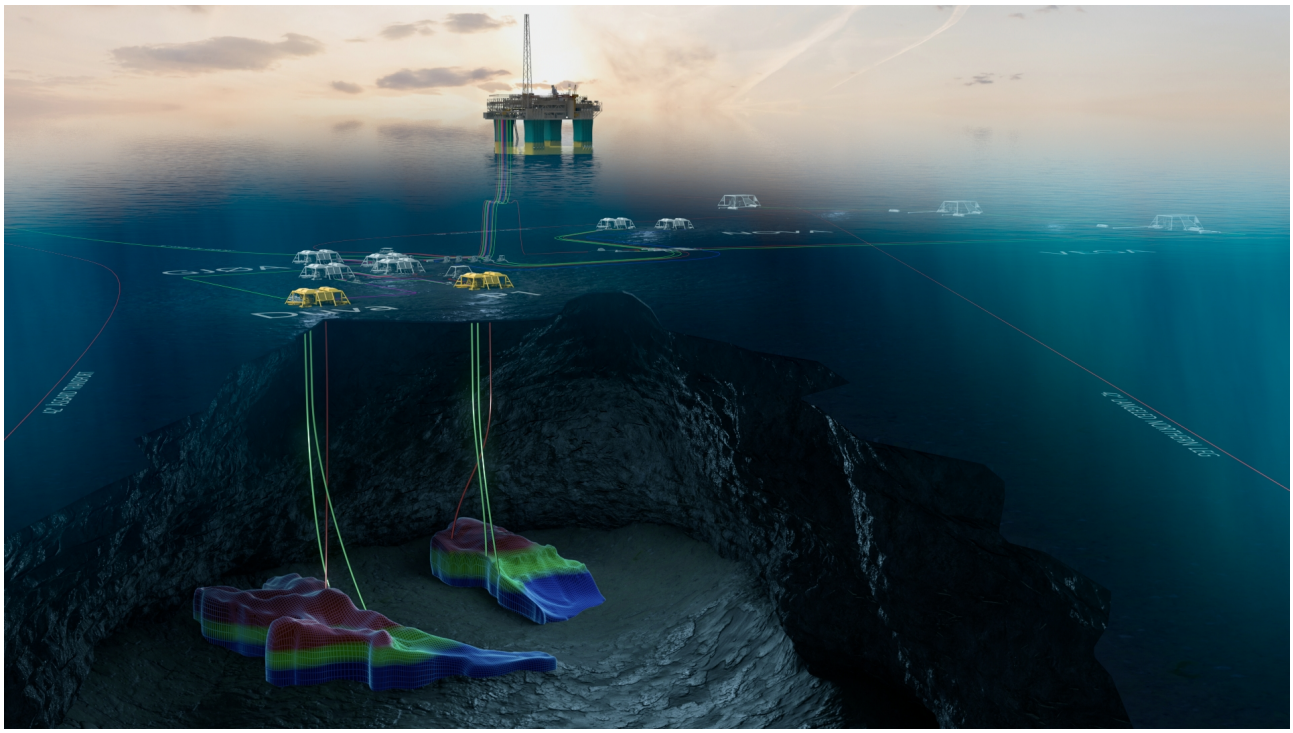
NEPTUNE ENERGY



PL 1063 - Relinquishment report

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1 History of the production licence

PL1063 is located on the Halten Terrace 14km East of the Heidrun Field, covering parts of Block 6507/8 (Figure 1.1).

License PL1063 was awarded March 12th 2020 to a license group consisting of Neptune Energy Norge AS (operator, 60%) and Wellesley Petroleum AS (40% equity). The 2019 Awards in Predefine Areas (APA 2019) application was delivered by Neptune Energy on behalf of an area of mutual interest (AMI) group consisting of the two companies.

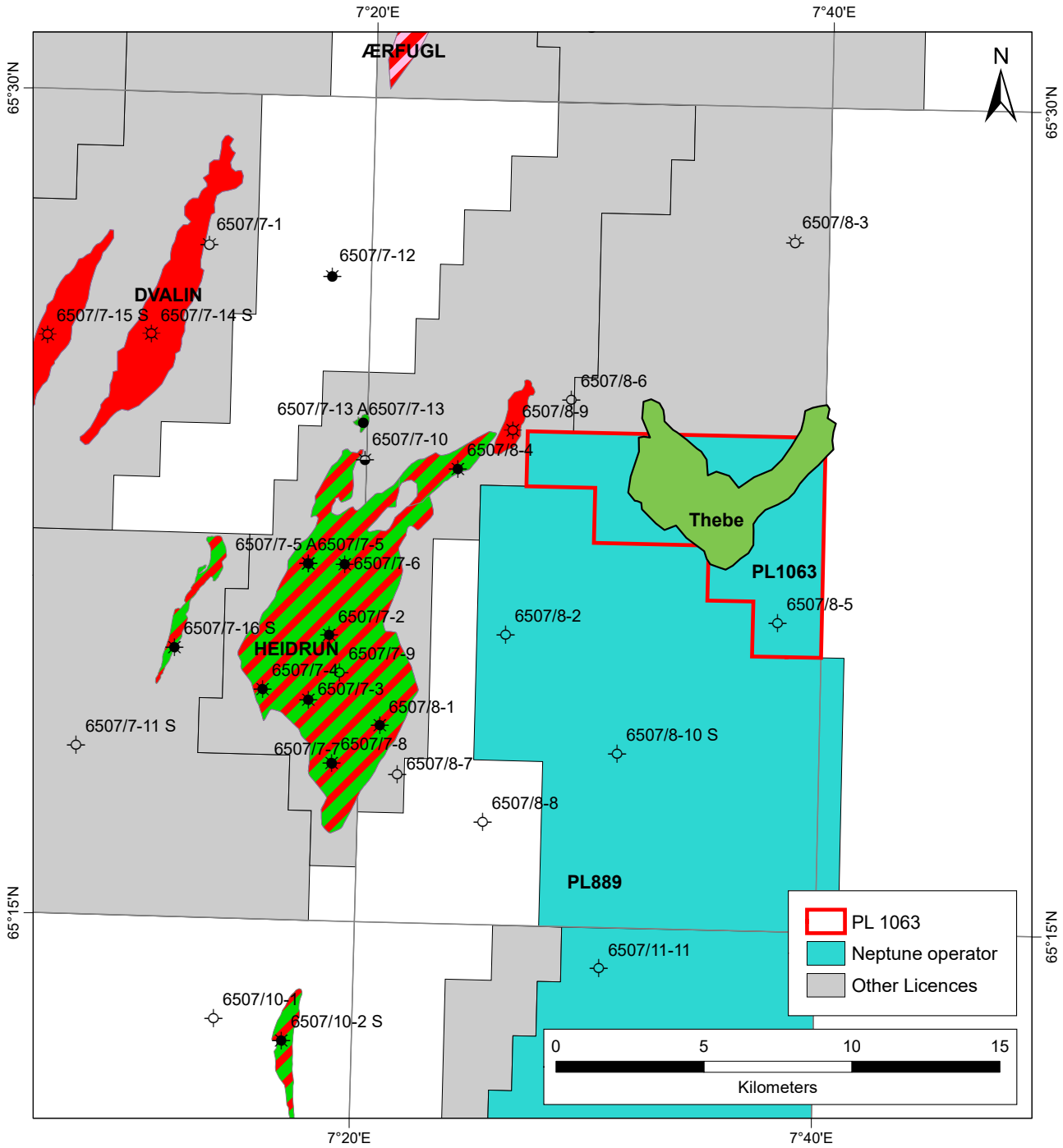

Figure 1.1 Area map with PL1063 license outlined in red. The Thebe prospect is indicated in green

General License Information

Table 1.1 Key license information

PL1063	
Awarded	12.03.2020
DoD (Drill and Drop)	12.03.2022
License period	Expires 12.03.2027
License area	44.676 km² in Block 6507/8

Work Programme

The initial license period was seven years valid until 12th of March 2027 and the work obligations were as follows:

- Within 2 years from award (12th March 2020):
  - Reprocess 3D seismic
  - Preform relevant geological and geophysical studies
  - Decision to drill an exploration well or surrender the license
- Within 4 years from award, Decision to Concretize (BOK) or surrender the license
- Within 6 years from award, perform conceptual studies and Decision to Continue (BOV) or surrender the license
- Within 7 years from award, prepare development plan and decide to submit PDO or surrender the license

The work obligations for the first two years work period are fulfilled. PGS 18M01/HVG2011 3D seismic covering the license area has been reprocessed and relevant geological and geophysical studies were carried out.

Table 1.2 Status Work Programme

Work Programme Items	Status
Technical G&G work	Fulfilled
Re-process PGS MC3D-HVG2011 and PGS18M01	Fulfilled
Assessment of license prospectivity	Fulfilled

License Meetings

During the life of the license, a number of meetings took place and were documented in License2Share (L2S).

Table 1.3 License meeting overview

Date	Management Committee Meeting	Exploration Committee Meeting
April 16th 2020	MC #1	EC #1
June 24th 2020		WM #1
November 26th 2020	MC#2	EC#2

Reason for Surrendering

The license area was applied for in order to establish a new core area for the partners in the license in case of a success in the Grind well (6507/8-10S).

The main risks for the prospectivity in the license are long distance migration and reservoir presence in Lower Paleogene-Cretaceous interval. No hydrocarbons were detected in well 6507/8-10S which TD'ed 24.04.2020, nor any sands in the interval of interest. Following the well results the Thebe Prospect were downgraded with increased risk of the Thebe Prospect with respect to migration as the required migration route was though the Grind structure.

The Thebe Prospect is no longer seen as a drillable candidate by the partnership and the conclusion of drop the license area was unanimously decided on as the work programme has been fulfilled.

2 Database overviews

The PL1063 license common database was approved after ECMC meeting #1.

2.1 Seismic data

Approximately 300km² of PGS18M01/HVG2011 covering the entire license and surrounding area was agreed on as a part of the common seismic database shown in Figure 2.1 and listed inTable 2.1.

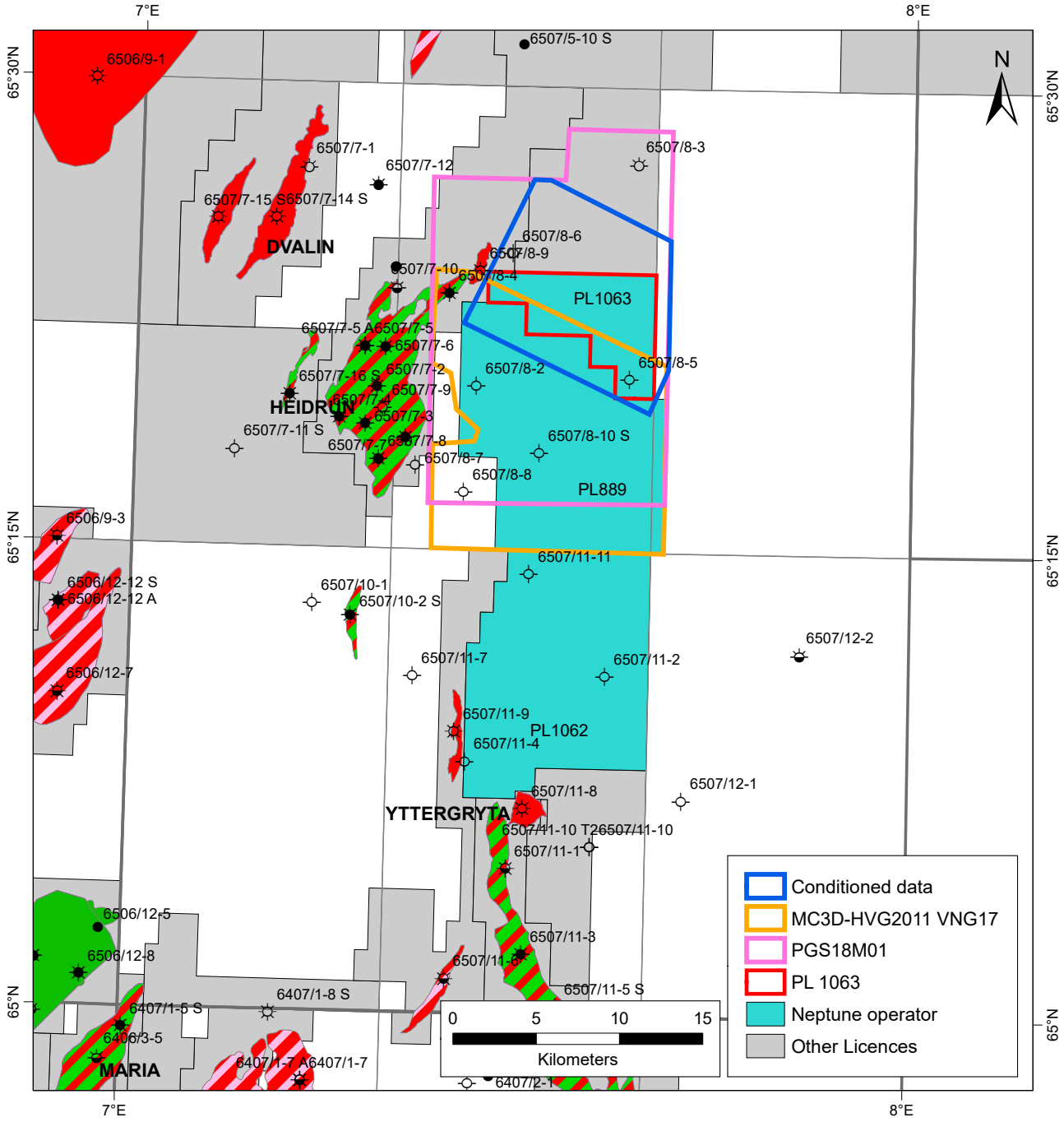

Figure 2.1 PL1063 Seismic common database map

Table 2.1 Seismic database

Seismic survey	NPDID	Type	Quality
PGS MC3D HVG2011 (parts)	7379	3D	Good
PGS 18M01 (parts)		3D	Good
HVG2011VNGR17		3D	Good

2.2 Well data

The common well database includes all released wells in the area (Table 2.2), and the recently drilled Grind well (6507/8-10S), which both partners in PL1063 were partners in. The key wells used for the prospect evaluation are highlighted in Figure 2.2 .

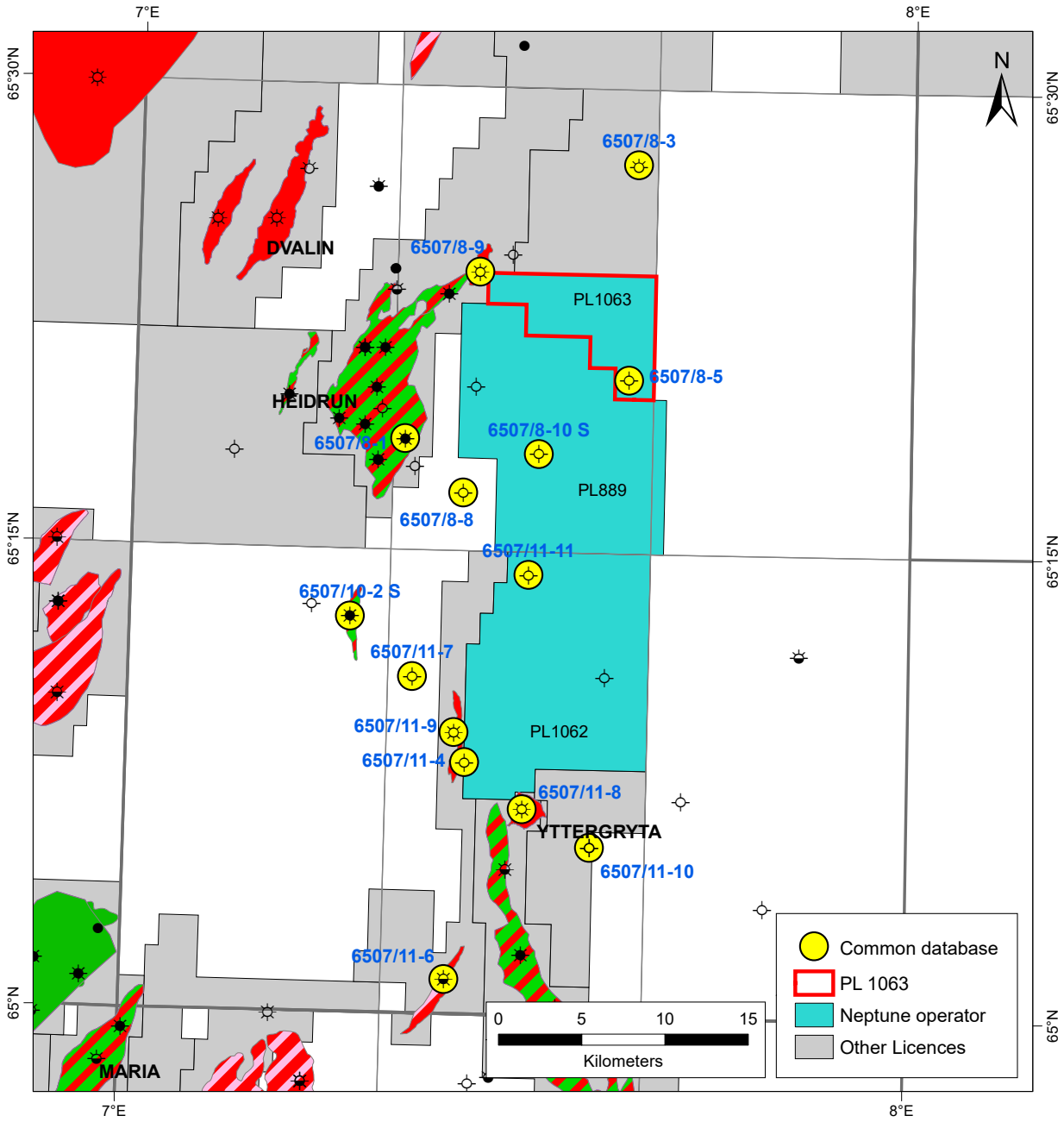

Figure 2.2 PL1063 Common well database
Wells in the common database are marked yellow

Table 2.2 Common Well database

Well Name	NPDID	Purpose (Bio=Biostrat, R=Rock Physics, FIS=Fluid inclusion, G=Geology
6507/10-2S (Novus)	7300	G
6507/11-4	1055	FIS, G
6507/11-6 (Colette/Sigrid)	4321	G
6507/11-7 (Zita)	5430	G
6507/11-8 (Yttergryta)	5562	FIS, G
6507/11-9 (Natalie)	5766	FIS, G
6507/11-10 (Frusalen)	6122	G
6507/11-11 (Zumba)	7697	G
6507/8-3 (Alpha)	1309	Bio, G
6507/8-5	1749	Bio, R, G
6507/8-8 (Ronaldo)	6538	R, G
6507/8-9 (Heidrun North)	8218	Bio, G
6507/8-10S (Grind)	8991	Bio, R, G

3 Results of geological and geophysical studies

A number of G&G studies were undertaken up until the autumn of 2020. Table 3.1 summarizes the license plans and G&G studies performed

Table 3.1 Summary of Work Programme Scope and outcome

Action	Comments	Outcome
Reprocessing/Seismic conditioning	Commitment. Reprocess the seismic MC3D-HVG2011VNGR17 if positive Grind outcome. Condition the seismic if negative Grind outcome	• Seismic was conditioned using Geoterric • Increased resolution • More segmented than previous interpreted • No indication of sand presence in the Thebe prospect
Rock physics and AVO modelling	Incorporate the Grind results to the PL889 Ikon study. Add additional 1-2 wells with focus on the Cret/Pal interval	• Grind well not applicable (no Paleocene/Cretaceous reservoir). Revised SDA indicates that Thebe AVO response is indicative of a shale
Fluid inclusion/Basin modelling	Incorporate results from the Grind well(s) and extend the basin modelling study to include PL1063	• Fluid inclusion on the PL889 Grind Well • Migration risk from Grinda Graben increased
Biostratigraphy	Evaluate nearby wells in order to identify missing sections and limit the age uncertainty of the Thebe reservoir. Integrate with seismic (seismic stratigraphy)	• No Cretaceous sands were encountered in the Grind well. • Supported by Biostrat on the Grind well
Seismic interpretation	Optimise and extend the interpretations from PL889 to be used in the Basin modelling and reprocessing. Prospect specific mapping	• Geoterric improved the definition of Thebe prospect, however the prospect is more segmented with small scale faulting and potentially shales separating the “lobes”
Prospect assessment	Interpretation of new data and incorporate the knowledge gained from studies towards a DoD in 2022	• Higher risk and reduced volume potential due to segmentation

3.1 Seismic Conditioning

The objectives were to perform data conditioning and investigation into vertical extent of reservoir interval.

Five workflows were run to achieve these objectives:

- Noise cancellation
- Spectral Enhancement
- Standard and High Definition Frequency Decomposition (HDFD)
- Fault expression

These workflows were performed on target zone of interest.

The noise cancellation reduced the amount of noise in the data and at the same time preserved the subtle edges.

The spectral enhancement was a much more targeted workflow, optimised for the Top to Base Paleocene interval. It did improve the vertical resolution within the interval of interest.

The fault imaging workflow using Fault Expression was effective in delineating both large and small scale faults.

The stratigraphic workflow primarily composed of Frequency Decomposition. The HDFD preserving the vertical resolution also did reveal bright anomalies.

The main results of improved seismic resolution, that allowed detailed geophysical interpretation, can be summarized:

- Thebe can be divided into several lobes that are not connected. Increasing the risk for lateral and vertical segmentation
- Small scale faulting and late reactivation. Increasing the risk for further segmentation
- No intra Palaeocene geometries that could indicate sand presence within the prospect outline
- Detailed mapping along the NE pinch-out “opening” up the structure and a shallower contact should be used in the volumetric calculation
- Reduced thickness of the potential reservoir section due to increased lateral and vertical resolution

Figure 3.1 illustrates improved fault imaging on an arbitrary line over Thebe prospect.

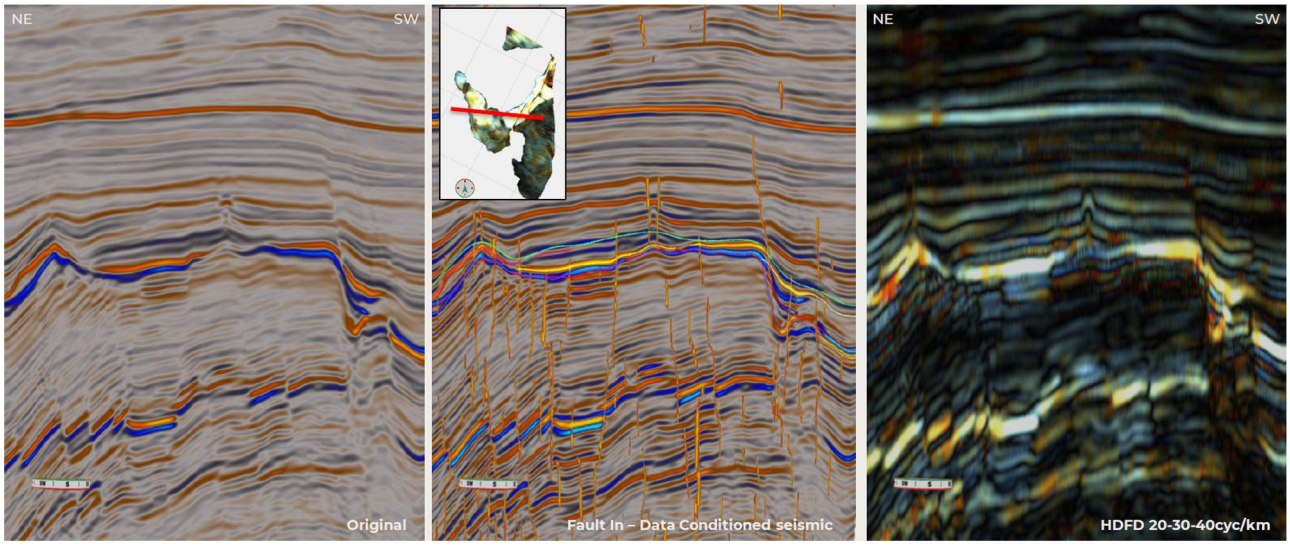

Figure 3.1 Improved Fault imaging - Arbitrary line over Thebe

3.2 Rock physics and AVO

Fluid substitution modelling and synthetic seismogram from well 6507/8-5 was performed (Figure 3.2). Modelling over the Jurassic reservoir shows a significant decrease in AI between brine saturated and hydrocarbon-bearing sandstones. The expected seismic response for the top of this reservoir interval is a relatively soft, negative reflector.

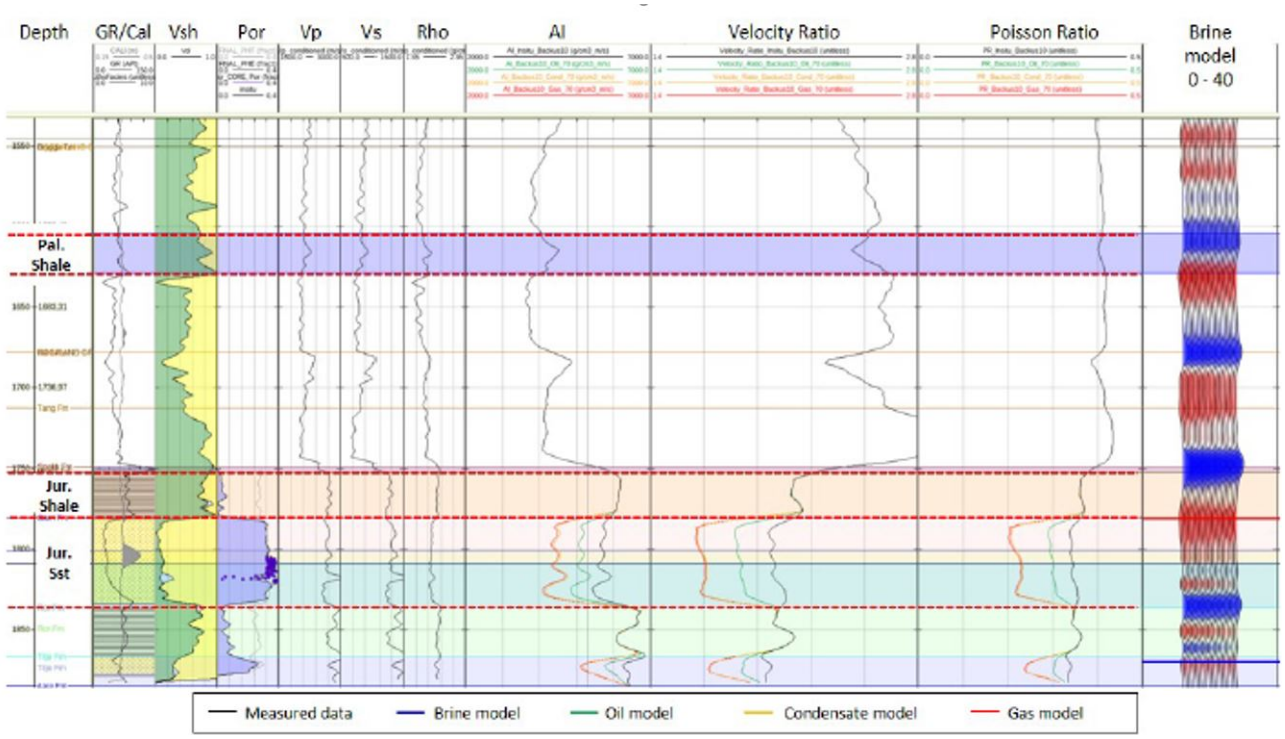

Figure 3.2 Fluid substitution modelling and synthetic seismogram from well 6507/8-5

AVO modelling was performed for an oilfilled re-deposited Garn sands with Cretaceous/Paleocene shales as cap rock and it does not support a class IV anomaly as observed on the seismic (Figure 3.3). Expected AVO for oil-filled sandstone is a class I anomaly. AVO modelling is indicating a typical shale response for Thebe.

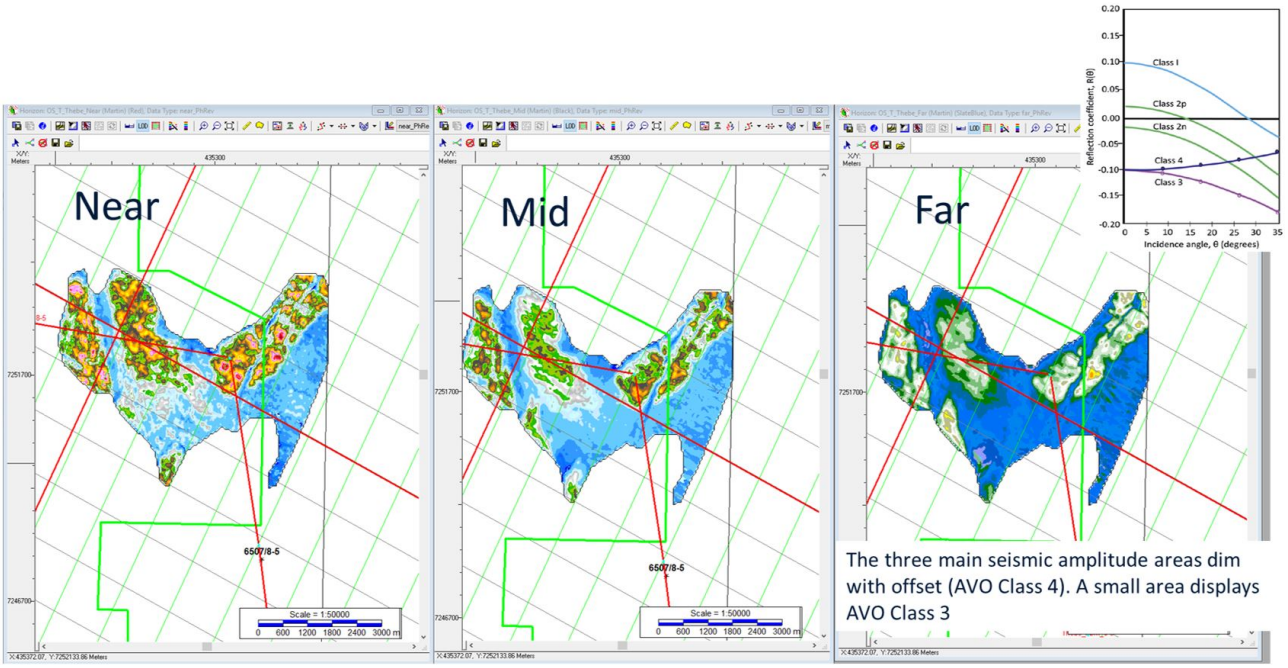

Figure 3.3 Amplitude response (near, mid, far – HVG2011)

3.3 Basin modeling

The basin modelling was performed when maturing the license during the APA 2019 process.

Fluid inclusion study was preformed on Grind well (6507/8-10S), where no FIS anomalies are detected in the penetrated Jurassic formations. The highest concentration of 'heavier' hydrocarbons is found immediately below and above BCU level. These hydrocarbons are interpreted to be locally generated.

The potential hydrocarbon migration path into the Thebe prospect was updated.

The risk of migrated hydrocarbon into Thebe is increased due to the long distance from a matured source rock (Speck Fm) associated with Grind well results. One of the potential migration paths to Thebe via Grind structure was discarded (Figure 3.4).

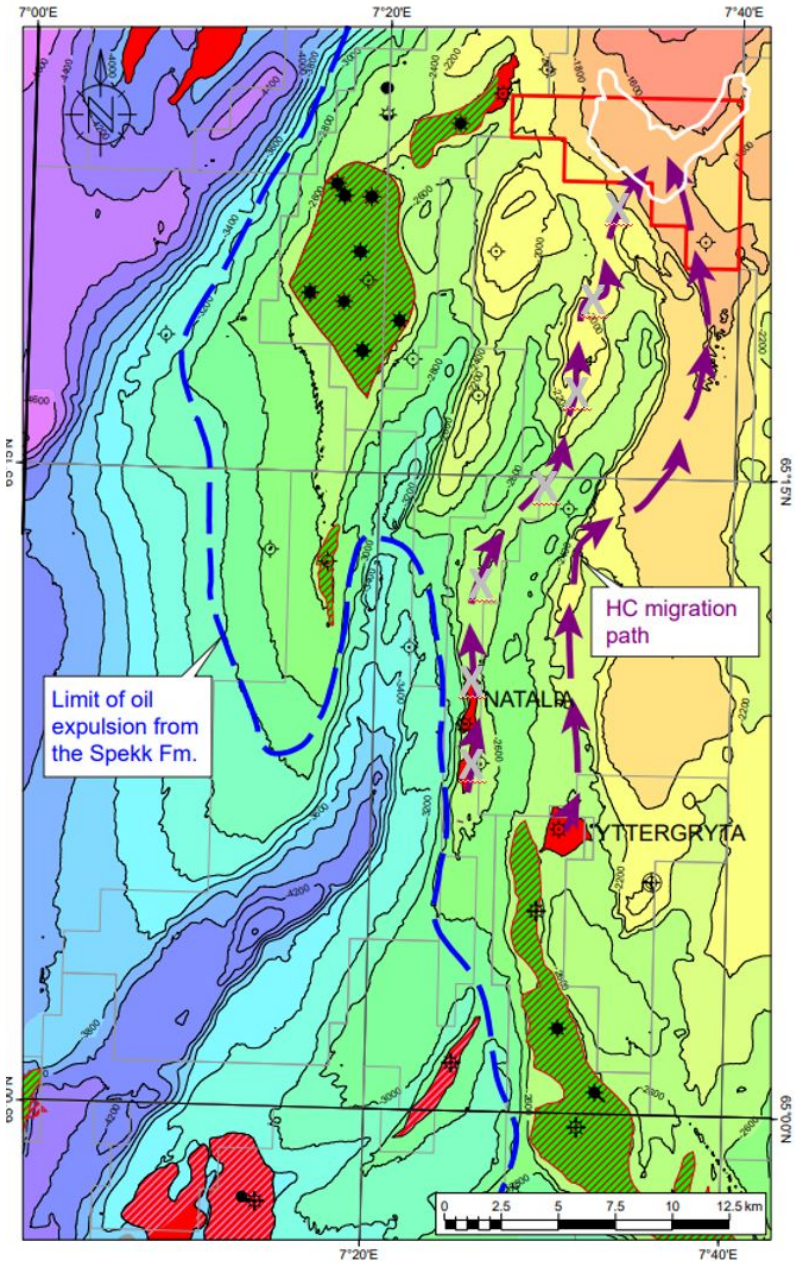

Figure 3.4 Hydrocarbon migration route into Thebe prospect
Modified from APA 2019 application

4 Prospect update report

The majority of exploration wells drilled in the Halten Terrace area have targeted the shallow marine deltaic reservoirs of the Fangst and Båt Groups. Based on the work performed in the neighbouring PL889 license (where both partners have ownership) it was realized that the Middle Jurassic Fangst Group sediments were eroded on the Sør High and redeposited locally during Cretaceous to Paleocene times on adjacent terraces. The Thebe Prospect as presented in the APA application was defined on 3D seismic with objectives in the lower Palaeocene Lower Cretaceous succession (Figure 4.1). It was recognised as a soft seismic anomaly observed on 3D seismic. A refinement of the interpretation from the APA application has been carried out on the newly reprocessed data, hence a minor update in the prospect outline and the volumetric and the risk (Figure 4.2).

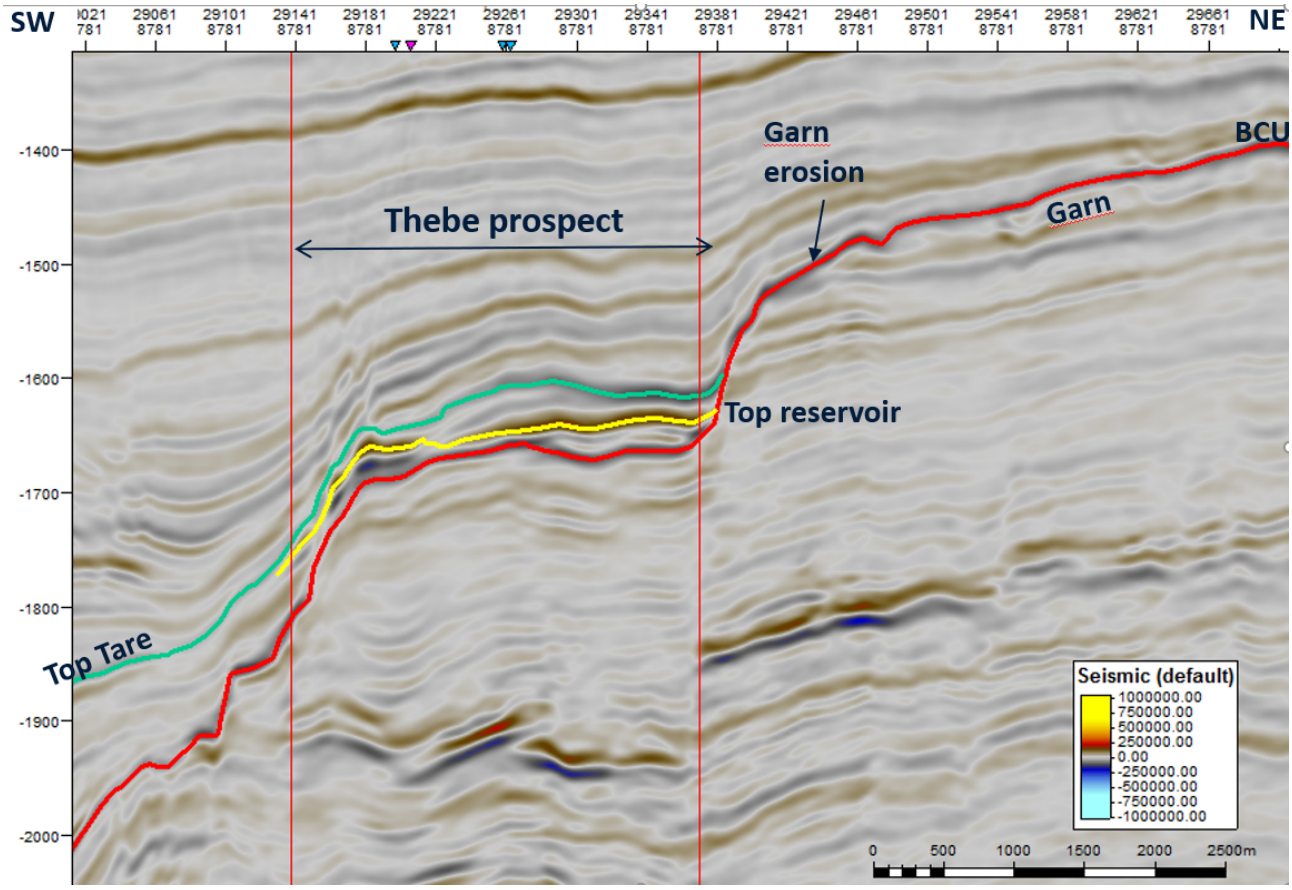

Figure 4.1 Regional cross section
Location of seismic line is indicated on the depth map Figure 4.2. Flat spot were mapped out and is now interpreted to be a geological onlap feature and not a result of HC presence

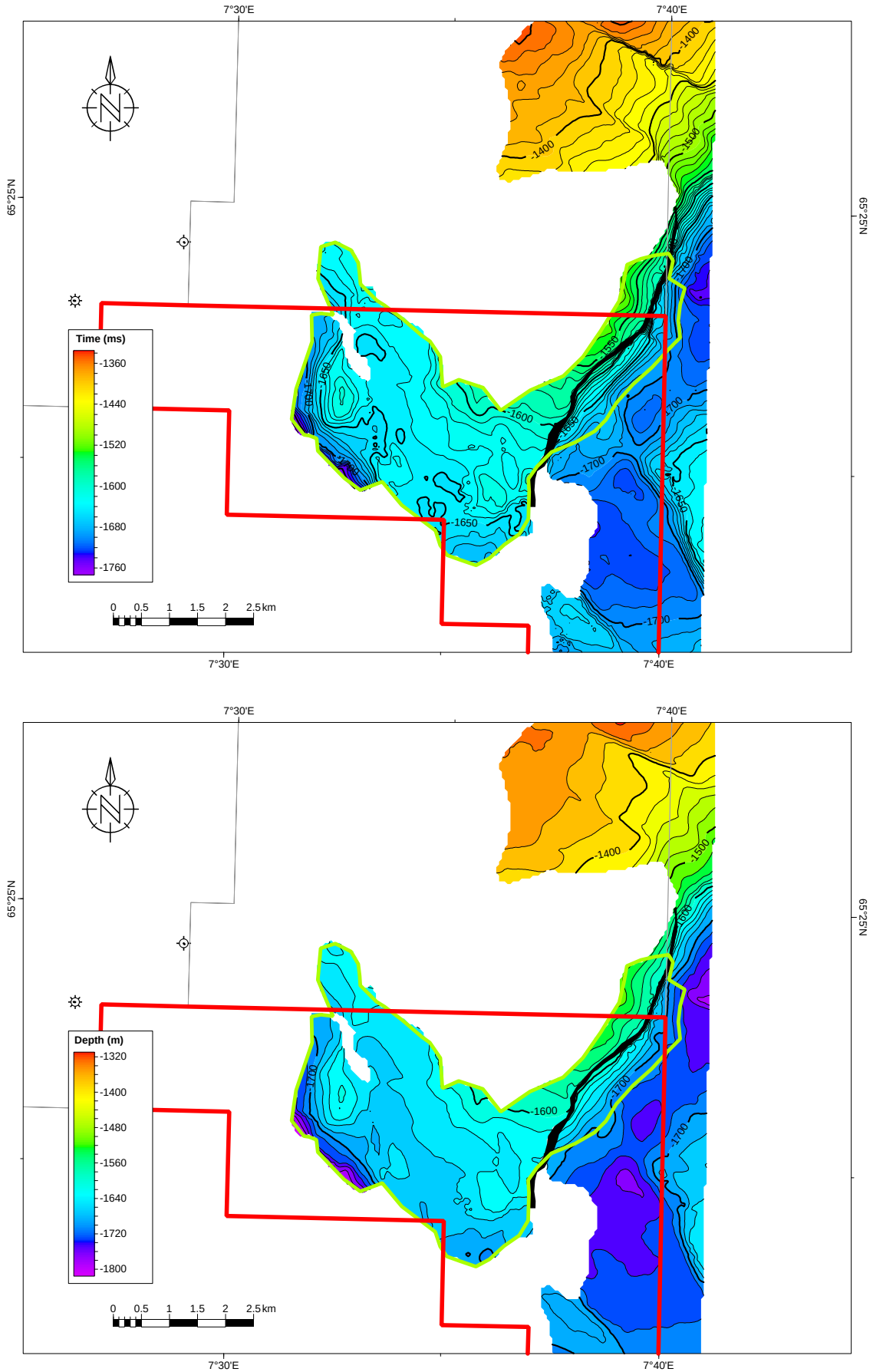

Figure 4.2 Top Reservoir Time and Depth Map

The key risks for the Thebe prospect at the time of application were long distance migration with the main migration route through the Grind structure (tested dry with the Grind well (6507/8-10S) and presence of reservoir in the target reservoir interval. The results of the Grind well has proven that the main migration route from the mature source rock area in the deeper part of the basin is not working. Alternative migration routes connecting the mature source and remaining traps are often difficult to access and being controlled by the presence or absence of sub-seismic carrier beds and subtle changes in the topography. This is the key exploration risk for the area decreasing the risk for charge from 40% to 30% at the prospect level.

The other risk factor for the prospect are the presence of re-deposited Middle Jurassic Garn Fm erosional products locally on the Thebe terrace. The play concept is not proven in the nearby wells and no sand were encountered in the Grind well at this level decreasing the reservoir risk from 80% to 50% on the prospect level.

The resulting PoS for Thebe has decreased from 11% to 6% with a recoverable volume range P10-P50-P90 for Paleocene/Cretaceous of 3.21-5.13-7.91 MMSm^3 listed in Table 4.1.

Table 4.1 Thebe Paleocene/Cretaceous NPD Table #5

Table 4: Discovery and Prospect data (Enclose map)

Block	6507/8	Prospect name	Thebe	Discovery/Prosp/Lead	Prospect	Prosp ID (or New!)	NPD will insert value	NPD approved (Y/N)	
Play name	NPD will insert value	New Play (Y/N)		Outside play (Y/N)					
Oil, Gas or O&G case:	Oil	Reported by company	Neptune	Reference document	APA 2019 Application for part of Block 6507/8			Assessment year	2019
This is case no.:	1 of 1	Structural element	Sør High	Type of trap	Strategraphic	Water depth [m MSL] (>0)	340	Seismic database (2D/3D)	3D
Resources IN PLACE and RECOVERABLE		**Main phase**				**Associated phase**			
Volumes, this case		Low (P90)	Base, Mode	Base, Mean	High (P10)	Low (P90)	Base, Mode	Base, Mean	High (P10)
In place resources	Oil [10^6 Sm^3] (>0.00)	14,40	22,10	23,30	33,20				
	Gas [10^9 Sm^3] (>0.00)					1,69	2,91	3,89	6,74
Recoverable resources	Oil [10^6 Sm^3] (>0.00)	3,60	5,60	6,83	10,60				
	Gas [10^9 Sm^3] (>0.00)					0,44	0,84	1,15	2,10
Reservoir Chrono (from)	Berriasian	Reservoir litho (from)	Intra Lange ss	Source Rock, chrono primary	Late Jurassic	Source Rock, litho primary	Spekk Fm	Seal, Chrono	Paleocene
Reservoir Chrono (to)	Maastrichtian	Reservoir litho (to)	Delfin	Source Rock, chrono secondary		Source Rock, litho secondary		Seal, Litho	Tang
Probability [fraction]									
Total (oil + gas + oil & gas case) (0.00-1.00)	0,11	Oil case (0.00-1.00)	1,00	Gas case (0.00-1.00)		Oil & Gas case (0.00-1.00)			
Reservoir (P1) (0.00-1.00)	0,50	Trap (P2) (0.00-1.00)	0,80	Charge (P3) (0.00-1.00)	0,40	Retention (P4) (0.00-1.00)	0,70		

Parametres:	Low (P90)	Base	High (P10)
Depth to top of prospect [m MSL] (> 0)	1500	1500	1500
Area of closure [km^2] (> 0.0)	9,1	9,6	10,1
Reservoir thickness [m] (> 0)	20	30	40
HC column in prospect [m] (> 0)	217	225	233
Gross rock vol. [10^9 m^3] (> 0.000)	0,191	0,284	0,392
Net / Gross [fraction] (0.00-1.00)	0,57	0,65	0,73
Porosity [fraction] (0.00-1.00)	0,26	0,27	0,29
Permeability [mD] (> 0.0)			
Water Saturation [fraction] (0.00-1.00)	0,35	0,30	0,25
Bg [Rm3/Sm3] (< 1.0000)			
1/Bo [Sm3/Rm3] (< 1.00)	0,57	0,67	0,79
GOR, free gas [Sm^3/Sm^3] (> 0)			
GOR, oil [Sm^3/Sm^3] (> 0)	88	166	263
Recov. factor, oil main phase [fraction] (0.00-1.00)	0,20	0,29	0,40
Recov. factor, gas ass. phase [fraction] (0.00-1.00)	0,20	0,29	0,40
Recov. factor, gas main phase [fraction] (0.00-1.00)			
Recov. factor, liquid ass. phase [fraction] (0.00-1.00)			

The reported Reservoir risk (P1) is the product of the reservoir play and prospect risks rounded up, i.e. 0.6 x 0.8 = 0.48. Chrono- and lithostratigraphy: the target reservoir section is thin but age of the section is difficult to determine hence the large interval Changes to GRV, reservoir thickness, In place resources and recoverable resources

Temperature, top res [°C] (>0)	55			For NPD use:					
Pressure, top res [bar] (>0)	170			Innrapp. av geolog-init:	NPD will insert value	Registrert - init:	NPD will insert value	Kart oppdatert	NPD will insert value
Cut off criteria for N/G calculation	1. VCL< 0.6	2. Ø > 0.1	3.	Dato:	NPD will insert value	Registrert Dato:	NPD will insert value	Kart dato	NPD will insert value
								Kart nr	NPD will insert value

5 Technical evaluation

No new technical economical evaluation regarding potential development of the Thebe Prospect has been performed post the APA application due to the very high risk (PoS 6%).

6 Conclusion

The prospectivity within the license PL 889 has been thoroughly evaluated. The conclusion is that the Thebe prospect is a high risk prospect (PoSg of 6%) with P50 recoverable volumes (5.13 $MMSm^3$). The main risks are the complex hydrocarbon migration/charge story and the presence of effective reservoir in the Palaeocene/ Cretaceous interval.
No other leads have been identified in the APA application or in the license period
The partnership has unanimously decided to relinquish PL1063 in its entirety.