PL737S

Relinquishment report

27 April 2016

Relinquishment of PL 737 S

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1 Key license history

1.1 License owners

The license owners of Production License 737S (PL737S), and the owner history is:

From date	To date	Company	Share [%]
10.09.2015	07.02.2016	Dana Petroleum Norway AS Concedo ASA Spike Exploration AS	40 30 30
28.11.2014	10.09.2015	Dana Petroleum Norway AS Concedo ASA Spike Exploration Holding AS	40 30 30
07.02.2014	28.11.2014	Dana Petroleum Norway AS Bridge Energy Norge AS Concedo ASA	40 30 30

PL737S is located on the Heimdal Terrace, north of the Heimdal field and in between the Vilje and the Atla discovery. The license is also just north of the recent Trell discovery (25/5-9), which has been important in the evaluation. (Fig. 1.1). The area size of the license is 76 km^2.

1.2 License award and Work program

The license PL737S was awarded on the 7th February 2014 as part of the APA 2013 licensing round. The award was based on two separate applications related to the APA 2013. Dana Petroleum applied together with Eykon on the Heimdal formation prospect Vardarac, which later was renamed to Slåtterøy South. Concedo and Bridge Energy applied for the same area, with focus on two Hermod formation prospects (Ison and Ison West). These prospect were renamed to Slåtterøy North and Slåtterø West in the new license partnership. Eykon did not achieved to get the pre-qualification in time, and was not awarded a partnership in the license.

The Production License had an initial period of 7 years. The work obligations put forward by the Authorities were divided into four phases:

1. Within 2 years: Re-processing of 3D seismic and conduct relevant geological and geophysical studies leading to a Drill or Drop (DoD) decision
2. Within 4 years: Drill a well and perform technical evaluations leading to a Drop or Continue (DoC) decision
3. Within 6 years: Technical evaluations and concept studies leading to a Plan for Development or Drop decision
4. Within 7 years: Pre-engineering, preparation of development plan, Decision of Implementation and submission of PDO or Drop

Location map in Fig. 1.1

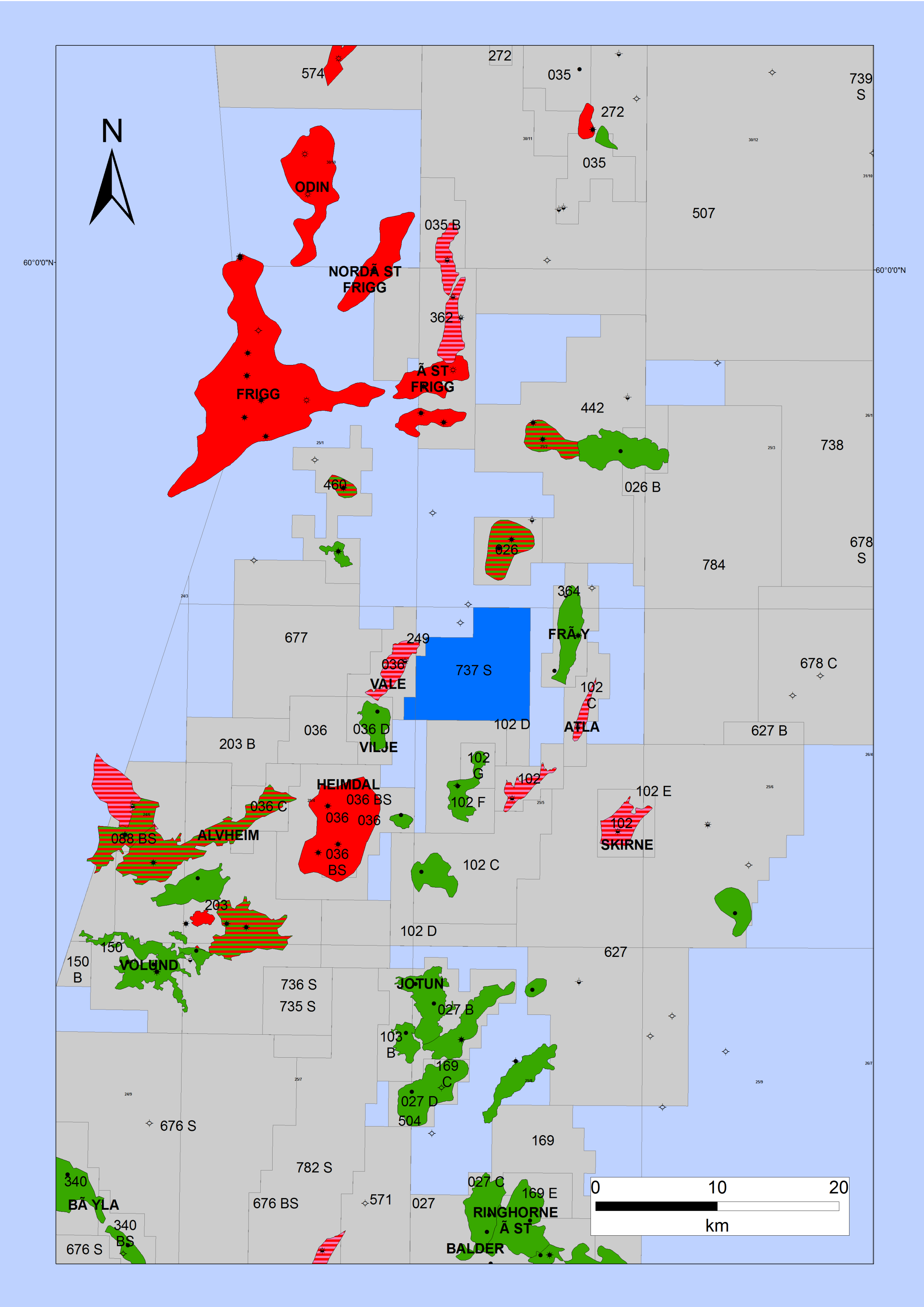

Fig. 1.1 Location map of PL737S (in blue)

1.3 License meetings

The first PL737S MC meeting which established the license was held on 10th March 2014. Subsequently, the following license meetings have been arranged:

Combined MC and EC meetings
14th November 2014
15th April 2015
24th November 2015

EC and Work meetings
30th April 2014
26th May 2014
18th June 2015

Additional communication between the licensees has utilized LicenseWeb / L2S.

1.4 Reason for relinquishment

The license work obligations (1st phase) have been completed. Based on results from the following studies the Management Committee of PL737S has concluded not to drill a well and to relinquish the license.

Structural interpretation
The interpretation of the EL9201DAM14 re-processed seismic cube has increased the knowledge and separation between the different Paleocene depositional phases. The interpreted surfaces were linked to the biostratigraphy frame work. The Slåtterøy West prospect decreased in size after the new interpretation, and a chance of juxtaposition of the Hermod reservoir formation and the water wet Heimdal in well 26/4-6S is valid. The Slåtterøy South prospect (Heimdal formation) is sensitive to the depth conversion, both in size and spill to the East and South. The Slåtterøy North prospect is a robust structure with main risk on migration and sealing failure.

Seismic inversion and AVO
The resulting product from the simultaneous inversion was a lithology indicator cube, which is a combination of the P-impedance and the Poisson's ratio. Interpretation of the lithology cube indicates good quality reservoir sands in the prospects, however with large uncertainty regarding hydrocarbons. The Vilje discovery however, stands out in an amplitude map corresponding to the HC findings. The relatively small HC column in the Trell discovery is also visible, as a negative brightening on far offset seismic. Due to these observations, with no similar amplitude differences in the Slåtterøy prospects, the possibility of HC in the prospects are low.

Hydrocarbon migration
The migration analysis indicates a close link between the Slåtterøy prospects, the Mon structure and the Vale ridge. The well 25/5-6 (Mon) and the well 25/5-6S (Vale) are both water wet in the Paleocene formation, which led to a low possibility of HC accumulations in the Slåtterøy prospects (Total Pg between 0.12 and 0.18).

Hydrocarbon volumes
The volume calculations presented are based on deterministic calculations, with bulk volumes calculated in the Petrel software. The contact levels are based on spill points.

Risk evaluations

The possibility of an economic success in the Slåtterøy prospects is ranked as low. For description see 4.4 Prospect probabilities.

2 Database

2.1 Seismic database

First phase of the work obligation in license PL737S was to re-process available seismic over the license area. It was decided to re-process and merge surveys EL8801, EL9201 and NH9603 into one large seismic cube named EL9201DAM14. These surveys have previously been re-processed several times, however with focus on de-ghosting and de-multiple processes the license hoped to increase the resolution and the amplitude reliability. The surveys went through a Kirchhoff time migration processing route. Fig. 2.1 shows the location of the three different input surveys. The total area for the merged seismic cube is 2369 km^2.

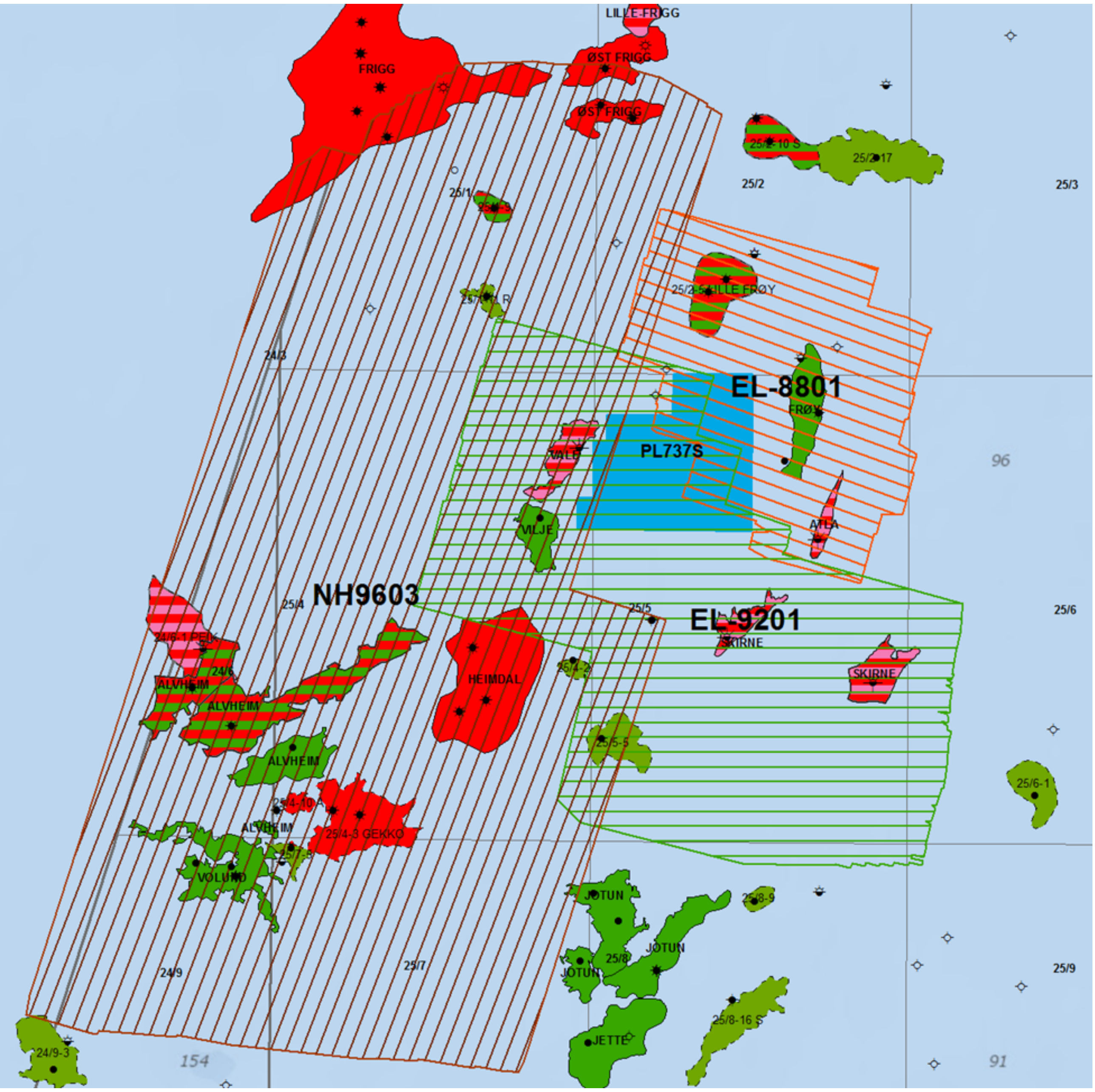

Fig. 2.1 **Seismic 3D database**. *Re-processing and merge of EL8801, EL9201 and NH9603, covering a total area of 2369 sqkm.*

The individual acquisition parameters are listed in table 2.1.

The main target for the processing was to increase the resolution below the Balder formation, in order to understand the turbudite deposition fairways of the Hermod and Heimdal formations. The re-processed seismic was also input to an AVO analysis and simultaneous inversion, which led to a high focus on amplitude preservation during the processing. An example of a seismic section from the final product is display in Fig. 2.2

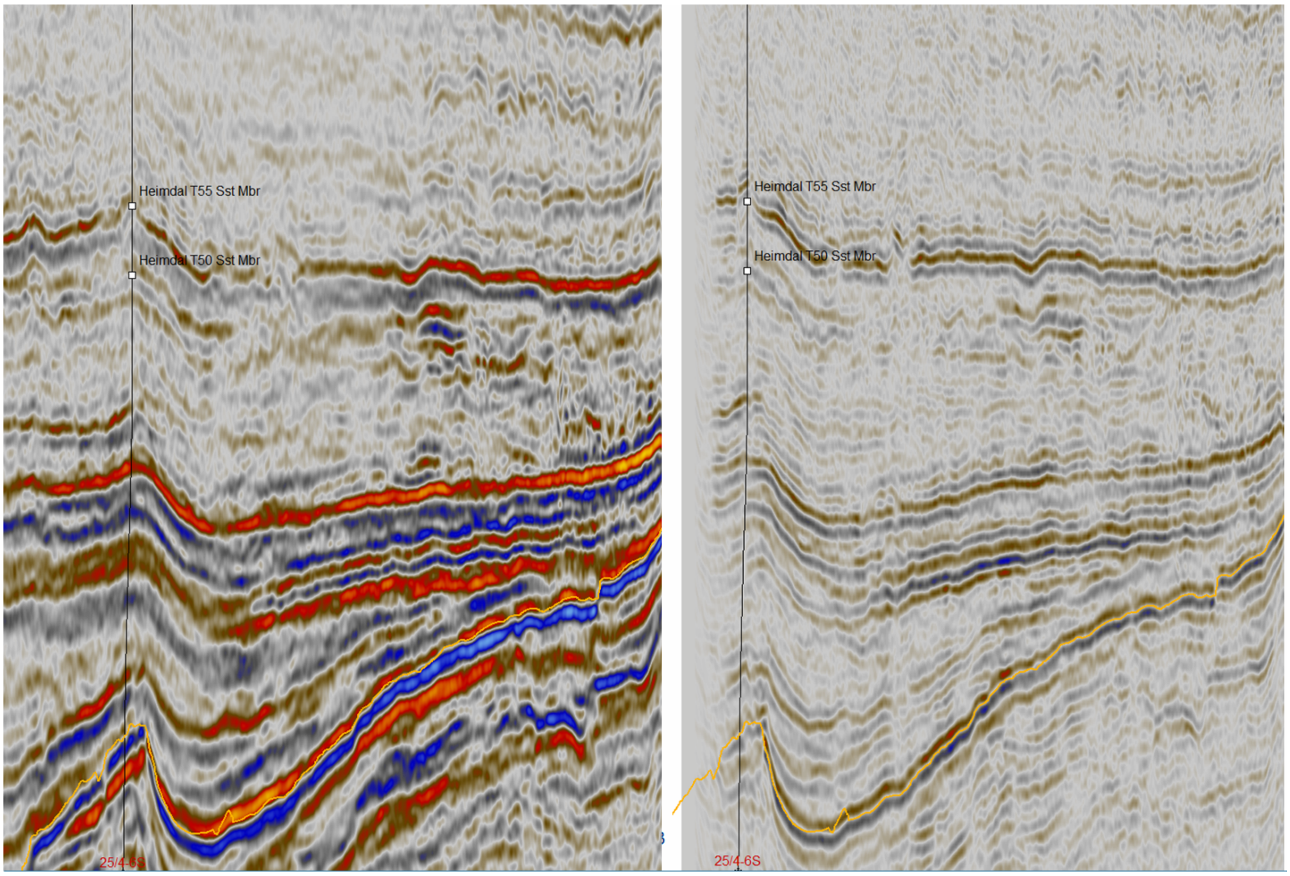

Fig. 2.2 EL9201DAM14 vs. EL9201M99. *The figure shows a comparison section between the EL9201DAM14 (left) vs. EL9201M99 (right) survey through the 25/4-6S well location.*

Table 2.1: Acquisition parameters

	EL8801	EL9201	NH9603
Acquisition year	1988	1992	1996
Number of streamers	2	3	6
Streamer length (m)	3200	3000	3600
Channel interval (m)	25	26.67	12.5
Number of sources	1	2	2
Shot interval (m)	26.67	18.75	18.75
Recording length	6 sec	5.12 sec	5.63 sec
Survey size (km^2)	264	561	1544

2.2 Well database

Table 2.2 (below) lists the wells that have been included in the license database.

Table 2.2: ***Well database***

Well name	TD (MD) - Oldest penetrated age	HC	Year
24/6-1	4937 - Early Jurassic	Gas/Condensate (Hugin Fm)	1985
24/9-1	4907 - Late Jurassic	Dry	1976
24/9-2	2743 - Late Cretaceous	Dry	1977
24/9-3	3051 - Late Cretaceous	Oil (Frigg Fm)	1981
24/9-4	2208 - Paleocene	Oil shows	1991
24/9-9 S (Marihøne)	2402 - Paleocene	Oil (Hermod Fm)	2009
24/12-2	5100 - Late Jurassic	Shows	1982
25/1-1 (Frigg)	4570 - Middle Jurassic	Oil/Gas (Frigg Fm)	1971
25/1-3	2872 - Late Cretaceous	Oil/Gas (Frigg Fm)	1972
25/1-5	2259 - Paleocene	Oil/Gas (Frigg Fm)	1975
25/1-6	2895 - Late Cretaceous	Dry	1978
25/1-9	2807 - Late Cretaceous	Oil/Gas (Frigg Fm)	1986
25/1-11 A (Storklakken)	2410 - Late Paleocene	Oil/Gas (Frigg Fm)	2010
25/2-2	2740 - Late Cretaceous	Oil/Gas (Frigg Fm)	1974
25/2-3	2795 - Late Cretaceous	Dry	1974
25/2-5	4000 - Triassic	Oil/Gas (Vestland Gr/Statfjord Gr)	1976
25/2-6 (Frøy)	3750 - Triassic	Oil shows	1977
25/4-1 (Heimdal)	4060 - Triassic	Oil/Gas (Heimdal/Vestland/Statfj)	1972
25/4-2 (Heimdal)	2775 - Late Cretaceous	Oil (Heimdal Fm)	1972
25/4-3 (Gekko)	2714 - Late Cretaceous	Oil/Gas (Heimdal Fm)	1974
25/4-4 (Heimdal)	2681 - Paleocene	Oil/Gas (Heimdal Fm)	1975
25/4-5 (Heimdal)	4355 - Early Jurassic	Oil/Gas (Heimdal/Sleipner/Statfj)	1981
25/4-6 S (Vale)	4170 - Early Jurassic	Gas/Condensate (Hugin Fm)	1991
25/4-9 S (Vilje)	2377 - Paleocene	Oil (Heimdal Fm)	2003
25/5-1 (Frøy)	3429 - Triassic	Oil/Gas (Hugin Fm/Sleipner Fm)	1987
25/5-2	3304 - Early Jurassic	Oil (Hugin Fm/Sleipner Fm)	1989
25/5-3	2900 - Triassic	Gas/Condensate (Hugin Fm)	1990
25/5-4	3185 - Early Jurassic	Gas/Condensate (Hugin/Sleipner)	1991
25/5-6	2446 - Paleocene	Dry	2009
25/5-7 (Atla)	3045 - Late Triassic	Gas /Condensate (Brent Gr)	2010
25/5-9 (Trell)	2265 - Paleocene	Oil (Heimdal Fm)	2014
25/6-3	2475 - Late Cretaceous	Dry	1999
25/7-1 S	3592 - Pre-Devonian	Dry	1986
25/7-2	4850 - Middle Jurassic	Gas/Condensate (Draupne/Hugin)	1990

3 Review of geological framework

3.1 Performed work and main results

The Paleocene sand deposits in the Hermod formation and the Heimdal formation are sourced from the East Shetland Platform. The rapid sedimentation from the exposed shelf led to large submarine sand complexes, with a sand thinning towards East in the Viking Graben. Local variations in the paleo-bathymetry in the Paleocene basin had a major impact on the distribution of the submarine fan sands. The PL737S license area is situated at the pinch-out area of both the Hermod formation and Heimdal formation sand stones. The thickness maps in figure Fig. 3.3 and figure Fig. 3.6 are an indication of that.

Seismic interpretation

Seismic interpretation was carried out on the re-processed EL9201DAM14 survey. The main interpreted reflectors were the formation/sequence boarders listed in Table 3.1 below. A positive peak amplitude represent an increase in the acoustic impedance while a trough represent a decrease in the acoustic impedance. The interpreted sequences are in accordance with the framework from the biostratigraphy study described in 3.2 Special studies. The geosection in Fig. 3.1 displays the interpreted horizons with focus on the Sele and Lista formations. The Sele formation is bounded by the Balder Tuff and the Heimdal T60 interpretation. The Lista formation is between the Heimdal T60 and Top Våle interpretation.

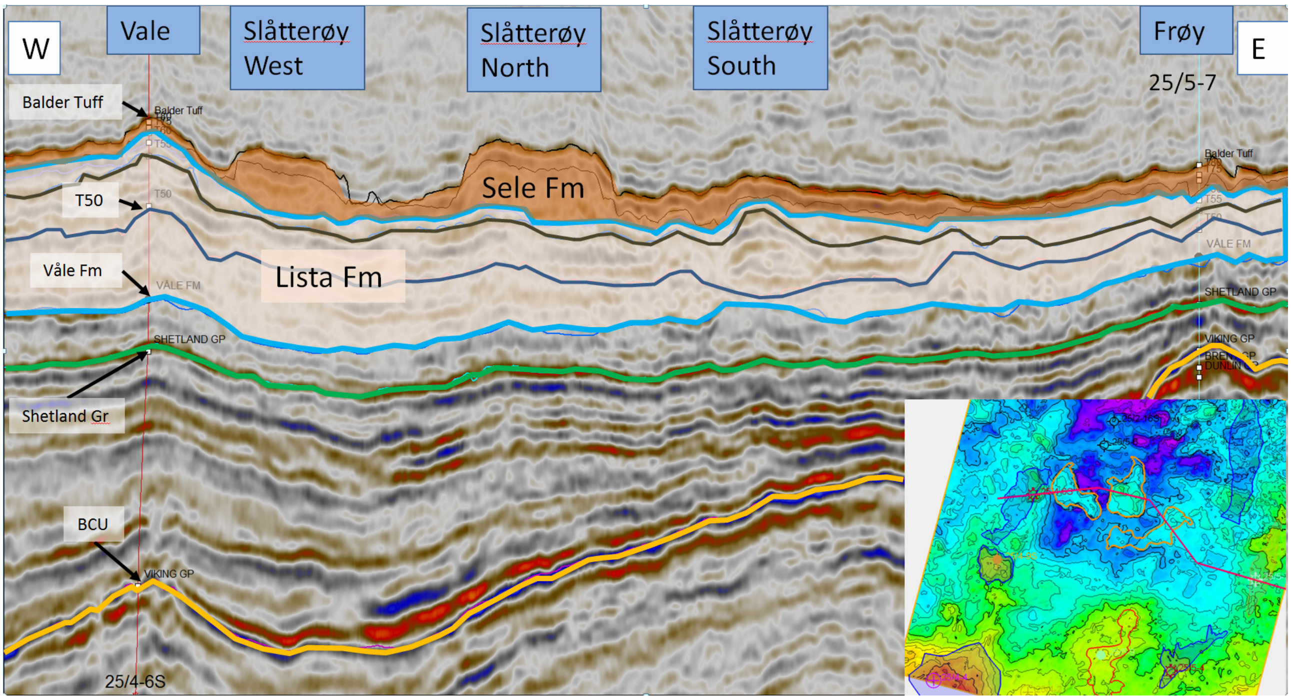

Fig. 3.1 Geosection from EL9201DAM14. *Seismic line through the Slåtterøy prospects in the PL737S license, displaying the interpreted Sele Fm and Lista Fm border (T60).*

Table 3.1: ***Interpreted horizons***

Surface	Amplitude
Seabed	Peak
Top Frigg sandstone	Peak
Balder Tuff	Peak
Hermod T80	Peak
Hermod T75	Peak
Heimdal T60	Through
Heimdal T55	Peak
Heimdal T50	Through
Top Våle	Peak
Top Shetland	Peak
BCU	Through

The Top Hermod T75 interpretation in Fig. 3.2, is the top reservoir surface in the two Hermod prospects (Slåtterøy North and West). The map shows the interpretation after the depth conversion. The Sele formation thickness map in Fig. 3.3 is a indication of the sand distribution in the area, which has a good relation to the attribute map from the sand probability cube in Fig. 3.4. Indication of sand distribution fair-ways from North-West and into the Hermod prospects strengthened the probability of porous reservoir sand stone in the prospects.

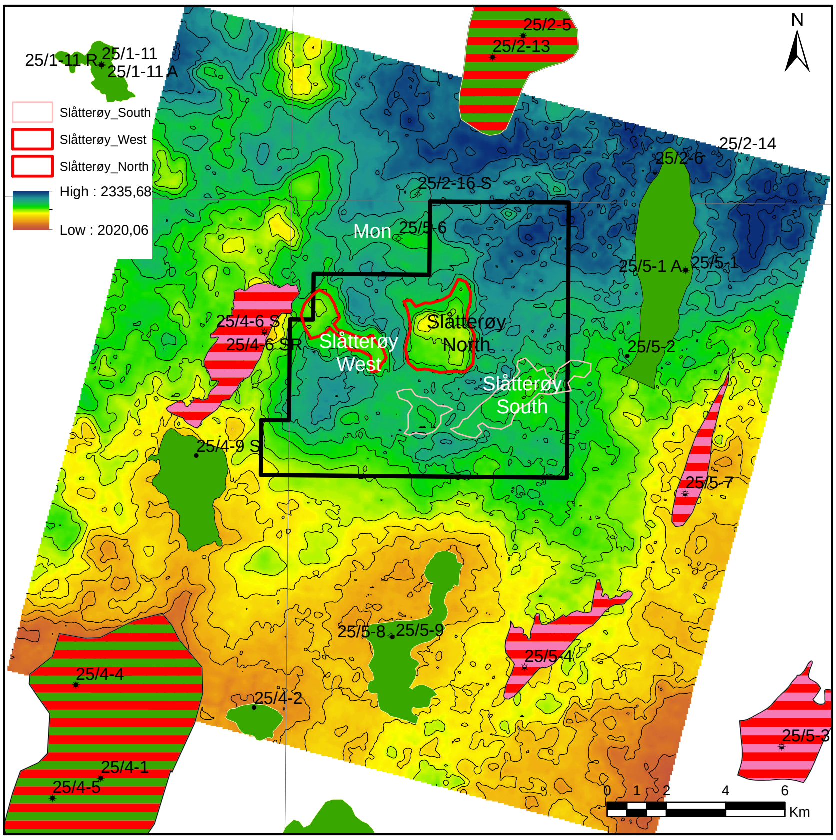

Fig. 3.2 Top Hermod (T75) depth map. *Interpretation of the T75 Hermod formation sequense.*

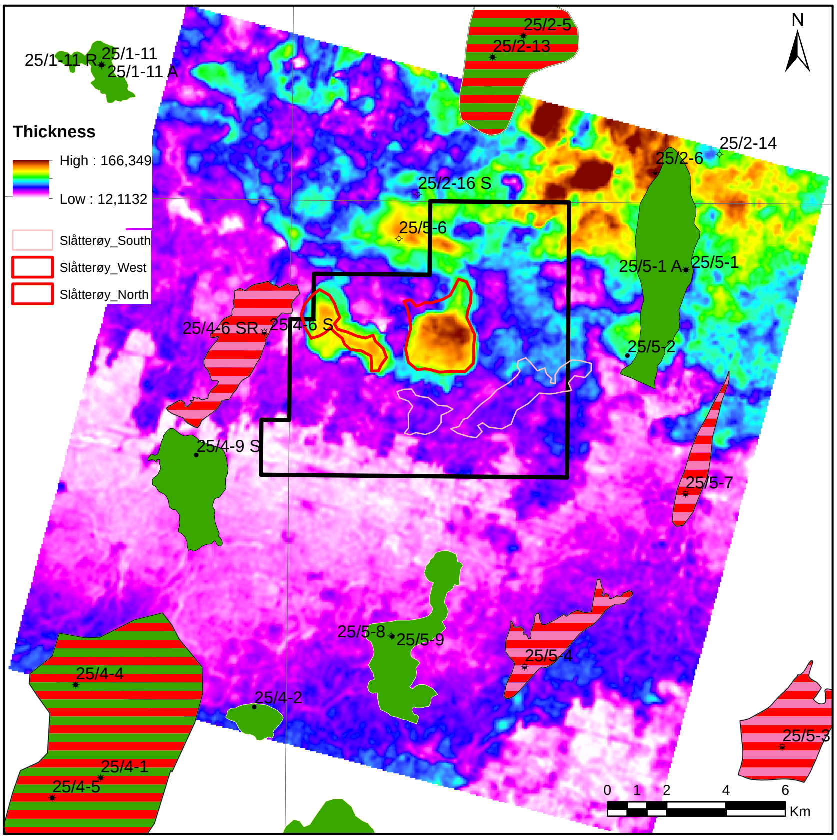

Fig. 3.3 Sele formation thickness map. *Thickness map between the Balder Tuff and the top T60 Heimdal formation.*

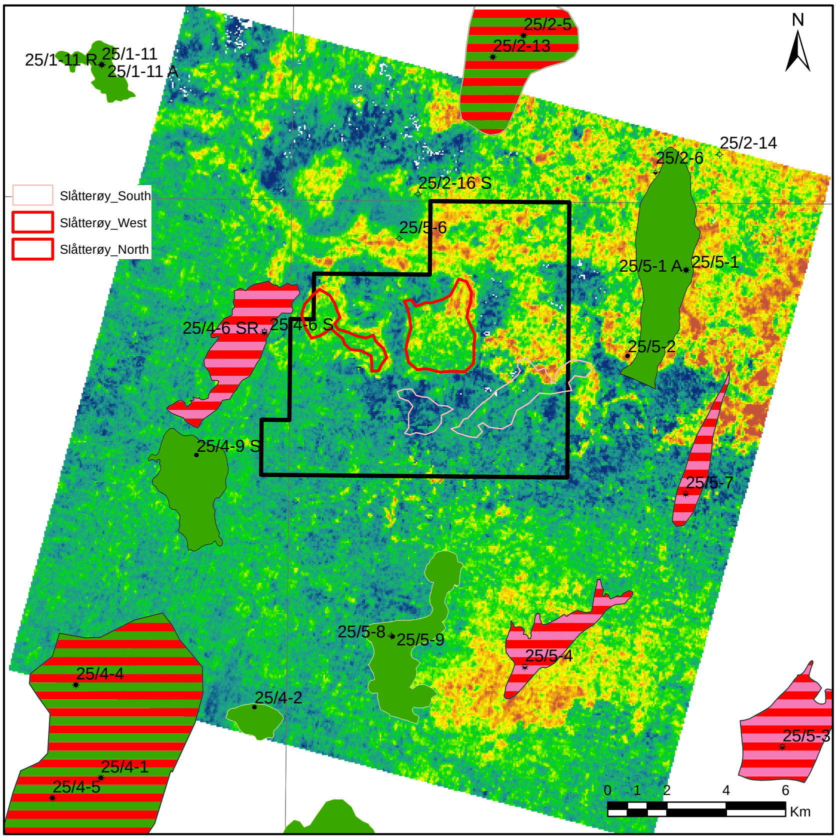

Fig. 3.4 Sele sand probability map. *Attribute extraction from the sand probability cube.*

The Heimdal formation T55 is the top reservoir surface of the Slåtterøy South prospect, displayed in Fig. 3.5 in depth. The Sele formation thickness map (Fig. 3.6) and the sand probability map (Fig. 3.7) indicates that the prospect is close to the sand pinch-out line, and reservoir quality have to be addressed in the geological risking process.

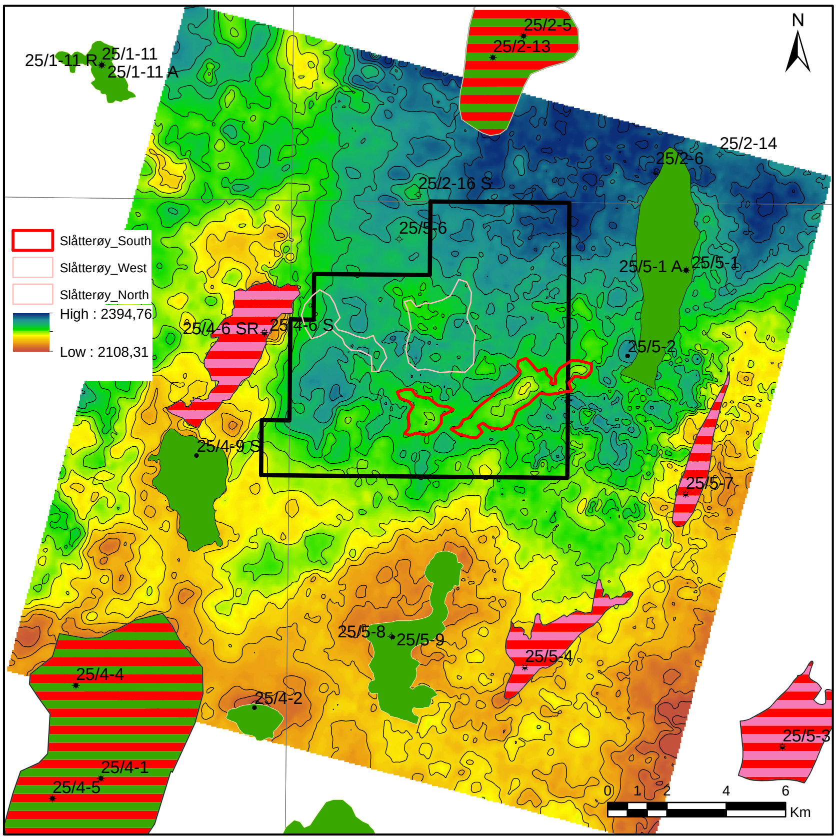

Fig. 3.5 Top Heimdal (T55) depth map. *Depth conversion of the T55 Heimdal interpretation.*

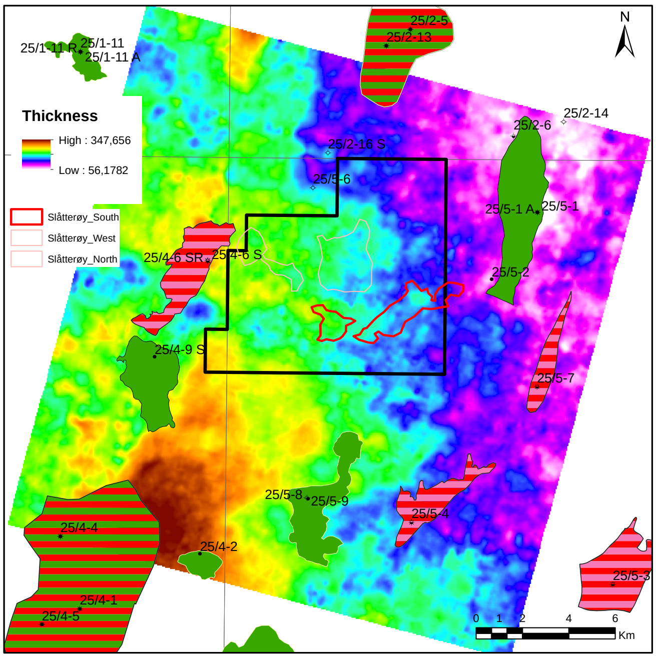

Fig. 3.6 Lista formation thickness map. *Thickness map between the T60 Heimdal interpretation and the top Våle interpretation.*

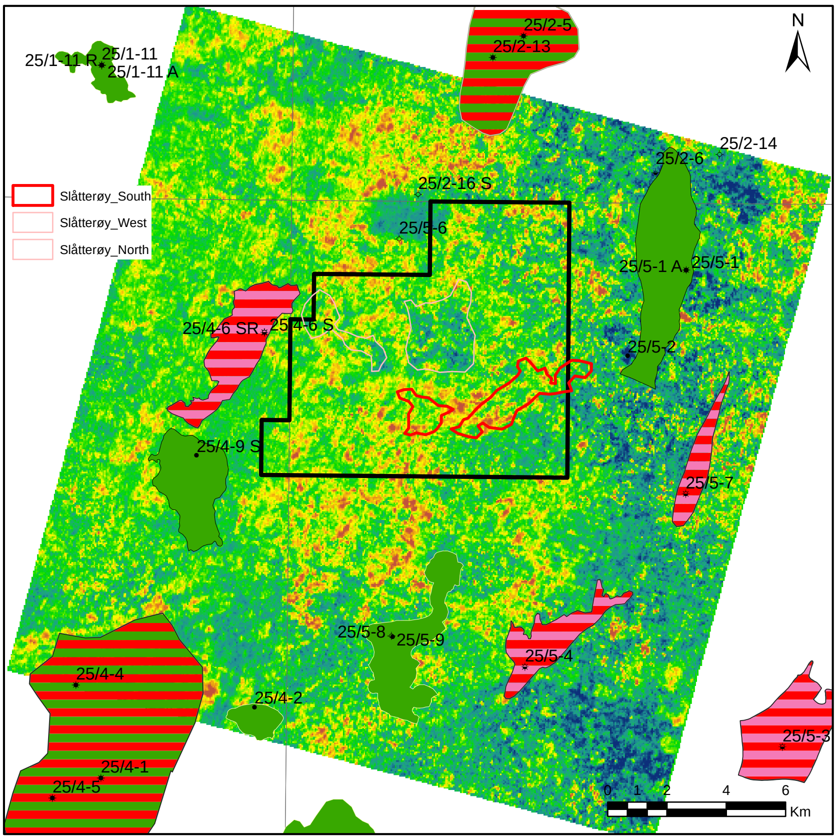

Fig. 3.7 Lista sand probability map. *Attribute extraction from the sand probability cube.*

Depth conversion

In order to depth convert the time surfaces, a velocity model was generated based on adjusted check shot data. Due to the relative high density of well control around the prospects, the use of seismic velocities gave only minor differences. The check shots were adjusted based on synthetic gathers, real seismic and well tops from the biostratigraphy study.

Based on observations from the check shots and the sonic logs, velocity zones were generated between the Seabed, Balder tuff, Heimdal T55, Top Shetland and BCU. Some differences are observed on the depth converted surfaces, compared to time surfaces. The Trell discovery (25/5-9) is relatively "lifted up" which explains the discovery and the 4-way closure. The two Hermod prospects (Slåtterøy North and West) are not affected by any velocity effects. The Slåtterøy South (Heimdal) however, becomes a smaller closure in depth with a potential spill towards East and South. Fig. 3.5

Migration and maturation analysis

Migration into the Slåtterøy structures is a key risk. A migration study was performed to understand the oil accumulations in the Trell and Heimdal East discoveries and dry wells (e.g. Mon 25/5-6) in the area, and to evaluate the implications for migration into PL737S. Two main scenarios for maturation and migration into the Slåtterøy structures were evaluated: Migration from the Volve Basin in the West and/or from the Heimdal Terrace sub-basin directly below PL737S. The main findings may be summarized as follows.

Migration from the Volve Basin is unlikely as the Paleocene closure on the Vale structure is water wet. The Vale, Mon (25/5-6) and Slåtterøy closures are closely linked, i.e. spill from the Paleocene closure on Vale would migrate into Mon and Slåtterøy. Interpretation indicates that a catchment barrier exists South of the Vale Field.

Paleostructure maps indicate that migration routes have shifted since Eocene-Miocene due to several episodes of uplift and erosion. The Trell and Heimdal East discoveries south of the license are not dependent on vertical migration from the Heimdal Terrace, but could have received hydrocarbons from the Volve Basin via Vilje from Mid-Oligocene time. In the case of vertical migration from the Heimdal Terrace into PL737S, the migration study shows that filling of the Slåtterøy and Mon structures is closely linked. During the Oligocene and Miocene, spill from the Slåtterøy structures could have migrated south into Trell and Heimdal East without filling Mon, whereas the present structure map and expulsion rates indicate that if the Slåtterøy structures were filled, then the Mon structures should also be filled. Migration into the Slåtterøy prospects without filling the Mon prospect is therefore unlikely, and very sensitive to charge volumes and vertical migration points.

Simultaneous inversion

Angle stacks ranging from 5 to 40 degrees was used for the seismic reservoir characterization study. The wavelet was estimated from tying logs to the various stacks resulting in a symmetric type with positive main lobe. The well log information used was from the external study by RSI described in section 3.2 Special studies. The simultaneous inversion (Ikon software), Vp, Vs and rho method (Aki and Richards inversion) was used to produce the basic output rock properties: P-impedance and Poisson's ratio.

A major challenge for this study was differences in the background trend of input logs which influence the final classification. The Top Balder formation marks the depth where diagenesis starts. This marker separates the softer overburden sediments, possibly glauconite (green sand) or a disperse unconsolidated sandy shale mix from harder consolidated rocks below.

In order to interpret the inversion results, a combination of the output properties to one lithology indicator cube was generated, which basically is a P-Impedance distance to the vcl=50% curve. This cube highlights both non-reservoir rocks as positive values and quartz rich rocks, both wet and HC saturated, as negative values. The Vilje discovery was clearly highlighted with the sand probability cube. The indicator also highlights the 3 prospects, however, the attribute values are not significantly more negative inside the prospects than outside the prospects. The conclusiveness about the fluid content from the inversion results is therefor uncertain. Profiles through the prospects are displayed in 4.2 Prospect update.

As a guide to the porosity trend population in the 3D geomodel, a sand probability trend was created based on the lithology indicator. The transform used was of sigmoid type so that the indicator values were smoothly interpolated in between a minimum value of 10 % to a maximum value of 90 %. In this manner the resulting sand probability trend cube leaves a weak imprint on the resulting simulated porosity results.

Geomodel

A 3D structural- and property model was generated to integrate seismic analysis and make a more realistic reservoir model and volume calculations. The following seismic horizons in depth were included in the structural model: Top Balder Tuff, Top T80, Top T75, Top T60, Top T55, Top T50, Top Våle and Top Shetland. In addition, two isochores were calculated (Top T70 and Top T65) and inserted to the model. The internal layer thickness was set between 1 and 2 meter to best fit the well log data (and number of total gridcells).

The input to the property model were well logs (CPI's) from 7 different wells (upscaled to the structural grid, cell thickness ~ 2m) and the Lithology Indicator cube (resampled and normalized to a sand probability cube, 0,1) The property model calculated (Gaussian simulation) an effective porosity and a net to gross parameter, both constrained to the sand probability cube. These reservoir parameter were input to the volume calculations. A Gaussian simulated PHIE and NG parameters were also calculated using only upscaled well logs, to compare with the parameters constrained to the sand probability cube.

3.2 Special studies

Biostratigraphy by PetroStrat
"A Biostratigraphic and Litostratigraphic Review and Analytical Study of the Earliest Eocene and Paleocene Rogaland Group Intervals from Wells in and around Block 25/5 (PL737), Norwegian South Viking Graben" - Report No. PS14-048

The regional stratigraphic review study conducted for the project focused on the earliest Eocene and Paleocene successions (with special emphasis on the Hermod and Heimdal Sandstones) from Norwegian Quads 24 and 25 in the South Vicking Graben, and was based on the review of vintage data available for 28 wells and new biostratigraphic analysis of 9 wells.

Phase 1 was aimed to build a regional set of correlations using all the available biostratigraphic vintage data, which was collated and populated in to a database.

Phase 2 involved sampling of 9 wells at the NPD facilities, all the palynological and micropalaeontological analyses, and the integration and interpretation of all the data.

Petrophysical and rockphysics by RSI
Rock Solid Images performed analysis on 6 selected wells. The aim of the study was to perform a geophysical well log analysis (GWLA) in the study area in order to understand the relationship between petrophysical and elastic rock properties at the reservoir level. The study included 3 phases:

Geophysical well log analysis and rock physics diagnostics: well log conditioning and volumetric estimation.

Rock Physics Modeling: perturbational modeling considering different fluid scenarios: 100% brine, 80% oil and 80% gas.

Rock Physics Templates were generated for the main target levels of each well, where pore fluid saturation, porosity and mineralogy were considered in relationship with PR vs. AI plots.

Table 3.2: Wells included in study by RSI

Well	Discovery (Reservoir)
25/2-6	Oil (Hugin Fm)
25/4-6S	Gas (Heimdal Fm)
25/5-2	Oil (Hugin Fm)
25/5-4	Gas (Hugin Fm)
25/5-7	Gas (Grent Gr)
25/5-9	Oil (Heimdal Fm)

4 Prospect update

4.1 Prospectivity applied for

The reservoirs of the Slåtterøy prospects are all Paleocene submarine fans / turbudite deposits, sourced from the East Shetland platform to the west. The main focus in the license work was to separate reservoir quality sandstones from the Lista and Sele formations shale. All three prospects are 4-way closures with uncertainties concerning top seal and thief sands. The Vilje/Vale ridge to the west can act as a HC migration barrier into the prospects, hence a maturation and migration study was carried out as part of the license work.

In the applications, the total POS for the Slåtterøy South prospect (Heimdal Fm) was estimated to 30%. The Slåtterøy North and West prospects (Hermod Fm) were estimated to 33% and 29%.

The work program in the license award was to re-process 3D seismic data and conduct relevant geological and geophysical studies within 2 years.

4.2 Prospect update

The technical work performed for PL737S in the period from the license award until today has been described in Section 3 Review of geological framework. The volume estimates and risk assessments from this work are described in sections 4.3 Prospect volumes and 4.4 Prospect probabilities, respectively.

The re-processed seismic cube (EL9201DAM14) has resulted in an improved understanding and increased confidence in the lateral interpretation of the different depositional systems and phases. Together with the biostratigraphy report, the interpretation was linked to the related framework and depositional phases could be differentiated.

The Slåtterøy North prospect in the Hermod formation has the highest volume potential and the lowest risk compared to the other two Slåtterøy prospects. The sand probability cube indicate good reservoir qualities, with lateral continuity to the 25/5-6 well (Mon) to the North Fig. 4.1. Migration into the structure and possible thief sand in the Frigg formation is regarded as the main risks.

The Slåtterøy West prospect (Hermod formation) is also believed to contain good reservoir sandstone within the structure. The Hermod reservoir formation however, is juxtaposed to the water wet Heimdal formation in the Vale structure (25/4-6S), and is dependent on a sealing fault in between. The main risk is sealing failure, by leakage into the Vale structure and the Frigg formation above, in addition to the troublesome migration route into the structure. See figure Fig. 4.2

The Slåtterøy South prospect in the Heimdal formation has become a smaller 4-way dip closure after the detail interpretation and depth conversion. The presence of Heimdal reservoir sand in the prospect is regarded as very likely, even though the location of the prospect is in the pinch-out area of the depositional systems. According to the inversion products the Hermod formation is deposited above the Heimdal prospect and the top seal issue is addressed in the risking procedure. The figure Fig. 4.3 shows both a full stack and a sand probability section through the Slåtterøy South prospect.

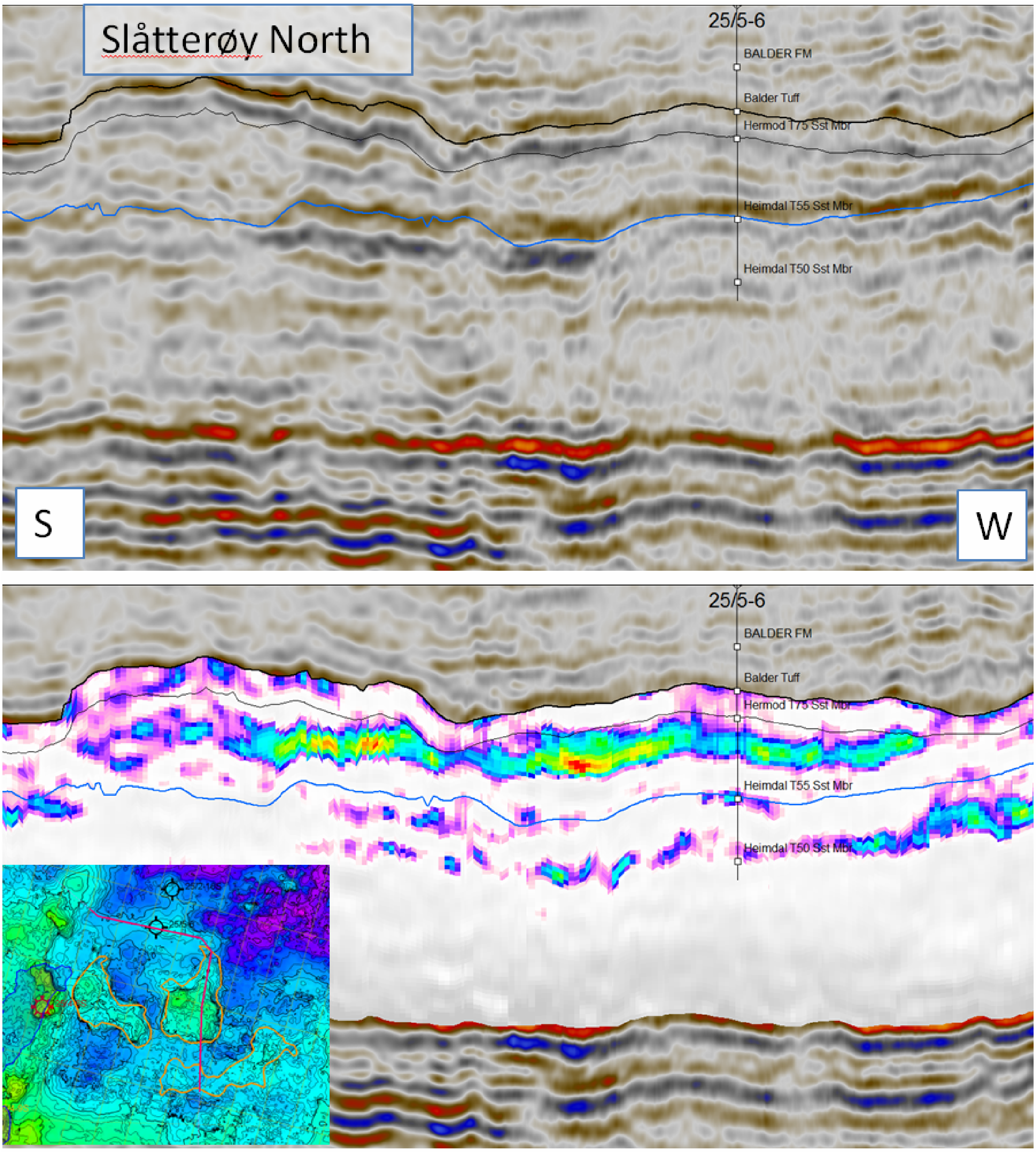

Fig. 4.1 Slåtterøy North. *Seismic and sand probability section through the Slåtterøy North prospect*

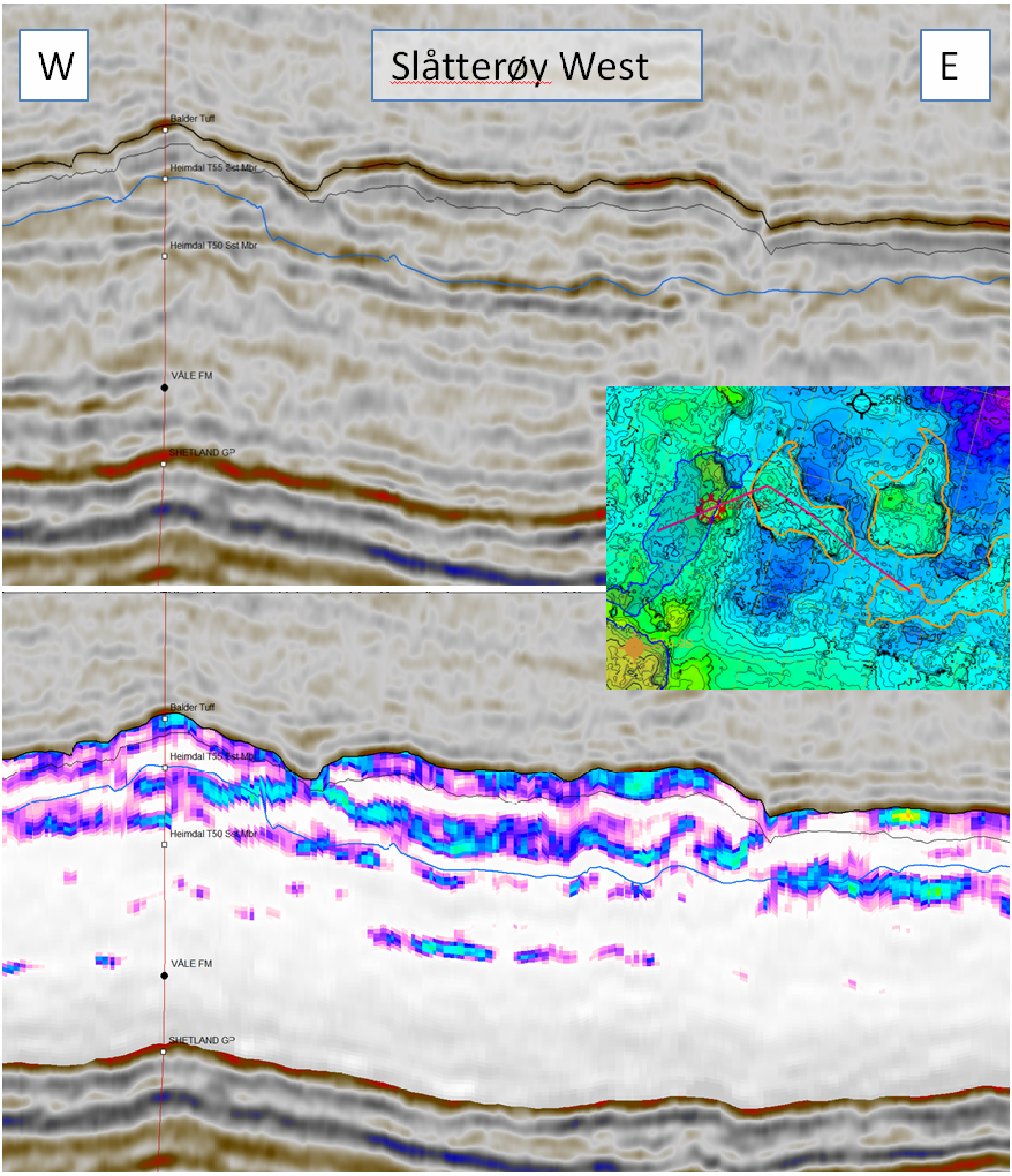

Fig. 4.2 Slåtterøy West. *Seismic and sand probability section through the Slåtterøy West prospect*

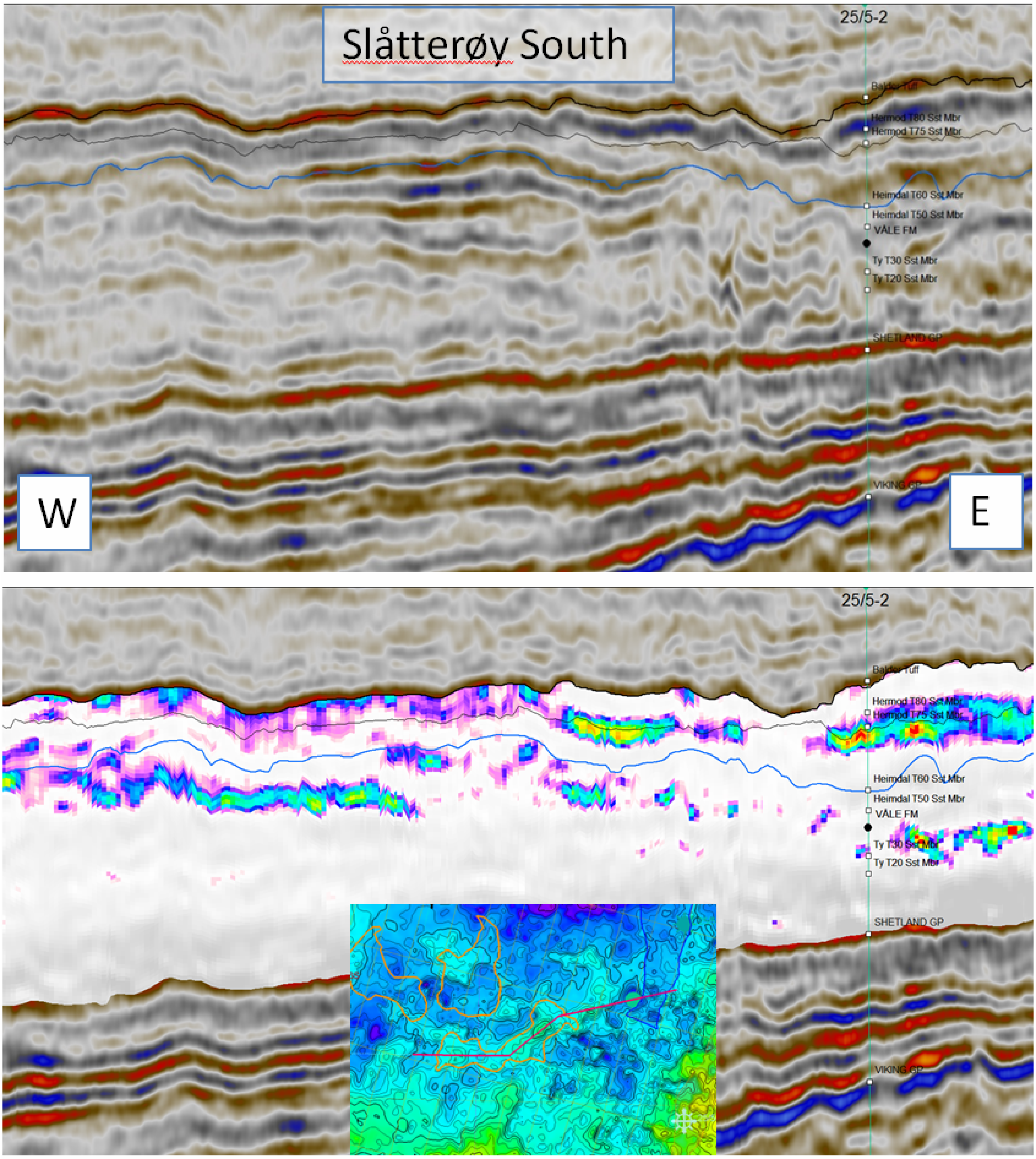

Fig. 4.3 Slåtterøy South. *Seismic and sand probability section through the Slåtterøy South prospect*

4.3 Prospect volumes

The total base case oil in place resources from the APA 2013 applications for all three prospects were $22.1*10^6 Sm^3$.

Based on the work described in Section 3 Review of geological framework, updated volumes have been calculated. See Table 4.2. Parameters used in the volume calculation are listed in Table 4.1.

Table 4.1: Volume parameters (Most likely)

Parameters/reservoir level	Slåtterøy North Hermod (most likely)	Slåtterøy West Hermod (most likely)	Slåtterøy South Heimdal (most likely)
GRV ($10^6 m^3$)	232.75	23.3	69.19
NTG	0.6	0.6	0.6
Porosity	0.23	0.23	0.19
So	0.7	0.7	0.7
Bo	1.13	1.13	1.13
Recovery factor	0.45	0.45	0.45

Table 4.2: Prospect Volumes (Most likely)

	Updated Most likely volumes 01.11.2015		APA 2013	
Prospect	Oil in place ($10^6 Sm^3$)	Recoverables ($10^6 Sm^3$)	Oil in place ($10^6 Sm^3$)	Recoverables ($10^6 Sm^3$)
Slåtterøy North (Hermod Fm)	19.9	9.0	24.7	11.1
Slåtterøy West (Hermod Fm)	2.0	0.9	13.1	5.9
Slåtterøy South (Heimdal Fm)	4.9	2.2	11.28	5.1

4.4 Prospect probabilities

Based on the work performed as described in Section 3 Review of geological framework the following risk assessments have been calculated.

Slåtterøy South (Heimdal formation)

Table 4.3: Prospect risk Slåtterøy South Heimdal Fm

Risk element		Risk factor	
Trap	Presence (geometry) Effectiveness (seal) Retention	0.8 0.4 1.0	0.32
Reservoir	Presence Effectiveness (quality)	1.0 0.9	0.90
Source	Presence Effectiveness - migration	1.0 0.4	0.40
Total risk		**0.12**	

Trap Presence, Trap Effectiveness & Retention (0.32)

Structural trap with 4-way closure defined on good quality 3D seismic data. High risk of vertical leakage into younger Hermod formation strata above. AVO analysis of the prospect indicates no presence of HC.

Reservoir Presence & Reservoir Effectiveness (0.90)

The Heimdal formation turbudite deposits are evident in surrounding wells, and lithology cubes from the seismic inversion indicates reservoir sandstone in the prospect.

Source Presence & Source Effectiveness (0.40)

The Upper Jurassic Draupne formation is present and proven to work in the area. The migration into the prospect is troublesome with the local Vale structure to the west of the Slåtterøy South prospect. The Vale discovery well was dry for the Paleocene reservoirs.

Total risk: Pg 0.12

Slåtterøy West (Hermod formation)

Table 4.4: Prospect risk Slåtterøy West Hermod Fm

Risk element		Risk factor	
Trap	Presence (geometry) Effectiveness (seal) Retention	0.8 0.4 1.0	0.32
Reservoir	Presence Effectiveness (quality)	1.0 0.9	0.90
Source	Presence Effectiveness - migration	1.0 0.4	0.40
Total risk		**0.12**	

Trap Presence, Trap Effectiveness & Retention (0.32)

Structural trap with 4-way closure defined on good quality 3D seismic data. The Hermod reservoir is juxtaposed to the Heimdal formation towards west (Vale), which was dry in the Heimdal formation. The younger Odin sand stone member (intra Draupne) above might degrade the top seal.

Reservoir Presence & Reservoir Effectiveness (0.90)

The Hermod formation turbudite deposits are evident in surrounding wells, and lithology cubes from the seismic inversion indicates reservoir sandstone in the prospect.

Source Presence & Source Effectiveness (0.40)

The Upper Jurassic Draupne formation is present and proven to work in the area. The migration into the prospect is troublesome with the local Vale structure to the West of the Slåtterøy West prospect. The Mon (25/5-6) well was dry for the Hermod formation reservoir.

Total risk: Pg 0.12

Slåtterøy North (Hermod formation)

Table 4.5: Prospect risk Slåtterøy North Hermod Fm

Risk element		Risk factor	
Trap	Presence (geometry) Effectiveness (seal) Retention	1.0 0.5 1.0	0.50
Reservoir	Presence Effectiveness (quality)	1.0 0.9	0.90
Source	Presence Effectiveness - migration	1.0 0.4	0.40
Total risk		**0.18**	

Trap Presence, Trap Effectiveness & Retention (0.50)

Structural trap with 4-way closure defined on good quality 3D seismic data. Possible top seal leakage into the younger Odin sand stone member above.

Reservoir Presence & Reservoir Effectiveness (0.90)

The Hermod formation turbudite deposits are evident in surrounding wells, and lithology cubes from the seismic inversion indicates reservoir sandstone in the prospect.

Source Presence & Source Effectiveness (0.40)

The Upper Jurassic Draupne formation is present and proven to work in the area. The migration into the prospect is troublesome with the local Vale structure to the west of the Slåtterøy South prospect. The Mon (25/5-6) well was dry for the Hermod formation reservoirs.

Total risk: Pg 0.18

5 Evaluations and conclusions

5.1 Technical evaluations

A new technical and economic evaluation of the Slåtterøy prospects were not considered, other than the work performed in relation with the application. The geological and geophysical work performed in the license have concluded that the volume potential in combination with the geological risk is not regarded as commercial. From these conclusions, the Management Committee does not recommend to drill a well in PL737S.

5.2 Conclusion

Based on results from the studies conducted during the first initial phase of the work program as described in this report, the majority in the Management Committee concluded that the potential and chance of commercial success is limited within PL737S. The license partner Concedo voted for an application to extend the license period. As the only partner in the PL737S license, Concedo have licensed an EM survey which they wanted to finalize before the final DoD decision. An application for a license extension was not supported by the majority of the license group. Consequently, the chairman of the MC submitted a letter to the MPE 12th of January 2016 to inform that the partnership would like to relinquish the license.