affected reliability on geochemical analyses and interpretation from approximately 4300m, MD. Rock Eval T-max data was unreliable in the 8 1/2" section due to oil based mud (OBM) contamination

Conclusions

Shows No shows were identified from mudgas, isotube, fluid inclusions and cuttings datasets.

Source potential Cuttings and fluid inclusions identified the presence of poor to marginal gas prone, Type II/III sediments. No Cenomanian/Tururonian SR encountered

Vitrinite reflectance maturity suggest exposure to high temperatures, minor steps in VR are associated with faults

Steep VR gradient that can be matched by break-up related heatpulse; Upper Jurassic Spekk Fm, if present, expelled during the Late Cretaceous at latest

Fluid Inclusions responses are extremely low with no reliable indication of hydrocarbon shows

The geochemistry data were used in an update of the basin analysis. Figure 3.7 shows the post-well modelled hydrocarbon expulsion timing. Results are included in Figure 3.6 to illustrate timing of charge relative to trap formation and reservoir deposition.

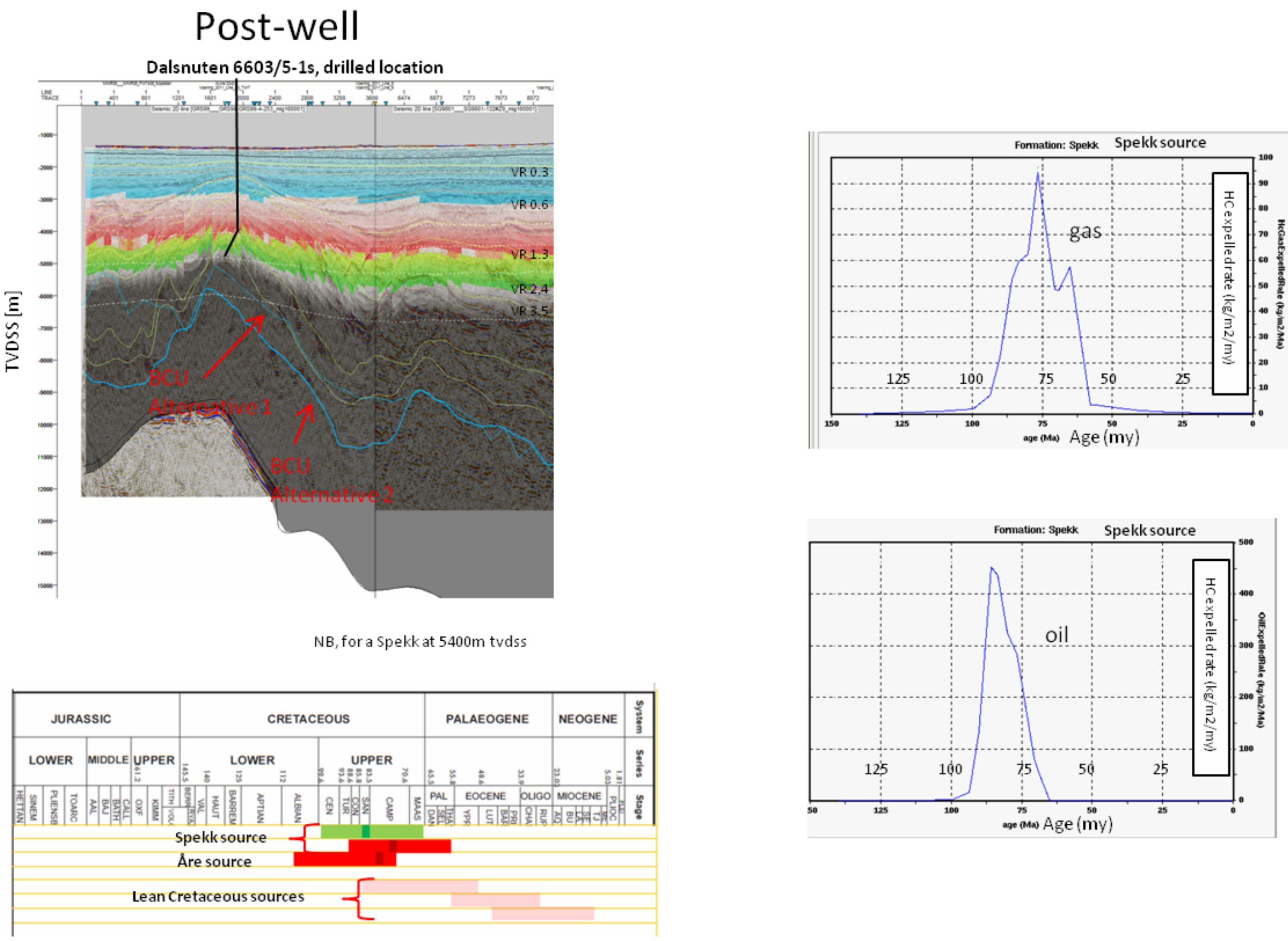


Figure 3.7 Post-well model of hydrocarbon expulsion

Seismic Studies

The Cretaceous prospects and leads in PL392 are all defined by seismic amplitudes and flat events. The lack of sand and shows in 6603/5-1S well required a re-evaluation seismic and rock property model to allow derisking of prospects based on observed amplitudes. The clearest flatspot is the one observed on the Annapurna prospect. 6603/5-1S was drilled about one km downdip of the flatspot and found mainly claystone, see Figure 3.8.

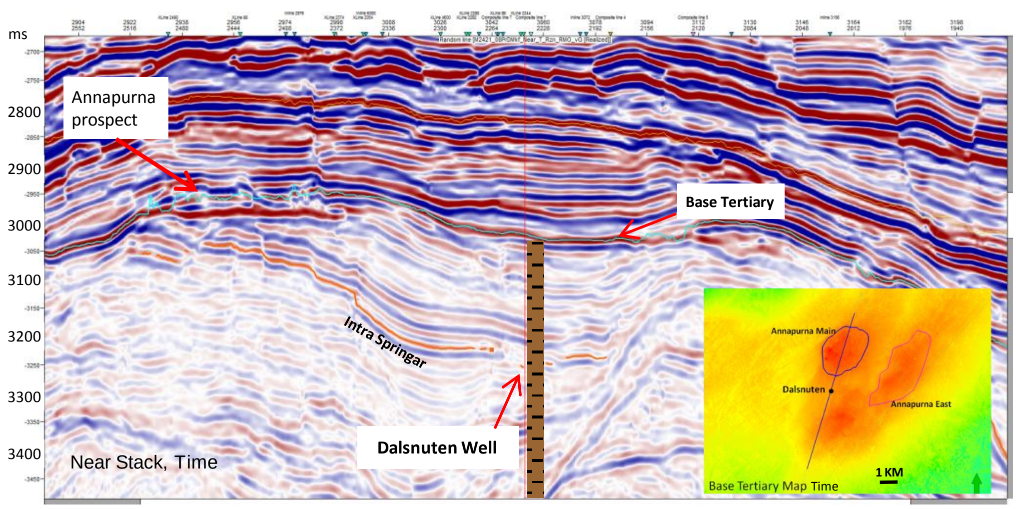


Figure 3.8 Annapurna Flatspot

Two main studies were initiated in the PL392 licence, forward seismic modelling and elastic inversion:

Forward Modeling

A series of cases with variable lithology (from 100% net sand to 100% mudstone, both with variable porosities) and variable fluid (gas) saturationswere modeled. Rock properties for sand and shale were based on trend models and standard brine and gas properties corresponding to relevant depths. For gas bearing shale, the shale properties were estimated based on corresponding depth/porosity trend combined with relevant rock properties to a porous medium (sand), applying a Gassmann Fluid substitution to make it gas saturated. The following conclusions were made:

1) Annapurna Prospect: A gas filled sand is unlikely. A plausible interpretation is a low saturation gas filled, porous shale dominated interval.
2) Lhotse Prospect: A thick, gas filled sand is unlikely. A plausible interpretation is a low saturation gas filled, porous shale dominated interval.

Elastic Inversion

The acoustic impedance output from this study has a good match with the well, while the shear impedance carries more uncertainty. Key uncertainties in this study are the limited well control (only the Dalsnuten well) and the low reflectivity in the Upper Cretaceous section where key play levels objectives are found. This resulted in low signal-to-noise. Seismic correlation away from the Dalsnuten well show no marked changes in character that could represent a lithology change from shale to sand. This indicates that all PL392 Upper Cretaceous prospects and leads carry a high risk on reservoir presence. In particular, the correlation between the well and the Annapurna prospect is relatively straightforward, while for the Lhotse prospect it is a bit less so since there are some identified faults between the well and the prospect. The following conclusions were made:

1) Annapurna Prospect: the elastic inversion does not fully explain the measured seismic response since the anomalously low shear impedance there is difficult to explain. However, the forward modelling using a gassy shale gives a good fit with the seismic data
2) Lhotse Prospect: the elastic inversion results are negative and point to a poor reservoir with some gas trapped in small areas of the prospect
3) Remaining Upper Cretaceous and Paleogene leads and prospects were carried out using the inversion data, seismic response and AvO effects. None were identified with indications of good quality, hydrocarbon bearing reservoir

Table 4.2 summarizes outcomes and risks for the modelled prospects.

4 Play and Prospect Update

The remaining prospectivity in PL392 are within the Jurassic, 'Mid'-Cretaceous, Upper Cretaceous and the Lower Paleogene plays (Table 4.1; see also Figure 3.2). In the Upper Cretaceous and the Lower Paleogene prospectivity is recognized at several stratigraphic levels (Figure 3.3). The outlines and assigned stratigraphy to the identified prospects and leads are shown in Figure 1.3.

The remaining potential and key risks associated with the identified plays, are summarized below.

Table 4.1

Table 4.1 PL392 Play and Prospect Summary

Play	Play Segment	Trap	Reservoir	Seal	Source Rock	Prospects / Leads
Lower Paleogene	Lower Ypresian	Stratigraphic, onlap and facies change traps	Fluvial, fluvio-deltaics to shallow marine	Eo-Oligocene	Upper Cret-Lwr Paleogene lean mudstones	Storhaug, Ullandhaug
	Thanetian-Selandian	Stratigraphic, onlap and facies change traps	Fluviodeltaics to shallow marine	Eo-Oligocene	Upper Cret-Lwr Paleogene lean mudstones	Rondane, Vårlivarden
Upper Cretacous	Maastrichtian	Stratigraphic, subcrop and onlap	Distal and marginal submarine fan	Paleocene (Eo-Oligocene)	Upper Creta-ceous lean mudstones	Annapurna, NW Leads
	Campanian	Structural, fault-blocks	Distal submarine fan	Upper Camp mudstones; fault seal	Upper Creta-ceous lean mudstones	Lhotse
'Mid' Cretaceous	Cennomanian- Coniacian	Structural, fault-blocks	Distal submarine fan	Santonian mudstones; fault seal	Lower to 'Mid' Cretaceous lean mudstones	J1A – J1G
Jurassic	LM Jurassic undiff	Structural, fault-blocks	Fluviodeltaics to shallow marine	Upper Jurassic-Lwr Cretaceous	Upper Jurassic, Lower Jurassic coals	Dalsnuten, Lifjellet

Jurassic Pre-Rift Play

Play Summary

The Jurassic play is, by analogy with the Halten Terrace, East Greenland and Northern North Sea, charactized by structural traps defined by rotated fault-blocks. Reservoirs are Lower & Middle Jurassic fluviodeltaics, marginal marine and shallow marine clastics, whereas seals are provided by Upper Jurassic to Lower Cretaceous clay- and mudstones. Main charge is from the Upper Jurassic Spekk Fm. equivalents and Lower Jurassic coals.

Remaining Potential

Two prospects were identified, Dalsnuten Deep and Lifjellet Deep (Figure 4.1).

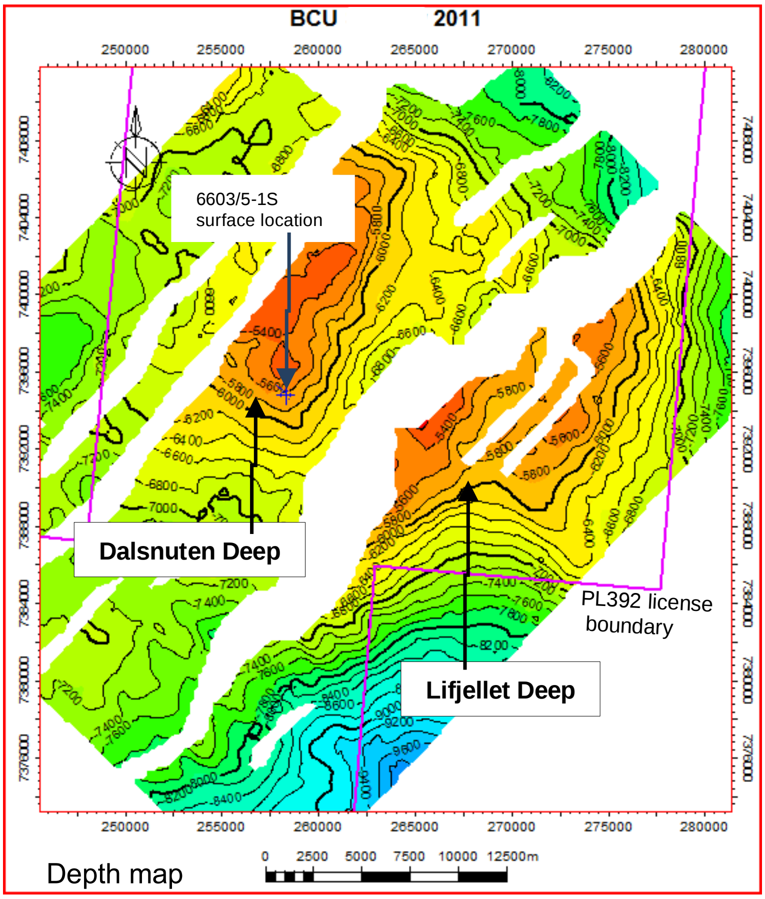


Figure 4.1 Jurassic Prospects

Main Risks

The definition of Jurassic traps is of poor confidence as deep maging is severly masked and only locally evident. Main risks are reservoir quality / recovery, as well as charge timing / hydrocarbon retention. Ths renders the Jurassic a very low POS play in PL392.

'Mid'-Cretaceous (Cennomanian - Coniacian) Pre-/Inter-Rift Play

Play Summary

The 'Mid'-Cretaceous play is characterized by structural (fault-block) traps with stacked Cenomanian to Conician turbidite resevoirs. Charge is from underlying Upper Jurassic and Lower Cretaceous and interbedded Upper Cretaceous clay- and mudstones. Top-seal is provided by Santonian mudstones, whereas interbedded Cenomanian to Coniacian mudstones likey has resulted in stacked pay.

Remaining Potential

A series of amplitude-supported leads have been recognised along the Near Top Turonian seismic horizon (Figure 4.2). The amplitudes appear conformable to structure. Within PL392 all leads are deeply buried, at 3700m and below, rendering them at high risk (see below).

Main Risks

Reservoir quality due to primary facies (distal turbidite facies) and diagenesis, are considered the key risk for all stratigraphic play segments, although confidence related to reservoir development is low. Additonal risks relate to charge access and timing, as well as trap integrity/retention.

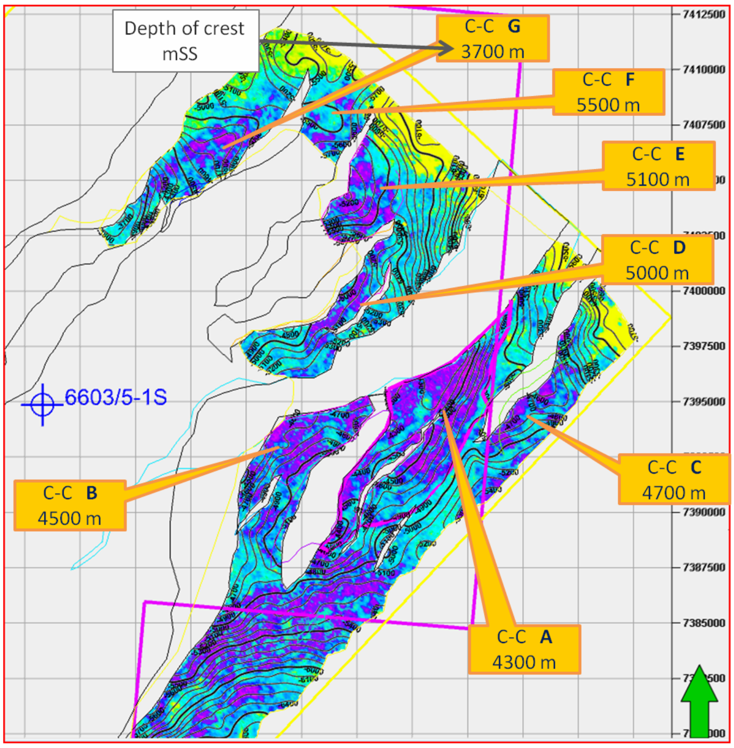


Figure 4.2 Cenomanian-Coniacian Leads. Amplitude map w/depth contours, m SS

Upper Cretaceous (Campanian-Maastrichtian) Lower/Early Syn-Rift Play

Play Summary

The Upper-Cretaceous play is characterized by structural (fault-block) traps with stacked Santonian to Maastrichtian turbidite reservoirs. Stratigraphic (subcrop) trapping provides an additional component in traps subcropping the Base Paleogene Unconformity. Charge is from interbedded Upper Cretaceous lean (low TOC) clay- and mudstones. Interbedded Campanian to Maastrichtian mudstones provides intra-formational seals and likely has resulted in stacked pays. Top seal is provided by Paleocene to Lower Eocene claystones. Faul-seal or cross fault leakage or presence of sandy injectite-containing HTVC's likely controls trap size.

Remaining Potential

The Maastrichtian (Springar Fm.) and the Middle Campanian (Nise Fm.) appear to be the two most prospective intervals. The Lhotse prospect together with a series of smaller leads are identified within the Campanian (Figure 4.3). Maastrichtian prospectivity can be split into two sub-areas and -types; 1) the small, four-way dipping structures amplitude supported subcrop traps that jointly form the Annapurna cluster at the structural apex of the southern Gjallar Ridge (Figure 4.4), and 2) a large amplitude-defined lead (Figure 4.4) onlapping the northeastern on the flank of the southern Gjallar Ridge, and subcropping the Base Paleogene further updip onto the southern Gjallar Ridge.

Main Risks

Reservoir presence and quality reflecting the distal submarine fan turbidite facies are considered as the main risk. Access to charge (and phase) is considered more of an uncertainty and with reduced confidence post 6603/5-1S Dalsnuten well. Retention appear as a main risk for traps subcropping the Base Paleogene Unconformity.

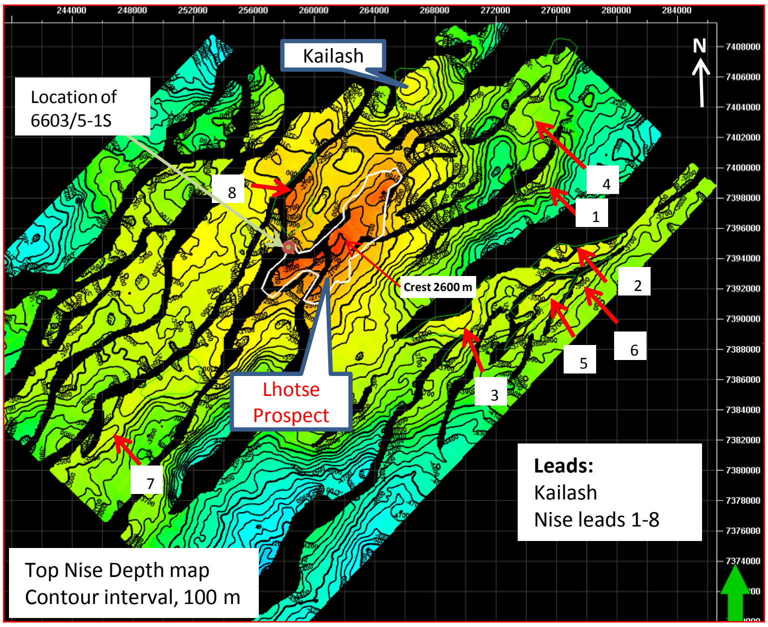


Figure 4.3 Campanian Leads (top Nise depth map)

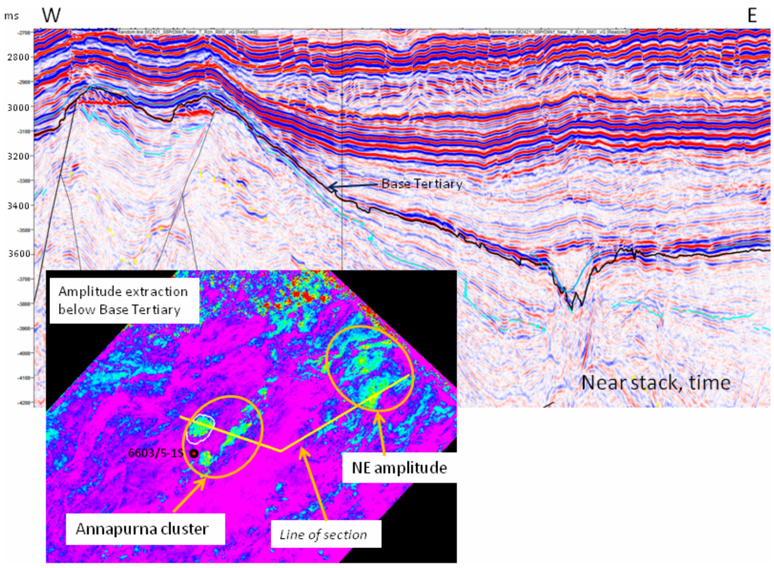


Figure 4.4 Maastrichtian Leads

Paleogene Play

Play Summary

The Lower Paleogene play is dominated by several amplitude supported leads with an assumed stratigraphic trapping mechanism, both as onlap and facies change traps (Figure 4.5). Reservoirs are assumed to be fluvial, fluviodeltaics and shoreline sandstones, sealed by draping and interbedded Plaeocene to Eocene mudsones. Charge is from the underlying Upper Cretaceous lean (low TOC) clay- and mudstones, and probably requires leaky Upper Cretaceous traps.

Remaining Potential

Leads within the Upper Paleocen (in the Selandian and Thanetian), i.e. the Rondane and Vårlivarden leads, occur as onlap and facies change traps defined by shoreline sandstones along the southeastern flank of the southern Gjallar Ridge (Figure 4.6). Along the northwestern flank of the ridge there are amplitude anomalies along an intra Eocene horizon that eventually onlaps Base Eocene. These amplitudes define the Storhaug and Ullandhaug leads (Figure 4.7), and are interpreted to represent onlap and lateral facies change traps in fluvial reservoir systems.

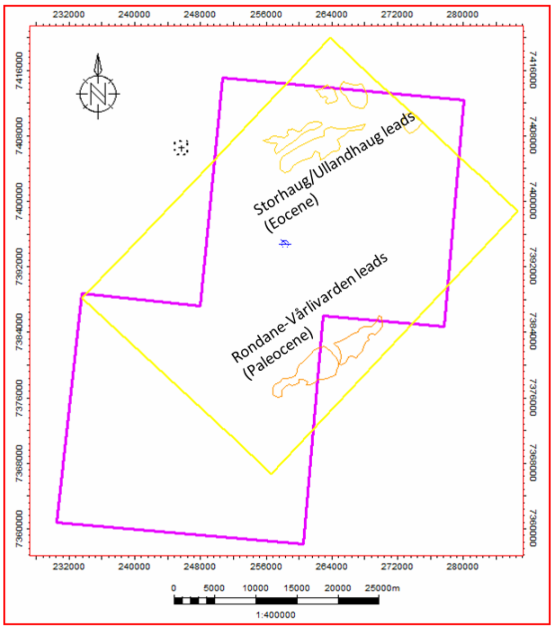


Figure 4.5 Paleogene Leads

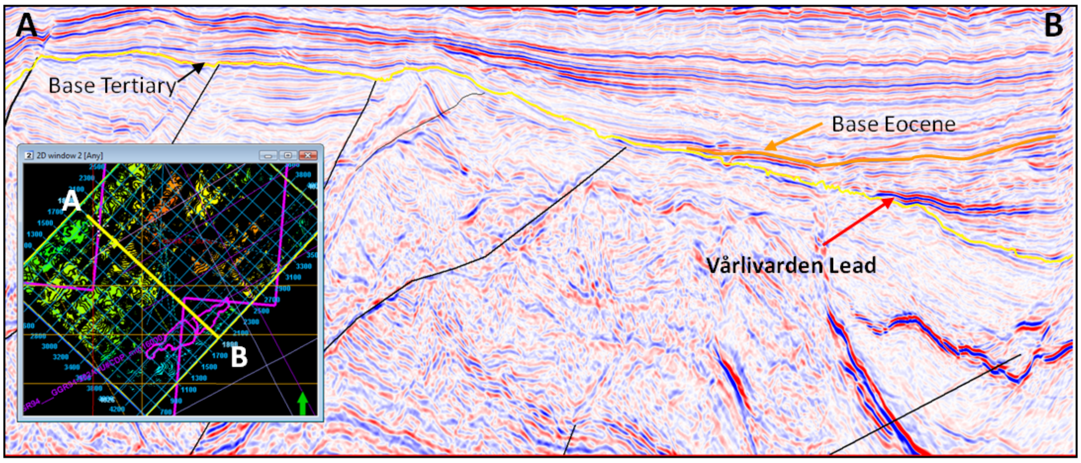


Figure 4.6 Vårlivarden Lead

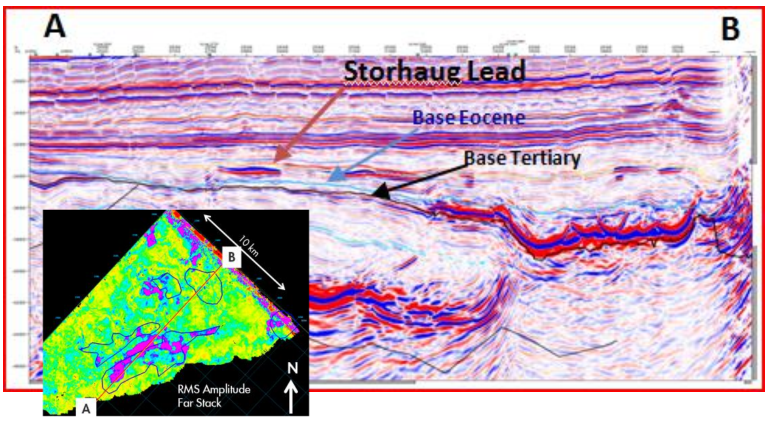


Figure 4.7 Storhaug Lead

Main Risks

Reservoirs are yet unproven and remain conceptual in the Upper Paleocene on the Gjallar Ridge. Accordingly, presence and quality of reservoirs remain a key uncetainty and risk. Access to charge remain another key risk, as migration into the Paleocene leads is challenging and via tortuous pathways, preferably from the Vigrid Syncline and Hel Graben kitchen areas.

Risk Summary

A qualitative summary of key risks is presented in Table 4.2. In summary, all prospects (and leads) carry a low POS, with inconclusive or no support from seismic QI studies, resulting in turn in no chance or downgrade of final propsect / lead POS.

Table 4.2. Prospect/Lead Summary Including Qualitative Risk Assessment.

		Evaluation without taking into account seismic QI information			Seismic QI interpretation		
Play	Leads / prospects	Reservoar	Charge	Seal/Trap	Combined Seismic reservoir & fluid indicators AvO, Shear Imp., Acoust. Imp.	Seismic reservoir indicator. AvO & Shear Impedance	Seismic fluid indicator. Acoustic Impedance
Tertiary	Storhaug	Conceptual, uncalibrated	No shows in well, negative FIS. Lean source at best.	stratigraphic	Probably low saturation in low porosity rock	Weak AvO, Low SI; poor res. quality or no sand	Low AI, possibility for some gas saturation
	Rondane	Conceptual, uncalibrated	No shows in well, negative FIS. Lean source at best.	stratigraphic	No AvO, High AI, no sand.	No AvO, high SI	High AI, no indication of gas saturation
Maastrichtian	Annapurna	Interval calibrated with well penetration, no sand	Flat spot indicate some sort of charge - but counterevidence in geochem data. Possibly small amount of biogenic gas.	Limited seal potential, leaky top seal	Probably low saturation in low porosity rock	Mild AvO, Low SI; poor res. quality or no sand	Low AI, possibility for some gas saturation
	NE amplitude	Conceptual, Gro lookalike?	Lean source only. Negative geochem data.	Indication of leaks caused by vents	Probably low saturation in low porosity rock	Mild AvO, No SI anomaly; poor res. quality or no sand	Low AI, possibility for some gas saturation
M. Campanian	Lhotse	No sand encountered in well but ca. 100m faulted out	Lean source only. Negative geochem data.	Require fault seal	Probably low saturation in low porosity rock	Weak to mild AvO, Low SI, poor res. quality or no sand. Possibly patches of sand at top	Low AI, possibility for some gas saturation
	9 Nise leads	Conceptual	Lean source only. Negative geochem data.	Varying seal quality	Mostly very weak AvO, no SI anomaly and low AI. Likely not sandy and only low saturation if any.	Weak , mild or no AvO. Weak or no SI anomaly. Likely no presence of sand.	Low or no AI anomaly. Some leads with possiblity of some gas saturation
	SW Lead	Conceptual	Lean source only. Negative geochem data.	Faults extending from crest, possibility for leaky trap	Outside 3D		
Cen.-Coniacian	7 leads	VR, Tenp, log - show v. low por.	Only lean Apt/Alb source avaliable	Indication of leaks caused by vents	Probably low saturation in low porosity rock	Weak to mild AvO, Low SI, poor res. Quality or no sand.	Low AI, possibility for some gas saturation
Jurassic	Dalsnuten	Data from VR, Temp, WL logs show v. low por.	Overmature Jur. source	Unfavourable early timing of fill	No seismic feature		
	Lifjellet	as above	as above	retention	No seismic feature		

Indicator of increasing risk →

Green	Yellow	Orange	Red
Data aiding the interpretation & positive impact on prospectivity	Some data aiding the interpretation & slightly negative impact on prospectivity	Some data aiding the interpretation & increased negative impact on prospectivity	Data aiding the interpretation & negative impact on prospectivity

Indicator of increased negative information from seismic on reservoar and/or charge potential → (green, yellow, orange, red)

5 Technical Evaluations

The PL392 remaining prospectivity has been updated incorporating the 6603/5-1S Dalsuten well results. Below is a summary of the re-evaluation of the key, i.e. the revised Dalsnuten Deep (Jurassic), Lhotse (Campanian) and Annapurna (Maastrichtian), prospects:

Dalsnuten Deep (Jurassic)

Trap Definition

The Dalsnuten Deep is defined as a structural fault-bounded 3-way dip-closures at the revised Base Cretaceous level. The re-interpreted BCU depth map with the location and outline of the Dalsnuten Deep (Jurassic) prospect is shown in Figure 4.1.

Prospect Challenges and Risks

The deep burial and high temperatures implies high risk on reservoir quality and recovery, ontop of risks on reservoir presence. Furthermore, the revised structural evolution and updated basin model implies an earlier and more confined HC generation window, terminating prior to onset of late Cretaceous rifting. In turn, this requires long HC retention times for any Jurassic prospect associated, coupled with enhanced risk of leaky traps.

Volumes and POS

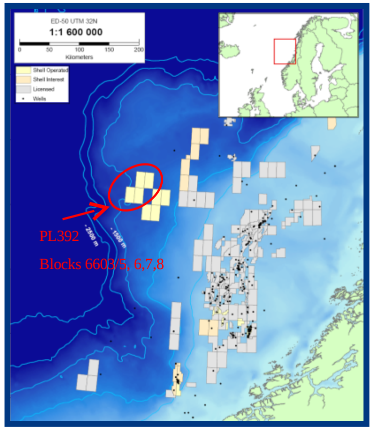
The volumes and risks, together with revised input parameters for the Dalsnuten Deep prospect are listed in Table 5.1. The POS for the Dalsnuten Deep prospect is very low and hence this prospect is not seen as an attractive exploration target.

See Figure 5.1 for summary sheet of the Dalsnuten Deep prospect.

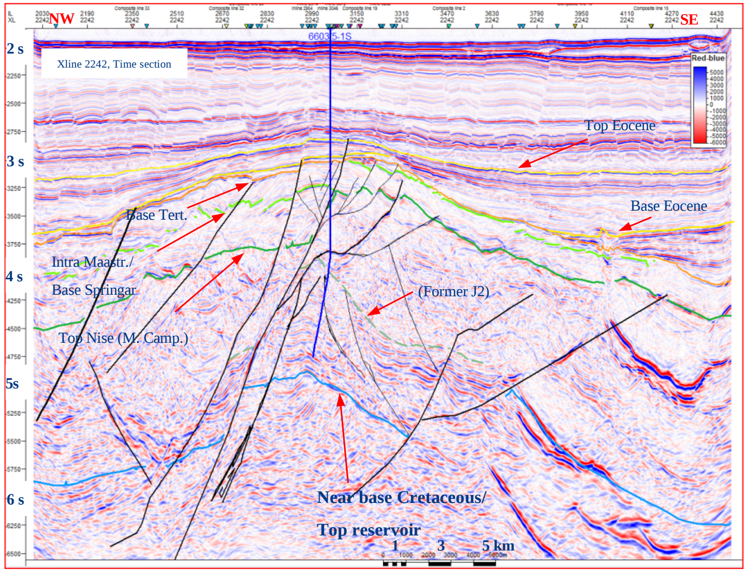
Table 5.1. Prospect data, Dalsnuten Deep (all parameters revised 2011).

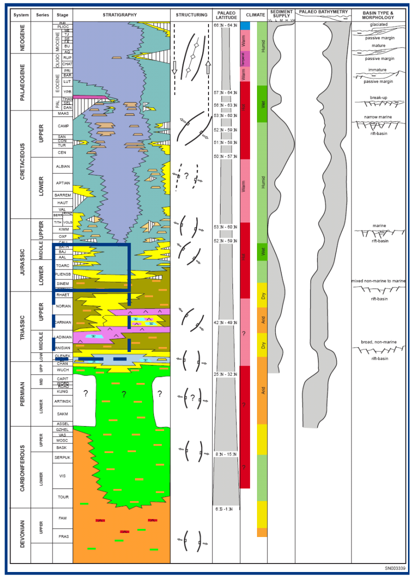
Block	Prospect name		Discovery/Prosp/Lead		Prosp ID (or New!)	NPD approved?
6603/5 & 6	Dalsnuten		Prospect		*NPD will insert data*	*NPD will insert data*
Play (name /new)	Structural element		Company/ reported by / Ref. doc.			Year
NPD will insert data	Gjallar Ridge		Shell / Relinquishment Report			2012
Oil/Gas case	**Resources IN PLACE**					
Gas	Main phase			Ass. phase		
	Low	Base	High	Low	Base	High
Oil 10^6 Sm^3				0.04 (cond.)	2 (cond.)	4.5 (cond.)
Gas 10^9 Sm^3	1	22	57			
	Resources RECOVERABLE					
	Main phase			Ass. phase		
	Low	Base	High	Low	Base	High
Oil 10^6 Sm^3				0.007 (cond.)	0.4 (cond.)	0.9 (cond.)
Gas 10^9 Sm^3	0.2	5.6	15			
	Which fractiles are used as:		Low:	P90	High:	P10
Type of trap	**Water depth** (m)		**Reservoir Chrono** (from - to)		**Reservoir Litho** (from - to)	
Rotated fault block	1446		Jurassic		? Gam-Tilje Fm.	
Source Rock, Chrono	**Source Rock, Litho**		**Seal, Chrono**		**Seal, Litho**	
Upper Jurassic	Spekk Fm.		U.Jurassic / L.Cretaceous		? Spekk / Lange Fm.	
Seismic database (2D/3D):		3D sh0701				
Probability of discovery:						
Technical (oil+gas case)		0.04		Prob for oil/gas case		10/90
Probability (fraction):		Reservoir (P1)	Trap (P2)	Charge (P3)		Retention (P4)
		0.3	0.6	0.3		0.8
Parametres:		Low	Base	High		Comments
Depth to top of prospect (m)			5200			
Area of closure (km^2)		23	66	104		
Reservoir thickness (m)		-	-	-		
HC column in prospect (m)		349	643	1089		
Gross rock vol. (10^9 m^3)		1.7	14	32		
Net / Gross (fraction)		13.9	41.5	71.7		
Porosity (fraction)		0.025	0.052	0.081		
Water Saturation (fraction)		0.92	0.8	0.78		
Bg. (<1)		0.00247	0.00286	0.00324		
Bo. (>1)		-	-	-		
GOR, free gas (Sm^3 /Sm^3)		-	-	-		
GOR, oil (Sm^3 /Sm^3)		-	-	-		
Recovery factor, main phase		0.13	0.25	0.38		
Recovery factor, ass. phase		0.14	0.20	0.26		
Temperature, top res (deg C):		200	Pressure, top res (bar) :		650	

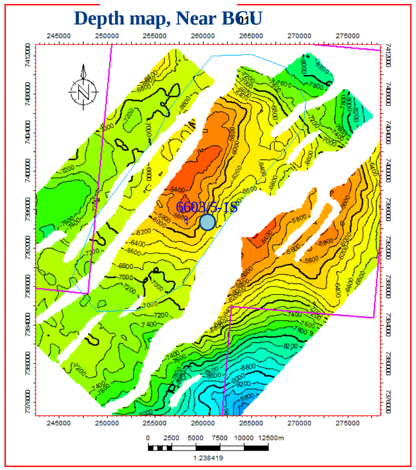
Prospect Summary – Dalsnuten Deep



Depositional model, Jurassic







November 2011

POS	Trap	Reservoir	Charge	Seal	Recovery
0.03	0.6	0.2	0.3	0.8	0.3

Dalsnuten Deep 2011 update	Gas ($x 10^9 sm^3$)				Condensate ($x 10^6 sm^3$)			
	Mean	P(90)	P(50)	P(10)	Mean	P(90)	P(50)	P(10)
In Place	22	1	11	57	2	0.04	0.5	4.5
Recoverable	5.6	0.2	2.4	15	0.4	0.007	0.1	0.9

Objective(s)	Trap	Charge
Jurassic Sands	3-way closure with large bounding fault	Jurassic (Spekk analogue)

Main risks/uncertainties:

Reservoir: presence & quality of sand.

Charge: presence of source rock & the effect of the high temperature.

Trap: requires fault seal and long retention time after end of HC charge

Key data:

- -19th concession round award
- -Licence 392 (2006)
- -Commitment work fulfilled (1 well)
- -Licence expiry April 2012
- -Partnership:

Shell (Op) 30%, **Statoil** 20%, **ConPhil** 20%, **BG** 10%, **Noreco** 10%, **Det Norske** 10%

Water depth: 1450 m

Depth to crest: 5230 m TVDSS

Gross reservoir thickness: >1500 m

Struct. spill point. 7000 m +

Net sand: unknown

PROSPECT DESCRIPTION

The Dalsnuten wildcat well was drilled in 2010 targeting a Jurassic level. The well found the Cretaceous section to be significantly thicker than the uncalibrated regional interpretation. The high temp gradient and lack of shows have severely downgraded POS for the deeper section.

Dalsnuten Deep is a revision of the prospect on the Jurassic level which is below the TD of the Dalsnuten well. A potential reservoir at this level consists of sediments probably sourced from Greenland prior to the Norwegian Sea rift phase.

Figure 5.1 Prospect Summary, Dalsnuten Deep.

Lifjellet Deep (Jurassic)

Trap Definition

The Lifjellet prospect is another fault-bounded, 3-way dip-closure, located on a neighbouring fault block to Dalsnuten Deep (Figure 4.1). The revised Base Cretaceous interpretation places the prospect considerably deeper compared to earlier assessments.

Prospect Challenges and Risks

The revised evaluation, including volumes and POS of Lifjellet Deep is summarized in Table 5.2. Input parameters have been revised to reflect the deeper burial, calibrated by 6603/5-1S well results, reflecting that there is only a very low chance for the presence of a viable reservoir. With the added uncertainty related to charge and retention, this prospect is not seen as an attractive exploration target.

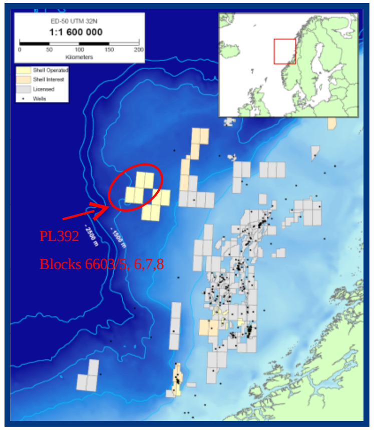
See Figure 5.2 for summary of Lifjellet Deep prospect.

Table 5.2. Prospect data, Lifjellet Jurassic (all parameters revised 2011).

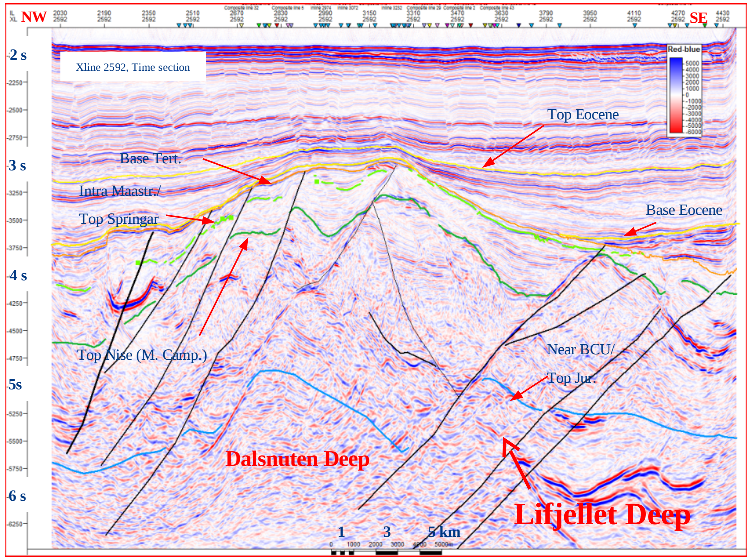
Block	Prospect name		Discovery/Prosp/Lead		Prosp ID (or New!)	NPD approved?
6603/5 & 6	Lifjellet Jurassic		Prospect		*NPD will insert data*	*NPD will insert data*
Play (name /new)	Structural element		Company/ reported by / Ref. doc.			Year
NPD will insert data	Gjallar Ridge		Shell / Relinquishment Report			2012
Oil/Gas case	**Resources IN PLACE**					
gas	Main phase			Ass. phase		
	Low	Base	High	Low	Base	High
Oil 10^6 Sm^3				0.04 (cond.)	2.6 (cond.)	6 (cond.)
Gas 10^9 Sm^3	1	29	75			
	Resources RECOVERABLE					
	Main phase			Ass. phase		
	Low	Base	High	Low	Base	High
Oil 10^6 Sm^3				0.08	0.5	1.1
Gas 10^9 Sm^3	0.2	7	17			
	Which fractiles are used as:		Low:	P90	High:	P10
Type of trap	**Water depth** (m)		**Reservoir Chrono** (from - to)		**Reservoir Litho** (from - to)	
Faulted dip closure	1450		Jurassic			
Source Rock, Chrono	**Source Rock, Litho**		**Seal, Chrono**		**Seal, Litho**	
Upper Jurassic	Spekk Fm.		Cretaceous		Lysing - Lange - Lyr	
Seismic database (2D/3D):		3D, sh0701				
Probability of discovery:						
Technical (oil+gas case)		0.04		Prob for oil/gas case		10/90
Probability (fraction):		Reservoir (P1)	Trap (P2)	Charge (P3)		Retention (P4)
		0.20	0.60	0.30		0.80

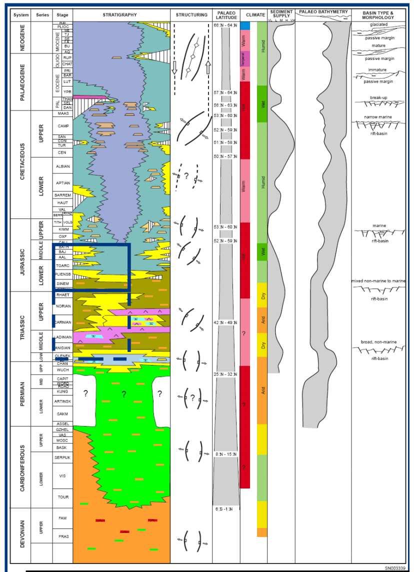
Parametres:	Low	Base	High	Comments
Depth to top of prospect (m)		5250		
Area of closure (km^2)	18	74	133	
Reservoir thickness (m)	-	-	-	
HC column in prospect (m)	349	643	1089	
Gross rock vol. (10^9 m^3)	1.8	19	45	
Net / Gross (fraction)	16	40	64	
Porosity (fraction)	1.5	5.5	9.6	
Water Saturation (fraction)	92	80	68	
Bg. (<1)	0.00247	0.00286	0.00324	
Bo. (>1)	-	-	-	
GOR, free gas (Sm^3 /Sm^3)	-	-	-	
GOR, oil (Sm^3 /Sm^3)	-	-	-	
Recovery factor, main phase	0.13	0.25	0.38	
Recovery factor, ass. phase	0.14	0.20	0.26	
Temperature, top res (deg C):	200	Pressure, top res (bar) :	650	

Prospect Summary – Lifjellet Deep



Depositional model, Jurassic





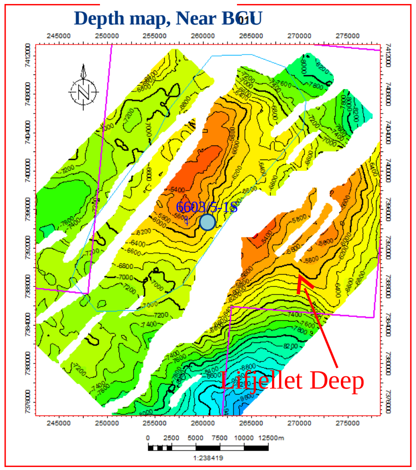
POS	Trap	Reservoir	Charge	Seal	Recovery
0.03	0.6	0.2	0.3	0.8	0.3

November 2011

Lifjellet Deep 2011 update	Gas ($x 10^9 sm^3$)				Condensate ($x 10^6 sm^3$)			
	Mean	P(90)	P(50)	P(10)	Mean	P(90)	P(50)	P(10)
In Place	29	1	12	75	2.6	0.04	0.6	6
Recoverable	7.0	0.2	2.7	17	0.52	0.008	0.11	1.1

Objective(s)	Trap	Charge
Jurassic Sands	3-way closure with large bounding fault	Jurassic (Spekk analogue)

Main risks/uncertainties:
Reservoir: presence & quality of sand.
Charge: presence of source rock & the effect of the high temperature.
Trap: requires fault seal and long retention time after end of HC charge



Key data:

-19th concession round award
-Licence 392 (2006)
-Commitment work fulfilled (1 well)
-Licence expiry April 2012
-Partnership:
Shell (Op) 30%, **Statoil** 20%, **ConPhil** 20%, **BG** 10%, **Noreco** 10%, **Det Norske** 10%

Water depth: 1450 m
Depth to crest: 5200 m TVDSS
Gross reservoir thickness: >1500 m
Struct. spill point. > 6500 m
Net sand: unknown

PROSPECT DESCRIPTION

The Dalsnuten wildcat well was drilled in 2010 targeting a Jurassic level. The well found the Cretaceous section to be significantly thicker than the uncalibrated regional interpretation. The high temp gradient and lack of shows have severely downgraded POS for the deeper section.

Lifjellet Deep is a revision of the prospect on the reinterpreted Jurassic level. A potential reservoir at this level consists of sediments probably sourced from Greenland prior to the Norwegian Sea rift phase.

Figure 5.2 Prospect Summary, Lifjellet Deep.

Lhotse (Upper Cretaceous, Campanian)

Trap Definition

The Lhotse prospect is a fault-bounded 3-way dip closure (Figure 4.3 for location), defined by a compartmentalized, Upper Cretaceous fault-block. It is supported by an amplitude brightening conformable to structure. Expected reservoir was Campanian (Nise Fm.) turbidites.

Prospect Challenges and Risks

Seismic modelling (elasic inversion), calibrated by 6603/5-1S well results, suggests that the risk of finding good quality reservoirs in Lhotse is high. In addition, there is increased risks related to charge and retention if viable petroleum system should be present. Consequently, this prospect is no longer considered to be an exploration target to pursue. Table 5.3 contains the revised input parameters, volumetrics and POS for the Lhotse prospect.

Additonal Campanian Prospectivity

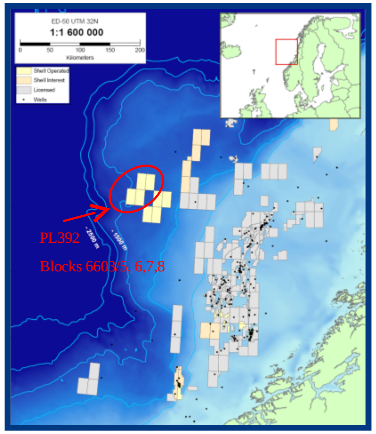
The Campanian (Nise Fm.) contain several leads within the pl392 licence area. See section 5 for evaluation of the Campanian Play.

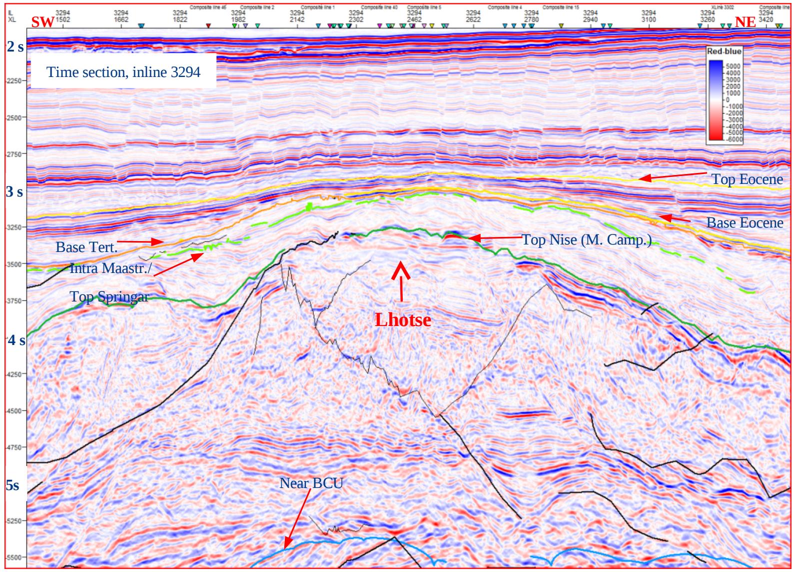
See Figure 5.3 for summary sheet of Lhotse prospect.

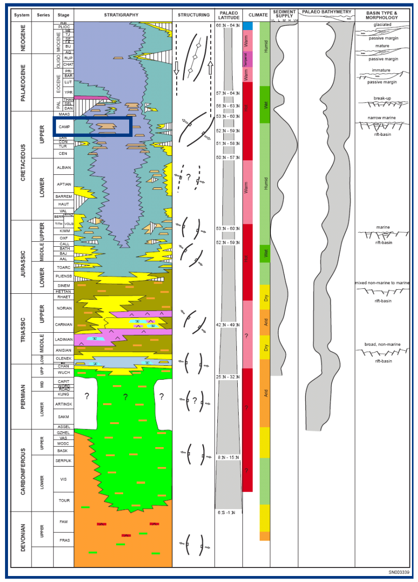
Table 5.3. Prospect data, Lhotse (all parameters revised 2011).

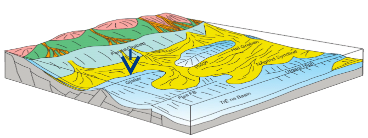
Block	Prospect name		Discovery/Prosp/Lead		Prosp ID (or New!)	NPD approved?
6603/5 & 6	Lhotse		Prospect		*NPD will insert data*	*NPD will insert data*
Play (name /new)	Structural element		Company/ reported by / Ref. doc.			Year
NPD will insert data	Gjallar Ridge		Shell / Relinquishment Report			2012
Oil/Gas case	**Resources IN PLACE**					
Brightsp-Gas	Main phase			Ass. phase		
	Low	Base	High	Low	Base	High
Oil 10^6 Sm^3				0.4	2.9	7
Gas 10^9 Sm^3	3.4	11	21			
	Resources RECOVERABLE					
	Main phase			Ass. phase		
	Low	Base	High	Low	Base	High
Oil 10^6 Sm^3				0.09	0.9	2.2
Gas 10^9 Sm^3	0.7	4.2	8.7			
	Which fractiles are used as:		Low:	P90	High:	P10
Type of trap	**Water depth** (m)		**Reservoir Chrono** (from - to)		**Reservoir Litho** (from - to)	
Rotated Fault Block	1446		Lower Campanian		Nise Fm	
Source Rock, Chrono	**Source Rock, Litho**		**Seal, Chrono**		**Seal, Litho**	
Upper Jurassic	Spekk Fm.		U.Camp.-Maastrichtian		Springar Fm.	
Seismic database (2D/3D):		3D,sh0701				
Probability of discovery:						
Technical (oil+gas case)		0.056		Prob for oil/gas case		10/90
Probability (fraction):		Reservoir (P1)	Trap (P2)	Charge (P3)		Retention (P4)
		0.2	0.8	0.5		0.7
Parametres:		Low	Base	High		Comments
Depth to top of prospect (m)			2560			
Area of closure (km^2)		15	22	31		
Reservoir thickness (m)		-	-	-		
HC column in prospect (m)		193	250	253		
Gross rock vol. (10^9 m^3)		1.21	2.14	3.11		
Net / Gross (fraction)		6	16	25		
Porosity (fraction)		19	23	27		
Water Saturation (fraction)		48	35	22		
Bg. (<1)		0.0042	0.0045	0.0047		
Bo. (>1)		-	-	-		
GOR, free gas (Sm^3 /Sm^3)		-	-	-		
GOR, oil (Sm^3 /Sm^3)		-	-	-		
Recovery factor, main phase		0.13	0.36	0.61		
Recovery factor, ass. phase		0.15	0.3	0.45		
Temperature, top res (deg C):		65	Pressure, top res (bar) :		250	

Prospect Summary – Lhotse









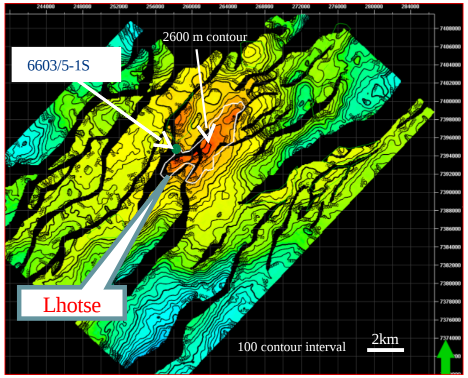
Depositional model, U. Cretaceous

POS	Trap	Reservoir	Charge	Seal	Recovery
0.06	0.8	0.2	0.5	0.7	0.6

Lhotse prospect November 2011	Gas ($x 10^9 sm^3$)				Condensate ($x 10^6 sm^3$)			
	Mean	P(90)	P(50)	P(10)	Mean	P(90)	P(50)	P(10)
In Place	11	3.4	9.9	21	2.9	0,4	1.8	7
Recoverable	4.2	0.7	3.1	8.7	0,9	0.09	0.5	2.2

Objective(s)	Trap	Charge
Cretaceous Sands	3-way closure with large bounding fault	Lean Createcous section, expect gas

Main risks/uncertainties:
Reservoir: presence & quality of sand
Charge: neg. FIS in well, pot. only lean Albian and Aptian source
Trap: integrity, complex structure



Key data:

- -19th concession round award
- -Licence 392 (2006)
- -Commitment work fulfilled (1 well)
- -Licence expiry April 2012
- -Partnership:

Shell (Op) 30%, **Statoil** 20%, **ConPhil** 20%, **BG** 10%, **Noreco** 10%, **Det Norske** 10%

Water depth: 1450 m

Depth to crest: 2550 m TVDSS

Gross reservoir thickness: >500 m

Struct. spill point 3700 m TVDSS

Net sand: 30-70 %

PROSPECT DESCRIPTION

Lhotse is a prospect in Upper Cretaceous (Campanian) play. The reservoir would be within a stacked sequence of Upper Santonian – Campanian turbiditic deposits. There is a well defined regional top seal.

Flatspot indicates presence of hydrocarbons but geophysical studies have shown that seismic response is not quite what we would expect with gas charge in good reservoir.

Figure 5.3 Prospect Summary, Lhotse.

Annapurna (Upper Cretaceous, Maastrichtian)

Trap Definition

The Annapurna prospect is a partly fault-bounded, subcrop trap, situated in an Upper Cretaceous fault-block sub-cropping the Base Paleogene Unconformity. It is supported by a pronounced flatspot within the lower Maastrichtian.

Prospect Challenges and Risks

The Annapurna prospect has been significantly downgraded by the 6603/5-1S (Dalsnuten) well results and is no longer considered as a viable prospect. Main challenges are:

- no reservoir detected in the confirmed Maastrichitan interval (only mudstones)
- no shows
- seismic modelling and inversion studies do not support any precense of reservoir

Development Scenarios

The current view on PL392 license portfolio warrants no further studies regarding possible development for the remaining prospects.

6 Conclusions

Based on the evaluation of the Dalsnuten well results in conjunction with all available licence and regional data, the prospectivity of PL392 has been severely downgraded and can be summarized as follows:

- Lack of reservoirs in the Campanian and Maastrichtian sections penetrated by the well - low chance onprecense of reservoir
- Deep location of presumed Jurassic reservoir sequence - low chance of adequate reservoir properties
- Presumed Jurassic source rock interval considerable deeper than carried in original model - high likelyhood of postmature source rock
- High temperature gradient and VR trend reducing hydrocarbon generation window - giving earlier and more unfavourable timing of expulsion in addition to enhancing pore reducing diagenetic processes
- Overall lack of shows in the well and absence of source rocks in the penetrated Cretaceous section - highlights concerns related to quality of any charge in this area
- Seismic forward modelling and elastic inversion study not supporting flat spots and amplitudes as an indicator of hydrocarbon filled porous sand - low likelyhood of reservoir present

Based on the above, the consensus in the partnership is not to extend the intitial licence period for PL392 which expiries 28th of April 2012.

7 References

-Hand-out material from all Work-meetings, Exploration Committee and Management Committee meetings available on "License to Share".

-Well reports and reports from studies and sample analyses are stored at Petrobank.