PL 1104 License Relinquishment Report

Reference is made to the notification on PL1104 license drop decision to NPD dated 26.01.2024.

This report outlines the key license history, the database, prospects and the technical evaluation of the production license PL1104 and fulfills the requirement by the NPD for a license status report within 3 months of relinquishment.

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1 Key license history

PL1104 is located within block 30/3 on the eastern side of the northern Viking Graben, 7 km north of the Veslefrikk Field and about 35 km southeast of the Kvitebjørn/Valemon fields and covers an area of 206,8 km^2. The water depth varies from 150 m in the southeast to 300 m in the northeast as the block is located on the southern slope of the Norwegian Trench.

PL1104 was awarded 19.02.2021 through the APA 2020 round with the Poseidon Brent prospect of Middle Jurassic age as the main prospect. Secondary prospectivity was identified in the Early Jurassic Dunlin Group as Poseidon Cook, and in the Statfjord Group as Poseidon Statfjord. Additional leads have been identified in the Late Jurassic Viking Group and in the Eocene Grid Formation.

The work program included a firm exploration well, so planning of a HPHT exploration well to test Poseidon Brent started from license award Q1 2021. During the license period prior to exploration drilling, Poseidon Cook and Statfjord prospects were firmed up through new interpretation on the multiclient CGG18M01 PSDM seismic survey. Equinor and partners decided not to plan for a side-track / well extension in the first exploration well.

Exploration well 30/3-11 S drilled the Poseidon Brent prospect in June – August 2021, and set TD in the Early Jurassic Dunlin Group (Drake Formation). LWD and WL data showed residual (bound) hydrocarbons in Tarbert, Ness and Etive formations, and water in the Oseberg Formation. Log and core data showed that the Brent sands have very low porosity and permeability. 30/3-11 S was classified as a dry well with shows.

30/3-11 S post-well work has aimed at evaluating the remaining prospect potential in the license, both for the drilled and undrilled stratigraphy. New multiclient seismic data CGG23M01 has been utilized during this work, which has resulted in one new prospect, Poseidon Oseberg, in addition to the existing (pre-drill) Poseidon Cook. Both prospects have high risk and too small volume for further exploration drilling in the license. Poseidon Oseberg consist of two fault segments and represent the untested part of the Oseberg Formation in the 30/3-11 S well. Poseidon Cook was not drilled in the 30/3-11 S well and consist of two fault segments. Poseidon Statfjord is a lead below Cook with very high risk and small volumes.

The distribution of PL1104 equity has been:

- Equinor Energy AS, Operator 40 %
- AkerBP ASA 40 %
- Source Energy AS 20%

Work program:

Work obligations and Decisions	Expiry date	Status
Drill exploration well	19.02.2024	Fulfilled
Concept studies	19.02.2025	Drop decision (formalized 26.01.2024, see above)
PDO	19.02.2028	Drop decision (formalized 26.01.2024, see above)

The following Management and Exploration committee meetings have been held in the license:

- EC/MC meeting - 25.03.2021
- EC/MC meeting - 16.11.2021

- EC/MC meeting - 29.11.2022
- EC/MC meeting - 11.10.2023
- EC/MC meeting - 15.06.2023

In addition, the following work meeting has been arranged in the license:

- EC work meeting - 26.04.2021
- EC work meeting - 01.10.2021
- EC work meeting - 08.02.2022
- EC work meeting - 22.03.2022
- EC work meeting - 13.05.2022
- EC work meeting - 14.06.2022
- EC work meeting - 26.07.2022
- EC work meeting - 03.08.2022
- EC work meeting - 05.08.2022
- EC work meeting - 11.08.2022
- EC work meeting - 06.09.2022
- EC work meeting - 04.10.2022
- EC work meeting - 16.03.2023

Work performed in the license:

2021:	Licence start-up with Equinor 40%, Lundin (later merged with to AkerBP) 40%, Source 20%.
2021:	Site survey planning and aquisition conducted by Gardline.
2021:	General preparations to coming well planning.
2021-22:	Geological well planning and data acquisition program.
2022-23:	Drilling of well and post well work.
2023:	PL1104 license period extension application of the BOK with a positive outcome.
2023:	Interpretation on new seismic and mapping of remaining prospectivity in the license.
2023	Equinor and AkerBP supports relinquishment of the license, with Source Energy proposes to extend the license period.

Reason for surrender:

The drilled Poseidon Brent prospect was dry with shows, and no moveable hydrocarbons were proved in 30/3-11 S. The remaining potential in Brent in other parts of the license was not sufficient to plan for an appraisal well.

Prospects or leads in shallower or deeper stratigraphic levels had too small volumes and high risks to become future drilling candidates.

2 Database

Common seismic database:

Seismic database (Table 2-1) include the CGG17M01 PSTM and CGG18M01-PSDM surveys covering an area of 258.5 Km^2 (Figure 7-1).

Seismic survey	Year	Area km²	Polarity	Processing	Time/ depth	Datasets
CGG17M01	2017	4500 (subset)	SEG Normal	PSTM	Time	Full, Near, Mid, Far, UltraFar, Gathers
CGG17M01-WOT	2017	840 (subset)	SEG Normal	PSTM Gather conditioned	Time	Full, Near, Mid, Far, UltraFar, Gathers
CGG18M01	2018	322	SEG Normal	PSDM	Time & Depth	Full, Near, Mid, Far, UltraFar, Gathers

Table 2-1: Seismic database from APA application.

Wells in common database:
30/2-1, 30/2-2, 30/2-3, 30/2-4 S, 30/2-5 S, 30/3-1 R, 30/3-2 R, 30/3-A-2, 30/3-4, 30/3-3, 30/3-5 S, 30/3-7 A, 30/3-7 B, 30/3-7 S, 30/3-9, 30/3-11 S, 30/5-4 A, 30/5-4 S, 30/6-11, 34/10-23, 34/10-35, 34/10-42 S, 34/10-54 A, 34/10-54 A, 34/11-1, 34/11-2 S, 34/11-3 T2, 34/11-4, 34/12-1, 35/10-2, 34/12-1, 35/7-1 ST2, 35/8-2 T2, 35/8-6 S, 35/10-1, 35/10-2, 35/10-3, 35/11-3 S, 35/11-6, 35/11-12, 35/11-18 &-18A, 35/11-20 S, 35/10-4 S & -A, 35/11-22 S, 35/4-2 (Figure 7-1).

3 Review of geological and geophysical pre-well evaluations

The application (APA 2020) which secured the PL1104 in 2021 included prospects and leads from Early Jurassic Statfjord Group to Eocene Grid Formation (Figure 3-1). The main prospect in the application was Middle Jurassic Poseidon Brent prospect. Secondary prospectivity was identified in the underlying Early Jurassic Cook Formation (Poseidon Cook) and Statfjord Group (Poseidon Statfjord).

The main risk for the Poseidon Brent prospect was trap seal. The prospect is a 3-way down-faulted trap which depend on lateral fault seal. Vertical gas leakage is also observed at apex and indicate that the reservoir is leaking through the top seal. It was also a small risk on reservoir presence and producibility. The prospect is located at burial depths below 4000m with high temperatures and the sandstones may therefore have poor reservoir properties. Producibility risk is linked to potential sub-seismic faults which may act as baffles and reduce efficient production.

The Poseidon Brent prospect was worked up by studying old and new wells adjacent to the prospect in combination with new regional multiclient seismic (CGG18M01) data. This laid the foundation for volumetric input parameters and risk assessment.

In detail, the work completed for the prospects to the license award in 2021 were the following:

- Updated and more detailed time-depth model for the area.
- Seismic well tie on CGG18M01 of relevant wells in the area and interpretation of key horizons from seabed to Lower Jurassic for a regional overview.
- Geophysical special analysis for lithology and fluid prediction.
- Detailed interpretation of key prospective levels at Jurassic levels with most focus on the Brent Group.
- Petrology study of sand quality and diagenesis.
- Sedimentological assessment of Brent, Cook and Statfjord plays in the area.
- Fault seal analysis and gas chimney detection for trap risk assessment with focus on Brent and Cook plays.
- Pressure analysis of relevant wells in the area for trap seal risk assessment and hydrocarbon column high distribution with focus on Brent and Cook plays.

- Petrophysical analysis of relevant wells for in the area for input to volume and risk assessment with focus on Brent and Cook plays.
- PVT analysis of relevant wells with focus on Brent and Cook plays.
- Prospect evaluation with volume and risk assessment of Brent and Cook plays leading to Poseidon Brent and Poseidon Cook prospects, with Brent as the main prospect.
- Technical and economical evaluation for a field development to support a drilling candidate to Poseidon Brent

In total, this work secured the license with a firm exploration well which was drilled in 2022.

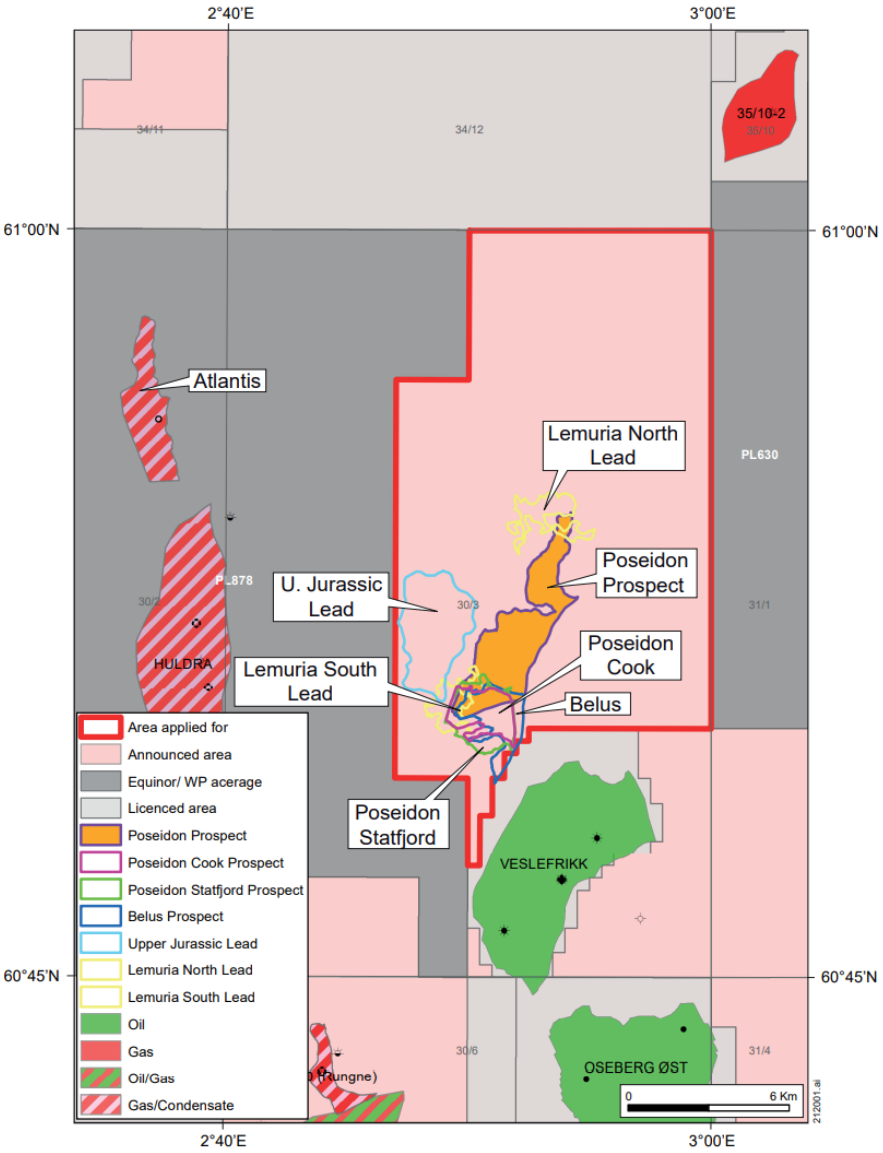

Figure 3-1: Overview map from the APA 2020 application of the area applied for with prospects and leads.

4 Review of remaining prospect potential after post-well evaluations

Exploration well 30/3-11 S was drilled Q2-Q3 2023. Evaluation of log and core data showed that main prospect, Poseidon Brent, was dry with shows. The license partners agreed to map the remaining prospectivity in the license and the Operator was given the task to use new seismic multiclient CGG23 data as a basis for this work. This work was focused on intervals and plays in the 30/3-11 S well which had sand stringers, including the remaining potential in the Brent Group interval and below.

Seismic interpretation and amplitude analysis of Cretaceous and Upper Jurassic levels did not result in prospects or leads because the observed sands stringers in these intervals was not possible to map on seismic. The source of these sands was concluded to be the eroded area of the Veslefrikk horst block which has been subaerial exposed.

The remaining potential in the Brent Group, except for the Oseberg Formation, was also insignificant given the poor reservoir properties in the 30/3-11 S well. Oseberg Formation had poor, but slightly better reservoir properties than Tarbert and Ness and was water-wet in the 30/3-11 S well. The better properties in Oseberg are expected to be controlled by chlorite coatings and this make it possible to build a two-segment prospect. The risk for Oseberg is still high with main risk on reservoir presence and trap seal.

Cook Formation in the Dunlin Group and Statfjord Group was not penetrated in 30/3-11 S and has not been updated post-well.

Remaining prospects are listed below (Table 4-1) on segment levels. The license has interesting volumes but not sufficient to support an appraisal well. A simple development solution will at least need 6-8 MSm^3 o.e. New data or concepts might change this view in the future and potentially reduce risks listed below.

Prospect / segment	Mean IPVol (MSm^3 o.e.)	Mean RecVol (MSm^3 o.e.)	Pg %
Oseberg Sør “Upflank” segment	6,7	3,7	15-25*
Oseberg Nord segment (BC with thinner Oseberg)	9,3	5,1	15-25*
Cook Nord segment (QC 2021)	6,5	2,6	24
Cook Sør segment (QC 2021)	3,7	1,6	24
Statfjord Nord segment lead (QA 2021)	8,8	3,8	19
Statfjord Sør segment lead (QA 2021)	4,2	1,8	20

Table 4-1: Volumes and risks for the Poseidon Oseberg, Cook and Statfjord prospects on segment level (not aggregated). (*) not QAA/QC.

5 Technical evaluations

A business case for Poseidon Brent was performed in 2020, prior to the firm exploration well decision in the APA process. This solution was a simple 4 slot template development and tie-back to the Kvitebjørn field, 30 km northwest of Poseidon. The business case has also been a benchmark for the recent Poseidon Oseberg and Cook prospect volume assessment.

6 Conclusions

The work programme for PL1104 has been fulfilled with drilling the exploration well 30/3-11 S to test the Poseidon Brent prospect. Evaluation of data collected in the 30/3-11 S well in combination with interpretation of new seismic data (CGG23M01) has been completed. This work has resulted in two prospects (Poseidon Oseberg Nord/Sør and Cook Nord/Sør) which have too small volumes and high risks for further exploration drilling. PL1104 Management Committee has therefore decided to drop the license and notified SDIR 26.01.2024.

Kind regards

[redacted]

PL1104 MC Chairman
Equinor Energy AS

7 Figures

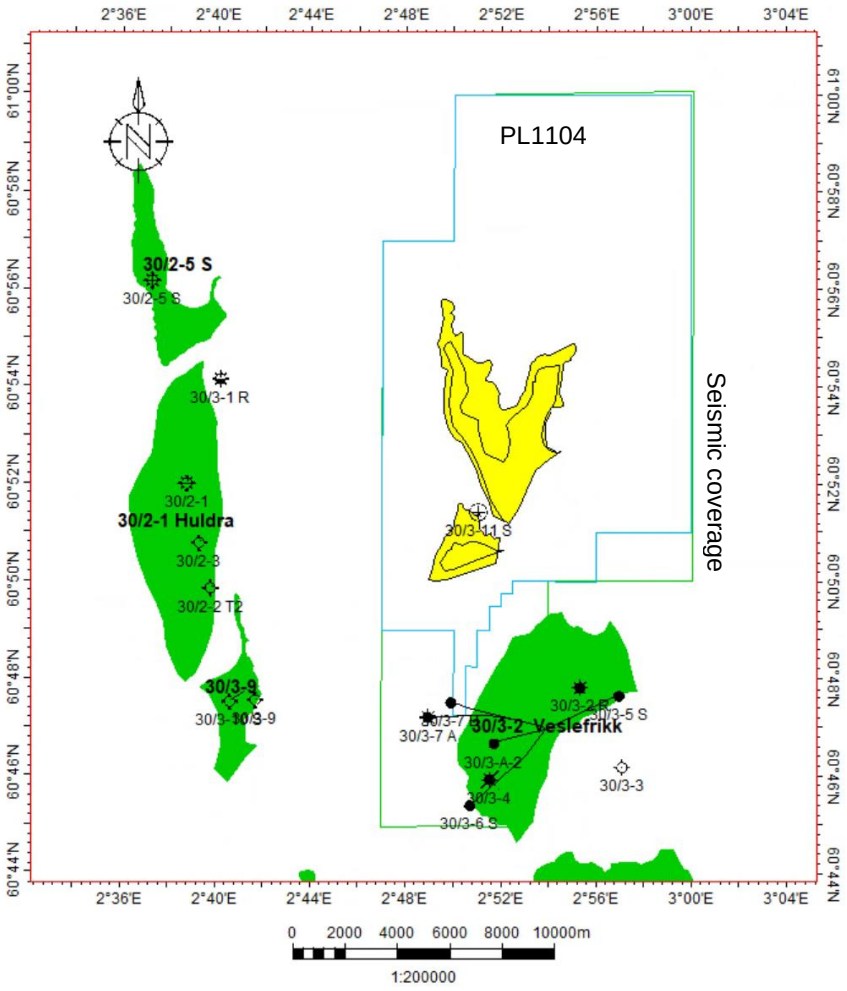

Figure 7-1. License map with fields and discoveries, key wells, remaining prospects (yellow), seismic surveys (green polygon) and PL1104 license area (blue polygon).

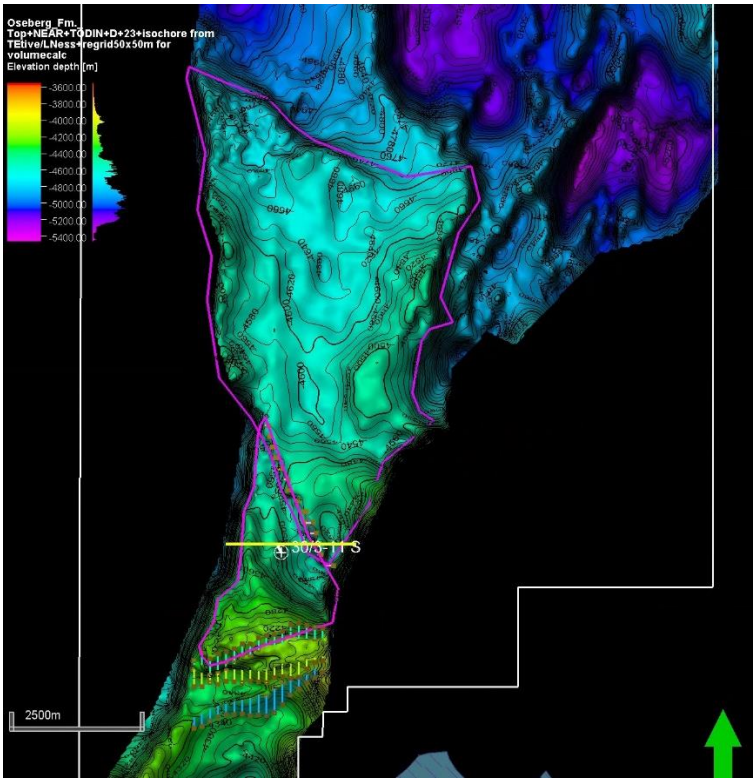

Figure 7-2. Top Oseberg depth map with Oseberg Nord and Sør segments (pink boundaries), PL1104 license boundary (white) and 30/3-11 S exploration well location. Note yellow line for seismic time cross-section in Figure 7-3.

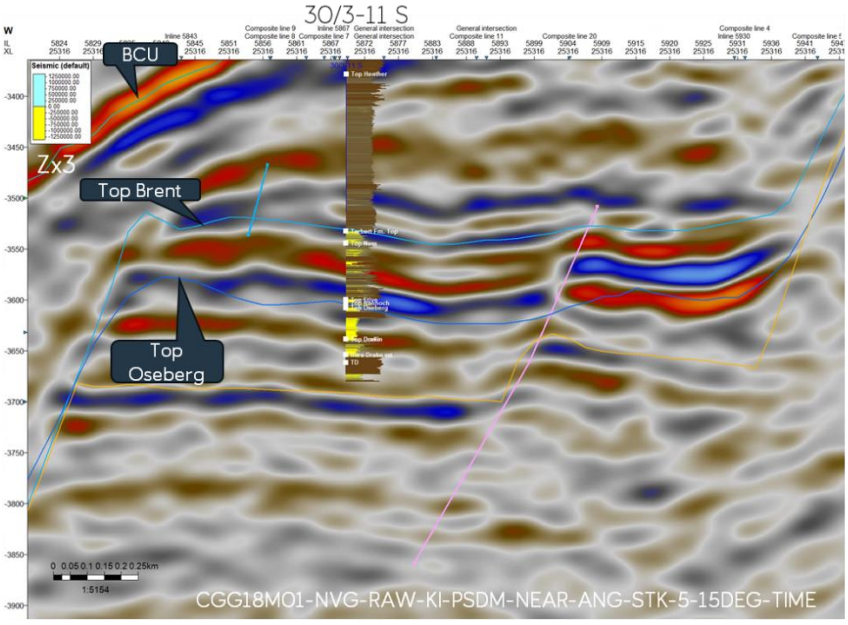

Figure 7-3. CGG18M01-NVG-FINAL-KI-PSDM-FULLTIME X-line through exploration well 30/3-11 S. Interpretation of Base Cretaceous Unconformity (BCU)/Top Draupne Formation, Top Brent Group and Top Oseberg Formation. See map in Figure 7-2 for location of seismic cross-section.