Relinquishment report
PL 981

Lundin Energy Norway

In cooperation with Lundin Energy Norway

AkerBP

PL981 Relinquishment Report

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1 License history

Award and work program

Lundin Energy Norway AS (Lundin) applied for and was awarded PL981 which covers parts of block 16/4, following the APA 2018 (Fig. 1.1). PL981 was awarded on March 1st 2019 to Lundin as operator (60%) and Aker BP ASA (40%) as partner. It was awarded with an initial period of 6 years, which included a work commitment of geology and geophysics work. A drill or drop (DoD) had to be made within three years by 01.03.2022, decision on concretization (BOK) by 01.02.2022, decision to continue (BOV) by 01.03.2024, and PDO by 01.03.2025. The DoD deadline was met with the drilling of the 16/4-12 Merckx well (dry), which was completed on the 08.10.2021.

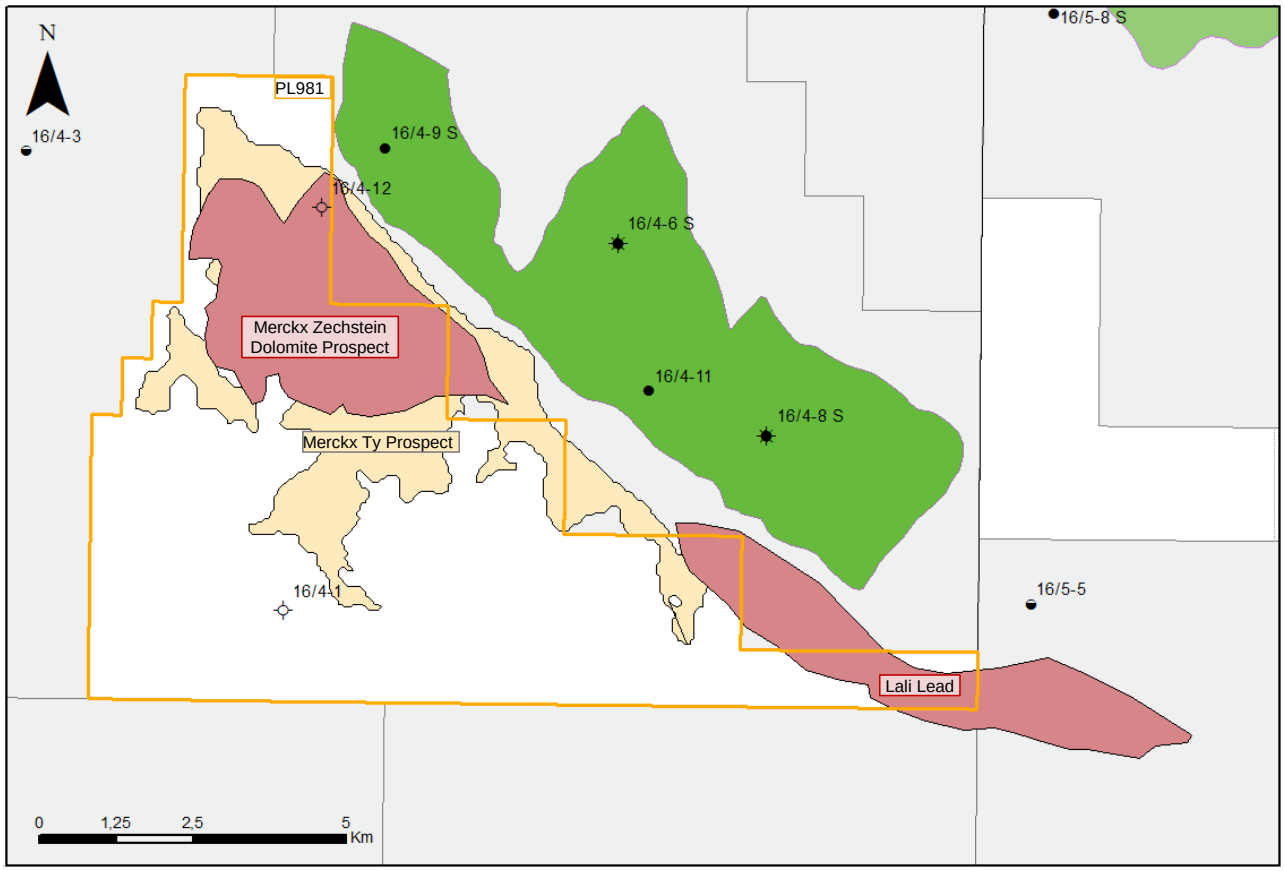

Fig. 1.1 PL981 license extent and original prospect outlines on award.

An overview of the meetings held in PL981 is provided in Table 1.1.

Table 1.1 PL981 committee meetings overview

Meeting Type	Date held
ECMC meeting	02.05.2019
ECMC meeting	22.10.2019
EC meeting	05.02.2020
EC meeting	09.09.2020
ECMC meeting	25.11.2020
EC work meeting	05.01.2021
EC work meeting	17.08.2021
ECMC meeting	08.11.2021
EC work meeting	13.01.2022

The JV partners wish to relinquish this license due to the disappointing results of the dry Merckx 16/4-12 well, and the limited volume potential of the remaining prospectivity in the license (Fig. 1.2).

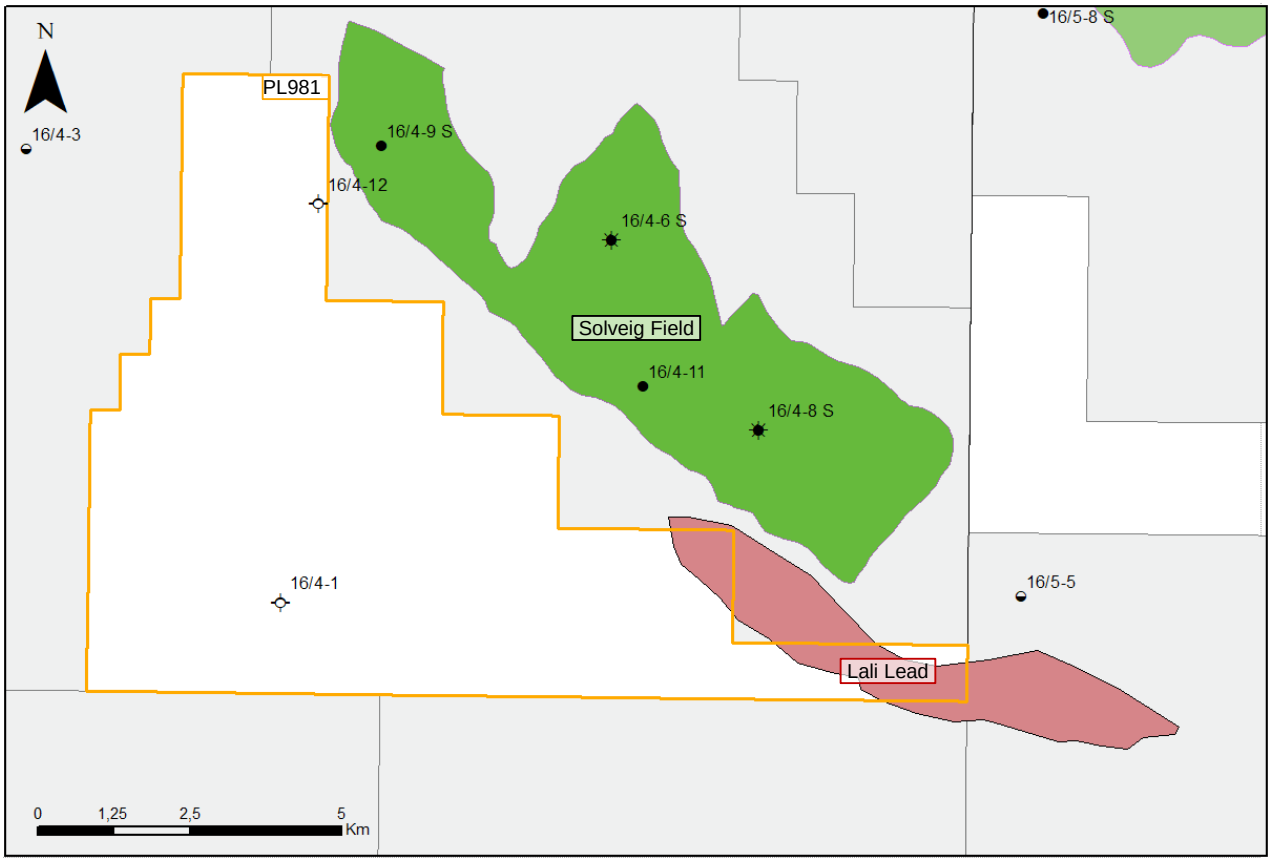

Fig. 1.2 PL981 license and map of remaining prospectivity

2 Data base overview

2.1 Seismic data

Fig. 2.1 shows the seismic database for PL981. The license has used the LN12M02R16 seismic 3D dataset (Table 2.1). The dataset covers the entire license area.

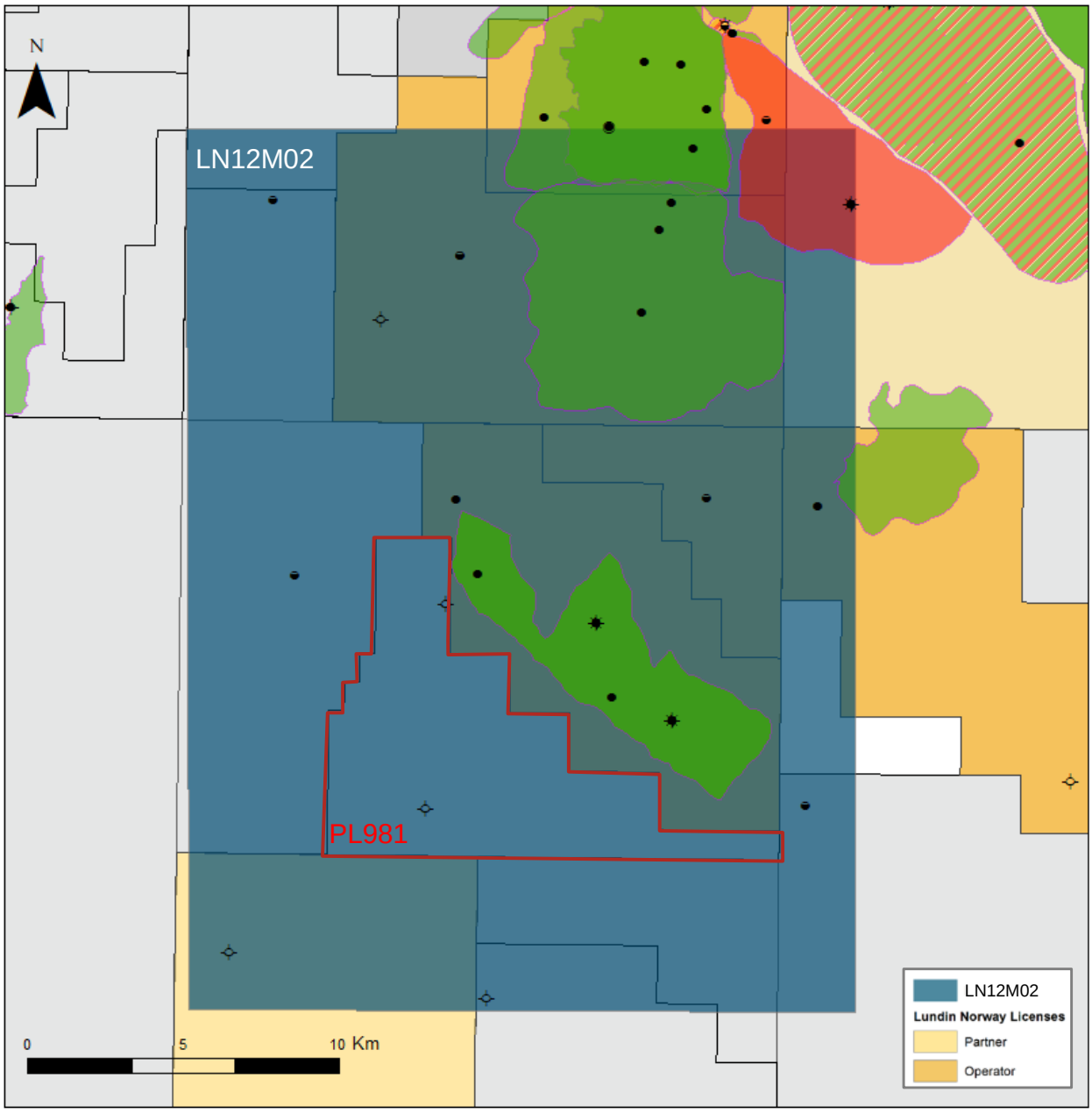

Fig. 2.1 Seismic database for PL981

Table 2.1 Seismic Database

Seismic survey	NPDID	Area (km²) used in database	Market available	Acquisition year
LN12M02	7618	607	Yes	2012

2.2 Well data

Key wells relevant to and mentioned in this status report include Merckx 16/4-12 (NPDID 9162) and 16/4-1 (NPDID 229), location shown in Fig. 1.1. 16/4-12 was drilled in 2021 as part of the PL981 license. 16/4-1 was drilled in 1984 (PL087) and is the the only other well contained within the PL981 license area.

3 Geological and geophysical studies and results

Studies

The following studies were carried out in PL981, relevant to the evaluation of prospectivity in the license:

- Seismic interpretation and mapping of key horizons
- Velocity modelling for implementation in depth conversion
- Post-well (16/4-12) sedimentological, biostratigraphical and geochemical work.

Results

As a result of the studies, a drill decision was made to test the main prospect (two levels Paleocene Ty and Permian Zechstein Dolomites, Fig. 1.1) from the APA 2018 application, the Merckx prospect. The 16/4-12 Merckx well was spud on the 19.09.2021 and had a completion date of 08.10.2021, with the TD in Permian strata.

The main objectives of the well was to prove hydrocarbons in Paleocene aged sandstones within the Ty member sandstones and in the Permian aged Zechstein Dolomites of the Merckx prospect. The well encountered a 48 metres thick Ty member sandstone of good to very good reservoir quality with no shows visible while drilling. The Zechstein Dolomites which were the secondary exploration target were encountered with 12 metres of dolomitic rocks with poor to moderate reservoir quality and no visible shows. Losses were encountered in the Zechstein Dolomite interval and therefore the TD was set shallower than originally planned to ensure data acquisition in the previously drilled section. Well 16/4-12 also encountered two intervals of sandstone of Cretaceous to Triassic age. The upper interval had a thickness of 16 metres with moderate to good reservoir quality. The lower interval had a thickness of 15m with good to very good reservoir quality. The lower interval is Jurassic or Triassic in age and the upper interval Cretaceous from the biostratigraphic dating performed post-well on the sidewall cores and cuttings obtained while drilling.

Post-well studies included sedimentology (thin sections, XRD), biostratigraphy and geochemical studies focused on dating and understanding the provenance of the sandstones found between the Top Shetland Group and Top Zechstein, in order to aid the assessment of remaining prospectivity on the license. The geochemical studies demonstrated that the Merckx prospect was most likely not on the migration route into Solveig as predicted pre-drill.

4 Prospect update report and Technical evaluation

The 16/4-12 Merckx well was dry but proved the prognosed reservoirs to be present and of generally good reservoir quality. Fig. 4.1 and Fig. 4.2 shows the original outlines of the Merckx prospect and depth maps at both Paleocene and Permian level. Table 4.1 contains a summary of the pre-well resources for the Merckx prospect in addition to the additional lead previously defined on the license (Fig. 1.1). The Merckx prospect is considered to have been adequately tested by well 16/4-12. A geosection through the Merckx prospect is shown in Fig. 4.3.

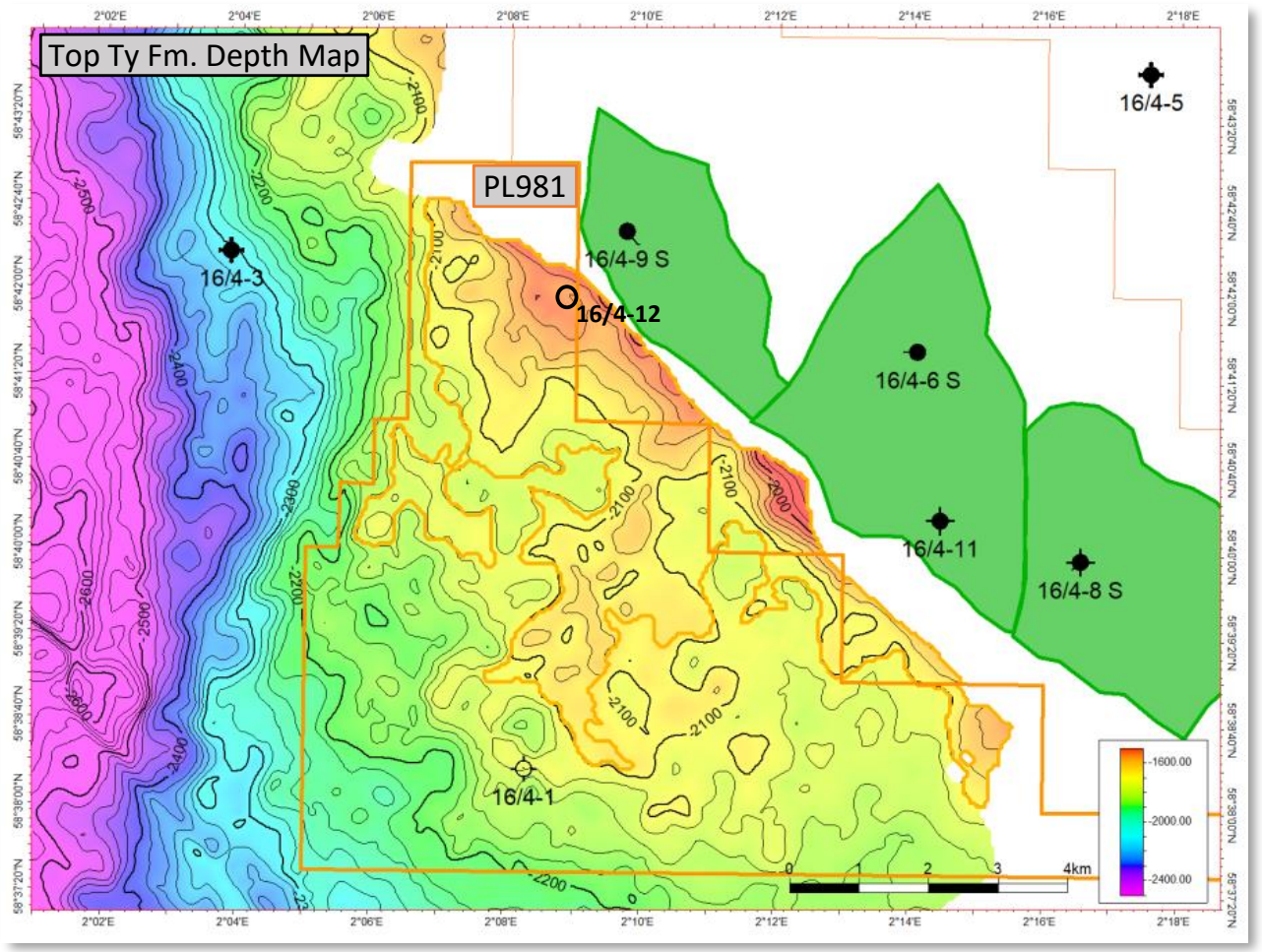

Fig. 4.1 Ty formation depth Map with original Merckx Ty prospect outline.

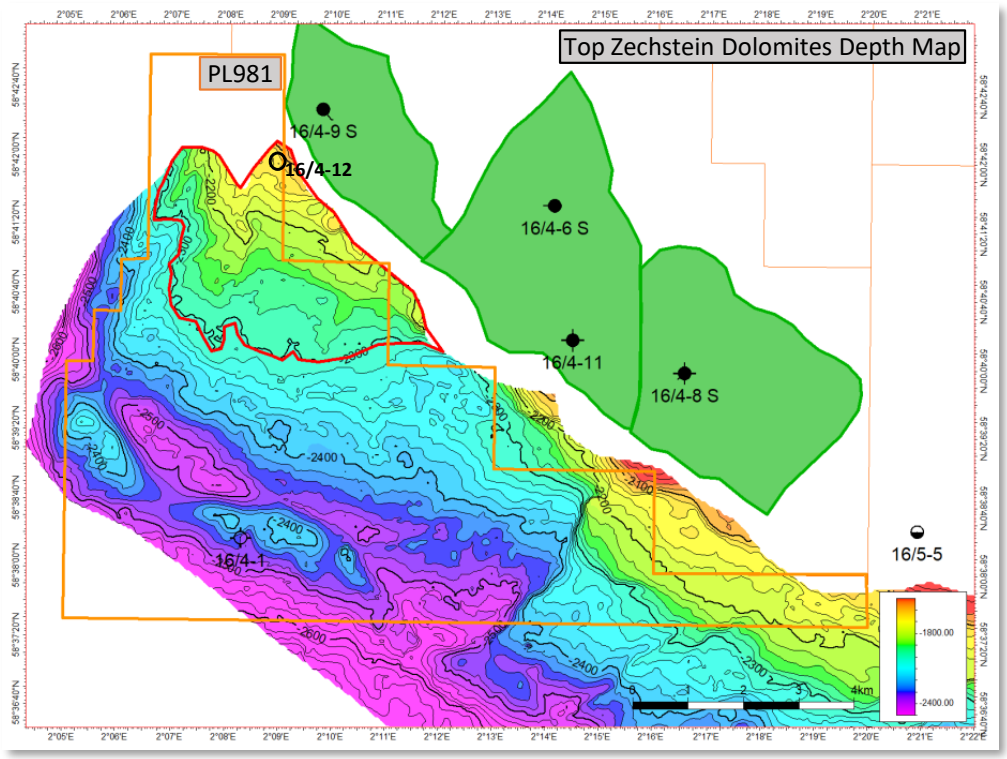

Fig. 4.2 Zechstein Dolomites depth map with original Merckx Zechstine Dolomite prospect outline

Table 4.1 Resource table for Merckx prospect from APA 2018 application

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 [10^6Sm^3] (>0.00)			Gas [10^9Sm^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)						
Merckx Ty	P	Oil	3,00	11,00	20,00	0,42	2,45	6,00	0,27	100,0	Ty Fm/Palaeocene	2000	Edvard Grieg	22
Merckx Permian	P	Oil	3,00	9,00	18,00	0,42	2,01	4,14	0,16	100,0	Dolom./Permian	2100	Edvard Grieg	22
Lali	L	Oil		6,20						20,0	Dolom./Permian	2100	Edvard Grieg	24

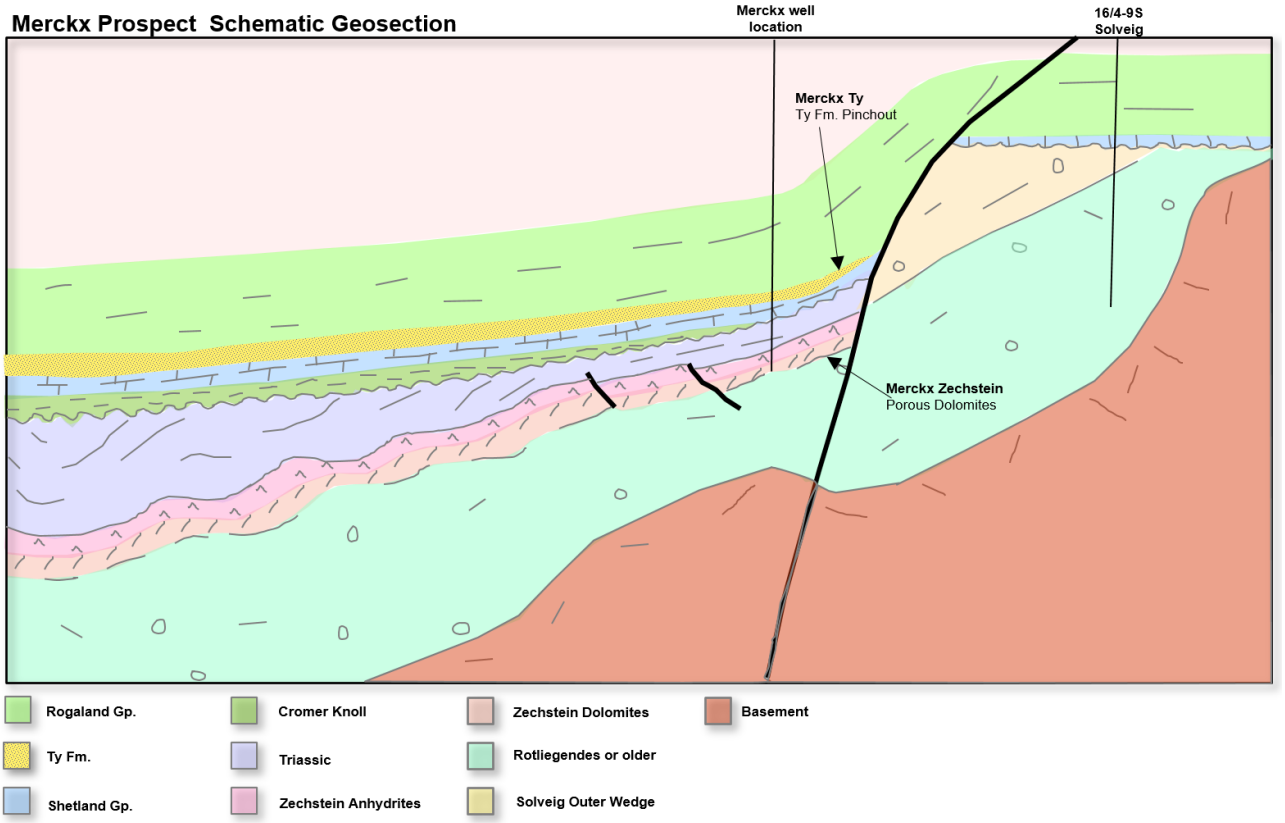

Fig. 4.3 Schematic geosection through the Merckx prospect

Very little prospectivity from the original APA application remains on PL981 since the drilling of the Merckx well (16/4-12). The Lali Permian lead has small proportions remaining in PL981 (20%) as shown in Table 4.2. The Lali lead was defined in the APA 2018 as a Permian lead where an angular unconformity between the intra-Permian and the Lower Cretaceous leads to a thinning of the interval as a response to the geometry of the paleo-shelf. The Lali lead is a stratigraphic pinch-out trap and is shown in the geoschematic cross-section in Fig. 4.4. Due to the disappointing results from the Merckx well with respect to hydrocarbons in the Permian, the Lali lead is considered more risky than originally assessed, with an increased risk for the migration and charge, in addition to very little of the lead being located within the license.

Table 4.2 Resource table for remaining prospectivity on PL981 post drilling of the Merckx well (16/4-12)

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 [10^6Sm^3] (>0.00)			Gas [10^9Sm^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)						
Lali	L	Oil		6,20						20,0	Dolom./Permian	2100	Edvard Grieg	24

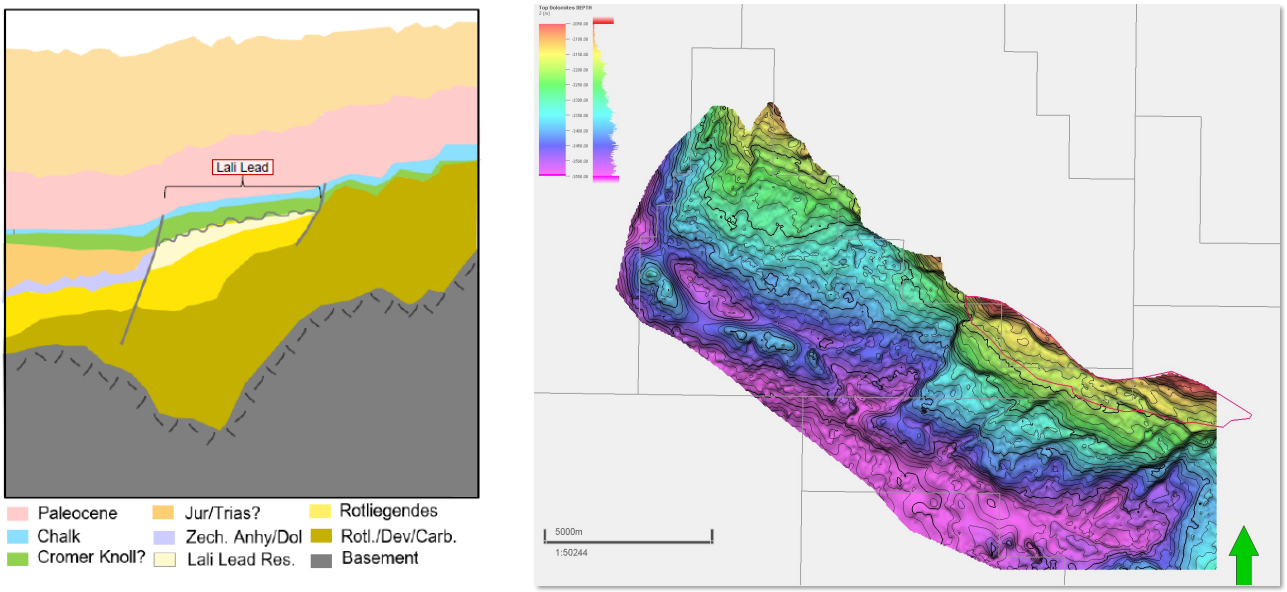

Fig. 4.4 Geoschematic cross-section through the Lali Lead

A post-well evaluation of remaining prospectivity has been carried out. Outlines of the remaining prospects and leads are shown in Fig. 4.5. The PL981 license is very well located in terms of distance to existing infrastructure, as it is located just west of the Solveig Field and approximately 18km south of the Edvard Grieg Field. Based on the negative Merckx well results and the G&G evaluation of post-well remaining prospectivity no potential drilling candidates have been identified.

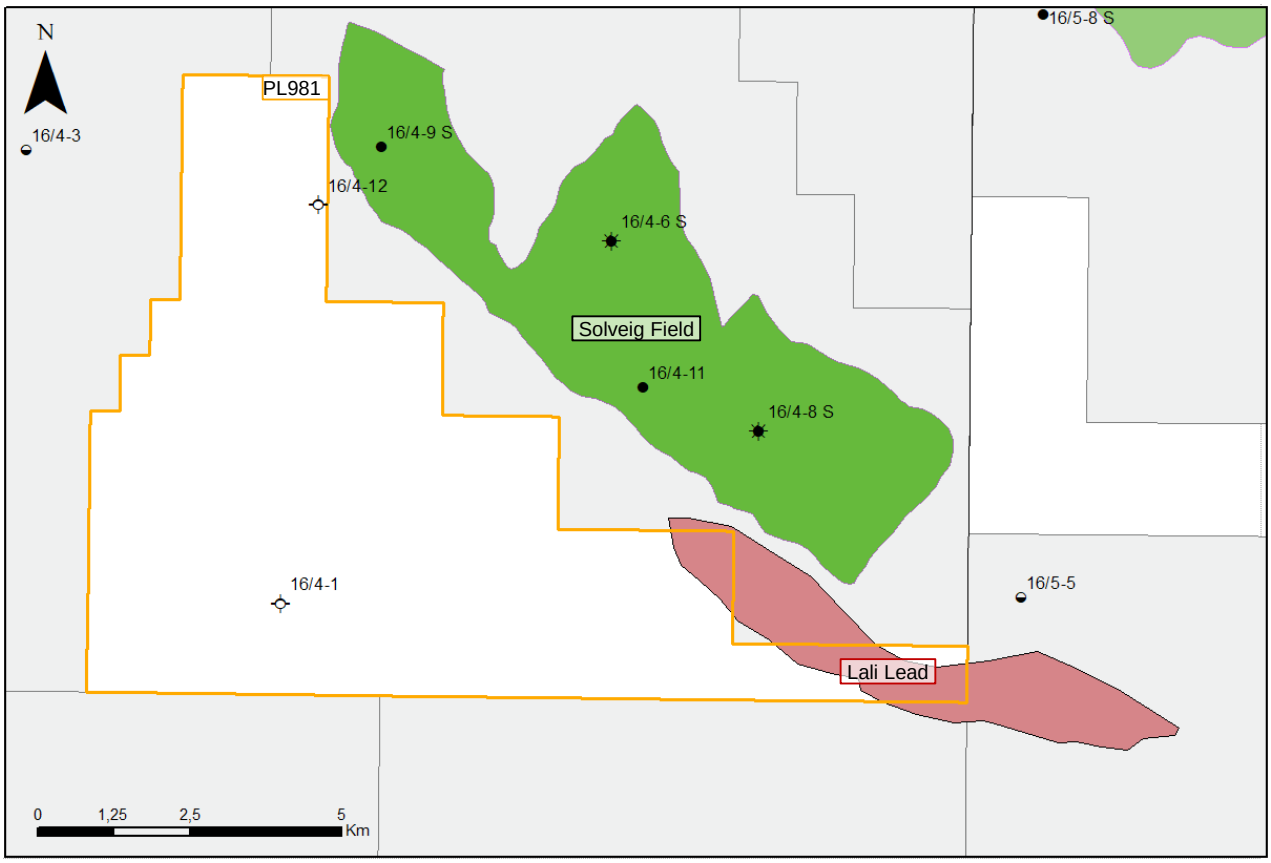

Fig. 4.5 Remaining prospectivity in PL981 at time of relinquishment

5 Conclusion

In conclusion, after the drilling of the main prospectivity on the license with the drilling of the Merckx well (16/4-12) and the disappointing results of this well, limited remaining prospectivity remains in PL981 (Fig. 1.2). The remaining prospectivity is mainly located outside of PL981 with only small portions of the prospects located within PL981. Therefore due to the limited remaining prospectivity seen on the license the decision has been made to relinquish PL981.