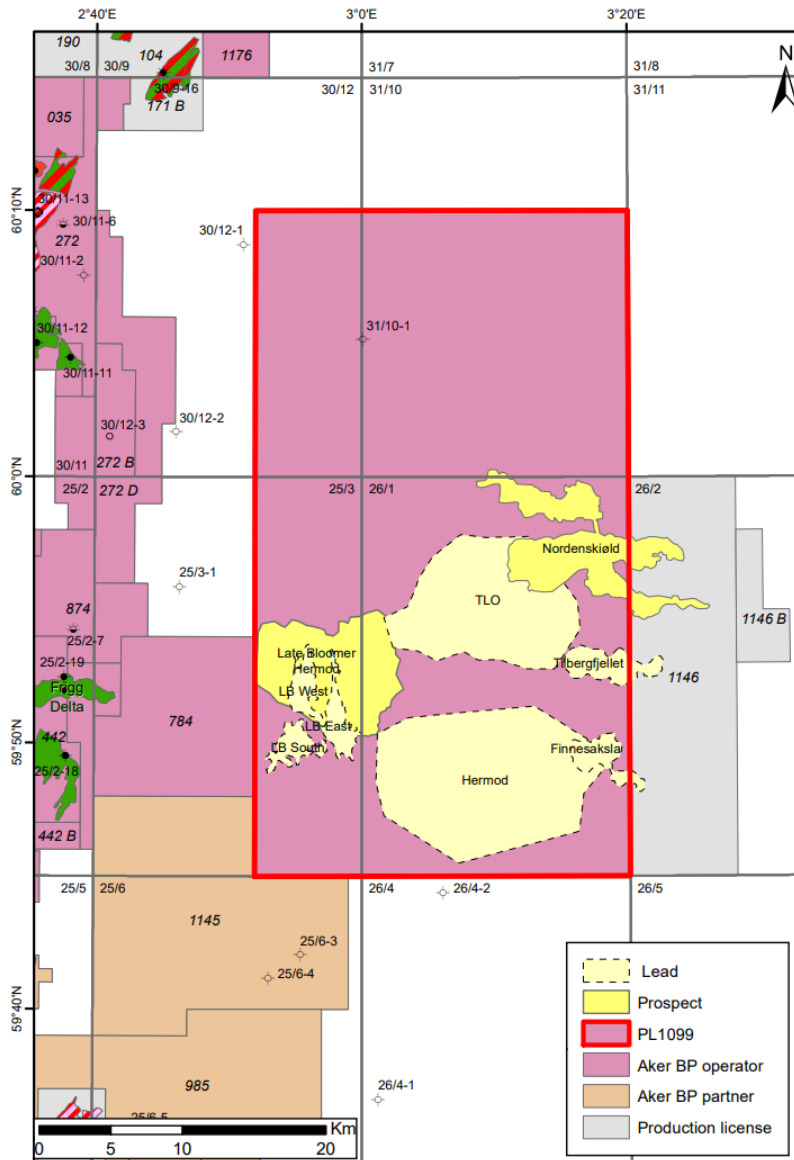


PL 1099

Relinquishment report



Partner/s: PGNiG Upstream Norway AS and ConocoPhillips AS

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1 License history

The PL1099 licence was applied for in the 2020 APA licensing round and was awarded in February 2021. The partnership in the licence originally consisted of Aker BP ASA (Operator, 40%), Lundin Energy Norway AS (30%) and LOTOS Exploration and Production Norge AS (30%). From January 2022 ConocoPhillips took over the interest from former Lundin. The partnership during the extended deadline of the drill or drop decision in the licence is as following: Aker BP (Operator 40%), ConocoPhillips AS (30%) and PGNiG Upstream Norway AS (30%). The work obligations were 3D seismic reprocessing and G&G work, which both have been fulfilled.

During APA two main opportunities were identified, TLO (Ty Fm) and Hermod. Both were evaluated during the licence period and dropped due to the lack of evidence of Ty sands and no mappable closure for the Hermod opportunity.

Further on, the main focus was the Eocene-Paleocene prospectivity, the main prospect being the easterly sourced turbidite fan called Nordenskiold. The Nordenskiold prospect was dropped due to difficulties in defining a proper trap and the high risk associated with migration of HC's into the prospect. When approaching originally DoD deadline 19th of February, the licence decided to apply for 1 year extension to focus on other opportunities/prospects. The licence got 9 months extension and the main focus was put on the Hermod Late Bloomer prospect, with additional potential in Middle Jurassic Hugin level.

The licence covers a large geographical area (blocks 25/3, 26/1, 30/12 and 31/10, see Fig. 1.1) and all prospective intervals have been investigated in the search for a drillable prospect.

Based on the work that has been done both prior and post licence extension, and with the current understanding, there are no drillable candidates within the licence area.

This is associated with the main risk being migration into the area, in addition to the lack of geophysical support and challenging trap definition for the Hermod Late Bloomer prospect.

An overview of the meetings held in PL 1099 is provided in Table 1.1.

Table 1.1 PL1099 meeting overview.

Meeting description	Date
EC-MC PL 1099 meeting	20/04/2021
EC-MC PL 1099 meeting	01/11/2021
Work meeting	27/01/2022
Work meeting	24/03/2022
Work meeting	05/05/2022
Work meeting	07/09/2022
EC-MC PL 1099 meeting	30/11/2022
Work meeting	09/02/2023
Work meeting	04/10/2023
EC-MC PL 1099 meeting	03/11/2023

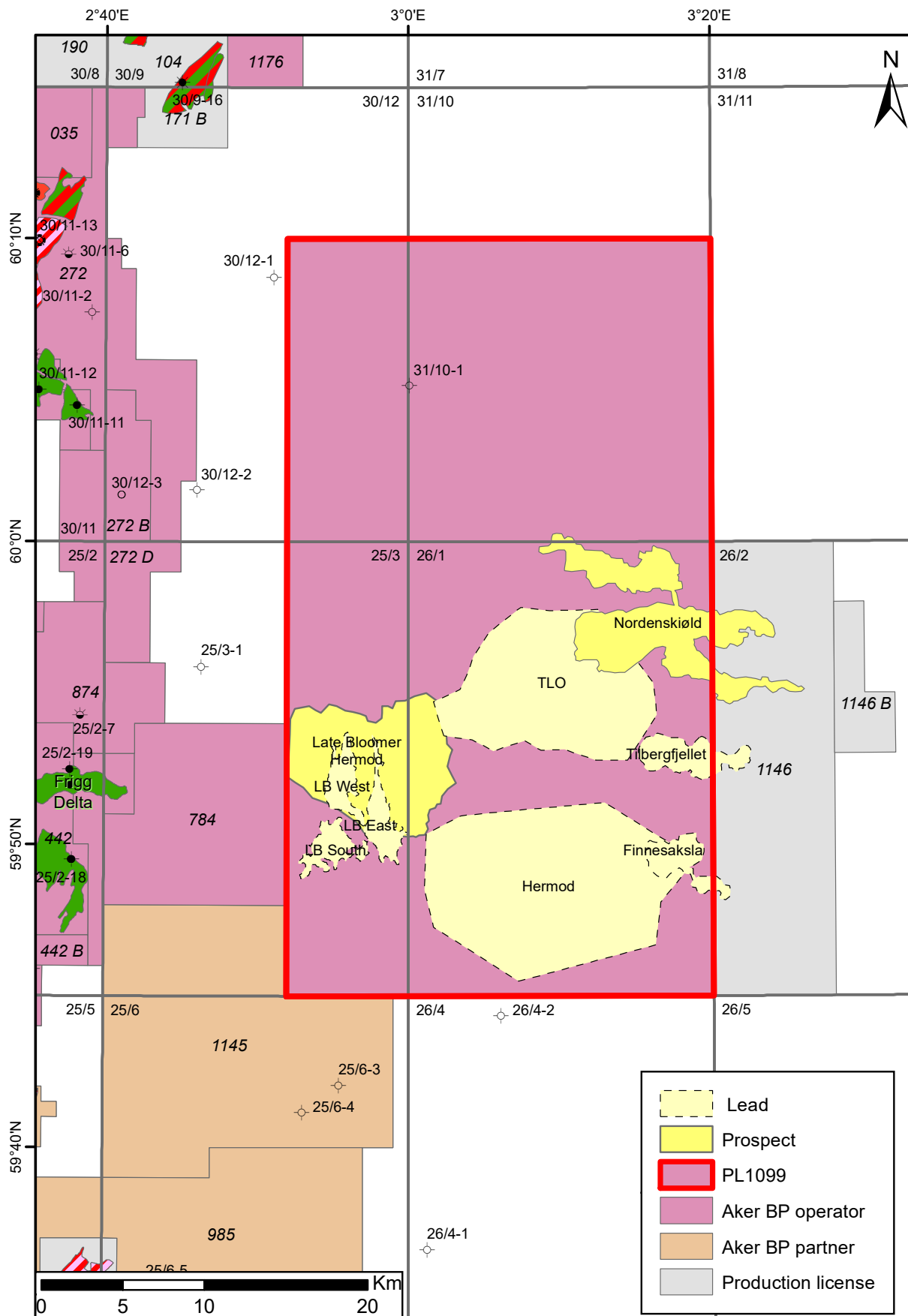


Fig. 1.1 Prospect and leads overview in PL 1099.

2 Database

2.1 Seismic data

The common seismic database consists of the CGG18M01 and the CGG22M05 (Table 2.1 and Fig. 2.1). As a part of the work programme the licence performed a reprocessing project with CGG, the main focus was in the shallower, Paleocene-Eocene levels, so the seismic was clipped at 2.6 seconds. The proprietary reprocessed dataset with the official name CGG22M05 covers an area of 1331.2 Km² with fully migrated data (Fig. 2.1). In addition, AkerBP performed in-house seismic conditioning including denoise and bandwidth matching on both of the seismic datasets, in addition different AVO cubes including Intercept, gradient, EEI chi-angle rotations were generated to help with the geophysical analysis of the licence prospects.

Acquisition and inversion of EM data covering the Nordenskiöld prospect were performed to aid in the prospect evaluation (Fig. 2.1). The EM survey size is 192 Km², number of receivers (Rx): 68, number of towlines (Tx): 4 and Rx/Tx spacing: 2 Km.

Table 2.1 PL1099 Common seismic database.

Survey	2D/3D	Year	PSTM/PSDM	Offset Data	Comment	NPD ID
CGG18M01	3D	2018	PSTM/PSDM	yes	Main seismic survey	
CGG16001	3D	2016			Underlying data for CGG18M01	8332
CGG15007	3D	2015			Underlying data for CGG18M01	8252
CGG22M02	3D	2022	PSTM/PSDM	yes	Main seismic survey, CGG18M01 as underlying data	
EMG22252	2D	2022	*	*	EM Survey	10374

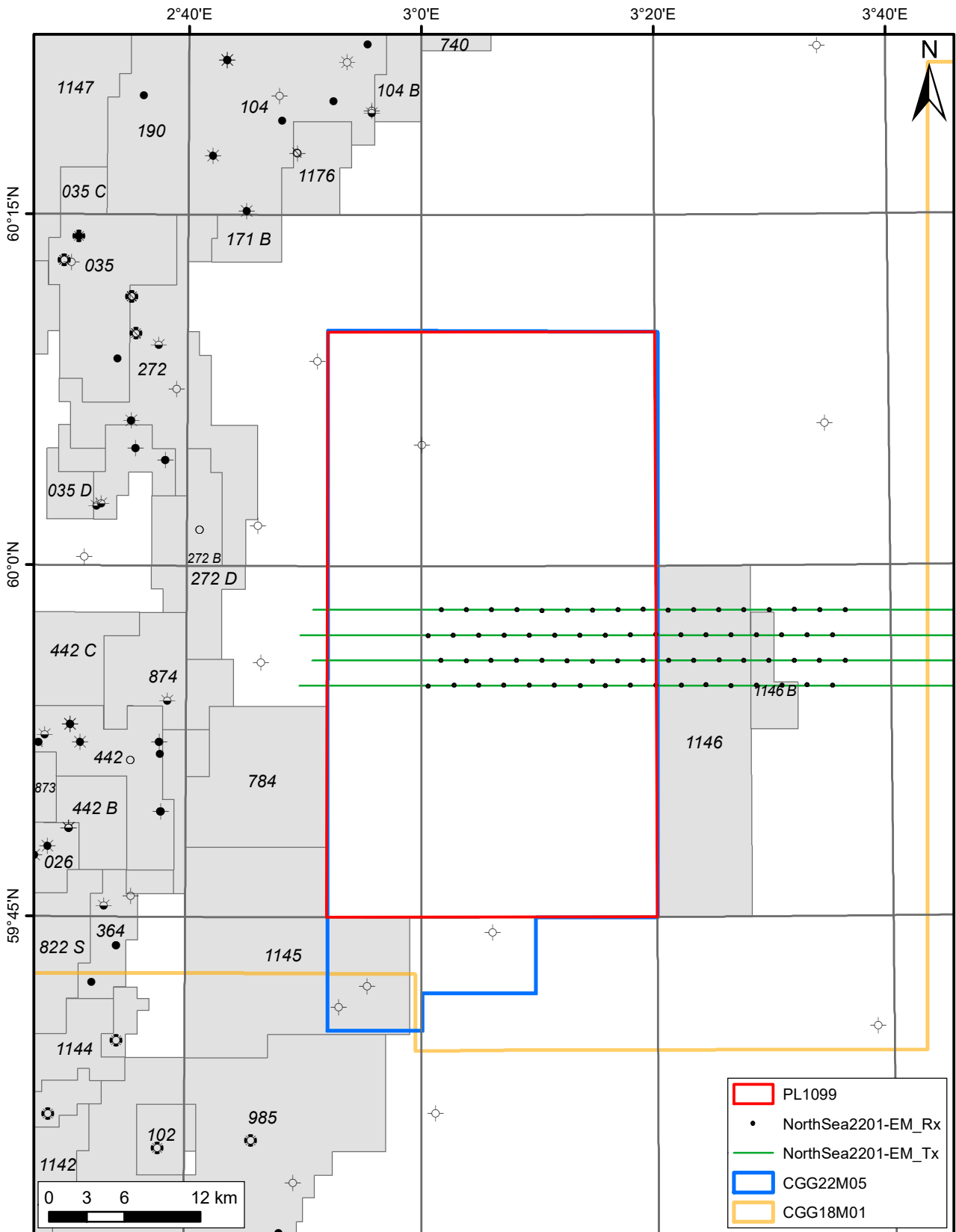


Fig. 2.1 PL1099 common seismic database and EM data.

2.2 Well Data

The main reference wells used in the geological and geophysical evaluation of the prospects and leads are listed in Table 2.2 and shown on the map in Fig. 2.2.

Table 2.2 PL1099 Common well database.

Well name	Year	TD (m MD)	TD stratigraphy	Content	Key data	Comment
25/3-1	1989	3922	Late Triassic	Dry	CPI, LFP, C, B	Very weak shows were recorded in the Balder Fm. Objective was test HC in the Middle Jurassic.
25/2-7	1982	4110	Early Jurassic	Shows	CPI, LFP, B, T	Jurassic level residual oil shows. Ty Fm sand is present.
25/2-6	1977	3750	Triassic	Shows	CPI, B, T	Frøy Field. Oil shows in the Statfjord Gp. Ty Fm presence. Oil shows in Shetland Group chalk indicates vertical
25/2-18S	2016	3997	Early Jurassic	Oil	CPI, B	Langfjellet. Reservoir Hugin Fm. Hermod Fm is present.
25/2-18C	2016	4369	Early Jurassic	Oil	CPI, LFP, B	Langfjellet. Reservoir Hugin and Sleipner Fms. Hermod present.
25/2-18A	2016	4066	Early Jurassic	Oil	CPI, LFP, T	Langfjellet. Reservoir Hugin Fm. Hermod Fm is present.
25/2-18B	2016	4335	Middel Jurassic	Dry	CPI, LFP, B	Langfjellet. Reservoir distribution and properties were in accordance with the previous sidetrack, but entirely water bearing.
25/5-1A	1987	3178	Early Jurassic	Oil	CPI, LFP, T	Frøy Field. Middle Jurassic Hugin and Sleipner Fms.
25/6-3	1999	2475	Late Cretaceous	Dry	CPI, B, LFP, T	Well used for seismically calibrating the Ty and Hermod Fms presence locally.
25/6-4S	2012	2738	Early Jurassic	Dry	CPI, B, LFP, T	Well used for seismically calibrating the Ty and Hermod formations presence locally.
26/4-1	1987	3690	Triassic	Shows	CPI, B, C, T	South-west of the TLO Opportunity, dry well with light oil/wet gas shows in the Ty Fm and oil shows in the Middle to Early Jurassic. Thermogenic gas recorded from Balder Fm.
26/4-2	2004	2302	Late Cretaceous	Dry	CPI, LFP, T	Hermod Fm sand prospect, tested in an easterly and up-dip position.
26/5-1	2013	1910	Late Cretaceous	Dry	C	The objective was to prove HC in Balder Fm and Utsira Fm.
25/5-2	1989	3304	Early Jurassic	Oil	CPI, LFP, T	Frøy Field. Hugin and Sleipner Fms.
30/12-2	2019	3203	Middle Jurassic	Dry	CPI	Main target Middle Jurassic.
31/8-1	2011	2629	Middle Jurassic	Dry	CPI	No Paleogene age porosity encountered in well. Low gas levels.
31/10-1	2014	2388	Late Cretaceous	Dry	CPI, LFP, T	No Ty Fm sand present. Hermod Fm was however present, no shows. Very low gas levels.

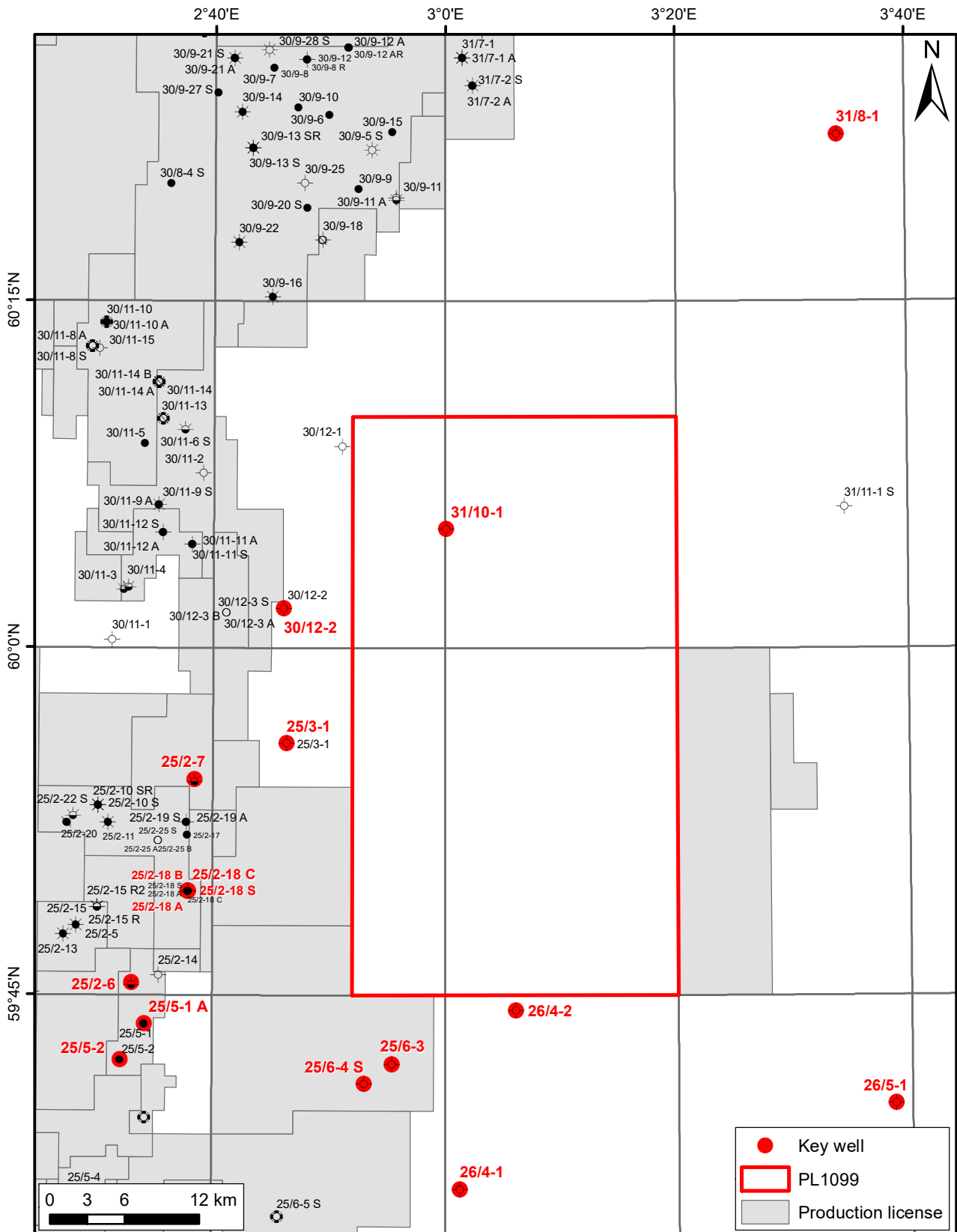


Fig. 2.2 PL1099 Common well database.

3 Geological and geophysical studies

Several studies have been undertaken as a part of the licence work to evaluate the prospectivity in the PL1099. These studies are described briefly below.

Seismic data conditioning and analysis

Seismic data conditioning of the CGG18M01 and CGG22M05 was done in order to optimise seismic interpretation and further geophysical analysis. This includes de-noising, bandwidth matching and a mild time alignment. The improvement was a cleaner dataset and more comparable amplitudes with regard to resolution from near to far stack. The work was done in the Avary software. This work was followed by the generation of intercept & gradient cubes. By exploiting that different coordinate rotations in the intercept-gradient domain correlated with different petrophysical properties, it is possible to mimic different petrophysical properties in the seismic domain. Chi angle rotations were generated to use in the seismic mapping and to better understand the seismic response and the link to different rock properties.

The chi volumes that were generated and used in the geophysical mapping are:

- Chi 45, mimics Poisson ratio / VpVs and is used to map out the sand as a negative amplitude as it is expected for Eocene-Paleocene sandstones in this area.
- Chi -55, mimics Mu-Rho, sensitive to rock matrix, and shows variations in lithology.
- Chi 14, mimics Lambda-Rho, which is a measure of incompressibility and so should be sensitive to pore fluid, especially gas.

Spectral decomposition attribute analysis

Spectral attribute analysis through spectral decomposition (Partyka et al. 1999) on the regional CGG18M01 seismic dataset has been performed both at Hermod and Intra Hordaland formation level. The Spectral decomposition was carried out in order to understand reservoir distribution, in particular to enhance the imaging of depositional structures. Spectral decomposition is a frequency transform of a relatively short time window to capture details from a certain stratigraphic interval. By decomposing the signal into discrete frequency bands, some details not distinguished in a full bandwidth signal will become visible. In the case of a discrete layer in a background model, low frequencies will tune at thicker intervals than high frequencies. By exploiting RGB colour blending techniques, the discrete frequency components can be blended to illustrate thickness changes, highlighting depositional features and exploring for anomalies related to hydrocarbons. If a fluid contact is present, this will also impose a tuning response towards a dipping reservoir. Results from these studies are integrated with the prospect evaluation. Fig. 4.1C and Fig. 4.2 D shows spectral decomposition images of the CGG18M01 at Nordenskiöld unknown formation within Hordaland group and at Hermod Formation interval, respectively.

Petrophysical study

A petrophysical analysis was performed on several wells by Aker BP. Evaluation was made on lithology, reservoir quality (N/G, Vsh, Ø, Sw, K), hydrocarbon type (gas, oil, shows, contacts), zonation and barriers. The main emphasis of this study was to understand the Eocene- Paleocene reservoir properties with respect to the environment at time of deposition and reservoir properties.

EM acquisition and inversion study

4 lines acquired by EMGS in 2022 with in-house inversion. The aim of the study was an assessment of the applicability of CSEM for de-risking and characterization of the Nordenskjöld Prospect in PL1099.

The study included:

1. Assessment of the sensitivity to a range of prospect scenarios in dependence on regional assumptions regarding the background geology.
2. Initial assessment of the relationship between CSEM sensitivity and final imaging-inversion result as interpretation basis.
3. Initial assessment of potential “false positive” scenarios which are not prospect related

The inversion are run with low regularization in order to not suppress variations in the resistivity model. The price to pay are relatively noisy resistivity sections. However, the general increase in resistivity (below Top Frigg) follows the regional trend for the entire length of the line. If not sufficient regularized receiver imprints may become large, but the inversion shows acceptable receiver imprints.

Geochemistry and Petroleum System Modelling

Aker BP conducts continuous petroleum system studies in the Yggdrasil area, consisting of oil-oil and oil-source correlations to better understand the petroleum migration, and in-reservoir mixing and alteration of all discoveries and development projects. Petroleum system modelling studies are used to investigate the lateral migration and vertical leakage dynamics of the area from the Heimdal Terrace - Stord Basin and Oseberg area in the north and calibrated against the petroleum populations, the petroleum fluid properties, fault-seal studies and seismic observations (seismic chimneys, AVO studies).

Paleocene GDE

A regional GDE map is developed for the Hermod Formation- Early Eocene based on well information, seismic mapping and honouring the structural geology. Spectral Decomposition Analysis combined with RGB-blending is a method used to aid interpretation of regional sedimentology, reservoir architecture and potential carrier-bed/migration path distribution. It aims to improve thin bed resolution and showing temporal bed thickness variability. This analysis revealed a turbidite system feature with feeder channel sourced in the area of interest.

AVO and Rock physics

Well tie and rock physics modelling, including fluid replacement modelling, for selected analogue wells has been done to investigate the seismic response for different scenarios, for both the Eocene, Paleocene and Middle Jurassic levels.

Biostratigraphy

The available biostratigraphy data from the offset wells have been reviewed internally in detail in order to define events. Subsequently, these events have been applied to the internal Aker BP Paleogene Sequence stratigraphic scheme to differentiate between the two main Hermod

sequences. For this study the Hermod sandstone was divided into two members equivalent to the respective sequence. The sandstones in key wells were correlated to understand the lateral relationship between them.

Other G&G work

- Volumetric and risking assessments were completed for the Middle Jurassic - Hugin Fm., Paleocene - Hermod Fm. and Eocene - Hordaland Gp. prospects defined in the license.
- Technical and economical evaluation for Nordenskiöld Prospect.

4 Prospect update

Several prospects and leads have been evaluated within the licence. The main prospects are Nordenskiöld and Late Bloomer Hermod level. The TLO (Ty Fm), Hermod, Tilbergfjellet, Finnesaksla (Eocene- Frigg Fm) and Late Bloomer (Hugin Fm) had been evaluated as leads or upside potential, see Fig. 1.1 and

Table 4.1 Prospect and leads resources on PL 1099.

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 ⁹ 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)						
Nordenskiöld	P	Oil	4,64	20,10	40,80	0,06	0,38	0,87	0,10	80,0	Frigg Fm/Eocene	1500	Frigg- Gamma Delta	30
Late Bloomer	P	Oil	0,75	6,65	24,00	0,01	0,18	0,64	0,04	100,0	Hermod Fm/Paleocene	2060	Frigg- Gamma Delta	19
Late Bloomer West	L	Oil	0,45	0,88	1,39	0,12	0,26	0,42	0,09	100,0	Hugin Fm/Middle Jurassic	3126	Langfjellet	17
Late Bloomer East	L	Oil	0,62	1,23	2,00	0,15	0,33	0,57	0,09	100,0	Hugin Fm/Middle Jurassic	3097	Langfjellet	19
Late Bloomer South	L	Oil	0,76	1,37	2,06	0,22	0,42	0,64	0,09	100,0	Hugin Fm/Middle Jurassic	3115	Langfjellet	13
TLO	L	Oil	10,80	23,90	40,00	0,50	1,19	2,05	0,06	100,0	Ty Fm/Paleocene	2000	Frigg- Gamma Delta	30

Nordenskiöld Prospect

The Nordenskiöld prospect is interpreted as easterly sourced deep marine turbidite fan with a stratigraphic trap dependent on an up-dip seal towards the east (Fig. 4.1). The prospect has a well-defined top and base amplitude response (trough over peak) interpreted on far angle stack data. The Nordenskiöld is well-defined on the structural map, RMS amplitude map and RGB blend shown in Fig. 4.1 A, B & C, respectively.

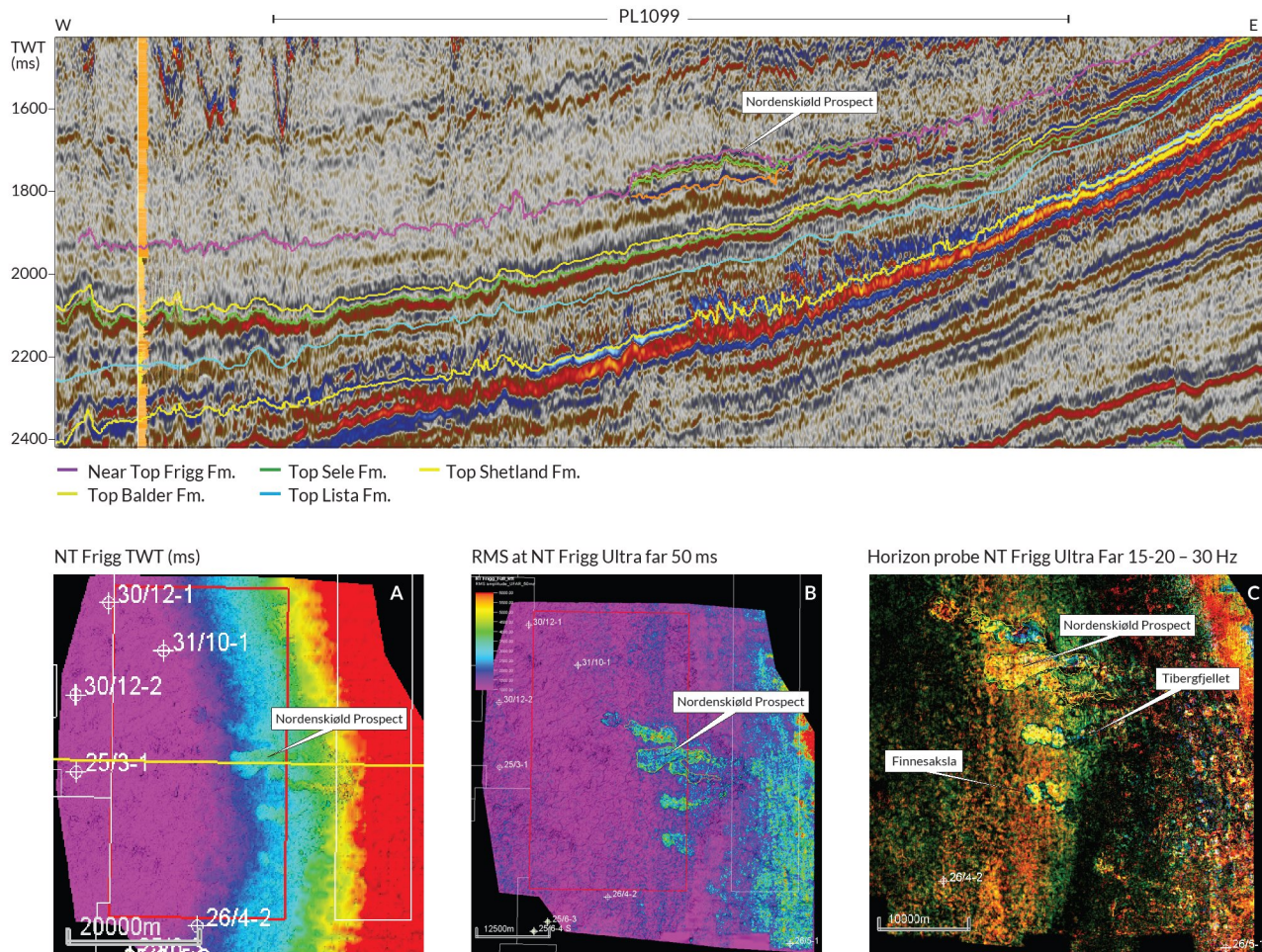


Fig. 4.1 Nordenskiöld prospect seismic line in TWT. A) Near Top Frigg surface in TWT (ms). B) RMS attribute map at NT Frigg in the Ultra far Seismic. C) Spectral Decomposition at the Ultra Far seismic cube, frequency 15-20-30 Hz.

Several migrations scenarios were evaluated and all of them show a difficult migration into the prospects. None of the nearest wells have any signs of migrated hydrocarbons.

The most favourable scenario for long-distance oil migration eastward from the Viking Graben main kitchens into Nordenskiöld requires migration through sandstones of the Frigg Fm. Vertical migration of oil from Frigg Gamma Delta into Liatårnet proves that this is possible, but the distance from the main Frigg system is long and the migration route is challenging.



Table 4.2 shows the volume for the Nordenskiöld prospect.

Table 4.2 Nordenskiöld Prospect data (NPD table 4).

Block	26/1	Prospect name	Nordenskiöld	Discovery/Prospect/Lead	Prospect	Prospect 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	AkerBP	Reference document				Assessment year	
This is case no.:		Structural element	Stord Basin	Type of trap	Combinated	Water depth [m MSL] (>0)	120	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)	14,17	27,21	61,29	124,28				
	Gas [10 ⁹ Sm ³] (>0.00)					0,19	0,28	1,18	2,66
Recoverable resources	Oil [10 ⁹ Sm ³] (>0.00)	4,64	8,15	20,11	40,79				
	Gas [10 ⁹ Sm ³] (>0.00)					0,06	0,10	0,39	0,87
Reservoir Chrono (from)		Reservoir litho (from)	Unkown Fm Horda	Source Rock, chrono primary	Kimmenngian	Source Rock, litho primary	Draugne Fm	Seal Chrono	Lulestan
Reservoir Chrono (to)		Reservoir litho (to)	Ypresien	Source Rock, chrono secondary	Oxfordian	Source Rock, litho secondary	Heather Fm	Seal Litho	Horda
Probability [fraction]									
Total (oil + gas + oil & gas case) (0.00-1.00)	0.10	Oil case (0.00-1.00)	0.10	Gas case (0.00-1.00)	0.00	Oil & Gas case (0.00-1.00)	0.00		
Reservoir (P1) (0.00-1.00)	1.00	Trap (P2) (0.00-1.00)	0.30	Charge (P3) (0.00-1.00)	0.35	Retention (P4) (0.00-1.00)	1.00		
Parameters:		Low (P90)	Base	High (P10)	Comments:				
Depth to top of prospect [m MSL] (> 0)		1500	1500	1500	<i>Mean values have here been used as the base case for the input parameters.</i>				
Area of closure [km ²] (> 0)					<i>In the petrophysical evaluation of the reservoir parameters for the reference wells, the Thomas Steiber (1975) method was utilised for most of the wells. This method utilises cut-offs for net res fraction and porosity. (Net res fraction is the fraction of the desired facies that is of reservoir quality; net reservoir rock/ net sand).</i>				
Reservoir thickness [m] (> 0)					<i>Retention (P4) after accumulation, is part of the trap risk.</i>				
HC column in prospect [m] (> 0)		179	242	316	<i>For NPD use:</i>				
Gross rock vol. [10 ⁹ m ³] (> 0.000)		0.168	0.692	1.421	Innrappr. av geolog-init.	NPD will insert value	Registrert - init.	NPD will insert value	Kart oppdatert
Net / Gross [fraction] (0.00-1.00)		0.41	0.56	0.72	Date:	NPD will insert value	Registrert Date:	NPD will insert value	Kart dato
Porosity [fraction] (0.00-1.00)		0.21	0.26	0.30	Kart nr				
Permeability [mD] (> 0.0)					NPD will insert value				
Water Saturation [fraction] (0.00-1.00)		0.19	0.23	0.27	NPD will insert value				
B _g [Rm ³ /Sm ³] (< 1.0000)					NPD will insert value				
f _{libo} [Sm ³ /Rm ³] (< 1.00)		0.75	0.80	0.85	NPD will insert value				
GOR, free gas [Sm ³ /Sm ³] (> 0)					NPD will insert value				
GOR, oil [Sm ³ /Sm ³] (> 0)		7	19	33	NPD will insert value				
Recov. factor, oil main phase [fraction] (0.00-1.00)		0.31	0.33	0.34	NPD will insert value				
Recov. factor, gas ass. phase [fraction] (0.00-1.00)		0.31	0.33	0.34	NPD will insert value				
Recov. factor, liquid ass. phase [fraction] (0.00-1.00)					NPD will insert value				
Temperature, top res [°C] (>0)					NPD will insert value				
Pressure, top res [bar] (>0)					NPD will insert value				
Cut off criteria for N/G calculation	1.	2.	3.		NPD will insert value				

The *Tilbergfjellet* and *Finnesaksla* leads (Fig. 1.1 and Fig. 4.1 B) located at the south of Nordenskiöld prospect where evaluated with the same conclusion.

Late Bloomer

Hermod level prospect

The licence applied for extension on the original drill or drop deadline to further evaluate the distinct Hermod lobe located at the western boundary of the licence. Late Bloomer is a Hermod Fm. deep marine turbidite channel (Fig. 4.2) dependent on a stratigraphic trap with pinchout to the east and south. The size of the prospect is 43 Km² with an apex at 2060 m.

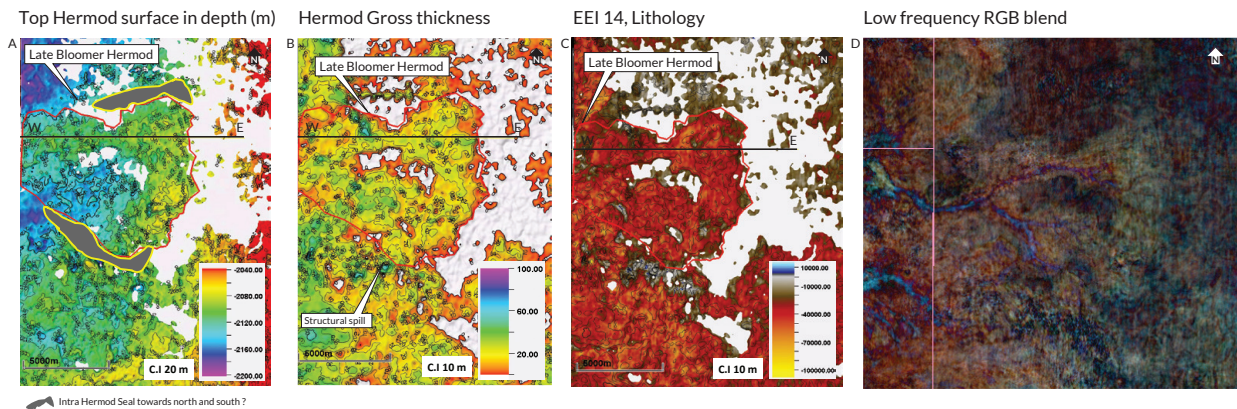
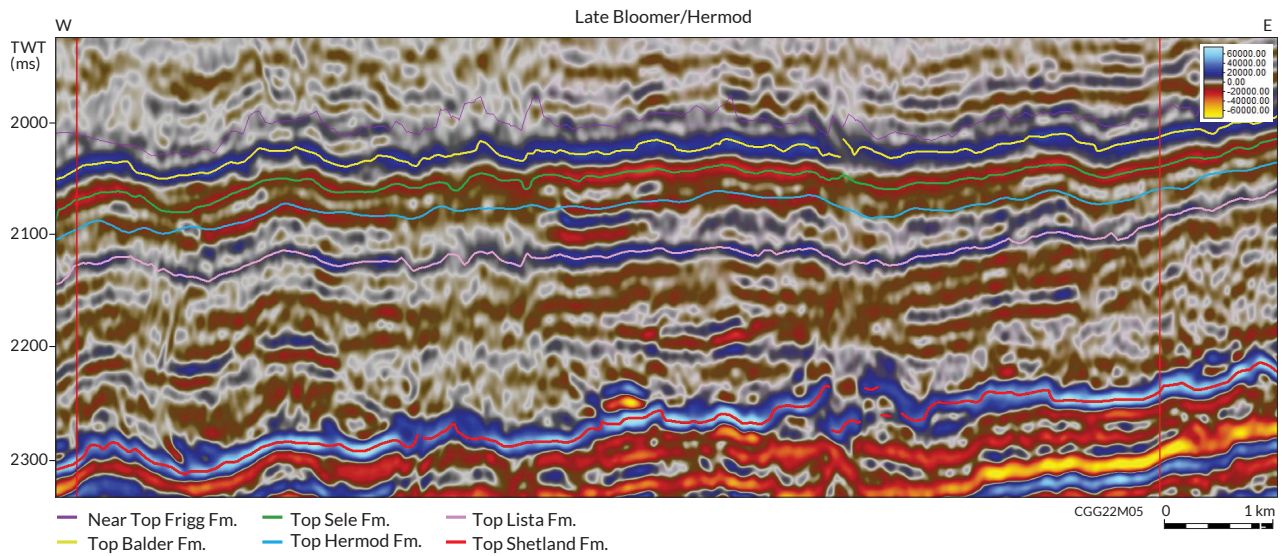


Fig. 4.2 Late Bloomer Hermod prospect seismic line. A) Top Hermod surface in depth (m). B) Hermod Gross thickness. C) EE14, Lithology. D) Low frequency RGB blend.

There is high confidence in the mapping of the Hermod sandstone and the top seal expected to be Sele shale is considered to be of good quality. Nevertheless it is a challenge to argue for a complete pinchout towards east and south, sealing the prospect off from the dry well in the south (26/4-2).

The AVO and Rock physics analysis didn't show any HC indication within the prospect.

Table 4.3 shown the volume for the Late Bloomer prospect at Hermod level.

Table 4.3 Late Bloomer Hermod Prospect data (NPD table 4).

Block	26/1	Prospect name	Late Bloomer	Discovery/Prospect/Lead	Prospect	Prospect 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	AKERBP	Reference document				Assessment year	
This is case no.:		Structural element	Stord Basin	Type of trap	2 1 Pinch-out trap	Water depth [m MSL] (-0)	110	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)	2,95	4,45	25,44	94,32				
	Gas [10 ⁶ Sm ³] (>0.00)					0,08	0,10	0,70	2,52
Recoverable resources	Oil [10 ⁶ Sm ³] (>0.00)	0,75	1,20	6,65	23,98				
	Gas [10 ⁶ Sm ³] (>0.00)					0,02	0,03	0,18	0,65
Reservoir Chrono (from)	Ypresion	Reservoir litho (from)	Hermod Fm	Source Rock, chrono primary	Kimmeridgian	Source Rock, litho primary	Dragnie Fm	Seal, Chrono	Ypresion
Reservoir Chrono (to)	Ypresion	Reservoir litho (to)	Hermod Fm	Source Rock, chrono secondary	Oxfordian	Source Rock, litho secondary	Heather Fm	Seal, Litho	Sele Fm
Probability [fraction]									
Total (oil + gas + oil & gas case) (0.00-1.00)	0.15	Oil case (0.00-1.00)	0.15	Gas case (0.00-1.00)	0.00	Oil & Gas case (0.00-1.00)	0.00		
Reservoir (P1) (0.00-1.00)	1.00	Trap (P2) (0.00-1.00)	0.8	Charge (P3) (0.00-1.00)	0.20	Retention (P4) (0.00-1.00)	0.3		
Parameters:		Low (P90)	Base	High (P10)	<i>Comments:</i>				
Depth to top of prospect [m MSL] (> 0)		2060	2060	2060	<i>Mean values have here been used as the base case for the input parameters.</i>				
Area of closure [km ²] (> 0.0)		3.6	12.1	35.5	<i>In the petrophysical evaluation of the reservoir parameters for the reference wells, the Thomas Steiber (1975) method was utilised for most of the wells. This method utilises cut-offs for net res fraction and porosity. (Net res fraction is the fraction of the desired facies that is of reservoir quality, net reservoir rock/ net sand).</i>				
Reservoir thickness [m] (> 0)		16.4	30.7	45.4	<i>Gross rock volume is the HC-bearing gross volume, that is the GRV calculated down to the HCW contact</i>				
HC column in prospect [m] (> 0)		-70	-59	-33					
Gross rock vol. [10 ⁶ m ³] (> 0.0000)		0.018	0.153	0.586					
Net / Gross [fraction] (0.00-1.00)		0.85	0.90	0.95					
Porosity [fraction] (0.00-1.00)		0.26	0.29	0.32					
Permeability [mD] (> 0.0)									
Water Saturation [fraction] (0.00-1.00)		0.25	0.32	0.40					
Bg [Rm ³ /Sm ³] (< 1.0000)		0.0000	0.0000	0.0000					
Hfo [Sm ³ /Rm ³] (< 1.00)		0.91	0.92	0.94					
GOR, free gas [Sm ³ /Sm ³] (> 0)									
GOR, oil [Sm ³ /Sm ³] (> 0)		21	27	34					
Recov. factor, oil main phase [fraction] (0.00-1.00)		0.22	0.26	0.30	<i>Retention (P4) after accumulation, is part of the trap risk.</i>				
Recov. factor, gas ass. phase [fraction] (0.00-1.00)		0.22	0.26	0.30					
Recov. factor, gas main phase [fraction] (0.00-1.00)									
Recov. factor, liquid ass. phase [fraction] (0.00-1.00)									
Temperature, top res [°C] (> 0)					For NPD use:				
Pressure, top res [bar] (> 0)					Innrap. av geolog.-init	NPD will insert value	Registrert - init	NPD will insert value	Kart oppdatert
Cut off criteria for N/G calculation	1 Porosity >= 0.15	2 Vclay <= 0.75	3		Dato:	NPD will insert value	Registrert Dato:	NPD will insert value	Kart nr

Hugin level leads

Late Bloomer at the Middle Jurassic was defined as structural trap divided in 3 segments (Fig. 4.3 and Table 4.1):

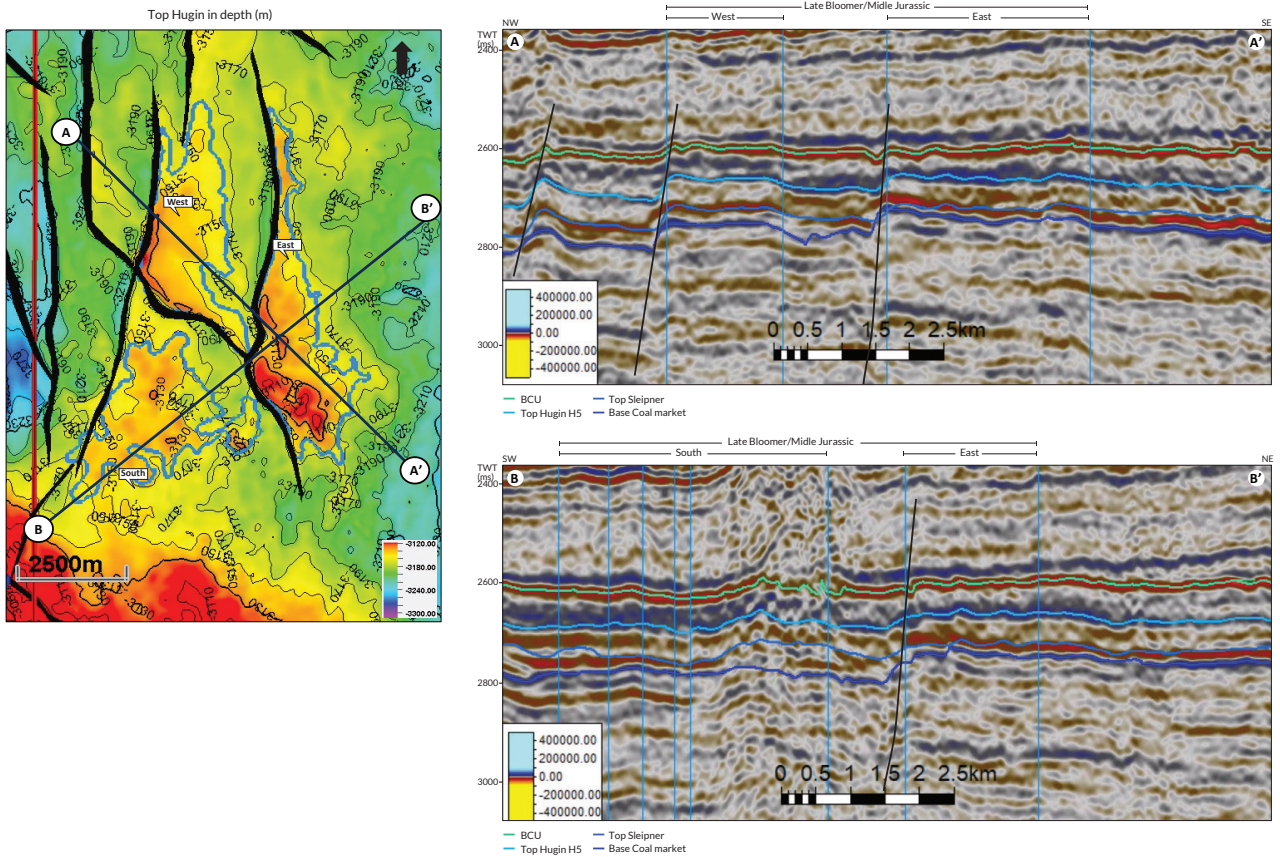


Fig. 4.3 Late Bloomer Middle Jurassic seismic sections AA' and BB'. Structural map at Top Hugin Formation in depth (m) shown the seismic section location and leads outlines.

- Segment West 7 Km², 2 way dip closure and the crest at 3126m
- Segment East 7.3 Km², 3 way dip closure and the crest 3097 m
- Segment South 6.5 Km², 2 way dip closure and the crest 3115 m

The trap for the 3 segments is well-defined and bounded by NS and WE oriented faults. In general, the throw is between 50m-100 m with good possibility of shale smearing. The Top of the reservoir is juxtaposed with Draupne and Heather Shales.

The reservoir was divided in 3 sandy units H5, H2 and H1 using the Langfjellet discovery as analogue, but only the top of Hugin (H5) is seismically mappable. The reservoir thickness for the Middle Jurassic is expecting around 83m - 93m.

The Upper Jurassic source rocks in the Stord Basin are immature to early oil mature. Oil expulsion may have started in the center, but it is insufficient to charge any Jurassic traps as of current size, so the prospect is dependent on lateral migration from the west.

5 Technical evaluation

A detailed technical-economic evaluation was performed for the Nordenskiöld prospect. A potential development tie back to Hugin A (40 Km) with 3*4 slot template and associated flowlines, umbilicals, gas-lift lines. 8 dual oil producers with 4 water injector and gas lift would be required (aggressive well design).

6 Conclusion

Extensive G&G studies have been carried out to mature the understanding of the prospects, however with the current understanding, there are no drillable candidates within the licence area. This is associated with the main risk being migration into the area, in addition to the lack of geophysical support and trap definition for the Paleocene and Eocene prospects.

The licence is surrounded by dry wells, and it is difficult to find a plausible migration model into the area. Oil expulsion may have started in the basin centre, but it is insufficient to charge any traps as of current understanding (26/4-1, 25/6-6S, 31/11-1S).

All work commitments on the licence have been fulfilled, and the partnership is aligned on a negative drill decision. Therefore, the partnership unanimously recommends the relinquishment of PL 1099.

7 References

Partyka et al. (1999): Interpretational applications of spectral decomposition in reservoir characterization, *The Leading Edge*, Vol.18, 353- 360.



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