



Table of Contents

1 License history	1
2 Database overview	2
2.1 Seismic database.....	2
2.2 Well database.....	2
3 Results from geological and geophysical studies	4
4 Prospect update and technical evaluation.....	5
5 Conclusions	7

List of Figures

1.1 PL853 location with Båtsfjord prospect outline	1
2.1 Seismic database	2
2.2 Well database for PL853.....	3
4.1 PL853 prospect overview and chronostratigraphic chart	5

List of Tables

4.1 Summary of unrisksed inplace and recoverable oil volume estimates in PL853 6

4.2 Chance of Success, Båtsfjord Tempelfjorden, Ørn and Ladinian 6

1 License history

Award and work program

Lundin Norway AS (Lundin) applied for and was awarded block 7322/9, shown in Fig. 1.1, in the 23rd licensing round. PL853 was awarded 10.06.2016 to Lundin as operator (60%) and Capricorn Norge AS (now Sval Energi AS) as partner (40%). It was awarded with an initial period of five years, terminating 10.06.2022, and Drill or Drop (DoD) decision to be made within three years by 10.06.2019. The work program was to acquire 3D seismic data, as the database comprised only 2D seismic data over the license at the time of application.

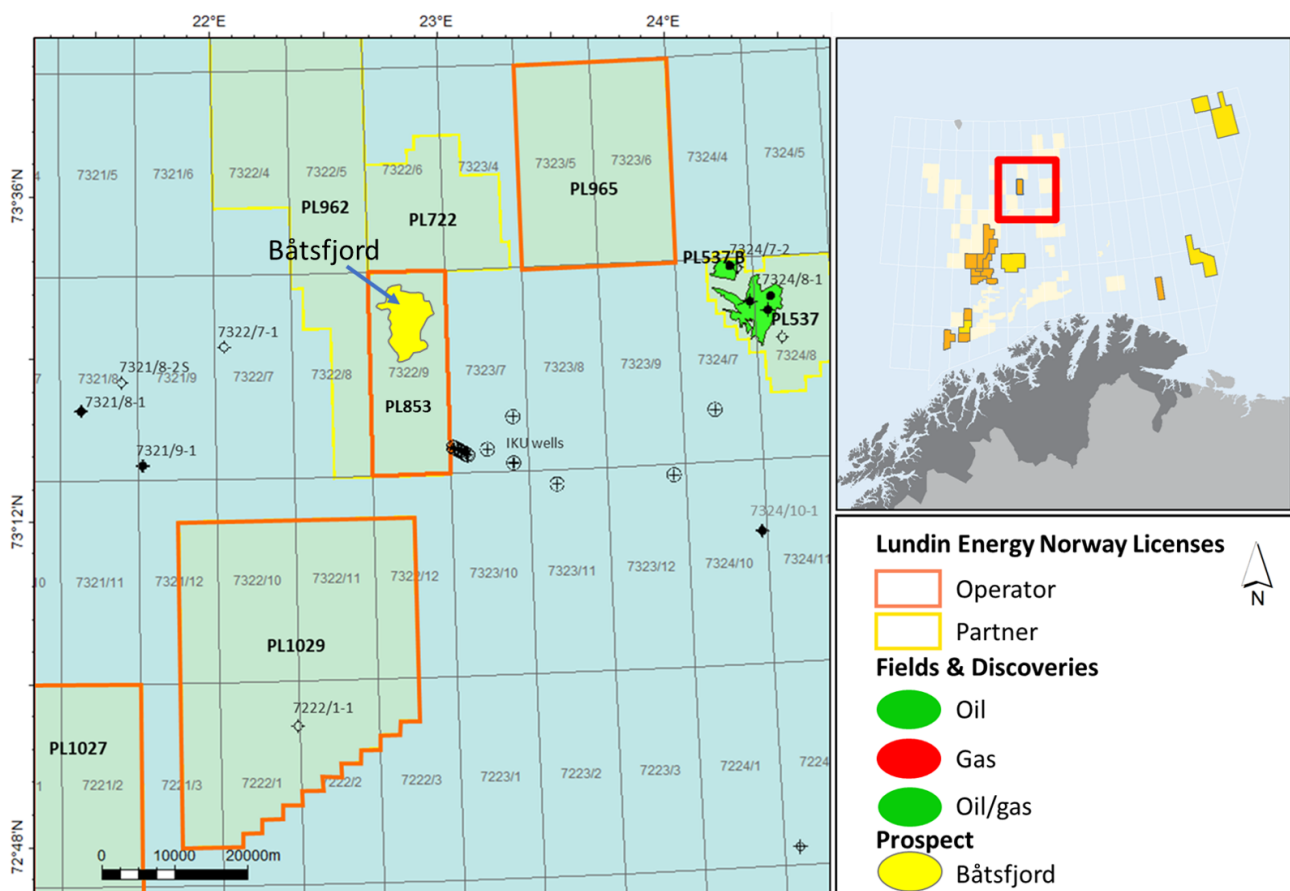


Fig. 1.1 PL853 location with Båtsfjord prospect outline

The DoD has since been extended to 10.12.2020. The license partner and operator could not come to agreement to apply for an additional DoD extension, and no drill decision was reached, therefore the license is dropped as of December 2020.

MCEC meetings were held yearly in Q4 from 2016 to 2020. One EC work meeting was held in Q2 2018.

2 Database overview

2.1 Seismic database

Fig. 2.1 shows the current seismic database for PL853. The Common Database for the license includes released 2D seismic data, and 297 km² of the HOOP 11 3D seismic data (NPDID 7424) within the license boundary. The HOOP 3D data within PL853 was acquired by TGS in 2011, and is currently available on the market. The PL853 purchase of this data fulfills the corresponding part of the license work program to acquire 3D seismic data.

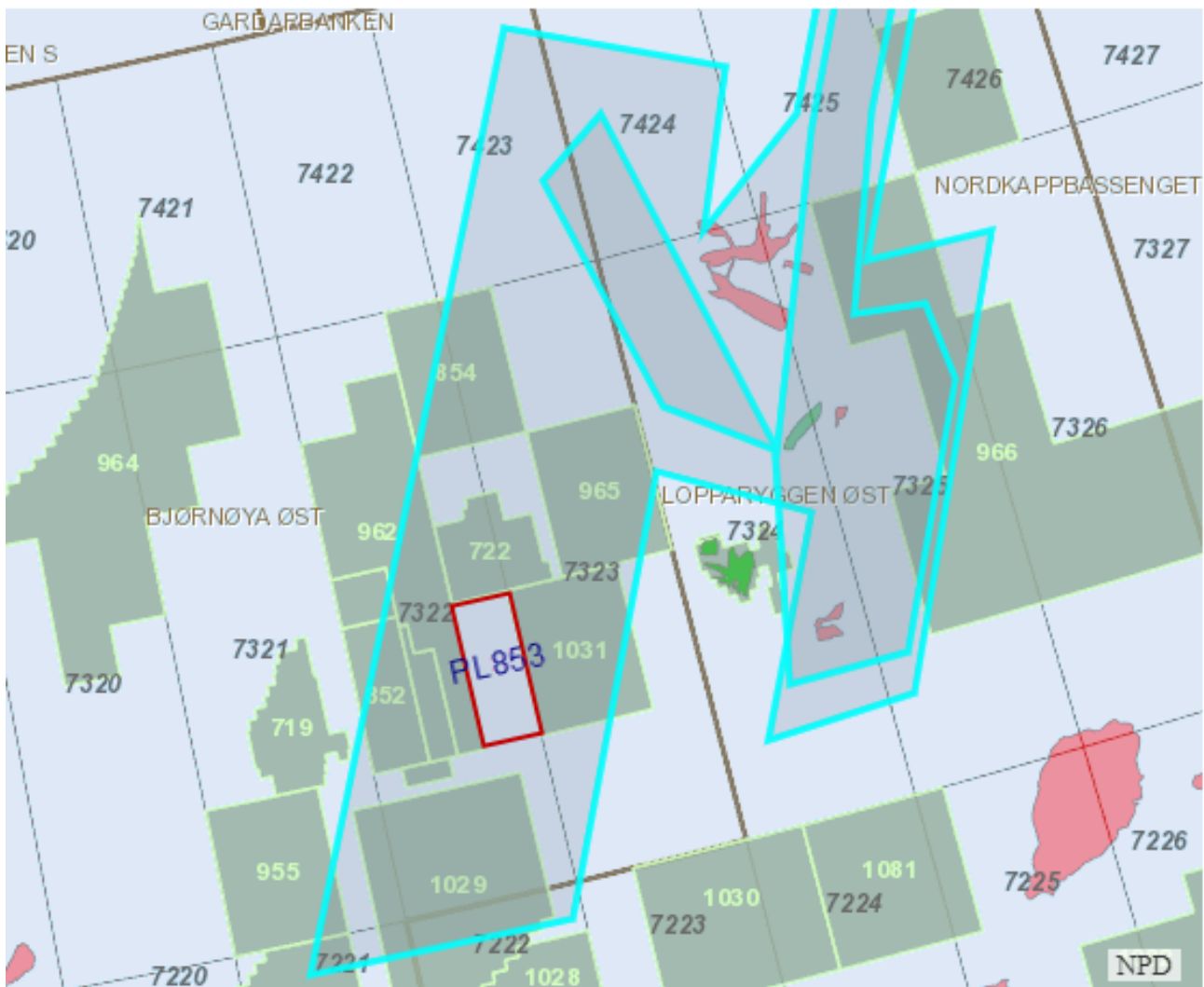


Fig. 2.1 Seismic database The PL853 seismic database includes 297 km² of the HOOP 11 3D dataset within the license boundary (red outline), as well as released 2D data (not shown).

2.2 Well database

The well database utilized in the license work is shown in Fig. 2.2 .

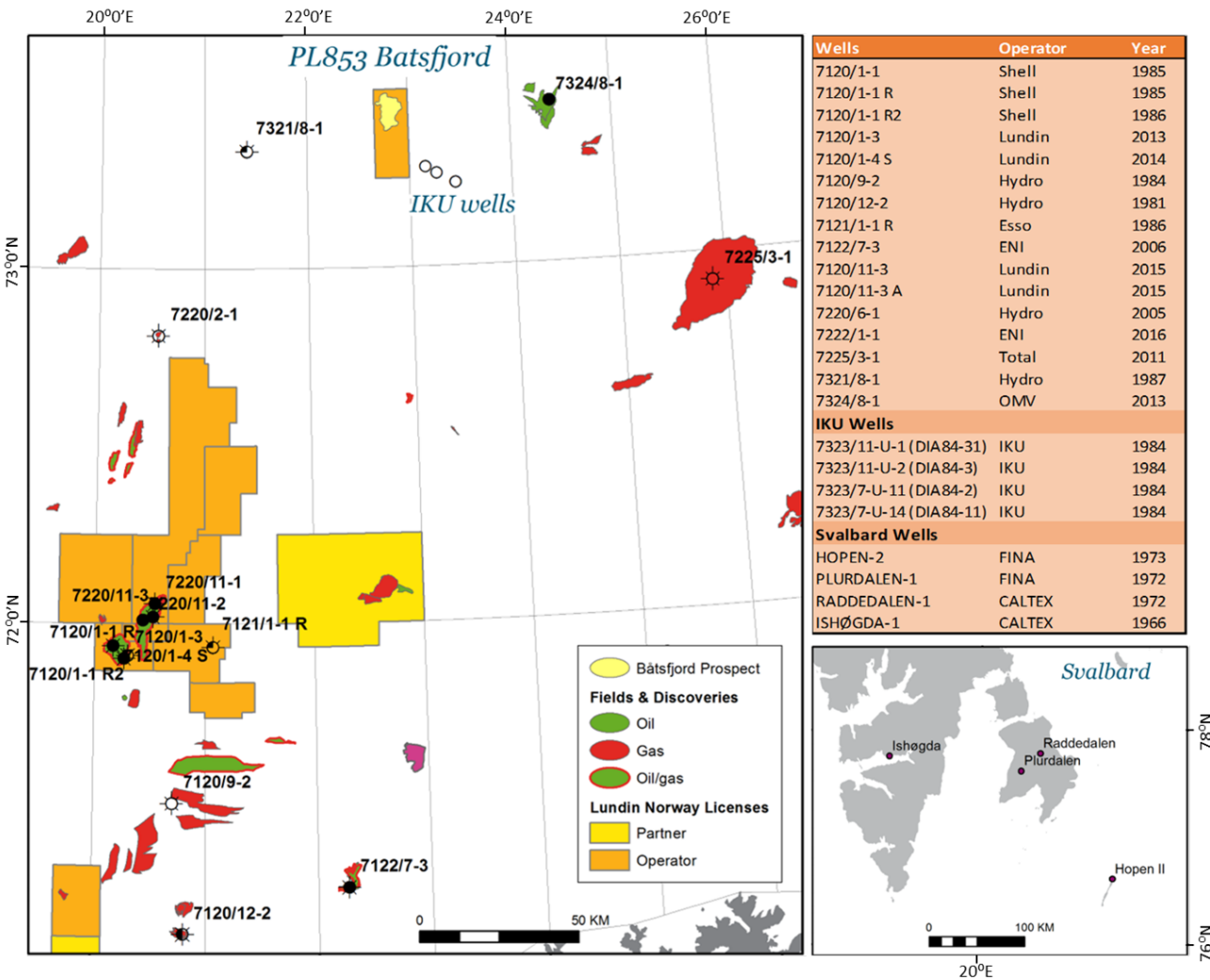


Fig. 2.2 Well database for PL853

3 Results from geological and geophysical studies

Studies

The following studies were carried out in PL853:

- Internal seismic post-stack reprocessing of HOOP 11 3D seismic data
- Frequency decomposition and generation of RGB-blend volumes for seismic attribute analysis
- Seismic interpretation
- Velocity modelling for depth conversion
- Geochemical analysis of samples from Svalis Dome IKU wells and from Svalbard to investigate potential Paleozoic source rock analogues.
- Carbonate reservoir studies including license field excursion to Svalbard, investigating Ørn Formation and Røye Formation analogues.

Results

Seismic reprocessing of the HOOP 11 3D data generally improved the ease of seismic interpretation on key horizons, and improved the clarity of seismic attribute maps. Fault likelihood volumes were also generated. The reprocessing was a key first step prior to generation of frequency decompositions which proved useful in definition of carbonate reservoir sweet-spots.

Updating the velocity model based on the acquired 3D data resulted in re-definition of the large-scale structural dip, particularly at Top Permian. This has particularly affected volumes for the Båtsfjord prospect and for Tempelfjorden Group secondary prospectivity. A result of the new seismic interpretation on 3D data, and updated velocity model, is that the Båtsfjord prospect is reliant on a common closure together with the larger structure in PL722 to the north in order to have stand-alone volume potential.

Evaluation of Early Triassic/Late Permian and Early Permian reservoir concepts, from both the seismic data and analogue wells, has resulted in a shift of focus to Early Permian carbonate reservoir as the main prospective level in the Båtsfjord prospect.

4 Prospect update and technical evaluation

As defined in the 23rd Round, the Båtsfjord trap is a low-relief four-way dip-closed rollover at the southern end of a broad antiform hangingwall rollover, with a closure of 75 km² and a crestal depth of 2460 m. The depth-converted trap spills to the north across a faulted saddle mapped at 2580 m, predicting a column height of around 120m if filled to here. The depth of this key northern saddle is poorly defined using the 2D seismic dataset available for the 23rd Round.

Procurement and reprocessing of the HOOP 3D seismic data, and the execution of the studies listed in Chapter 3, led to detailed mapping and evaluation of the Båtsfjord prospect. The updated structural definition of the Båtsfjord prospect is a collection of small four-way structural closures, which connect to a larger single four-way closure with fill-spill to a northern structure in PL722 (Fig. 4.1). The main reservoir unit is defined as the Ørn Formation of the Gipsdalen Group. Tightly cemented cool-water carbonates of the Bjarmeland Group form the top seal. Adjacent Paleozoic source rocks charge the prospect from the south, east, and vertically.

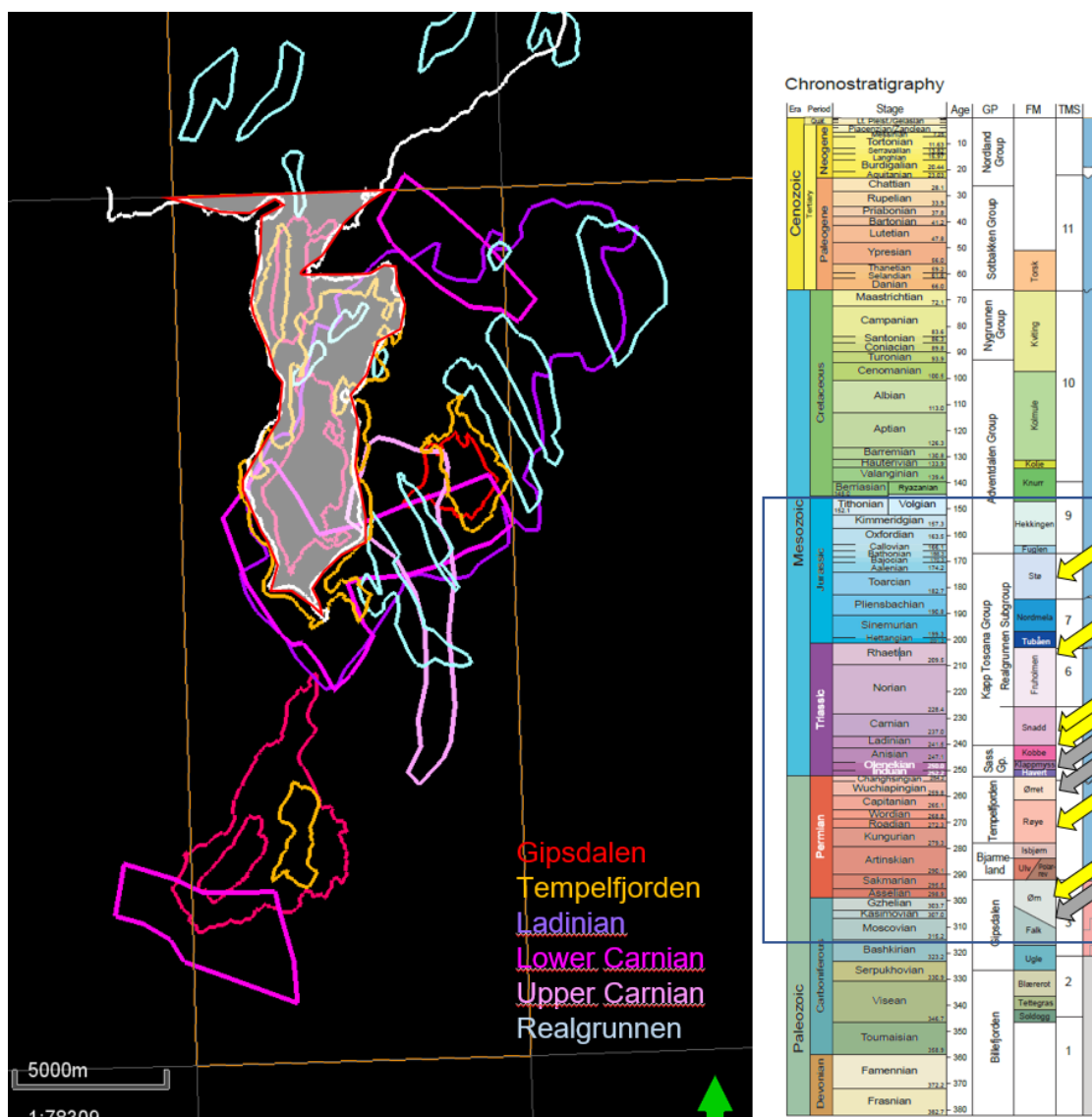


Fig. 4.1 PL853 prospect overview and chronostratigraphic chart Prospect and lead outlines colored according to reservoir stratigraphy. The infilled polygon is the Båtsfjord Ørn prospect maximum fill outline, assuming a common contact with the Shenzhou prospect to the north. Yellow arrows on the chronostratigraphic chart indicate reservoir zones; gray arrows potential source rock intervals.

Maturation of PL853 also led to the definition and maturation of numerous additional prospects and leads. PL853 prospectivity is found within the Lower Permian, Upper Permian, Ladinian, Carnian and Lower-Middle Jurassic plays. Fig. 4.1 shows the outlines of prospects and leads defined in PL853, as well as a chronostratigraphic summary chart for the license area.

Volumes and risk

Båtsfjord has been evaluated as a gas over oil case. An oil-only case is not evaluated due to the much higher probability for gas or multi-phase charge in the Hoop area. A gas-only case is not evaluated as it is not considered economic at present.

Table 4.1 summarizes unrisked volumes of oil in-place and recoverable for all prospects and leads in PL853, and Table 4.2 summarizes the risk variables and calculated Chance of Success for the Båtsfjord Tempelfjorden, Ørn and Ladinian prospects.

Table 4.1 Summary of unrisked inplace and recoverable oil volume estimates in PL853

Prospect	STOOIP P90 Msm ³	Mean Msm ³	P10 Msm ³	Rec. Oil P90 Msm ³	Mean Msm ³	P10 Msm ³
Båtsfjord T	1,7	14,5	51,1	0,3	4,4	20,9
Båtsfjord T N	0,1	1,5	5,9	0	0,5	2,4
Båtsfjord T E	0,2	2,4	9,0	0	0,7	3,7
Båtsfjord Ørn	0,7	26,2	122,1	0,1	8,1	50,8
Båtsfjord Ørn E	0,1	1,1	4,4	0	0,3	1,8
<i>Ladinian Structural</i>	<i>10,0</i>	<i>43,0</i>	<i>125,0</i>	<i>3,0</i>	<i>15,0</i>	<i>58,0</i>
<i>Ladinian Structural+ stratigraphic</i>	<i>31,0</i>	<i>128,0</i>	<i>376,0</i>	<i>8,0</i>	<i>45,0</i>	<i>173,0</i>
<i>L.Carnian 2-channel</i>	<i>18,0</i>	<i>58,0</i>	<i>147,0</i>	<i>4,0</i>	<i>21,0</i>	<i>68,0</i>
<i>L.Carnian lower</i>		<i>23,0</i>		<i>3,0</i>	<i>8,0</i>	<i>14,3</i>
<i>NUD U.Carnian</i>		<i>70,0</i>		<i>9,6</i>	<i>25,0</i>	<i>42,0</i>
<i>Realgrunnen</i>		<i>12,0</i>		<i>1,7</i>	<i>4,0</i>	<i>7,0</i>
TOTAL		337 Msm³			117 Msm³	

*Italicized: Not calculated with GRVs derived from depth maps of top reservoir; Thickness*area with geometric factor of 10% subtracted. Oil-only cases.*

Table 4.2 Chance of Success, Båtsfjord Tempelfjorden, Ørn and Ladinian

Prospect	Structure	Seal / retention	Reservoir (presence/quality)	Source (presence/matur.)	Migration (timing/route)	Total Chance of Success
Båtsfjord Tempelfjorden	1,00	0,80	0,42	0,75	0,66	0,17
Båtsfjord Ørn	1,00	0,80	0,42	0,75	0,66	0,17
Båtsfjord Ladinian	0,95	0,80	0,24	0,90	0,90	0,15

Although the volume potential of each prospect or lead is relatively little, the collective prospectivity of PL853 is still considered significant, given the numerous prospects and leads defined, and the potential spanning several play models, and potential as tie-in candidates to future near-by infrastructure.

5 Conclusions

The license commitment to acquire 3D seismic survey is fulfilled. The acquired HOOP 3D allowed for detailed mapping and evaluation of the Båtsfjord prospect, and led to the definition and maturation of additional prospects and leads. The numerous prospects and leads in as many as six distinct stratigraphic intervalls (Fig. 4.1) speaks for the potential that lies within block 7322/9. The main prospects are, however, within unproven plays in the Hoop area and have correspondingly low discovery probabilities. The risk vs. volume potential has been evaluated to be too high to reach a drill decision at present time.

The license had come to an agreement in 2019 to apply for an extension of the DoD decision to 10.12.2020, in order to first receive results from a near-by relevant well planned to be drilled in 2020. The well was, however, postponed yet again from mid-2020 to Spring 2021. The PL853 Operator (Lundin) wished to apply for an additional DoD decision extension to accomodate the pandemic-related well delay, however Operator and Partners were not able to agree on this. The PL853 license is therefore dropped.