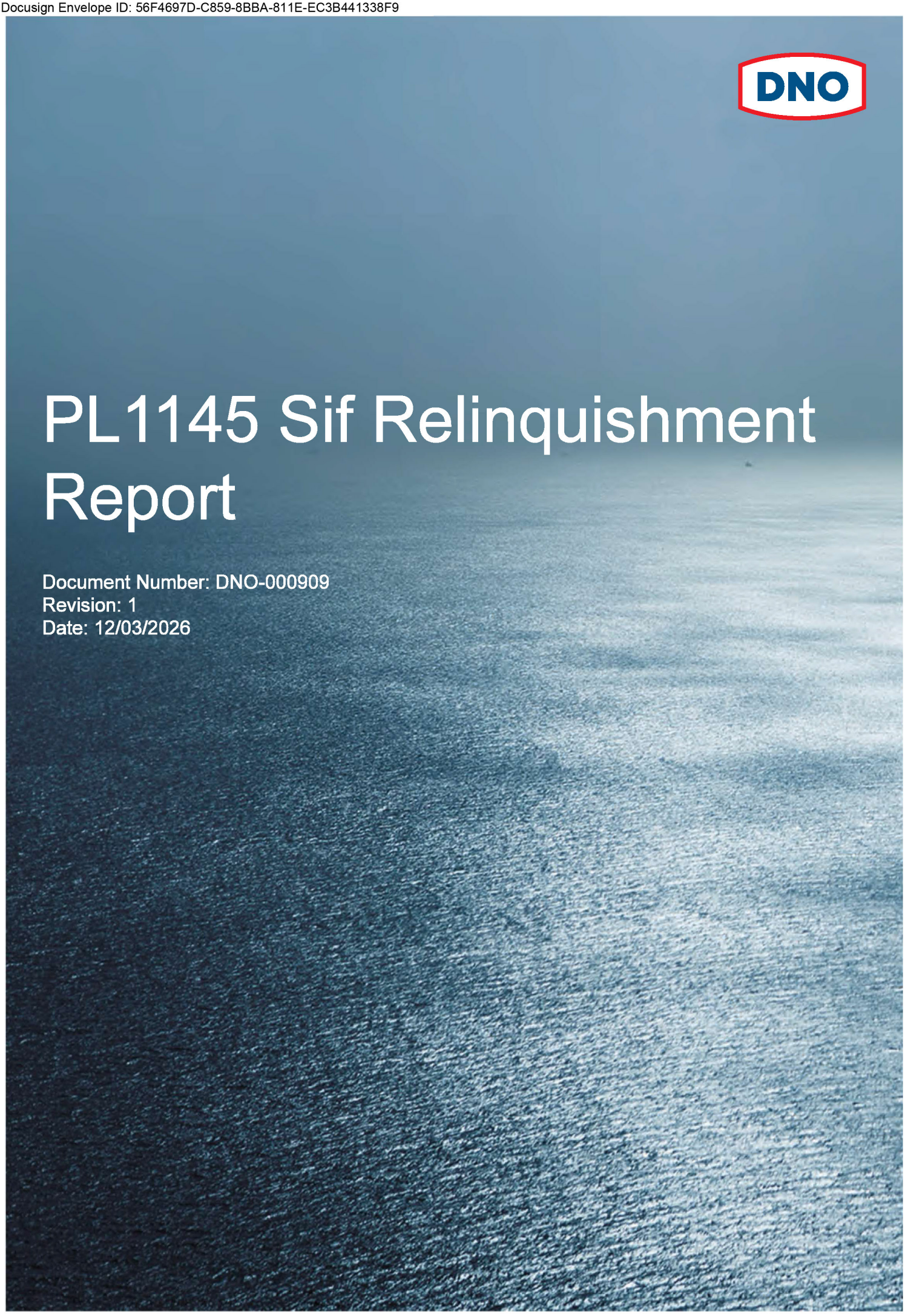

PL1145 Sif Relinquishment Report

Document Number: DNO-000909
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Date: 12/03/2026

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Approved by:	23/06/2026	[redacted]	[redacted]	

1 Licence History

Production Licence PL1145 was awarded on 11 March 2022, through the 2021 APA licensing round, to a partnership comprising DNO Norge AS (Operator, 60%) and Aker BP (40%). The licence covers blocks 25/3 and 25/6 in the North Sea, located near the Langfjellet Discovery and Frøy Field (Fig. 1.1).

Table 1.1 PL 1145 partnership

Company	Equity
DNO Norge AS	60% and operator
Aker BP ASA	40%

At the time of award, the initial exploration focus was the Paleocene Leda prospect, with secondary interest in the Middle Jurassic Hugin Formation. Early work included seismic purchase and reprocessing, as well as stratigraphic studies aimed at maturing the Leda prospect.

By late 2023, the Leda prospect was downgraded following reinterpretation of reprocessed seismic data. The revised interpretation concluded that the prospect lacked a mappable stratigraphic trap, showed no amplitude anomalies, and had no geophysical support for a hydrocarbon response. As a result, the licence focus shifted to the Middle Jurassic, specifically the Sif prospect.

In December 2023, the operator recommended a 12-month extension to further evaluate Jurassic prospectivity. This was supported by the partner and formalised through a SMIL application submitted on 19 December 2023. The Norwegian Ministry of Energy approved the extension on 14 February 2024, setting a new drill-or-drop (DoD) deadline of 11 March 2025.

During 2024 and into 2025, the Joint Venture initiated extensive technical work, including:

- Seismic conditioning of the DNO23M01 dataset to improve imaging in the Jurassic section.
- Fault seal modelling, including two iterations of analysis.
- Stratigraphic and sedimentological studies, supported by fieldwork in Peniche, Portugal.

A further extension request was submitted on October 2024, aiming to extend the DoD deadline from 11 March 2025 to 11 March 2026, in order to complete several studies that had been initiated but were not yet finalised. This was supported by the partner and formalised through a SMIL application submitted on 29 Octover 2023. The Norwegian Ministry of Energy approved the extension, setting a revised DoD deadline of 11 September 2025.

Despite the technical efforts, fault seal analysis revealed critical limitations for Sif. The Sif prospect was found to be highly dependent on membrane seal mechanisms, which were not supported by fault throw interpretation. Both 1D and 3D assessments indicated that reservoir-reservoir juxtaposition would likely result in leakage, particularly in the southern part of the structure.

On 9 September 2025, the licence group submitted a formal Decision to Drop the licence, citing the lack of drillable risked volumes in both the Paleocene and Jurassic targets. The decision was unanimous among the licensees.

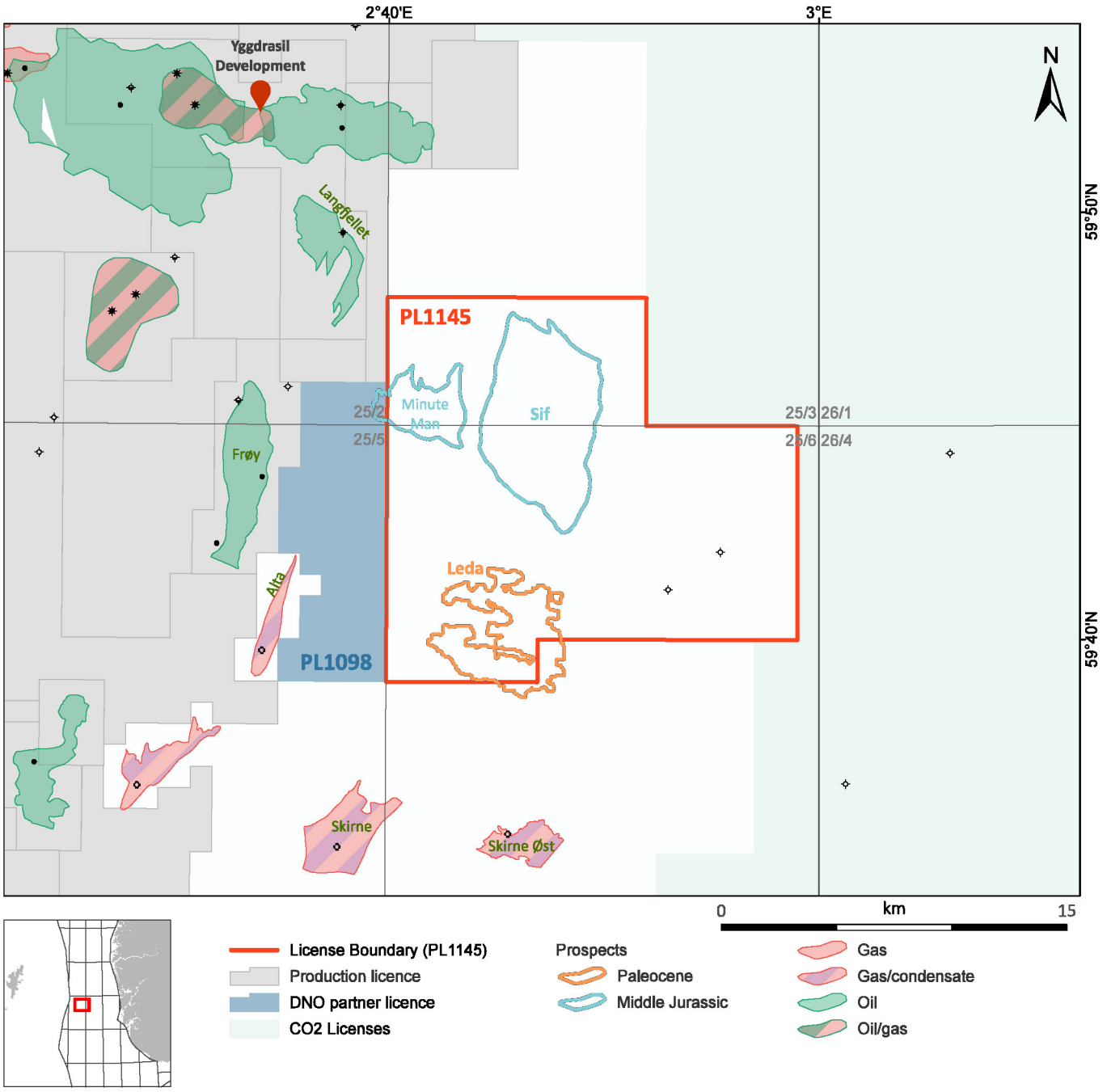

Fig. 1.1 PL1145 Licence Summary

2 Database Overview

2.1 Seismic Data

The original seismic database for PL1145 consisted of the PGS16M01 and CGG18M01 surveys. While both datasets offered high-quality imaging, neither covered the full licence area. To ensure full spatial coverage and to tie interpretations to wells 26/6-4S and 26/6-3, the UHN98/UHN98_R07 survey was included despite its lower resolution and limited confidence (Fig. 2.1)

To improve imaging and enable consistent interpretation across the licence, the CGG18002 NVG South survey was acquired. Together with CGG18M01, these two datasets formed the basis for a reprocessing effort completed by TGS in December 2023, resulting in the new volume DNO23M01.

The DNO23M01 survey was initially focused on the Paleocene Leda prospect, targeting seismic improvements around 2050 ms TWT. The reprocessing included:

- 3D pre-stack depth migration of the Tampen 2016 CGG16001 and CGG18002 NVG South datasets
- Restoration of lateral event continuity
- Enhanced vertical resolution
- True AVA behaviour to support improved mapping

In February–March 2025, the DNO23M01 volume was further conditioned for Jurassic imaging by Geoprovider. The conditioning included:

- Spectral Broadening
- Linear Noise Attenuation
- Structure-Oriented Signal Enhancement in 3D offset planes
- Hi-Res RADON processing

This enhanced dataset was critical for fault imaging and trap definition in the Middle Jurassic section, particularly for the Sif prospect.

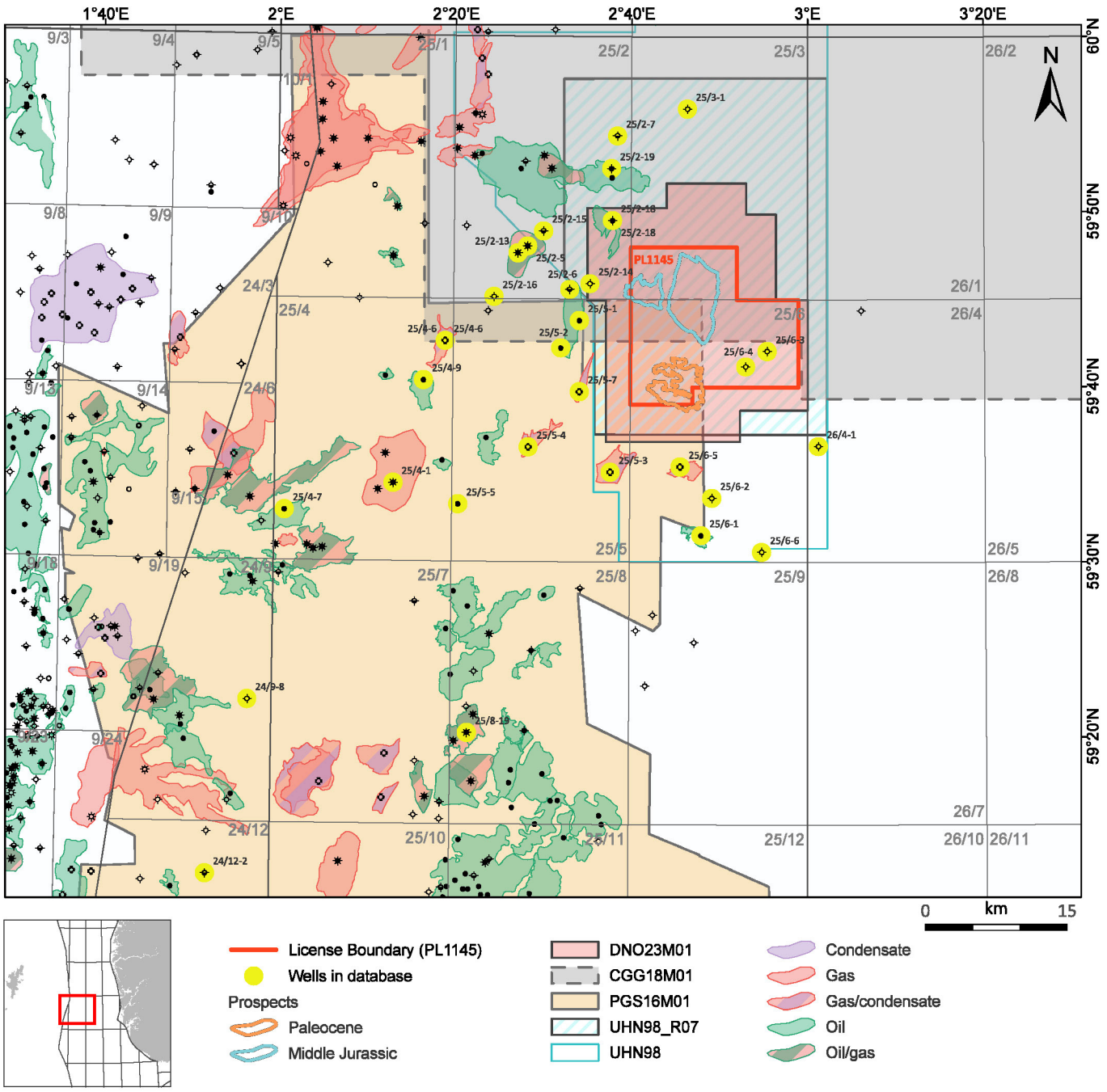

Fig. 2.1 PL1154 Database Map
Seismic and Well database for PL1145

2.2 Well Data

The common well database for PL1145 comprises 40 wells with relevance to both Paleocene (19 wells) and Middle Jurassic (27 wells) prospectivity (Table 2.1 and Fig. 2.1). Key wells used in the evaluation include:

- 25/6-3 and 25/6-4 S: Positioned up-dip of the Leda Prospect, these dry wells were pivotal for seismic-to-well ties and reservoir assessment. Interpreted to lie within migration shadows during peak charge, they provided critical constraints on trap integrity and reservoir presence.

Table 2.1 Well database

Well	Result	Completion Date	TD Stratigraphy	TD (m TVD RKB)	Field/Discovery	Data Usage on License		
						Petro physics	Seismic to Well Tie	Core
24/9-8	DRY	09-04-2007	HEIMDAL FM	2190		Leda	Leda	
24/12-2	SHOWS	21-01-1982	HEATHER FM	5091		Leda	Leda	
25/2-7	SHOWS	12-07-1982	DUNLIN GP	4110		Leda / Sif	Leda / Sif	Sif
25/2-14	DRY	30-03-1991	STATFJORD GP	3618		Leda	Leda	
25/2-18 A	OIL	19-10-2016	DRAKE FM	3723	25/2-18 S Langfjellet	Leda / Sif	Leda / Sif	
25/2-18 B	DRY	30-10-2016	SLEIPNER FM	3803		Leda / Sif	Leda / Sif	
25/2-18 C	OIL	17-11-2016	DRAKE FM	4029	25/2-18 S Langfjellet	Leda / Sif	Leda / Sif	
25/2-18 S	OIL	09-11-2016	DRAKE FM	3877	25/2-18 S Langfjellet	Leda / Sif	Leda / Sif	Sif
25/3-1	DRY	05-09-1989	STATFJORD GP	3921		Leda	Leda	
25/4-1	OIL/GAS	09-12-1972	SMITH BANK FM	4060	25/4-1 Heimdal	Leda	Leda	
25/4-7	OIL	17-04-2003	HEIMDAL FM	2286	25/4-7 Alvheim	Leda	Leda	
25/4-9 S	OIL	29-09-2003	HEIMDAL FM	2297.3	25/4-9 S Vilje	Leda	Leda	
25/5-1	OIL	01-08-1987	TRIASSIC	3429	25/5-1 Frøy	Leda	Leda	
25/5-3	GAS/CONDENSATE	26-03-1990	TRIASSIC	2900	25/5-3 Skirne	Leda	Leda	
25/5-5	OIL	23-11-1995	VÅLE FM	2596	25/5-5 Tir	Leda	Leda	
25/6-3	DRY	11-11-1999	HARDRÅDE FM	2474		Leda	Leda	
25/6-4 S	DRY	15-02-2012	DUNLIN GP	2738		Leda / Sif	Leda / Sif	
25/7-3	OIL	28-08-1995	TOR FM	2539	25/7-3 Jotun	Leda	Leda	
25/8-19 S	OIL/GAS	30-12-2019	BASEMENT	2546	25/8-19 S Iving	Leda	Leda	
25/2-5	OIL/GAS	04-08-1976	SMITH BANK FM	4000	25/2-5 Lille Frøy	Sif		Sif
25/2-6	OIL SHOWS	15-11-1977	SMITH BANK FM	3750	25/2-5 Lille Frøy	Sif	Sif	Sif
25/2-13	OIL/GAS	25-01-1990	SMITH BANK FM	3908	25/2-5 Lille Frøy	Sif		Sif
25/2-14	DRY	30-03-1991	STATFJORD GP	3618		Sif	Sif	Sif
25/2-15 R2	OIL SHOWS	11-04-1993	DUNLIN GP	3942		Sif		Sif
25/2-16 S	DRY	13-09-2001	DUNLIN GP	4013		Sif		
25/2-19 A	DRY	08-10-2017	SLEIPNER FM	4210		Sif		
25/3-1	DRY	05-09-1989	STATFJORD GP	3921		Sif	Sif	Sif
25/4-6 S	GAS/CONDENSATE	24-08-1991	STATFJORD GP	4170	25/4-6 S Vale	Sif		Sif
25/4-6 SR	GAS/CONDENSATE	14-09-2003	STATFJORD GP	4179	25/4-6 S Vale	Sif		
25/5-1	OIL	01-08-1987	TRIASSIC	3429	25/5-1 Frøy	Sif	Sif	Sif
25/5-2	OIL	15-04-1974	DRAKE FM	3304	25/5-1 Frøy	Sif	Sif	Sif
25/5-3	GAS/CONDENSATE	26-03-1990	TRIASSIC	2900	25/5-3 Skirne	Sif		Sif
25/5-4	GAS/CONDENSATE	07-03-1991	STATFJORD GP	3185	25/5-4 Byggve	Sif		Sif
25/5-7	GAS/CONDENSATE	23-10-2010	HEGRE GP	3045	25/5-7 Atla	Sif		Sif
25/6-1	OIL	03-02-1986	BASEMENT	2881		Sif		
25/6-2	DRY	29-05-1992	DRAKE FM	2392		Sif		
25/6-3	DRY	11-11-1999	HARDRÅDE FM	2474		Sif		
25/6-5 S	GAS/CONDENSATE	10-04-2015	DUNLIN GP	2520	25/6-5 S (Skirne Øst)	Sif		
25/6-6 S	DRY	22-04-2019	HEGRE GP	3546		Sif		
26/4-1	DRY	17-07-1987	TRIASSIC	3690		Sif		Sif

- **25/2-18 S, A, B, C (Langfjellet): These wells targeted distinct fault compartments and were instrumental in assessing Middle Jurassic prospectivity. They offered valuable insights into reservoir development, fault compartmentalisation, and hydrocarbon column variability.**

The well data set includes composite logs, mud logs, digital log data and core photos, supporting petrophysical evaluation, stratigraphic correlation, fault seal analysis and reservoir quality assessment. This database underpins prospectivity assessments for both the Paleocene (Leda) and Middle Jurassic (Sif) plays and has been fully integrated with seismic interpretation and fault seal modelling.

3 Geological and Geophysical Studies

G&G work in PL1145 evolved from an initial focus on Paleocene (Leda) prospectivity to a later emphasis on Middle Jurassic (Sif) after targeted studies and reprocessing failed to confirm Paleocene potential. The following summary integrates the main technical studies, their outcomes, and how they collectively underpinned the decision to relinquish the licence.

Paleocene Prospectivity Phase

The Leda prospect was defined as an intrusive stratigraphic trap into the Sele Formation. Both Ty and Heimdal formations sandstones are interpreted to be the possible parent depositional units, supported by AVA observations and rock-physics analogues from Vilje and nearby Paleocene plays.

- **November 2023** - Full re-interpretation of the Paleocene/Eocene, well ties, petrophysical evaluation, and fluid substitution analysis. Geochemical study, show study, and fluid inclusion stratigraphy (FIS) (November 2023).
- **Early December 2023** - The Skolithos study for DNO Norge AS provides an integrated stratigraphic and depositional model for the Paleocene to lowermost Eocene succession in the PL1145 area, Norwegian North Sea, with a focus on de-risking reservoir presence and type in the Leda prospect. The work applies a pragmatic chronostratigraphic framework, supported by biostratigraphic and log data, to map reservoir and seal facies across the area. The study demonstrates that sandstones of the Ty, Heimdal, and Hermod formations can be confidently mapped, typically as elongate fairway axes and terminal lobes, but highlights widespread post-depositional modification by sand injection, resulting in thick, high-quality injectite reservoirs. While reservoir presence is not considered a high risk, the study identifies significant risk to side seal integrity and hydrocarbon retention, due to likely stratigraphic communication and up-dip leakage, especially in the Leda prospect. The findings emphasise the importance of understanding both depositional and post-depositional processes for accurate reservoir prediction in PL1145.
- **December 2023 to January 2024** - Basin modelling by APT for the Leda prospect indicates a complex charge scenario across the Jurassic to Cenozoic column. While vertical migration from Jurassic focal points is considered critical for Cenozoic charge, the immaturity of the primary source rocks of the Draupne and Heather formations beneath Leda and the convoluted lateral migration pathways, highlight a high-risk charge model. APT's interpretation challenges earlier assumptions and suggests that effective hydrocarbon accumulation in the Leda sands is unlikely.
- **December 2023** - A comprehensive reprocessing of the regional 3D seismic data covering PL1145 was completed by TGS in December 2023, focusing on the Tampen 2016 (CGG16001) and NVG South 2018 (CGG18002) datasets. The main objective was to improve imaging of the Paleocene Leda prospect (target ~2050 ms) by restoring lateral event continuity, increasing vertical resolution, and ensuring true AVA (Amplitude Versus Angle) behaviour for more reliable prospect mapping. The workflow included advanced de-noise, de-ghosting, and de-multiple techniques, detailed velocity model building with multiple passes of full waveform inversion (FWI), and both Q-Kirchhoff PreSDM and RTM migrations. The two surveys were carefully matched and regularised to create the merged DNO23M01 volume. Despite significant uplift in data quality, the reprocessed and merged DNO23M01 volume did not provide robust geophysical support for hydrocarbons in the Leda prospect, leading to a downgrading of Paleocene prospectivity after the reprocessing
- **December 2023** -Seismic interpretation of the remaining prospectivity within the Jurassic.
- **May 2024** - A dedicated 3D back stripping study was conducted by Terractiva to evaluate migration and charge scenarios for the Leda Paleocene prospect in PL1145. The primary aim was to understand hydrocarbon migration pathways from Jurassic source rocks into the Paleocene trap, leveraging the relatively simple structural setting and absence of major faults in the area. The study involved rigorous QC/QA of existing interpretations, detailed tectonostratigraphic analysis from the Middle Jurassic (Brent) to Paleocene (Balder & Heimdal Fms.), and 3D back stripping of key horizons. Two main models were tested: Model 1 (single Late Jurassic rifting) and Model 2 (Late Jurassic plus Palaeocene rifting), with Model 2 preferred due to its compatibility with observed thermal subsidence and paleo bathymetry. Results indicate that west-to-east migration is viable throughout the Cenozoic, with the WNW sector (Frigg, Liatårnet) acting as the most favourable kitchen area. The study highlights that successful charge into Leda requires sufficient overburden and burial depth, with migration and preservation conditions most favourable during the Mid to Late Miocene, when overburden thickness (~1750 m) and burial depth (~2 km) are optimal.

Middle Jurassic Prospectivity Phase:

The Sif prospect is identified as a structural trap of Jurassic age, with Middle Jurassic Hugin Formation as reservoir charged from a spill from Langfjellet discovery.

- **June 2024** - Updated seismic interpretation both at prospect level and regionally to include open acreage to the north

and migration route from Langfjellet.

- **October 2024** - The initial phase of the fault seal assessment for the Sif prospect, delivered by Terractiva on 24 October 2024, comprised a structural analysis and fault seal modelling focused on the Jurassic interval. This first iteration yielded notably poor fault seal predictions, with both the southern and eastern boundary faults (F1 and F2) exhibiting insufficient displacement for effective juxtaposition seal, particularly towards the southern apex of the structure. The modelling, based on V-shale curves and Shale Gouge Ratio (SGR) analysis from wells 25/2-18 ST2 and 25/6-4 S, indicated low hydrocarbon column height predictions and limited sealing capacity, with the prospect relying almost entirely on membrane seal potential—which was not supported by the data. These results are at odds with observations from the neighbouring Langfjellet field, where fault seal performance is demonstrably better. As a result, the study is considered a first iteration in a two-phase project, with further work done to reconcile these predictions with regional field behaviour and improve confidence in the fault seal model.
- **October 2024** - In early October 2024, a dedicated field trip to Peniche, Portugal was organised as part of the PL1145 work programme, with stratigraphic and sedimentological studies led by Andrew Taylor and Sandra Gomes from Skolithos. The field focus was to examine outcrop analogues for the Hugin and Sleipner formations, aiming to better understand depositional systems relevant to the Jurassic interval in the North Sea. Discussions in the field highlighted the importance of viewing the Vestland Group as a dynamic, integrated depositional system, rather than focusing narrowly on boundaries between Hugin and Sleipner. This perspective directly informed the objectives and methodology of the ongoing Skolithoscore study, which seeks to calibrate reservoir properties and facies distributions using core and cuttings data from PL1145 wells.
- **March 2025** - The second iteration of the fault seal assessment for the Sif prospect, delivered by Terractiva on 27 March 2025, was designed to address the limitations of the initial study and improve fault seal predictions. This phase incorporated coal layers into the fault seal modelling, recognising their potential to enhance sealing capacity when treated as shale-like in behaviour. Both Shale Gouge Ratio (SGR) and Shale Smear Factor (SSF) were evaluated, providing a more comprehensive assessment of fault sealing mechanisms. The study also considered the possible contribution of calcite cementation to the sealing capacity of low-throw faults. Benchmarking against the neighbouring Langfjellet field, where low fault throws appear to seal compartments, was a key aspect, and analogue data were used to refine V-shale curves to better reflect coal behaviour. The revised modelling demonstrated that, when coal layers are properly accounted for, fault blocks can retain hydrocarbon columns in Hugin-Hugin juxtaposition scenarios where fault throws of 135 to 260 meters are observed—a marked improvement over the first iteration. Best-case scenarios using the Linear Method predicted hydrocarbon column heights comparable to observed values in Langfjellet, confirming the importance of coal layers in fault seal performance. The study did not attempt to model fault plane cementation, but rather reviewed literature and aimed to provide a base for understanding the potential.
- **March 2025** - A dedicated seismic data conditioning study was undertaken to optimise imaging of the Jurassic section, leveraging the benefits of earlier re-processing but with a targeted focus on the primary reservoir interval. The conditioning, completed by GeoProvider Processing Ltd in March 2025, comprised a comprehensive 3D CMP gather enhancement workflow. Key steps included spectral broadening—using amplitude-only Q-compensation and offset-dependent ramped filters—to recover high-frequency content below 1100 ms and improve resolution in the Jurassic target zone. Linear noise attenuation was achieved through symmetrical FX dip filtering in the 3D CMP domain, while structure-oriented signal enhancement was applied in 3D offset planes to suppress random noise and preserve geological features. High-resolution Radon de-multiple was also implemented to further attenuate multiples, with careful parametrisation to maintain amplitude integrity. The result is a spectrally broadened, cleaner dataset with improved signal-to-noise ratio and enhanced imaging of the Jurassic interval.
- **Not Concluded**- In 2024, a new collaborative study with Skolithos Limited was launched to evaluate core material and core photographs from 24 wells in the PL1145 area, with a particular focus on the Vestland Group—the key Jurassic reservoir interval. The aim is to improve predictions of reservoir properties and facies distributions by building a unified, calibrated database of facies associations, using core data, cuttings, and sedimentological reports. The study will define facies associations for each well, populate the entire Vestland Group section with calibrated facies data, and attempt to correlate these with key stratal surfaces and possible J-sequence divisions. Deliverables will include Excel tables of facies tops and criteria, summary well charts, GDE maps constrained by both client and study-derived data, and a final report with recommendations. The project also includes a core workshop and ongoing interaction as seismic interpretation evolves.

4 Prospect Update

Overview

In the APA 2021 application for PL1145, DNO's primary exploration focus was on the Paleocene interval, specifically the Leda prospect, a stratigraphically trapped injectite play supported by amplitude anomalies and regional analogues. Secondary prospectivity was identified in the Middle Jurassic, with the Minute Man prospect recognised as an additional opportunity, but not the main target at the time. The principal risks for the Paleocene were trap seal and migration, while for the Jurassic, fault seal and migration were key uncertainties.

By late 2023, following reinterpretation of newly reprocessed seismic data, the Leda prospect was downgraded. The revised interpretation concluded that the prospect lacked a mappable stratigraphic trap, showed no amplitude anomalies, and had no geophysical support for a hydrocarbon response. As a result, the licence focus shifted decisively to the Middle Jurassic, specifically to the Sif prospect.

Jurassic prospectivity was subsequently matured beyond the secondary Minute Man prospect identified in APA 2021. The Sif prospect was delineated as a structural trap in the Hugin Formation, leading to targeted fault seal studies, core analysis, and regional benchmarking. This transition reflects the evolution of the licence's technical focus from Paleocene injectite plays to Jurassic structural and combination traps, as new data and studies progressively refined the understanding of prospectivity in PL1145.

4.1 Paleocene Play

Leda Prospect (APA 2021 Main Prospect)

The Leda prospect was the primary exploration target in the APA 2021 application, defined as a stratigraphically trapped injectite play within the Paleocene Hermod Formation, encased by Sele and Lista Formation shales. The trap was identified by seismic amplitude anomalies (AVO class III) and supported by regional analogues such as the Vilje Field. The reservoir was expected to have excellent quality, with high net-to-gross, porosity (28–38%), and permeability. The main risks were trap seal integrity and migration pathway. At application, the mean recoverable resource was estimated at 15.5 million Sm^3 oil and 1.93 billion Sm^3 gas, with a chance of success of 0.19—trap seal being the critical risk. Subsequent reinterpretation of reprocessed seismic data in late 2023 led to downgrading of the prospect due to lack of a mappable trap and geophysical support for hydrocarbons.

Table 4.1 Leda Prospect Summary Table

Attribute	Value / Description
Type	Stratigraphically trapped injectite prospect (Hermod Fm sand injectites within Sele/Lista fms shales)
Trap	Intrusive sand injectite, amplitude anomaly, AVO class III response
Reservoir	Hermod, Heimdal, and Ty formations (Paleocene)
Source	Draupne Fm (Upper Jurassic, marine type B kerogen)
Seal	Sele and Balder Fms. (shales)
Key Risks	Trap seal (lateral/top), migration pathway, trap geometry
Resource Estimates (Mean)	Oil: 15.5 million Sm^3 Gas: 1.93 billion Sm^3
Chance of Success (CoS)	0.19 (main risk: trap seal)
Development Concept	Subsea tie-back to planned NOAKA infrastructure
Analogue	Vilje Field (similar AVO and injectite system)
Key Features	Excellent reservoir quality, high N/G, porosity 28–38%, permeability up to 10,000 mD, mapped area ~12.6 km^2, reservoir thickness mean 26 m, HC column mean 66 m

Paleocene Leads (described on APA 2021)

Table 4.2 Summary Table of Paleocene Leads

Lead Name	Trap Type	Reservoir Formation	AVO Response	Area (km²)	Depth (m)
Coral Queen	Stratigraphic	Hermod Fm.	Weak	13	2115
Dom	Stratigraphic	Hermod Fm.	Weak	2.3	2080
Jetnamsklumpen	Structural closure	Hermod Fm. (Sele Fm. level)	—	7.6	2020
Dave	Structural closure	Hermod Fm. (Sele Fm. level)	—	6.0	2020

4.2 Middle Jurassic Play

Sif Prospect (Main Prospect after licence extension)

The Sif prospect is a structurally and stratigraphically defined trap within the Middle Jurassic Hugin Formation, located at the northern margin of the Utsira High. It was matured as the main Jurassic opportunity in PL1145 after the downgrading of the Leda prospect. The trap is defined by fault boundaries and possible stratigraphic pinch-out, with the main risk being fault seal integrity and stratigraphic truncation. The Hugin Formation is proven regionally as a high-quality reservoir, and the Sleipner Formation may provide additional upside, though not included in current volumetrics. The prospect is supported by modern reprocessed seismic (DNO23M01), robust well control, and regional analogues. The latest peer review (Dec 2023) confirms a mean recoverable volume of 47.2 mmboe, with a geological probability of success (PoS) of 22%. The main uncertainties remain in trap seal and migration, but the reservoir presence and quality are considered low risk.

Table 4.3 Sif Prospect Summary Table

Attribute	Value / Description
Type	Structural/stratigraphic trap (fault-bounded, possible up-dip pinch-out)
Trap	Fault-bounded closure, stratigraphic truncation up-dip
Reservoir	Hugin Formation (Middle Jurassic, shoreface sandstones); Sleipner Fm as upside
Source	Draupne and Heather formations (Upper Jurassic marine shales)
Seal	Heather and Draupne formations shales (top seal); lateral seal via faults and stratigraphy
Key Risks	Trap seal (fault and stratigraphic), migration
Resource Estimates (mmboe)	In-place: P90 32.8 / Mean 134.9 / P10 254.2 Recoverable: P90 11.4 / Mean 47.2 / P10 90.2
HC Column (m)	Mean: ~100 (min) to ~285 (max)
Reservoir Thickness (m)	Mode: 83.5 (min 60, max 120)
Net/Gross	Mode: 0.56 (min 0.185, max 0.8)
Porosity	Mode: 0.20 (min 0.17, max 0.25)
Phase	Oil (main case)
Chance of Success (PoS)	22% (post peer review)
Key Features	Modern seismic, robust well ties, regional analogues, main risk is trap seal

Minute Man Prospect (APA 2021 Secondary Prospect)

The Minute Man prospect is a structural trap located within the Hugin Formation of Middle Jurassic age, defined by a down-faulted block with dip closure and requiring fault seal to the south and east. The reservoir is expected to be marginal to shallow marine sandstones, with analogues from the nearby Langfjellet discovery supporting reservoir presence and quality. The main risks are associated with fault seal integrity and migration pathways. Resource estimates at application were modest, with a mean recoverable oil volume of 2.60 million Sm^3 and gas of 0.39 billion Sm^3. The prospect's chance of success was assessed at 0.19, with fault seal being the critical risk factor.

Table 4.4 Minute Man Prospect Summary Table

Attribute	Value / Description
Type	Structural trap (down-faulted Hugin Fm block)
Trap	Dip closure, fault seal required to south and east, truncated by Upper Jurassic unconformity
Reservoir	Hugin Formation (Middle Jurassic, marginal to shallow marine sandstones)
Source	Draupne and Heather formations
Seal	Heather and Draupne formations (marine shales)
Key Risks	Fault seal (lateral), migration, trap geometry
Resource Estimates (Mean)	Oil: 2.60 million Sm^3 Gas: 0.39 billion Sm^3
Chance of Success (CoS)	19% (main risk: trap seal)
Key Features	Area ~3.3 km^2, reservoir thickness mean 128 m, HC column mean 260 m, porosity 17%, N/G 40%

Jurassic Leads (described on APA 2021)

Table 4.5 Summary Table of Jurassic Leads

Lead Name	Trap Type	Reservoir Formation	Area (km^2)	Depth (m)
Roundup	4-way dip closure	Hugin Fm.	2.0	3200
Charlack	Fault-dependent trap	Hugin Fm.	11.0	3050
High Tide	Structural horst block	Hugin Fm.	2.3	2800
Happy Hit	Down-faulted trap	Hugin Fm.	7.2	2800

5 Technical Assessment

The original prospectivity in PL1145 was focused on the Paleocene Leda prospect. However, after seismic reprocessing and reinterpretation, Leda was downgraded due to the absence of a mappable stratigraphic trap and lack of geophysical support for hydrocarbons. As a result, the licence focus shifted to the Middle Jurassic, specifically the Sif prospect.

Extensive technical work was carried out on the Jurassic play, including seismic conditioning, fault seal analysis, and stratigraphic studies. Despite these efforts, fault seal modelling revealed that the Sif prospect is highly dependent on membrane seal mechanisms, which are not supported by the interpreted fault throws. Both 1D and 3D assessments indicated that critical areas of the trap lack sufficient fault offset, making effective hydrocarbon retention unlikely.

In summary, neither the Paleocene nor the Jurassic targets in PL1145 have drillable risked volumes. The main technical challenge was fault seal integrity in the Jurassic, and reinterpretation of conditioned seismic data confirmed that the trap is not viable. On this basis, the partnership unanimously decided to relinquish the licence.

An economic analysis has not been performed on the prospect.

6 Conclusion

Production Licence PL1145 was awarded in March 2022 to DNO Norge AS (60%, operator) and Aker BP ASA (40%), with initial exploration focused on the Paleocene Leda prospect. Early technical work, including seismic reprocessing and stratigraphic studies, led to the downgrading of Leda due to the absence of a viable trap and geophysical support for hydrocarbons. The licence focus then shifted to the Middle Jurassic Sif prospect.

Following two licence extensions and extensive technical efforts—including seismic conditioning, fault seal modelling, and sedimentological studies—the Sif prospect was found to be highly dependent on membrane seal mechanisms, with insufficient fault offset for effective hydrocarbon retention. Both the Paleocene and Jurassic targets were ultimately assessed as lacking drillable risked volumes. On 9 September 2025, the partnership unanimously decided to relinquish PL1145, citing the absence of viable drilling opportunities.