AkerBP

PL 784

Relinquishment Report

Partners:

concedo equinor vår energi

Table of Contents

List of Figures

List of Tables

1 License history

PL 784 was applied for in APA2014 and awarded 06.02.2015 to Tullow Oil Norge AS as operator with 40 % equity, and Rocksource Exploration Norway AS, Concedo ASA and Explora Petroleum AS as partners with 20 % each. Aker BP ASA took over as operator of the licence 09.12.2016. At the time of surrendering the license, the partnership consisted of Aker BP as operator with 40 %, Concedo AS, Equinor Energy AS and Vår Energi ASA with 20 % equity each. The initial period was 7 years and was extended by 3 years until 06.02.2025.

The following gives an overview of the key terms and conditions, as well as key events in the license.

General info:

- Date of award: 06.02.2015 (following APA 2014)
- Initial area: Parts of blocks 25/3 & 25/6. Total 272.952 km^2
- Licensees at award: Tullow Oil Norge AS (40% Operator), Rocksource Exploration Norway AS (20%), Concedo ASA (20%), Explora Petroleum AS (20%)
- Change of Operator: 09.12.2016 Aker BP ASA (40% Operator - from Tullow Oil Norge AS)
- Licensees at relinquishment: Aker BP ASA (40% Operator), Concedo AS (20%), Equinor Energy AS (20%), Vår Energi ASA (20%)

Work commitments:

- Acquire 3D seismic - Fulfilled; purchase of UHN98R07 in 2016 and CGG18M01-NVG in 2018
- Drill-or-drop: 06.02.2017 (initial), later extended until 06.02.2024
- BoK: 06.02.2019 (initial)
- BoV: 06.02.2021 (initial)
- PDO: 06.02.2022 (initial), later extended until 06.02.2025

Extensions and area relinquishments:

- Partial relinquishment 08.02.2021. Retained area 158.32 km^2
- Decision to relinquish the remaining license area was unanimously approved on 4th December 2023, and the area fully relinquished 6th February 2024

See Table 1.1 for an overview of license extensions and revised deadlines

Formal Management and Exploration Committee Meetings:

See Table 1.1 for an overview of the official Exploration and Management Committee meetings held in the license. In addition to the meetings listed, a series of exploration work meetings has been arranged in the license.

Reasoning for surrender of license

Following extensive prospect evaluations of all levels in the license, no drillable prospects were identified and the decision was made to surrender the remaining area effective 6th February 2024.

Table 1.1 Formal license meetings and applications for license extensions

Year	Formal meeting	Extension application	Drill-drop deadline	PDO deadline
2015	08.04: MCM 11.10: MCM/ECM		06.02.2017	06.02.2022
2016	23.11: MCM/ECM	Sept.: 1 yr extension	06.02.2018	06.02.2023
2017	21.11: MCM/ECM	Nov.: 1 yr extension	06.02.2019	
2018	26.11: MCM/ECM	Dec.: 1 yr extension	06.02.2020	
2019	21.11: MCM/ECM	Dec.: 1 yr extension	06.02.2021	
2020	17.11: MCM/ECM			
2021	22.11: MCM/ECM	Jan.: 1 yr extension	06.02.2022	06.02.2025
2022	25.11: MCM/ECM	Jan.: 2 yr extension	06.02.2024	
2023	15.11: MCM/ECM			
2024			06.02.2024 Dropped	

2 Database

2.1 Seismic data

The agreed common seismic database in PL 784 is shown in Table 2.1 and Fig. 2.1, where the CGG PSDM 3D data is the key survey used in the license evaluations.

In addition to the streamer seismic data, a DNME (Induced Polarisation 'IP') survey was acquired by ORG Geophysical in 2015 to assist in the evaluation of the prospectivity (See Offshore Technology, n.d for additional information).

In 2019, a Petromarker CSEM 3D-survey (PM19250) was acquired over the Eocene/Oligocene Folgefonna Prospect and evaluated by the Operator and Concedo. The data was not included as part of the license database.

Table 2.1 Geophysical Database, PL784

Survey Name	Type	Year	Offset Data	Description	NPD ID
CGG18M01-NVG	3D PSDM	2018 PSDM processing	Yes	Merge and reprocessing	
CGG15007		2015 acquisition		Underlying data for CGG18M01	8252
CGG16001		2016 acquisition		Underlying data for CGG18M01	8332
UHN98R07	3D PSTM	2007 reprocessing	Yes	Reprocessing of UHN98, purchased in PL784	
UHN98		1998 acquisition		Underlying data for UHN98R07	3963
TUN15M02	3D	2015 merge	No	Post-stack merge and filtering of 18 released 3D surveys	Various "older" surveys
ORG15253-4	DNME 2D-lines	2015		Differentially Normalised Method of Electrical prospecting (IP-survey)	8228

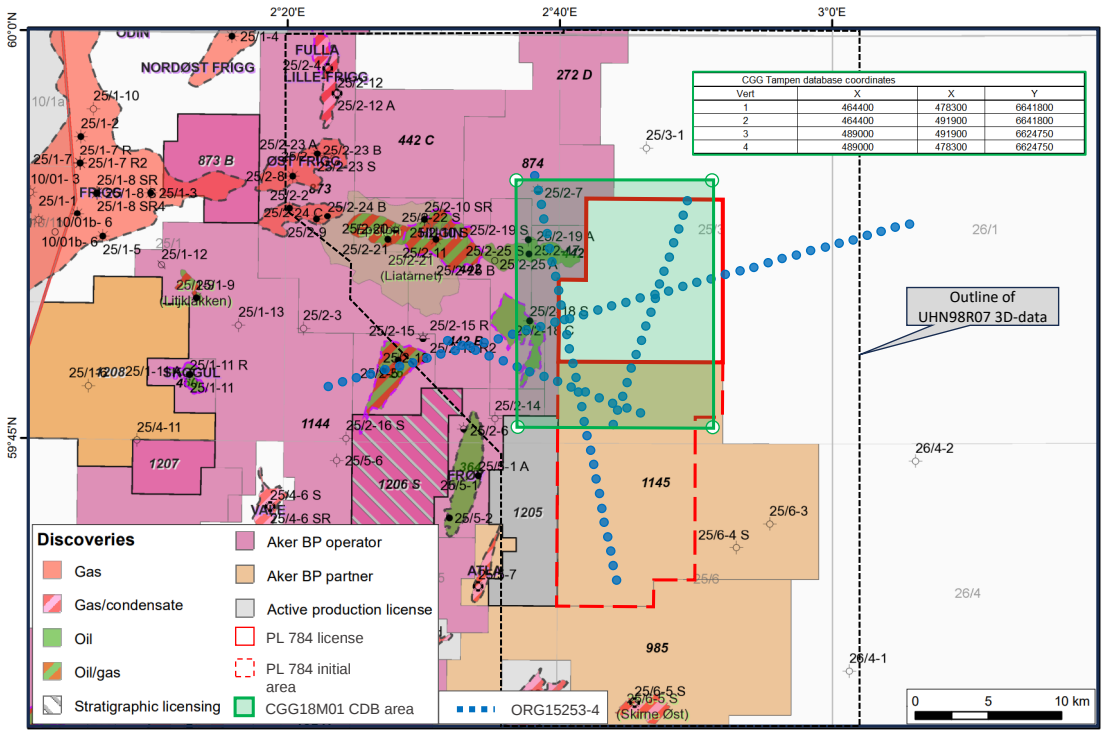

Fig. 2.1 Geophysical Database, PL 784

2.2 Well Data

No wells have been drilled in PL784. Well database used for the evaluations of the prospectivity in the license is shown in Table 2.1 and in Fig. 2.2.

Table 2.2 Well database

Well	Common Name	NPD ID	Operator	Year (ended)	Content	TD (mMD)	TD Stratigraphy
25/1-6		352	Elf	1978	Dry	2895	Late Cret./Jorsalfare Fm.
25/1-10	Deep Frigg	1219	Elf	1988	Dry	4739	Middle Jurassic/Brent Gp.
25/1-11R	Skogul	6368	Det norske	2010	Oil	2338	Late Paleoc./Heimdal Fm.
25/2-3		355	Elf	1974	Dry	2795	Late Cret./Hardråde Fm.
25/2-5	Lille Frøy	357	Elf	1976	Oil/Gas	4000	Triassic/Smith Bank Fm.
25/2-6	Lille Frøy appr.	358	Elf	1977	Oil shows	3750	Triassic/Smith Bank Fm.
25/2-7		47	Elf	1982	Shows	4110	Early Jurassic/Dunlin Gp.
25/2-10S, SR	Frigg Gamma	1178	Elf	1987	Oil/Gas	2971	Paleocene/Ekofisk Fm.
25/2-12A	Lille Frigg appr.	1355	Elf	1989	Gas/Cond.	3865	Middle Jur./Hugin Fm.
25/2-13	Lille Frøy appr.	1459	Elf	1990	Oil/Gas	3908	Late Trias./Smith Bank Fm.
25/2-14	Frøy appr.	1712	Elf	1991	Dry	3623	Early Jur./Statfjord Gp.
25/2-15R2		2116	Elf	1993	Oil shows	3942	Early Jurassic/Dunlin Gp.
25/2-17	Frigg Delta	6215	StatoilHydro	2009	Oil	2193	Paleocene/Sele Fm.
25/2-18S	Langfjellet	8023	Aker BP	2016	Oil	3887	Early Jurassic/Drake Fm.
25/2-19A	Nordfjellet prosp.	8250	Aker BP	2017	Dry	4210	Middle Jur./Sleipner Fm.
25/3-1		1419	Elf	1989	Dry	3922	Late Triassic/Statfjord Gp.
25/4-6S	Vale	1703	Elf	1991	Gas/Cond.	4170	Early Jur./Statfjord Gp.
25/5-1A	Frøy appr.	1131	Elf	1987	Oil	3432	Early Jurassic/Drake Fm.
25/5-2	Frøy appr.	1346	Elf	1989	Oil	3304	Early Jurassic/Drake Fm.
25/5-3	Skirne	1488	Elf	1990	Gas/Cond.	2900	Triassic
25/5-7	Atla	6423	Total	2010	Gas/Cond.	3045	Late Triassic/Hegre Gp.
25/6-3		3885	Statoil	1999	Dry	3885	Late Cret./Hardråde Fm.
25/6-4S	Kalvklumpen prosp.	6507	Det norske	2012	Dry	2950	Early Jurassic/Dunlin Gp.
26/4-1		1046	BP	1987	Dry	3690	Triassic
26/4-2	Beluga prosp.	4925	Shell	2004	Dry	2302	Late Cretaceous/Tor Fm.

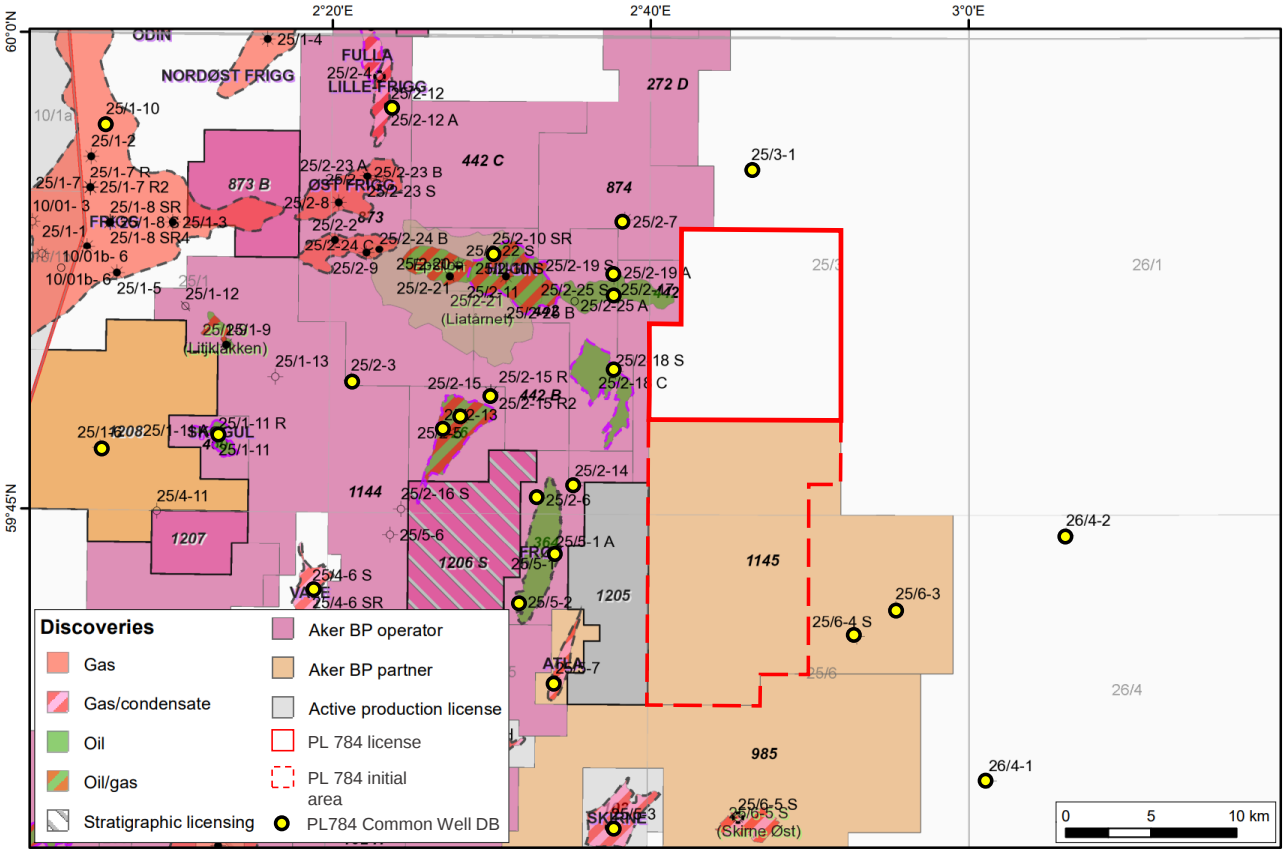

Fig. 2.2 Well Database

3 Geological and geophysical studies

As PL784 is an old license, a significant amount of various geological and geophysical studies have been performed to support a potential drill decision, and documented in license meeting presentations. A selection of the key studies and their result/impact on prospectivity in the license is listed in Table 3.1

Table 3.1 G&G Studies in PL 784

Project	Year	Performed by	Main purpose	Result
Seismic conditioning TUN15M02	2014 - 2015	Tullow	Improve interpretability of data	Improved imaging on vintage 3D seismic in "early days" of the license
Evaluation of IP data	2015	ORG Geophysical	Search for evidence of hydrocarbons in the PL784 area using IP technology	Data were considered inconsistent and not appropriate for de-risking the license prospectivity
Seismic Interpretation	2015 - 2023	Tullow & Aker BP	Mapping on best data for prospect evaluations	Continuous updates of interpretations on all play levels on the best data available in the license
Velocity modelling	2015 - 2022	Tullow & Aker BP	Important for subtle Hermod and Jurassic prospects	The two main prospects in the license (Zenith-Hermod & Oksen-Hugin) was sensitive to depth conversions and results from the detailed velocity work resulted in smaller closures, downgrading the prospects
EM feasibility	2015 & 2019	Tullow Aker BP & Petromarker/Concedo	Would EM data work for the PL784 prospects	Both feasibility studies (2015 & 2019) showed that the EM data will be challenging due to the expected oil quality/saturations and the shape of the prospects
Fault seal analysis	2017	Aker BP	Evaluate fault seal potential for Oksen and the potential for migration into Oksen from the west	High chance of sand-sand juxtaposition for the main Oksen bounding fault, resulting in high risk on seal
CSEM data evaluation	2019 - 2020	Aker BP & Concedo	Evaluate potential for EM-anomaly in the Folgefonna prospect	Not part of the license database, but no positive result on EM. Poor quality data.
Seismic conditioning CGG18M01	2021 - 2023	Aker BP	Improving quality of data and creating various cubes	Significant improvement on the most updated seismic data resulting in improved quality of mapping. Intercept/gradient stacks gave especially good results and improved confidence in mapping shallow section
Petroleum Systems Analysis	2022 - 2023	Geomodelling Solutions	Improve understanding of migration risk for Jurassic prospects	A regional PSA study was carried out and resulted in increased risk on migration and timing into the license area
Rock physics and QI work	2015 - 2023	Tullow & Aker BP	Initially work to de-risk Paleocene play. Later also included the Eocene/ Oligocene	Paleocene analysis indicate a class II/ III anomaly expected which is not seen in the data. For the Eocene/Oligocene Folgefonna, the modelling showed that an oil filled reservoir cannot be discriminated from a water-filled reservoir
Impact on OBN in neighbouring license	2023	Aker BP	Assess impact of OBN data in comparison to streamer data and implications for PL784	OBN data was acquired over the Hugin Field in 2022 and partially extended into PL784. The data quality, and especially the velocity data shows significant improvement, but could not de-risk any PL784 prospects. The data was not part of PL784 database

4 Prospect update

4.1 Main prospects - Zenith and Oksen

Zenith - Hermod Play

The main prospect at time of application in APA2014 was defined by Tullow Oil AS and was a Paleocene Hermod closure, named Zenith. Early evaluation work in the license focussed on trying to de-risk this opportunity, including various conditioning of UHN98R07 seismic data, acquisition of IP data, rock-physics modelling work and QI analysis. The result from all these studies were negative to non-conclusive and the prospect was deemed to risky and not pursued any further.

A Hermod lead called Knubben N has been kept as a lead in the license up to relinquishment and represents an update of Zenith N mapped on newer data (see map in Fig. 4.2).

Oksen - Mid Jurassic Play

When Aker BP entered the license in 2016, the drilling of wells 25/2-18 S, A & C had resulted in the promising Langfjellet discovery in Middle Jurassic Hugin Fm. sandstones, and the focus in the license shifted to Jurassic prospectivity. The main prospect was considered to be the Oksen prospect.

The Oksen Prospect was defined as a fault-dependant closure relying on a fault towards the east to be sealing for it to have volumetric interest. With the evaluation of the CGG18M01 data, in addition to detailed work on velocities/depth conversion, the prospect was significantly downgraded in size as shown in Fig. 4.1. This in addition to results from fault-seal analysis on the main bounding fault and the migration risk considered, the prospect was not seen as an attractive drill candidate.

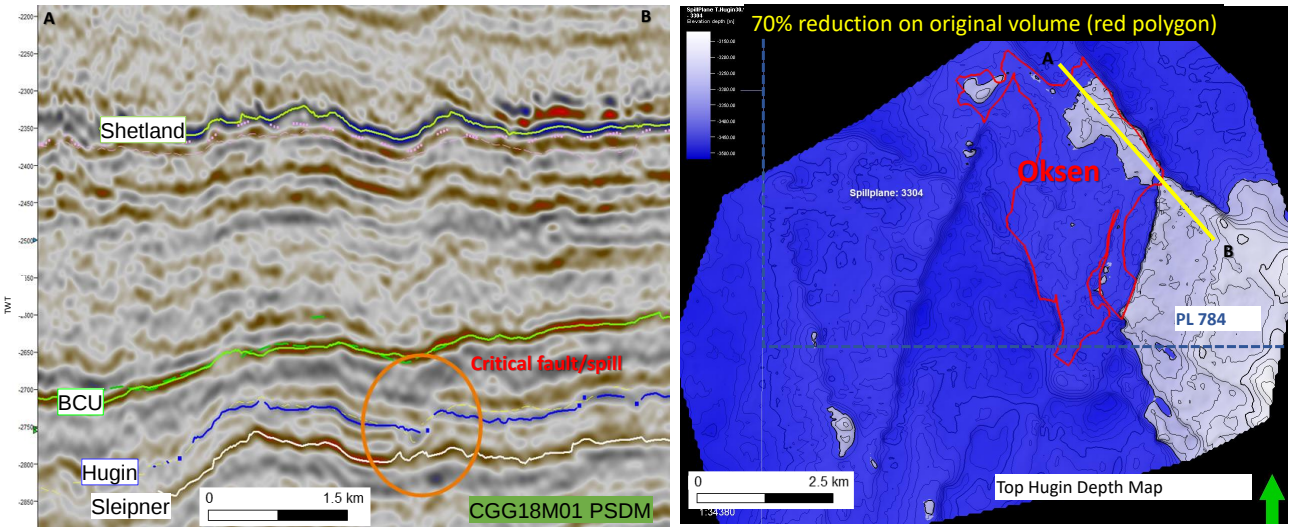

Fig. 4.1 Oksen Prospect *Seismic line and depth map showing the Oksen prospect. The size of the prospect was significantly reduced, mainly due to velocity work in the license. Seismic data courtesy of CGG.*

4.2 Remaining Additional Prospectivity

Following remapping of the license using the regional information from recent OBN data and reprocessed streamer data in the neighbouring license (Hugin development PDO area), a last effort to revitalise the prospectivity in PL784 was done in 2023 prior to the drill-drop decision milestone in February 2024. The regional seismic used is not part of the common seismic database. Fig. 4.2 shows the remaining prospectivity identified in the license at time of relinquishment. The following is a brief description of additional prospectivity not already covered in this report.

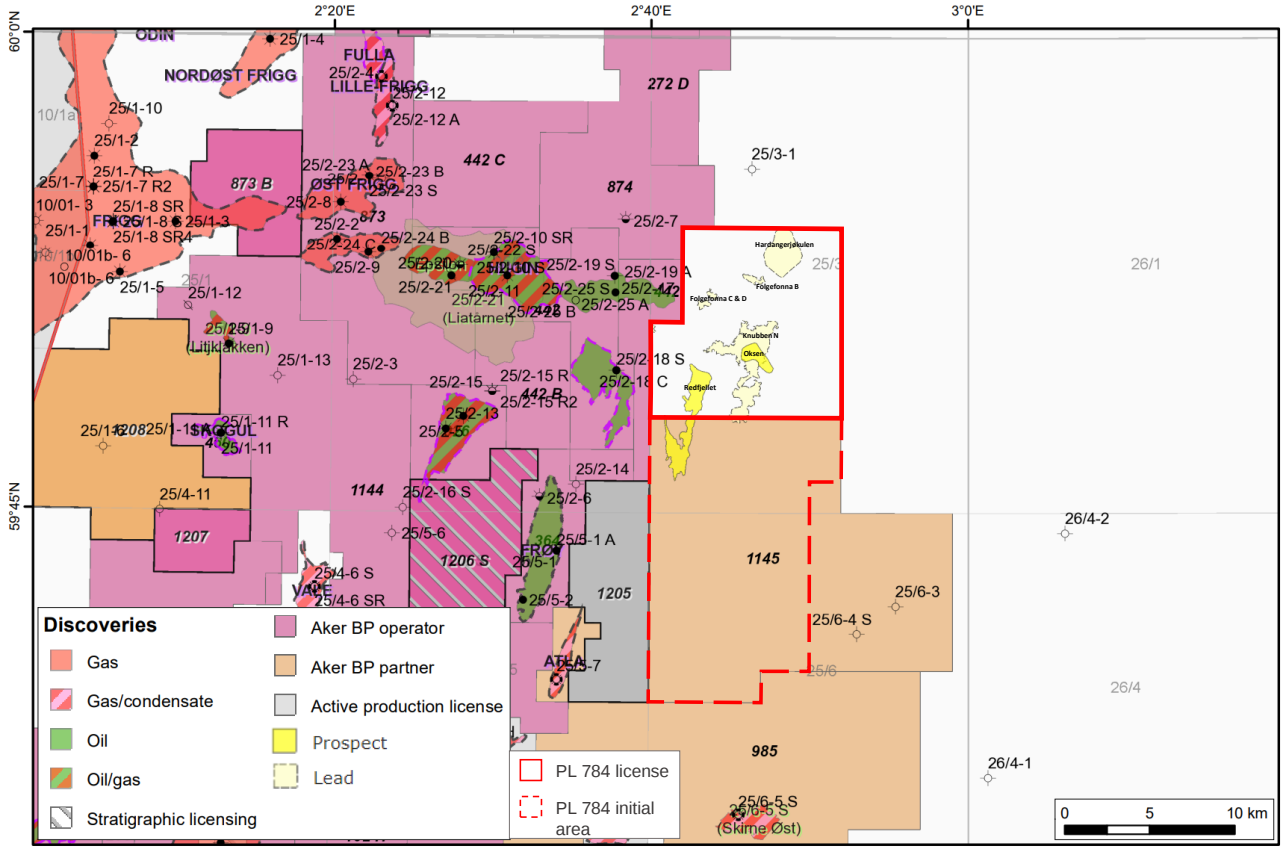

Fig. 4.2 Remaining prospects and leads

Redfjellet Prospect - Mid Jurassic Play

Redfjellet is defined as a rotated fault-block/horst block situated just East of Langfjellet (Fig. 4.3). The prospect has been evaluated several times in PL784 and latest in 2023 building on the knowledge from new OBN data over Langfjellet. Reservoir is considered to consist of three segments/levels (H1, H2 and H5) in Hugin Formation, similar to what has been proven in Langfjellet. Key risk for the prospect is the probability of migration into the prospect where it relies on spill from the west, as source rocks are locally immature. Based on a high level economic screening in 2023, the volume potential for Redfjellet was considered too small to be of interest. Fig. 4.5, Fig. 4.6 and Fig. 4.7 shows the prospect data, volume and risk summary for the three different segments (H1, H2 and H5). Total recoverable resources for the aggragated Redfjellet Prospect is calculated to be 0.79 (P90) - 1.35 (Mean) - 1.96 (P10) 10^6Sm^3 OE with 0.27 as a chance of success.

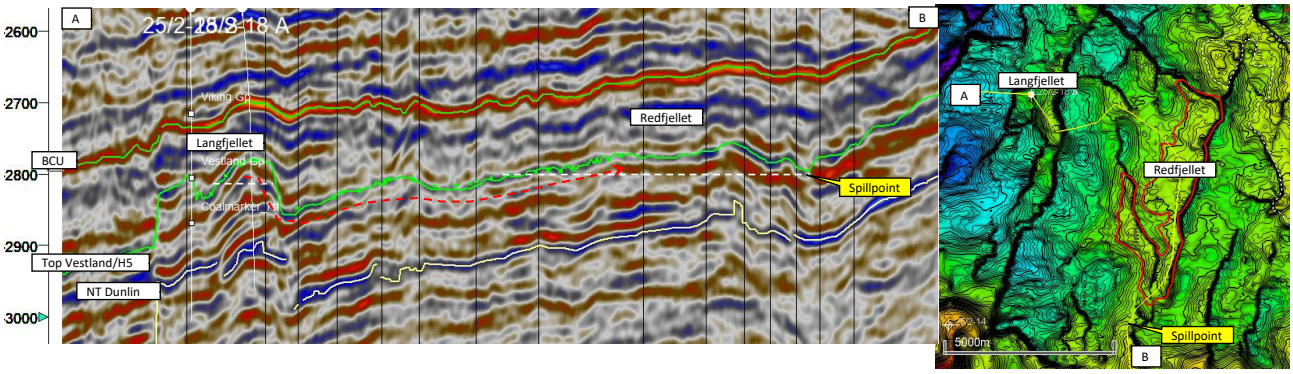

Fig. 4.3 Redfjellet Prospect *Seismic section from Langfjellet to Redfjellet (TWT), and top reservoir map. Seismic data courtesy CGG*

Folgefonna Lead(s) - Eocene/Oligocene Play

Folgefonna was originally defined by a channel-like feature seen on seismic, covering a large part of the southern Yggdrasil area. Significant efforts went into trying to mature this to a drillable prospect, using various seismic techniques, EM data and looking at analogs. However, the result from the last evaluations done in the license using the relative acoustic impedance of a gradient stack, concluded that this is likely sandstones that can be mapped, but are very unlikely to contain any trapped hydrocarbons (Fig. 4.4). Some small closures within the mapped feature was kept as leads in the license, but with insignificant volume potential and associated high risk.

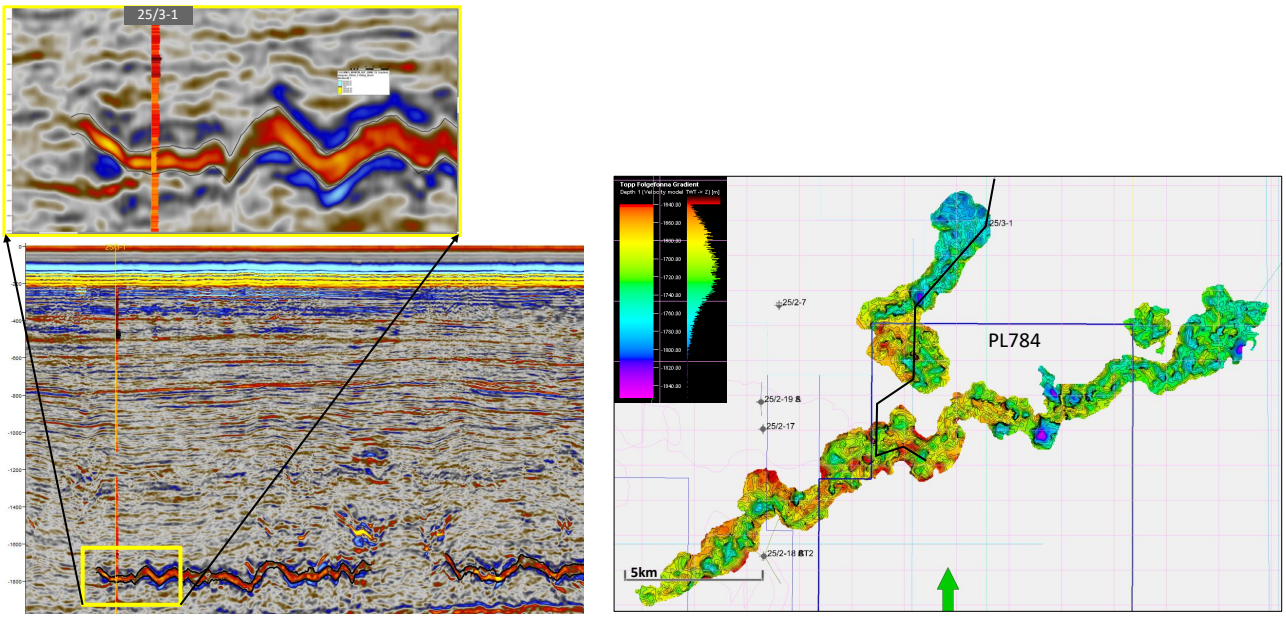

Fig. 4.4 Folgefonna Lead - Concept *Relative acoustic impedance of the Gradient Cube from CGG18M01 showing the tie to sandstones found in well 25/3-1. The map shows the interesting feature which initially was named Folgefonna, but only some small closures have been kept as high risk leads*

Table 5: Prospect data (Enclose map)

Block	25/2	Prospect name	Redfjellet	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)	No	Outside play (Y/N)	No				
Oil, Gas or O&G case:	Oil&Gas	Reported by company	Aker BP	Reference document				Assessment year	2023
This is case no.:	1 of 3	Structural element	Bjørgvin Arch	Type of trap	Structural	Water depth [m MSL] (>0)	115	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)	0,00	0,08	0,20	0,55				
	Gas [10^9 Sm^3] (>0.00)					0,00	0,02	0,04	0,11
Recoverable resources	Oil [10^6 Sm^3] (>0.00)	0,00	0,01	0,03	0,07				
	Gas [10^9 Sm^3] (>0.00)					0,00	0,00	0,01	0,01
Reservoir Chrono (from)	Callovian	Reservoir litho (from)	Hugin Fm	Source Rock, chrono primary	Kimmeridgian	Source Rock, litho primary	Draupne Fm	Seal, Chrono	Oxfordian
Reservoir Chrono (to)	Oxfordian	Reservoir litho (to)	Hugin Fm	Source Rock, chrono secondary	Oxfordian	Source Rock, litho secondary	Heather Fm	Seal, Litho	Heather Fm
Probability [fraction]									
Total (oil + gas + oil & gas case) (0.00-1.00)	0,03	Oil case (0.00-1.00)	0,03	Gas case (0.00-1.00)	0,00	Oil & Gas case (0.00-1.00)	0,00		
Reservoir (P1) (0.00-1.00)	0,70	Trap (P2) (0.00-1.00)	0,36	Charge (P3) (0.00-1.00)	0,10	Retention (P4) (0.00-1.00)	1,00		
Parametres:	Low (P90)	Base	High (P10)	*Redfjellet H1*					
Depth to top of prospect [m MSL] (> 0)	3310	3310	3310						
Area of closure [km^2] (> 0.0)	0,0	0,6	1,4						
Reservoir thickness [m] (> 0)	55	62	70						
HC column in prospect [m] (> 0)	5	20	90						
Gross rock vol. [10^9 m^3] (> 0.000)	0,000	0,010	0,207						
Net / Gross [fraction] (0.00-1.00)	0,35	0,40	0,45						
Porosity [fraction] (0.00-1.00)	0,12	0,13	0,14						
Permeability [mD] (> 0.0)	10,9	32,1	58,5						
Water Saturation [fraction] (0.00-1.00)	0,35	0,40	0,45						
Bg [Rm3/Sm3] (< 1.0000)									
1/Bo [Sm3/Rm3] (< 1.00)	0,62	0,65	0,68						
GOR, free gas [Sm^3/Sm^3] (> 0)									
GOR, oil [Sm^3/Sm^3] (> 0)	174	200	226						
Recov. factor, oil main phase [fraction] (0.00-1.00)	0,11	0,13	0,15						
Recov. factor, gas ass. phase [fraction] (0.00-1.00)	0,11	0,13	0,15						
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)	114			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)	340			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

Fig. 4.5 Prospect data for Redfjellet Prospect, H1 segment

Table 5: Prospect data (Enclose map)

Block	25/2	Prospect name	Redfjellet	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)	No	Outside play (Y/N)	No				
Oil, Gas or O&G case:	Oil&Gas	Reported by company	Aker BP	Reference document	0			Assessment year	2023
This is case no.:	2 of 3	Structural element	Bjørgvin Arch	Type of trap	Structural	Water depth [m MSL] (>0)	115	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)	0,51	0,83	1,31	2,39				
	Gas [10^9 Sm^3] (>0.00)					0,10	0,16	0,26	0,48
Recoverable resources	Oil [10^6 Sm^3] (>0.00)	0,20	0,31	0,56	1,05				
	Gas [10^9 Sm^3] (>0.00)					0,04	0,07	0,11	0,21
Reservoir Chrono (from)	Callovian	Reservoir litho (from)	Hugin Fm	Source Rock, chrono primary	Kimmeridgian	Source Rock, litho primary	Draupne Fm	Seal, Chrono	Oxfordian
Reservoir Chrono (to)	Oxfordian	Reservoir litho (to)	Hugin Fm	Source Rock, chrono secondary	Oxfordian	Source Rock, litho secondary	Heather Fm	Seal, Litho	Heather Fm
Probability [fraction]									
Total (oil + gas + oil & gas case) (0.00-1.00)	0,13	Oil case (0.00-1.00)	0,13	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)	0,63	Charge (P3) (0.00-1.00)	0,20	Retention (P4) (0.00-1.00)	1,00		
Parametres:	Low (P90)	Base	High (P10)	*Redfjellet H2*					
Depth to top of prospect [m MSL] (> 0)	3288	3288	3288						
Area of closure [km^2] (> 0.0)	0,7	1,3	2,3						
Reservoir thickness [m] (> 0)	15	22	28						
HC column in prospect [m] (> 0)									
Gross rock vol. [10^9 m^3] (> 0.000)	0,008	0,019	0,035						
Net / Gross [fraction] (0.00-1.00)	0,85	0,90	0,95						
Porosity [fraction] (0.00-1.00)	0,16	0,17	0,18						
Permeability [mD] (> 0.0)	266,2	428,1	602,2						
Water Saturation [fraction] (0.00-1.00)	0,25	0,30	0,35						
Bg [Rm3/Sm3] (< 1.0000)									
1/Bo [Sm3/Rm3] (< 1.00)	0,62	0,65	0,67						
GOR, free gas [Sm^3/Sm^3] (> 0)									
GOR, oil [Sm^3/Sm^3] (> 0)	174	200	226						
Recov. factor, oil main phase [fraction] (0.00-1.00)	0,32	0,42	0,52						
Recov. factor, gas ass. phase [fraction] (0.00-1.00)	0,32	0,42	0,52						
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)	113			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)	338			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

Fig. 4.6 Prospect data for Redfjelelt Prospect, H2 segment

Table 5: Prospect data (Enclose map)

Block	25/2	Prospect name	Redfjellet	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&Gas	Reported by company	Aker BP	Reference document	0			Assessment year	2023
This is case no.:	3 of 3	Structural element	Bjørgvin Arch	Type of trap	Structural	Water depth [m MSL] (>0)	115	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)	1,72	2,34	2,58	3,54				
	Gas [10^9 Sm^3] (>0.00)					0,34	0,45	0,52	0,72
Recoverable resources	Oil [10^6 Sm^3] (>0.00)	0,24	0,35	0,39	0,57				
	Gas [10^9 Sm^3] (>0.00)					0,05	0,07	0,08	0,11
Reservoir Chrono (from)	Callovian	Reservoir litho (from)	Hugin Fm	Source Rock, chrono primary	Kimmeridgian	Source Rock, litho primary	Draupne Fm	Seal, Chrono	Oxfordian
Reservoir Chrono (to)	Oxfordian	Reservoir litho (to)	Hugin Fm	Source Rock, chrono secondary	Oxfordian	Source Rock, litho secondary	Heather Fm	Seal, Litho	Heather Fm
Probability [fraction]									
Total (oil + gas + oil & gas case) (0.00-1.00)	0,24	Oil case (0.00-1.00)	0,24	Gas case (0.00-1.00)	0,00	Oil & Gas case (0.00-1.00)	0,00		
Reservoir (P1) (0.00-1.00)	0,90	Trap (P2) (0.00-1.00)	0,90	Charge (P3) (0.00-1.00)	0,30	Retention (P4) (0.00-1.00)	1,00		
Parametres:	Low (P90)	Base	High (P10)	*Redfjell H5*					
Depth to top of prospect [m MSL] (> 0)	3245	3245	3245						
Area of closure [km^2] (> 0.0)	3,5	5,0	6,4						
Reservoir thickness [m] (> 0)	22	26	30						
HC column in prospect [m] (> 0)	65	85	95						
Gross rock vol. [10^9 m^3] (> 0.000)	0,057	0,082	0,108						
Net / Gross [fraction] (0.00-1.00)	0,60	0,68	0,75						
Porosity [fraction] (0.00-1.00)	0,12	0,13	0,14						
Permeability [mD] (> 0.0)	6,2	11,5	17,5						
Water Saturation [fraction] (0.00-1.00)	0,37	0,41	0,45						
Bg [Rm3/Sm3] (< 1.0000)									
1/Bo [Sm3/Rm3] (< 1.00)	0,57	0,60	0,63						
GOR, free gas [Sm^3/Sm^3] (> 0)									
GOR, oil [Sm^3/Sm^3] (> 0)	174	200	226						
Recov. factor, oil main phase [fraction] (0.00-1.00)	0,12	0,15	0,18						
Recov. factor, gas ass. phase [fraction] (0.00-1.00)	0,12	0,15	0,18						
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)	112			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)	334			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

Fig. 4.7 Prospect data for Redfjellet Prospect, H5 segment

5 Technical evaluation

The Redfjellet prospect was evaluated as a subsea tie-back to Langfjellet. A development would consist of one oil producer and one single satellite well structure. Production pipeline (PIP) to Langfjellet (5 km), gas-lift pipeline form Langfjellet (5 km), umbilical from Langfjellet (5 km). Sensitivity case with water injection includes additional oil production, one water injection well and water injection pipeline from Langfjellet (5 km). Assuming Langfjellet have capacity to cater for Redfjellet.

Facility capex estimates:

•Tie-in/modification	100 MNOK
•SPS	300 MNOK
•SURF	450 MNOK
•Client cost	200 MNOK
•Sum	1050 MNOK
•Contingency	150 MNOK
•Total facility capex	1200 MNOK

The conclusion of the technical economical evaluation is a negative EMV.

(maximum 1 page)

6 Conclusion

In light of the work carried out in licence, no prospect has been evaluated to justify a positive drill decision. The remaining prospectivity has limited volumes and high geological risk. The licence partnership has agreed ro relinquish PL784.

7 References

Offshore Technology. ORG Geophysical, Induced Polarisation for Hydrocarbon Exploration, https://www.offshore-technology.com/contractors/subsea/org-geophysical/ (site visited 22.02.2024)

www.akerbp.com