

PL838B

Status Report for Surrender

May 2024

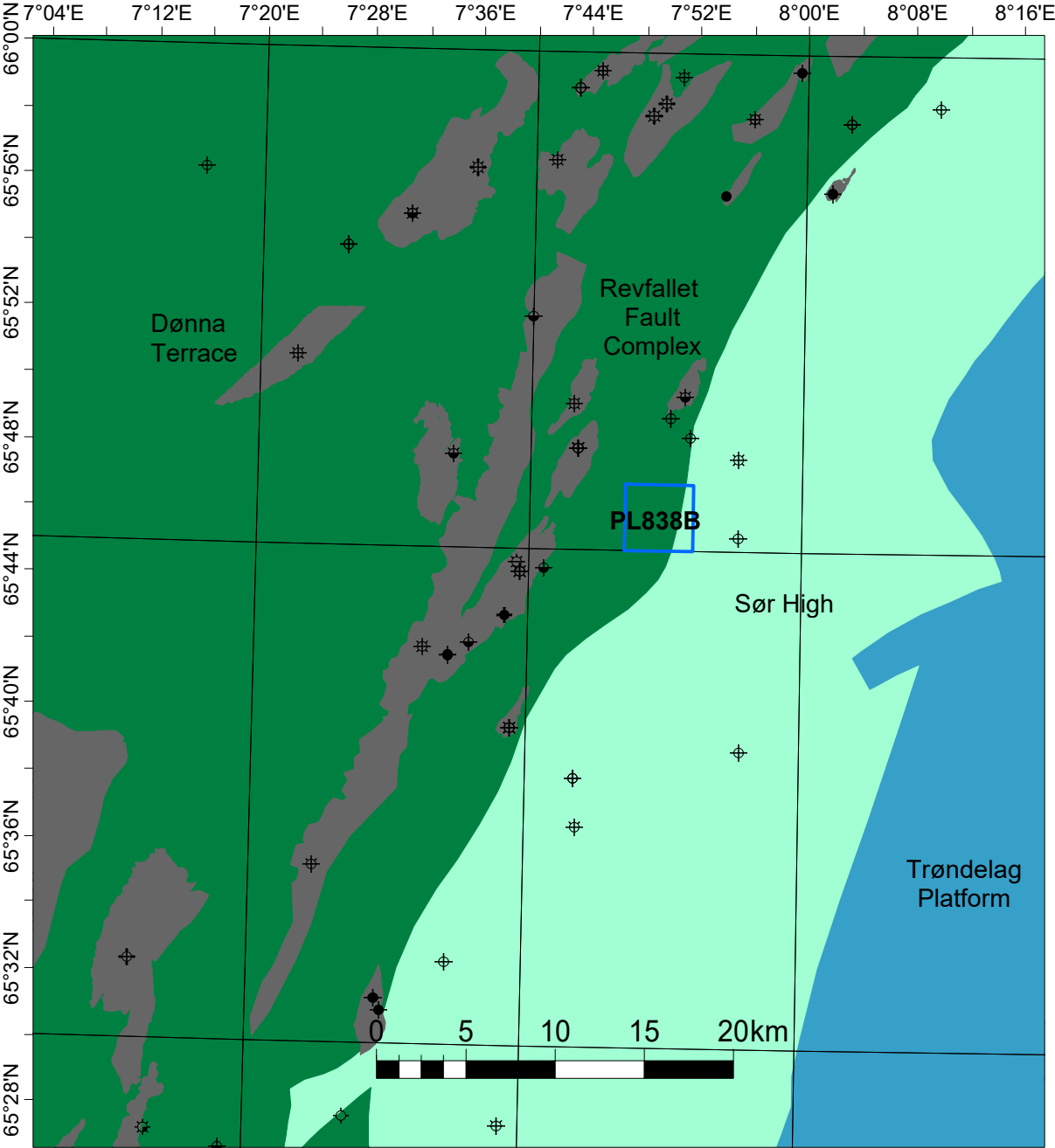


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1 History of the production licence

PL838B was awarded 1st March 2019 (APA 2018) as an extension to PL838. The licence was located on the border between the Revfallet Fault Complex and the Sør High, covering an area of 14 km² in block 6507/3. PGNiG was the operator with 40% share together with partners Aker BP ASA and DEA Norge AS with 30% each. In November 2019 Lime Petroleum AS took over DEA Norge AS share in the licence. **Table 1.1** show a list of licensees with interests.

Table 1.1 Licensees with interests

Date valid from	Date valid to	Company	Interest
05.11.2019	29.02.2024	PGNiG Upstream Norway (Operator)	40%
		Aker BP ASA	30%
		Lime Petroleum AS	30%
01.03.2019	04.11.2019	PGNiG Upstream Norway (Operator)	40%
		Aker BP ASA	30%
		DEA Norge AS	30%

Licence prospectivity

The original prospectivity in the licence were the Middle Jurassic Shaw prospect and the Upper Cretaceous Fergus lead. New seismic data and information from the Shrek discovery wells (6507/5-9 S&A) drilled in 2019 in PL838, led to re-interpretation of the Shaw prospect. The Fergus lead was tested by the wells, but no hydrocarbons were found at this level. Continuous work in the licence identified the Palaeogene Felicia prospect and the Lower and Middle Jurassic Sugarplum and Imelda prospects. Felicia was tested by the PL941 6507/3-16 well, completed in August 2022. The well was dry. **Fig. 1.1** show the complete overview of the prospectivity in the licence.

Work commitments

Work commitments were G&G studies and two year DOD. The licence has been awarded three one-year extensions on licence decisions due to change of exploration focus and waiting for the 6507/3-16 well results.

Licence meetings

All licence meetings in PL838B were held in combination with PL838 except for the last ECMC meeting in January 2024. See **Table 1.2** for list of meetings.

Table 1.2 PL838B Licence meetings

Date	Licence meeting
16th January 2024	PL838B ECMC meeting
20th November 2023	PL838 & PL838B ECMC meeting
3rd February 2023	PL838 & PL838B EC Work meeting
29th November 2022	PL838 & PL838B ECMC meeting
25th November 2021	PL838 & PL838B ECMC meeting
8th June 2021	PL838 & PL838B EC meeting
30th November 2020	PL838 & PL838B ECMC meeting
20th February 2019	PL838 EC meeting and PL838B introduction

Fig. 1.1

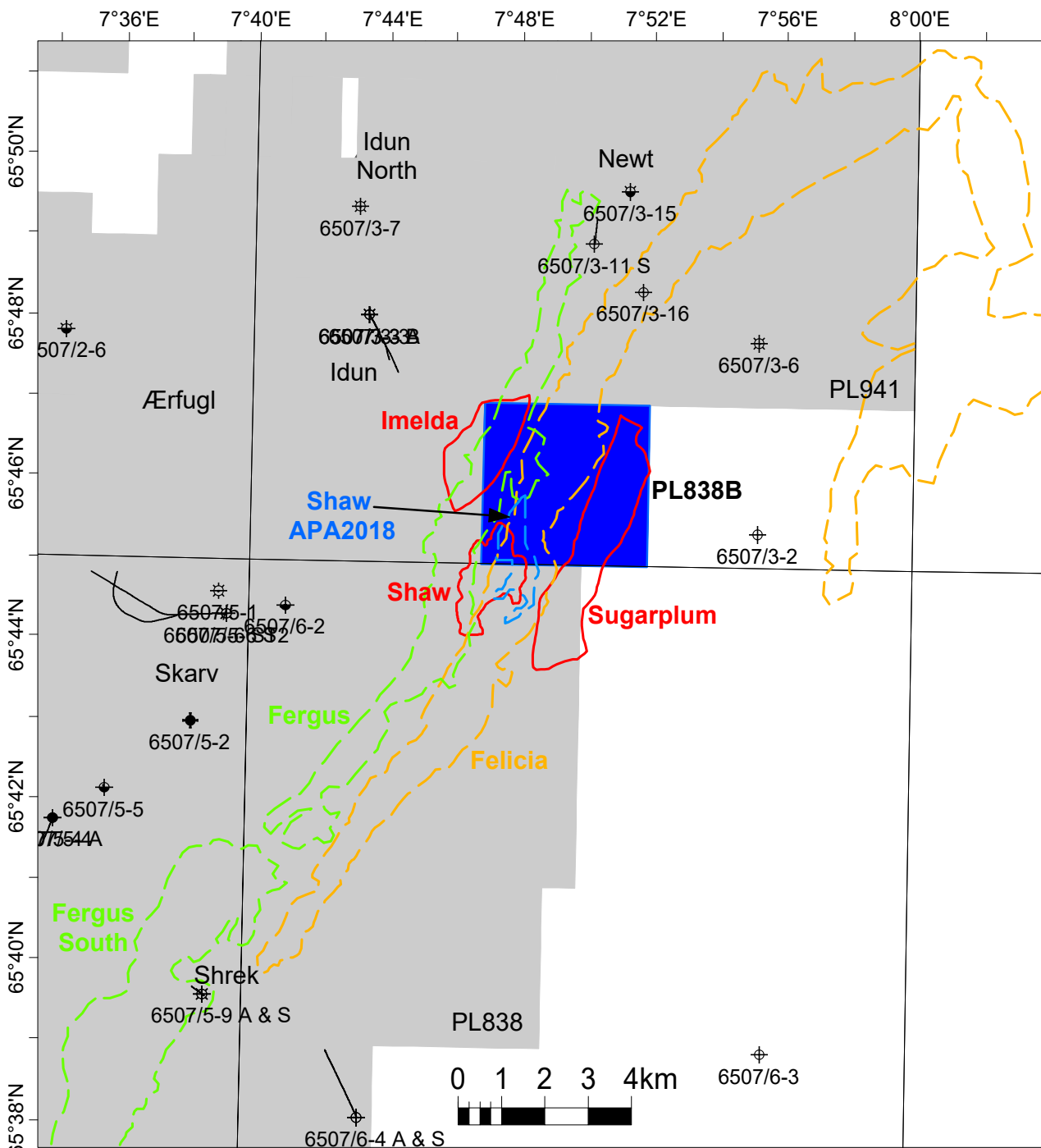


Fig. 1.1 Overview of prospects and lead in PL838B

Reasons for licence surrender

At the drill or drop decisions gate, 1st March 2024, the licence partners unanimously decided to surrender the licence due to low chance of success and small recoverable resources in the remaining prospectivity.

2 Database overviews

2.1 Seismic Data

The common seismic database consist of three 3D seismic surveys listed in **Table 2.1** and showed in **Fig. 2.1**.

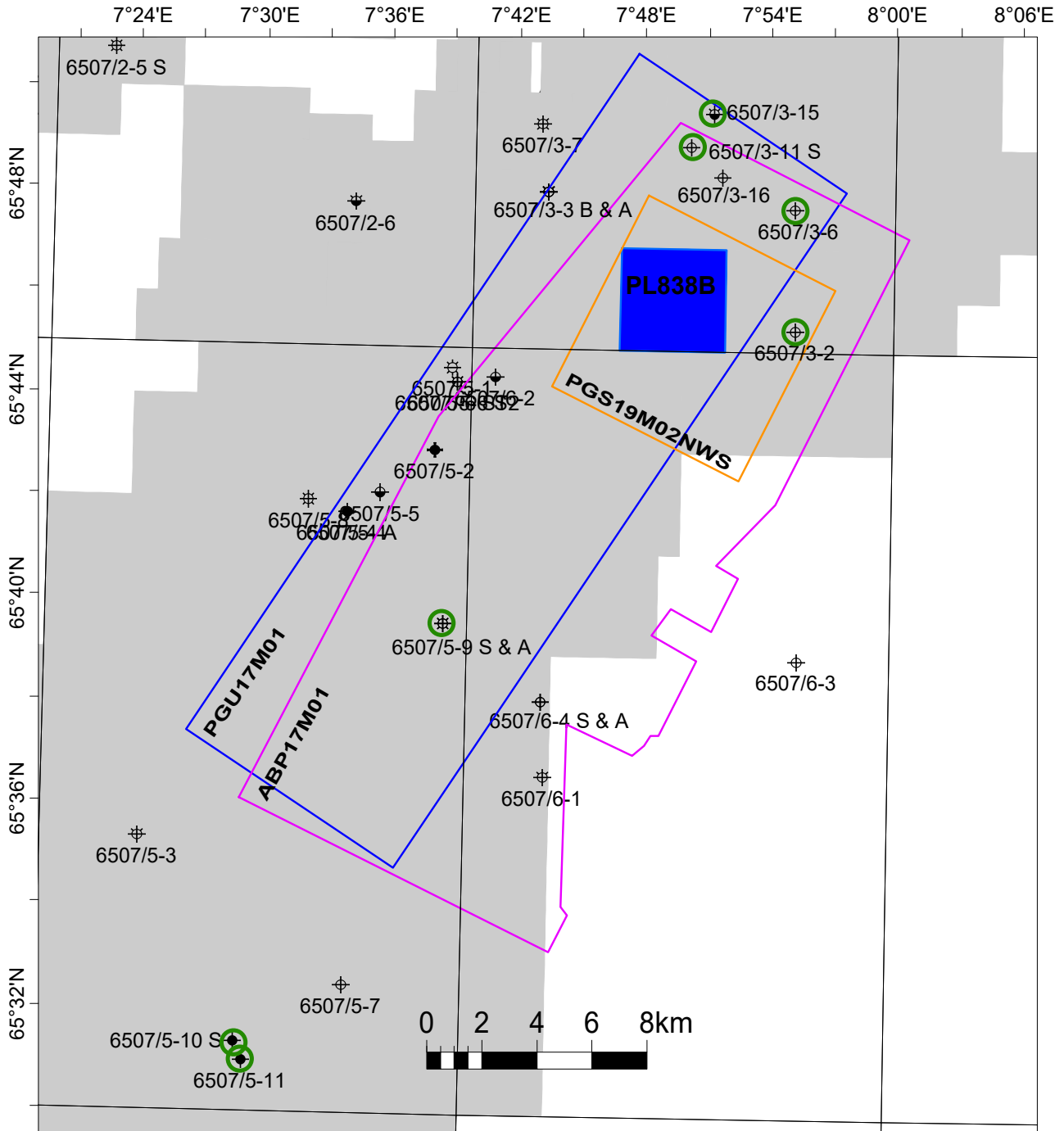


Fig. 2.1 Common seismic and well database

2.1 Seismic Data

Table 2.1 Common seismic database

Seismic survey	2D/3D	Type	ID	Available on the market
PGU17M01	3D	Reprocessed	7616	No
ABP17M01	3D	Reprocessed	7379/7616	No
PGS19M02NWS	3D	Reprocessed	9000	Yes

The original database for the licence was the PL838 generated seismic survey PGU17M01. This is the survey used to identify the prospectivity at licence application time.

To increase coverage over the full licence, the survey ABP17M01 was acquired during licence life.

To improve the understanding of the complex structure over the Sør high, 60km² of PGS19M02NWS was included in the common database in 2023 and used in the final evaluation of the prospects. Both full and angle stacks were used.

2.2 Well Data

The common well database included all released wells in the area in addition to 6507/3-15, Newt, and 6507/5-11, Slagugle appraisal, which were not public at that time. The Operator and partner Aker BP also had access to well 6507/3-16, Barlindåsen, which were drilled by Aker BP in PL941 and tested the PL838B Felicia prospect as a secondary target. See **Fig. 2.1** and **Table 2.2** for an overview of the common well database.

Table 2.2 Common well database

Well	Name	ID	Completion year	TD	Status
6507/3-15	Newt	9603	2022	Early Jurassic	Oil and gas Fangst and Båt Gp.
6507/3-11S	Salander	7730	2015	Åre Fm, Early Jurassic	Dry
6507/3-6		6073	2009	Åre Fm, Early Jurassic	Dry
6507/3-2		2954	1997	Red beds, Triassic	Biogenic gas Fangst Gp.
6507/5-9S	Shrek	8866	2019	Båt Gp., Early Jurassic	Oil and gas in Fangst Gp.
6507/5-9A	Shrek sidetrack	8899	2019	Båt Gp., Early Jurassic	Oil and gas in Fangst Gp.
6507/5-10S	Slagugle	9149	2020	Red beds, Triassic	Oil in Åre Fm. and Grey beds
6507/5-11	Slagugle appraisal	9546	2022	Triassic	Oil in Åre Fm. and Grey beds

3 Results of geological and geophysical studies

A set of studies has been carried out to evaluate the prospectivity and risks in the licence, see **Table 3.1**.

Table 3.1 Studies

Study	Description
Detailed interpretation study	Prospect mapping
Petrophysical study	Porosity-depth trends, porosity-permeability trends, N/G, saturation
Petroleum system analysis study	Source maturation and migration
Geophysical study	Rock physics, AVO, Fluid substitution, Forward modelling

Geological studies

Detailed seismic interpretation has been carried out on available 3D surveys to define the prospectivity. The licence is located in a structurally complex area making the interpretation challenging. No direct well tie was possible, and the interpretation relied on jump correlation across faults with large offset.

An in-house petrophysical evaluation has been performed on a selected set of key wells in order to estimate the petrophysical properties for reservoirs within the Middle and Lower Jurassic Fangst and Båt Groups and the Palaeogene Tang Fm. Special care has been taken in the investigation of porosity - depth and porosity - permeability trends in the area of interest.

A petroleum system analysis has been carried out by the licence partner Aker BP using all public and proprietary data available in the area. The study show that PL838B has a very narrow drainage area for mature Upper Jurassic source rocks with little expelled hydrocarbons. The study also show that fill spill from discoveries west of PL838B is not likely. Based on this source migration is believed to be the main risk in the licence.

Geophysical study

Geophysical modelling with Gassmann fluid substitution was performed on all relevant wells in the area. The result of the geophysical modelling showed that a clear seismic signature should be expected if the reservoir was filled with gas or light oil.

Sugarplum:

Sugarplum was initially envisaged as an oil prospect. Since no amplitude anomalies, apparent fluid contacts or other DHI attributes are observed, the only HC-phase that could be present is heavy biodegraded oil of the Slagugle-type. The mapped "top reservoir" is a truncation surface, with overburden strata onlapping, making evaluation of subtle amplitude variations between brine and heavy oil impractical.

Sugarplum is not supported by any seismic DHI observations. No DHI modification were applied.

Imelda:

For Imelda a Shrek oil-type case was envisaged. However, compared to the seismic response of the Shrek discovery, the Imelda prospect shows no amplitude characteristics of being HC-bearing. The amplitude response between near-far angle stacks, AVO class and AVO strength attributes

are rather patchy and showing a weak AVO class 4 behaviour. There are no indications of fluid contacts and poor-to-no amplitude conformance to structure. However, Imelda is fault bounded in all directions making identification of fluid contacts and amplitude conformance difficult or impossible.

The DHI evaluation of Imelda results in a downgrade of -2%.

Shaw:

For Shaw gas- and oil-charged reservoir was envisaged. The mapped "top reservoir" is a clear soft reflector, which is dimming significantly with increasing angles, i.e. an AVO class 4 behaviour. This is not according to the amplitude expectation modelling, which shows that gas- or oil-charged sand should most likely be an AVO class 3 anomaly. However, the amplitude expectation modelling shows that Cretaceous shales over soft Spekk shale may result in relatively strong soft near angle amplitudes, which are dimming with increasing angle (AVO class 4). Spekk shales can be tied to wells in the basin setting (e.g. well 6507/6-2), where it shows a similar amplitude behaviour (AVO class 4). Spekk appears to have been sliding and slumping down along the fault plane from the footwall block. In conclusion, Shaw appears to be a remnant of soft Spekk shale with overlying Cretaceous shale.

The DHI evaluation of Shaw results in a downgrade of -8%.

4 Prospect update report

The original prospectivity in the licence were the Middle Jurassic Shaw prospect and the Upper Cretaceous Fergus lead. **Fig. 4.1** shows a map of the initial prospectivity and **Table 4.1** shows the initial resource potential for Shaw from the APA 2018 application. Mapping on new 3D seismic data with improved imaging, in combination with updated geophysical studies, led to a better understanding of the area and identification of the Paleogene Felicia prospect and the Middle and Lower Jurassic Sugarplum and Imelda prospects. The Shaw prospect was also redefined.

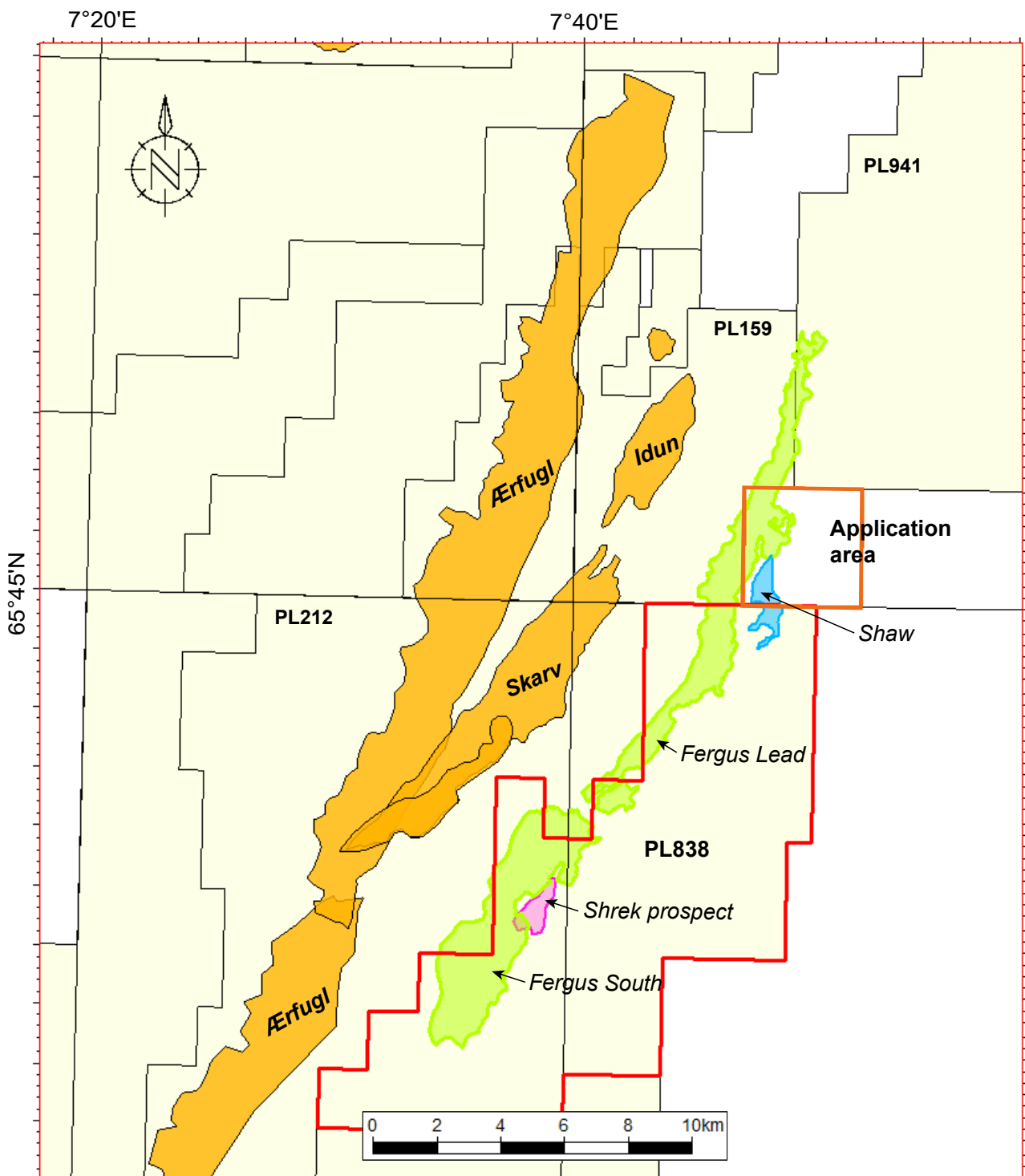


Fig. 4.1 Map with prospect outline from APA2018

Table 4.1 Initial resource potential from APA 2018 application

Table 2: Resource Potential														
Discovery/ Prospect/ Lead name ¹	D/ P/ L ²	Case (Oil/ Gas/ Oil&Gas) ³	Unrisked recoverable resources ⁴						Probability of discovery ⁵ (0.00 - 1.00)	Resources in acreage applied for [%] ⁶ (0.0 - 100.0)	Reservoir		Nearest relevant infrastructure ⁸	
			Oil [10 ⁶ Sm ³] (>0.00)			Gas [10 ⁹ Sm ³] (>0.00)					Litho-/ Chrono- stratigraphic level ⁷	Reservoir depth [m MSL] (>0)	Name	Km (>0)
			Low (P90)	Base (Mean)	High (P10)	Low (P90)	Base (Mean)	High (P10)						
Shaw	P	Oil	0,13	1,72	4,12	0,02	0,22	0,54	0,19	58,3	Fangst Gp/ Middle Jurassic	1825	Skarv	7
Fergus	L	Gas									Springar Fm/ Upper Cretaceous		Skarv	5

Shaw prospect

Geophysical studies show that the soft reflector originally interpreted as top Fangst Gp. (reservoir), is now interpreted to be the soft organic rich Spekk Fm. (Upper Jurassic). The prospect is defined by a listric detachment on the western tip of the Sør High where the upper Jurassic interval is stacked on top of each other by several listric faults. The Middle Jurassic Fangst Gp. appear to be missing/faulted out by the listric detachment. Shaw is fault bounded in all directions, and truncated by Base Cretaceous Unconformity in the west. In the final interpretation only 26% of the prospect area lies within the licence, the rest is within PL838 (Fig. 4.2).

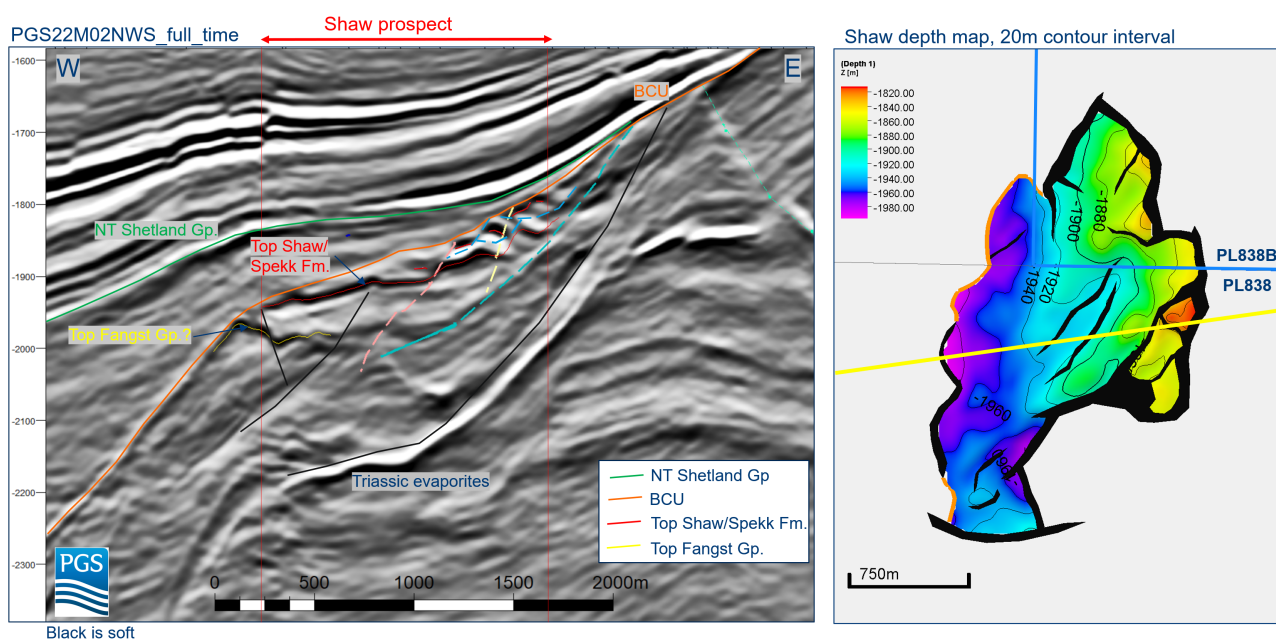


Fig. 4.2 Shaw prospect depth map and seismic profile

An oil and gas case was calculated for the whole prospect with total mean in-place resources of 6,8 MSm³ o.e. and total mean recoverable resources of 1,5 MSm³ o.e. See **Table 4.2** for prospect details.

The source rock is the proven mature Spekk and Åre Fm. located in the basin area west of the prospect. Basin modelling show that the drainage area for mature Spekk Fm. is very narrow along the Sør High, and taking migration loss into consideration, no hydrocarbons are expected to reach the prospect.

The chance of success for Shaw is now set to 7% where reservoir presence and source migration are the main risks.

Table 4.2 Shaw prospect form

Table 5: Prospect data (Enclose map)									
Block	6507/3	Prospect name	Shaw	Discovery/Prospect/Lead		Prosp ID (or New!)	NPD will insert value	NPD approved (Y/N)	
Play name	NPD will insert value	New Play (Y/N)	No	Outside play (Y/N)	No				
Oil, Gas or O&G case:	Oil&Gas	Reported by company	PGNiG	Reference document	PL838B Status surrender report			Assessment year	2023
This is case no.:		Structural element	Revfallet fault compl.	Type of trap	Structural	Water depth [m MSL] (>0)		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 ⁹ Sm ³] (>0.00)	1,64	3,81	6,18	12,00				
	Gas [10 ⁹ Sm ³] (>0.00)	0,01	0,01	0,01	0,03	0,16	0,31	0,61	1,18
Recoverable resources	Oil [10 ⁹ Sm ³] (>0.00)	0,32	0,66	1,35	2,72				
	Gas [10 ⁹ Sm ³] (>0.00)	0,00	0,00	0,01	0,01	0,03	0,06	0,13	0,27
Reservoir Chrono (from)	Middle Jurassic	Reservoir litho (from)	Fangst Gp.	Source Rock, chrono primary	Upper Jurassic	Source Rock, litho primary	Spekk Fm.	Seal, Chrono	Upper Jurassic
Reservoir Chrono (to)	Middle Jurassic	Reservoir litho (to)	Fangst Gp.	Source Rock, chrono secondary	Lower Jurassic	Source Rock, litho secondary	Åre Fm.	Seal, Litho	Melke Fm.
Probability [fraction]									
Total (oil + gas + oil & gas case) (0.00-1.00)		Oil case (0.00-1.00)		Gas case (0.00-1.00)		Oil & Gas case (0.00-1.00)	0,15		
Reservoir (P1) (0.00-1.00)	0,60	Trap (P2) (0.00-1.00)	0,90	Charge (P3) (0.00-1.00)	0,40	Retention (P4) (0.00-1.00)	0,70		
Parametres:									
	Low (P90)	Base	High (P10)	Including a DHI downgrade of 8% the combined COS is 7%					
Depth to top of prospect [m MSL] (> 0)			1815						
Area of closure [km ²] (> 0.0)			2,3						
Reservoir thickness [m] (> 0)		113	125	137					
HC column in prospect [m] (> 0)		75	116	157					
Gross rock vol. [10 ⁹ m ³] (> 0.000)									
Net / Gross [fraction] (0.00-1.00)		0,60	0,65	0,70					
Porosity [fraction] (0.00-1.00)		0,23	0,26	0,29					
Permeability [mD] (> 0.0)									
Water Saturation [fraction] (0.00-1.00)		0,32	0,25	0,19					
Bg [Rm3/Sm3] (< 1.0000)		0,0048	0,0047	0,0046					
1/Bo [Sm3/Rm3] (< 1.00)		0,84	0,79	0,75					
GOR, free gas [Sm ³ /Sm ³] (> 0)									
GOR, oil [Sm ³ /Sm ³] (> 0)		79	98	121					
Recov. factor, oil main phase [fraction] (0.00-1.00)		0,15	0,22	0,30					
Recov. factor, gas ass. phase [fraction] (0.00-1.00)		0,15	0,22	0,30					
Recov. factor, gas main phase [fraction] (0.00-1.00)		0,38	0,48	0,58					
Recov. factor, liquid ass. phase [fraction] (0.00-1.00)		0,38	0,48	0,58					
For NPD use:									
Temperature, top res [°C] (>0)				Innrapp. av geolog-init:	NPD will insert value	Registrert - init:	NPD will insert value	Kart oppdatert	NPD will insert value
Pressure, top res [bar] (>0)				Dato:	NPD will insert value	Registrert Dato:	NPD will insert value	Kart dato	NPD will insert value
Cut off criteria for N/G calculation	1.	2.	3.					Kart nr	NPD will insert value

Fergus lead

Fergus was an amplitude anomaly driven lead, mapped as a strong soft reflector in the Upper Cretaceous Nise Formation (Fig. 4.3). The reservoir was interpreted to be sandstones sourced from the elevated Sør High. Fergus was a stratigraphic pinch out trap on-lapping the Sør High in the east. Hydrocarbon phase was thought to be gas. The lead was tested by the Shrek well, 6507/5-9 A, drilled in PL838 in 2019. The well did not find any reservoir or hydrocarbons at this level as Fig. 4.4 shows. The Fergus reflector is therefore interpreted as a lithological contrast.

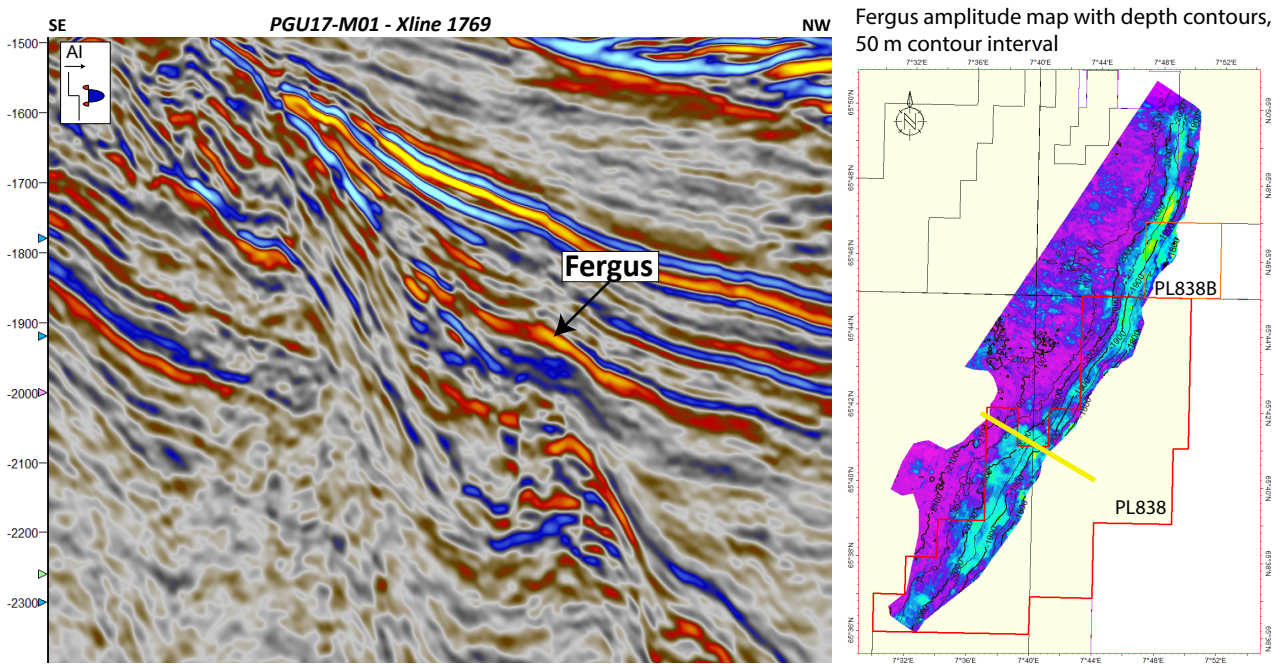


Fig. 4.3 Fergus amplitude map and seismic profile

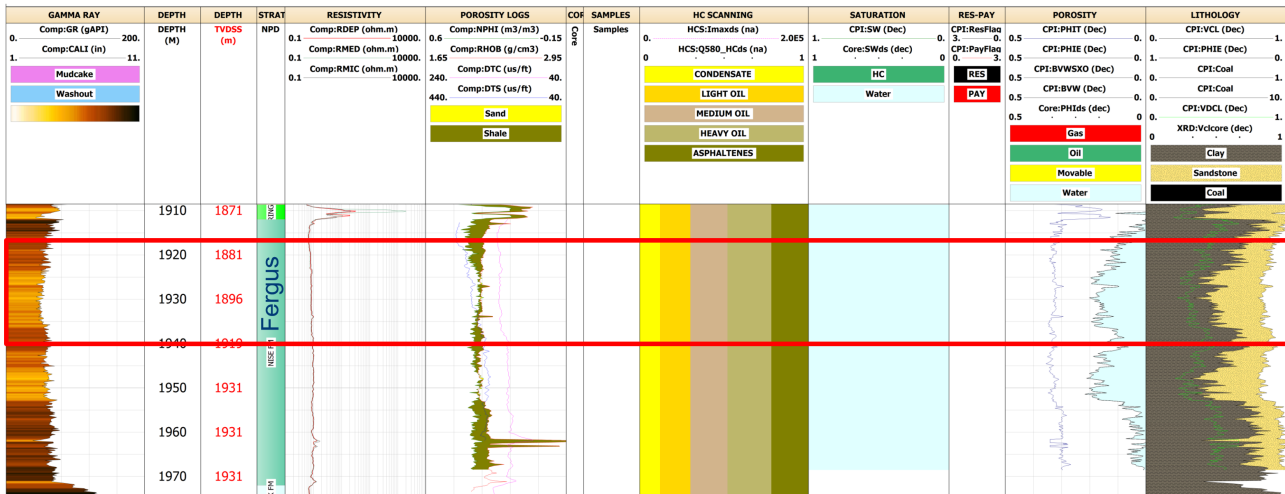


Fig. 4.4 6507/5-9S cpi of Fergus level
Red rectangle show the Fergus level were no reservoir or hydrocarbons were found.

Sugarplum prospect

Sugarplum is a northeast-southwest oriented, rotated fault block on the western edge of the Sør High. It covers an area of 5,7 km² where only the northern half lies within the licence (Fig. 4.5).

Top reservoir is interpreted as Middle Jurassic Fangst Gp in the centre of the prospect, but to the north and south the reservoir is eroded and truncated by Base Tertiary Unconformity. Here the reservoir is Lower Jurassic Båt Gp.

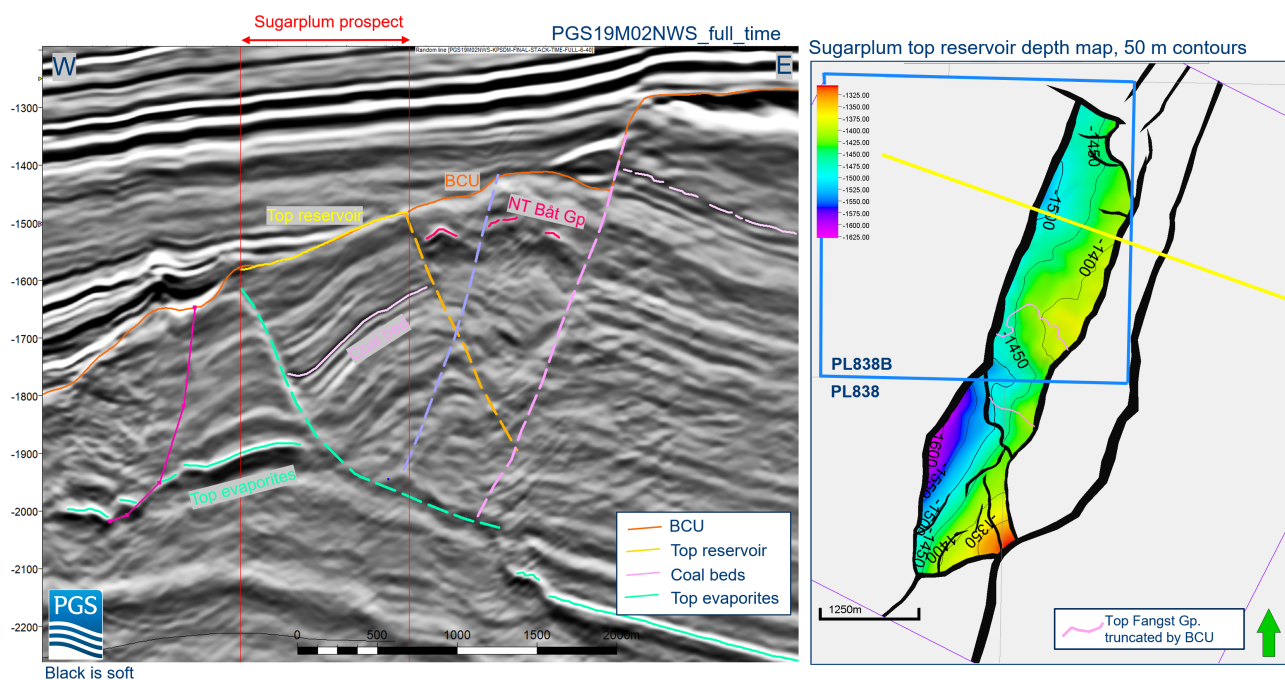


Fig. 4.5 Sugarplum prospect depth map and seismic profile

Sugarplum is a footwall compared to the downfaulted hanging-wall in the east, but in the south (in the apex area) it sits as a hanging-wall to a fault coming in from the northeast. There is some uncertainty related to the throw of the eastern bounding fault and what the reservoir is juxtaposed against across the fault. Top seal is shales of Melke Fm., Hordaland and Nordland Gps. with the possibility for thief sands. Trap seal is therefore one of the main risks.

The source rock is the proven mature Spekk and Åre Fm., located in the basin area west of the prospect. Basin modelling shows that the drainage area for mature Spekk Fm. is very narrow along the Sør High, and taking migration loss into consideration, no hydrocarbons are expected to reach the prospect. In addition, a very complex hydrocarbon migration route across several fault blocks west of the prospect makes source migration the main risk for Sugarplum. The overall chance of success is set to 11%.

Sugarplum lies at a depth between 1300-1600 meters where biodegradation is expected. Heavy oil is therefore anticipated and a recovery factor ranging between 5-25% is used in the calculations. Total mean in-place resources are 20.4 MSm³ o.e. and total mean recoverable resources are 2,4 MSm³ o.e. See **Table 4.3** for details.

Felicia prospect

Felicia was an amplitude driven prospect, identified as a strong soft reflector in the 838B licence. The anomaly has an elongated shape covering an area of 56 km², extending both south into PL838 and northeast into PL941 and the relinquished PL1193 (**Fig. 4.6**). The soft reflector ties to Paleocene lower Tare Formation/top Tang Formation in the 6507/5-9A & S (Shrek) and 6507/5-1 (Skarv) wells, and represented a new play in the area. The anomaly was interpreted to be a gas filled sandstone reservoir on-lapping the Sør High and pinching and shaling out in all other directions. The sandstones were interpreted to be derived from erosion of Jurassic and Triassic

Table 4.3 Sugarplum prospect form

Table 5: Prospect data (Enclose map)

Block	6507/3	Prospect name	Sugarplum		Discovery/Prop/Lead		Prosp ID (or New!)	NPD will insert value	NPD approved (Y/N)	
Play name	NPD will insert value	New Play (Y/N)	No		Outside play (Y/N)	No				
Oil, Gas or O&G case:	Oil	Reported by company	PGNiG	Reference document	PL838B Status report for surrender				Assessment year	2023
This is case no.:		Structural element	Sør High	Type of trap	Structural	Water depth [m MSL] (>0)		Seismic database (2D/3D)	3D	
Resources IN PLACE and RECOVERABLE Volumes, this case		Main phase			Associated phase					
In place resources	Oil [10 ⁹ Sm ³] (>0.00)	Low (P90)	Base, Mode	Base, Mean	High (P10)	Low (P90)	Base, Mode	Base, Mean	High (P10)	
	Gas [10 ⁹ Sm ³] (>0.00)	2,53	1,40	19,30	42,20					
Recoverable resources	Oil [10 ⁹ Sm ³] (>0.00)	0,27	0,12	2,30	5,08	0,14	0,07	1,09	2,38	
	Gas [10 ⁹ Sm ³] (>0.00)					0,02	0,01	0,13	0,29	
Reservoir Chrono (from)	Middle Jurassic	Reservoir litho (from)	Fangst Gp.	Source Rock, chrono primary	Upper Jurassic	Source Rock, litho primary	Spekk Fm.	Seal, Chrono	Palaeogene/Neogene	
Reservoir Chrono (to)	Lower Jurassic	Reservoir litho (to)	Båt Gp.	Source Rock, chrono secondary	Lower Jurassic	Source Rock, litho secondary	Åre Fm.	Seal, Litho	Hordaland & Nordland	
Probability [fraction]										
Total (oil + gas + oil & gas case) (0.00-1.00)		Oil case (0.00-1.00)	0,11	Gas case (0.00-1.00)		Oil & Gas case (0.00-1.00)				
Reservoir (P1) (0.00-1.00)	0,90	Trap (P2) (0.00-1.00)	0,70	Charge (P3) (0.00-1.00)	0,30	Retention (P4) (0.00-1.00)	0,60			
Parametres:		Low (P90)	Base	High (P10)	<i>Comments</i>					
Depth to top of prospect [m MSL] (> 0)			1306							
Area of closure [km ²] (> 0.0)			5,7							
Reservoir thickness [m] (> 0)		176	200	224						
HC column in prospect [m] (> 0)		86	140	194						
Gross rock vol. [10 ⁹ m ³] (> 0.000)										
Net / Gross [fraction] (0.00-1.00)		0,59	0,63	0,66						
Porosity [fraction] (0.00-1.00)		0,27	0,30	0,33						
Permeability [mD] (> 0.0)										
Water Saturation [fraction] (0.00-1.00)		0,32	0,25	0,19						
Bg [Rm3/Sm3] (< 1.0000)										
1/Bo [Sm3/Rm3] (< 1.00)		0,90	0,87	0,85						
GOR, free gas [Sm ³ /Sm ³] (> 0)										
GOR, oil [Sm ³ /Sm ³] (> 0)		47	57	70						
Recov. factor, oil main phase [fraction] (0.00-1.00)		0,07	0,12	0,17						
Recov. factor, gas ass. phase [fraction] (0.00-1.00)		0,07	0,12	0,17						
Recov. factor, gas main phase [fraction] (0.00-1.00)										
Recov. factor, liquid ass. phase [fraction] (0.00-1.00)										
For NPD use:										
Temperature, top res [°C] (>0)					Innrapp. av geolog-init:	NPD will insert value	Registrert - init:	NPD will insert value	Kart oppdatert	NPD will insert value
Pressure, top res [bar] (>0)					Dato:	NPD will insert value	Registrert Dato:	NPD will insert value	Kart dato	NPD will insert value
Cut off criteria for N/G calculation	1.	2.	3.						Kart nr	NPD will insert value

strata on the exposed Sør High, deposited along its flanks. The main part of the prospect was mapped as two vertically stacked elongated lobes, anticipated to be in communication with each other, with reservoir thickness up to 50-70 meters.

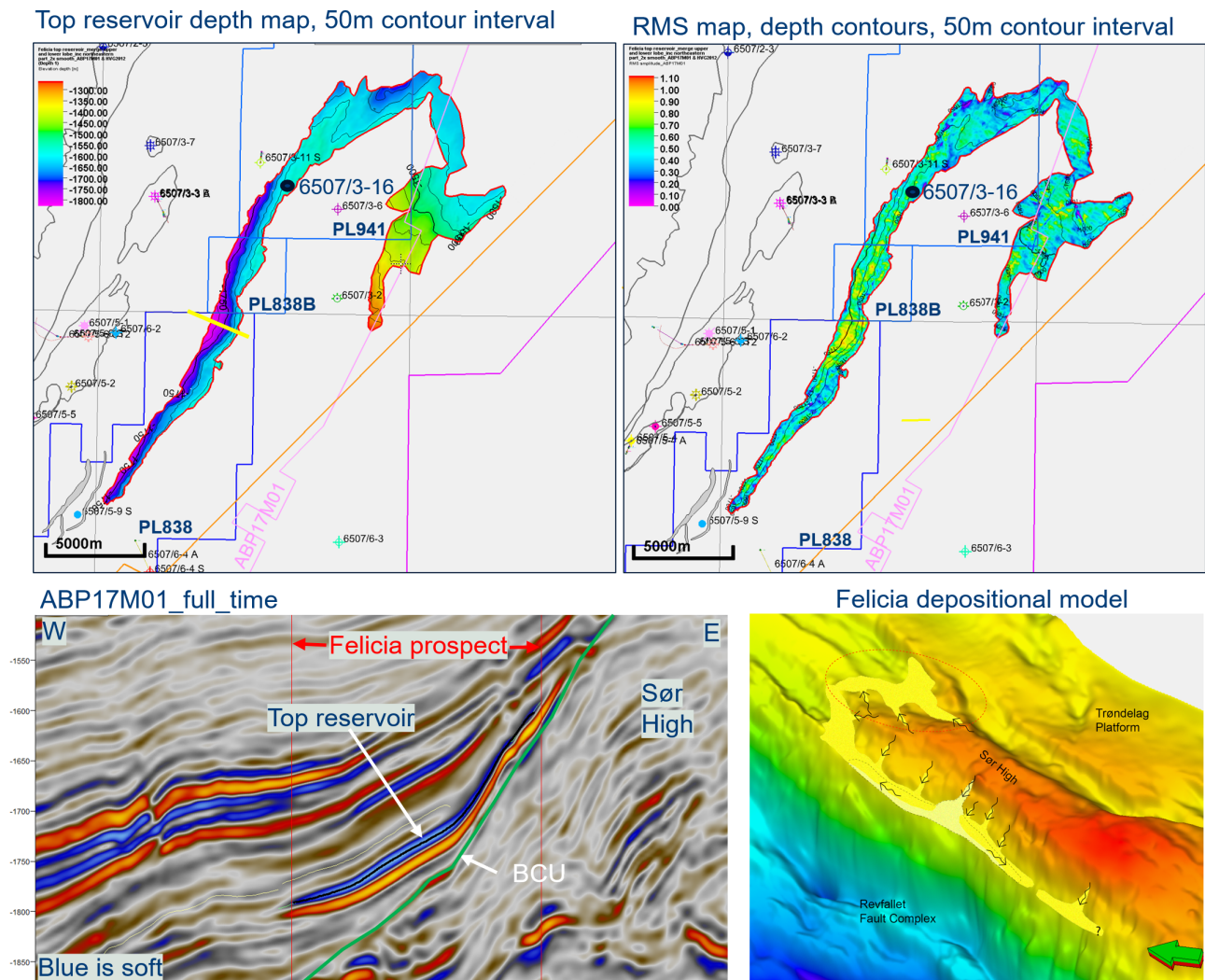


Fig. 4.6 Felicia prospect

At the top depth map and amplitude map. At the bottom seismic profile and depositional model for Felicia prospect.

One of the anti-models was that the anomaly was zeolite deposits, possibly of volcanic origin, similar to what is penetrated at this level in adjacent wells. Reservoir presence was the main risk for the prospect.

Where the prospect onlaps the Sør High, Jurassic and Triassic strata act as a base seal with a great risk of hydrocarbons leaking into porous rocks on the high. Trap seal was therefore considered as a major risk.

Felicia lies at a depth between 1250-1800 meters where both thermogenic and biogenic gas can be expected.

Felicia was tested as a secondary target in well 6507/3-16 drilled in PL941. The well was completed in August 2022 and was dry. The Felicia level is interpreted to be 34 meters of bio-silicious material

with high total porosity (44%), but very low permeability. Pressure tests taken at the Felicia level revealed tight formation. The transition between the overlying Tare Fm. tuff and the porous ooze in Felicia is most likely causing the strong soft amplitude.

Imelda prospect

The Imelda prospect is a down-faulted hanging wall trap divided into five different segments. The main eastern fault separates the prospect from the Sør High. It covers an area of almost 3 km³ where half of the prospect lies within the licence borders (Fig. 4.7). Apex is at 2232 meters. Reservoir is interpreted to be Middle Jurassic Fangst and Båt Gp. It is possible to follow the soft top Spekk reflector, from the basin area in the west to the westernmost segment of Imelda. Top Fangst Gp. can therefore be picked with great confidence in that block, but it is challenging to interpret top Fangst Gp. into and between the remaining segments.

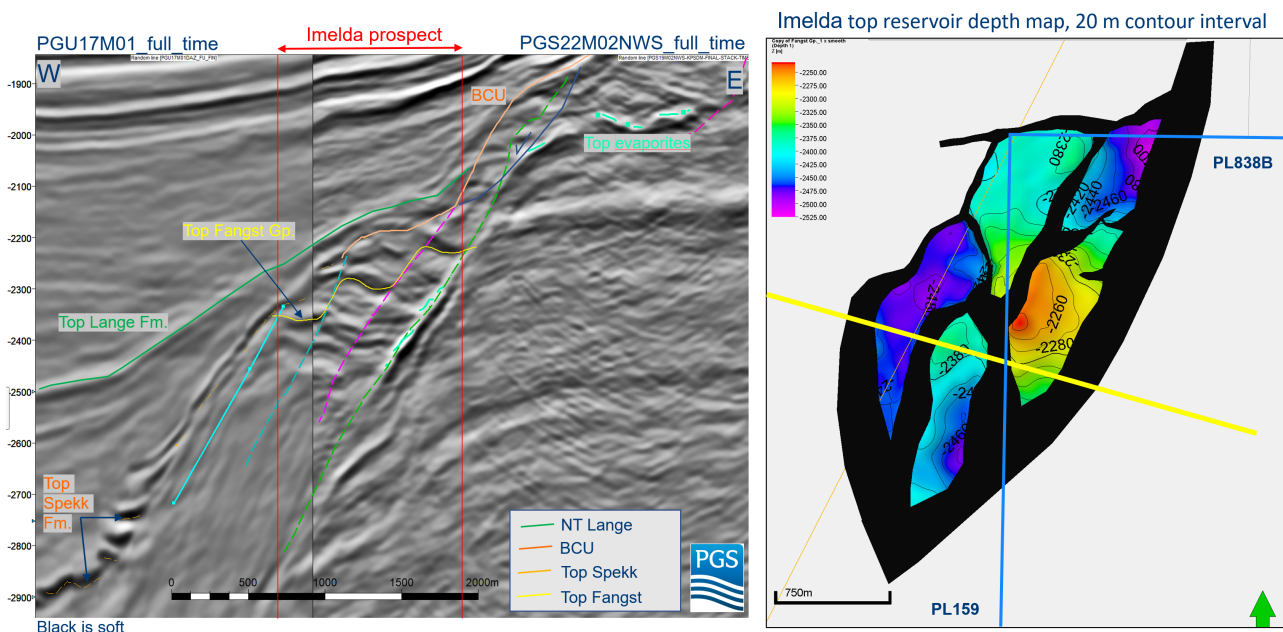


Fig. 4.7 Imelda prospect depth map and seismic profile

Results from the basin modelling show that no hydrocarbons are expected to reach the prospect, hence source migration is expected to be the greatest risk. The chance of success is set to 13%.

Geophysical analysis show that no seismic amplitude of "gas-strength" is observed in the prospect. An oil case was therefore calculated for Imelda with total mean in-place resources of 3,8 MSm³ o.e. and total mean recoverable resources of 0,7 MSm³ o.e. (see Table 4.4)

Table 4.4 Imelda prospect form

Table 5: Prospect data (Enclose map)										
Block	6507/3	Prospect name	Imelda	Discovery/Prosp/Lead		Prosp ID (or New!)		NPD will insert value	NPD approved (Y/N)	
Play name	NPD will insert value	New Play (Y/N)	No	Outside play (Y/N)	No					
Oil, Gas or O&G case:	Oil	Reported by company	PGNiG	Reference document	PL838B Status report for surrender			Assessment year	2023	
This is case no.:		Structural element	Revfallet fault compl.	Type of trap	Structural	Water depth [m MSL] (>0)		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)	1,17	2,50	3,46	6,27					
	Gas [10 ⁹ Sm ³] (>0.00)					0,11	0,22	0,34	0,63	
Recoverable resources	Oil [10 ⁶ Sm ³] (>0.00)	0,19	0,36	0,67	1,32					
	Gas [10 ⁹ Sm ³] (>0.00)					0,02	0,04	0,07	0,13	
Reservoir Chrono (from)	Middle Jurassic	Reservoir litho (from)	Fangst Gp.	Source Rock, chrono primary	Upper Jurassic	Source Rock, litho primary	Spekk Fm.	Seal, Chrono	Upper Jurassic	
Reservoir Chrono (to)	Middle Jurassic	Reservoir litho (to)	Båt Gp.	Source Rock, chrono secondary	Lower Jurassic	Source Rock, litho secondary	Åre Fm.	Seal, Litho	Melke Fm.	
Probability [fraction]										
Total (oil + gas + oil & gas case) (0.00-1.00)		Oil case (0.00-1.00)	0,15	Gas case (0.00-1.00)		Oil & Gas case (0.00-1.00)				
Reservoir (P1) (0.00-1.00)	0,90	Trap (P2) (0.00-1.00)	0,70	Charge (P3) (0.00-1.00)	0,40	Retention (P4) (0.00-1.00)	0,60			
Parametres:		Low (P90)	Base	High (P10)	Including a DHI downgrade of 2% the combined COS is 13%					
Depth to top of prospect [m MSL] (> 0)			2232							
Area of closure [km ²] (> 0.0)			2,9							
Reservoir thickness [m] (> 0)		126	150	174						
HC column in prospect [m] (> 0)		76	117	158						
Gross rock vol. [10 ⁹ m ³] (> 0.000)										
Net / Gross [fraction] (0.00-1.00)		0,60	0,65	0,69						
Porosity [fraction] (0.00-1.00)		0,22	0,24	0,26						
Permeability [mD] (> 0.0)										
Water Saturation [fraction] (0.00-1.00)		0,32	0,25	0,19						
Bg [Rm3/Sm3] (< 1.0000)										
1/Bo [Sm3/Rm3] (< 1.00)		0,84	0,79	0,75						
GOR, free gas [Sm ³ /Sm ³] (> 0)										
GOR, oil [Sm ³ /Sm ³] (> 0)		79	98	120						
Recov. factor, oil main phase [fraction] (0.00-1.00)		0,11	0,19	0,29						
Recov. factor, gas ass. phase [fraction] (0.00-1.00)		0,11	0,19	0,29						
Recov. factor, gas main phase [fraction] (0.00-1.00)										
Recov. factor, liquid ass. phase [fraction] (0.00-1.00)										
For NPD use:										
Temperature, top res [°C] (>0)					Innrapp. av geolog-init:	NPD will insert value	Registrert - init:	NPD will insert value	Kart oppdatert	NPD will insert value
Pressure, top res [bar] (>0)					Dato:	NPD will insert value	Registrert Dato:	NPD will insert value	Kart dato	NPD will insert value
Cut off criteria for N/G calculation	1.	2.	3.					Kart nr		NPD will insert value

5 Technical assessment

No new development evaluation for the prospects has been performed due to low chance of success and small recoverable resources. The development scenario from the APA 2018 application was tie-back to the Skarv FPSO.

6 Conclusion

The original prospectivity in the licence was the Middle Jurassic Shaw prospect and the Upper Cretaceous Fergus lead. New seismic data and information from the Shrek discovery wells (6507/5-9 S&A), drilled in 2019 in PL838, led to re-interpretation of the Shaw prospect. What was originally interpreted as hydrocarbon filled sandstone reservoir is now thought to be the soft organic rich Spekk Fm.

The Fergus lead was tested by the Shrek wells, but no hydrocarbons were found at this level.

Continuous work in the licence identified the Lower and Middle Jurassic Sugarplum and Imelda prospects and the Paleogene Felicia prospect. Felicia was tested as a secondary target by the PL941 6507/3-16 well, completed in August 2022. The well was dry.

Basin modelling shows a very limited drainage area for mature Spekk Fm., and taking hydrocarbon migration loss into consideration, no hydrocarbons are expected to reach the prospects.

The licence partners have unanimously decided to surrender the licence due to low chance of success and small recoverable resources in the remaining prospectivity.