

PL 1062

Table of contents

1 History of the production licence	1
2 Database overviews	4
2.1 Seismic data	4
2.2 Well data	4
3 Results of geological and geophysical studies	5
4 Prospect update report	6
5 Technical evaluation	10
6 Conclusion	11

List of figures

1.1 Location and Common database map for PL 1062.....	1
4.1 Scrabble APA 2019 evaluation	6
4.2 Post license evaluation Prospectivity	8

List of tables

1.1 Key license information	2
1.2 Status Work Programme.....	2
1.3 License meeting overview	2
2.1 Seismic database	4
2.2 Common Well database	4
3.1 Summary of Work Programme Scope and outcome	5
4.1 APA 2019 Resource Potential	7
4.2 Scrabble Prospect Resource Potential	9
4.3 Amalthea Prospekt Resource Potential.....	9

1 History of the production licence

PL1062 is located on the Halten Terrace 15km East of the Heidrun Field, covering parts of Block 6507/11 (Figure 1.1).

License PL1062 was awarded March 14th 2020 to a licence group consisting of Neptune Energy Norge AS (operator, 40%) Lime Petroleum (30%) and Pandion Energy (30% equity). Figure 1.1

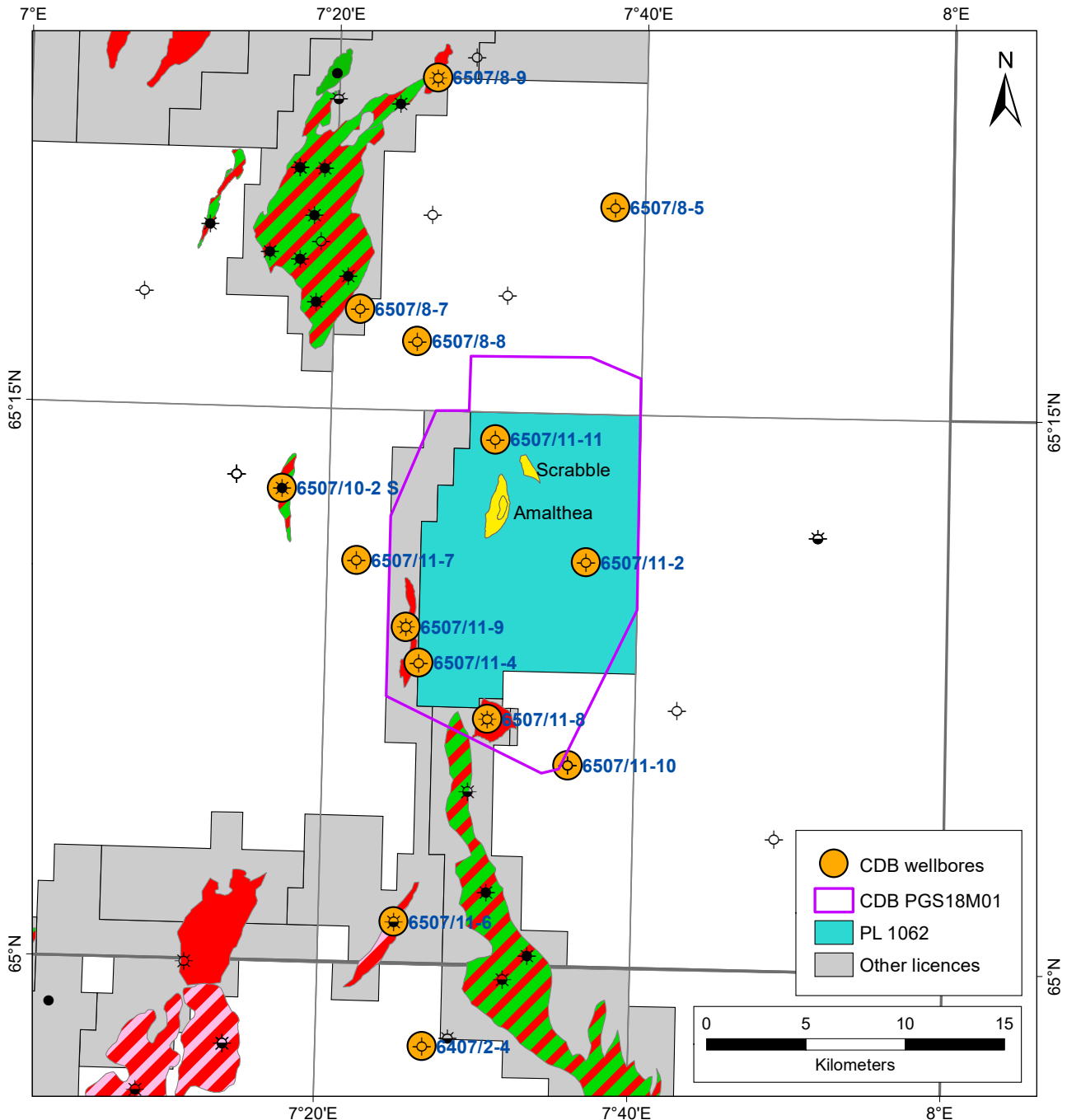


Figure 1.1 Location and Common database map for PL 1062
 Area is coloured in turquoise
 Seismic database outline in purple
 Wells as orange circles

General License Information

Table 1.1 Key license information

PL1062	
Awarded	14.02.2020
DoD (Drill and Drop)	14.02.2022
License period	Expires 14.02.2027
License area	140.943 km ² in Block 6507/11

Work Programme

The initial licence period was seven years valid until 14th of February 2027 and the work obligations were as follows:

- Within 2 years from award (14th February 2020):
 - Reprocess 3D seismic data
 - Perform relevant geological and geophysical studies
 - Decision to drill an exploration well or surrender the licence
- Within 4 years from award, Decision to Concretize (BOK) or surrender the licence
- Within 6 years from award, perform conceptual studies and Decision to Continue (BOV) or surrender the licence
- Within 7 years from award, prepare development plan and decide to submit PDO or surrender the licence

The work obligations for the first two years work period are fulfilled. PGS 18M01/HVG2011 3D seismic data covering the licence 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/ PGS18M01	Fulfilled
Assessment of license prospectivity	Fulfilled

License Meetings

During the life of the licence, a number of meetings took place and were documented in Licence2Share (L2S).

Table 1.3 License meeting overview

Date	Management Committee Meeting	Exploration Committee Meeting
March 24th 2020	MC #1	EC #1
June 30th 2020		WM #1
October 25th 2020		WM #2
December 2nd 2020	MC #2	EC#2
February 25th 2021	MC #3	EC #3
June 23rd 2021		WM #3
November 23rd 2021	MC #4	EC #4

Reason for Surrendering

The license area was applied for in order to establish a new core area in case of a success in the Grind well (6507/8-10S). No hydrocarbons were detected in well 6507/8-10S which TD'ed 24.04.2020.

The main risks for the prospectivity in the licence are long distance migration via Yttergryta and seal retention in the Lower Middle Jurassic interval. Following the licence maturation phase the Amalthea and Scrabble prospects are

viewed as high geological risk (PosG respectively: 14 and 10%) and with limited volume potential respectively Mean: 1.65 and 0.635 10^6Sm^3 O.E recoverable resources) and are not seen as drillable candidates by the partnership and the conclusion of drop the licence area was unanimously decided on as the work programme has been fulfilled.

2 Database overviews

The PL1062 licence common database was approved after ECMC meeting #1.

2.1 Seismic data

Approximately 214 km² of PGS18M01/HVG2011 covering the entire licence and surrounding area was agreed on as a part of the common seismic database shown in Figure 1.1 and listed in Table 2.1.

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

* Reported in DISKOS

2.2 Well data

The common well database includes all released wells in the area (Table 2.2). The key wells used for the prospect evaluation are highlighted in Figure 1.1.

Table 2.2 Common Well database

Well Name	NPDID	Purpose (Bio=Biostrat, R=Rock Physics, FIS=Fluid inclusion, G=Geology)
6407/2-4 (Fongen)	6106	G
6507/10-2S (Novus)	7300	G
6507/11-2	51	G, R, FIS
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	G
6507/8-5	1749	R, G
6507/8-7 (Heidrun)	4854	G
6507/8-8 (Ronaldo)	6538	R, G
6507/8-9 (Heidrun North)	8218	G

3 Results of geological and geophysical studies

A number of G&G studies were undertaken up until the autumn of 2021. Table 3.1 summarizes the licence plans and G&G studies performed

Table 3.1 Summary of Work Programme Scope and outcome

Action	Comments	Outcome
Reprocessing/Seismic improvement	<ul style="list-style-type: none"> Commitment. The CRAM reprocessing performed was deemed unusable due to Neptune internal recommendation post 2020 negative well results Based on this conditioning of data was recommended in ECMC no2 	<ul style="list-style-type: none"> Seismic was conditioned using Geoteric Increased resolution More segmented than previous interpreted
CSEM sensitivity study	<ul style="list-style-type: none"> Commitment A range of reservoir resistivities, background model realisations and reservoir resistivity scenarios were utilised to evaluate the robustness of the predicted sensitivities 	<ul style="list-style-type: none"> Amalthea, and Scrabble Min did not exhibit sufficient sensitivity using the most optimistic assumptions Scrabble Mean exhibited high enough sensitivity to be regarded as robust
Rock physics and AVO modelling	AVO modelling of 2 key wells (6507/11-2 and -8). Inversion of PGS18M01_PGS16909 Conditioned gathers to confirm any hydrocarbon responses in the seismic	<ul style="list-style-type: none"> Hydrocarbon filled Garn Fm sands should have AVO class 4 (gas)-class 3 (oil) Modelling shows brine filled sandstones in the Yttergryta, Scrabble and Amalthea/Capra
Fluid inclusion/Basin modelling	Incorporate results from the Grind well and Fluid inclusion on wells 6507/11-2 and 6407/11-8	<ul style="list-style-type: none"> 11-8 Dry to wet gas in Garn and Ile fms, rare oil inclusion from one thin bed in Åre 11-2 Migration pathway, bacterial alteration, gas dominated HC inclusions
Prospect assessment	Interpretation of new data and incorporate the knowledge gained from studies towards a DoD in 2022	<ul style="list-style-type: none"> Higher risk and reduced volume potential due to segmentation, and recovery based on well 6507/11-8 watered out prior to PGS2011 acquisition

4 Prospect update report

The APA 2019 application was based on the Lower to Middle Jurassic Amalthea Tilje Fm Prospect together with the Middle Jurassic Scrabble Garn and Ile fms prospect opportunity brought into the license by one of the partners (). Both prospects were run as oil cases at the APA 19 application time.

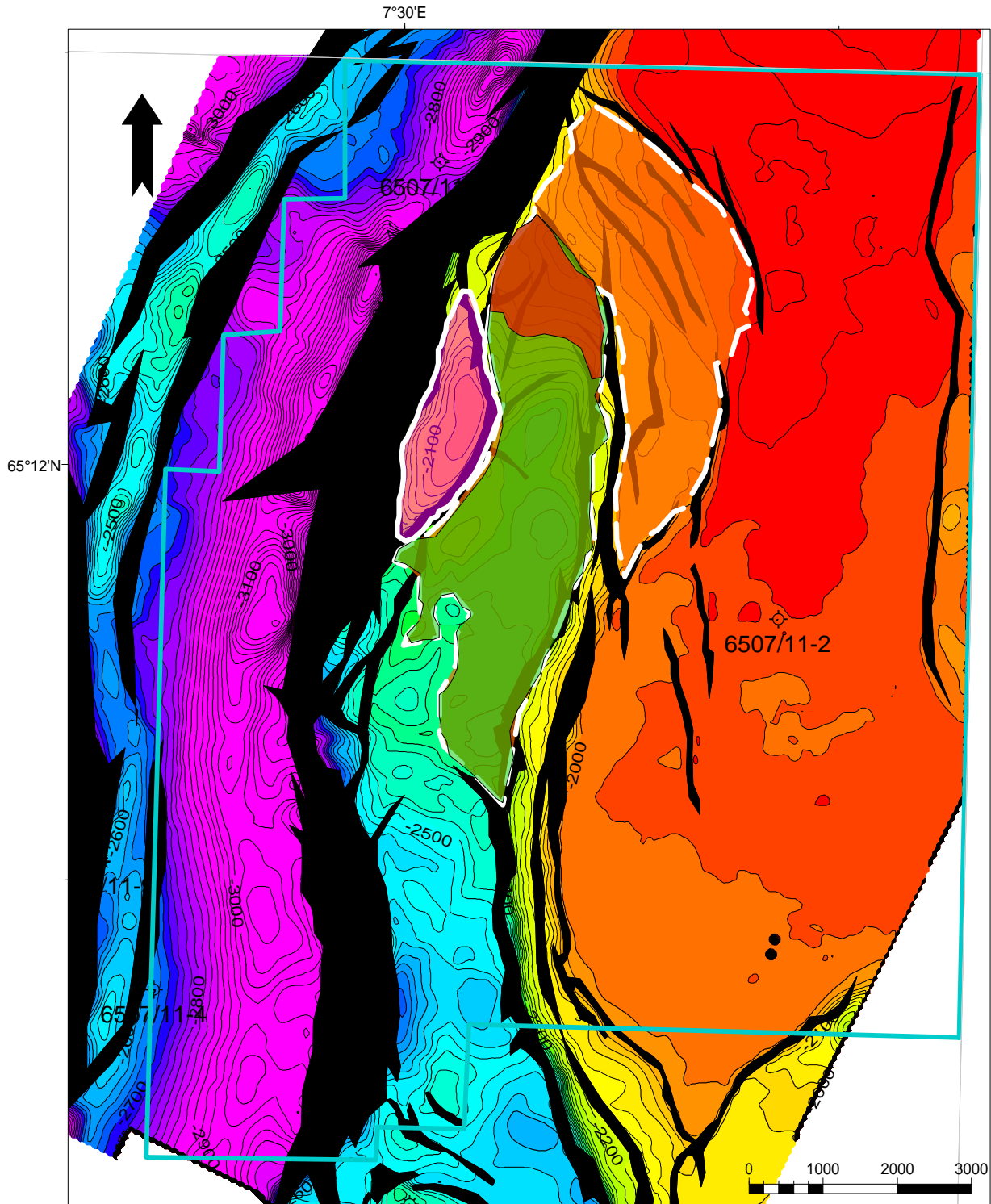


Figure 4.1 Scrabble APA 2019 evaluation
Top Fangst Depth Structure Map. The Amalthea Prospect coloured in Pink with P50 outline in white. Scrabble low case in red, Scrabble base case oil with gas cap in green and red, and Scrabble high case as orange with stippled white outline.

The resource estimates from APA are summarized in Table 4.1

Table 4.1 APA 2019 Resource Potential

Prospect	P90/Low Case Volumes	P50/Base Case Volumes	P10/ High Case volumes	Pg
Amalthea Tilje Fm Oil case	3.45 (10 ⁶ Sm ³ o.e)	5.99 (10 ⁶ Sm ³ o.e.)	10.1 (10 ⁶ Sm ³ o.e.)	24%
Scrabble Garn/Ile Fm (Gas for low case, gas cap with oil leg for base and high case)	1.61 (GSm ³ gas), 0.87(10 ⁶ Sm ³ associated oil)	10.3 (10 ⁶ Sm ³ oil and associated oil) 5.4 (GSm ³ gas and associated gas)	12.0 (10 ⁶ Sm ³ oil and associated oil) 15.6 (GSm ³ gas and associated gas)	22%

The fluid inclusion study as well as the migration route from the Yttergryta well indicated a very low likelihood for oil, thus, both prospects has been re-evaluated as gas prospects.

During the licence maturation phase the fault interpretation were refined. This resulted in a significant reduction in volumes for the Scrabble prospect. The updated fault interpretation indicate the eastern faults to be open resulting in the Scrabble high case being excluded. The base case is also seen as unrealistic due to the large fault seal capacity required for such a column height to be valid at the shallow burial depth. Thus, the remaining Scrabble prospect is best described as a small 4-way dip closure with some limited fault seal capacity added to the larger column height potential see Figure 4.2. The updated recoverable volume for the Scrabble Prospect ranges from 0.02-1.84 10⁶Sm³ O.E. in the P90 to P10 cases, where the details are listed in Table 4.2.

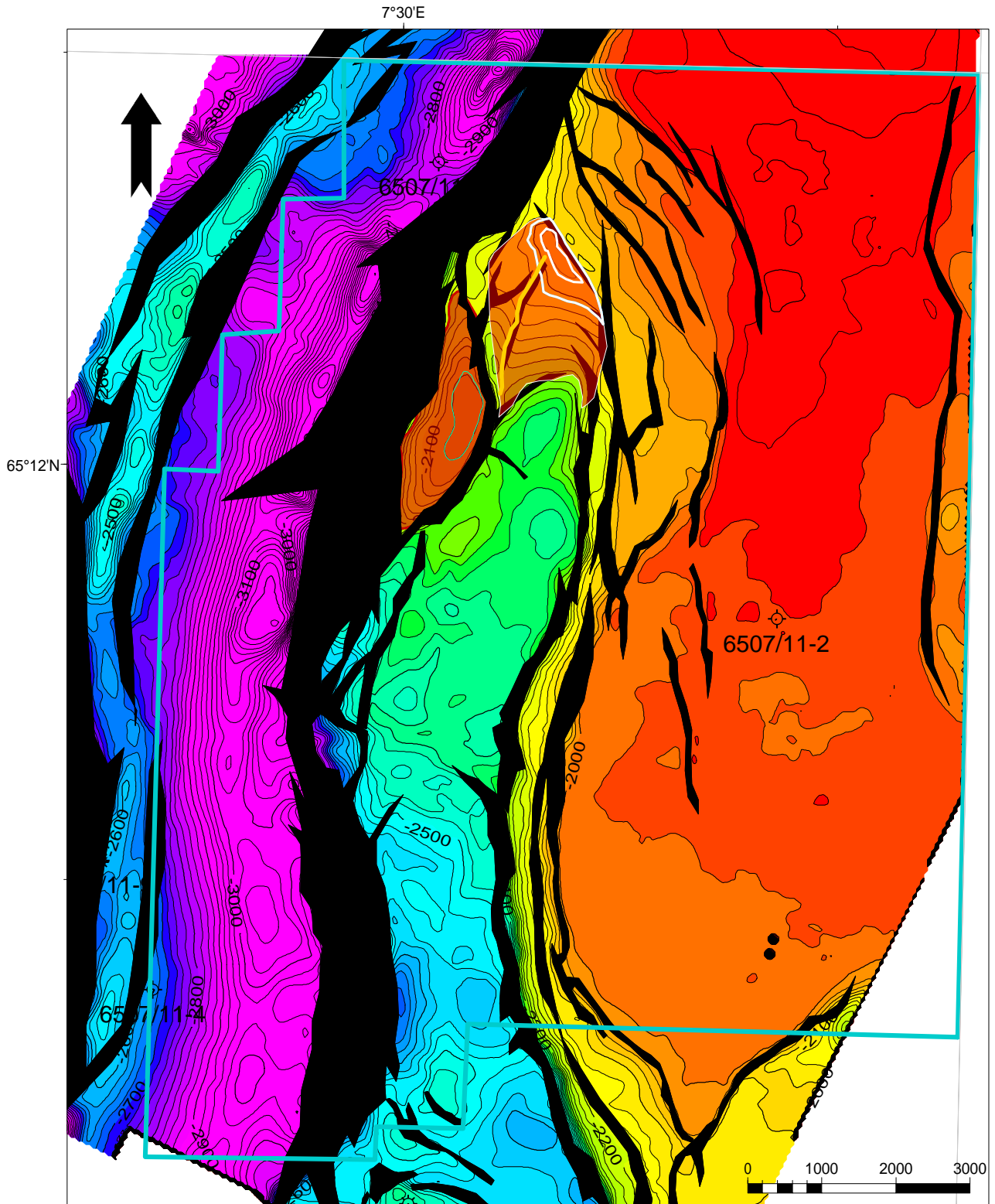


Figure 4.2 Post license evaluation Prospectivity
Top Fangst depth structure Map. Amalthea and Scrabble Max polygons coloured in Red, and the Scrabble P50 and P10 contacts indicated in white.

Table 4.2 Scrabble Prospect Resource Potential

Table 4: Discovery and Prospect data (Enclose map)												
Block E60711		Prospect name	Scrabble	Discovery/Prospect/Lead	Prospect	Prospect ID (or New/)	NPD will insert value	NPD approved (Y/N)				
Play name		New Play (Y/N)	No	Outside play (Y/N)	No							
Oil, Gas or O&G case:		Gas	Reported by company	Neptune Energy Nor	Reference document	PL1062 Surrender Report	Assessment year	2021				
This is case no.:		Structural element	Hegbraken Horst	Type of trap	Structural	Water depth [m MSL] (>0)	260	Seismic database (2D/3D)	3D			
Resources IN PLACE and RECOVERABLE Volumes, this case		Main phase				Associated phase						
		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)	0.03	0.01	0.93	2.72	0.09	0.16	0.36	0.75			
Recoverable resources	Gas [10^6 Sm^3] (>0.00)	0.02	0.01	0.58	1.68	0.00	0.00	0.11	0.13			
Reservoir Chrono (from)	Aalenian	Reservoir litho (from)	Ile Fm	Source Rock, chrono primary	Kimmeridgian	Source Rock, litho primary	Spekk Fm	Seal, Chrono	Oxfordian-Kimmeridgian			
Reservoir Chrono (to)	Bathonian	Reservoir litho (to)	Garn Fm	Source Rock, chrono secondary	Hettangian	Source Rock, litho secondary	Ave Fm	Seal, Litho	Meike-Spekk Fm			
Probability (fraction)		Oil case (0.00-1.00)		0.10	Gas case (0.00-1.00)		1.00	Oil & Gas case (0.00-1.00)				
Total (oil + gas + oil & gas case) (0.00-1.00)	0.10	Trap (P2) (0.00-1.00)		0.50	Charge (P3) (0.00-1.00)		0.40	Retention (P4) (0.00-1.00)		0.50		
Reservoir (P1) (0.00-1.00)	1.00											
Parameters:		Low (P90)	Base	High (P10)	<i>DFI has not been applied</i>							
Depth to top of prospect [m MSL] (> 0)	2060	2060	2060									
Area of closure [km ²] (> 0.0)	0.23	0.6	1.9									
Reservoir thickness [m] (> 0)	25	50	175									
HC column in prospect [m] (> 0)	19	51	167									
Gross rock vol. [10^9 m^3] (> 0.000)	0.197	0.223	0.242									
Net / Gross [fraction] (0.00-1.00)	0.65	0.75	0.84									
Porosity [fraction] (0.00-1.00)	0.26	0.28	0.29									
Permeability [mD] (> 0.0)												
Water Saturation [fraction] (0.00-1.00)	0.12	0.20	0.29									
Bg [Rm ³ /Sm ³] (< 1.0000)	0.0061	0.0056	0.0052									
1/B0 [Sm ³ /Rm ³] (< 1.00)												
GOR, free gas [Sm ³ /Sm ³] (> 0)	50	122	300									
GOR, oil [Sm ³ /Sm ³] (> 0)	2000	8163	3333									
Recov. factor, oil main phase [fraction] (0.00-1.00)												
Recov. factor, gas ass. phase [fraction] (0.00-1.00)												
Recov. factor, gas main phase [fraction] (0.00-1.00)	0.47	0.63	0.75									
Recov. factor, liquid ass. phase [fraction] (0.00-1.00)	0.18	0.21	0.25									
Temperature, top res [°C] (>0)	73			For NPD use:								
Pressure, top res [bar] (>0)	216			Innrappr. av geolog-initt:				NPD will insert value	Registrert - initt:	NPD will insert value	Kart oppdatert	NPD will insert value
Cut off criteria for NIG calculation	phi<0.15	VCL<0.4	Sw<0.4	Dato:				NPD will insert value	Registrert Dato:	NPD will insert value	Kart dato	NPD will insert value

The licence maturation phase did not change the GRV significantly for the Amalthea Prospect, and the updated recoverable volume for the Amalthea Prospect ranges from 0.7 to 2.7 10^6 Sm^3 O.E in the P90 to P10 cases where details are listed in Table 4.3.

Table 4.3 Amalthea Prospect Resource Potential

Table 4: Discovery and Prospect data (Enclose map)												
Block E60711		Prospect name	Amalthea	Discovery/Prospect/Lead	Prospect	Prospect ID (or New/)	NPD will insert value	NPD approved (Y/N)				
Play name		New Play (Y/N)	No	Outside play (Y/N)	No							
Oil, Gas or O&G case:		Gas	Reported by company	Neptune Energy Nor	Reference document	PL1062 Surrender Report	Assessment year	2021				
This is case no.:		Structural element	Hegbraken Horst	Type of trap	Structural	Water depth [m MSL] (>0)	260	Seismic database (2D/3D)	3D			
Resources IN PLACE and RECOVERABLE Volumes, this case		Main phase				Associated phase						
		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)	0.99	1.96	2.35	3.83	0.09	0.16	0.36	0.75			
Recoverable resources	Oil [10^6 Sm^3] (>0.00)	0.59	1.18	1.43	2.35	0.05	0.09	0.22	0.46			
Reservoir Chrono (from)	Sinemurian	Reservoir litho (from)	Ave Fm	Source Rock, chrono primary	Kimmeridgian	Source Rock, litho primary	Spekk Fm	Seal, Chrono	Toarcian			
Reservoir Chrono (to)	Aalenian	Reservoir litho (to)	Tile Fm	Source Rock, chrono secondary	Hettangian	Source Rock, litho secondary	Ave Fm	Seal, Litho	Ror Fm			
Probability (fraction)		Oil case (0.00-1.00)		0.00	Gas case (0.00-1.00)		1.00	Oil & Gas case (0.00-1.00)				
Total (oil + gas + oil & gas case) (0.00-1.00)	0.14	Trap (P2) (0.00-1.00)		0.80	Charge (P3) (0.00-1.00)		0.30	Retention (P4) (0.00-1.00)		0.60		
Reservoir (P1) (0.00-1.00)	1.00											
Parameters:		Low (P90)	Base	High (P10)	<i>DFI risking not applied</i>							
Depth to top of prospect [m MSL] (> 0)	2140	2140	2140									
Area of closure [km ²] (> 0.0)	2.05	2.2	2.3									
Reservoir thickness [m] (> 0)	175	175	175									
HC column in prospect [m] (> 0)	80	100	120									
Gross rock vol. [10^9 m^3] (> 0.000)	0.253	0.267	0.281									
Net / Gross [fraction] (0.00-1.00)	0.50	0.63	0.77									
Porosity [fraction] (0.00-1.00)	0.21	0.23	0.24									
Permeability [mD] (> 0.0)												
Water Saturation [fraction] (0.00-1.00)	0.25	0.20	0.13									
Bg [Rm ³ /Sm ³] (< 1.0000)	0.0061	0.0056	0.0052									
1/B0 [Sm ³ /Rm ³] (< 1.00)												
GOR, free gas [Sm ³ /Sm ³] (> 0)	50	122	300									
GOR, oil [Sm ³ /Sm ³] (> 0)	2000	8163	3333									
Recov. factor, oil main phase [fraction] (0.00-1.00)												
Recov. factor, gas ass. phase [fraction] (0.00-1.00)												
Recov. factor, gas main phase [fraction] (0.00-1.00)	0.30	0.43	0.58									
Recov. factor, liquid ass. phase [fraction] (0.00-1.00)	0.30	0.43	0.58									
Temperature, top res [°C] (>0)	74			For NPD use:								
Pressure, top res [bar] (>0)	216			Innrappr. av geolog-initt:				NPD will insert value	Registrert - initt:	NPD will insert value	Kart oppdatert	NPD will insert value
Cut off criteria for NIG calculation	phi<0.15	VCL<0.4	Sw<0.4	Dato:				NPD will insert value	Registrert Dato:	NPD will insert value	Kart dato	NPD will insert value

Key risk for both prospects at the application time and at the end of the licence period post the results from the dry Grind well are increased risk on hydrocarbon migration, being lowered from 80% in the APA to 50% for the Amalthea, and from 60% to 50% for Scrabble respectively. The seal retention risk has also been lowered from 90% in the APA application to 40% in the final evaluation. In addition SDA analysis indicated scattered hydrocarbon fill in the Yttergryta structure due to the well had watered out some months prior to the seismic acquisition of the HVG2011 as input to the PGS18M01 which impacted the RF distribution in the final evaluation.

5 Technical evaluation

No new technical economical evaluation regarding potential development of the Amalthea and Scrabble prospecta has been performed post the APA application due to the high risk and low resource potential of the prospects.

6 Conclusion

The prospectivity within the licence PL 1062 has been thoroughly evaluated. The conclusion is that the Amalthea and Scrabble prospects are viewed as high geological risk (PosG respectively: 14% and 10%) and with limited volume potential (respectively Mean: 1.65 and 0.635 10^6Sm^3 O.E recoverable resources). The partnership has unanimously decided to relinquish PL1062 in its entirety.